

# OXFORD PARKING SURVEY 2014

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# 1 INTRODUCTION

## Oxford Parking Survey

- 1.1 In order to inform the Oxford Town Centre Strategy, Abley Transportation Consultants (Abley) were commissioned to prepare and undertake a parking survey in the town centre of Oxford, Canterbury.
- 1.2 The purpose of the survey was to investigate the parking concerns raised by the community before the Council addresses parking as part of the Oxford Town Centre Strategy. Thus, the parking survey was designed with a focus on the key issues outlined from the community. The main concern was the availability of parking along Main Street, especially during the weekends.
- 1.3 The high parking demand in the weekend is understood to be attributable to weekend visitors and those visiting the Oxford Farmers Market. The market is held weekly on Sundays from 9am to 12 pm all year round.
- 1.4 Due to the nature of the concerns, the parking survey measured both the occupancy of car parks and the duration of stay. The methodology and subsequent results of the survey is presented in this report.

## Study Area

- 1.5 The area included in the parking survey is shown in **Figure 1.1**. It extends from Bay Road to High Street and includes associated side streets.

**Figure 1.1 Study Area**



- 1.6 The Oxford Farmers Market is located near the centre of the study area and is accessed from Main Street between Meyer Place and Burnett Street. As the market highly effects parking occupancy levels, the survey area was extended to include all roads within a 100 metre radius of the market site. Furthermore, the use and compliance of the time restricted parking areas have been examined, as well as the comparison between parking on Main Street versus the side streets.
- 1.7 A total of 271 on street car parks are available in the town centre of which 164 are on Main Street and 107 are on side streets. There are 14 time restricted car parks, 8 P30 and 6 P60 car parks.

## 2 SURVEY METHODOLOGY

### Methodology

- 2.1 Abley carried out occupancy and duration parking surveys on Thursday 27 March 2014 and Sunday 30 March 2014. The surveys were specifically chosen to take place on a Thursday and Sunday so that weekday and weekend peak patterns could be captured.
- 2.2 Both surveys started at 10am and ended at 2pm with surveyors recording the number plates of parked vehicles in a particular parking space at 15 minute intervals.
- 2.3 The weather conditions were fine and overcast on both days.
- 2.4 The survey data allowed the following information to be established:
- Total number and type of car parking spaces (parking inventory)
  - Parking occupancy over the survey period
  - Parking duration over the survey period
  - Compliance with time restrictions
  - Peak and average parking occupancy over the survey period
  - Peak and average parking duration over the survey period
  - Overall comparison of parking occupancy on Thursday and Sunday
  - Overall comparison of parking duration on Thursday and Sunday
  - Comparison of parking on Thursday and Sunday in the 100 metre radius of the Farmers Market location
  - Comparison of parking on Main Street and side streets
- 2.5 The results are outlined in the following section.

### 3 DATA ANALYSIS

#### Analysis of Results

- 3.1 The results of the occupancy surveys were assessed using the performance definitions described in
- 3.2 **Table 3.1.** The parking experience of an individual vehicle will differ depending on the occupancy level in the area in which it is trying to park. The parking occupancy is the percentage of cars parked over the available number of spaces that are provided. High occupancy levels correspond to difficulty in finding a parking space. The colours in
- 3.3 Table 3.1 correspond with the colours used in the occupancy tables later in the report. The definitions detailed in
- 3.4 Table 3.1 have been developed by Abley Transportation Consultants and applied in numerous other parking studies throughout New Zealand.

**Table 3.1 Parking Performance Relative to Occupancy**

Occupancy	Definition	Consequence
80% +	Traffic circulation will be high as motorists 'hunt' for an available car park and motorists may not be able to find an available car park space at all. Parking infringements may be widespread and illegal parking common.	80 % - 85 % is the optimum occupancy range <sup>1</sup> . Higher than 85% occupancies create difficulties for motorists searching for a car park.
60% - 79%	May be difficult to find a car park immediately and some parking circulation may be required to find an available car park. A park is unlikely to be found immediately outside the motorist's destination. Parking infringement is common although illegal parking is infrequent.	Utilisation slightly lower than optimum however occupancy rates in this range do not provide poor outcomes.
40% - 59%	High probability that a motorist will be able to find an available car park with ease. Vehicle circulation might be necessary to find a car park very close to the motorists' destination. Parking infringements will generally be low, illegal parking uncommon.	In priced areas parking prices may be too high or time restrictions are too short. Measures should be taken to encourage better utilisation in areas where several activities can be accessed using on street parking.
20% - 39%	Easy to find a car park close to the motorists' destination, vehicle circulation is unlikely to be necessary to find a car park very close to the motorists' destination.	Inefficient use of space. It may be appropriate to allocate land used for parking to other travel modes/ activities or review time restrictions.
<20%	Very easy to find an available car park and it will be very close to the motorists intended destination. Vehicle circulation will not be required to find an available car park very close to motorist's destination.	Severely under-utilised parking. Land resources could be better allocated to a different activity / mode e.g. wider footpaths or landscaping. If priced, prices may be set too high or restrictions may be inappropriate for the surrounding activities.

<sup>1</sup> 85% is considered to be an optimal 'peak' parking occupancy from "Parking Management Strategies, Evaluation and Planning" T. Litman, *Victoria Transport Policy Institute*, (2012).

## Parking Supply

- 3.5 Parking opportunities in the vicinity of Main Street are provided both on and off street. For the purposes of this study both on street and off-street car parks have been analysed. The full inventory can be found in **Table 3.2**.

**Table 3.2 Oxford Town Centre Parking Inventory**

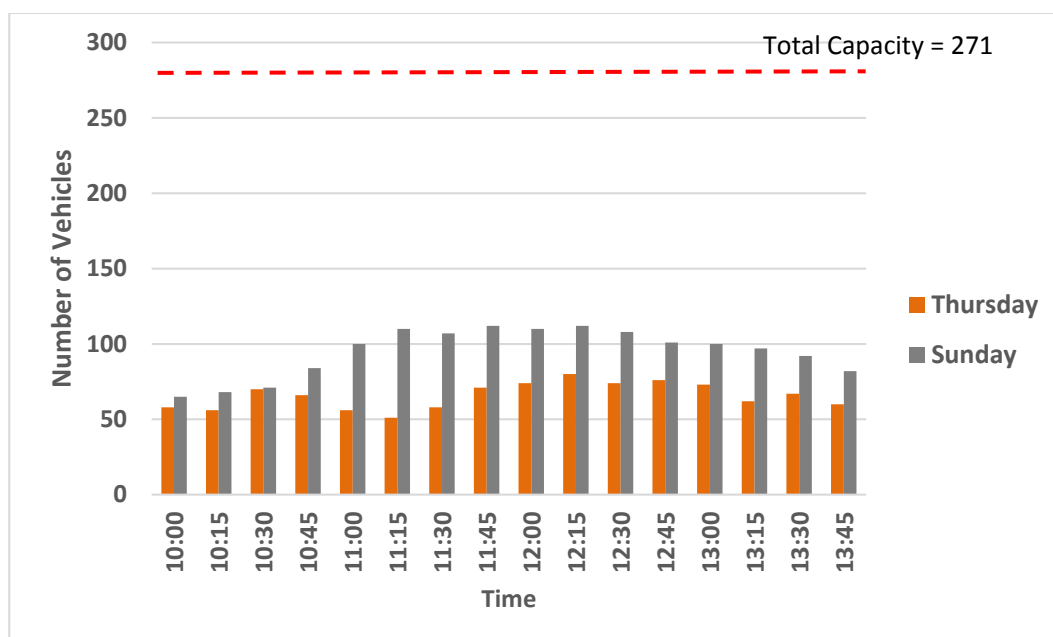
Type of Parking	Parking Restriction		Number of Available Spaces
<b>On Street</b>	Unrestricted		254
	Restricted	Disabled	2
		Loading	1
		P30	8
		P60	6
Sub-Total			271
<b>Off Street</b>	Market Parking		10
	Art Gallery Parking		13
	Jaycee Rooms (Unmarked)		24
	Fire Station Parking	Disabledx1	6
Sub-Total			53
<b>TOTAL</b>			324

- 3.6 In addition to the above inventory, council advises that a few parking spaces are provided at the Service Centre and Library Complex. Also an additional 24 spaces are provided at the Town Hall, which is currently being extended and seismically strengthened. These two car parks were not surveyed.

### On Street Parking Occupancy

3.7 The occupancy of the on street car parks by time of day for the four hour survey period is shown in **Figure 3.1**.

**Figure 3.1 On Street Parking Occupancy**



3.8 Figure 3.1 shows that, on Thursday:

- The peak 15 minute occupancy level of 80 over a total number of 271 parking spaces (30% occupancy) occurred at 12:15pm.
- The overall peak hour of occupancy was 12pm-1pm with an average of 76 cars (28%).
- The overall average occupancy during the survey period, 10am-2pm, was 66 cars (24%).

3.9 Figure 3.1 also shows that, on Sunday:

- The peak 15 minute occupancy level of 112 over a total number of 271 parking spaces (41% occupancy) occurred between 11:45pm and 12:15pm.
- The overall peak hour of occupancy was between 11:45pm-12:45pm with a peak average of 111 cars (41%).
- The overall average occupancy during the survey period, 10am-2pm, was 95 cars (35%).

3.10 When the on street parking occupancy levels between Thursday and Sunday are compared we find:

- The occupancy of car parks on Sunday (35%) is higher than that of Thursday (24%).
- The peak hour average occupancy level is 1.5 times higher on Sunday compared to Thursday, 41% and 28% respectively. This gives an increase of 35 car parks being occupied in the peak hour on Sunday.

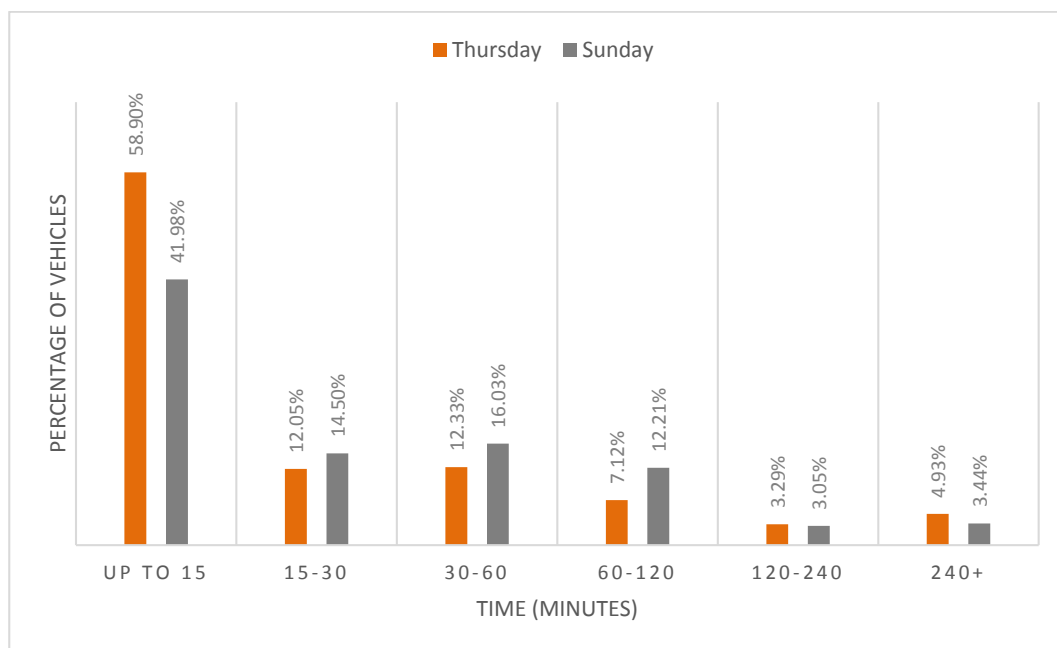
3.11 To make the visualisation of data easier an occupancy map has been created, see **Appendix 1** and **Appendix 2**. From this map it is evident that the occupancy levels are highly influenced by the cars parking in the central area of the study area. The parking spaces provided on the west and east sides of the town are rarely occupied.

This may be due to the shops, cafes and market (on Sunday) being located centrally and also due to people wanting to minimise their walking distance, thus parking closer to the centre.

### On Street Parking Duration

3.12 The duration of stay was calculated for vehicles using the on street car parks over the four hour survey period and is shown in **Figure 3.2**.

**Figure 3.2 On Street Parking Duration of Stay**



3.13 Figure 3.2 shows that on Thursday, 59% of vehicles parked for or less than 15 minutes, whilst 5% of vehicles parked for 240 minutes or more. The vehicles that were parked for more than 240 minutes are thought to be those of employees or residents in the area.

3.14 The same trend is evident on Sunday, where 42% of vehicles parked for or less than 15 minutes, whilst 3.5% of cars parked for 240 minutes or more.

3.15 When the duration of stay on Thursday and Sunday are compared we find:

- The percentage of vehicles parking for 15-30 minutes, 30-60 minutes and 60-120 minutes was higher on Sunday (14.5%, 16.0% and 12.2% respectively) than Thursday (12.1%, 12.3% and 7.12% respectively); whereas the percentage of vehicles parking for and up to 15 minutes was significantly higher on Thursday (58.9%) than Sunday (41.98%).

3.16 The differences between weekdays and the weekend is likely to be reflective of people accessing Oxford for different reasons. On weekdays the high proportion of very short (less than 15 minutes) parking stays is suggestive of a greater number of quick errands being run in a service town whereas on a weekend people may be travelling further distances to visit Oxford to participate in activities that take longer such as visiting the nearby cafes, shops and the farmers market.

## Time Restricted Parking

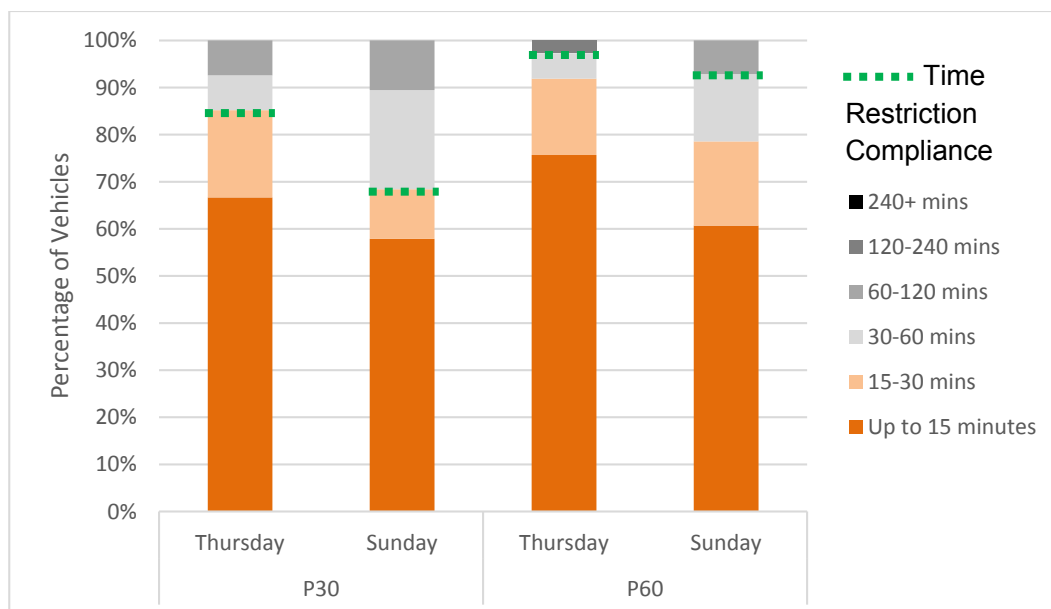
### Time Restricted Parking Occupancy

- 3.17 The average occupancy levels for restricted parking areas on Thursday and Sunday were 48% and 58% respectively. The average peak hour occupancy level on Thursday was from 12pm-1pm and 10:45am-11:45am on Sunday. Thus a good proportion of the restricted parking spaces were being used.

### Time Restricted Parking Duration

- 3.18 The distribution for duration of stay at time restricted parking spaces is shown in **Figure 3.3**.

**Figure 3.3 Time Restricted Parking Duration of Stay**



- 3.19 Figure 3.3 shows that for both time restrictions on both days a significant proportion of vehicles parked for less than 15 minutes. However, vehicles parking in the P60 area were mostly keeping to the parking restriction, 97% of the vehicles stayed under 60 minutes on Thursday and 93% on Sunday. This reduces for vehicles parking in the P30 area, 85% of the vehicles stayed under 30 minutes on Thursday and only 68% on Sunday. These values are summarised in **Table 3.3**.

**Table 3.3 Restricted Parking Duration Summary**

Time Restriction	P60		P30	
	Yes	No	Yes	No
Thursday	97%	3%	85%	15%
Sunday	93%	7%	68%	32%

- 3.20 The data also shows that the majority of vehicles were parked for half the allocated time for both restrictions. For the P30 spaces, 67% of vehicles were parked for or less than 15 minutes on Thursday and this was 55% on Sunday. The data also shows that 30% of the vehicles that used the P30 spaces on Sunday did not comply with the time restriction. For the P60 spaces, 92% were parked for or less than 30 minutes on Thursday and this was 78% on Sunday.

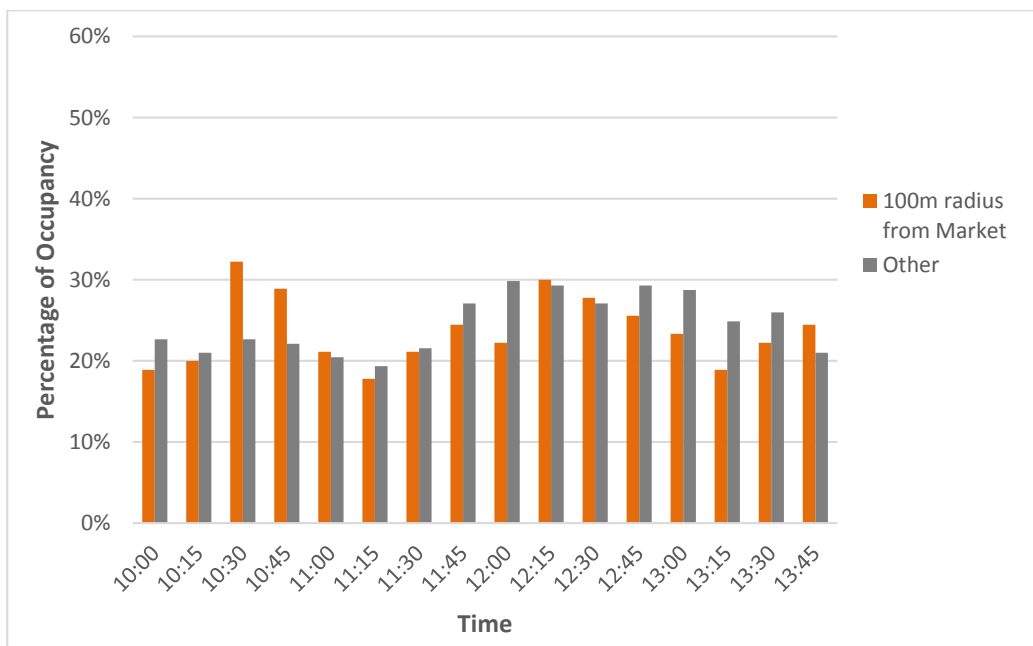
### Market Area Occupancy

3.21 The parking in the vicinity of the Farmers Market, open weekly on Sundays 9am-12pm, was examined due to the high parking occupancy in this area. The on street parking available in a 100 metre radius from the Farmers Market was separately graphed and compared to the other parking areas, see **Figure 3.5** and **Figure 3.6**. This excludes the 10 off-street parking spaces provided at the main entrance of the market. The 100m area in the vicinity of the market is shown in **Figure 3.4**.

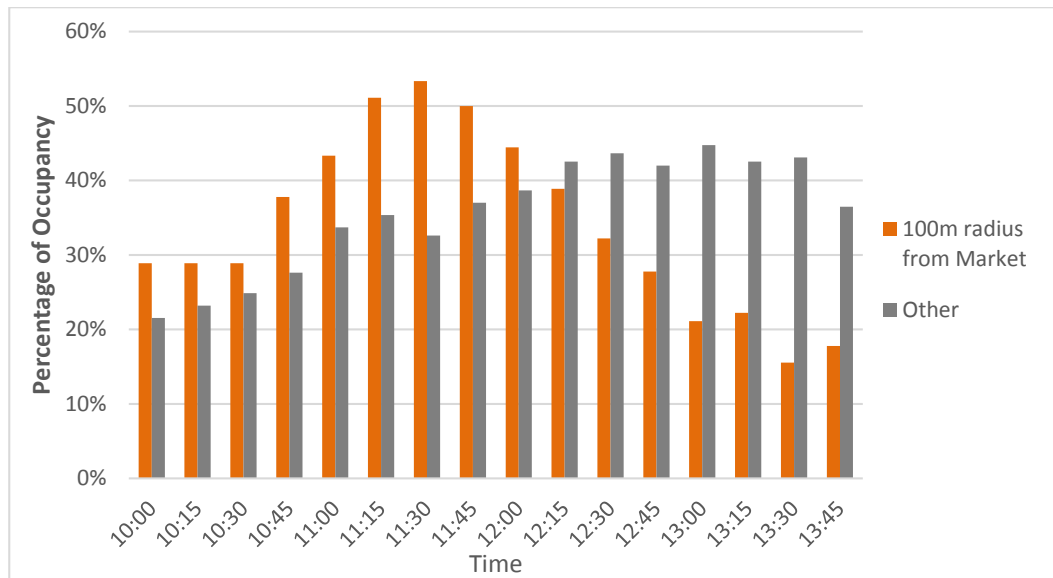
**Figure 3.4 100m Radius Area from the Farmers Market**



**Figure 3.5 Parking Occupancy Levels in the 100m Market Area vs Other Areas – Thursday**



**Figure 3. 6 Parking Occupancy Levels in the 100m Market Area vs Other Areas – Sunday**



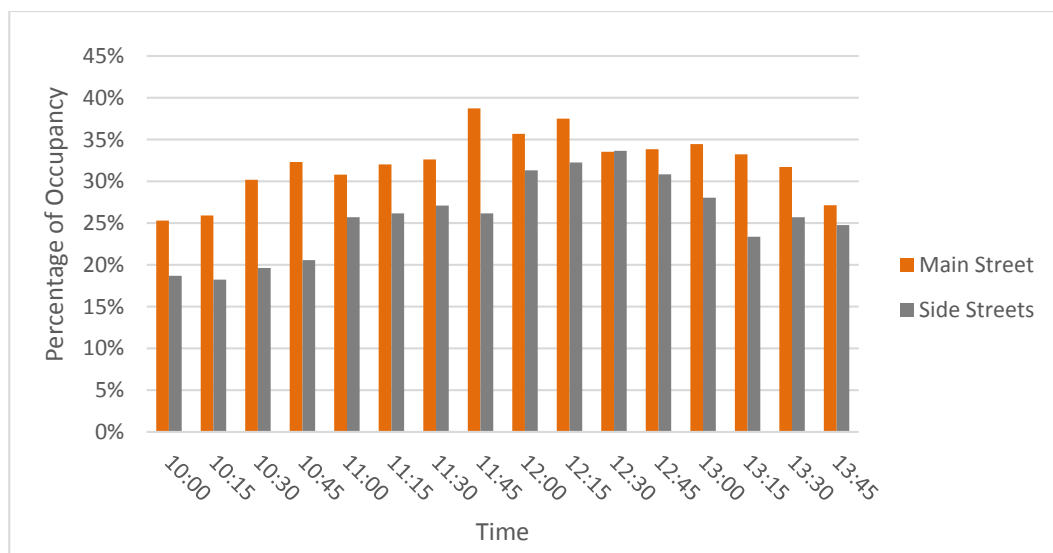
3.22 The parking occupancy on other streets in the vicinity of the market is similar on a Thursday and quite different on a Sunday, this can be seen on **Figure 3.5** and **Figure 3.6**.

3.23 The occupancy level in the 100m radius from the market steadily increases from the start of the survey period and reaches a peak of 53% occupancy level at 11:30am. From this peak, the occupancy level steadily decreases to a minimum of 16% at 1:30pm, whilst the occupancy levels in other areas steadily increase as time passes. It is interesting to see that the decreasing occupancy level of the market area intersects the increasing occupancy level of other areas at approximately 12pm. This may be due to the market ending at 12pm and vehicles moving to different places around the town centre in time for lunch and other activities.

**Main Street vs Side Street Occupancy**

3.24 The occupancy levels on Main Street and the side streets is shown on **Figure 3.7**.

**Figure 3.7 Parking Occupancy Levels on Main Street and Side Streets**



- 3.25 Overall, the occupancy levels on Main Street and the side streets were fairly consistent over the survey period. The average occupancy on Main Street was 32%, and 26% on the side streets.

#### **Off Street Parking Occupancy**

- 3.26 During the survey, four off-street parking lots were surveyed. These were the Arts Gallery, Jaycee Rooms, Fire Station and Market Car Parks. The occupancy at these car parks was relatively low during the survey period except for the market car park on Sunday. The car park was unoccupied on Thursday
- 3.27 On Sunday, the market car park occupancy was around 45% during the 4 hour survey period with a peak occupancy of 80% between 10:30am and 11:30 am on Sunday. Between the hours of the farmers market, on average vehicles were parked for a duration of 33 minutes at this car park. Approximately 84% of vehicles were parked for a duration of less than 1 hour.

## 4 CONCLUSION

- 4.1 The results of the parking survey indicates that the parking supply in the vicinity of Main Street is not at capacity as perceived by the community. Even during the busy farmers market the on-street parking occupancy is around 35%.
- 4.2 The off-street parking associated with the market was well utilised by the farmers market visitors. At the peak hour the occupancy was at 80%. We recommend transforming this informal parking area to a marked car park in order to better utilise the space and to reduce the amount of overspill on-street parking.
- 4.3 The time restricted parking spaces were well utilised with most vehicles complying with the time restrictions. However, the survey shows that the majority of vehicles were parked for half the allocated time. We recommend reviewing the time restrictions at these spaces to reflect the current demand for parking.

# **APPENDIX A**

## Thursday Peak Hour Parking Occupancy

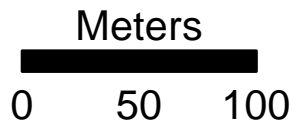


Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community



# Oxford Parking Study

## Thursday Peak Hour Parking Occupancy (On Street)



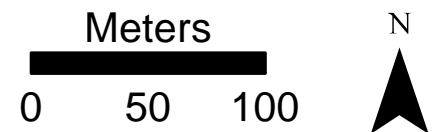
# **APPENDIX B**

## Sunday Peak Hour Parking Occupancy



# Oxford Parking Study

## Sunday Peak Hour Parking Occupancy (On Street)



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