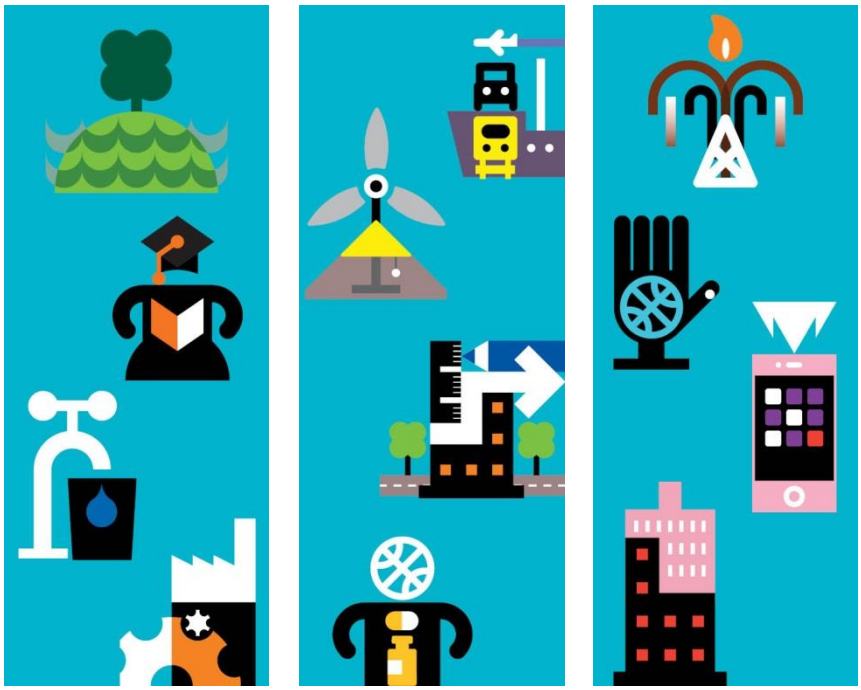


South Road Car Park Assessment

Midsomer Norton

December 2015

Bath and North East Somerset Council

Mott MacDonald

South Road Car Park Assessment

Midsomer Norton

December 2015

Bath and North East Somerset Council

Keynsham Civic Centre
Market Walk
Keynsham
BS31 1FS

Mott MacDonald, Stoneham Place, Stoneham Lane, Southampton, SO50 9NW, United Kingdom
T +44 (0)23 8062 8800 **F** +44 (0)23 8064 7251 **W** www.mottmac.com

Issue and revision record

Revision	Date	Originator	Checker	Approver	Description
A	Sep 15	P Rapa	S Finney	N Richardson	First Draft
B	Oct 15	P Rapa	S Finney	N Richardson	Second Draft
C	Dec 15	P Rapa	S Finney	N Richardson	Includes smaller supermarket

Information class: Standard

Contents

1 Introduction

1.1 Background

Bath and North East Somerset Council is currently preparing its Placemaking Plan which will allocate specific sites for development. In Midsomer Norton, there is a need to identify sites for future housing, employment and retail development. The existing South Road car park is being considered as a potential site for a new supermarket, which could result in a loss of some or all of the parking spaces available.

This report assesses the current demand for parking in the South Road car park and for the town as a whole, the potential additional demand with a new supermarket and the total capacity that may need to be provided at South Road.

Based on details provided by Bath and North East Somerset Council, this report considers a supermarket of 45,000 square feet, as well as a smaller store of around 15,000 square feet.

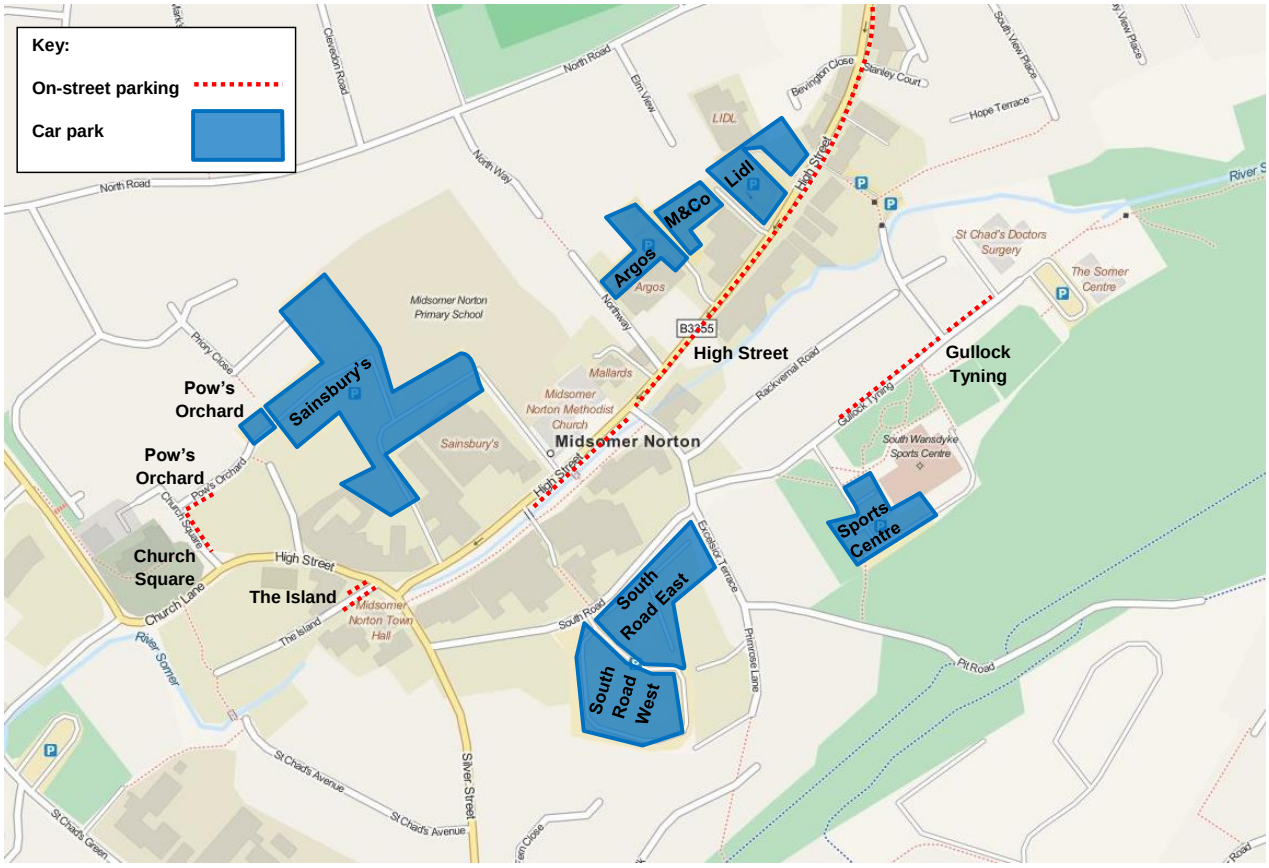
1.2 South Road Car Park

South Road Car Park is located within Midsomer Norton town centre, south of the main High Street (two minute walk from the car park itself) with access/egress points from South Road.

South Road Car Park is operated by Bath and North East Somerset Council, currently providing 251 spaces for public use free of charge, with no restrictions on length of stay.

Figure 1.1 below displays the location of South Road Car Park (east and west sites) in relation to the High Street, other available car parks and on-street parking within close proximity.

Figure 1.1: Parking Location Plan



Source: © OpenStreetMap contributors

2 Existing Car Park Data

2.1 South Road Car Park

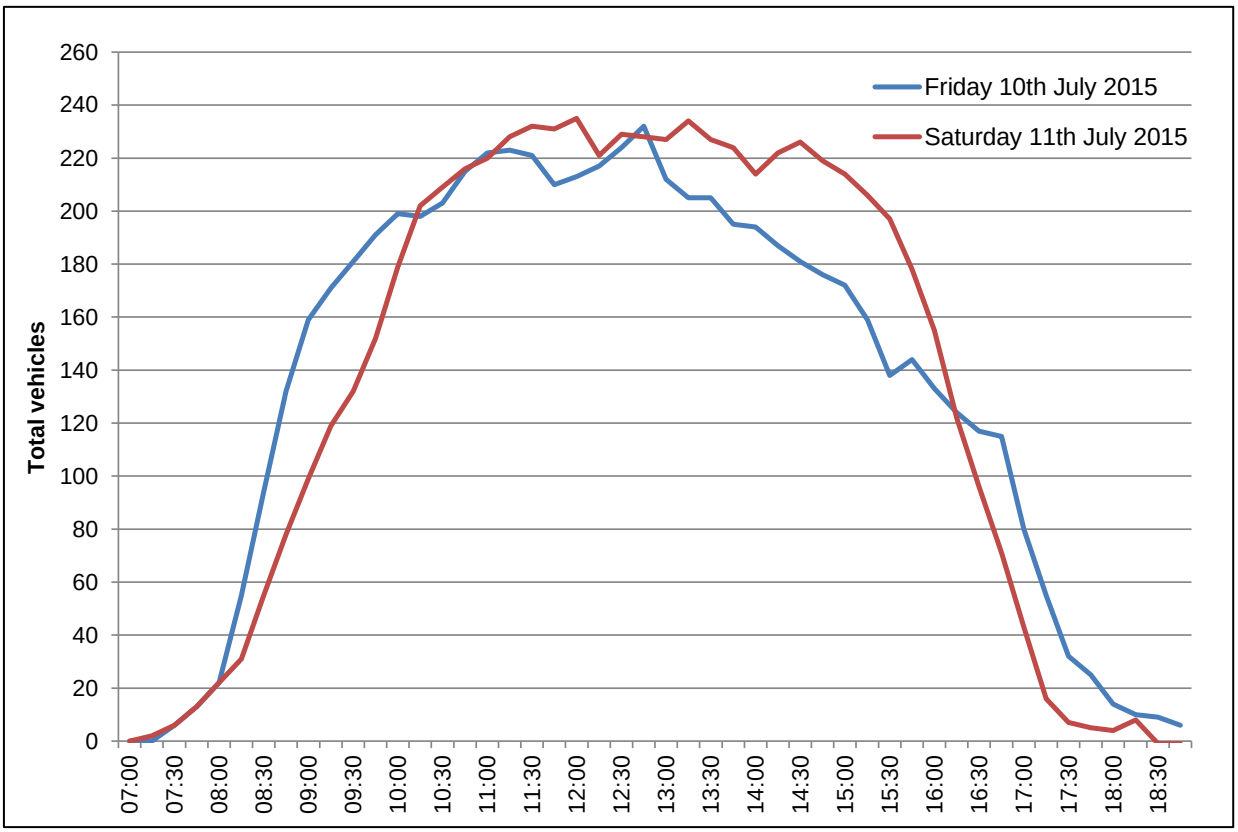
South Road Car Park data collected in the last two years has been analysed below, identifying the car park demand by way of number of occupied spaces and entry volumes over a number of days.

2.1.1 July 2015 Data

Data was collected for Friday 10th and Saturday 11th July 2015, over a 12 hour period between 07:00 and 19:00 each day, with counts available every 15 minutes. **Figure 2.1** presents the daily profile of total vehicle occupancy within the car park, for both Friday and Saturday, calculated by comparing entry and exit volumes over the day.

The graph shows the maximum occupancy at 232 vehicles for Friday and 234 for Saturday at 12:45 and 13:15 respectively. In turn, this results in very limited spare capacity being available, with only 17 and 19 spare spaces respectively, with the current capacity of 251 spaces in total. Both Friday and Saturday show high occupancy levels from around 10:00-13:30 but high occupancy continues on Saturday through to around 15:00. It should be noted that this calculation did not take into account any cars that were parked at 07:00 each day and therefore could underestimate the occupancy levels to a small degree. The overall conclusion from this data is that it is likely that the car park was operating at, or very close to, its capacity level on both days.

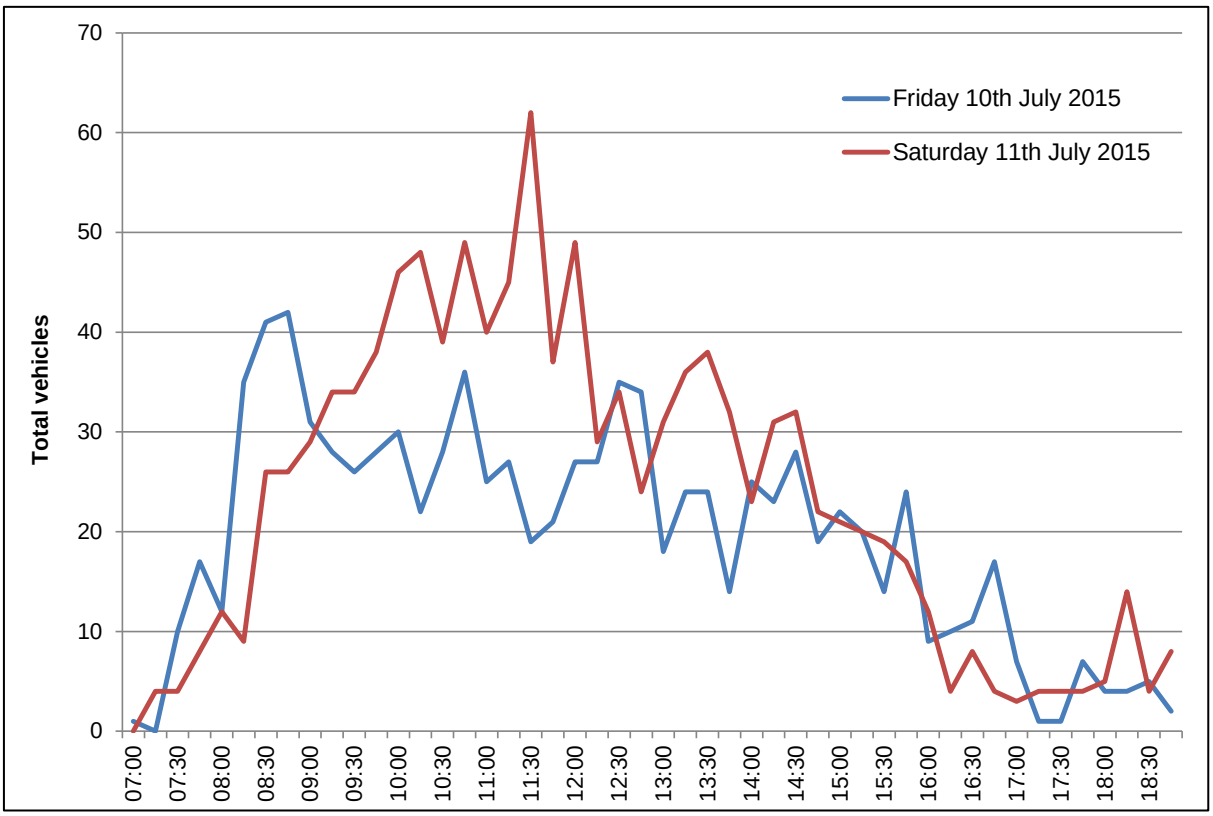
Figure 2.1: South Road Car Park Occupancy – July 2015



Source: Entry/exit counts provided by B&NES

Figure 2.2 presents the daily profiles of entry demand into the car park for both Friday and Saturday, in 15 minute intervals. The graph shows a large difference in profiles across Friday and Saturday, with highest entry flows at 08:30 and 08:45 on Friday suggesting that the car park is used by commuters working in the town on weekdays. On Saturday, the entry flow is higher later in the morning, peaking at 11:30 with over 60 vehicles in 15 minutes.

Figure 2.2: South Road Car Park Entry Flow – July 2015



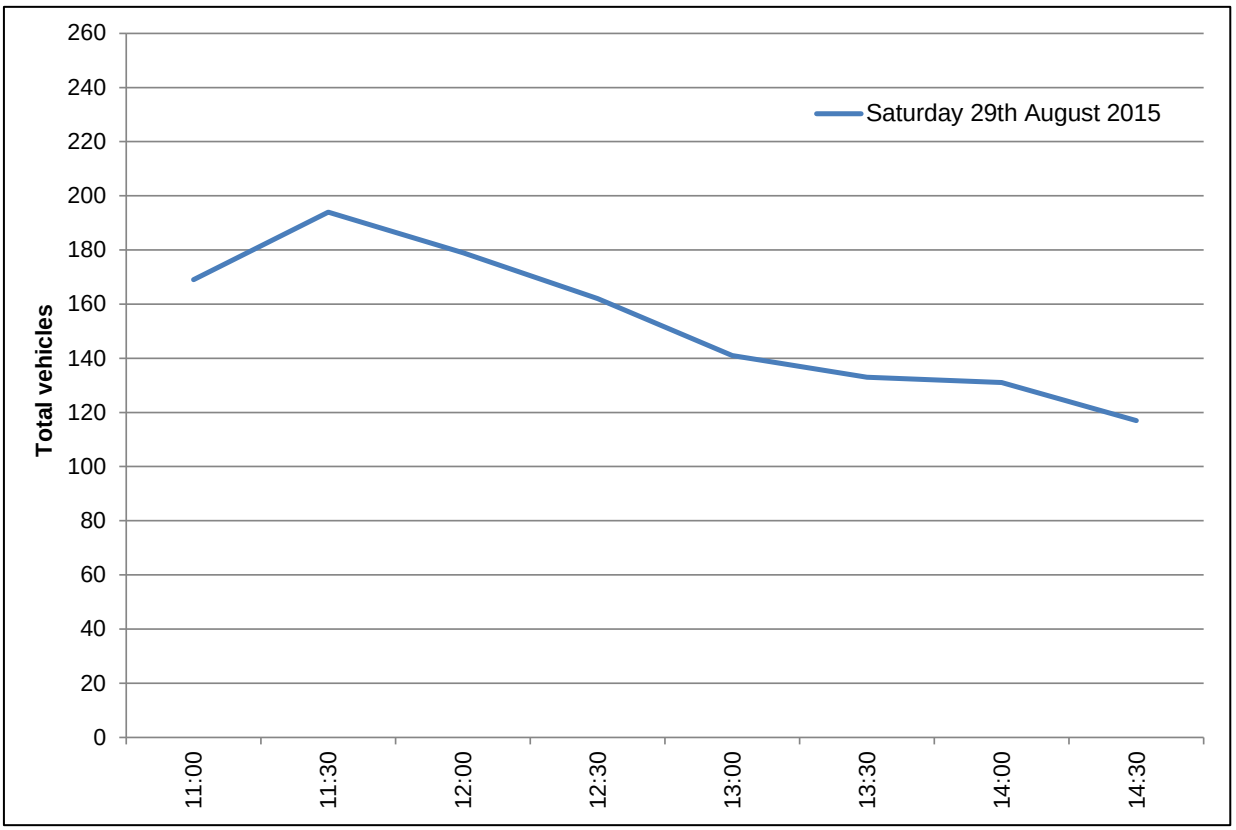
Source: Counts provided by B&NES

2.1.2 August 2015 Data

Data was collected on Saturday 29th August 2015 between 11:00 and 15:00, by way of counts of the number of occupied spaces every 30 minutes.

Figure 2.3 displays the car park occupancy over this period, showing the time of peak occupancy to be similar to July 2015 at 11:30. However, the maximum number of parked cars at 194 vehicles is lower than for a Saturday in July 2015. Nevertheless, there were still only 57 empty spaces, representing around 20% of the total capacity. It should be noted that in the weeks leading up to the survey there had been major roadworks in Midsomer Norton with diversion routes which probably caused significant delays to traffic and could have reduced parking demand. Therefore, it is possible that parking demand on 29th August was lower than it would otherwise have normally been if drivers were not aware that the roadworks had finished.

Figure 2.3: South Road Car Park Occupancy



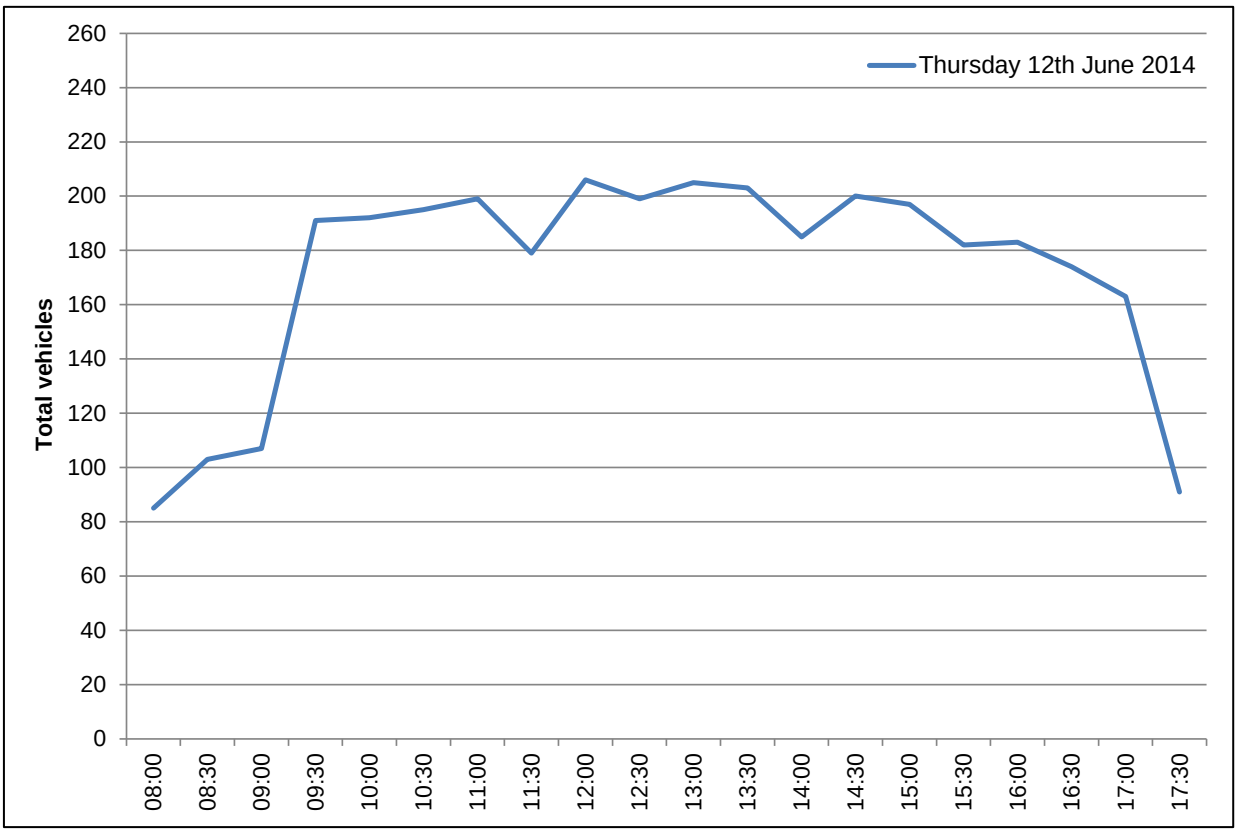
Source: Counts of occupied spaces, Nationwide Data Collection August 2015

2.1.3 June 2014 Data

Data was collected on Thursday 12th June 2014, over a 10 hour period between 08:00 and 18:00, by way of counts of number of occupied spaces every 30 minutes.

Figure 2.4 shows the daily profile, with a maximum occupancy of 206 vehicles at 12:00. This figure is lower than that observed on a Friday in July 2015 but again only represents around 20% spare capacity.

Figure 2.4: South Road Car Park Occupancy



Source: Counts of occupied spaces, Nationwide Data Collection June 2014

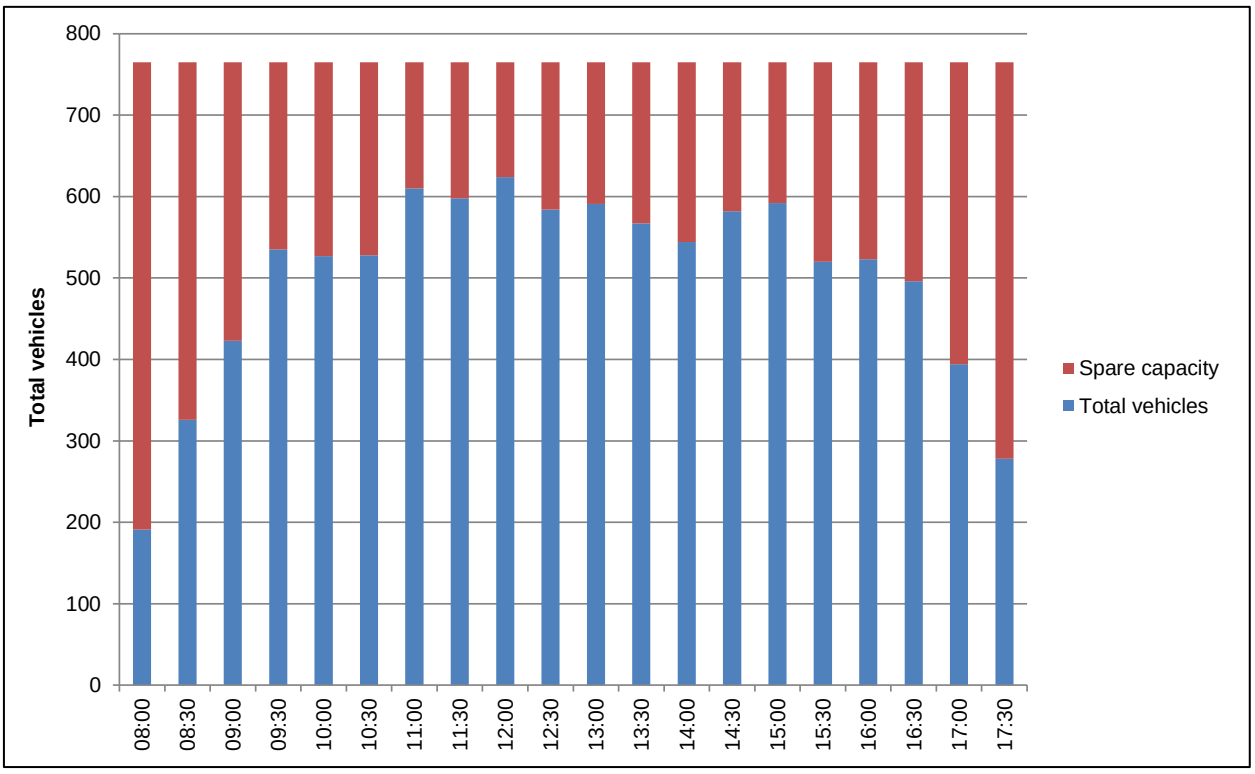
2.2 Other Car Parks

Analysis was carried out on other local car parking facilities in Midsomer Norton, identifying the overall parking capacity within the town centre.

Figure 2.5 compares the total occupancy with spare capacity for all parking within the town centre, between 08:00 and 18:00 at 30 minute intervals, based on observations on Thursday 12th June 2014. These car parking facilities include all off-street car parks (located at Sainsbury's, Argos, Lidl, M&Co., Pows Orchard, South Road and the Sports Centre) and on-street parking (located at Church Square, Pows Orchard, The Island, Gullock Tyning and along the High Street) and which are labelled on **Figure 1.1**.

The graph shows that the maximum number of parked vehicles is 610 at 11:00, giving 155 spare spaces (there being a total of 765 spaces in the town as a whole).

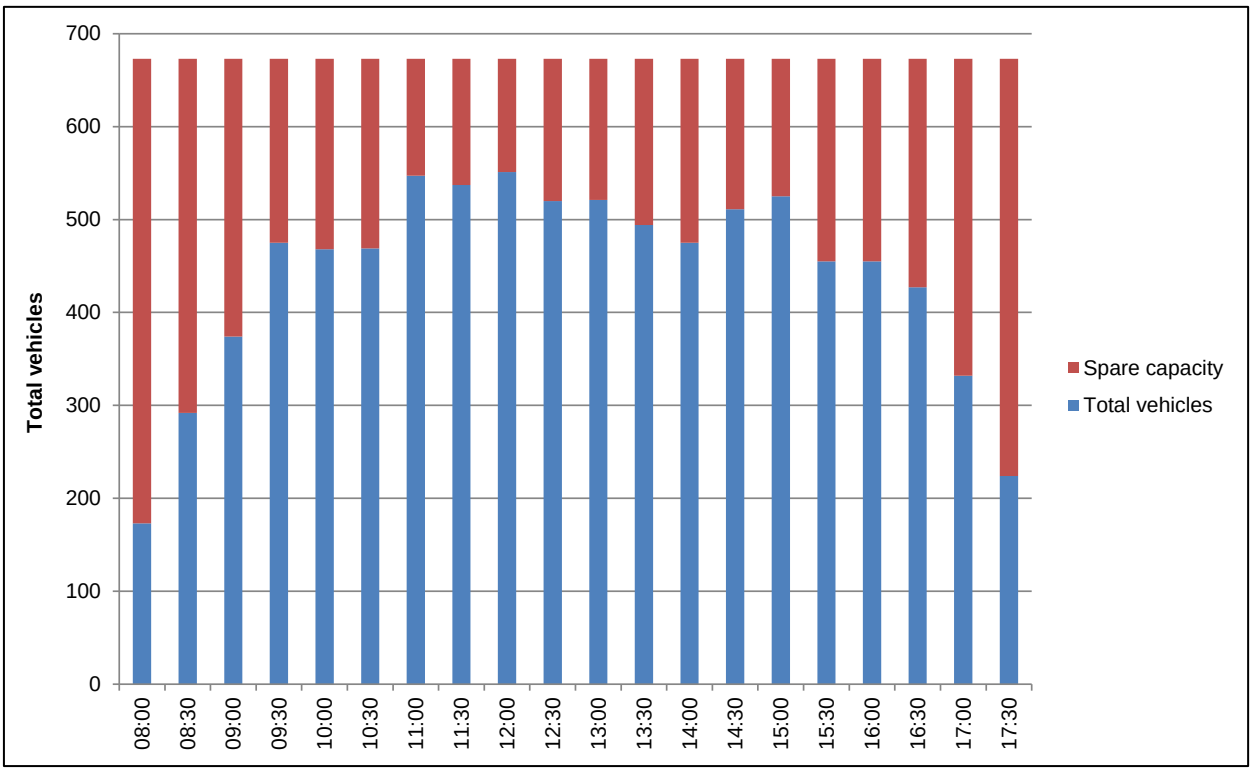
Figure 2.5: Daily Profile: All Parking



Source: Counts of occupied spaces, Nationwide Data Collection June 2014

Figure 2.6 compares the total occupancy with spare capacity for all off-street car parks within the town i.e. excluding on-street parking. This shows that the number of spare spaces reduces to 126, against a capacity of 673.

Figure 2.6: Daily Profile: All Off-Street Car Parks

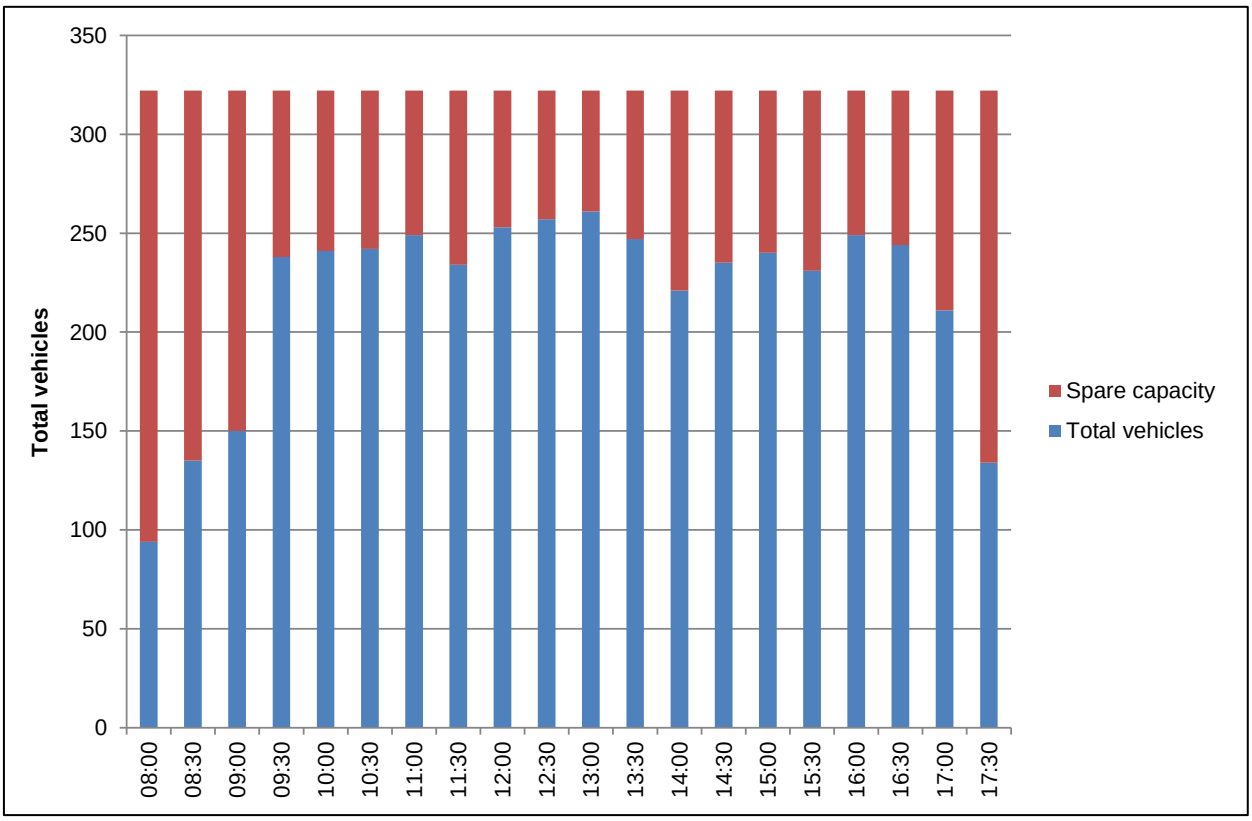


Source: Counts of occupied spaces, Nationwide Data Collection June 2014

Figure 2.7 compares the total occupancy with spare capacity for just the public off street car parks within the town centre (Pows Orchard Car Park, South Road and the Sports Centre only) i.e. excluding all private retail car parks and on-street areas.

This shows that the number of spare spaces reduces to 73, against a capacity of 322.

Figure 2.7: Daily Profile: Public Off-Street Car Parks



Source: Counts of occupied spaces, Nationwide Data Collection June 2014

Data for the other town car par parks was also collected for Saturday 29th August 2015 and used to calculate similar numbers of spare capacity. **Table 2.1** compares the maximum occupancy and spare capacity levels for the Thursday in June 2014 with the Saturday in August 2015:

Table 2.1: Observed Levels of Spare Capacity

	Thursday June 2014		Saturday August 2015	
Type of parking	Maximum Occupancy	Spare Capacity	Maximum Occupancy	Spare Capacity
All parking	610	155	519	273
All Off-Street parking	547	126	445	255
Public Off-Street parking	249	73	232	100

Source: Counts of occupied spaces, Nationwide Data Collection June 2014 and August 2015

It should be noted that there are some small differences in the car park capacities, as the 2015 data includes the NatWest car park and disabled bays, which were not counted in 2014.

3 Other Traffic Data

Traffic data was also collected for analysis of the High Street conditions, using both automatic traffic counters (ATC) and queue length analysis.

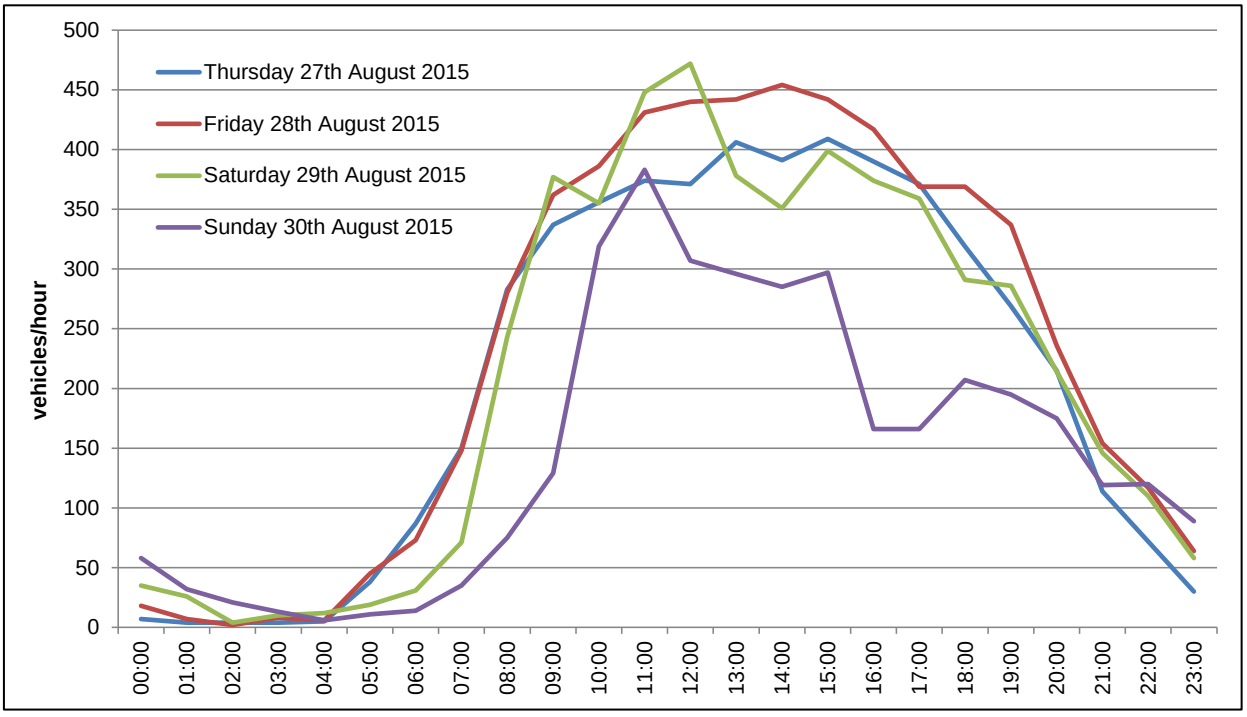
3.1 ATC Count of High Street

ATC data was collected for Thursday 27th August 2015 through to Sunday 30th August 2015, over a 24 hour period each day, on the High Street north of the junction with Excelsior Terrace (the access route to South Road car park for traffic from the north and east).

Figure 3.1 shows the 24 hour profile for all four days (Thursday to Sunday); presenting a similar daily profile for Thursday, Friday and Saturday, with flows of 350 vehicles/hour or more between 08:00-18:00.

The data also confirms that the time of peak car park occupancy (11:00-13:00) corresponds to the times of highest flows on the High Street.

Figure 3.1: ATC data count



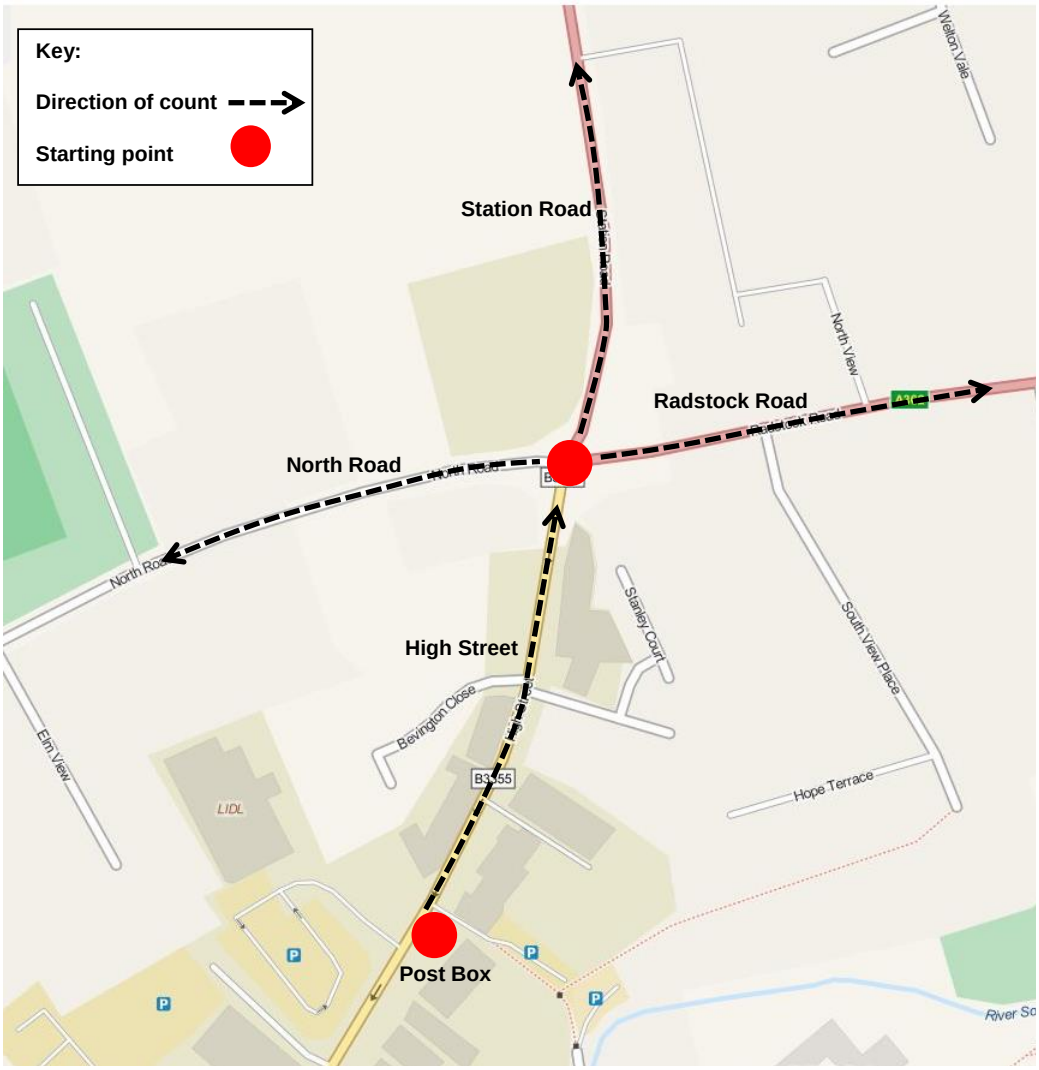
Source: ATC data

3.2 Queue Length Survey

For further detailed analysis of High Street traffic activity, queue lengths were observed at the 4 arm roundabout in the town centre of Midsomer Norton at the junction of the High Street, North Road, Radstock Road and Station Road. Queue lengths were noted at 5 minute intervals on Saturday 29th August 2015, between 10:00 and 14:00.

Figure 3.2 presents the location plan of where the queues were observed and in what direction of travel. Queue lengths were assessed back from the roundabout, as well as any queuing on the High Street itself and if this 'blocked back' to the roundabout.

Figure 3.2: Queue Survey Location Plan



Source: © OpenStreetMap contributors

All queue measurements were taken from the back of queue at the end of the 5 minute period, and recorded vehicle numbers (HGVs and buses classified as two vehicles). Queuing vehicles were taken to be vehicles travelling at approximately less than 5mph and less than 10m between vehicles.

The results identified minimal issues at the junction, with one incident on the High Street between 10:30 and 11:00 due to a large Domino's delivery lorry attempting to park, causing an obstruction. At this time, a maximum of 12 vehicles were observed as queuing along the High Street, also having an impact on Radstock Road (east of the High Street) whereby left turning vehicles were queuing back between 10:45 and 11:00 with a maximum of 22 vehicles queuing. There were no problems on North Road and Station Road during this time and at all other times during the survey there was minimal queuing at the roundabout and on the High Street.

4 Assessment of Impact of New Supermarket on Parking Capacity

4.1 Existing Spare Capacity

In July 2015, only 17 and 19 spare spaces remained on Friday and Saturday respectively at the time of highest occupancy in the South Road car park. On a Saturday at the end of August 2015, the number was higher with 57 spare spaces but this figure may have been abnormally low due to major roadworks in the preceding weeks.

In terms of public off-street spaces in the rest of the town centre, the only spare capacity is at the Sports Centre but this is restricted to around 20 spaces. Other private car parks for retail outlets have some spare capacity but again this is very limited and should only be used by customers of the outlets. Therefore, overall there are only around 40 spare spaces available in the town centre at the busiest times.

4.2 Traffic Generation and Parking Demand for New Retail

The potential for a new 45,000 square feet supermarket on the South Road site has been interrogated using the Trics database (v7.2.2), to identify the potential number of trips that would be generated to and from the supermarket for a development of this size.

This analysis has been undertaken for weekdays and a Saturday only to compare the difference in the daily profile through the week and at the weekend.

In addition, location types have been filtered down to select only those relevant to the site characteristics itself, therefore, 'Edge of Town', 'Industrial Zone' and 'Commercial Zone' have been specifically excluded from the site search to obtain a more accurate location based result.

Three specific area searches have been considered, England (excluding London), the South East and South West and the South West only. Although a more refined area search will detail surveys more relevant to the regional area, this produces a limited number of surveys due to the availability on the Trics database (only two surveys for the South West). Therefore, the trip rates for England (excluding London) have been used.

The peak trips into and out of the site have been calculated, and are presented below in **Table 4.1** for weekdays and Saturday. The profile of trips into and out of the site over the day has also been used to estimate the number of occupied parking spaces, with the maximum occupancy shown.

Table 4.1: Superstore Trips and Parking Demand (45,000 sqft)

Day/Area	Peak In (vehs/hr)	Peak Out (vehs/hr)	Maximum Occupied Spaces
Weekdays			
England (exc. London)	227 (13:00)	226 (13:00)	147 (11:00)
Saturday			
England (exc. London)	250 (11:00)	241 (16:00)	150 (15:00)

Source: Trics.org

The Saturday peak hour trips are significantly higher than the weekday trips, but the parking demand is only slightly higher at the weekend period.

The above analysis suggests that a new supermarket of 45,000 square feet would require at least 150 parking spaces. In contrast, using maximum parking standards[1] (1 space per 14 square metres) suggests that up to 299 spaces could be provided.

A smaller supermarket would require proportionately less parking, with 50 spaces for a 15,000 square feet store.

Whilst there is some potential for customers of a new supermarket to also visit other shops in the town centre, it is considered that nearly all of the parking demand for a new supermarket would be additional to that for the town centre. It is unlikely that existing users of the car park would also visit a supermarket before or after parking, as there are already two other supermarkets in the town centre with their own car parks. Therefore, it is considered that at least an additional 110 parking spaces would need to be provided for a 45,000 square feet store (as there are 40 spare spaces in the town centre at present), assuming that the existing capacity at South Road (250 spaces) is also retained i.e. a total demand of 360 spaces on site.

If the existing spare capacity is to be retained to allow for fluctuations in demand over the year, the following additional spaces would be needed:

- 45,000 sq ft store – 150 spaces, 400 in total on the site;
- 15,000 sq ft store – 50 spaces, 300 in total on the site.

[1] Bath and North East Somerset Council Local Plan: Maximum Parking Standards (2007)

4.3 Supermarket and Parking Layout at South Road

Figure 4.1 shows the footprint of 45,000 sq ft of new development (single storey) in relation to the existing South Road car park site (in a notional location). It is clear that such a building would occupy around half of the car park site and provision of 400 spaces on site would be very difficult due to the irregular shape of the car park boundary. It is suggested that to achieve anything like 400 spaces, parking would have to be provided underneath the whole building footprint (with the building on 'stilts'); even then a further 150 spaces would need to be provided by decking.

The figure shows the approximate size of an area that would provide around 50 spaces – three additional levels would be needed to provide +150 spaces (ignoring lost areas for access ramps etc). The shape of the north east corner of the car park would make decking here very difficult and inefficient. Therefore, rather than single level decking, a new multi-storey car park would be needed at a much higher cost per space compared to the equivalent decking solution.

Figure 4.1: Possible Supermarket Footprint within Car Park – 45,000 sq ft

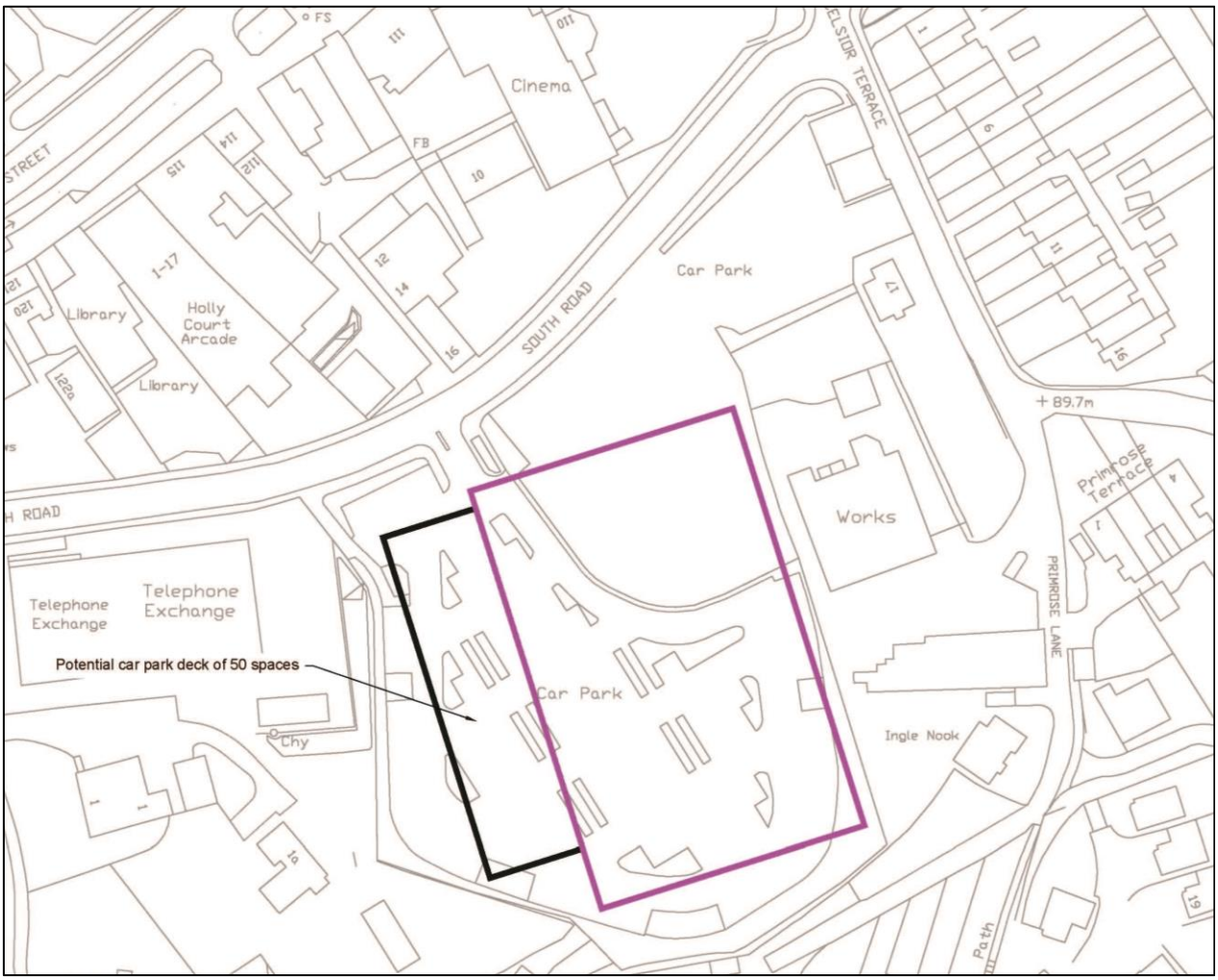
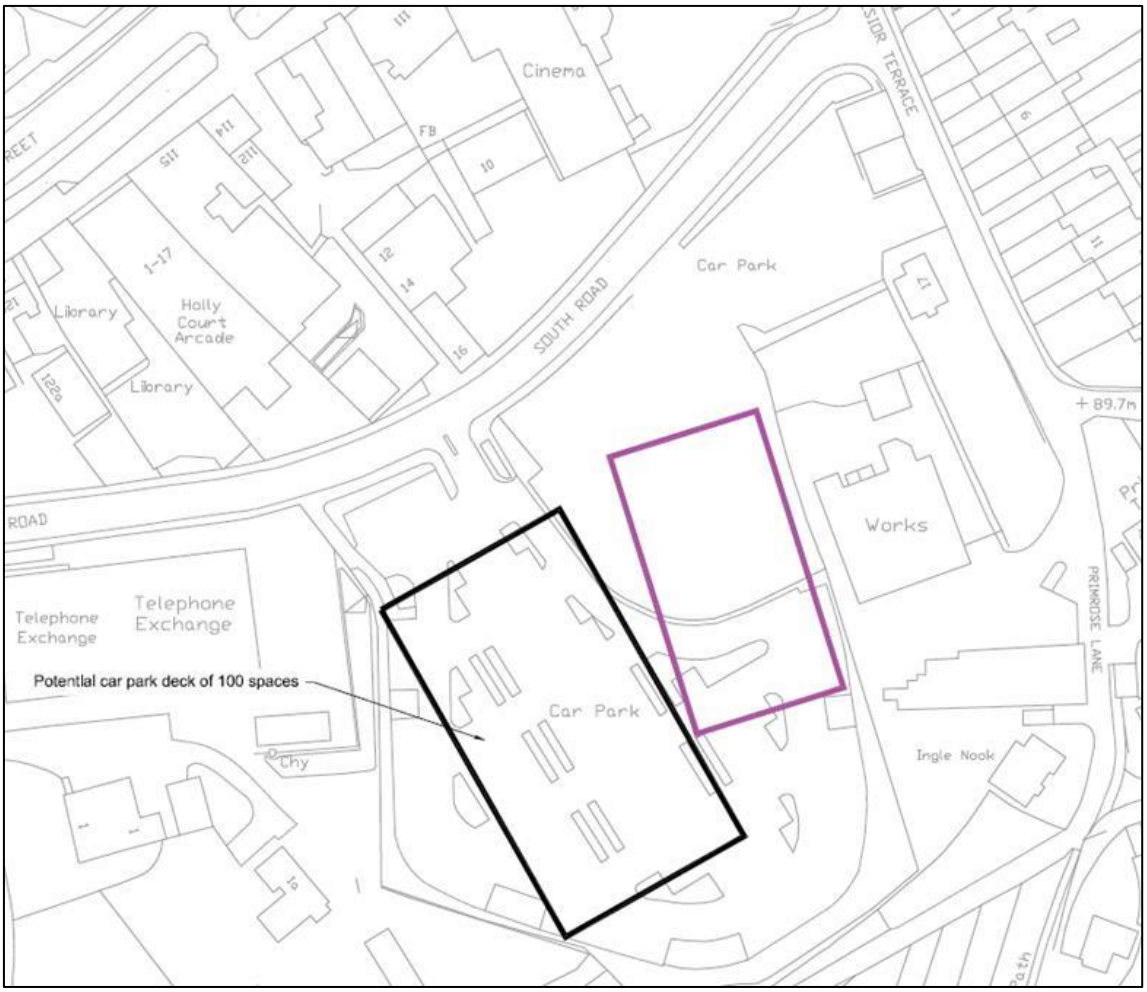


Figure 4.2 shows a potential layout with a 15,000 sq ft store. For a smaller store it is unlikely that providing parking underneath the building would be cost-effective, therefore it has been assumed that all additional parking would have to be provided by decking. A new building would result in a loss of around 50 spaces, giving a requirement for 100 spaces by decking (to provide 300 spaces in total).

The area of decking to provide 100 spaces is outlined in **Figure 4.2**.

Figure 4.2: Possible Supermarket Footprint within Car Park – 15,000 sq ft



4.4 Overall Conclusion

For a new supermarket of 45,000 sq ft to be acceptable in terms of parking capacity for the town centre, a total of around 400 spaces would need to be provided on the South Road car park site as part of the development. This would require parking under the building footprint, as well as additional spaces through a multi-storey car park within the site.

For a smaller store of 15,000 sq ft, around 100 additional spaces would need to be provided, assuming that parking underneath the building would not be viable. This would require a single level of decking over approximately 40% of the existing whole site.