

Prepared on behalf of

Marston's Estates

**The Red Lion PH
Marford Wrexham**

Transport Statement

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Acknowledgements:

The TRICS database has been used in this report to calculate traffic generations.

Traffic Surveys have carried out by Road Data Services

Disclaimer

The methodology adopted and the sources of information used by Sanderson Associates (Consulting Engineers) Ltd in providing its services are outlined within this Report.

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1 Introduction

- 1.1 Sanderson Associates have been appointed by Marston's Estates, to advise on traffic and transportation issues relating to proposals at the Red Lion Public House in Marford, Wrexham. It is proposed to develop part of the site for a small Food Retail (A1) unit. The location of the development is shown in Figure 1 (Appendix A).
- 1.2 The proposal consists of redevelopment in the existing public house grounds of a 4,121ft² (382.8m²) food retail unit. The proposed development is detailed on the architects drawing which is included in **Appendix B** at the rear of this report.
- 1.3 In accordance with Guidance on Transport Assessments, this Transport Statement will consider in detail the following aspects:
- the local highway network
 - the access arrangements to the proposed development
 - the existing use of the site
 - the proposed development and its operational characteristics
 - the effect of the development on the local highway network in terms of highway safety
 - accessibility of the site in relation to sustainable transport and local facilities and means to encourage the use of sustainable transport
- 1.4 For the purposes of this report the site has been visited and measurements have been taken of the physical layout of the local highway system.
- 1.5 A parking survey has been undertaken to assess the existing level of parking associated with the public house and to inform the assessment of parking for the proposed development on the site. The car parking survey is discussed within Section 7 of this report and the results are included in **Appendix C**.

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- 1.6 In addition, general observations of existing traffic and pedestrian movements together with an audit of local facilities and public transport links have been undertaken.
- 1.7 Highway related comments dated 21 December 2012 have been received in respect of the Planning Application ref: P/2012/0830 for the application proposals and this report has been amended to reflect these comments.

2 The Existing Situation

2.1 *Site and surrounding area*

2.1.1 The site is situated approximately 5.7 kilometres North of Wrexham City Centre and its location is detailed on the plan attached at **Appendix A (Figure 1)** which is attached at the rear of this report.

2.1.2 The site is currently occupied by a public house (which also serves food to its customers) and takes access off the B5445 Marford Hill via two access points. The public house has 40 existing parking spaces and also has a small recycling receptacle situated on the eastern most part of the car park. There is an existing brick built bus shelter set into the car park area behind the footway. The bus stop is provided with a layby.

2.1.3 The site is bounded by residential properties to the south and west, Marford Hill to the north and woodland to the west.

2.2 *Highway Network*

2.2.1 Along the site frontage the B5445 Marford Hill is approximately 7.5 metres wide with 1.8 metre wide footways on both flanks.

2.2.2 Within the vicinity of the site Marford Hill is street lit and is subject to a 30mph speed limit which then changes to 40mph along the site frontage just east of the eastern most public house access point. Marford Hill has a system of central double white lines extending to the north from the public house to Sunnyridge Avenue.

2.2.3 There are two bus stops on the site frontage with the north east bound stop situated opposite the public house building and the south west bound stop situated in front of the proposed retail store unit. The distance between the two stops is about 75m. Approximately 25m west of the public house there is a zebra crossing.

- 2.2.4 The B5445 is a classified road that runs from the A483 towards the centre of Wrexham and provides access to Pulford, Lavister, Rossett, Marford and Gresford. Approximately 1.5km to the north the B5445 joins the B5102 at a roundabout which then joins the A483 dual carriageway a grade separated interchange. To the south of Marford, approximately 2.6km from the public house, the B5445 (Chester Road) joins a large roundabout interchange with the A483 and A5156 dual carriageway.

2.3 Traffic Survey

- 2.3.1 Traffic Counts have been undertaken at junction of the existing Red Lion site access and Woodlands Road with Marford Hill. These surveys were undertaken by RDS at the same time as the parking surveys on Friday 19th October and Saturday 27th October 2012. From the traffic count data the peak hours have been identified as AM peak 0800-0900, PM peak 1700-1800 and the Saturday peak as 1215-1315.
- 2.3.2 The traffic survey identified that the north east bound traffic flow along Marford Hill as 243 vehicles in the AM Peak, 162 vehicles in the PM peak and 151 vehicles in the Saturday peak. The south west traffic flow was recorded as 147 vehicles in the AM Peak, 272 vehicles in the PM peak and 158 vehicles in the Saturday peak.
- 2.3.3 The total number of vehicles entering Woodlands Road was identified as 12 in the AM Peak, 47 vehicles in the PM peak and 32 vehicles in the Saturday peak. The total number of vehicles exiting Woodlands Road was identified as 34 in the AM Peak, 5 vehicles in the PM peak and 19 vehicles in the Saturday peak.

2.4 Vehicle Speed Survey

- 2.4.1 A vehicle speed survey was undertaken on Friday 19th October 2012 using a radar speed gun in free flow conditions in accordance with TA22/81 and the results are attached at **Appendix D**.

2.4.2 In summary the recorded 85th percentile wet-weather adjusted speeds are 28.8 mph northbound (away from Wrexham) and 34.6 mph southbound (towards Wrexham).

2.4.3 Based on the speeds recorded visibility splays of 2.4m x 40.5 to the left and 2.4 x 52.7m to the right out of the site are required based on the guidance set out in Manual for Streets 2.

2.5 *Accident Data*

2.5.1 Reference has been made to the web site www.crashmap.co.uk to determine if there are any personnel injury accidents near the site. Examination of the information shows that only one serious incident occurred in the period 2005 to 2011 involving one vehicle and casualty and was situated approximately 170m east of the site on Marford Hill.

2.6 *Public House Deliveries*

2.6.1 Beer delivery comprises of 1 dray vehicle per week (typically Friday morning). Food / catering deliveries comprise of a rigid vehicle 3 times a week in the morning on alternate days delivering fresh produce and supplies. Snack type items are delivered fortnightly by transit type van which would be able to use a parking space.

3 The Proposals

- 3.1.1 The proposal consists of a 4,121ft² (382.8m²) food retail unit to be located in the car park area of The Red Lion public house. The retail unit is located to the east of the existing public house. The revised layout would accommodate a total of 28 (inclusive of 3 disabled) car parking spaces which would be used by both the public house and retail unit. The proposed site layout is included in **Appendix B** to the rear of this report.
- 3.1.2 The internal layout has been designed to accommodate the service requirements of a small retail unit. The service and delivery area for the proposed unit is on its western side.
- 3.1.3 Servicing to the site would be controlled by a Service and Delivery Management Plan which has been prepared and should be read in conjunction with this report. Typical delivery times and frequency are identified within the Service and Delivery Management Plan, however it is considered that daily deliveries would be made for newspapers, bread and dairy products, with general chilled and ambient deliveries occurring daily during the week and Saturday. A larger 12.6m articulated vehicle would also make deliveries every other day. It is in the store operators own interests to manage servicing efficiently so that produce is delivered in a timely fashion for sale to customers and minimise disruption to both staff and customers.
- 3.1.4 Typical opening times of retail units of this nature could be from between 0600 - 0800 with closing times between 2100 - 2300.

3.2 *Parking Standards*

- 3.2.1 Parking standards were obtained from Wrexham County Borough Council for the proposed development. The land use category A1 Shops and A3 Pubs have been used, a summary of the maximum parking spaces is provided below:

A1 Shops –**Small shops of up to 300sqm Gross Floor Space**

- 1 car space per 15sqm Gross Floor Space

Food retail in excess of 300sqm Gross Floor Space

- 1 car space per 14sqm Gross Floor Space

A3 Pubs, Restaurants and Cafes

- 1 car space per 4sqm Public Floor Area

3.2.2 Wrexham County Borough Council have advised that 1 car space per 15sqm gfs is acceptable given the nature of the convenience store.

3.2.3 The existing pub has a public floor area of approximately 111.2sqm (public area excluding toilets) and in accordance with the above; the maximum number of spaces would be 28. A total store floor area of 382.8sqm (gross internal) is proposed and in accordance with the above the maximum number of spaces would be 26. Giving a maximum number of spaces of 54 for the existing pub and proposed retail unit.

3.2.4 As part of the proposals 29 spaces are to be provided for the public house and retail store. From the parking survey which has been carried out a total maximum of 11 spaces were utilised by the public house in a single 15 minute period. This would leave up to 18 proposed spaces potentially free for use by either the retail unit or public house.

4 Multi Modal Trip Generation

- 4.1 As required in the DfT 'Guidance on Transport Assessment', the person trips to the proposed development have been assessed, using information contained within the TRICS 2012 (b) database. The full TRICS outputs are contained in **Appendix E**.
- 4.2 The TRICS database has been used to assess the Multi Modal trips to the development for the proposed retail use. The land use category 01 – Retail – Convenience Store has been used to determine person trip rates. To ensure a robust assessment, the output of the TRICS Database has been refined to exclude Greater London and Ireland.
- 4.3 The following provides details of the two-way person trip rates along with the corresponding modal percentage split and generated person trips. The data has been split between weekday AM and PM Peaks, Saturday Peak and a 24 hour modal trip assessment.

Convenience Store 383sqm			
	2 Way Trip Rate 100sqm	% Modal Split	Generation (people)
AM Peak Hour Modal Split			
Pedestrians	46.057	51%	176
Cyclists	1.600	2%	6
Public Transport Users	24.107	27%	92
Vehicle Occupants	18.676	20%	72
Total People Trips	90.439	100%	346
PM Peak Hour Modal Split			
Pedestrians	55.957	57%	214
Cyclists	1.004	1%	4
Public Transport Users	18.842	19%	72
Vehicle Occupants	22.624	23%	87
Total People Trips	98.427	100%	377
24 Hour Modal Split			
Pedestrians	638.609	62%	2446
Cyclists	13.983	1%	54
Public Transport Users	136.857	13%	524
Vehicle Occupants	244.411	24%	936
Total People Trips	1033.86	100%	3960

Convenience Store 383sqm			
	2 Way Trip Rate per 100sqm	% Modal Split	Generation (people)
Sat Peak Hour Modal Split 1200-1300			
Pedestrians	26.500	61%	102
Cyclists	1.500	4%	6
Public Transport Users	0.00	0%	0
Vehicle Occupants	15.250	35%	58
Total People Trips	43.250	100%	166
24 Hour Modal Split			
Pedestrians	288.00	58%	1103
Cyclists	7.500	2%	29
Public Transport Users	2.00	0%	8
Vehicle Occupants	202.500	40%	775
Total People Trips	500.00	100%	1915

- 4.4 As can be seen from the above, the predicted level of pedestrian, cyclist and public transport users is modest and can be readily accommodated within the existing infrastructure. The site is ideally situated immediately adjacent to the south west bound bus stop for public transport users.

5 Accessibility for Non Car Travel Modes

5.1 In order to accord with the aspirations for promoting sustainable travel any new proposals should extend the choice in transport and secure mobility in a way that supports sustainable development.

5.2 This section of the report considers the accessibility of the development by the following modes of transport.

- Accessibility on foot;
- Accessibility by cycle;
- Accessibility by bus;

5.3 The non-car accessibility of the site is important to provide a viable alternative to the private car when considering travel to the site.

5.4 Accessibility on Foot

5.4.1 Walking is an important mode of transport in the urban area; it can replace a large number of short car journeys which contribute to congestion and pollution, and the need for car parking. Walking is the most sustainable form of transport and provides one way of reducing pressure on the environment. People walking are also travelling at a pace that gives them a greater connection with their surroundings and can have positive benefits in relation to a community's security through increased surveillance.

5.4.2 Walking stimulates both personal health and the health of communities and local economies. Government health improvement advice states that just 30 minutes brisk walking 5 times a week can bring about significant reductions in the risk of coronary heart disease, high blood pressure and diabetes.

5.4.3 In relation to acceptable walking distances Manual for Streets which is the latest national guidance on the design of residential roads offers the following guidance in Section 4.4 "The walkable neighbourhood"

- 5.4.4 “4.4.1 Walkable neighbourhoods are typically characterised by having a range of facilities within 10 minutes’ (up to about 800 m) walking distance of residential areas which residents may access comfortably on foot. However, this is not an upper limit and walking offers the greatest potential to replace short car trips, particularly those under 2 km. MfS encourages a reduction in the need to travel by car through the creation of mixed-use neighbourhoods with interconnected street patterns, where daily needs are within walking distance of most residents”.
- 5.4.5 A plan indicating the 2km walking catchment is available in **Appendix A (Figure 2)**. As can be seen from **Figure 2** only the western edge of the village is more than 800m from the proposed store.
- 5.4.6 The footways along Marford Hill are street lit. There is a Zebra crossing located 60m south west of the centre of the site. The crossing provides a safe crossing for pedestrians using facilities along Marford Hill. Footways along Marford Hill are approximately 1.8m wide on both flanks.
- 5.4.7 In addition to the above the site is also in proximity to bus stops providing regular services between the site and surrounding area. It is therefore considered that journeys on foot are a realistic prospect for future staff and visitors to the site.

5.5 Accessibility on Cycle

- 5.5.1 In relation to the proposed retail store; cycling distances from local residential centres within 5km, along with the corresponding cycle time based on 12 km per hour are as follows. A 5km radius of possible destinations can be found on **Figure 3 (Appendix A)** at the rear of this report.

Origin/Destination	Distance	Time
Gresford	1.4km	7 minutes
Rossett	2.5km	12½ minutes
Singret	2.9km	14½ minutes
Burton	3.2km	16 minutes
Llay	3.9km	19½ minutes
Pulford	4.2km	21 minutes
Trevalyn	4.2km	21 minutes
Bradley	4.7km	23½ minutes
Llay Industrial Estate	4.9km	24½ minutes

5.5.2 The proposed development is provided with cycle parking.

5.5.3 The development site has good cycle accessibility from local residential areas and connectivity to public transport.

5.6 Bus Travel

5.6.1 Two bus stops are located along Marford Hill; with one stop immediately adjacent to the proposed retail store and the other 75m away to the west. Details of the facilities provided at each of the stops along with the available services are provided below:-

Location:	Marford Hill (Chester Road)
Distance to stop:	Approximately 40m east from centre of site
Direction of travel:	West Bound
Facilities:	Pole, Shelter and Bus Boarder Kerbs, lay-by and real time information
Bus services:	1

Location:	Marford Hill (Chester Road)
Distance to stop:	Approximately 45m west from centre of site
Direction of travel:	East Bound
Facilities:	Pole, Shelter and Bus Boarder Kerbs, lay-by and real time information
Bus services:	1

- 5.6.2 A summary of the bus services which operate along Marford Hill (Chester Road) is provided below with timetable information included in **Appendix F**.

1 Chester – Wrexham Via Chester Business Park, Rossett, Marford and Gresford

Monday – Saturday	12 minutes
Sunday	20 minutes

1 Wrexham – Chester – Via Gresford, Marford, Rossett and Chester Business Park,

Monday – Saturday	12 minutes
Sunday	20 minutes

- 5.6.3 As can be seen from the above, regular buses are available from existing bus stops within easy walking distance of the site. These stops provide a connection from the site to Chester and Wrexham.

5.7 Accessibility Summary

- 5.7.1 It is considered that the site has good access by both “active transport” and public transport to local facilities and to public passenger transport arrangements. As such, staff and visitors to the development will have a choice of sustainable travel options. The development is in a village setting and caters for local needs and therefore walking and cycling are realistic modes of travel.

6 Traffic Impact

6.1 Existing Traffic Generations

6.1.1 The existing Red Lion Public House access was surveyed as part of the parking survey. The survey included hours between 0730-0930 and 1600-1830 on Friday 19th October 2012. From this information the peak hours of 08:00 -09:00 and 17:00-18:00 were identified. A summary of the existing traffic generations to the site are detailed below.

	Traffic Generations		
	Arrivals	Departures	Totals
AM 0800-0900	12	9	21
PM 1700-1800	7	9	16

6.1.2 As can be seen the current access has a total of 21 vehicles entering and leaving in the AM peak and 16 vehicles in the PM peak.

6.1.3 The Red Lion is not open in the AM peak period and it was observed within the survey that some vehicles used the car park whose occupants weren't visiting the public house. These vehicles were observed dropping people off for school or for the nearby bus stop. It is considered that the majority of the AM traffic isn't associated with the Red Lion.

6.2 Proposed Traffic Generations

6.2.1 The TRICS version 2012 (b) database has been utilised to estimate the likely increase in traffic generated by the small convenience store retail unit. The land use category Retail – Convenience Store (Multi Modal Vehicles) has been used. The TRICS database is a nationally recognised resource for traffic and multi-modal survey data for various use classifications.

6.2.2 The trip rates and the resultant traffic generations for the 383sqm unit is tabulated below for the typical network peak hours and for a typical 24 hour period as identified from the trip rates.

	Trip Rates		Traffic Generations		
	Arrivals	Departures	Arrivals	Departures	Totals
AM 0800-0900	9.301	6.138	36	24	60
PM 1700-1800	7.731	10.776	30	41	71
Daily	101.756	97.380	390	373	763

Table 6.2(a): Retail – Convenience Store

6.2.3 As can be seen, the convenience store could generate in the region of 60 vehicles in the AM peak and 71 vehicles in the PM peak. This equates to one vehicle every minute in the AM peak and 1.2 vehicles every minute in the PM Peak. This data provides a comparison to the data obtained from the Parking Survey and would be additional to the public house traffic.

6.3 Traffic Composition

6.3.1 It is considered that not all of the predicted trips will be totally new to the highway network and that a proportion of trips to the retail store will be associated with pass by trips or linked trips which will comprise a large proportion of the overall trips and others transferring from similar facilities. The research presented within TRICS Research Report 95/2, which provides an overview of 'Pass By' and 'Diverted Traffic' research. With regard to food stores, the TRICS report suggests that only about 10% of all trips are new to the highway network with the other 90% transferring from other developments. This is logical since the potential number of customers to a store in a catchment area does not change because of the store development and the overall shopping demand is the same.

6.3.2 The research report provides details of both UK and American examples of research conducted on the proportion of 'primary' and 'non-primary' trips generated by new supermarket developments.

6.3.3 The proportion of 'Primary' and 'Non-primary' trips is dependent upon a number of factors which include the proximity of the site to an arterial route (the B5445 in this case serving the village), the size of the proposed supermarket and the comparative proximity of other competing supermarket developments within the

area. The research report suggests that the proximity of the site to an arterial route increases the potential for pass-by trips. The research concludes that the proportion of pass-by / diverted (non-primary) will not exceed 40% of the traffic generated by the development. The remaining 60% of traffic is made up of 'new' and 'transferred' (Primary) trips and from the research presented the majority of the 'Primary' trips comprise transferred (50% of the remaining 60%). As such, only 10% of traffic generated by a supermarket development is considered to be new to the local highway network.

- 6.3.4 From this information it is therefore considered that around 40% of the predicted traffic will already be travelling along Marford Hill and will cater for the local needs of Marford.

6.4 Existing Access Points

- 6.4.1 The visibility sight lines for the existing access points are shown on the revised architects layout plan which relate to the vehicle speed survey data provided in Section 2.4. No change to the available existing visibility is proposed; however, improvement is proposed to the eastern access with regard to setting back parking spaces where these impinge into the visibility sight line. This is shown on the Architects revised layout plan attached (Appendix B).
- 6.4.2 With regard to the location of the bus stop to the east of the site, its location in relation to the existing car park access points, is unchanged by the proposals. The frequency of buses is 10 to 12 minutes in the morning, 12 minutes throughout the day until about 19:45 hrs when it changes to 30 minutes and on a Sunday it is 20 minutes.
- 6.4.3 Reference to the traffic generation for the convenience store provided in section 6.2, shows the number of departures in the AM and PM peaks as 24 and 41 respectively. This equates to an average of one vehicle every 2.5 minutes in the AM peak and an average of one vehicle every 1.5 minutes in the PM peak. It is considered that anyone exiting the car park would wait until the bus had

departed, since this would be short duration and given the frequency there would be five to six buses an hour, reducing on an evening to 3 buses per hour and not every bus would stop. It should be recognised that vision to the east (from the eastern most access), is not totally obscured since the bus would pull into the lay-by and the available vision is estimated at 2.4 x 24 to 30 metres, although a vehicle would be first seen at about 40 metres away from the access. Vision from the western access is not affected by a bus stopping at the lay-by. It is therefore, concluded given the bus frequency and the likelihood that some buses would not stop that the additional convenience store departures would not be materially effected by buses stopping.

7 Parking Survey

7.1 *Parking survey*

7.1.1 The public house car park consists of 40 spaces. A copy of the existing site layout is included in **Appendix B**. It was observed within the survey that some vehicles used the car park, whose occupants weren't visiting the public house. These vehicles were observed dropping people off for school or for the nearby bus stop. If vehicles entering the site for these purposes arrived and departed within the 15min count periods these will not be included within the incremental car park occupancy, however if vehicles arrive and leave in different 15min count periods these will have been included within the car park occupancy. With regard to the proposed use these visits could still occur and therefore have been taken into account in this assessment.

7.1.2 From the survey information a maximum of 2 vehicles were observed within a 15 minute period using the car park for dropping off and picking people up who were not visiting the Public House. These occurred on Friday 19th October at 16:45-17:00, 17:45-18:00, 18:15- 18:30 and 18:45-19:00. In general, on Friday up to around 1700, the majority of vehicles using the car park and not visiting the pub were picking up children from the bus stop and after this time a few adults were picked up. After 19:00 there were two occasions when 1 vehicle was parked which were young people waiting in their cars. On Saturday all of the vehicles whose occupants did not use the pub were either local residents or their visitors with the exception of one Sainsbury's delivery van whose driver was taking a break. A maximum of 2 vehicles were observed within three 15 minute periods and these occurred on Saturday 27th October at 12:30 - 12:45, 14:15-14:30 and 14:30 -14:45. After 15:00 there were only two occasions when 1 vehicle was parked whose occupants did not use the pub, which were young people waiting in their cars. On Sunday, out of the 7 vehicles whose occupants did not visit the pub two appeared to visit people who lived on Woodlands Road and the rest where young people who didn't leave their vehicles and stayed for between 5 to 25 minutes. A maximum of 2 vehicles were observed within one 15 minute period

on Sunday 21st October at 12:30 - 12:45. After 14:00 there were only four occasions when 1 vehicle was parked whose occupants did not use the pub.

7.1.3 The parking accumulation is calculated from the net number of arriving and departing vehicles at the end of each 15 minute interval added to the number of vehicles parked at the end of the preceding interval. The number of vehicles parked at the start of each survey period was recorded on each day.

7.1.4 A summary of the 3 day parking survey accumulation for the public house car park is detailed below.

	Friday 19 th October 2012	Saturday 27 th October 2012	Sunday 21 st October 2012
	Occupancy	Occupancy	Occupancy
1200 - 1215		4	4
1215 - 1230		4	4
1230 - 1245		7	6
1245 - 1300		5	7
1300 - 1315		5	6
1315 - 1330		5	5
1330 - 1345		5	4
1345 - 1400		5	1
1400 - 1415		4	2
1415 - 1430		4	3
1430 - 1445		2	2
1445 - 1500		2	1
1500 - 1515		2	0
1515 - 1530		3	0
1530 - 1545		5	2
1545 - 1600		5	2
1600 - 1615	3	4	3
1615 - 1630	2	5	5
1630 - 1645	2	4	3
1645 - 1700	4	5	3
1700 - 1715	3	5	3
1715 - 1730	1	4	4
1730 - 1745	1	4	4
1745 - 1800	2	5	6
1800 - 1815	3	5	7
1815 - 1830	3	4	7
1830 - 1845	4	3	5
1845 - 1900	3	3	6

	Friday 19th October 2012	Saturday 27th October 2012	Sunday 21st October 2012
	Occupancy	Occupancy	Occupancy
1900 - 1915	3	3	5
1915 - 1930	6	5	3
1930 - 1945	6	5	3
1945 - 2000	9	8	3
2000 - 2015	9	10	3
2015 - 2030	11	9	2
2030 - 2045	9	7	3
2045 - 2100	8	9	3

Table 7.1(a): Parking Accumulation- Public House Car Park (Peak periods shaded)

- 7.1.5 The parking survey indicates that the busiest period over the three days was recorded on Friday 19th October at 20:15-20:30 with a maximum of 11 parked vehicles recorded. This level of parking equates to 28% of the total capacity of the car park, therefore a minimum of 72% of the spaces (equating to 29 spaces) were unoccupied at any one time within the survey. The busiest weekend period occurred on Saturday 27th October at 20:00 -20:15 with a maximum of 10 parked vehicles recorded (25% of the total capacity, 30 spaces remaining). On Sunday 21st October the busiest times when 7 vehicles were parked were at 12:30 - 12:45, 18:00 – 18:15 and 18:15 – 18:30 with a maximum of 7 parked vehicles recorded (18% of the total capacity, 33 spaces remaining).
- 7.1.6 From the Friday survey it is clear that there is an increase in vehicles in the evening period starting from around 19:45 and finishing around 21:00. The Saturday survey has an increase in vehicles between 19:45 and 21:00 whilst the Sunday survey indicates an increase in traffic between 17:45 and 19:15.
- 7.1.7 Supplementary parking survey observations were undertaken on Friday 19th October 2012 during the AM network peak period and the dinner time period, these observations were carried out between 07:30-09:30 and 12:00 and 13:00. The results are summarised below, please note the public house was not open during the AM network peak.

Time	Friday 19 th October 2012	
	Spaces Occupied	Free Spaces
0730 - 0745	1	39
0745 - 0800	1	39
0800 - 0815	1	39
0815 - 0830	4	36
0830 - 0845	5	35
0845 - 0900	4	36
0900 - 0915	3	37
0915 - 0930	2	38

Table 7.1(b): Occupied and Free Parking Spaces

Time	Friday 19 th October 2012	
	Spaces Occupied	Free Spaces
1200 - 1215	4	36
1215 - 1230	4	36
1230 - 1245	4	36
1245 - 1300	5	35

Table 7.1(c): Occupied and Free Parking Spaces

7.1.8 The Friday lunch time parking survey indicates that a maximum of 5 parked vehicles were recorded. This level of parking equates to 13% of the total capacity of the car park, therefore a minimum of 87% of the spaces (equating to 35 spaces) were unoccupied at any one time within the survey.

7.1.9 A summary of the hourly average peaks for the pub car park is detailed below together with the number of free spaces available.

Time	Weekday	
	Spaces Occupied	Free Spaces
Friday 1945-2045	10	30
Saturday 1945-2045	9	31
Sunday 1745-1845	7	33

Table 7.1(d): Average Spaces

7.2 Parking Accumulation

7.2.1 It is acknowledged that the proposed parking provision on the site of 28 spaces falls below the maximum parking standards identified in section 3.2 and therefore

a further assessment of the retail store parking accumulation has been undertaken using the nationally recognised TRICS database together with duration of stay observations undertaken by Sanderson's.

- 7.2.2 The TRICS data determined above has been used to derive the number of arrivals to the proposed retail site based on a floor area of 383sqm. Using the number of arrivals from the TRICS data for the convenience store use and assuming an even distribution over the hour for each time period we have calculated the parking accumulation based on various customer duration of stay times. It is considered that a store of this size would provide for "top-up" shopping and regular customers of a store of this nature will be drawn from the surrounding residential areas in the village and catering for day to day shopping needs rather than larger weekly shopping trips. Given its location on the principal highway network serving the village, it is likely that the store use would benefit from a steady flow of passing trade providing for "top-up" daily essentials as people travel between home and work.
- 7.2.3 The table below identifies the parking accumulation for a duration of stay of 8, 10 and 12 minutes and as can be seen the peak parking demand would occur in the AM (07.00-08.00) and PM (18.00-19.00) periods with a peak demand of 8 spaces for a 12 minute duration.

Time	Arrivals	Parking Demand (Spaces)		
	Arrivals Vehicles	Based on average Duration of Stay of 8 minutes	Based on average Duration of Stay of 10 minutes	Based on average Duration of Stay of 12 minutes
06:00-07:00	6	0.8	1.0	1.2
07:00-08:00	33	4.4	5.5	6.6
08:00-09:00	36	4.7	5.9	7.1
09:00-10:00	29	3.8	4.8	5.7
10:00-11:00	22	2.9	3.6	4.4
11:00-12:00	24	3.2	4.0	4.8
12:00-13:00	22	3.0	3.7	4.5
13:00-14:00	22	3.0	3.7	4.5
14:00-15:00	18	2.5	3.1	3.7
15:00-16:00	22	2.9	3.6	4.3
16:00-17:00	26	3.5	4.4	5.3
17:00-18:00	30	3.9	4.9	5.9
18:00-19:00	36	4.8	6.0	7.2
19:00-20:00	31	4.2	5.2	6.3
20:00-21:00	25	3.3	4.2	5.0
21:00-22:00	6	0.8	1.0	1.2

Table 7.2(a): Retail – Accumulation Related To Duration Of Stay Weekday

7.2.4 As can be seen from the above table, parking demand varies for the three different durations of stay and even when using a duration of stay of 12 minutes for each customer the parking demand just reaches an average maximum parking level of 8 spaces.

7.2.5 The table below identifies the parking accumulation for a duration of stay of 8, 10 and 12 minutes for a Saturday and as can be seen the peak parking demand occurs in the period 17.00-18.00 periods with a peak demand of 8 spaces for a 12 minute duration of stay.

Time	Arrivals	Parking Demand (Spaces)		
	Arrivals Vehicles	Based on average Duration of Stay of 8 minutes	Based on average Duration of Stay of 10 minutes	Based on average Duration of Stay of 12 minutes
06:00-07:00	0	0.0	0.0	0.0
07:00-08:00	13	1.7	2.1	2.6
08:00-09:00	16	2.2	2.7	3.3
09:00-10:00	17	2.3	2.9	3.4
10:00-11:00	20	2.7	3.3	4.0
11:00-12:00	21	2.8	3.5	4.2
12:00-13:00	26	3.4	4.3	5.2
13:00-14:00	17	2.3	2.9	3.4
14:00-15:00	23	3.1	3.8	4.6
15:00-16:00	21	2.8	3.5	4.2
16:00-17:00	26	3.4	4.3	5.2
17:00-18:00	40	5.4	6.7	8.0
18:00-19:00	39	5.2	6.5	7.8
19:00-20:00	25	3.3	4.1	5.0
20:00-21:00	0	0.0	0.0	0.0
21:00-22:00	0	0.0	0.0	0.0

Table 7.2(b): Retail – Accumulation Related To Duration Of Stay Saturday

- 7.2.6 As can be seen from the above table, even when using a duration of stay of 12 minutes for each customer the parking demand just reaches an average maximum parking demand of 8 spaces.
- 7.2.7 Further work has been carried out to validate the above duration of stay information and hence the level of parking demand. A survey of shopping parking durations during the AM and PM peaks was undertaken at a Sainsbury's Local store located at the junction of Dewsbury Road and Townley Road in Wakefield, West Yorkshire. This store is of a similar size and nature to the one proposed in Marford and it is therefore considered that the survey results obtained can be confidently applied to this site.
- 7.2.8 The full results of the surveys are included in **Appendix G** and are summarised in the table below:

Time	Minimum Duration (mins)	Maximum Duration (mins)	Average Duration (mins)
08:00 – 09:00	2	7	4
17:00 – 18:00	1	10	4

Table 7.2(c): Summary of Observed Parking Durations

7.2.9 The results show that the maximum parking duration observed was seven minutes during the AM peak and 10 minutes during the PM peak. Both peaks had an average shopping duration of stay of four minutes. On the basis of a 10 minute duration of stay, the convenience store would just reach an average maximum parking demand of six spaces in the weekday AM and PM peak periods and seven spaces on a Saturday.

7.2.10 The proposals consist of a 29 space car park for the public house and retail store. An hourly summary of parking demand for both the public house and proposed convenience store unit for a weekday and Saturday is indicated below. Parking demand for the public house is calculated from the parking survey and parking for the retail unit is based on a 10 minute duration of stay as determined from the convenience store observations indicated above.

Time	Parking Demand		
	Observed Public House Parking	Retail Based on average Duration of Stay of 10 minutes	Total Parking Demand
07:00-08:00	1	5.5	7
08:00-09:00	5	5.9	11
09:00-10:00	3	4.8	8
12:00-13:00	5	3.7	9
16:00-17:00	4	4.4	9
17:00-18:00	3	4.9	8
18:00-19:00	4	6.0	10
19:00-20:00	9	5.2	15
20:00-21:00	11	4.2	16

Table 7.2(d): Weekday Parking Demand

7.2.11 The results show that the overall maximum parking demand on a weekday is 16 spaces for the public house and retail unit in comparison to 29 proposed spaces.

This equates to 55% of the proposed parking or 45% vacant spaces. It can be seen that there is additional space (some 13 spaces) available from that predicted, which would be available for variations in demand at peak times. This is equivalent to an 81% increase at the weekday peak time.

Time	Parking Demand		
	Observed Public House Parking	Retail Based on average Duration of Stay of 10 minutes	Total Parking Demand
12:00-13:00	7	4.3	12
13:00-14:00	5	2.9	8
14:00-15:00	4	3.8	8
15:00-16:00	5	3.5	9
16:00-17:00	5	4.3	10
17:00-18:00	5	6.7	12
18:00-19:00	5	6.5	12
19:00-20:00	8	4.1	13
20:00-21:00	10	0.0	10

Table 7.2(e): Saturday Parking Demand

- 7.2.12 The results show that the maximum parking demand on a Saturday is 13 spaces for the public house and retail unit in comparison to 29 proposed spaces. This equates to 45% of the proposed parking or 55% vacant spaces. Again, it can be seen there is additional space available, some 16 spaces, which is equivalent to a 123% increase on the peak demand on a Saturday.
- 7.2.13 From the parking accumulation assessment indicated in the foregoing it is clear that the maximum combined demand on a weekday would be 16 spaces leaving up to 13 further spaces or 16 spaces on a Saturday, that provide a margin of tolerance that would be available for users of the public house or proposed convenience store and takes into account potential parking not associated with either use.

7.3 *Small Shopper Research*

- 7.3.1 With regard to duration of stay and the nature of customer visits to the convenience store further information is provided below.
- 7.3.2 A report prepared in December 2010 titled 'The Small Store Shopper' from IGD the Food and Grocery Experts identifies that convenience stores of this nature would provide for top up shopping and cater for day to day shopping needs rather than larger weekly shopping trips. Regular customers of a store of this nature will be drawn from the surrounding village residential areas and those passing.
- 7.3.3 The report also identified that the top five shopping missions for a convenience store are as follows (data taken from The Small Store Shopper, December 2010):
- Top-up on staple products (e.g. bread, milk, tea, eggs)
 - Buy a newspaper or magazine
 - Top-up on fruit and vegetables
 - Buy something for an evening meal
 - Buy lottery tickets
- 7.3.4 The above list demonstrates that the main function of convenience stores is to provide the opportunity for top-up shopping. All the visits listed above are considered short duration type trips, which is borne out by the convenience store observations made by Sanderson's.
- 7.3.5 The report also found that the ability to shop locally, on foot, was the main factor for shoppers choosing a particular convenience store with 46% of respondents citing this in comparison to only 25% of respondents citing being able to drive to the store.

7.4 Summary

- 7.4.1 A survey of parking occupancy has been carried out by Road Data Services. The surveys were undertaken on Friday 19th October, Sunday 21st October and Saturday 27 October 2012 (three days). Parking was recorded between the hours of 16:00-21:00 on Friday and 12:00-21:00 on Saturday and Sunday.
- 7.4.2 It was observed within the survey that some vehicles used the car park whose occupants weren't visiting the public house. These vehicles were observed to be dropping off or picking up people from the nearby bus stop, local residents on Woodlands Road or their visitors and young people just waiting in the car park.
- 7.4.3 The survey information detailed above confirms that there is capacity within all periods of the survey. On Friday 19th October at 20:15-20:30 a maximum of 11 parked vehicles were recorded. This level of parking equates to 28% of the total existing capacity of the car park, therefore a minimum of 72% of the spaces (equating to 29 spaces) were unoccupied at any one time within the survey.
- 7.4.4 Parking standards were obtained from Wrexham County Borough Council, and the maximum standard indicates 26 spaces should be provided for the proposed retail store unit and given this disparity a parking accumulation assessment has been undertaken for the proposed retail convenience store.
- 7.4.5 The proposals consist of a 29 space car park for the use of the public house and retail store. As detailed from the parking survey carried out a maximum of 11 spaces are required for the public house. This leaves a total of 18 spaces potentially free for use by customers of the retail store unit or public house. Although parking standards for the retail store unit indicate the maximum number of spaces required to be 26, parking demand for the proposed retail store have been calculated based on an average duration of stay of 10 minutes based on actual observations and information from small shopper research. These calculations have indicated a maximum of 7 spaces at any time will be required

for the retail store unit, in relation to 24 spaces free after allowing for the existing public house (five spaces) used at peak time.

7.4.6 From the hourly parking demand tables in section 7 it is clear that the maximum weekday demand is 16 spaces and the maximum weekend demand is 13 spaces. Therefore the provision of 29 shared spaces is considered appropriate for both the existing and proposed uses. It should be noted that the public house does not open until 11:00 hrs and overall demand up to this time during the week is lower than the maximum of 16 spaces which occurs at around 20:00 hrs. The highest demand at 08:00 to 09:00 hrs is 11 spaces, leaving 18 spaces available. During the morning, when deliveries might be expected, many spaces would be unused, which allows scope to manage deliveries and car park usage in an effective manner. This would be accomplished through the Service and Delivery Management Plan which accompanies the planning application.

7.4.7 Parking demand for the public house may vary during holiday times, but it has been shown that there would be 13 free spaces overall on a week day, taking into account the existing public house use and the predicted convenience store demand. On a Saturday, there would be 16 free spaces overall. It is therefore clear that there are free spaces providing a margin of tolerance for variation in demand.

8 Conclusion

- 8.1 Sanderson Associates have been appointed by Marston's Estates, to advise on traffic and transportation issues relating to the development at The Red Lion Public House in Marford.
- 8.2 This report has been produced in support of proposals for a 4,121ft² (382.8m²) small food retail unit in the grounds of The Red Lion Public House.
- 8.3 It is considered that the proposal will have no material impact on highway safety and the personal injury accident assessment has concluded that there are no specific areas of concern which would necessitate intervention or improvement as a result of the development proposals being implemented.
- 8.4 It is considered that walking, cycling and public transport offer possible modes of transport for staff and visitors of the development. Walking, cycling and public transport have the potential to form part of a longer journey using linked trips.
- 8.5 Peak hour demands from the retail unit proposals for walking, cycling and public transport are modest and at a level which can readily be accommodated within the existing infrastructure provision.
- 8.6 The proposed food retail unit could potentially give rise to 60 vehicles trips in the AM peak and 71 trips in the PM peak. This equates to one vehicle every minute in the AM peak and 1.2 vehicles every minute in the PM Peak. Of these trips, 40% are assumed to already be travelling along Marford Hill.
- 8.7 The proposals consist of a 29 space car park for the public house and retail store. As detailed from the parking survey carried out a maximum of 11 spaces are required for the public house. This leaves a total of 17 spaces potentially free for use by customers of the retail unit or public house. Although parking standards for the retail store indicate the maximum spaces required to be 26, parking demand for the proposed retail store has been calculated based on an

average duration of stay of 10 minutes based on actual observations and information from small shopper research. These calculations have indicated a maximum of 7 spaces at any time will be required for the retail store unit.

8.8 From the hourly parking demand tables in section 7 it is clear that the maximum weekday demand is 16 spaces and the maximum weekend demand is 13 spaces. Therefore the provision of 29 shared spaces is considered appropriate for both the existing and proposed uses. It is therefore clear that there are free spaces providing a margin of tolerance for variation in demand. During the morning, when deliveries might be expected, many spaces would be unused which allows scope to manage deliveries and car park usage in an effective manner. This would be accomplished through the Service and Delivery Management Plan which accompanies the planning application.

8.9 In conclusion, this report has demonstrated that there are no highway reasons why the proposal for a change of use should not be granted planning consent.

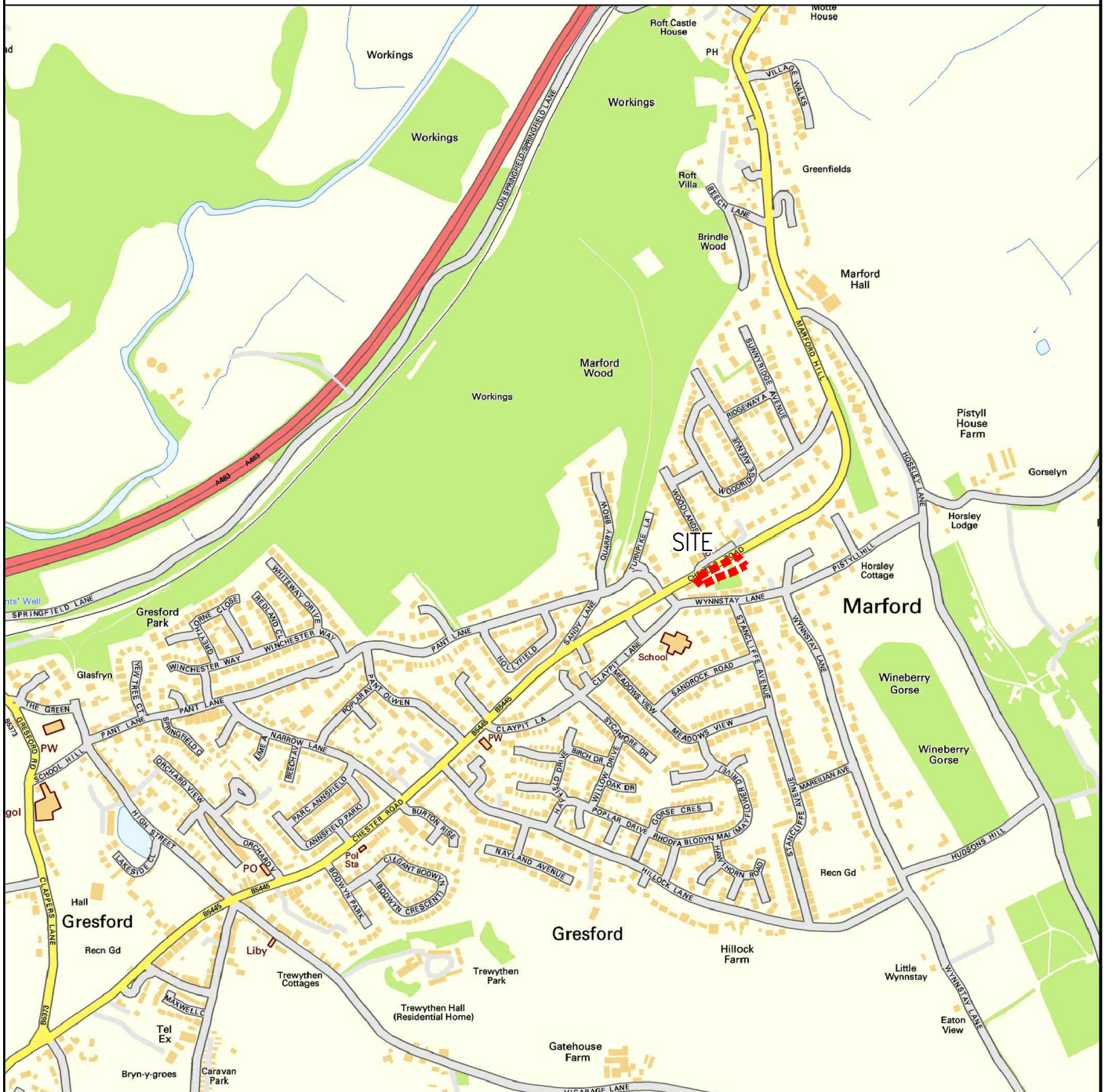
APPENDIX A

Figure 1- Site Location Plan

Figure 2- 2km Walking Plan

Figure 3- 5km Cycle Plan

Figure 4- Bus Stop Location Plan



KEY:

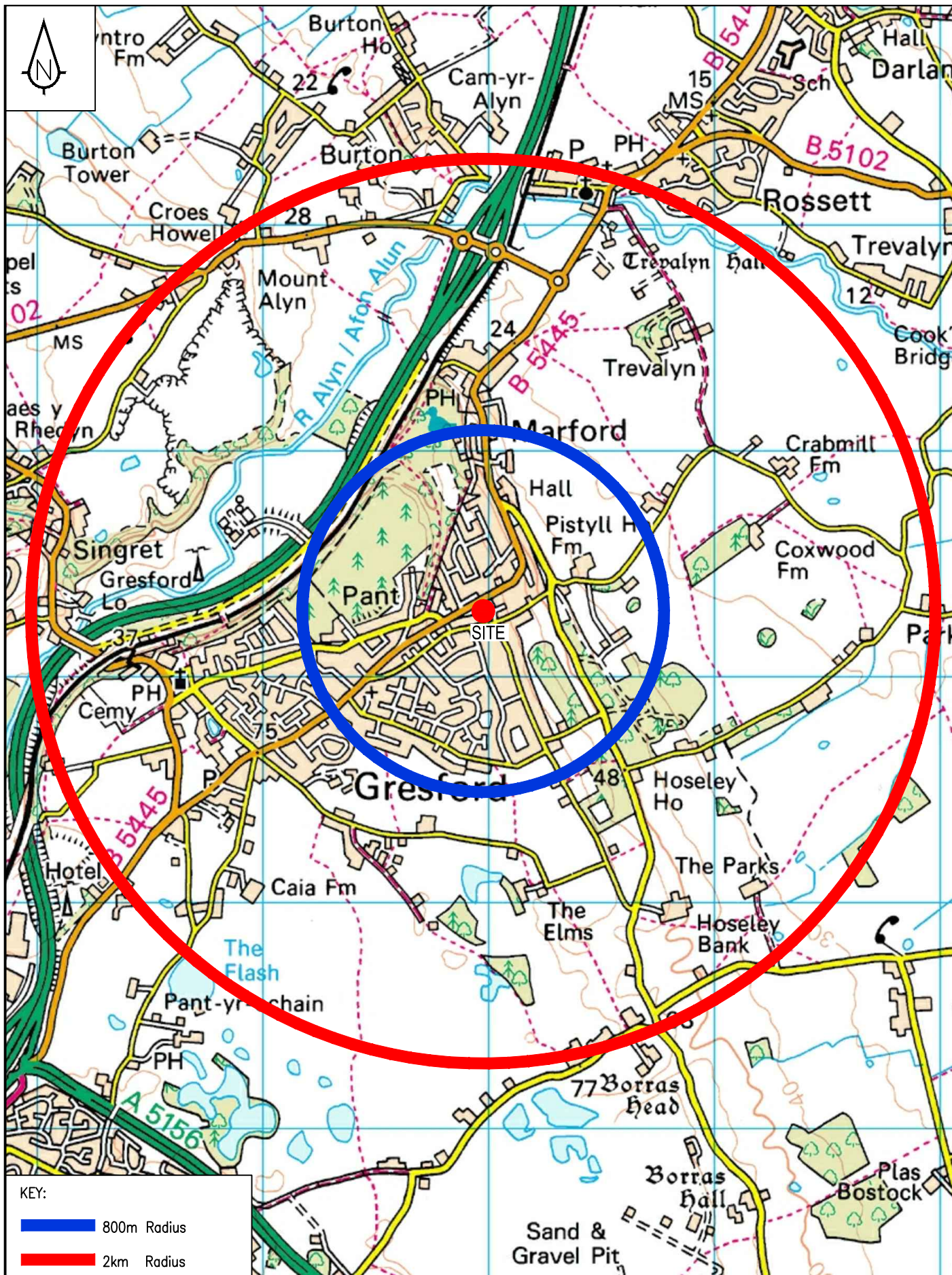
■■■■■■ Site

Sa sanderson[®]
associates
(consulting engineers) Ltd
Highways | Traffic | Transportation | Water
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F 01924 844081 www.sandersonassociates.co.uk

Site Location

Marford Hill
Marford

Drawn TC	Scale NTS	
Checked SB	Date 30.10.12	
Approved DJC	Drawing Number Figure 1	Size A4



KEY:

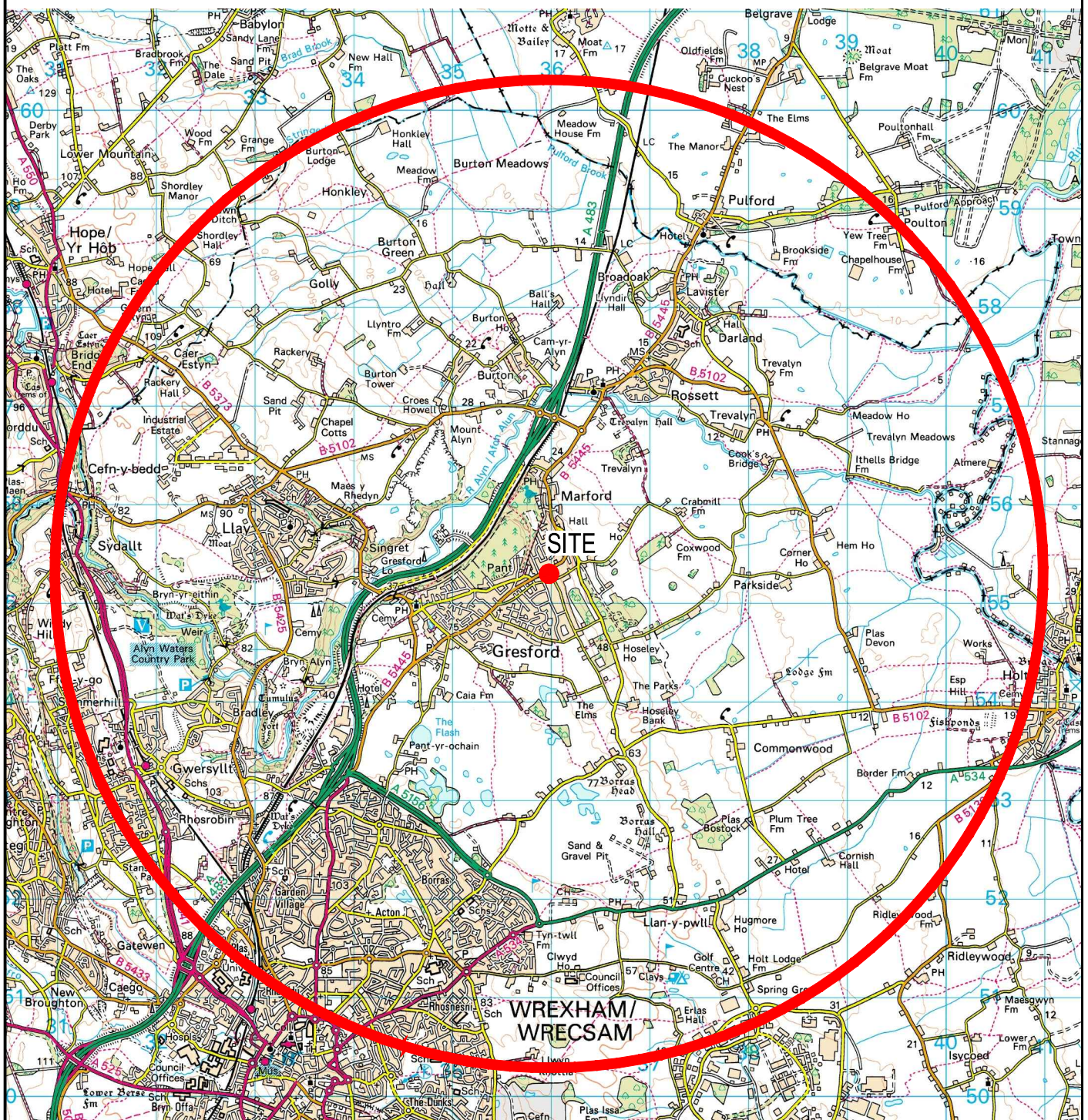
- 800m Radius
- 2km Radius

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Walking Radii

Marford Hill
Marford

Drawn TC	Scale NTS	
Checked DJC	Date 30.10.12	
Approved DJC	Drawing Number Figure 2	Size A4



KEY:

 5km Radius

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5km Cycle Radius

Marford Hill
Marford

Drawn TC	Scale NTS	 130 9001 REGISTERED FIRM
Checked	Date 30.10.12	
Approved	Drawing Number Figure 3	Size A4



KEY:

----- Site

● Bus Stops

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Bus Stop Location Plan

Marford Hill
Marford

Drawn
TC

Scale

NTS



Checked
SB

Date

30.10.12

Approved
DJC

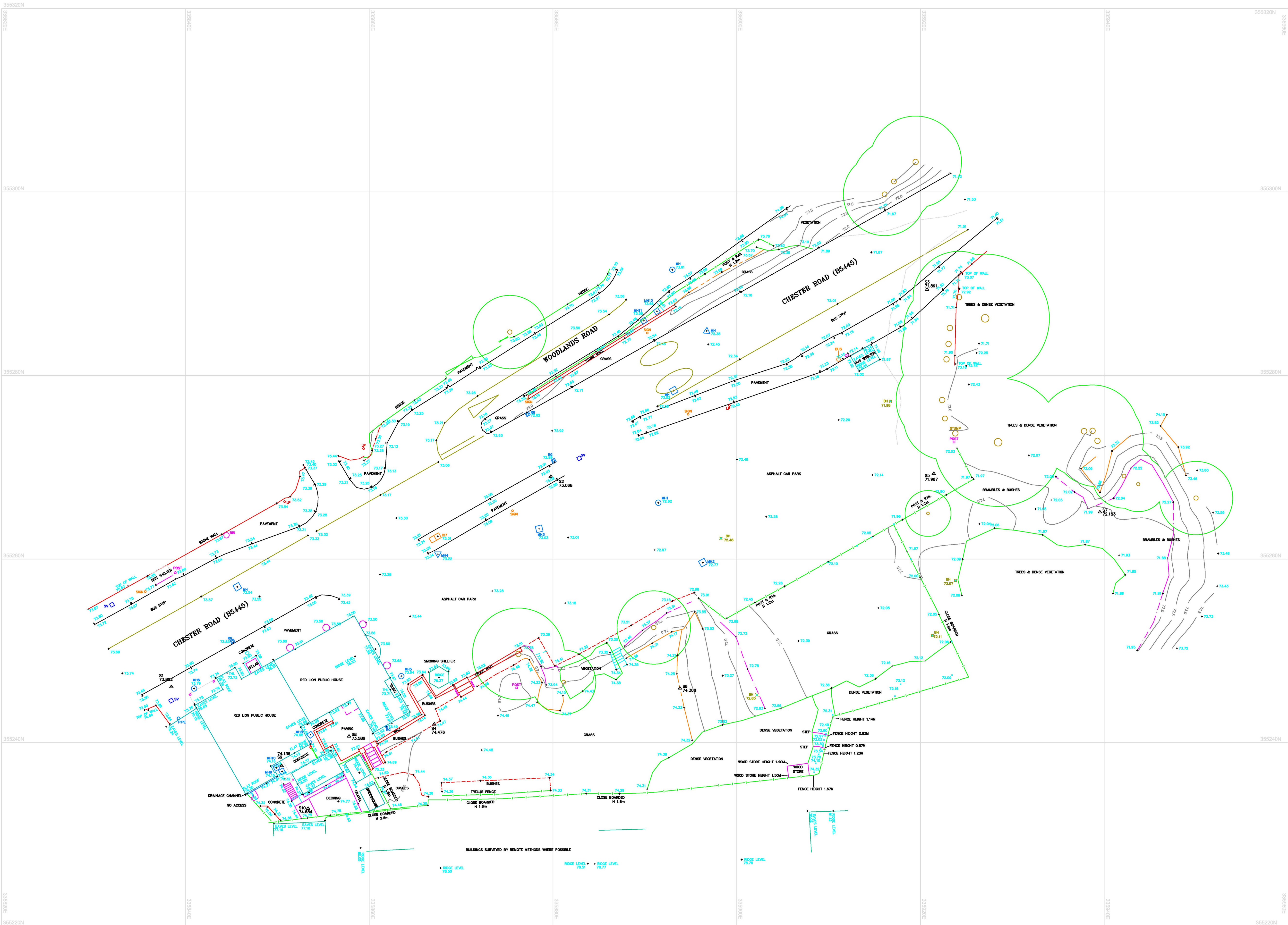
Drawing Number
Figure 4

Size
A4

APPENDIX B

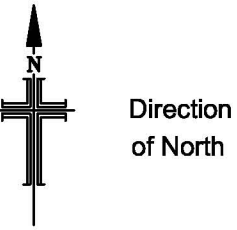
Existing Layout

Architects Proposed Layout



Notes

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Grid : OS National Grid (Approximate)
Derived by fitting surveyed points to coordinates from OS digital information.
Datum : Related to Ordnance Survey benchmark.
Located on Red Lion Entrance NW face
Value = 74.213 m A.O.D

Station	Easting	Northing	Level
S1	335838.475	355246.081	73.802
S2	335879.770	355268.999	73.068
S3	335920.718	355289.372	71.891
S4	335867.098	355242.005	74.476
S5	335921.451	355269.310	71.967
S6	335893.831	355245.918	74.308
S7	335839.522	355265.126	72.183
S8	335857.809	355240.687	73.586
S9	335850.489	355237.477	74.136
S10	335853.369	355232.821	74.654

KEY

AIR VALVE	AV	KERB OUTLET	KO
BENCH MARK	BM	LAMP POST	LP
BIN	BN	MANHOLE (CIRCULAR)	MH
BOLLARD	BOL	MANHOLE (RECTANGULAR)	MHR
BORR HOLE	BH	MANHOLE (TRIANGULAR)	MHT
BRITISH TELECOM COVER	BT	MARKER POST	MKR
BUS STOP	BUS	ROAD GULLY	RG
CABLE TV COVER	CATV	RODDING EYE	RE
CABLE TV SUPPLY	CA	SIGN POST	SP
COLUMN	COL	TELECOM COVER	TEL
EARTHING POINT	ER	TELEGRAPH POLE	TP
ELECTRICITY COVER	ELEC	THRESHOLD LEVEL	TL
ELECTRICITY POLE	EP	TRAFFIC LIGHT	TLT
FIRE HYDRANT	FH	TRIAL PIT	PT
GAS VALVE	GS	WASH OUT	WO
GATE	GA	WATER METER	WM
INSPECTION COVER (CIRCULAR)	IC	WATER STOP COOK	SC
INSPECTION COVER (RECTANGULAR)	ICR	WATER STOP VALVE	SV
COVER LEVEL	CL	CHAMBER BASE LEVEL	CHL
INVERT LEVEL	IL	WATER SURFACE LEVEL	WL
UNABLE TO RAISE	UTR	UNABLE TO MEASURE	UTM
GIRTH OF TREE TRUNK	G	DIAMETER OF TREE TRUNK	D
HEIGHT TO TOP OF TREE CANOPY	H	MULTI BOLE TREE	MB

A	20/08/12	IC	Fenceline and drainage added	SR
Rev	Date	Drawn	Description	Check


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E: admin@metgeoenvironmental.com
W: www.metgeoenvironmental.com

Client	KMB LTD		
Site	RED LION, MARFORD WREXHAM, LL12 8SN		
Title	TOPOGRAPHICAL SURVEY 2D		
Surveyed	MB	Drawn	MB
Chk.	DA	Date	11/07/2012
Scale	[A1 Sheet] 1/200	DWG Ref (Layout No) 12523-123_2DT (1)	Status FINAL
Job No	12523/123		Rev A



Key:

72.28 - EXISTING LEVEL

72.28 - PROPOSED LEVEL

PEDESTRIAN ZONE MARKED WITH WHITE THERMOPLASTIC PAINT

SERVICE YARD YELLOW LINING

PARKING SPACES MARKED WITH WHITE THERMOPLASTIC PAINT

NEW BOLLARDS

EXISTING EXTERNAL LIGHT

NEW EXTERNAL LIGHT
NEW EXTERNAL LIGHTING TO BE INSTALLED TO ACHIEVE 20 LUX AT GROUND LEVEL

RE-GRADE IN NEW CAR PARK CONSTRUCTION TO LEVELS SHOWN WITH BITMAC WEARING COURSE

RESURFACE RETAINED CAR PARK WITH BITMAC WEARING COURSE

NEW FOOTPATH TO BE 70MM THICK BITMAC WEARING COURSE LAID OVER 150MM THICK SUB BASE

NEW FOOTPATH - 50MM THICK PRESSED PC PAVING SLABS 900X450MM

CONCRETE SLAB WITH SMOOTH TROWELLED FINISH

BLISTER PAVING

900MM STEEL POST AND RAIL FENCE

100MM DIA UPVC DUCT FOR GENTRY SIGN

DROP KERB

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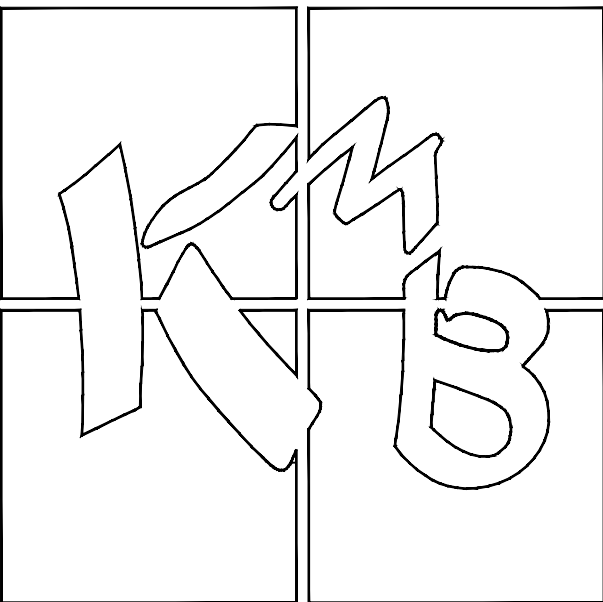
CDM - Significant Design Hazards

Hazard	Control

Rev	Date	Description	Drawn	Checked
C	07.02.13	Vision splays added to layout	RM	DF
B	31.01.13	Timber post and rail fence removed	RM	DF
A	28.01.13	Amendments to parking spaces and fence	RM	DF

Amendments

Drawing Status



Quantity Surveying
Project Management
Architecture
Construction Safety

PROJECT
THE RED LION
MARFORD
LL12 8SN

CLIENT
MARSTONS ESTATES LTD

TITLE
SITE LAYOUT

SCALE
1:200 @ A1
DATE
NOV 2012

DRAWN BY RM	CHECKED BY DF	DRAWING No. 3405-P01	REV C
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The Old Bake House, Kirtan, Lincolnshire, PE20 1EH
t: 01205 724016 f: 01205 724470 e: kmb@kmb-td.co.uk

APPENDIX C
Parking Survey Information

Marford - Manual Traffic Survey, Friday 19th October 2012

Produced by Road Data Services Ltd

TIME	Ins			Outs			Number of Vehicles whose occupants Don't go into the pub
	LIGHT	HEAVY	TOTAL	LIGHT	HEAVY	TOTAL	
0730 - 0745	0	0	0	0	0	0	0
0745 - 0800	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0
0800 - 0815	2	1	3	2	0	2	2
0815 - 0830	3	0	3	0	1	1	3
0830 - 0845	4	0	4	3	0	3	4
0845 - 0900	2	0	2	3	0	3	2
Hourly Total	11	1	12	8	1	9	11
0900 - 0915	1	0	1	2	0	2	1
0915 - 0930	0	0	0	1	0	1	0
Hourly Total	1	0	1	3	0	3	1
TOTAL	12	1	13	11	1	12	12

In the morning the vast majority of vehicles were dropping children off at the bus stop
A couple of vehicles were either residents or visiting people down Woodlands Road
One was a refuse vehicle taking a break and a small number were local residents who lived opposite

TIME	Ins			Outs			Number of Vehicles whose occupants Don't go into the pub
	LIGHT	HEAVY	TOTAL	LIGHT	HEAVY	TOTAL	
1600 - 1615	3	0	3	4	0	4	1
1615 - 1630	1	0	1	2	0	2	1
1630 - 1645	2	0	2	2	0	2	1
1645 - 1700	2	0	2	0	0	0	2
Hourly Total	8	0	8	8	0	8	5
1700 - 1715	1	0	1	2	0	2	0
1715 - 1730	2	0	2	4	0	4	1
1730 - 1745	1	0	1	1	0	1	0
1745 - 1800	3	0	3	2	0	2	2
Hourly Total	7	0	7	9	0	9	3
1800 - 1815	2	0	2	1	0	1	0
1815 - 1830	3	0	3	3	0	3	2
1830 - 1845	1	0	1	0	0	0	0
1845 - 1900	3	0	3	4	0	4	2
Hourly Total	9	0	9	8	0	8	4
1900 - 1915	1	0	1	1	0	1	1
1915 - 1930	3	0	3	0	0	0	0
1930 - 1945	4	0	4	4	0	4	0
1945 - 2000	3	0	3	0	0	0	0
Hourly Total	11	0	11	5	0	5	1
2000 - 2015	1	1	2	1	1	2	0
2015 - 2030	4	0	4	2	0	2	1
2030 - 2045	1	0	1	3	0	3	0
2045 - 2100	0	0	0	1	0	1	0
Hourly Total	6	1	7	7	1	8	1
TOTAL	41	1	42	37	1	38	14

Up until 17:00 the vast majority were picking up children from the bus stop
After 17:00 there were a few adults picked up from the bus stop
In the evening there were a couple of young people who drove into the car park, didn't leave their vehicle and stayed there for 20 minutes or so

There are approximately 40 marked spaces in the car park
the markings for many of the spaces has faded so that they can only just be seen

Car Park Accumulation	
Vehicles Parked at 0730	
LIGHT	HEAVY
1	0

1	0
1	0
1	1
4	0
5	0
4	0
3	0
2	0

Vehicles Parked at 0930	
LIGHT	HEAVY
2	0

Car Park Accumulation	
Vehicles Parked at 1600	
LIGHT	HEAVY
4	0

3	0
2	0
2	0
4	0
3	0
1	0
1	0
2	0
3	0
3	0
4	0
3	0
3	0
6	0
6	0
9	0
9	0
11	0
9	0
8	0

Vehicles Parked at 2100	
LIGHT	HEAVY
8	0

Marford - Manual Traffic Survey, Saturday 27th October 2012

Produced by Road Data Services Ltd

TIME	Ins			Outs			Number of Vehicles whose occupants Don't go into the pub
	LIGHT	HEAVY	TOTAL	LIGHT	HEAVY	TOTAL	
1200 - 1215	0	0	0	0	0	0	0
1215 - 1230	1	0	1	1	0	1	0
1230 - 1245	4	0	4	1	0	1	2
1245 - 1300	1	0	1	3	0	3	1
Hourly Total	6	0	6	5	0	5	3
1300 - 1315	0	0	0	0	0	0	0
1315 - 1330	1	0	1	1	0	1	0
1330 - 1345	0	0	0	0	0	0	0
1345 - 1400	0	0	0	0	0	0	0
Hourly Total	1	0	1	1	0	1	0
1400 - 1415	0	0	0	1	0	1	0
1415 - 1430	1	0	1	1	0	1	2
1430 - 1445	1	0	1	3	0	3	2
1445 - 1500	0	0	0	0	0	0	0
Hourly Total	2	0	2	5	0	5	4
1500 - 1515	0	0	0	0	0	0	0
1515 - 1530	1	0	1	0	0	0	0
1530 - 1545	2	0	2	0	0	0	1
1545 - 1600	1	0	1	1	0	1	0
Hourly Total	4	0	4	1	0	1	1
1600 - 1615	0	0	0	1	0	1	0
1615 - 1630	2	0	2	1	0	1	0
1630 - 1645	0	0	0	1	0	1	1
1645 - 1700	1	0	1	0	0	0	0
Hourly Total	3	0	3	3	0	3	1
1700 - 1715	1	0	1	1	0	1	0
1715 - 1730	0	0	0	1	0	1	0
1730 - 1745	1	0	1	1	0	1	0
1745 - 1800	2	0	2	1	0	1	0
Hourly Total	4	0	4	4	0	4	0
1800 - 1815	3	0	3	3	0	3	0
1815 - 1830	1	0	1	2	0	2	0
1830 - 1845	1	0	1	2	0	2	0
1845 - 1900	2	0	2	2	0	2	0
Hourly Total	7	0	7	9	0	9	0
1900 - 1915	0	0	0	0	0	0	0
1915 - 1930	2	0	2	0	0	0	0
1930 - 1945	1	0	1	1	0	1	0
1945 - 2000	4	0	4	1	0	1	0
Hourly Total	7	0	7	2	0	2	0
2000 - 2015	2	0	2	0	0	0	0
2015 - 2030	1	0	1	2	0	2	0
2030 - 2045	0	0	0	2	0	2	0
2045 - 2100	2	0	2	0	0	0	0
Hourly Total	5	0	5	4	0	4	0
TOTAL	39	0	39	34	0	34	9

All of the vehicles whose occupants did not use the pub were local residents with the exception of one van which was a Sainsbury's delivery van taking a break

There are approximately 40 marked spaces in the car park
the markings for many of the spaces has faded so that they can only just be seen

Car Park Accumulation	
Vehicles Parked at 1200	
LIGHT	HEAVY
4	0

4	0
4	0
7	0
5	0
5	0
5	0
5	0
5	0
4	0
4	0
2	0
2	0
2	0
3	0
5	0
5	0
4	0
5	0
4	0
5	0
5	0
5	0
4	0
4	0
4	0
5	0
4	0
3	0
3	0
3	0
5	0
4	0
5	0
8	0
10	0
9	0
7	0
9	0

Vehicles Parked at 2100	
LIGHT	HEAVY
9	0

Marford - Manual Traffic Survey, Sunday 21st October 2012

Produced by Road Data Services Ltd

TIME	Ins			Outs			Number of Vehicles whose occupants Don't go into the pub
	LIGHT	HEAVY	TOTAL	LIGHT	HEAVY	TOTAL	
1200 - 1215	0	0	0	1	0	1	0
1215 - 1230	1	0	1	1	0	1	0
1230 - 1245	3	0	3	1	0	1	2
1245 - 1300	1	0	1	0	0	0	1
Hourly Total	5	0	5	3	0	3	3
1300 - 1315	0	0	0	1	0	1	0
1315 - 1330	0	0	0	1	0	1	0
1330 - 1345	1	0	1	2	0	2	0
1345 - 1400	0	0	0	3	0	3	0
Hourly Total	1	0	1	7	0	7	0
1400 - 1415	1	0	1	0	0	0	0
1415 - 1430	1	0	1	0	0	0	1
1430 - 1445	0	0	0	1	0	1	0
1445 - 1500	1	0	1	2	0	2	0
Hourly Total	3	0	3	3	0	3	1
1500 - 1515	0	0	0	1	0	1	0
1515 - 1530	1	0	1	1	0	1	0
1530 - 1545	2	0	2	0	0	0	0
1545 - 1600	0	0	0	0	0	0	0
Hourly Total	3	0	3	2	0	2	0
1600 - 1615	2	0	2	1	0	1	0
1615 - 1630	2	0	2	0	0	0	1
1630 - 1645	0	0	0	2	0	2	0
1645 - 1700	0	0	0	0	0	0	0
Hourly Total	4	0	4	3	0	3	1
1700 - 1715	0	0	0	0	0	0	0
1715 - 1730	1	0	1	0	0	0	0
1730 - 1745	1	0	1	1	0	1	0
1745 - 1800	2	0	2	0	0	0	0
Hourly Total	4	0	4	1	0	1	0
1800 - 1815	2	0	2	1	0	1	0
1815 - 1830	1	0	1	1	0	1	0
1830 - 1845	1	0	1	3	0	3	0
1845 - 1900	2	0	2	1	0	1	1
Hourly Total	6	0	6	6	0	6	1
1900 - 1915	0	0	0	1	0	1	0
1915 - 1930	0	0	0	2	0	2	0
1930 - 1945	1	0	1	1	0	1	1
1945 - 2000	0	0	0	0	0	0	0
Hourly Total	1	0	1	4	0	4	1
2000 - 2015	0	0	0	0	0	0	0
2015 - 2030	0	0	0	1	0	1	0
2030 - 2045	1	0	1	0	0	0	0
2045 - 2100	0	0	0	0	0	0	0
Hourly Total	1	0	1	1	0	1	0
TOTAL	28	0	28	30	0	30	7

Out of the 7 vehicles whose occupants didn't visit the pub one or two appeared to visit people who lived down Woodlands Rd
The rest were young people who didn't leave their vehicles and stayed for 5-25 minutes

There are approximately 40 marked spaces in the car park
the markings for many of the spaces has faded so that they can only just be seen

Car Park Accumulation	
Vehicles Parked at 1200	
LIGHT	HEAVY
5	0

4	0
4	0
6	0
7	0
6	0
5	0
4	0
1	0
2	0
3	0
2	0
1	0
0	0
0	0
2	0
2	0
3	0
5	0
3	0
3	0
3	0
4	0
4	0
6	0
7	0
7	0
5	0
6	0
5	0
3	0
3	0
3	0
3	0
2	0
3	0
3	0

Vehicles Parked at 2100	
LIGHT	HEAVY
3	0

APPENDIX D

Speed Survey

Speed Meter Reading - Results

Location Marford Hill, Gresford, Wrexham
 Direction of Travel Northbound from Wrexham

Job Number 6951
 Date of Survey 19/10/12
 Start Time 12:00
 Finish Time 13:07

Speed	No. of Readings	Speed	No. of Readings	Speed	No. of Readings	Speed	No. of Readings
1		26	12	51		76	
2		27	14	52		77	
3		28	15	53		78	
4		29	13	54		79	
5		30	15	55		80	
6		31	5	56		81	
7		32	6	57		82	
8		33	2	58		83	
9		34	1	59		84	
10		35	2	60		85	
11		36	2	61		86	
12		37		62		87	
13		38		63		88	
14		39		64		89	
15		40		65		90	
16		41		66		91	
17		42		67		92	
18		43		68		93	
19		44		69		94	
20		45		70		95	
21		46		71		96	
22	2	47		72		97	
23	3	48		73		98	
24	6	49		74		99	
25	2	50		75		100	

Number of Readings = 100

Dual C'way Y/N? n

Mean Speed = 28.33

Single C'way Y/N? y

Standard Deviation = 2.9095975

Wet Road Surface Y/N? n

85 Percentile Speed = 31.239597

85 Percentile Wet Weather Speed = 28.754597 <<<<

Note: Insert Y or N in boxes against carriageway type and road surface condition and then use 85 percentile speed as marked with <<<<.

Speed Meter Reading - Results

Location Marford Hill, Gresford, Wrexham
Direction of Travel Southbound to Wrexham

Job Number 6951
Date of Survey 19/10/12
Start Time 12:00
Finish Time 13:09

Speed	No. of Readings	Speed	No. of Readings	Speed	No. of Readings	Speed	No. of Readings
1		26	1	51		76	
2		27	2	52		77	
3		28	6	53		78	
4		29	4	54		79	
5		30	8	55		80	
6		31	11	56		81	
7		32	10	57		82	
8		33	12	58		83	
9		34	9	59		84	
10		35	8	60		85	
11		36	9	61		86	
12		37	8	62		87	
13		38	5	63		88	
14		39	4	64		89	
15		40		65		90	
16		41		66		91	
17		42		67		92	
18		43	1	68		93	
19		44	1	69		94	
20		45	1	70		95	
21		46		71		96	
22		47		72		97	
23		48		73		98	
24		49		74		99	
25		50		75		100	

Number of Readings = 100

Dual C'way Y/N? n

Mean Speed = 33.45

Single C'way Y/N? y

Standard Deviation = 3.6580477

Wet Road Surface Y/N? n

85 Percentile Speed = 37.108048

85 Percentile Wet Weather Speed = 34.623048 <<<<

Note: Insert Y or N in boxes against carriageway type and road surface condition and then use 85 percentile speed as marked with <<<<.

APPENDIX E
Multi Modal TRICS Data

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 01 - RETAIL
 Category : O - CONVENIENCE STORE
MULTI-MODAL CYCLISTS

Selected regions and areas:

03	SOUTH WEST	
	BA BATH & NORTH EAST SOMERSET	1 days
	DC DORSET	1 days
04	EAST ANGLIA	
	CA CAMBRIDGESHIRE	1 days
05	EAST MIDLANDS	
	LN LINCOLNSHIRE	1 days
	NR NORTHAMPTONSHIRE	1 days
06	WEST MIDLANDS	
	WM WEST MIDLANDS	1 days
07	YORKSHIRE & NORTH LINCOLNSHIRE	
	NY NORTH YORKSHIRE	1 days
08	NORTH WEST	
	GM GREATER MANCHESTER	2 days
11	SCOTLAND	
	FA FALKIRK	1 days

Filtering Stage 2 selection:

Parameter: Gross floor area
 Actual Range: 96 to 521 (units: sqm)
 Range Selected by User: 96 to 521 (units: sqm)

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/04 to 17/10/11

Selected survey days:

Monday	3 days
Tuesday	1 days
Wednesday	1 days
Friday	5 days

Selected survey types:

Manual count	10 days
Directional ATC Count	0 days

Selected Locations:

Town Centre	3
Edge of Town Centre	2
Suburban Area (PPS6 Out of Centre)	3
Edge of Town	1
Neighbourhood Centre (PPS6 Local Centre)	1

Selected Location Sub Categories:

Residential Zone	6
Built-Up Zone	3
High Street	1

Sanderson Associates (CE) Ltd Jubilee Way, Grange Moor Huddersfield

Licence No: 311901

TRIP RATE for Land Use 01 - RETAIL/O - CONVENIENCE STORE

MULTI-MODAL CYCLISTS

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00	0	0	0.000	0	0	0.000	0	0	0.000
01:00 - 02:00	0	0	0.000	0	0	0.000	0	0	0.000
02:00 - 03:00	0	0	0.000	0	0	0.000	0	0	0.000
03:00 - 04:00	0	0	0.000	0	0	0.000	0	0	0.000
04:00 - 05:00	0	0	0.000	0	0	0.000	0	0	0.000
05:00 - 06:00	0	0	0.000	0	0	0.000	0	0	0.000
06:00 - 07:00	1	375	0.000	1	375	0.000	1	375	0.000
07:00 - 08:00	9	299	0.521	9	299	0.670	9	299	1.191
08:00 - 09:00	9	299	0.856	9	299	0.744	9	299	1.600
09:00 - 10:00	9	299	0.409	9	299	0.446	9	299	0.855
10:00 - 11:00	10	299	0.234	10	299	0.201	10	299	0.435
11:00 - 12:00	10	299	0.335	10	299	0.368	10	299	0.703
12:00 - 13:00	10	299	0.736	10	299	0.703	10	299	1.439
13:00 - 14:00	10	299	0.301	10	299	0.335	10	299	0.636
14:00 - 15:00	10	299	0.335	10	299	0.234	10	299	0.569
15:00 - 16:00	10	299	0.435	10	299	0.435	10	299	0.870
16:00 - 17:00	10	299	0.602	10	299	0.636	10	299	1.238
17:00 - 18:00	10	299	0.502	10	299	0.502	10	299	1.004
18:00 - 19:00	10	299	0.435	10	299	0.435	10	299	0.870
19:00 - 20:00	10	299	0.502	10	299	0.669	10	299	1.171
20:00 - 21:00	9	314	0.425	9	314	0.425	9	314	0.850
21:00 - 22:00	4	408	0.368	4	408	0.184	4	408	0.552
22:00 - 23:00	2	448	0.000	2	448	0.000	2	448	0.000
23:00 - 24:00	0	0	0.000	0	0	0.000	0	0	0.000
Total Rates:			6.996				6.987	13.983	

Parameter summary

Trip rate parameter range selected: 96 - 521 (units: sqm)
 Survey date range: 01/01/04 - 17/10/11
 Number of weekdays (Monday-Friday): 10
 Number of Saturdays: 0
 Number of Sundays: 0
 Surveys manually removed from selection: 0

Sanderson Associates (CE) Ltd Jubilee Way, Grange Moor Huddersfield

Licence No: 311901

TRIP RATE for Land Use 01 - RETAIL/O - CONVENIENCE STORE

MULTI-MODAL VEHICLE OCCUPANTS

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00	0	0	0.000	0	0	0.000	0	0	0.000
01:00 - 02:00	0	0	0.000	0	0	0.000	0	0	0.000
02:00 - 03:00	0	0	0.000	0	0	0.000	0	0	0.000
03:00 - 04:00	0	0	0.000	0	0	0.000	0	0	0.000
04:00 - 05:00	0	0	0.000	0	0	0.000	0	0	0.000
05:00 - 06:00	0	0	0.000	0	0	0.000	0	0	0.000
06:00 - 07:00	1	375	2.400	1	375	0.267	1	375	2.667
07:00 - 08:00	9	299	10.193	9	299	7.887	9	299	18.080
08:00 - 09:00	9	299	11.347	9	299	7.329	9	299	18.676
09:00 - 10:00	9	299	8.891	9	299	7.217	9	299	16.108
10:00 - 11:00	10	299	6.760	10	299	5.756	10	299	12.516
11:00 - 12:00	10	299	8.266	10	299	6.627	10	299	14.893
12:00 - 13:00	10	299	7.095	10	299	7.965	10	299	15.060
13:00 - 14:00	10	299	6.727	10	299	6.593	10	299	13.320
14:00 - 15:00	10	299	5.857	10	299	5.857	10	299	11.714
15:00 - 16:00	10	299	7.229	10	299	7.697	10	299	14.926
16:00 - 17:00	10	299	8.434	10	299	9.973	10	299	18.407
17:00 - 18:00	10	299	9.304	10	299	13.320	10	299	22.624
18:00 - 19:00	10	299	12.048	10	299	12.751	10	299	24.799
19:00 - 20:00	10	299	10.141	10	299	9.973	10	299	20.114
20:00 - 21:00	9	314	8.395	9	314	8.785	9	314	17.180
21:00 - 22:00	4	408	1.471	4	408	1.410	4	408	2.881
22:00 - 23:00	2	448	0.000	2	448	0.446	2	448	0.446
23:00 - 24:00	0	0	0.000	0	0	0.000	0	0	0.000
Total Rates:			124.558				119.853	244.411	

Parameter summary

Trip rate parameter range selected: 96 - 521 (units: sqm)
 Survey date range: 01/01/04 - 17/10/11
 Number of weekdays (Monday-Friday): 10
 Number of Saturdays: 0
 Number of Sundays: 0
 Surveys manually removed from selection: 0

Sanderson Associates (CE) Ltd Jubilee Way, Grange Moor Huddersfield

Licence No: 311901

TRIP RATE for Land Use 01 - RETAIL/O - CONVENIENCE STORE

MULTI-MODAL PEDESTRIANS

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00	0	0	0.000	0	0	0.000	0	0	0.000
01:00 - 02:00	0	0	0.000	0	0	0.000	0	0	0.000
02:00 - 03:00	0	0	0.000	0	0	0.000	0	0	0.000
03:00 - 04:00	0	0	0.000	0	0	0.000	0	0	0.000
04:00 - 05:00	0	0	0.000	0	0	0.000	0	0	0.000
05:00 - 06:00	0	0	0.000	0	0	0.000	0	0	0.000
06:00 - 07:00	1	375	0.000	1	375	0.000	1	375	0.000
07:00 - 08:00	9	299	6.994	9	299	13.058	9	299	20.052
08:00 - 09:00	9	299	14.509	9	299	31.548	9	299	46.057
09:00 - 10:00	9	299	11.868	9	299	21.801	9	299	33.669
10:00 - 11:00	10	299	12.550	10	299	15.395	10	299	27.945
11:00 - 12:00	10	299	17.805	10	299	19.244	10	299	37.049
12:00 - 13:00	10	299	28.949	10	299	29.719	10	299	58.668
13:00 - 14:00	10	299	32.229	10	299	33.367	10	299	65.596
14:00 - 15:00	10	299	19.311	10	299	19.444	10	299	38.755
15:00 - 16:00	10	299	24.465	10	299	23.628	10	299	48.093
16:00 - 17:00	10	299	28.414	10	299	21.720	10	299	50.134
17:00 - 18:00	10	299	35.810	10	299	20.147	10	299	55.957
18:00 - 19:00	10	299	30.522	10	299	19.444	10	299	49.966
19:00 - 20:00	10	299	26.606	10	299	22.523	10	299	49.129
20:00 - 21:00	9	314	17.499	9	314	18.739	9	314	36.238
21:00 - 22:00	3	427	10.304	3	427	10.773	3	427	21.077
22:00 - 23:00	2	448	0.112	2	448	0.112	2	448	0.224
23:00 - 24:00	0	0	0.000	0	0	0.000	0	0	0.000
Total Rates:			317.947				320.662		
							638.609		

Parameter summary

Trip rate parameter range selected: 96 - 521 (units: sqm)
 Survey date range: 01/01/04 - 17/10/11
 Number of weekdays (Monday-Friday): 10
 Number of Saturdays: 0
 Number of Sundays: 0
 Surveys manually removed from selection: 0

TRIP RATE for Land Use 01 - RETAIL/O - CONVENIENCE STORE
MULTI-MODAL PUBLIC TRANSPORT USERS
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00	0	0	0.000	0	0	0.000	0	0	0.000
01:00 - 02:00	0	0	0.000	0	0	0.000	0	0	0.000
02:00 - 03:00	0	0	0.000	0	0	0.000	0	0	0.000
03:00 - 04:00	0	0	0.000	0	0	0.000	0	0	0.000
04:00 - 05:00	0	0	0.000	0	0	0.000	0	0	0.000
05:00 - 06:00	0	0	0.000	0	0	0.000	0	0	0.000
06:00 - 07:00	1	375	0.000	1	375	0.000	1	375	0.000
07:00 - 08:00	9	299	7.403	9	299	2.158	9	299	9.561
08:00 - 09:00	9	299	19.680	9	299	4.427	9	299	24.107
09:00 - 10:00	9	299	10.565	9	299	2.046	9	299	12.611
10:00 - 11:00	10	299	3.146	10	299	1.372	10	299	4.518
11:00 - 12:00	10	299	3.012	10	299	1.640	10	299	4.652
12:00 - 13:00	10	299	2.912	10	299	1.506	10	299	4.418
13:00 - 14:00	10	299	2.610	10	299	2.309	10	299	4.919
14:00 - 15:00	10	299	1.439	10	299	1.740	10	299	3.179
15:00 - 16:00	10	299	1.975	10	299	1.774	10	299	3.749
16:00 - 17:00	10	299	2.477	10	299	6.292	10	299	8.769
17:00 - 18:00	10	299	3.079	10	299	15.763	10	299	18.842
18:00 - 19:00	10	299	3.280	10	299	12.784	10	299	16.064
19:00 - 20:00	10	299	2.108	10	299	6.191	10	299	8.299
20:00 - 21:00	9	314	2.480	9	314	3.117	9	314	5.597
21:00 - 22:00	3	427	3.591	3	427	3.981	3	427	7.572
22:00 - 23:00	2	448	0.000	2	448	0.000	2	448	0.000
23:00 - 24:00	0	0	0.000	0	0	0.000	0	0	0.000
Total Rates:			69.757			67.100			136.857

Parameter summary

Trip rate parameter range selected: 96 - 521 (units: sqm)
Survey date range: 01/01/04 - 17/10/11
Number of weekdays (Monday-Friday): 10
Number of Saturdays: 0
Number of Sundays: 0
Surveys manually removed from selection: 0

Sanderson Associates (CE) Ltd Jubilee Way, Grange Moor Huddersfield

Licence No: 311901

TRIP RATE for Land Use 01 - RETAIL/O - CONVENIENCE STORE

MULTI-MODAL TOTAL PEOPLE

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00	0	0	0.000	0	0	0.000	0	0	0.000
01:00 - 02:00	0	0	0.000	0	0	0.000	0	0	0.000
02:00 - 03:00	0	0	0.000	0	0	0.000	0	0	0.000
03:00 - 04:00	0	0	0.000	0	0	0.000	0	0	0.000
04:00 - 05:00	0	0	0.000	0	0	0.000	0	0	0.000
05:00 - 06:00	0	0	0.000	0	0	0.000	0	0	0.000
06:00 - 07:00	1	375	2.400	1	375	0.267	1	375	2.667
07:00 - 08:00	9	299	25.112	9	299	23.772	9	299	48.884
08:00 - 09:00	9	299	46.391	9	299	44.048	9	299	90.439
09:00 - 10:00	9	299	31.734	9	299	31.510	9	299	63.244
10:00 - 11:00	10	299	22.691	10	299	22.724	10	299	45.415
11:00 - 12:00	10	299	29.418	10	299	27.878	10	299	57.296
12:00 - 13:00	10	299	39.692	10	299	39.893	10	299	79.585
13:00 - 14:00	10	299	41.867	10	299	42.604	10	299	84.471
14:00 - 15:00	10	299	26.941	10	299	27.276	10	299	54.217
15:00 - 16:00	10	299	34.103	10	299	33.534	10	299	67.637
16:00 - 17:00	10	299	39.926	10	299	38.621	10	299	78.547
17:00 - 18:00	10	299	48.695	10	299	49.732	10	299	98.427
18:00 - 19:00	10	299	46.285	10	299	45.415	10	299	91.700
19:00 - 20:00	10	299	39.357	10	299	39.357	10	299	78.714
20:00 - 21:00	9	314	28.799	9	314	31.066	9	314	59.865
21:00 - 22:00	4	408	12.753	4	408	13.182	4	408	25.935
22:00 - 23:00	2	448	0.112	2	448	0.558	2	448	0.670
23:00 - 24:00	0	0	0.000	0	0	0.000	0	0	0.000
Total Rates:			516.276			511.437			1027.713

Parameter summary

Trip rate parameter range selected: 96 - 521 (units: sqm)
 Survey date range: 01/01/04 - 17/10/11
 Number of weekdays (Monday-Friday): 10
 Number of Saturdays: 0
 Number of Sundays: 0
 Surveys manually removed from selection: 0

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 01 - RETAIL
Category : O - CONVENIENCE STORE
MULTI-MODAL CYCLISTS

Selected regions and areas:

09 NORTH
TW TYNE & WEAR 1 days

Filtering Stage 2 selection:

Parameter: Gross floor area
Actual Range: 400 to 400 (units: sqm)
Range Selected by User: 96 to 521 (units: sqm)

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/04 to 17/10/11

Selected survey days:

Saturday 1 days

Selected survey types:

Manual count 1 days
Directional ATC Count 0 days

Selected Locations:

Neighbourhood Centre (PPS6 Local Centre) 1

Selected Location Sub Categories:

Village 1

TRIP RATE for Land Use 01 - RETAIL/O - CONVENIENCE STORE

MULTI-MODAL CYCLISTS

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00	0	0	0.000	0	0	0.000	0	0	0.000
01:00 - 02:00	0	0	0.000	0	0	0.000	0	0	0.000
02:00 - 03:00	0	0	0.000	0	0	0.000	0	0	0.000
03:00 - 04:00	0	0	0.000	0	0	0.000	0	0	0.000
04:00 - 05:00	0	0	0.000	0	0	0.000	0	0	0.000
05:00 - 06:00	0	0	0.000	0	0	0.000	0	0	0.000
06:00 - 07:00	0	0	0.000	0	0	0.000	0	0	0.000
07:00 - 08:00	1	400	0.250	1	400	0.000	1	400	0.250
08:00 - 09:00	1	400	0.000	1	400	0.000	1	400	0.000
09:00 - 10:00	1	400	0.250	1	400	0.250	1	400	0.500
10:00 - 11:00	1	400	0.000	1	400	0.000	1	400	0.000
11:00 - 12:00	1	400	0.000	1	400	0.250	1	400	0.250
12:00 - 13:00	1	400	0.750	1	400	0.750	1	400	1.500
13:00 - 14:00	1	400	0.000	1	400	0.000	1	400	0.000
14:00 - 15:00	1	400	0.250	1	400	0.250	1	400	0.500
15:00 - 16:00	1	400	0.000	1	400	0.000	1	400	0.000
16:00 - 17:00	1	400	0.250	1	400	0.250	1	400	0.500
17:00 - 18:00	1	400	0.750	1	400	0.500	1	400	1.250
18:00 - 19:00	1	400	1.000	1	400	1.250	1	400	2.250
19:00 - 20:00	1	400	0.250	1	400	0.250	1	400	0.500
20:00 - 21:00	0	0	0.000	0	0	0.000	0	0	0.000
21:00 - 22:00	0	0	0.000	0	0	0.000	0	0	0.000
22:00 - 23:00	0	0	0.000	0	0	0.000	0	0	0.000
23:00 - 24:00	0	0	0.000	0	0	0.000	0	0	0.000
Total Rates:			3.750				3.750	7.500	

Parameter summary

Trip rate parameter range selected: 400 - 400 (units: sqm)
 Survey date range: 01/01/04 - 17/10/11
 Number of weekdays (Monday-Friday): 0
 Number of Saturdays: 1
 Number of Sundays: 0
 Surveys manually removed from selection: 0

TRIP RATE for Land Use 01 - RETAIL/O - CONVENIENCE STORE

MULTI-MODAL VEHICLE OCCUPANTS

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00	0	0	0.000	0	0	0.000	0	0	0.000
01:00 - 02:00	0	0	0.000	0	0	0.000	0	0	0.000
02:00 - 03:00	0	0	0.000	0	0	0.000	0	0	0.000
03:00 - 04:00	0	0	0.000	0	0	0.000	0	0	0.000
04:00 - 05:00	0	0	0.000	0	0	0.000	0	0	0.000
05:00 - 06:00	0	0	0.000	0	0	0.000	0	0	0.000
06:00 - 07:00	0	0	0.000	0	0	0.000	0	0	0.000
07:00 - 08:00	1	400	3.500	1	400	3.250	1	400	6.750
08:00 - 09:00	1	400	4.250	1	400	3.500	1	400	7.750
09:00 - 10:00	1	400	4.750	1	400	5.750	1	400	10.500
10:00 - 11:00	1	400	5.500	1	400	4.750	1	400	10.250
11:00 - 12:00	1	400	6.000	1	400	6.250	1	400	12.250
12:00 - 13:00	1	400	8.500	1	400	6.750	1	400	15.250
13:00 - 14:00	1	400	5.000	1	400	5.500	1	400	10.500
14:00 - 15:00	1	400	10.250	1	400	10.250	1	400	20.500
15:00 - 16:00	1	400	7.250	1	400	8.500	1	400	15.750
16:00 - 17:00	1	400	8.750	1	400	9.000	1	400	17.750
17:00 - 18:00	1	400	16.250	1	400	15.750	1	400	32.000
18:00 - 19:00	1	400	14.000	1	400	13.750	1	400	27.750
19:00 - 20:00	1	400	7.250	1	400	8.250	1	400	15.500
20:00 - 21:00	0	0	0.000	0	0	0.000	0	0	0.000
21:00 - 22:00	0	0	0.000	0	0	0.000	0	0	0.000
22:00 - 23:00	0	0	0.000	0	0	0.000	0	0	0.000
23:00 - 24:00	0	0	0.000	0	0	0.000	0	0	0.000
Total Rates:			101.250			101.250			202.500

Parameter summary

Trip rate parameter range selected: 400 - 400 (units: sqm)
Survey date range: 01/01/04 - 17/10/11
Number of weekdays (Monday-Friday): 0
Number of Saturdays: 1
Number of Sundays: 0
Surveys manually removed from selection: 0

Sanderson Associates (CE) Ltd Jubilee Way, Grange Moor Huddersfield

Licence No: 311901

TRIP RATE for Land Use 01 - RETAIL/O - CONVENIENCE STORE

MULTI-MODAL PEDESTRIANS

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00	0	0	0.000	0	0	0.000	0	0	0.000
01:00 - 02:00	0	0	0.000	0	0	0.000	0	0	0.000
02:00 - 03:00	0	0	0.000	0	0	0.000	0	0	0.000
03:00 - 04:00	0	0	0.000	0	0	0.000	0	0	0.000
04:00 - 05:00	0	0	0.000	0	0	0.000	0	0	0.000
05:00 - 06:00	0	0	0.000	0	0	0.000	0	0	0.000
06:00 - 07:00	0	0	0.000	0	0	0.000	0	0	0.000
07:00 - 08:00	1	400	3.250	1	400	3.000	1	400	6.250
08:00 - 09:00	1	400	3.750	1	400	4.000	1	400	7.750
09:00 - 10:00	1	400	7.250	1	400	7.000	1	400	14.250
10:00 - 11:00	1	400	12.250	1	400	12.750	1	400	25.000
11:00 - 12:00	1	400	16.250	1	400	16.250	1	400	32.500
12:00 - 13:00	1	400	13.500	1	400	13.000	1	400	26.500
13:00 - 14:00	1	400	11.250	1	400	14.000	1	400	25.250
14:00 - 15:00	1	400	8.750	1	400	9.000	1	400	17.750
15:00 - 16:00	1	400	11.500	1	400	9.250	1	400	20.750
16:00 - 17:00	1	400	9.500	1	400	8.500	1	400	18.000
17:00 - 18:00	1	400	14.250	1	400	14.750	1	400	29.000
18:00 - 19:00	1	400	16.750	1	400	16.750	1	400	33.500
19:00 - 20:00	1	400	14.000	1	400	17.500	1	400	31.500
20:00 - 21:00	0	0	0.000	0	0	0.000	0	0	0.000
21:00 - 22:00	0	0	0.000	0	0	0.000	0	0	0.000
22:00 - 23:00	0	0	0.000	0	0	0.000	0	0	0.000
23:00 - 24:00	0	0	0.000	0	0	0.000	0	0	0.000
Total Rates:			142.250			145.750			288.000

Parameter summary

Trip rate parameter range selected: 400 - 400 (units: sqm)
 Survey date range: 01/01/04 - 17/10/11
 Number of weekdays (Monday-Friday): 0
 Number of Saturdays: 1
 Number of Sundays: 0
 Surveys manually removed from selection: 0

TRIP RATE for Land Use 01 - RETAIL/O - CONVENIENCE STORE
MULTI-MODAL PUBLIC TRANSPORT USERS
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00	0	0	0.000	0	0	0.000	0	0	0.000
01:00 - 02:00	0	0	0.000	0	0	0.000	0	0	0.000
02:00 - 03:00	0	0	0.000	0	0	0.000	0	0	0.000
03:00 - 04:00	0	0	0.000	0	0	0.000	0	0	0.000
04:00 - 05:00	0	0	0.000	0	0	0.000	0	0	0.000
05:00 - 06:00	0	0	0.000	0	0	0.000	0	0	0.000
06:00 - 07:00	0	0	0.000	0	0	0.000	0	0	0.000
07:00 - 08:00	1	400	0.000	1	400	0.000	1	400	0.000
08:00 - 09:00	1	400	0.000	1	400	0.000	1	400	0.000
09:00 - 10:00	1	400	0.000	1	400	0.000	1	400	0.000
10:00 - 11:00	1	400	0.000	1	400	0.000	1	400	0.000
11:00 - 12:00	1	400	0.000	1	400	0.000	1	400	0.000
12:00 - 13:00	1	400	0.000	1	400	0.000	1	400	0.000
13:00 - 14:00	1	400	0.000	1	400	0.000	1	400	0.000
14:00 - 15:00	1	400	0.000	1	400	0.000	1	400	0.000
15:00 - 16:00	1	400	0.000	1	400	0.000	1	400	0.000
16:00 - 17:00	1	400	1.000	1	400	1.000	1	400	2.000
17:00 - 18:00	1	400	0.000	1	400	0.000	1	400	0.000
18:00 - 19:00	1	400	0.000	1	400	0.000	1	400	0.000
19:00 - 20:00	1	400	0.000	1	400	0.000	1	400	0.000
20:00 - 21:00	0	0	0.000	0	0	0.000	0	0	0.000
21:00 - 22:00	0	0	0.000	0	0	0.000	0	0	0.000
22:00 - 23:00	0	0	0.000	0	0	0.000	0	0	0.000
23:00 - 24:00	0	0	0.000	0	0	0.000	0	0	0.000
Total Rates:			1.000				1.000	2.000	

Parameter summary

Trip rate parameter range selected: 400 - 400 (units: sqm)
Survey date range: 01/01/04 - 17/10/11
Number of weekdays (Monday-Friday): 0
Number of Saturdays: 1
Number of Sundays: 0
Surveys manually removed from selection: 0

TRIP RATE for Land Use 01 - RETAIL/O - CONVENIENCE STORE

MULTI-MODAL TOTAL PEOPLE

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00	0	0	0.000	0	0	0.000	0	0	0.000
01:00 - 02:00	0	0	0.000	0	0	0.000	0	0	0.000
02:00 - 03:00	0	0	0.000	0	0	0.000	0	0	0.000
03:00 - 04:00	0	0	0.000	0	0	0.000	0	0	0.000
04:00 - 05:00	0	0	0.000	0	0	0.000	0	0	0.000
05:00 - 06:00	0	0	0.000	0	0	0.000	0	0	0.000
06:00 - 07:00	0	0	0.000	0	0	0.000	0	0	0.000
07:00 - 08:00	1	400	7.000	1	400	6.250	1	400	13.250
08:00 - 09:00	1	400	8.000	1	400	7.500	1	400	15.500
09:00 - 10:00	1	400	12.250	1	400	13.000	1	400	25.250
10:00 - 11:00	1	400	17.750	1	400	17.500	1	400	35.250
11:00 - 12:00	1	400	22.250	1	400	22.750	1	400	45.000
12:00 - 13:00	1	400	22.750	1	400	20.500	1	400	43.250
13:00 - 14:00	1	400	16.250	1	400	19.500	1	400	35.750
14:00 - 15:00	1	400	19.250	1	400	19.500	1	400	38.750
15:00 - 16:00	1	400	18.750	1	400	17.750	1	400	36.500
16:00 - 17:00	1	400	19.500	1	400	18.750	1	400	38.250
17:00 - 18:00	1	400	31.250	1	400	31.000	1	400	62.250
18:00 - 19:00	1	400	31.750	1	400	31.750	1	400	63.500
19:00 - 20:00	1	400	21.500	1	400	26.000	1	400	47.500
20:00 - 21:00	0	0	0.000	0	0	0.000	0	0	0.000
21:00 - 22:00	0	0	0.000	0	0	0.000	0	0	0.000
22:00 - 23:00	0	0	0.000	0	0	0.000	0	0	0.000
23:00 - 24:00	0	0	0.000	0	0	0.000	0	0	0.000
Total Rates:			248.250			251.750			500.000

Parameter summary

Trip rate parameter range selected: 400 - 400 (units: sqm)
Survey date range: 01/01/04 - 17/10/11
Number of weekdays (Monday-Friday): 0
Number of Saturdays: 1
Number of Sundays: 0
Surveys manually removed from selection: 0

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 01 - RETAIL
 Category : O - CONVENIENCE STORE
 MULTI-MODAL VEHICLES

Selected regions and areas:

03	SOUTH WEST	
	BA BATH & NORTH EAST SOMERSET	1 days
	DC DORSET	1 days
04	EAST ANGLIA	
	CA CAMBRIDGESHIRE	1 days
05	EAST MIDLANDS	
	LN LINCOLNSHIRE	1 days
	NR NORTHAMPTONSHIRE	1 days
06	WEST MIDLANDS	
	WM WEST MIDLANDS	1 days
07	YORKSHIRE & NORTH LINCOLNSHIRE	
	NY NORTH YORKSHIRE	1 days
08	NORTH WEST	
	GM GREATER MANCHESTER	2 days
11	SCOTLAND	
	FA FALKIRK	1 days

Filtering Stage 2 selection:

Parameter: Gross floor area
 Actual Range: 96 to 521 (units: sqm)
 Range Selected by User: 96 to 521 (units: sqm)

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/04 to 17/10/11

Selected survey days:

Monday	3 days
Tuesday	1 days
Wednesday	1 days
Friday	5 days

Selected survey types:

Manual count	10 days
Directional ATC Count	0 days

Selected Locations:

Town Centre	3
Edge of Town Centre	2
Suburban Area (PPS6 Out of Centre)	3
Edge of Town	1
Neighbourhood Centre (PPS6 Local Centre)	1

Selected Location Sub Categories:

Residential Zone	6
Built-Up Zone	3
High Street	1

LIST OF SITES relevant to selection parameters

1	BA-01-O-01 JULIAN ROAD	CO-OP, BATH	BATH & NORTH EAST SOMERSET
	BATH Suburban Area (PPS6 Out of Centre) Residential Zone Total Gross floor area:	165 sqm	
2	CA-01-O-01 MAYORS WALK NETHERTON PETERBOROUGH	CO-OP, PETERBOROUGH	CAMBRIDGESHIRE
	Neighbourhood Centre (PPS6 Local Centre) Residential Zone Total Gross floor area:	375 sqm	
3	DC-01-O-01 MAUD ROAD	LONDIS, DORCHESTER	DORSET
	DORCHESTER Suburban Area (PPS6 Out of Centre) Residential Zone Total Gross floor area:	176 sqm	
4	FA-01-O-01 THORNHILL ROAD	SPAR, FALKIRK	FALKIRK
	FALKIRK Suburban Area (PPS6 Out of Centre) Residential Zone Total Gross floor area:	300 sqm	
5	GM-01-O-01 WHITWORTH STREET	SAINSBURY'S LOCAL, M'CHESTER	GREATER MANCHESTER
	MANCHESTER Town Centre Built-Up Zone Total Gross floor area:	521 sqm	
6	GM-01-O-02 MOSELEY STREET	SAINSBURY'S LOCAL, M'CHESTER	GREATER MANCHESTER
	MANCHESTER Town Centre Built-Up Zone Total Gross floor area:	385 sqm	
7	LN-01-O-01 257 NEWARK STREET NORTH HYKEHAM LINCOLN	SPAR, LINCOLN	LINCOLNSHIRE
	Edge of Town Residential Zone Total Gross floor area:	350 sqm	
8	NR-01-O-01 ROCKINGHAM ROAD	LONDIS, CORBY	NORTHAMPTONSHIRE
	CORBY Edge of Town Centre Residential Zone Total Gross floor area:	120 sqm	
9	NY-01-O-01 HIGH STREET	SPAR, BOROUGHBRIDGE	NORTH YORKSHIRE
	BOROUGHBRIDGE Town Centre High Street Total Gross floor area:	96 sqm	

LIST OF SITES relevant to selection parameters (Cont.)

10	WM-01-O-01 BROAD STREET	SAINSBURYS LOCAL,BIRMINGHAM	WEST MIDLANDS
	BIRMINGHAM Edge of Town Centre Built-Up Zone Total Gross floor area: 500 sqm		

Sanderson Associates (CE) Ltd Jubilee Way, Grange Moor Huddersfield

Licence No: 311901

TRIP RATE for Land Use 01 - RETAIL/O - CONVENIENCE STORE

MULTI-MODAL VEHICLES

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00	0	0	0.000	0	0	0.000	0	0	0.000
01:00 - 02:00	0	0	0.000	0	0	0.000	0	0	0.000
02:00 - 03:00	0	0	0.000	0	0	0.000	0	0	0.000
03:00 - 04:00	0	0	0.000	0	0	0.000	0	0	0.000
04:00 - 05:00	0	0	0.000	0	0	0.000	0	0	0.000
05:00 - 06:00	0	0	0.000	0	0	0.000	0	0	0.000
06:00 - 07:00	1	375	1.600	1	375	0.267	1	375	1.867
07:00 - 08:00	9	299	8.631	9	299	6.696	9	299	15.327
08:00 - 09:00	9	299	9.301	9	299	6.138	9	299	15.439
09:00 - 10:00	9	299	7.478	9	299	6.027	9	299	13.505
10:00 - 11:00	10	299	5.689	10	299	4.685	10	299	10.374
11:00 - 12:00	10	299	6.258	10	299	5.187	10	299	11.445
12:00 - 13:00	10	299	5.823	10	299	6.058	10	299	11.881
13:00 - 14:00	10	299	5.857	10	299	5.522	10	299	11.379
14:00 - 15:00	10	299	4.819	10	299	4.585	10	299	9.404
15:00 - 16:00	10	299	5.656	10	299	5.756	10	299	11.412
16:00 - 17:00	10	299	6.894	10	299	8.434	10	299	15.328
17:00 - 18:00	10	299	7.731	10	299	10.776	10	299	18.507
18:00 - 19:00	10	299	9.404	10	299	10.308	10	299	19.712
19:00 - 20:00	10	299	8.166	10	299	7.932	10	299	16.098
20:00 - 21:00	9	314	6.553	9	314	6.589	9	314	13.142
21:00 - 22:00	3	427	1.561	3	427	1.639	3	427	3.200
22:00 - 23:00	2	448	0.335	2	448	0.781	2	448	1.116
23:00 - 24:00	0	0	0.000	0	0	0.000	0	0	0.000
Total Rates:			101.756				97.380		
							199.136		

Parameter summary

Trip rate parameter range selected: 96 - 521 (units: sqm)
 Survey date range: 01/01/04 - 17/10/11
 Number of weekdays (Monday-Friday): 10
 Number of Saturdays: 0
 Number of Sundays: 0
 Surveys manually removed from selection: 0

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 01 - RETAIL
Category : O - CONVENIENCE STORE
MULTI-MODAL VEHICLES

Selected regions and areas:

09 NORTH
TW TYNE & WEAR 1 days

Filtering Stage 2 selection:

Parameter: Gross floor area
Actual Range: 400 to 400 (units: sqm)
Range Selected by User: 96 to 521 (units: sqm)

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/04 to 17/10/11

Selected survey days:

Saturday 1 days

Selected survey types:

Manual count 1 days
Directional ATC Count 0 days

Selected Locations:

Neighbourhood Centre (PPS6 Local Centre) 1

Selected Location Sub Categories:

Village 1

LIST OF SITES relevant to selection parameters

- | | | | |
|---|--|-----------------------|-------------|
| 1 | TW-01-O-01 | CO-OP, NEAR NEWCASTLE | TYNE & WEAR |
| | CORONATION ROAD | | |
| | SUNNISIDE | | |
| | NEAR NEWCASTLE | | |
| | Neighbourhood Centre (PPS6 Local Centre) | | |
| | Village | | |
| | Total Gross floor area: | 400 | sqm |

TRIP RATE for Land Use 01 - RETAIL/O - CONVENIENCE STORE

MULTI-MODAL VEHICLES

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00	0	0	0.000	0	0	0.000	0	0	0.000
01:00 - 02:00	0	0	0.000	0	0	0.000	0	0	0.000
02:00 - 03:00	0	0	0.000	0	0	0.000	0	0	0.000
03:00 - 04:00	0	0	0.000	0	0	0.000	0	0	0.000
04:00 - 05:00	0	0	0.000	0	0	0.000	0	0	0.000
05:00 - 06:00	0	0	0.000	0	0	0.000	0	0	0.000
06:00 - 07:00	0	0	0.000	0	0	0.000	0	0	0.000
07:00 - 08:00	1	400	3.250	1	400	3.000	1	400	6.250
08:00 - 09:00	1	400	4.250	1	400	3.500	1	400	7.750
09:00 - 10:00	1	400	4.500	1	400	5.500	1	400	10.000
10:00 - 11:00	1	400	5.250	1	400	4.500	1	400	9.750
11:00 - 12:00	1	400	5.500	1	400	5.750	1	400	11.250
12:00 - 13:00	1	400	6.750	1	400	5.500	1	400	12.250
13:00 - 14:00	1	400	4.500	1	400	5.500	1	400	10.000
14:00 - 15:00	1	400	6.000	1	400	6.000	1	400	12.000
15:00 - 16:00	1	400	5.500	1	400	5.250	1	400	10.750
16:00 - 17:00	1	400	6.750	1	400	7.750	1	400	14.500
17:00 - 18:00	1	400	10.500	1	400	10.000	1	400	20.500
18:00 - 19:00	1	400	10.250	1	400	10.000	1	400	20.250
19:00 - 20:00	1	400	6.500	1	400	7.250	1	400	13.750
20:00 - 21:00	0	0	0.000	0	0	0.000	0	0	0.000
21:00 - 22:00	0	0	0.000	0	0	0.000	0	0	0.000
22:00 - 23:00	0	0	0.000	0	0	0.000	0	0	0.000
23:00 - 24:00	0	0	0.000	0	0	0.000	0	0	0.000
Total Rates:			79.500			79.500			159.000

Parameter summary

Trip rate parameter range selected: 400 - 400 (units: sqm)
 Survey date range: 01/01/04 - 17/10/11
 Number of weekdays (Monday-Friday): 0
 Number of Saturdays: 1
 Number of Sundays: 0
 Surveys manually removed from selection: 0

APPENDIX F
Public Transport Information

1 WREXHAM - CHESTER via Gresford - Marford - Rossett - Chester Business Park

Monday to Saturday except Bank Holidays : Llun i Sadwrn henblaw Gwyliau Cyhoeddus

ARRIVA BUSES WALES, ROUTE ONE

Days / Dyddiau:	NS		NS		S	NS		S	NS		NS		NS		NS	
Wrexham, Bus Station [7]	0540	0600	0620	0630	0640	0650	0700	0710	0720	0730	0740	0750	0800	0810	0822	
Garden Village Shops	0545	0605	0625	0635	0645	0655	0705	0715	0725	0735	0745	0755	0805	0815	0827	
Gresford, Plough Inn	0552	0612	0632	0642	0652	0702	0712	0722	0732	0742	0752	0802	0812	0822	0834	
Marford	0555	0615	0635	0645	0655	0705	0715	0725	0735	0745	0755	0805	0815	0825	0837	
Rossett	0558	0618	0638	0648	0658	0708	0718	0728	0738	0748	0758	0808	0818	0828	0840	
Pulford Church	0601	0621	0641	0651	0701	0711	0721	0731	0741	0751	0801	0811	0821	0831	0843	
Chester Business Park, Lakewood	0607	0627	0647	0657	0707	0717	0727	0738	0748	0758	0808	0818	0828	0838	0850	
Chester, Pepper Street	0617	0637	0657	0707	0717	0727	0737	0749	0759	0809	0819	0829	0839	0849	0901	
Chester Railway Station	0620	0640	0700	0710	0720	0730	0740	0755	0805	0815	0825	0835	0845	0855	0907	

Note / Nodyn:

Wrexham, Bus Station [7]	0834	0846	0858		10	22	34	46	58		1758	1810	1830	1850	1920	
Garden Village Shops	0839	0851	0903		15	27	39	51	03		1803	1815	1835	1855	1925	
Gresford, Plough Inn	0846	0858	0910	and	22	34	46	58	10	minutes	1810	1822	1842	1902	1932	
Marford	0849	0901	0913	then	25	37	49	01	13	past	1813	1825	1845	1905	1935	
Rossett	0852	0904	0916	at	28	40	52	04	16	each	1816	1828	1848	1908	1938	
Pulford Church	0855	0907	0919	every	31	43	55	07	19	hour	1819	1831	1851	1911	1941	
Chester Business Park, Lakewood	0902	0914	0926		38	50	02	14	26	until	1826	1838	1857	1917	1947	
Chester, Pepper Street	0913	0925	0937		49	01	13	25	37		1837	1849	1907	1927	1957	
Chester Railway Station	0919	0931	0943		55	07	19	31	43		1843	1855	1910	1930	2000	

Note / Nodyn:

Wrexham, Bus Station [7]	1950	2020	2050	2120	2150	2220	2250									
Garden Village Shops	1955	2025	2055	2125	2155	2225	2255									
Gresford, Plough Inn	2002	2032	2102	2132	2202	2232	2302									
Marford	2005	2035	2105	2135	2205	2235	2305									
Rossett	2008	2038	2108	2138	2208	2238	2308									
Pulford Church	2011	2041	2111	2141	2211	2241	2311									
Chester Business Park, Lakewood	2017	2047	2117	2147	2217	2247	2317									
Chester, Pepper Street	2027	2057	2127	2157	2227	2257	2327									
Chester Railway Station	2030	2100	2130	2200	2230	2300	2330									

NS: Not Saturdays

S: Saturdays Only

1 CHESTER - WREXHAM via Chester Business Park, Rossett, Marford & Gresford

Monday to Saturday except Bank Holidays : Llun i Sadwrn henblaw Gwyliau Cyhoeddus

ARRIVA BUSES WALES

Days / Dyddiau:	NS		NS	S	NS	NS	S	NS	NS	S	NS	S	NS	NS	S
Chester Railway Station	0625	0655	0716	0725	0728	0740	0745	0752	0804	0805	0816	0825	0828	0840	0845
Chester, Foregate Street	0630	0700	0721	0730	0733	0745	0750	0757	0809	0810	0821	0830	0833	0845	0850
Chester Business Park, Marks & Spencer	0641	0711	0732	0741	0744	0756	0801	0808	0820	0821	0832	0841	0844	0856	0901
Pulford	0648	0718	0739	0748	0751	0803	0808	0815	0827	0828	0839	0848	0851	0903	0908
Rossett	0651	0721	0742	0751	0754	0806	0811	0818	0830	0831	0842	0851	0854	0906	0911
Marford	0655	0725	0746	0755	0758	0810	0815	0822	0834	0835	0846	0855	0858	0910	0915
Gresford, Plough Inn	0657	0727	0748	0757	0800	0812	0817	0824	0836	0837	0848	0857	0900	0912	0917
Garden Village Shops	0703	0733	0754	0803	0806	0818	0823	0830	0842	0843	0854	0903	0906	0918	0923
Wrexham, Bus Station [7]	0710	0740	0801	0810	0813	0825	0830	0837	0849	0850	0901	0910	0913	0925	0930

Days / Dyddiau:	NS														
Chester Railway Station	0852		04	16	28	40	52		1752	1804	1816	1828	1840	1852	1904
Chester, Foregate Street	0857		09	21	33	45	57		1757	1809	1821	1833	1845	1857	1909
Chester Business Park, Marks & Spencer	0908	and	20	32	44	56	08	minutes	1808	1820	1832	1844	1854	1906	1918
Pulford	0915	then	27	39	51	03	15	past	1815	1827	1839	1851	1901	1913	1925
Rossett	0918	at	30	42	54	06	18	each	1818	1830	1842	1854	1904	1916	1928
Marford	0922	every	34	46	58	10	22	hour	1822	1834	1846	1858	1908	1920	1932
Gresford, Plough Inn	0924		36	48	00	12	24	until	1824	1836	1848	1900	1910	1922	1934
Garden Village Shops	0930		42	54	06	18	30		1830	1842	1854	1906	1915	1927	1939
Wrexham, Bus Station [7]	0937		49	01	13	25	37		1837	1849	1901	1913	1920	1932	1944

Note / Nodyn:

Chester Railway Station	1915	1935	2005	2035	2105	2135	2205	2235	2305	2335
Chester, Foregate Street	1920	1940	2010	2040	2110	2140	2210	2240	2310	2340
Chester Business Park, Marks & Spencer	1929	1949	2019	2049	2119	2149	2219	2249	2319	2349
Pulford	1936	1956	2026	2056	2126	2156	2226	2256	2326	2356
Rossett	1939	1959	2029	2059	2129	2159	2229	2259	2329	2359
Marford	1943	2003	2033	2103	2133	2203	2233	2303	2333	0003
Gresford, Plough Inn	1945	2005	2035	2105	2135	2205	2235	2305	2335	0005
Garden Village Shops	1950	2010	2040	2110	2140	2210	2240	2310	2340	0010
Wrexham, Bus Station [7]	1955	2015	2045	2115	2145	2215	2245	2315	2345	0015

NS: Not Saturdays

S: Saturdays Only

1 WREXHAM - CHESTER via Gresford - Marford - Rossett - Chester Business Park

Sundays & Bank Holidays : Suliau a Gwylianu Cyhoeddus

ARRIVA BUSES WALES, ROUTE ONE

Wrexham, Bus Station [7]	0830	0900	0930	1000	1020	1040	1100	1120		40	00	20		1640	1700
Garden Village Shops	0835	0905	0935	1005	1025	1045	1105	1125		45	05	25		1645	1705
Gresford, Plough Inn	0842	0912	0942	1012	1032	1052	1112	1132	and	52	12	32	minutes	1652	1712
Marford	0845	0915	0945	1015	1035	1055	1115	1135	then	55	15	35	past	1655	1715
Rossett	0848	0918	0948	1018	1038	1058	1118	1138	at	58	18	38	each	1658	1718
Pulford Church	0851	0921	0951	1021	1041	1101	1121	1141	every	01	21	41	hour	1701	1721
Chester Business Park, Lakewood	0857	0927	0957	1027	1047	1107	1127	1147		07	27	47	until	1707	1727
Chester, Pepper Street	0907	0937	1007	1037	1057	1117	1137	1157		17	37	57		1717	1737
Chester Railway Station	0910	0940	1010	1040	1100	1120	1140	1200		20	40	00		1720	1740

Wrexham, Bus Station [7]	1730	1800	1830	1930	2030	2130	2250
Garden Village Shops	1735	1805	1835	1935	2035	2135	2255
Gresford, Plough Inn	1742	1812	1842	1942	2042	2142	2302
Marford	1745	1815	1845	1945	2045	2145	2305
Rossett	1748	1818	1848	1948	2048	2148	2308
Pulford Church	1751	1821	1851	1951	2051	2151	2311
Chester Business Park, Lakewood	1757	1827	1857	1957	2057	2157	2317
Chester, Pepper Street	1807	1837	1907	2007	2107	2207	2327
Chester Railway Station	1810	1840	1910	2010	2110	2210	2330

1 CHESTER - WREXHAM via Chester Business Park, Rossett, Marford & Gresford

Sundays & Bank Holidays : Suliau a Gwylianu Cyhoeddus

ARRIVA BUSES WALES

Chester Railway Station	0920	0950	1020	1050	1110		30	50	10		1650	1710	1730	1750	1820
Chester, Foregate Street	0925	0955	1025	1055	1115		35	55	15		1655	1715	1735	1755	1825
Chester Business Park, Marks & Spencer	0934	1004	1034	1104	1124	and	44	04	24	minutes	1704	1724	1744	1804	1834
Pulford	0939	1009	1039	1109	1129	then	49	09	29	past	1709	1729	1749	1809	1839
Rossett	0942	1012	1042	1112	1132	at	52	12	32	each	1712	1732	1752	1812	1842
Marford	0946	1016	1046	1116	1136	every	56	16	36	hour	1716	1736	1756	1816	1846
Gresford, Plough Inn	0949	1019	1049	1119	1139		59	19	39	until	1719	1739	1759	1819	1849
Garden Village Shops	0955	1025	1055	1125	1145		05	25	45		1725	1745	1805	1825	1855
Wrexham, Bus Station [7]	1000	1030	1100	1130	1150		10	30	50		1730	1750	1810	1830	1900

Chester Railway Station	1850	1920	2020	2120	2220	2340
Chester, Foregate Street	1855	1925	2025	2125	2225	2345
Chester Business Park, Marks & Spencer	1904	1934	2034	2134	2234	2354
Pulford	1909	1939	2039	2139	2239	2359
Rossett	1912	1942	2042	2142	2242	0002
Marford	1916	1946	2046	2146	2246	0006
Gresford, Plough Inn	1919	1949	2049	2149	2249	0009
Garden Village Shops	1925	1955	2055	2155	2255	0015
Wrexham, Bus Station [7]	1930	2000	2100	2200	2300	0020

Appendix G
Duration of Stay Observations

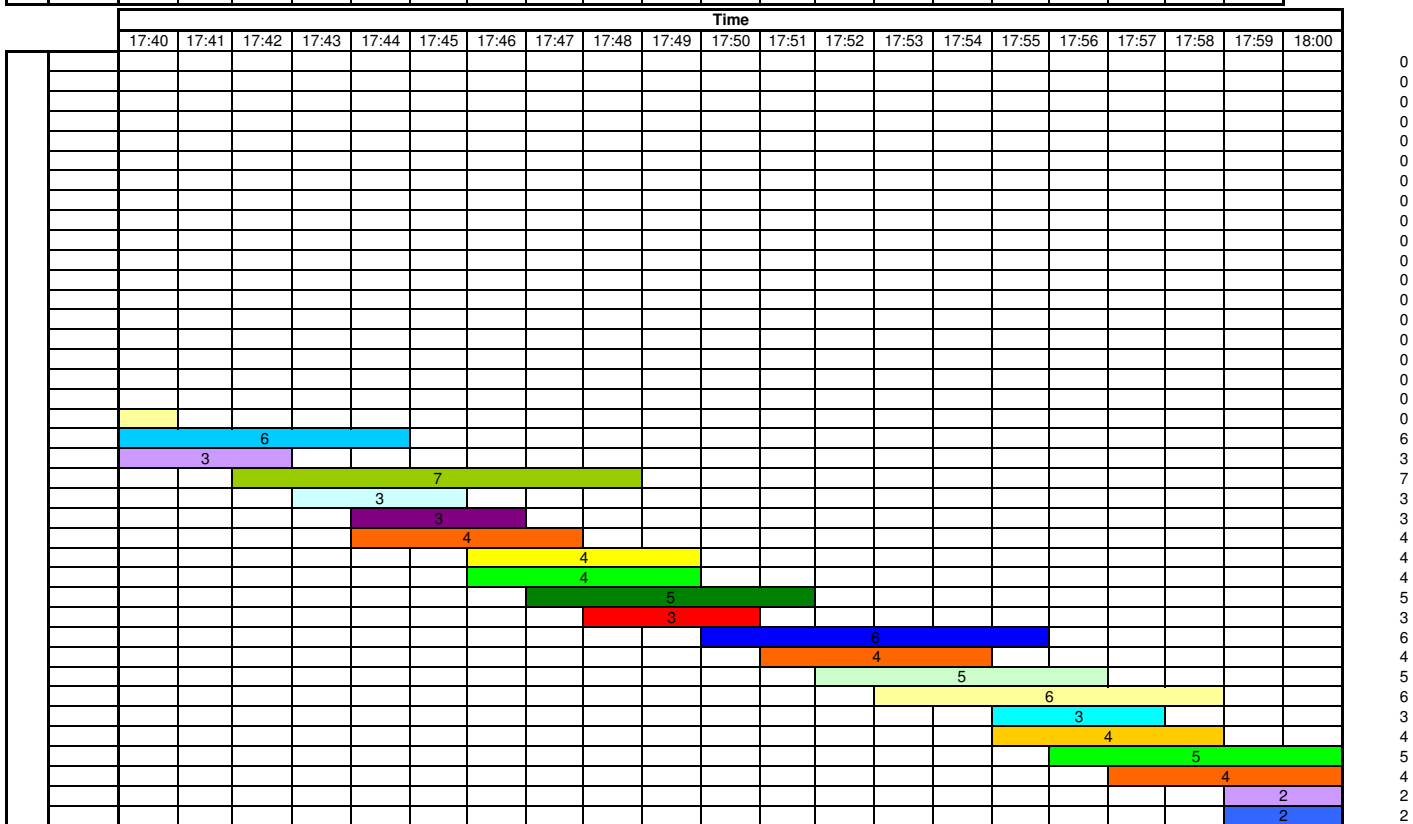
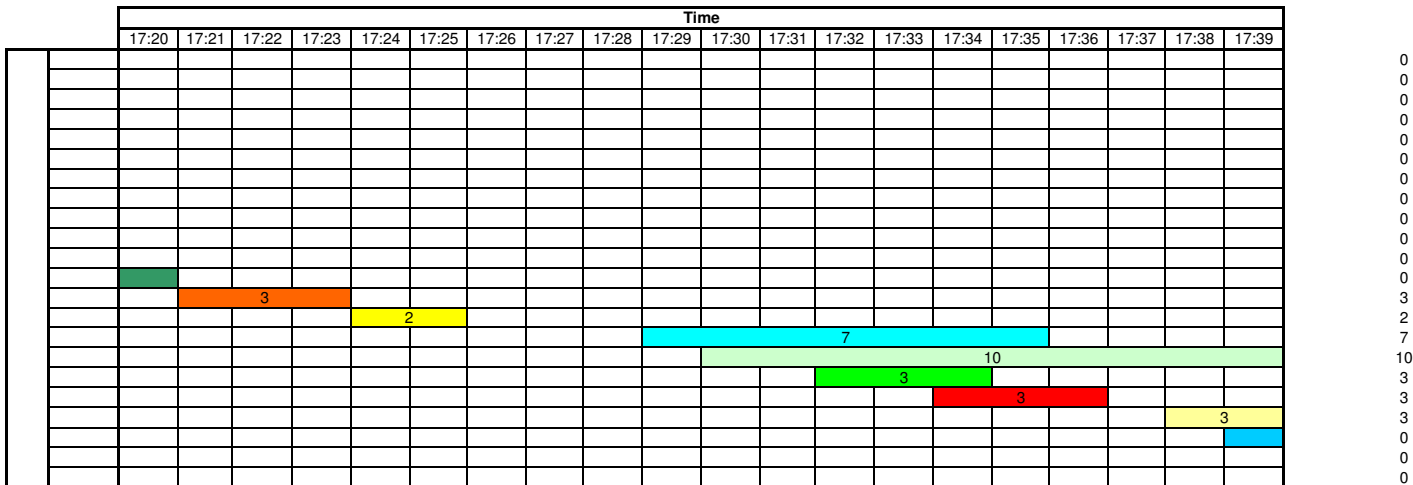
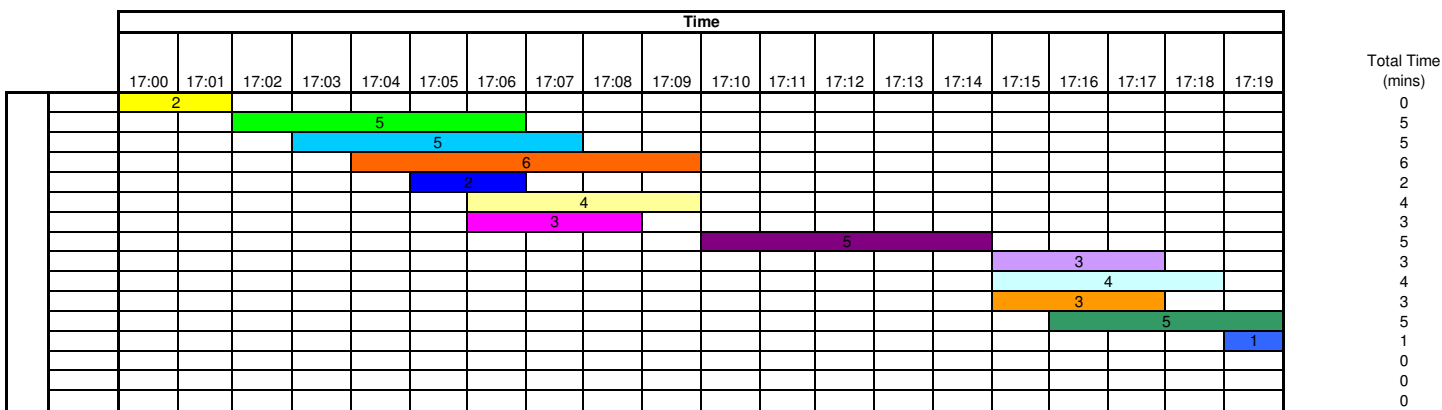
Assessment of Shopping Durations at Sainsbury's Local, Dewsbury Road, Wakefield. AM Peak.

		Time																			Total Time (mins)
		08:00	08:01	08:02	08:03	08:04	08:05	08:06	08:07	08:08	08:09	08:10	08:11	08:12	08:13	08:14	08:15	08:16	08:17	08:18	
																	4				4
																					0
																					0
																					0
																					0
																					0
																					0
																					0
																					0
																					0
		Time																			Total Time (mins)
		08:20	08:21	08:22	08:23	08:24	08:25	08:26	08:27	08:28	08:29	08:30	08:31	08:32	08:33	08:34	08:35	08:36	08:37	08:38	
																					0
																					0
																					7
																					5
																					5
																					1
																					0
																					3
																					3
																					0
		Time																			Total Time (mins)
		08:40	08:41	08:42	08:43	08:44	08:45	08:46	08:47	08:48	08:49	08:50	08:51	08:52	08:53	08:54	08:55	08:56	08:57	08:58	08:59
																					0
																					0
																					4
																					2
																					5
																					0
																					4
																					4
																					3
																					3

** Note:- Cars already parked at the start of the survey period, or still parked at the end of the survey period have been discounted from the calculations

Number of Vehicles	14
Total Shopping Duration for all Vehicles (mins)	53
Average Shopping Duration for all Vehicles (mins)	4

Assessment of Shopping Durations at Sainsbury's Local, Dewsbury Road, Wakefield. PM Peak.



** Note:- Cars already parked at the start of the survey period, or still parked at the end of the survey period have been discounted from the calculations

Number of Vehicles 39

Total Shopping Duration for all Vehicles (mins)	160
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Average Shopping Duration for all Vehicles (mins)	4
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