

St. Andrews Major Golf course

Greenyard Farm,

Argae Lane

Vale of Glamorgan.

**TRANSPORT STATEMENT** 

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St. Andrews Major Golf course

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January 2017

Greenyard Farm, Argae lane, Vale of Glamorgan

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#### 1.0 INTRODUCTION

#### 1.1 Background

- 1.1.1 Asbri Transport has been appointed by St. Andrews Major Golf course to produce a Transport Statement in support of an outline planning application for the conversion of two barns for residential use and the development of 12 log cabins/pods for tourism use. The proposed development is off Argae Lane in the Vale of Glamorgan.
- 1.1.2 The development is situated within St. Andrews Major Golf course 4km to the east of Barry town centre and 2km and 5km west of Dinas Powys and Penarth respectively. Cardiff city centre is 7.5km to the north east of the development. The site is surrounded by Greenfield land off Argae Lane.

#### **1.2** Purpose of the report

1.2.1 The purpose of this report is to detail the likely transport characteristics of the proposed development, and identify the potential impact of the proposals on the surrounding transport network. This report also considers the on-site layout with regard to parking provision.

#### **1.3** Structure of the report

- 1.3.1 Following this introductory chapter, the report is structured as follows:
  - Section 2 details the existing situation including an accident analysis within the surrounding highway network;
  - Section 3 outlines the development proposals;
  - Section 4 considers the likely travel demand generated by the proposed development on the surrounding transport network; and,
  - Section 5 provides the conclusions of the report.

#### 2.0 EXISTING CONDITIONS

#### 2.1 Introduction

2.1.1 In order to assess the impact of the development proposals it is necessary to establish the conditions that exist within the surrounding transport network. This section of the report, therefore, describes the existing transport network within the vicinity of the site.

#### 2.2 Site location

- 2.2.1 The development is situated within St. Andrews Major Golf course 4km to the east of Barry town centre and 2km and 5km west of Dinas Powys and Penarth respectively.
- 2.2.2 The site is bounded to the north St. Andrews Major golf course with Little Green, Westra boarding and kennels and Westra Lane further afield. To the south and east by St. Andrews Major golf course and farmland, and to the west by Argae Lane.
- 2.2.3 The location of the site and the local highway network is shown in **Figure 2.1**.

#### 2.3 Highway network

#### Argae Lane

- 2.3.1 Argae lane is a rural lane that runs in a north south alignment, traversing the western boundary of the proposed development site. It provides links to St. Andres Major Golf Club and St Richard Gwyn Catholic High School.
- 2.3.2 Just south of St. Andrews Major Golf Club, Argae Lane develops into a single carriageway with two lanes. Argae Lane adopts the national speed limit across its length until 500m south of the site where a 30mph speed limit is enforced near St Richard Gwyn Catholic High School.

- 2.3.3 At the roads southern end a signal controlled T-Junction is formed with the A4231 with an off slip on to Argae Lane. The A4231 provides routes into Barry to the south. There is cycle provision at the junction in the form of waiting bays at signals. There is a solid central reservation.
- 2.3.4 A pedestrian subway is under the junction that accessed the other side of the carriageway and leads into Dobbins Road.
- 2.3.5 At the Lanes midpoint, a multi arm junction is formed with Gilbert Lane and Westra Lane. Westra lane provides links to Westra and Dinas Powys to the east and gilbert lane forms one of the arms of the A4231/Gilbert Lane roundabout to the west.
- 2.3.6 The Lanes northern end forms a priority junction with St Andrews Road which provides access to the village of St Andrews Major.

Barry Docks Link Road (A4231)

- 2.3.7 The A4231 is one of the main access roads to the nearby town of Barry. It has a north west, south east alignment.
- 2.3.8 It is a single carriageway road with two lanes south of the Argae Lane junction.North of the Argae junction, the north bound lane develops into 2 lanes separated from the singular south bound lane by a double white line.
- 2.3.9 At its north-western end, it forms a two-lane arm of the A4050/Port Road roundabout which provides access to the A4232 dual carriageway.
- 2.3.10 At its mid-point, it forms a two-lane arm of the Gilbert Lane/A4231/Trem Y Coed roundabout. This provides access to the nearby Lidl supermarket and residential developments.
- 2.3.11 At its southern end its forms a two-lane arm of the A4055/Sully Moors/ Cardiff Road roundabout. This provides access into Barry town centre and the nearby business park.
- 2.3.12 There are priority junctions across its length that access residential roads.

#### 2.4 Traffic surveys

- 2.4.1 Automatic traffic counts (ATC) were undertaken on Argae lane both sides of the development access during the period 18<sup>th</sup> 25<sup>th</sup> November 2016.
- 2.4.2 The counters recorded both volumetric and speed data. The surveys were undertaken during the school term and the roads are understood to have been operating normally with no road-works present in the area during the study period.
- 2.4.3 A summary of the survey data is shown in **Table 2.1** below and a more detailed summary of results contained in **Appendix A** of this report, full information can be provided on request.

Location	Direction	85 <sup>th</sup> Percentile speed (mph)	Wet weather speed (mph)
Argae Lane	Northbound	38.1	35.6
	Southbound	36.4	33.9

Table 2.1 Summary of ATC survey results

- 2.4.4 It is evident form the surveys carried out that the 85<sup>th</sup> percentile 'wet weather' speeds of vehicles travelling along Argae Lane are 35.6 mph (northbound) and 33.9 mph (southbound). These are within the posted national speed limit of 60 mph.
- 2.4.5 The resultant visibility requirements at junctions have been derived by way of interpolation from table 7.1 of Manual for Streets are detailed in **Table 2.2** below.

85 <sup>th</sup> percentile wet weather speeds							
Road		Speed in mph	'X' distance m	'Y' distance in m			
				Based on MfS (2007) stopping sight distances			
	Posted speed limit	Observed					
Argae Lane	60	Northbound 35.6	2.4	55m			
		Southbound 33.9		51m			

Table 2.2 Junction visibility requirements based on Table 7.1 of Manual forStreets

#### 2.5 Highway safety

- 2.5.1 Personal Injury Collision (PIC) data was obtained from <u>www.Crashmap.co.uk</u> for the most recent five year period available for a study area that spans approximately 400m in each direction from the proposed site access (discussed in more detail in Section 3) on Argae Lane.
- 2.5.2 The plot of the collision locations are shown in **Figure 2.2** and a summary is presented in **Table 2.1** below.

Fatal	Serious	Slight	
0	0	0	0
0	0	1	1
0	0	0	0
0	0	0	0
0	0	0	0
0	0	1	1
	0 0 0 0 0 0 0	0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0	0         0         0           0         0         0           0         0         1           0         0         0           0         0         0           0         0         0           0         0         0           0         0         0           0         0         1

 Table 2.1
 Summary of personal injury collision data

<sup>2.5.3</sup> It is evident from Table 2.1 and Figure 2.2 that there has been one collision within the study area resulting in one casualty.

#### 2.6 Public transport

Bus

2.6.1 Currently, the closest bus stops are located 1km to the south-west on Dobbins Road another bus stop is in the nearby village of St. Andrews Major around 1.4km to the north. The bus services that call at stops within the proposed development are shown in **Table 2.2** and a map of local public transport infrastructure is shown in **Figure 2.3**.

Service	Route	Frequency
P135	Barry - St Andrew's Church in Wales Primary School	Mon to Fri, 08:08
	St Andrew`s Church in Wales Primary School - Barry	Mon to Fri, 15:35
S49 Pontypridd Road - St Richard Gwynne High School		Mon to Fri, 08:20
	St Richard Gwynne High School - Pontypridd Road	Mon to Fri, 15:25
S51	Llandough - St Richard Gwynne High School	Mon to Fri, 08:15
	St Richard Gwynne High School - Llandough	Mon to Fri, 15:25
100	Colcott Meggit Road - Colcott Meggit Road via Barry	Sunday, every hour 12:00
	Town - Barry Island	-23:05

 Table 2.1
 Summary of bus services operating in vicinity of site

Rail

- 2.6.2 There are two nearby train stations to the site. Dinas Powys train station is located 1.7km to the east and Cadoxton train station is located 1.8km to the south west. Both stations are on the Vale of Glamorgan line that runs from Cardiff to Bridgend via Barry, Rhoose and Llantwit Major. There are also branch lines to Penarth and Barry Island. Plans to electrify the line have been made and hope to be delivered by 2019 which will reduce journey times and will improve user experience. The south wales rail investment plan can be found at: www.networkrail.co.uk/south-wales-investment-map.pdf
- 2.6.3 Services calling at the railway stations are operated by Arriva Trains Wales. Trains run approximately every 15 minutes on a Monday – Sat to Cardiff Central.
- 2.6.4 Those travelling by bicycle have access to cycle storage spaces located at the station.

#### 2.7 Pedestrians and cyclists

#### Pedestrians

2.7.1 As outlined above, there is a pedestrian subway is under the Argae Lane/Barry Docks Link Road junction that accesses the other side of the carriageway and leads into Dobbins Road and residential dwellings.



2.7.2 A public right of way runs around the golf course and to the subway and can be seen in the image above.

- 2.7.3 The Chartered Institution of Highways and Transportation (CIHT) guidelines for 'Providing for Journeys on Foot' indicate that the desirable walking distance for commuting is 500 metres, the acceptable walking distance is 1km, and 2km is the preferred maximum. The desirable walking distance for 'Elsewhere' (this includes access to local amenities) is 400m, the acceptable distance is 800m and 1.2km is the preferred maximum.
- 2.7.4 **Figure 2.4** shows the walk distance isochrones from the centre of the site and any local amenities/facilities that are within walking distance.

Cyclists

- 2.7.5 NCN route 88 runs through Barry near the site. National Route 88 of the National Cycle Network is a proposed coastal route between Newport, Cardiff, Bridgend and Margam Country Park. A map of the whole route can be found at http://www.sustrans.org.uk/ncn/map/route/route-88
- 2.7.6 Cycle infrastructure within the sites vicinity is shown in **Figure 2.5**.

#### 3.0 DEVELOPMENT PROPOSALS

#### 3.1 Land use

- 3.1.1 As outlined in Section 1, the outline planning application proposes the conversion of two barns for residential use and the development of a total of 12 log cabins/pods for tourism use.
- 3.1.2 The mix of cabins/pods is as follows:

2 x Unit A (4 persons); 2 x Unit B (6 persons); 4 X Unit C (4 person); and 4 x Unit D (4 persons)

- 3.1.3 The layout for the proposed development is shown in **Figure 3.1**.
- 3.1.4 The following section of the report outlines:
  - The proposed access arrangements (for pedestrians, cyclists and vehicular traffic); and,
  - The on-site parking provision and site layout.

#### 3.2 Vehicle access and on-site layout

- 3.2.1 It is proposed to construct a new vehicle access along the western boundary of the proposed development, on to Argae Lane. The access will be in the form of a simple priority junction 60m north of the existing residential access. This access will serve 12 units of holiday accommodation.
- 3.2.2 The existing access to the farm buildings will be retained to serve the residential barn conversions and the retained farm house.

#### Site access visibility

3.2.3 A plan of the proposed site access arrangement, detailing a visibility splay of2.4m 'x' distance by 60m 'y' distance is included at Figure 3.2.

#### 3.3 Service vehicle access

3.3.1 Both sites will be served by refuse vehicles. On collection day, refuse vehicles will not enter the site, the bins will be located within the site but adjacent to the site access, and once emptied, they will be returned to the bin area.

#### 3.4 Parking provision

Car parking

- 3.4.1 Car parking will be provided in accordance with the Vale of Glamorgan councils adopted parking standards in their 2011-2026 LDP (Supplementary Planning Guidance 2015).
- 3.4.2 The area the development is set in is classed as a zone 6 Deep Rural. Hotel parking standards have been applied and the relevant parking standard is included in table 3.1 below

Dwelling type/no. of units	Parking standard	Maximum Parking provision	Proposed provision
Holiday apartment	S		
12	1 commercial vehicle space, 1 space per 3 non- residential staff and 1 space per a bedroom.	52+staff	22
Private Housing			
2	1 space per a bedroom (max 3 spaces per dwelling)	6	9
Visitor			
	1 spaces per 5 units	1	1
Total			

Table 3.1 – Parking standards

3.4.3 It is considered that the parking demand of the site will be considerably lower than that of a hotel or hostel. The development proposes multi-occupancy accommodation which will attract families who will attend in a single car and groups of golfing friends who would similarly arrive in a single car or at most two. This is opposed to singular rooms that encourage individual car occupancy reminiscent of a hotel, which the parking standards are based upon. Cycle parking

3.4.4 Cycle parking will be provided in accordance with the Vale of Glamorgan councils adopted parking standards in their 2011-2026 LDP

#### 4.0 TRANSPORT CHARACTERISTICS

#### 4.1 Introduction

4.1.1 To assess the impact of the on the existing transport infrastructure, it is necessary to assess the likely volume of vehicles accessing the site. This section of the report therefore outlines the methodology used to predict the future traffic generation and provides an estimate of likely trips to/from the development site.

#### 4.2 Trip rates

Holiday accommodation – 2 units

- 4.2.1 The vehicle trip generation rates for the have been obtained from the TRICS7.3.3 trip generation database. Sites were selected based on the following criteria:
  - Land use: Residential Holiday accommodation;
  - Survey days: Monday, Tuesday, Wednesday, Thursday, Friday;
  - Number of units: 65- 125 units; and,
  - Location of development: UK, excluding Greater London, Northern Ireland and Republic of Ireland.

Peak period	Arrivals Trip Rate	Departures Trip Rate	Total Trip Rate	Vehicle Arrivals	Vehicle Departures	Total Vehicles
1000 - 1100	0.144	0.329	0.473	2	4	6
1700 - 1800	0.327	0.169	0.496	4	2	6
Daily	2.806	2.587	5.393	34	31	65

### Table 4.1 Summary of trip rates/vehicular generation – Holidayaccommodation

- 4.2.2 It is evident from **Table 4.1** that, based on 12 holiday dwellings the site could generate approximately 6 vehicle movements (two-way) in the AM peak period and 6 vehicle movements (two-way) in the PM peak period.
- 4.2.3 It should be noted that the proposed development will be linked with the adjacent St Andrews golf club. As a result of this, it is thought that trip rates will be lower than those of the representative sites used in Trics.
- 4.2.4 The full table of results can be seen in Appendix B

#### Barn conversions to 2 private residential dwellings

4.2.5 The vehicle trip generation rates for the proposed barn conversions have been obtained from the TRICS 7.3.3 trip generation database. Sites were selected based on the following criteria:

Land use: Residential - Private housing

Survey days: Thursday, Friday;

Number of units: 20 – 372 units; and,

Location of development: UK, excluding Greater London, Northern Ireland and Republic of Ireland.

Peak period	Arrivals Trip Rate	Departures Trip Rate	Total Trip Rate	Vehicle Arrivals	Vehicle Departures	Total Vehicles
0800 - 0900	0.106	0.282	0.388	0	1	1
1700 - 1800	0.315	0.198	0.513	1	0	1
Daily	2.102	2.295	4.397	4	5	9

#### Table 4.2 Trip generation – Houses privately owned

4.2.6 It can be seen from Table 4.1 that the proposed two residential dwellings could generate up to 1 vehicles (two-way) in the AM peak period and up to 1 vehicles (two-way) in the PM peak period.

#### **Combined Trip Rates**

4.2.7 The combined vehicle trip generation for the campsites proposals are shown inTable 4.3 below.

Peak period	Vehicle Arrivals	Vehicle Departures	Total Vehicles
Am	2	5	6
Pm	5	2	7
Daily	38	36	74

 Table 4.3
 Summary of trip rates/vehicular generation – Total trip generation

- 4.2.8 It can be seen from Table 4.3 that the proposed development could generate up to vehicles 6 (two-way) in the AM peak period and up to 7 vehicles (twoway) in the PM peak period.
- 4.2.9 The AM peak for the residential aspect is different to that of the holiday accommodation. To make the analysis robust both peaks have been included in table 4.3 to calculate the total.
- 4.2.10 The full table of results can be seen in Appendix C
- 4.2.11 It should be noted that the holiday accommodation and houses will access Argae lane via separate junctions. The holiday accommodation access will be situated 60 north of the current housing access.

#### 5.0 CONCLUSION

#### 5.1 Summary

- 5.1.1 This Transport Statement has been produced in support of an outline planning application for the conversion of two barns for residential use and the development of a total of 12 log cabins/pods for holiday accommodation/tourism use. The proposed development is to be accessed via Argae Lane in the Vale of Glamorgan.
- 5.1.2 A review of collision data, from <u>www.Crashmap.co.uk</u> identified that there has only been one collision within the study area for the most recent five-year period, where the casualty sustained slight injuries.
- 5.1.3 The site is situated within close proximity to public transport infrastructure, with bus stops on Dobbins Road and in the nearby village of St. Andrews Major. Cadoxton and Dinas Powys railway stations are also nearby, providing frequent services into Cardiff. It is acknowledged that there is no footway provision along Argae Lane in the vicinity of the application site.
- 5.1.4 Public rights of way currently route near the site with a subway under the nearby Barry Docks Link Road.
- 5.1.5 A TRICS analysis shows that the proposed development would be likely to generate approximately 6 vehicle movements (two-way) in the AM peak period and 7 vehicle movements (two-way) in the PM peak period
- 5.1.6 Visibility at the proposed access to the holiday accommodation has been calculated based on speed data from an ATC that was installed for a one-week period from 18<sup>th</sup>- 25<sup>th</sup> November 2016. The 85<sup>th</sup> percentile wet weather speeds were used to calculate the required 'Y' distances based on stopping site distances detailed in table 7.1 of Manual for Streets (2007).

#### 5.2 Conclusion

- 5.2.1 It is considered the existing highway network has sufficient capacity to accommodate the low level of additional vehicles that will be attracted to the development and that the impact on highway network's performance will be negligible.
- 5.2.2 It is also considered that the development proposes a sufficient level of parking for the land uses proposed.

# Figures















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		Cardiff CF23 8RS T 029 2073 2652	Job No:	T16.161			Figure 3.2		

## Appendices

### Appendix A

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## Appendix B

Calculation Reference: AUDIT-317901-161130-1144

#### TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 03 - RESIDENTIAL Category : J - HOLIDAY ACCOMMODATION VEHICLES

Selec	ted reg	ions and areas:		
03	SOUT			
	CW	CORNWALL		1 days
	DC	DORSET		1 days
06	WEST	MIDLANDS		
	WM	WEST MIDLANDS		1 days
80	NOR	TH WEST		
	LC	LANCASHIRE		1 days
10	WAL	S		
	PS	POWYS		1 days
11	SCOT	LAND		
	HI	HIGHLAND		4 days

This section displays the number of survey days per TRICS® sub-region in the selected set

#### Filtering Stage 2 selection:

This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.

Parameter:	Number of units
Actual Range:	65 to 125 (units: )
Range Selected by User:	1 to 125 (units: )

Public Transport Provision:

Selection by:

Include all surveys

Date Range: 01/01/90 to 27/09/16

This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.

3 days
1 days
1 days
2 days
2 days

This data displays the number of selected surveys by day of the week.

Selected survey types:	
Manual count	5 days
Directional ATC Count	4 days

This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaking using machines.

Selected Locations:	
Neighbourhood Centre (PPS6 Local Centre)	4
Free Standing (PPS6 Out of Town)	5

This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.

4 4 1

Selected Location Sub Categorie	<u>es:</u>
Village	
Out of Town	
No Sub Category	

This data displays the number of surveys per location sub-category within the selected set. The location sub-categories

	Page 2
	Tuge Z
	Licence No: 317901
9 days	
Use Class classification within the selected found within the Library module of TRICS	set. The Use Classes Order 2005 ®.
1 days	
7 days	
1 days	
veys within stated 1-mile radii of populatio	n.
4 days	
3 days	
1 days	
1 days	
	9 days Use Class classification within the selected found within the Library module of TRICS 1 days 7 days 1 days 2 days 3 days 3 days 1 days 1 days 1 days

7 days
1 days
1 days

This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling, within a radius of 5-miles of selected survey sites.

Travel Plan:	
Not Known	7 days
No	2 days

This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.

Cardiff

#### LIST OF SITES relevant to selection parameters

Mulberry Drive

Asbri Transport

1	CW-03-J-03 A394	CARAVAN & CAMPINO	3	CORNWALL
2	NEAR PENZANCE Free Standing (PPS6 Out of Town Total Number of unit Survey date: DC-03-J-05 STATION ROAD	Out of Town) s: MONDAY CAMPING/CARAVAN	69 06/08/90	Survey Type: MANUAL DORSET
3	MORETON Free Standing (PPS6 Out of Town Total Number of unit Survey date: HI-03-J-02 GRAMPIAN ROAD	Out of Town) s: FRIDAY SCANDINAVIAN VIL.	122 11/07/08	Survey Type: MANUAL HIGHLAND
4	AVIEMORE Neighbourhood Cent Village Total Number of unit Survey date: Survey date: Survey date: LC-03-J-02 SCOTLAND ROAD	re (PPS6 Local Centre) s: MONDAY TUESDAY WEDNESDAY THURSDAY HOLI DAY APARTMTS	65 21/07/97 22/07/97 23/07/97 24/07/97	Survey Type: DIRECTIONAL ATC COUNT Survey Type: DIRECTIONAL ATC COUNT Survey Type: DIRECTIONAL ATC COUNT Survey Type: DIRECTIONAL ATC COUNT LANCASHIRE
5	CARNFORTH Free Standing (PPS6 No Sub Category Total Number of unit Survey date: PS-03-J-01 HAY ROAD	Out of Town) s: THURSDAY CAMPING/CARAVAN	125 27/09/90	Survey Type: MANUAL POWYS
6	NEAR BRECON Free Standing (PPS6 Out of Town Total Number of unit Survey date: WM-03-J-01 MILL LANE ASTON CANTLOW NEAR COVENTRY Free Standing (PPS6 Out of Town	Out of Town) s: FRIDAY CARAVAN PARK Out of Town)	115 19/07/02	Survey Type: MANUAL WEST MIDLANDS
	Total Number of unit Survey date:	s: MONDAY	86 08/06/09	Survey Type: MANUAL

This section provides a list of all survey sites and days in the selected set. For each individual survey site, it displays a unique site reference code and site address, the selected trip rate calculation parameter and its value, the day of the week and date of each survey, and whether the survey was a manual classified count or an ATC count.

#### TRIP RATE for Land Use 03 - RESIDENTIAL/J - HOLIDAY ACCOMMODATION VEHICLES Calculation factor: 1 UNITS BOLD print indicates peak (busiest) period

		ARRIVALS		DEPARTURES		TOTALS			
	No.	Ave.	Trip	No.	Ave.	Trip	No.	Ave.	Trip
Time Range	Days	UNITS	Rate	Days	UNITS	Rate	Days	UNITS	Rate
00:00 - 01:00	4	65	0.046	4	65	0.027	4	65	0.073
01:00 - 02:00	4	65	0.008	4	65	0.012	4	65	0.020
02:00 - 03:00	4	65	0.000	4	65	0.000	4	65	0.000
03:00 - 04:00	4	65	0.000	4	65	0.000	4	65	0.000
04:00 - 05:00	4	65	0.000	4	65	0.000	4	65	0.000
05:00 - 06:00	4	65	0.000	4	65	0.000	4	65	0.000
06:00 - 07:00	4	65	0.019	4	65	0.000	4	65	0.019
07:00 - 08:00	9	86	0.030	9	86	0.036	9	86	0.066
08:00 - 09:00	9	86	0.157	9	86	0.124	9	86	0.281
09:00 - 10:00	9	86	0.106	9	86	0.224	9	86	0.330
10:00 - 11:00	9	86	0.144	9	86	0.329	9	86	0.473
11:00 - 12:00	9	86	0.145	9	86	0.270	9	86	0.415
12:00 - 13:00	9	86	0.126	9	86	0.160	9	86	0.286
13:00 - 14:00	9	86	0.175	9	86	0.157	9	86	0.332
14:00 - 15:00	9	86	0.179	9	86	0.156	9	86	0.335
15:00 - 16:00	9	86	0.184	9	86	0.162	9	86	0.346
16:00 - 17:00	9	86	0.230	9	86	0.162	9	86	0.392
17:00 - 18:00	9	86	0.327	9	86	0.169	9	86	0.496
18:00 - 19:00	9	86	0.219	9	86	0.193	9	86	0.412
19:00 - 20:00	6	78	0.216	6	78	0.184	6	78	0.400
20:00 - 21:00	6	78	0.175	6	78	0.077	6	78	0.252
21:00 - 22:00	5	76	0.089	5	76	0.037	5	76	0.126
22:00 - 23:00	4	65	0.150	4	65	0.062	4	65	0.212
23:00 - 24:00	4	65	0.081	4	65	0.046	4	65	0.127
Total Rates:			2.806			2.587			5.393

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP\*FACT. Trip rates are then rounded to 3 decimal places.

#### Parameter summary

65 - 125 (units: )
01/01/90 - 27/09/16
9
0
0
0
0



RICS 7.3.3 24	0916 B17.41 (C	) 2016 TRICS Consortium Ltd	Wednesday 30/11/16
			Page 1
sbri Transport	Mulberry Drive	Cardiff	Licence No: 317901

Calculation Reference: AUDIT-317901-161130-1147

#### TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 03 - RESIDENTIAL Category : A - HOUSES PRIVATELY OWNED VEHICLES

Sele	cted regions and areas:	
05	EAST MIDLANDS	
	DS DERBYSHIRE	1 days
80	NORTH WEST	
	MS MERSEYSIDE	1 days
09	NORTH	
	TW TYNE & WEAR	1 days

This section displays the number of survey days per TRICS® sub-region in the selected set

Filtering Stage 2 selection:

This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.

Include all surveys

Parameter:	Number of dwellings
Actual Range:	20 to 372 (units: )
Range Selected by User:	5 to 40 (units: )

Public Transport Provision: Selection by:

Date Range: 01/01/05 to 13/11/15

This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.

Selected survey days:	
Thursday	2 days
Friday	1 days

This data displays the number of selected surveys by day of the week.

Selected survey types:	
Manual count	3 days
Directional ATC Count	0 days

This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaking using machines.

<u>Selected Locations:</u> Neighbourhood Centre (PPS6 Local Centre)

3

2

1

This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.

Selected Location Sub Categories: Residential Zone Village

This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.

Cardiff

Filtering Stage 3 selection:

Mulberry Drive

#### Use Class:

C3

Asbri Transport

3 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 has been used for this purpose, which can be found within the Library module of TRICS®.

1 days
1 days
1 days

This data displays the number of selected surveys within stated 1-mile radii of population.

Population within 5 miles:	
125,001 to 250,000	1 days
250,001 to 500,000	2 days

This data displays the number of selected surveys within stated 5-mile radii of population.

Car ownership within 5 miles:	
0.6 to 1.0	1 days
1.1 to 1.5	2 days

This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling, within a radius of 5-miles of selected survey sites.

<u>Travel Plan:</u> No

3 days

This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.

Cardiff

LIST OF SITES relevant to selection parameters

Mulberry Drive

Asbri Transport

1	DS-03-A-01 SEMI D./TERRACE THE AVENUE HOLMESDALE DRONELELD	D	DERBYSHIRE
	Neighbourhood Centre (PPS6 Local Centre Residential Zone	)	
	Total Number of dwellings: Survey date: THURSDAY	20 22/06/06	Survey Type: MANUAL
2	MS-03-A-01 TERRACED PALACE FIELDS AVENUE		MERSEYSIDE
	RUNCORN		
	Neighbourhood Centre (PPS6 Local Centre Residential Zone	)	
	Total Number of dwellings:	372	
3	TW-03-A-03 MIXED HOUSES	06/10/05	Survey Type: MANUAL TYNE & WEAR
	STATION ROAD		
	BACKWORTH		
	NEAR NEWCASTLE	N	
	Villago	)	
	Total Number of dwellings:	33	
	Survey date: FRIDAY	13/11/15	Survey Type: MANUAL

This section provides a list of all survey sites and days in the selected set. For each individual survey site, it displays a unique site reference code and site address, the selected trip rate calculation parameter and its value, the day of the week and date of each survey, and whether the survey was a manual classified count or an ATC count.

#### TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED VEHICLES Calculation factor: 1 DWELLS BOLD print indicates peak (busiest) period

	ARRIVALS		[	DEPARTURES	ò	TOTALS			
	No.	Ave.	Trip	No.	Ave.	Trip	No.	Ave.	Trip
Time Range	Days	DWELLS	Rate	Days	DWELLS	Rate	Days	DWELLS	Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	3	142	0.056	3	142	0.184	3	142	0.240
08:00 - 09:00	3	142	0.106	3	142	0.282	3	142	0.388
09:00 - 10:00	3	142	0.153	3	142	0.151	3	142	0.304
10:00 - 11:00	3	142	0.127	3	142	0.174	3	142	0.301
11:00 - 12:00	3	142	0.146	3	142	0.195	3	142	0.341
12:00 - 13:00	3	142	0.127	3	142	0.132	3	142	0.259
13:00 - 14:00	3	142	0.153	3	142	0.191	3	142	0.344
14:00 - 15:00	3	142	0.209	3	142	0.219	3	142	0.428
15:00 - 16:00	3	142	0.233	3	142	0.214	3	142	0.447
16:00 - 17:00	3	142	0.261	3	142	0.160	3	142	0.421
17:00 - 18:00	3	142	0.315	3	142	0.198	3	142	0.513
18:00 - 19:00	3	142	0.216	3	142	0.195	3	142	0.411
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			2.102			2.295			4.397

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP\*FACT. Trip rates are then rounded to 3 decimal places.

#### Parameter summary

Trip rate parameter range selected:	20 - 372 (units: )
Survey date date range:	01/01/05 - 13/11/15
Number of weekdays (Monday-Friday):	3
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	0

#### TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED OGVS Calculation factor: 1 DWELLS BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES	5	TOTALS			
	No.	Ave.	Trip	No.	Ave.	Trip	No.	Ave.	Trip
Time Range	Days	DWELLS	Rate	Days	DWELLS	Rate	Days	DWELLS	Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	3	142	0.005	3	142	0.007	3	142	0.012
08:00 - 09:00	3	142	0.005	3	142	0.007	3	142	0.012
09:00 - 10:00	3	142	0.014	3	142	0.016	3	142	0.030
10:00 - 11:00	3	142	0.007	3	142	0.005	3	142	0.012
11:00 - 12:00	3	142	0.005	3	142	0.007	3	142	0.012
12:00 - 13:00	3	142	0.002	3	142	0.000	3	142	0.002
13:00 - 14:00	3	142	0.002	3	142	0.005	3	142	0.007
14:00 - 15:00	3	142	0.005	3	142	0.009	3	142	0.014
15:00 - 16:00	3	142	0.002	3	142	0.005	3	142	0.007
16:00 - 17:00	3	142	0.005	3	142	0.002	3	142	0.007
17:00 - 18:00	3	142	0.002	3	142	0.000	3	142	0.002
18:00 - 19:00	3	142	0.000	3	142	0.005	3	142	0.005
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:         0.054         0.068							0.122		

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP\*FACT. Trip rates are then rounded to 3 decimal places.

#### Parameter summary

Trip rate parameter range selected:	20 - 372 (units: )
Survey date date range:	01/01/05 - 13/11/15
Number of weekdays (Monday-Friday):	3
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	0

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED PSVS Calculation factor: 1 DWELLS BOLD print indicates peak (busiest) period

	ARRIVALS		[	DEPARTURES			TOTALS		
	No.	Ave.	Trip	No.	Ave.	Trip	No.	Ave.	Trip
Time Range	Days	DWELLS	Rate	Days	DWELLS	Rate	Days	DWELLS	Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	3	142	0.000	3	142	0.000	3	142	0.000
08:00 - 09:00	3	142	0.000	3	142	0.000	3	142	0.000
09:00 - 10:00	3	142	0.000	3	142	0.000	3	142	0.000
10:00 - 11:00	3	142	0.000	3	142	0.000	3	142	0.000
11:00 - 12:00	3	142	0.000	3	142	0.000	3	142	0.000
12:00 - 13:00	3	142	0.000	3	142	0.000	3	142	0.000
13:00 - 14:00	3	142	0.000	3	142	0.000	3	142	0.000
14:00 - 15:00	3	142	0.000	3	142	0.000	3	142	0.000
15:00 - 16:00	3	142	0.000	3	142	0.000	3	142	0.000
16:00 - 17:00	3	142	0.000	3	142	0.000	3	142	0.000
17:00 - 18:00	3	142	0.000	3	142	0.000	3	142	0.000
18:00 - 19:00	3	142	0.000	3	142	0.000	3	142	0.000
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.000			0.000			0.000

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP\*FACT. Trip rates are then rounded to 3 decimal places.

#### Parameter summary

Trip rate parameter range selected:	20 - 372 (units: )
Survey date date range:	01/01/05 - 13/11/15
Number of weekdays (Monday-Friday):	3
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	0

#### TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED CYCLISTS Calculation factor: 1 DWELLS BOLD print indicates peak (busiest) period

	ARRIVALS		[	DEPARTURES	5	TOTALS			
	No.	Ave.	Trip	No.	Ave.	Trip	No.	Ave.	Trip
Time Range	Days	DWELLS	Rate	Days	DWELLS	Rate	Days	DWELLS	Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	3	142	0.002	3	142	0.005	3	142	0.007
08:00 - 09:00	3	142	0.002	3	142	0.002	3	142	0.004
09:00 - 10:00	3	142	0.000	3	142	0.000	3	142	0.000
10:00 - 11:00	3	142	0.002	3	142	0.000	3	142	0.002
11:00 - 12:00	3	142	0.000	3	142	0.000	3	142	0.000
12:00 - 13:00	3	142	0.000	3	142	0.000	3	142	0.000
13:00 - 14:00	3	142	0.000	3	142	0.002	3	142	0.002
14:00 - 15:00	3	142	0.000	3	142	0.000	3	142	0.000
15:00 - 16:00	3	142	0.000	3	142	0.000	3	142	0.000
16:00 - 17:00	3	142	0.007	3	142	0.007	3	142	0.014
17:00 - 18:00	3	142	0.000	3	142	0.000	3	142	0.000
18:00 - 19:00	3	142	0.002	3	142	0.000	3	142	0.002
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.015			0.016			0.031

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP\*FACT. Trip rates are then rounded to 3 decimal places.

#### Parameter summary

20 - 372 (units: )
01/01/05 - 13/11/15
3
0
0
0
0