

Technical Note 01

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EXECUTIVE SUMMARY

This Technical Note details the results of the comparison exercise requested by MTCBC on the potential volume of peak time users on the snow dome piste and specifies that the car park provided under Application P/23/0065 will operate with a maximum utilisation of 613 spaces during a peak month weekday and 757 spaces during a peak month weekend. Consequently, the car park will maintain a spare capacity level of 217 spaces during a peak month weekday and 57 spaces during a peak month weekend. The methodology to determine this position is provided within this document, with resultant calculations appended.

The additional assessments have shown that during the peak month, the car park will operate at a 74% occupation during a weekday for a one-hour period, dropping to 29% in the subsequent hour. On Saturdays, it may experience a peak occupation of 93% for a one-hour period, dropping to 33% in the following three hours. During all other months of the year, the car park will operate with a much higher level of capacity.

The information within this document adheres to the previous car park capacity assessments submitted in support of Application P/23/0065, evidencing that the car park will operate at a safe level and not exceed capacity, which is deemed appropriate to serve the development proposal.

1 INTRODUCTION

- 1.1 Tetra Tech has been commissioned to act as the transport and highways consultant in support of Planning Application P/23/0065 for land west of the A470 and to the south of the village of Heolgerrig in Merthyr Tydfil County Borough Council (MTCBC).
- 1.2 Planning Application P/23/0065 proposes the development of:
 - 39,200 sqm Indoor Snowdome.
 - 7,500 sqm Water Park.
 - 27,400 sqm Hotel (418 beds).
 - 24,000 sqm Indoor / Outdoor Activity Centre; and,
 - 30 Forest Lodges (up to 2,000 sqm).

- 1.3 Merthyr Tydfil County Borough Council (MTCBC) appointed Mott MacDonald to prepare a comprehensive, independent review of the Transport Assessment and Travel Plan prepared in support of Application P/23/0065.
- 1.4 MTCBC have raised a highway objection, which was discussed in detail at a meeting between MTCBC and Tetra Tech on Tuesday November 11th, 2023. The areas that MTCBC requested further information on are listed below and in full at **Appendix A**:
- Following the meeting on Tuesday 23/11 with the Rhydycar development team where we agreed Tetra Tech would provide further background information on the trip generation, and parking demand estimate for Snow Dome. Ben Maliphant from Tetra Tech provided links to the Swindon snow centre Transport Assessment submitted to the Swindon planning authority. Whilst the snow slope element of the Swindon development has still to be constructed, the transport assessment drew on survey/record data from existing snow centres at Milton Keynes and Castleford and this was used to calculate trip generation, mode shares and parking demand at peak times for the proposed Swindon operation. It should be noted that this type of information was requested during our initial review of the Rhydycar application and has not been provided until now.
 - It clearly shows that many of the concerns raised in our initial reviews of the Rhydycar development were addressed by the Swindon applicant. While it is not our role to assess the outcome of conducting an impact assessment based on the Swindon data it is apparent any reassessment would materially affect the peak period parking demands and potentially the wider highway impacts. We have itemised some of the references and details below but the key aspects are:
 - The Swindon application examines the size of the proposed slope relative to the potential volume of peak time use as well as the possible maximum safe user limits.
 - The Swindon application separately assesses each element of the development (snow centre, residential, retail etc) before all the results are aggregated. Whereas the Rhydycar approach sums the annual patronage estimate for the main elements (snow centre, swimming activities and outdoor facility) and assumes that each will operate in the same way throughout the year.
 - The Rhydycar application assumes a 'flat' line demand for the snow centre throughout the year whereas the Swindon application is based on a monthly profile using data from existing facilities. This shows that typically demand can be expected to be significantly higher in the winter months compared to the summer.
- 1.5 This report has been prepared to provide technical information to address the matters raised by MTCBC.

2 POINT 1: POTENTIAL VOLUME OF PEAK TIME USE VIA SWINDON METHODOLOGY

- 2.1 The calculation of the peak time trip generation for Rhydycar West was based upon a standard and accepted trip generation methodology, which has been accepted by Welsh Government (SWTRA) who raise no issues.
- 2.2 However, MTCBC have requested that a comparison is completed on the potential volume of peak time users on the snow dome piste, comparing the Application's accepted methodology against that used by Application S/OUT/15/0943 for the construction of Snow Centre, Swindon.
- 2.3 Application S/OUT/15/0943 provided a methodology for calculating the potential volume of peak time users on an indoor snow dome piste based upon experiences at Castleford and Milton Keynes. It should be noted that this estimates the peak time users on the piste, and does not include ancillary visitor numbers, for example those preparing for a session, changing after a session, or using any other on-site facilities (e.g. a

café). Application S/OUT/15/0943, Castleford and Milton Keynes derive the potential volume of peak time use based upon the length and width of the piste.

- 2.4 Following MTCBC's request, this alternative methodology has been used to compare the data provided by Application S/OUT/15/0943 and forecast the volume of peak time users on the piste at Rhydyar West. The results of this assessment are shown in **Table 1**.
- 2.5 It is important to note that this is an Outline Application, with the width of the piste a matter for detailed design.

Table 1 – Snow Dome: Forecast Volume of Peak Time Use

Site	Piste Length	Piste Width	Safe User Limits	Annual Visitors
Milton Keynes	170	40	263	206,396
Castleford	170	40	302	
Swindon	170	40	280	210,000
Rhydyar West				
Calculation 1: Assume 1:1 relationship for length and width	400	50	824	617,647
Calculation 2: Assume 1:1 relationship for width and 0.75:1 for length			618	463,235

Calculation 1 is derived by calculating the factor of how many times longer and wider the piste at Rhydyar West is compared to Swindon (2.35x longer and 1.25x wider). The peak user number at Swindon is then multiplied by 2.35 and 1.25 to estimate the peak user numbers at Rhydyar West, given the increased size of the piste.

Calculation 2 is as above, but rather than assuming a 1:1 relationship between piste length, it assumes a 0.75:1 relationship. The calculation is therefore Swindon multiplied by 1.25 (width factor) and 1.77 (amended length factor).

- 2.6 **Table 1** indicates that if the Swindon methodology were to be followed, it would determine that Rhydyar West has the capacity for approximately 618-824 users to be on slope at any one time. This corresponds to approximately 463,235–617,647 visitors per annum.
- 2.7 The calculated max user numbers are inside the figure of 750,000 visitors per year that has been used in deriving the Rhydyar West Snow Dome forecast trip generation. Therefore, if the site operated to the same behaviour as Milton Keynes / Castleford / Swindon, the vehicular trip generation of the development would be significantly lower than that submitted in the Transport Assessment. Nonetheless, the applicant stands by the business case figure of 750,000 annual snow centre visitors.
- 2.8 The local highway network and site car park would operate with a greater level of residual capacity than forecast, further mitigating any concerns that MTCBC may have over network capacity, car parking capacity and the likelihood for nuisance parking in Merthyr Tydfil.
- 2.9 It is therefore considered that the results presented in the Transport Assessment are robust.

3 POINT 2: USE OF DATA FROM EXISTING SNOW CENTRES

3.1 MTCBC commented that:

- “Whilst the snow slope element of the Swindon development has still to be constructed, the transport assessment drew on survey/record data from existing snow centres at Milton Keynes and Castleford and this was used to calculate trip generation, mode shares and parking demand at peak times for the proposed Swindon operation. It should be noted that this type of information was requested during our initial review of the Rhydyar application and has not been provided until now.”

3.2 Paragraph 7.8 of the submitted Rhydyar West Transport Assessment states that:

- “Trip profiles for the Snow Centre, Water Park and Indoor/Outdoor Activity centre have been derived from methodologies and customer forecasts consented under Application S/OUT/15/0943 for the construction of Snow Centre Swindon (Land at North Star), which forecast trips based on information obtained from Snozone Milton Keynes and Snozone Castleford.”

3.3 Data recorded from existing snow centres at Milton Keynes and Castleford was used to:

- Derive the monthly profile of visitors to the Snow Dome, Water Park, and Activity Centre for the Assessment 2 Peak Period. This is illustrated in **Table 7.6, 7.11 and 7.15** of the **submitted Transport Assessment**.
- Derive the weekly profile of visitors to the Snow Dome, Water Park, and Activity Centre for Assessment 1 and 2. This is illustrated in **Table 7.3, 7.7, 7.9, 7.11, 7.13 and 7.15** of the **submitted Transport Assessment**.
- Derive the hourly arrival and departure profile of visitors to the Snow Dome, Water Park, and Activity Centre for Assessment 1 and 2. This is illustrated in **Table 7.4 and 7.8** of the **submitted Transport Assessment**.

3.4 Tetra Tech refer MTCBC to the submitted Transport Assessment to ensure confidence that data from existing snow centres at Milton Keynes and Castleford has been used to calculate trip generation and parking demand at peak times.

4 POINT 3: REALISTIC PEAK SCENARIO

4.1 The submitted TA undertook assessment for two scenarios, these were:

- Assessment 1 – An average profile, where visitor movement remains ‘flat’ through the year; and
- Assessment 2 – A worst case peak profile, where all peak visitor movements occurred at the same time. This represents an unrealistic maximum as each facility will experience a different peak period / month throughout the year.

4.2 MTCBC have requested that the application separately assesses each element of the development, to confirm a trip profile that is representative of a true peak period for the site. This being when the site will experience its largest throughput of visitors, thus forecasting a “*realistic peak period*.”

INDIVIDUAL PEAK PERIODS

4.3 This section outlines how visitor profiles for each facility have been calculated. It should be read in conjunction with the assessments provided at **Appendix A**.

Snow Centre

- 4.4 As detailed in Paragraph 3.3, data from Application S/OUT/15/0943 has been used to determine the monthly profile of the Snow Centre. This is reproduced in **Table C2 of Appendix A** and shows that the peak period for the Snow Centre is February, when 13.8% of the annual visitors are forecast.

Water Park

- 4.5 To calculate the monthly profile for the Water Park, information has been obtained from the consented Therme Manchester Application 111318/FUL/23, which can be reviewed at the Trafford Council planning portal.
- 4.6 Application 111318/FUL/23 detailed the forecast breakdown of visits during average and peak periods, refer to **Table C1 of Appendix A**. Utilising this consented information, a monthly visitor profile has been derived for the Water Park at Rhydycar West, refer to **Table C2 of Appendix A**. This shows that the peak period for the Water Park is August, when 11.5% of the annual visitors are forecast.

Indoor Activity Centre

- 4.7 Application 111318/FUL/23 data has been used to calculate the trip profile for the indoor activity centre. This is considered reasonable given that both facilities share a common objective of providing entertainment and recreational opportunities for individuals and families in an indoor setting. The trip profile is outlined at **Table C2 of Appendix A**, which shows that the peak period for the Indoor Activity Centre is August, when 11.5% of the annual visitors are forecast.

Outdoor Activity Centre

- 4.8 The outdoor activity centre is expected to exhibit a distinct trip profile compared to the other facilities on the site. This distinction arises from the anticipated decrease in visitors during the winter months, attributed to a combination of factors such as adverse weather conditions, limitations on seasonal activities, reduced daylight hours, and operational safety concerns.
- 4.9 A first principles approach has therefore been used, which utilises Application 111318/FUL/23 as a baseline dataset. This dataset has been refined to be representative of an outdoor activity centre, with the site forecasted to operate at one-third capacity during the winter months. This discount has been reallocated to the summer months, which would likely be the peak operation for the facility given favourable weather, school events, seasonal activities, extended opening hours, increased length of daylight hours, and aligning with the local tourism season for outdoor activities (e.g., hiking, biking, etc). The trip profile for the facility is outlined at **Table C2 of Appendix A**.
- 4.10 This assessment indicates that the peak period for the Outdoor Activity Centre is August, when 13.8% of the annual visitors are forecast.

Hotel and Forest Lodges

- 4.11 The forecasted annual visitation of 1.58 million at Rhydycar West includes all on-site facilities, encompassing the hotel and lodges. Consequently, during the site-wide peak period, the hotel and lodges are expected to

be occupied by guests intending to utilise on-site attractions during their stay. This assumption aligns with the common practice observed in other hotels that offer on-site amenities such as golf, spas, etc.

‘REALISTIC PEAK PROFILE’

- 4.12 **Table C3** outlines the annual visitor profile for the site, which confirms that the site wide peak period will be December, when 155,235 visitors are forecast. This reflects 91,775 visitors to the snow dome, 49,490 visitors to the water park, 9,023 visitors to the indoor activity centre and 4,946 visitors to the outdoor activity centre.
- 4.13 **Table C4** outlines that the peak month for visitors to the site will be December. This details that 4,513 visitors are forecast on a December weekday, with 8,458 visitors forecast on a December weekend.
- 4.14 As detailed in the submitted TA, record data from existing snow centres at Milton Keynes and Castleford was used to derive the hourly arrival and departure profile of visitors to the Snow Dome, Water Park, and Activity Centre. Refer to **Table C5** of **Appendix A** for the hourly profile.
- Snow Dome: The total people and vehicle trip profile for the Snow Dome is shown in **Table C6** of **Appendix A**.
 - Water Park: The total people and vehicle trip profile for the Water Park is shown in **Table C7** of **Appendix A**.
 - Activity Centre: The total people and vehicle trip profile for the Activity Centre is shown in **Table C8** of **Appendix A**.
 - Site Wide Trip Profile: The Site Wide Trip profile is shown in **Table C9** of **Appendix A**. This illustrates the total arrivals and departures each hour for both total visitors and vehicles during the December period.

CAR PARK ACCUMULATION

- 4.15 In the TRICS Research Report 05/1, titled "Trip Attraction Rates of Developments with Multiple Retail and Leisure Uses," dated December 2005, guidance is provided on how linked trips in developments akin to the Proposed Development might be assessed. The report's Executive Summary indicates that multi-use sites with four or more developments typically reduce the overall number of external trips by approximately 20%.
- 4.16 The trip generation associated with Application 111318/FUL/23 was approved, inclusive of a 15% reduction in trips due to cross-visitation between multiple attractions. This approved cross-visitation factor has been incorporated into the site-wide car park calculations for Rhydycar West, adhering to TRICS guidelines and having recently received approval for a similar facility projected to accommodate 1.5 million visitors annually.
- 4.17 The results of this assessment are shown in **Table C11** of **Appendix A**, which illustrates that the site car park is forecast to operate with a maximum utilisation of 613 spaces during a December weekday, and 757 spaces during a December weekend.

CAR PARK SPARE CAPACITY

- 4.18 **Table C12** of **Appendix A** illustrates the forecast spare capacity of the car park at Rhydycar West during the December period.

- 4.19 **Table C12** highlights that during the peak month, the car park will operate at a 74% (217 spare spaces) occupation during a weekday for a one-hour period, dropping to 29% (591 spare spaces) in the subsequent hour. On Saturdays, it may experience a peak occupation of 93% (57 spare spaces) for a one-hour period, dropping to 33% (553 spare spaces) in the following three hours. During all other months of the year, the car park will operate with a much higher level of capacity.
- 4.20 It should be noted that while the methodology detailed above results in 57 space capacity for an hour, the advanced booking system (see the submitted Travel Plan) and Car Park Management Strategy that will be implemented will smooth this 'spike' in demand. In reality, the site will operate with a greater level of residual capacity through the implementation of these measures.

5 SUMMARY AND CONCLUSION

SUMMARY

- 5.1 MTCBC requested that a comparison exercise is completed, to forecast the potential volume of peak time use on the Snow Dome piste, using the methodology provided at Swindon under Application S/OUT/15/0943. This is provided in **Chapter 2**, which highlights that the methodology consented under Application S/OUT/15/0943 would forecast a maximum of 618-824 people at any one time.
- 5.2 The calculated maximum user numbers are inside the figure of 750,000 visitors per year that has been used in deriving the Rhydyar West Snow Dome forecast trip generation, submitted in the TA. Therefore, if the site operated to the same behaviour as Milton Keynes / Castleford / Swindon, the vehicular trip generation of the development would be significantly lower than that submitted in the Transport Assessment.
- 5.3 The local highway network and site car park would operate with a greater level of residual capacity than forecast, further mitigating any concerns that MTCBC may have over network capacity, car parking capacity and the likelihood for nuisance parking in Merthyr Tydfil.
- 5.4 MTCBC also requested further information on the use of data from existing Snow Centres. This is detailed in **Chapter 3**, which outlines the sources of existing data that was submitted within the Transport Assessment. Tetra Tech refer MTCBC to the submitted Transport Assessment to ensure confidence that data from existing snow centres has been used.
- 5.5 MTCBC also requested that the application separately assesses each element of the development before aggregating the results to form a "realistic peak period". This is provided in **Chapter 4**, concluding that during a December site-wide peak period, the car park would operate with a worse case spare capacity of 57 spaces.

CONCLUSION

- 5.6 The information within this document adheres to the previous car park capacity assessments submitted in support of Application P/23/0065, evidencing that the car park will operate at a safe level and not exceed capacity, which is deemed appropriate to serve the development proposal.

- 5.7 The additional assessments have shown that during the peak month, the car park will operate at a 74% occupation during a weekday for a one-hour period, dropping to 29% in the subsequent hour. On Saturdays, it may experience a peak occupation of 93% for a one-hour period, dropping to 33% in the following three hours. During all other months of the year, the car park will operate with a much higher level of capacity.
- 5.8 It should be noted that while the methodology detailed above results in 57 space capacity for an hour, the advanced booking system (see the submitted Travel Plan) and Car Park Management Strategy that will be implemented will smooth this 'spike' in demand. In reality, the site will operate with a greater level of residual capacity through the implementation of these measures.
- 5.9 The advice provided within this document broadly accords to the advice that has been presented to MTCBC in previous submissions. The materials within this document therefore validate the appropriateness of the car parking provision, evidencing that safe and suitable parking can be provided for future site users.

APPENDIX A – ASSESSMENT TABLES

Table C1: Trip Profiles from Therme Manchester (Application 111318/FUL/23)

	Visitor Numbers
Annual Visitors	1,500,000
Avg Daily - Typical Day	2,850
Avg Daily - Typical Weekend	5,750
Avg Daily - Holiday Day	5,750
Avg Daily - Holiday Weekend	8,600
Typical Weekday (44 weeks)	627,000
Typical Weekends (44 weeks)	506,000
Holiday Weekdays (8 weeks)	230,000
Holiday Weekends (8 weeks)	137,600
Percent of annual visitors typical week	1.7%
Percent of annual visitors holiday week	3.1%

Table C2: Rhydycar West Monthly Trip Profiles

Facility	Q1			Q2			Q3			Q4		
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Snow Dome^	13.2%	13.8%	9.9%	6.7%	5.4%	4.2%	4.4%	7.4%	5.3%	8.2%	9.2%	12.2%
Water Park*	7.5%	6.9%	7.5%	8.8%	7.5%	8.8%	8.8%	11.5%	7.5%	8.8%	7.5%	8.8%
Activity Centre*	7.5%	6.9%	7.5%	8.8%	7.5%	8.8%	8.8%	11.5%	7.5%	8.8%	7.5%	8.8%

^ data sourced from Snow Centre, Swindon (North Star) Application S/OUT/15/0943,* data sourced from Therme, Manchester Application 111318/FUL/23

Table C3: Rhydycar West Monthly Visitors

Facility	Q1			Q2			Q3			Q4			Annual Visitors
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Snow Dome	99,159	103,167	74,336	50,473	40,742	31,836	33,278	55,306	39,870	61,298	68,759	91,775	750,000
Water Park	41,949	38,453	41,949	49,490	41,949	49,490	49,490	64,573	41,949	49,490	41,949	49,490	560,000
Activity Centre	11,841	10,854	22,750	26,840	22,750	26,840	26,840	35,019	22,750	26,840	22,750	13,969	270,000
Total Visitors	152,949	152,474	139,035	126,803	105,441	108,166	109,608	154,899	104,569	137,628	133,457	155,235	1,580,000

Table C4: Trip Profiles for First Principal Datasets

Land Use	Annual Visitors	December Month %*	Month Visitors	Weekday Share	Weekend Day Share	Weekday Visitors	Weekend Day Visitors
Snow Dome	750,000	12%	91,775	13%	25%	2,819	5,371
Water Park	560,000	9%	49,490	12%	21%	1,321	2,407
Indoor Adventure Centre	270,000	9%	9,023	12%	21%	241	439
Outdoor Adventure Centre		3%	4,946	12%	21%	132	241

*Source: Application S/OUT/15/0943

Table C5: Daily Trip Profile*

Time Period	Friday		Saturday	
	Arrivals	Departures	Arrivals	Departures
08:00	2%	0%	2%	0%
09:00	6%	0%	2%	0%
10:00	4%	2%	7%	2%
11:00	12%	6%	6%	2%
12:00	4%	4%	9%	7%
13:00	6%	12%	10%	6%
14:00	7%	4%	11%	9%
15:00	3%	6%	13%	10%
16:00	11%	7%	11%	11%
17:00	7%	3%	9%	13%
18:00	0%	11%	0%	11%
19:00	25%	7%	14%	9%
20:00	12%	0%	4%	0%
21:00	3%	25%	2%	14%
22:00	0%	12%	0%	4%
23:00	0%	3%	0%	2%
Total	100%	100%	100%	100%

*Source: Application S/OUT/15/0943

Table C6: Snow Dome Trip Profile

Time Period	Movement Profile				Trip Profile - People				Trip Profile - Vehicles 44%*			
	Friday		Saturday		Friday		Saturday		Friday		Saturday	
	Arrivals	Departures	Arrivals	Departures	Arrivals	Departures	Arrivals	Departures	Arrivals	Departures	Arrivals	Departures
08:00	2%	0%	2%	0%	42	0	85	0	18	0	37	0
09:00	6%	0%	2%	0%	162	0	99	0	71	0	43	0
10:00	4%	2%	7%	2%	99	42	369	85	43	19	161	37
11:00	12%	6%	6%	2%	345	163	348	99	150	71	151	43
12:00	4%	4%	9%	7%	113	99	468	369	49	43	204	161
13:00	6%	12%	10%	6%	169	347	561	348	74	151	244	151
14:00	7%	4%	11%	9%	190	113	610	468	83	49	266	204
15:00	3%	6%	13%	10%	85	170	717	561	37	74	312	244
16:00	11%	7%	11%	11%	296	191	582	610	129	83	253	266
17:00	7%	3%	9%	13%	204	85	475	717	89	37	207	312
18:00	0%	11%	0%	11%	0	297	0	582	0	130	0	253
19:00	25%	7%	14%	9%	698	205	766	475	304	89	334	207
20:00	12%	0%	4%	0%	345	0	206	0	150	0	90	0
21:00	3%	25%	2%	14%	70	701	85	766	31	305	37	334
22:00	0%	12%	0%	4%	0	333	0	206	0	145	0	90
23:00	0%	3%	0%	2%	0	71	0	85	0	31	0	37
Total	100%	100%	100%	100%	2,819	2,819	5,371	5,371	1,227	1,227	2,339	2,339

*Source, NTS Average distance travelled by purpose and main mode: Great Britain, 2012 - Leisure Category Category

Table C7: Water Park Trip Profile

Time Period	Movement Profile				Trip Profile - People				Trip Profile - Vehicles 44%*			
	Friday		Saturday		Friday		Saturday		Friday		Saturday	
	Arrivals	Departures	Arrivals	Departures	Arrivals	Departures	Arrivals	Departures	Arrivals	Departures	Arrivals	Departures
08:00	2%	0%	2%	0%	20	0	38	0	9	0	17	0
09:00	6%	0%	2%	0%	76	0	45	0	33	0	19	0
10:00	4%	2%	7%	2%	46	20	165	38	20	9	72	17
11:00	12%	6%	6%	2%	162	76	156	45	70	33	68	19
12:00	4%	4%	9%	7%	53	46	210	165	23	20	91	72
13:00	6%	12%	10%	6%	79	163	251	156	35	71	109	68
14:00	7%	4%	11%	9%	89	53	273	210	39	23	119	91
15:00	3%	6%	13%	10%	40	80	321	251	17	35	140	109
16:00	11%	7%	11%	11%	139	90	261	273	60	39	114	119
17:00	7%	3%	9%	13%	96	40	213	321	42	17	93	140
18:00	0%	11%	0%	11%	0	139	0	261	0	61	0	114
19:00	25%	7%	14%	9%	327	96	343	213	142	42	150	93
20:00	12%	0%	4%	0%	162	0	92	0	70	0	40	0
21:00	3%	25%	2%	14%	33	329	38	343	14	143	17	150
22:00	0%	12%	0%	4%	0	156	0	92	0	68	0	40
23:00	0%	3%	0%	2%	0	33	0	38	0	14	0	17
Total	100%	100%	100%	100%	1,321	1,321	2,407	2,407	575	575	1,048	1,048

*Source, NTS Average distance travelled by purpose and main mode: Great Britain, 2012 - Leisure Category Category

Table C8: Activity Centre Trip Profile

Time Period	Movement Profile				Trip Profile - People				Trip Profile - Vehicles 44%*			
	Friday		Saturday		Friday		Saturday		Friday		Saturday	
	Arrivals	Departures	Arrivals	Departures	Arrivals	Departures	Arrivals	Departures	Arrivals	Departures	Arrivals	Departures
08:00	2%	0%	2%	0%	6	0	11	0	2	0	5	0
09:00	6%	0%	2%	0%	21	0	13	0	9	0	5	0
10:00	4%	2%	7%	2%	13	6	47	11	6	2	20	5
11:00	12%	6%	6%	2%	46	22	44	13	20	9	19	5
12:00	4%	4%	9%	7%	15	13	59	47	6	6	26	20
13:00	6%	12%	10%	6%	22	46	71	44	10	20	31	19
14:00	7%	4%	11%	9%	25	15	77	59	11	7	34	26
15:00	3%	6%	13%	10%	11	22	91	71	5	10	39	31
16:00	11%	7%	11%	11%	39	25	74	77	17	11	32	34
17:00	7%	3%	9%	13%	27	11	60	91	12	5	26	39
18:00	0%	11%	0%	11%	0	39	0	74	0	17	0	32
19:00	25%	7%	14%	9%	92	27	97	60	40	12	42	26
20:00	12%	0%	4%	0%	46	0	26	0	20	0	11	0
21:00	3%	25%	2%	14%	9	93	11	97	4	40	5	42
22:00	0%	12%	0%	4%	0	44	0	26	0	19	0	11
23:00	0%	3%	0%	2%	0	9	0	11	0	4	0	5
Total	100%	100%	100%	100%	373	373	679	679	162	162	296	296

*Source, NTS Average distance travelled by purpose and main mode: Great Britain, 2012 - Leisure Category Category

Table C9: Site-wide Trip Profile

Time Period	Trip Profile - People				Trip Profile - Vehicles 44%**			
	Friday		Saturday		Friday		Saturday	
	Arrivals	Departures	Arrivals	Departures	Arrivals	Departures	Arrivals	Departures
08:00	68	0	134	0	29	0	58	0
09:00	260	0	156	0	113	0	68	0
10:00	158	68	581	134	69	30	253	58
11:00	553	261	547	156	241	114	238	68
12:00	181	159	737	581	79	69	321	253
13:00	271	556	883	547	118	242	384	238
14:00	305	181	961	737	133	79	418	321
15:00	135	272	1,128	883	59	118	491	384
16:00	474	306	916	961	206	133	399	418
17:00	327	136	749	1,128	142	59	326	491
18:00	0	476	0	916	0	207	0	399
19:00	1,117	329	1,207	749	486	143	525	326
20:00	553	0	324	0	241	0	141	0
21:00	113	1,123	134	1,207	49	489	58	525
22:00	0	533	0	324	0	232	0	141
23:00	0	113	0	134	0	49	0	58
Total	4,513	4,513	8,458	8,458	1,965	1,965	3,682	3,682

Table C10: Site-wide Car Park Accumulation (Vehicles)

Time of Day	Weekday			Saturday		
	Arrivals	Departures	Car Park Capacity	Arrivals	Departures	Car Park Capacity
08:00	29	0	29	58	0	58
09:00	113	0	142	68	0	126
10:00	69	30	182	253	58	321
11:00	241	114	309	238	68	491
12:00	79	69	318	321	253	559
13:00	118	242	194	384	238	705
14:00	133	79	248	418	321	803
15:00	59	118	188	491	384	910
16:00	206	133	261	399	418	890
17:00	142	59	345	326	491	725
18:00	0	207	137	0	399	326
19:00	486	143	480	525	326	525
20:00	241	0	721	141	0	666
21:00	49	489	281	58	525	199
22:00	0	232	49	0	141	58
23:00	0	49	0	0	58	0

Table C11: Site-wide Car Park Accumulation - Cross Visitation Factor (Vehicles)

Time of Day	Weekday			Saturday		
	Arrivals	Departures	Car Park Capacity	Arrivals	Departures	Car Park Capacity
08:00	25	0	25	50	0	50
09:00	96	0	121	58	0	108
10:00	58	25	154	215	50	273
11:00	205	97	262	203	58	418
12:00	67	59	271	273	215	476
13:00	100	206	165	327	203	600
14:00	113	67	211	356	273	682
15:00	50	101	160	418	327	773
16:00	175	113	222	339	356	757
17:00	121	50	293	277	418	616
18:00	0	176	117	0	339	277
19:00	413	122	408	447	277	447
20:00	205	0	613	120	0	566
21:00	42	415	239	50	447	170
22:00	0	197	42	0	120	50
23:00	0	42	0	0	50	0

Table C12: Site-wide Car Park Accumulation - Spare Capacity (Vehicles)

Time of Day	Weekday			Saturday		
	Car Park Capacity	%	Residual Spaces	Car Park Capacity	%	Residual Spaces
08:00	25	3%	805	50	6%	780
09:00	121	15%	709	108	13%	722
10:00	154	19%	676	273	33%	557
11:00	262	32%	568	418	50%	412
12:00	271	33%	559	476	57%	354
13:00	165	20%	665	600	72%	230
14:00	211	25%	619	682	82%	148
15:00	160	19%	670	773	93%	57
16:00	222	27%	608	757	91%	73
17:00	293	35%	537	616	74%	214
18:00	117	14%	713	277	33%	553
19:00	408	49%	422	447	54%	383
20:00	613	74%	217	566	68%	264
21:00	239	29%	591	170	20%	660
22:00	42	5%	788	50	6%	780
23:00	0	0%	830	0	0%	830