# Apex 

TRANSPORT PLANNING

## Wild Rose Cottage, St Nicholas

## Transport Statement

## Client: Mr Andrew Walker

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Registered Office:
30 Summerfield Avenue
Cardiff
CF14 3QA

## QUALITY MANAGEMENT

## REPORT DETAILS

| Issued by | Apex Transport Planning Ltd <br> $11-13$ Penhill Road <br> Cardiff <br> CF11 9PQ | Tel: 02920619361 <br> info@apextp.co.uk |
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The material presented in this report is confidential. This report has been prepared and is intended solely for Mr Andrew Walker for use in relation to the Wild Rose Cottage, St Nicholas project.

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## 1. INTRODUCTION

### 1.1 Overview

1.1.1 This Transport Statement (TS) accompanies an application for a proposed development of tourist holiday accommodation, on land to the east of Duffryn Lane in St. Nicholas, Vale of Glamorgan.
1.1.2 The proposals will consist of 14 touring and camping pitches, four glamping pods, two lodges, and 2 no. one-bed accommodation units. The proposed plan also includes a laundry unit, toilets, and shower facilities.
1.1.3 The proposals will be accessed from Duffryn Lane via an upgraded site access within the vicinity of an existing private access which serves an existing residential dwelling.
1.1.4 The TS considers the impacts of the proposals in relation to transport, including the site connectivity, parking provision and access arrangements, road safety and vehicle trip generation. It has been produced to inform the Vale of Glamorgan Council (VoGC) of any highways and transport implications related to the proposals and demonstrates that the site location is suitable for the proposed use and can be safely and appropriately accessed from Duffryn Lane.

### 1.2 Scope of Report

1.2.1 The scope of work has considered policies and advice set out in Planning Policy Wales 11 (PPW11), Technical Advice Note 18: Transport (TAN18), the Active Travel Act (Wales - 2013), the VoGC Local Development Plan (LDP) and Parking Standards SPG, as well as considering our previous experience of other similar sites.
1.2.2 Based on Apex TP's knowledge of other similar sites, the TS has been structured to include the following:

- a description of the existing conditions, including the local highway network and a review of road safety data and existing traffic conditions within the vicinity of the site
- a review of the connectivity of the site by sustainable modes including walking, cycling and public transport
- a summary of the development proposals, access, and parking provision
- forecasts of the network peak hour and development peak hour trip generation
- consideration of the impact of the proposals on the local highway network
- consideration of any mitigation that will assist in reducing the impacts of the proposals


## 2. EXISTING SITUATION

### 2.1 Site Location, Use and Access

2.1.1 The site is broadly located approximately 400 metres south of St Nicholas, approximately 2.5 km to the west of Cardiff, to the east of Duffryn Lane, in the Vale of Glamorgan.
2.1.2 The existing use of the site is private land adjacent to a residential property. The site is bound by open land and lightly wooded areas with an existing access on its western boundary from Duffryn Lane. The indicative location of the site is shown in Figure 2-1.

Figure 2-1: Indicative Site Location


### 2.2 Local Highway Network

2.2.1 The site is accessed from Duffryn Lane to the west, which routes in a north-south direction between St Nicholas Village and the A48 to the north and St Lythams Road to the south.
2.2.2 The majority of vehicles relating to the site are likely to route to and from the north over a distance of approximately 750 m to link to the A48. As a lower category road further away from the site, Lythams Road represents a secondary route to the south. Locally, both roads serve Cardiff to the east as well as providing connections to the Vale of Glamorgan.
2.2.3 Duffryn lane is a lightly trafficked single carriageway road, which is rural in nature within the vicinity of the site, becoming more urban to the north within the settlement boundary of St Nicholas.
2.2.4 Within the settlement boundary, it serves as a local distributor road providing access to approximately 40 residential dwellings via a number of private accesses and cul-de-sac arrangements. Along this section, the road measures between $4.5 \mathrm{~m}-6.0 \mathrm{~m}$ in width and is subject to a 30 mph speed limit. Pedestrians are provided with a 2 metre footway, complimented with street lighting, located along the eastern side which lies within a 450m walking distance of the site.
2.2.5 To the south of these dwellings, and within the vicinity of the site, Duffryn Lane is subject to a derestricted national speed limit ( 60 mph for single carriageway roads). The carriageway becomes more rural in nature and serves a total of five properties, including the site and The National Trust's Duffryn Gardens. The carriageway varies in width to the south of the site, between approximately $4.5 \mathrm{~m}-6.0 \mathrm{~m}$, with additional space adjacent to the carriageway for passing using grass verges and field and property accesses.
2.2.6 Figure 7.1 of MfS contains guidance in relation to the widths of carriageway required for different vehicles to pass. This suggests that on a straight carriageway two cars can pass with a width of 4.1 m , as such, two cars can pass along the length of the road and a car can pass a HGV on significant sections of the road, including on grass verges or at property accesses, where needed. Suitable forward visibility is provided along the route which enables vehicles to pass safely as well as pedestrians to step off the carriageway or to the side of the carriageway safely enabling vehicles to pass appropriately.
2.2.7 The carriageway to the south of St Nicholas is shared by all users with pedestrians able to use the additional space to step off the carriageway to allow vehicles to pass safely. This is a typical arrangement for rural roads such as this which do not have dedicated footways or cycling facilities. A review has been undertaken of Duffryn Lane as a shared pedestrian route in Section 3.3.
2.2.8 The A48 is a key route within the Vale of Glamorgan connecting to the A4232 to the east, which in turn links to the M4 at J33. The A48 provides a connection with Cowbridge to the west. The A4232 forms part of the Strategic Road Network (SRN) maintained by the Welsh Government.
2.2.9 St Lythams Road is a single carriageway rural road, located approximately 1.4 km to the south of the site. It provides a route into the Cardiff to the east, in addition to linking to other parts of the Vale of Glamorgan via the A4226 which links to Barry to the south. Carriageway widths vary between approximately 3.5 metres and 6 metres within the vicinity of Duffryn Lane, although the carriageway benefits from additional width created by grass verges and field and property accesses. St Lythams is subject to the national speed limit (60mph for single carriageway roads).

### 2.3 Road Safety

2.3.1 Personal Injury Accident (PIA) data has been obtained from road safety data published annually by the Department for Transport (DfT). The statistics provide PIA data which has been recorded using the STATS19 accident reporting form. The most recently available five year dataset covers between $1^{\text {st }}$ January 2016 and 31st December 2020. The study area considered within the analysis covers the local highway network within the vicinity of the site, with the entire study area shown in Figure 2-2.


Source: Crashmap
2.3.2 Over the five year period, one slight PIA occurred at the Duffryn Lane / A48 junction to the north of the site, and one at the Duffryn Lane / St Lythams Road junction to the south of the site. Two more slight PIAs occurred along the A48. No serious or fatal accidents were recorded.
2.3.3 There were no incidents along Duffryn Lane itself or at the site access or within the visibility splays.
2.3.4 There were no clusters of four or more PIAs occurring in the same location, therefore no evidence to suggest a re-occurring road safety issue.
2.3.5 A further review of all 23 years of publicly available data along Duffryn Lane (from 1999 and including provisional data from 2021) also shows that no PIAs occurred during this time along the entire length of Duffryn Lane, other than at the junctions at either end. As such, there is no evidence of an existing safety issue in relation to pedestrian or cyclist movements, or in relation to vehicles travelling on this route.
2.3.6 Although all incidents are regrettable, the PIAs that occurred do not indicate a specific pattern or issue with the geometry of the highway that would be exacerbated by the proposed development. There is no evidence of a highway safety issue on Duffryn Lane, or for pedestrian and cyclist movements.

### 2.4 Traffic Flows and Speeds

2.4.1 Two automatic traffic counts (ATC's) were undertaken by independent specialist traffic survey company, Severnside Transportation Data Collection. The ATC's collected traffic speeds and flows for seven continuous days between Thursday $13^{\text {th }}$ January 2022 and Wednesday $19^{\text {th }}$ January 2022, along

Duffryn Lane either side of the site access. The flows assist with demonstrating the suitability for shared use by pedestrians, cyclists, and vehicles and the speeds assist with ascertaining the appropriate length of visibility splay at the proposed access location. The locations of the ATCs are shown in Figure 2-3.

Figure 2-3: ATC locations


Source: Google Maps
2.4.2 A summary of the survey results, in terms of the maximum traffic flows recorded in weekday peak hours, the Duffryn Lane peak hours, and across a daily period, is set out in Table 2-1. A summary of the 85th percentile speeds recorded across the entire seven day period (unadjusted for wet weather) is set out in Table 3-2. The full speed and traffic flow survey outputs are provided in Appendix A.

Table 2-1: 2022 Maximum flows on Duffryn lane

| Period | Total vehicles (two-way) |  |
| :--- | :---: | :---: |
|  | Site 1 | Site 2 |
| Weekday AM Peak Hour <br> (0800-0900) | 34 | 24 |
| Duffryn Lane Peak Hour (1300 - 1400) Sunday $16^{\text {th }}$ Jan <br> Weekday PM Peak Hour <br> (1700-1800) <br> Daily (Sunday) | 97 | 91 |

Table 2-2: 85th Percentile Traffic Speeds (7-day average)

| Direction | $\mathbf{8 5}^{\text {th }}$ Percentile Speed (mph) |  |
| :--- | :---: | :---: |
|  | Site 1 | Site 2 |
| Northbound | 28.1 | 29.2 |
| Southbound | 30.5 | 35.6 |

2.4.3 As shown in Table 2-1 the observed traffic flows are low, with a slightly higher flow at ATC1 (north of the access) than ATC2 (south of the access). The difference in the counts is likely to be related to vehicle movements accessing and egressing the site and movements into the opposite field access.
2.4.4 Across both survey locations, a maximum of 34 two-way movements were recorded in the weekday AM peak, with 26 two-way movements in the weekday PM peak. This is approximately one vehicle every 2 minutes, on average during the typical network peak hours.
2.4.5 The maximum hourly flow during any hourly period at either site across the entire week was 97 movements on the Sunday between 1300-1400.
2.4.6 In relation to speeds, these were significantly slower than the posted speed limit for this section of Duffryn Lane. The vehicular speeds at the end of the visibility splays approaching the access were 30.5 mph for southbound vehicles approaching from the north and 29.2 mph for northbound vehicles approaching from the south.
2.4.7 These are dry weather speeds, and for the calculation of stopping sight distances on existing roads, the $85^{\text {th }}$ percentile wet weather speed should be used. The adjustment methodology for wet weather speeds for single carriageway roads is set out within CA185 of the DMRB. This suggests a deduction of $4 \mathrm{kph}(2.5 \mathrm{mph})$ from dry weather 85th percentile speeds (no guidance is provided within Manual for Streets on the reduction methodology and as such the DMRB guidance is generally used in this regard).
2.4.8 An analysis of the weather for the week of the ATC shows that the weather was dry for the majority of the week ( 5 out of 7 days), and as such a full wet weather reduction is considered appropriate for calculating stopping sight distances. The weather data has been obtained from www.timeanddate.com which records historic weather from the closest weather station, which is at Cardiff Airport. This has then been verified using www.worldweatheronline.com as a comparison, which presents historic weather information from Cardiff.
2.4.9 As such, the full application of the wet weather speed reduction to the recorded three day average dry weather speeds is appropriate. The resultant adjusted $85^{\text {th }}$ percentile speeds for vehicles approaching the site access are as follows:

- $\quad$ Northbound (from southern survey) - $26.8 \mathrm{mph}(43.1 \mathrm{kph})$
- $\quad$ Southbound (from northern survey) - 28.1 mph ( 45.2 kph )
2.4.10 These wet weather adjusted speeds have been used to determine stopping sight distances and therefore visibility splays from the site access. The maximum $85^{\text {th }}$ percentile wet weather adjusted speed of 28.1 mph recorded across both ATC's, has been used for robustness. This would equate to a stopping site distance of 39.1 m in accordance with the Manual for Streets stopping sight distance formula.


## 3. SUSTAINABLE CONNECTIVITY

### 3.1 Introduction

3.1.1 There are options for staff and visitors to travel to and from the site using sustainable modes of travel, and the level of provision is considered appropriate given the proposed tourism use and the site's rural location.
3.1.2 The nature of the site means that users will be self-sufficient and as such not as reliant on surrounding facilities, as say at a 'typical' residential site. However, there are opportunities for visitors to access local facilities within walking or cycling distances which will reduce the reliance on the private car, consistent with relevant policies and guidance, including sustainable transport policies in Future Wales, PPW11 and TAN18.
3.1.3 As part of the proposals, measures will be put in place to constrain vehicle movements and encourage sustainable travel by providing access to a cycle hire scheme to reduce unnecessary local car trips and selling goods for 'everyday needs' within the front of house building.

### 3.2 Walking and Cycling

3.2.1 The nearest walking infrastructure to the site is located to the north and comprises footways along Duffryn Lane and the A48 for pedestrians. Duffryn Lane footways commence c.450m north of the site access and are accessible by walking on-carriageway.
3.2.2 The Duffryn Lane footways are of a good quality and measure approximately two metres in width, and benefit from street lighting. Dropped kerbs are provided along Duffryn Lane to enable a continuous route across accesses and a signal controlled crossing is provided on the A48 to the east of Duffryn Lane, enabling a safe route to and from bus stops in each direction and facilities north of the A48.
3.2.3 From the A48, footways are provided along both sides of the carriageway which enable pedestrians to local facilities within Bonvilston to the west ( 3.6 km walk) and Culverhouse Cross Retail Park (and western areas of Cardiff) to the west ( 3.3 km ).
3.2.4 Cycling is promoted along the A48 with the provision of on-carriageway and off-carriageway cycle facilities between the site and Culverhouse Cross to the east. This is accessed by cycling oncarriageway along Duffryn Lane, which is considered suitable to accommodate these movements.
3.2.5 A high proportion of the National Cycle Network for example comprises of country lanes which are not dissimilar to the roads around the site, including Duffryn Lane. Paragraph 6.4.1 of MfS states that 'Cyclists should generally be accommodated on the carriageway. In areas with low traffic volumes and speeds, there should not be any need for dedicated cycle lanes on the street'. This is because the geometry of such roads commonly limits motor vehicle speeds, to the benefit of safety for cyclists. Onstreet cycling is therefore considered suitable along Duffryn Lane and the surrounding rural roads, due to the low traffic volumes and speeds and in accordance with MfS in this regard.
3.2.6 E-cycles provide an attractive alternative to the car and standard bicycles. They provide battery power to drive the wheels in addition to the effort of the cyclist, up to a speed of 15.5 mph . An e-cycle can greatly reduce the effort required to travel up gradients and increase acceptable distances, in comparison to a conventional cycle. This means e-cycles can significantly extend the distance that can reasonably be expected to be made by cycle and compare favourably to distances that are frequently made by car. With conventional cycles, fitness and age are important factors determining use,

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whereas e-cycles offer opportunities to introduce new user groups to cycling. As such, there is also the opportunity to travel to and from the site via this mode.
3.2.7 The routes from the site provide access to local amenities including a local pub and convenience shop, a retail park, bus stops, Duffryn Gardens visitor attraction, and a golf course.

Duffryn Lane Review
3.2.8 A review of the suitability of Duffryn Lane for shared use by vehicles, pedestrians and cyclists has been undertaken. This includes a review of traffic flows and speeds, geometry, and visibility.
3.2.9 The northern route has been considered between the site and footways located on the edge of the St Nicholas' settlement boundary, approximately a 450m section of Duffryn Lane. This is the key route providing access to the closest bus stops and facilities within the village. The southern route has been considered to Duffryn Gardens which provides further facilities as well as a tourist attraction. This is approximately a 750 m section between the site and Duffryn Garden's northern access.
3.2.10 The key routes are shown in Figure 3-1.

Figure 3-1: Key walking and cycling routes from the site (on-carriageway shared provision)


Source: Google Maps

## Geometry

3.2.11 The carriageway has a width of between $4.5 \mathrm{~m}-6.0 \mathrm{~m}$ along its length, with additional width provided by informal passing places, grass verges and properties accesses. As such, it is suitable for pedestrians to step off the carriageway along the significant majority of its length, or walk to the side of the carriageway to enable vehicles to pass.
3.2.12 There is a short section on the northern route approximately 160 m to the south of Button Ride, where there is a minimal verge step off. However, the carriageway width at this location is sufficient for a car to comfortably pass a pedestrian and forward visibility is well in excess of recorded speeds along this section which ensures that pedestrians can see oncoming vehicles and step to the side of the carriageway, as needed.
3.2.13 Manual for Streets states at p. 83 that pedestrians are comfortable treating roads with traffic flows of less than 100 vehicles per hour as shared spaces. The traffic flows on Duffryn Lane are within levels which would be considered acceptable for pedestrians to either share the carriageway or step off on to the verge safely. If flows were above the 100 vehicles per hour level, pedestrians tend to treat the carriageway as a 'road' and to walk at the sides of the road, as is usual practice on rural and country lanes (which are similar to Duffryn Lane but may have higher flows).
3.2.14 As shown in Section 2, there is no evidence of an existing safety issue along this route for pedestrians and as such stepping off the carriageway or sharing space with vehicles has occurred safely over an extended period of time.
3.2.15 In addition, recent changes to the Highway Code gives more priority to vulnerable road users and these changes should also assist with the shared use of Duffryn Lane for walking, cycling and vehicles. The relevant advice in the Highway Code is as follows:

- When overtaking a cyclist: Drivers should leave 1.5 metres distance when overtaking at speeds of up to 30 mph . Drivers should leave at least 2 metres of space at higher speeds.
- When overtaking a pedestrian walking in the road (where there is no pavement): Allow 2 metres of space.
3.2.16 The code states that these distances should be increased in bad weather and at night. If users are unable to overtake motorcyclists or other road users using the distances mentioned above, they are advised to wait behind them until it is safe to do so. As such, it is explicit and clear in the code that drivers should approach pedestrians and cyclists and overtake leaving sufficient room and where it is safe to do so. Given the geometry of Duffryn Lane is appropriate for shared use and for vehicles to pass pedestrians safely, the additional advice in the code will further ensure that this route remains appropriate and safe.


## Forward Visibility and Gradients

3.2.17 Forward visibility is achievable for at least 50 metres along the entire route to the north with visibility to the south being at least 120 m . This is in excess of the recorded speeds within the vicinity of the site access. There are no hidden dips or similar, that would restrict forward visibility. Speeds are not expected to be materially different on the route to the north due to the changeable road alignment and 30 mph speed limit within the settlement. As such, the forward visibility is appropriate to enable shared use and inter-visibility between pedestrians and vehicles.
3.2.18 The northern route from the access to the A48 this rises from 80 m height to 115 m height based on OS contour mapping information. This is a 35 m rise across a route of c .820 m in length, approximately a
$4 \%$ gradient, on average. There is a 60 m section where there is a 5 m rise starting around 70 m north of the site access which is a gradient of c. $8 \%$. However, this is short in length and the overall gradient is conducive for walking and cycling including on the short steeper sections.
3.2.19 The southern route from the access to Duffryn Gardens falls from 80 m height to 60 m height based on OS contour mapping information. This is a 20 m fall across a route of c .750 m in length, approximately a $3 \%$ gradient, on average. There is a section of c .170 m where the height falls by 10 m , equating to a gradient of c.6\%. As such, the gradient along this route is also conducive for walking and cycling.
3.2.20 By way of comparison, the Welsh Government Active Travel Act Guidance (2021) sets out gradients for pedestrian routes in Section 9.7. This suggests that an absolute maximum gradient of $8 \%$ should be provided for active travel routes. As such, both routes provide appropriate gradients and are in accordance with the Active Travel Act guidance for suitable walking and cycling routes.

## Thresholds for Shared Use

3.2.21 There is no evidence of an existing safety issue along Duffryn Lane for pedestrians and as such stepping off the carriageway onto the verge or sharing space with vehicles has occurred safely over an extended period of time.
3.2.22 As set out in Section 2, the traffic flows are comfortably within levels set out within MfS which would be considered acceptable for pedestrians to either share the carriageway or step on to the verge safely.
3.2.23 To further define what can reasonably be considered low traffic flows, the DfT Circular Traffic Advisory Leaflet 02/2006 "The Quiet Lanes and Home Zones (England) Regulations 2006", has been used as a comparison with the MfS thresholds. Although not strictly applicable in Wales, this provides a useful guide to the level of traffic that would be acceptable within rural locations on shared routes such as Duffryn Lane.
3.2.24 The definition of a Quiet Lane is "minor rural roads or networks of minor rural roads appropriate for shared use by walkers, cyclists, horse riders and other vehicles." It is also suggested that "They should be rural in character, though they do not necessarily have to be in a rural area." The guidance suggests that "Quiet Lanes should have no more than about 1000 motor vehicles per day."
3.2.25 The existing traffic flows on Duffryn Lane are significantly lower than the threshold level for a 'Quiet Lane' even during the peak day ( 605 daily movements). As a Quiet Lane can be defined as suitable for shared use by walkers, cyclists, equestrians, and motorists then it is considered that Duffryn Lane is suitable for shared use.
3.2.26 In addition, the Welsh Government Active Travel Act Design Guidance in paragraph 11.33 .3 states "oncarriageway active travel cycle routes in rural areas should generally follow roads with low traffic flows, preferably below 1,000 vehicles AADT and with actual traffic speeds no greater than 30mph." The Active Travel Act accords with the 'Quiet Lanes' and Manual for Streets guidance in terms of vehicle flows and further confirms that Duffryn Lane should be suitable for shared use between all modes of travel. The recorded wet weather speeds are also below 30 mph , and suitable visibility is provided along the length of the route which is also in accordance with the Active Travel Act Guidance.

## Shared Use Summary

3.2.27 Given that Duffryn Lane already operates as a shared route with no evidence of a road safety issue, the recorded speeds and flows are low, carriageway widths provide sufficient space for passing vehicles, step off areas are provided, and forward visibility is acceptable for the observed speeds,

Duffryn Lane is considered suitable for shared use by pedestrians, cyclists, and vehicles. This is in accordance with Welsh Government, Manual for Streets and DfT guidance. On this basis, the site is appropriately connected for access by walking and cycling by safe and suitable routes.

### 3.3 Distances to Facilities

3.3.1 There are a number of publications which suggest guidance for appropriate and acceptable walking and cycling distances to facilities. For reference, these have been summarised as follows.

- Welsh Government - Active Travel (Wales) Act 2013: Within the ATADG it is stated within paragraph 4.1.4 that "walking as a mode of travel predominates for journeys of less than two miles whilst cycling is more convenient for longer journeys, typically of up to five miles for regular journeys". This equates to distances for walking of up to 3.2 km and cycling of up to 8 km .
- Department for Transport (DfT) - Manual for Streets (2007): MfS states that 'walkable neighbourhoods' are typically characterised by having a range of facilities within 10 minutes walking distance (c. 800 metres). MfS also acknowledges that this is not an upper limit and references previous planning policy guidance in that it is generally acknowledged that walking offers the greatest potential to replace short car trips, particularly under 2 km .
- CIHT (2015) - Planning for Walking: In relation to shorter trips in particular, (section 2.1) states that across Britain about ' $80 \%$ of journeys shorter than 1 mile ( 1.6 km ) are made wholly on foot'.
- CIHT - Guidelines for Providing for Journeys on Foot (2000): suggests preferred maximum distances for commuting, school and sight-seeing journeys are up to 2 km .
- DfT - LTN1/20 Cycle Infrastructure Design (paragraph 2.2.2) - states that "Two out of every three personal trips are less than five miles in length, an achievable distance to cycle for most people" (c.8km).
3.3.2 As such, based on guidance, it is considered that suitable walking distances are up to 3.2 km but journeys within 2 km have a greater potential to be made on foot. A 2 km distance equates to around a 25 -minute walk travelling at $3 \mathrm{mph}(4.8 \mathrm{kph}$ ). A 3.2 km distance equates to around a 40 minute walk.
3.3.3 It is considered that journeys of up to 8 km are within a suitable cycling distance. A cycling journey of 8 km would equate to approximately a 25 -minute travel time.
3.3.4 To demonstrate the site's connectivity, facilities within appropriate distances which are accessed via suitable and established routes have been summarised in Table 3-1. The location of the facilities in the context of the site are shown in Figure 3-2. These facilities have been summarised based on approximate travel distances from the site access via appropriate routes, not straight-line distances. It should be noted that the on-site goods being sold for 'everyday needs' within the front of house building are not included within this table.

Table 3-1: Proximity of the site to local facilities and services

| Facility / Amenity | Distance from site access (metres) | Walking Travel Time (minutes) * | Cycling Travel Time (minutes) * |
| :---: | :---: | :---: | :---: |
| Community Facilities |  |  |  |
| (1) St Nicholas Church | 880 | 11 | 3 |
| 2 Pub-Bonvilston | 3200 | 40 | 10 |
| Public Transport |  |  |  |
| (2) St Nicholas bus stops | 815 | 10 | 3 |
| Retail |  |  |  |
| (1) Culverhouse Cross Retail Park | 3300 | 41 | 10 |
| 2 General store (Bonvilston) | 3600 | 45 | 11 |
| (3) Brooklands Retail Park | 3730 | 47 | 12 |



Source: Google Maps
Note: Numbers and colours correlate to Table 3-1
3.3.5 Table 3-1 and Figure 3-2 show there are a number of facilities situated within walking and cycling distances which can be accessed via suitable routes. All facilities are within Welsh Government guidance walking and cycling distances.
3.3.6 Within an 815 m walk (or c. 10 min walk), guests would be able to access the closest bus stops which are situated on the A48.
3.3.7 There are a number of leisure facilities within walking distance (in line with Guidance from Active Travel Wales) such as a historic site, a National Trust, a pumpkin patch, and a golf club.
3.3.8 The closest food shop is located approximately 3.3 km from the site (or 10 minute cycle) where guests would be able to buy essential items. Additional shops are located c. 3.6 km from the site in Bonvilston which is accessible by cycle.
3.3.9 The site is therefore considered to be situated in a location which makes it possible for journeys to be made on foot or by cycle. This will encourage walking and cycling and reduce the reliance on the private car, consistent with relevant policy and guidance, including sustainable transport policies in

Future Wales, PPW11 and TAN18. In addition, the nature of the site means users will be self-sufficient and less likely to be reliant on trips to local facilities.

### 3.4 Public Transport

## Bus

3.4.1 The closest bus stops to the site are located within walking distance of the site on the A48, approximately 815 m to the north of the site. The bus stops are good quality, benefitting from raised kerbs to assist boarding, bus shelters and timetable information for users.
3.4.2 These stops are served by the X2 Cymru Clipper operated by First Bus Cymru, which provides both eastbound and westbound services.
3.4.3 This service runs 7 days a week and provides regular connections to Porthcawl, Bridgend, Cowbridge, Culverhouse Cross, and Cardiff. It has a twice hourly service Monday to Saturday, and an hourly service on Sunday. A summary of the service has been provided within Table 3-2.

Table 3-2: Local Bus Services

| Route No. | Stop | Operator and Route | Frequency |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Mon-Fri Peaks | Mon-Fri <br> Daytime | Mon-Fri <br> Evening | Sat | Sun |
| X2 | St Nicholas | First Bus - Porthcawl - Bridgend Cowbridge - St Nicholas Culverhouse Cross - Cardiff | Twice Hourly | Twice Hourly | Hourly | Same as <br> Mon-Fri | Hourly |

3.4.4 As such, the bus services are of a good frequency for users of the site, particularly those travelling to Cardiff, for example for leisure and retail purposes.
3.4.5 This offers a realistic travel option for potential future visitors to, and employees of, the site. This will assist in minimising the vehicle trip generation from the site in accordance with the aspirations of Future Wales and PPW11.

Rail
3.4.6 The X2 bus service provides a direct link to and from Cardiff Central Rail Station with the journey taking approximately 25 minutes. Trains stopping at Cardiff Central are run by Transport for Wales and Great Western Railway. There are frequent local and regional services, including to and from Penarth, Barry Island, Swansea, Gloucester, London Paddington.
3.4.7 A combined bus then rail journey therefore offers some potential for visitors to travel from more regional destinations to the site. This has the potential for replacing some car journeys and further reducing the requirement for travelling by car to and from the site.

### 3.5 Summary

3.5.1 The site is situated in a rural location and can be accessed by sustainable modes. It is connected by walking via footways and an appropriate on-carriageway route, cycling via the quiet local roads and dedicated provision along the A48, and there are regular bus services within a short walking distance of the site which provide links to the surrounding area and region.
3.5.2 Visitors can walk (or cycle) to local facilities and services within appropriate distances, which would be attractive for those staying in tourist accommodation. Local journeys to the facilities in Bonvilston and

Culverhouse Cross can potentially be made by walking and/or cycling, reducing the need to travel by car.
3.5.3 In addition, a cycle hire scheme will be made available to staff and visitors to promote cycling to and from the site.
3.5.4 As such, there is a realistic choice of modes of travel for all journey purposes, which will assist in constraining the level of vehicle generation from the site and minimise the impact of the development. In this regard, the site location is consistent with the sustainable transport policies in Future Wales and PPW11.

## 4. DEVELOPMENT PROPOSALS

### 4.1 Overview

4.1.1 The proposals are for holiday accommodation with the scheme consisting of:

- $\quad 14$ no. touring and camping pitches
- 4 no. glamping pods
- 2 no. single unit holiday lodges
- 2 no. one-bed accommodation units
4.1.2 The proposed plan also includes a reception, laundry unit, toilets, and shower facilities. The proposed site layout plan is shown within Appendix B.
4.1.3 The front of house facilities will also sell goods for 'everyday needs' to minimise the need for guests to travel off the site.


### 4.2 Access

4.2.1 The site will be accessed from Duffryn Lane via an upgraded junction broadly at the location of the existing private gated access which currently serves the residential dwelling attached to the site.
4.2.2 The existing access will be upgraded to ensure it is suitable for all vehicle movements likely to access the site, including a towed caravan.
4.2.3 A general arrangement plan of the proposed junction arrangements are shown on Apex Drawing C22002-ATP-DR-TP-01, which can be found at Appendix C. This shows a large priority junction with a 4 m tapered entry radius to north and 4 m radius to the south. The access provides a carriageway width of 7.3 m within the vicinity of the highway, reducing to 3.5 m within the site.
4.2.4 The access layout accommodates two-way movements of large vehicles up to a towed caravan for 30 metres into the site, which provides sufficient space for vehicle movements to pass within the site, without impacting on reversing onto the highway.
4.2.5 An overrun area is proposed on entry, to minimise the footprint of the junction whilst enabling larger vehicles to access the site appropriately, where needed. As such, the access is considered safe and suitable for the likely usage.
4.2.6 In addition, a parking layby is provided near the site reception for vehicles (cars) to pull in and wait (or one caravan), if required. This layby will be reserved for short term parking for this purpose and not for general parking to ensure the efficient and appropriate use of the site.
4.2.7 The layby allows two towed caravans to enter the site and queue without blocking back to the highway, whilst still enabling a further vehicle to manoeuvre around these where they are waiting and continue into the site. It will be extremely rare for two towed caravans to arrive at the same time and as such these queuing arrangements are considered appropriate to accommodate all vehicle movements safely. In addition, due to the arrival and departure times being staggered towed caravans will not pass at the access on entry and exit from the site.
4.2.8 The proposed access arrangements are also suitable for transporting the modular accommodating units such as the lodges, toilet, and shower blocks. As the largest component, the lodges will likely be transported using two large articulated HGVs, as partially assembled units. The access has been designed to accommodate these vehicles.
4.2.9 Visibility from the proposed junction can be obtained to at least $2.4 \mathrm{~m} \times 43 \mathrm{~m}$ to the nearside kerb in both directions. This level of visibility is appropriate for speeds up to 30 mph , in accordance with TAN18 and MfS. This is in excess of the observed $85^{\text {th }}$ percentile wet weather speeds recorded by the traffic surveys at this location (as set out in Section 2). Sufficient forward visibility is provided for vehicles approaching for at least 50 metres in both directions.
4.2.10 To maintain appropriate visibility to the north, the existing hedgerow will be trimmed back behind the splay. The visibility can be provided entirely within the site boundary or the adopted highway and as such is achievable and within the control of the applicant.
4.2.11 The junction visibility is shown in Figure 4-1, with the general arrangement site access plan included at Appendix C.


### 4.3 Site Layout

4.3.1 The site is separated into Zone 1 - Entrance and Arrivals, Zone 2 - Yard and Lodges and Zone 3 Touring and Camping.
4.3.2 Vehicles will gain access to the accommodation plots via an internal access road which links to all zones including the camping field to the north and provides space for vehicles to turn at the end of Zone 3. This can be seen on the proposed site layout found at Appendix B.
4.3.3 The access road within Zones 1 and 2 will be surfaced, with the carriageway width reducing to 3 m within Zone 2 from the initial 6.6 m width in Zone 1 . Within Zone 3, the 3 m width would be retained, although the surfacing would be constructed out of ground protection mats or equivalent permeable surfacing. There is pull in space provided in Zone 3 which enables vehicles to pass and forward visibility is provided between this point and the passing location in Zone 1. Vehicles would informally give-way between these two locations.
4.3.4 The access road would be a shared space suitable for all movements of vehicles, pedestrians, and cyclists. The site will operate a pedestrian friendly 5 mph speed limit which users will be made aware of prior to their visit and reiterated on signage and road markings (where applicable).
4.3.5 A clear area is provided at the end of Zone 3, enabling vehicles to turn appropriately, including a fire tender which would be the largest vehicle turning in this space.
4.3.6 The internal access route is safe and suitable for all users, considering the minimal vehicle movements and low speed environment.

### 4.4 Parking

## Car Parking

4.4.1 There are no specific standards for a tourist accommodation use within the VoGC Parking Standards Supplementary Planning Guidance (SPG) (2019). The most relevant standards relate to hotel use and these have been referred to, where applicable, as a guide.
4.4.2 Parking provision and layout has also been considered in the context of the VoGC Tourism and Leisure Development SPG and low impact tourism criteria. This SPG requires parking to be sensitively integrated into the scheme to ensure the visual impact is kept to a minimum. The proposed layout avoids large car parking areas in favour of individual spaces conveniently located near the accommodation units, in accordance with the guidance.
4.4.3 The following provides a breakdown of the proposed parking:

- The lodges are provided with at least two dedicated parking alongside the units. This is considered to be in accordance with the hotel parking standards for one space per bedroom.
- The one bed converted accommodation units will have two spaces in accordance with the hotel guidance, as these units will contain two separate rooms.
- Glamping pods are provided with four parallel parking bays located along the eastern side of the access road at one space per pod, again this is in accordance with hotel parking standards for one space per bedroom.
- $\quad$ The touring and camping plots (Zone 3) are provided with appropriate space for cars and caravans to park.
- The front of house facility will have three spaces which allows for staff parking and any additional visitor parking, to ensure that no vehicles are parked on the access road.
4.4.4 The parking is therefore considered to be fully in accordance with both SPG documents in relation to car parking.


## Electric Vehicle Charging

4.4.5 Electric vehicle charging will be provided for $10 \%$ of the spaces on the site (equating to 2 electric vehicle charging points). This will encourage travel by low-emission vehicles, which is in accordance with PPW11 which recognises that Ultra Low Emission Vehicles also have an important role to play in the decarbonisation of transport, particularly in rural areas. It is also accordance with the policies in Future Wales which suggest 10\% of car parking spaces should be provided for electric vehicle charging for non-residential use.

## Cycle Parking

4.4.6 The proposals will provide cycle parking for visitors and staff, with one Sheffield stand provided for each of the lodge units and 1 bed accommodation units, as well as one Sheffield stand for staff adjacent to the front of house block. This is considered appropriate for the number of bedrooms and likely guests on the site.
4.4.7 The site will also provide a bike hire scheme which can accommodate up to 10 cycles. This will encourage visitors to cycle to and from the site once they have arrived, particularly for those that are unable to bring cycles with them to the site. This demonstrates the applicant's commitment to encouraging sustainable travel.

### 4.5 Servicing and Refuse Collection

4.5.1 Servicing would mainly relate to refuse collection, which would be undertaken from Duffryn Lane, with vehicles waiting adjacent to the site access and collectors accessing a refuse collection point which is within c. 10 m of Duffryn Lane. These arrangements are in line with Building Regulations (and MfS) and considered safe and appropriate.
4.5.2 A fire tender will be able to access the site and turn appropriately. The proposed turning head located at the end of Zone 3, provides space for these vehicles to turn safely, allowing access and egress in forward gear. This is shown in swept path analysis in Appendix D.

## 5. TRIP GENERATION AND IMPACTS

### 5.1 Introduction

5.1.1 This section sets out the forecast trip generation of the proposed development using the Trip Rate Information Computer System (TRICS). The TRICS database has been analysed for sites with similar characteristics in terms of use, scale, location, accessibility, and surrounding population.
5.1.2 The analysis contains surveys of caravan park site uses, which are considered to generate a similar trip profile to the proposed lodges, caravan and camping pitches on site. There are no surveys specifically related to camping or glamping uses.

### 5.2 Proposed Trip Generation

5.2.1 Trip rates have been estimated on a weekday and a Saturday/Sunday separately. The following selection parameters have been applied:

- $\quad 03$ - Residential / J - Holiday Accommodation
- Vehicle Trip Rate Surveys
- Within England and Wales (Excluding London)
- From 01 January 2000
- $\quad$ Sites in edge of town / neighbourhood centre / free standing locations only
- $\quad$ Surveys of sites of up to between 31 and 300 units (to increase the number of sites available and 25 is the minimum number)
- $\quad$ Surveys of caravan sites only (excluding specific camping and glamping uses as these will have a slightly different profile of trips)
- $\quad$ Sites with less than 125000 people within 5 miles
- $\quad$ Site excluded with populations over 5,000 within 1 mile
- $\quad$ Sites with significant on site facilities (such as a leisure centre) have been removed
- $\quad$ Sites surveyed during the COVID-19 pandemic have been removed
5.2.2 All the TRICS surveys were undertaken between June and July. The trip rates are therefore considered robust as surveys are undertaken during busy periods. For a large proportion of the year, holiday units would generate significantly lower levels of traffic.
5.2.3 Applying the above parameters resulted in three suitable surveys being used for a weekday and one suitable site for the weekend.
5.2.4 The estimated average trip rates and resultant trip generation for a 22 unit development for each hour across a daily period has been set out within Table 5-1 for a weekday and Table 5-2 for a weekend. The trip rates include vehicle trips generated by both staff and visitors. The TRICS Outputs are included in Appendix E.

Table 5-1: Potential Trip Generation - Weekday

| Hourly Start | Trip Rate (per unit) |  |  | Trip generation (22 units) |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Arrive | Depart | Total | Arrive | Depart | Total |
| $07: 00$ | 0.015 | 0.012 | 0.0300 | 0 | 0 | 1 |
| $08: 00$ | 0.031 | 0.022 | 0.0500 | 1 | 1 | 1 |
| $09: 00$ | 0.022 | 0.074 | 0.1000 | 1 | 2 | 2 |
| $10: 00$ | 0.034 | 0.093 | 0.1300 | 1 | 2 | 3 |
| $11: 00$ | 0.059 | 0.108 | 0.1700 | 1 | 2 | 4 |
| $12: 00$ | 0.068 | 0.068 | 0.1400 | 2 | 2 | 3 |
| $13: 00$ | 0.074 | 0.074 | 0.1500 | 2 | 2 | 3 |
| $14: 00$ | 0.071 | 0.059 | 0.1300 | 2 | 1 | 3 |


| Hourly Start | Trip Rate (per unit) |  |  | Trip generation (22 units) |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Arrive | Depart | Total | Arrive | Depart | Total |
| 15:00 | 0.071 | 0.056 | 0.1300 | 2 | 1 | 3 |
| $16: 00$ | 0.062 | 0.037 | 0.1000 | 1 | 1 | 2 |
| $17: 00$ | 0.146 | 0.028 | 0.1700 | 3 | 1 | 4 |
| $18: 00$ | 0.077 | 0.056 | 0.1300 | 2 | 1 | 3 |
| $19: 00$ | 0.087 | 0.048 | 0.1400 | 2 | 1 | 3 |
| $20: 00$ | 0.043 | 0.005 | 0.0500 | 1 | 0 | 1 |
| $21: 00$ | 0 | 0 | 0 | 0 | 0 | 0 |
| $22: 00$ | 0 | 0 | 0 | 0 | 0 | 0 |
| Total | 0.86 | 0.74 | 1.6000 | 19 | 16 | 35 |
| Average |  |  |  | $\mathbf{1}$ | $\mathbf{1}$ | $\mathbf{2}$ |
| * Differences due to rounding |  |  |  |  |  |  |

Table 5-2: Potential Trip Generation - Weekend

| Hourly Start | Trip Rate (per unit) |  |  | Trip generation (22 units) |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Arrive | Depart | Total | Arrive | Depart | Total |
| 07:00 | 0 | 0.009 | 0.0100 | 0 | 0 | 0 |
| 08:00 | 0.017 | 0.026 | 0.0400 | 0 | 1 | 1 |
| 09:00 | 0.026 | 0.096 | 0.1200 | 1 | 2 | 3 |
| 10:00 | 0.052 | 0.104 | 0.1600 | 1 | 2 | 3 |
| 11:00 | 0.104 | 0.174 | 0.2800 | 2 | 4 | 6 |
| 12:00 | 0.261 | 0.174 | 0.4400 | 6 | 4 | 10 |
| 13:00 | 0.165 | 0.139 | 0.3000 | 4 | 3 | 7 |
| 14:00 | 0.2 | 0.139 | 0.3400 | 4 | 3 | 8 |
| 15:00 | 0.148 | 0.078 | 0.2300 | 3 | 2 | 5 |
| 16:00 | 0.139 | 0.148 | 0.2900 | 3 | 3 | 6 |
| 17:00 | 0.096 | 0.139 | 0.2400 | 2 | 3 | 5 |
| 18:00 | 0.13 | 0.07 | 0.2000 | 3 | 2 | 4 |
| 19:00 | 0 | 0 | 0 | 0 | 0 | 0 |
| 20:00 | 0 | 0 | 0 | 0 | 0 | 0 |
| 21:00 | 0 | 0 | 0 | 0 | 0 | 0 |
| 22:00 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total | 1.338 | 1.296 | 2.6300 | 29 | 29 | 58 |
| Average |  |  |  | 2 | 2 | 5 |
| * Differences d | nding |  |  |  |  |  |

5.2.5 The trip generation analysis demonstrates that the proposals are forecast to generate one vehicle movement on the network in the weekday AM Peak hour (0800-0900) and four vehicle movements in the weekday PM Peak Hour (1700-1800).
5.2.6 During the weekend it is forecast that the site could generate an average of 5 vehicle movements across a 12 hour day ( $7 \mathrm{am}-7 \mathrm{pm}$ ) with a maximum of 10 vehicle movements between 1200-1300. However, these trips will occur outside of the wider network weekday peak hours.
5.2.7 On a daily basis it is forecast that the proposals could generate between 35 vehicle movements on a weekday and 58 vehicle movements on a weekend day.

### 5.3 Potential Impacts

5.3.1 During the network weekday peak hours, the site will generate between one and four vehicle movements, which equates to a maximum of 1 vehicle every 15 minutes, on average. Outside of the network peak hours, during the busier weekend period, it is predicted to generate a maximum of 10 vehicle movements in an hour which would equate to approximately 1 vehicle every 6 minutes, on average. This level of movements would have a negligible impact on the capacity of the local highway network and on the operation of local junctions.
5.3.2 As set out in Section 3, Duffryn Lane has low background traffic levels, with a maximum of 34 two-way movements recorded during the worst case wider network peak hour and a maximum of 605 daily movements. With the addition of the proposed development trips, the two-way traffic flow would remain low and within the MfS, DfT (Quiet Lane guidance) and Active Travel Act guidance thresholds for which routes are considered suitable for shared use by walkers, cyclists, and vehicles. The development would not materially change the conditions on the network in this regard. As such, Duffryn Lane would remain suitable for pedestrian and cycle journeys to and from the site.
5.3.3 The forecast vehicle movements would not have a material impact on the operation of the highway network or an unacceptable impact on road safety.

## 6. PROPOSED SITE MANAGEMENT STRATEGY

### 6.1 Overview

6.1.1 Although the proposals would not have a material impact on the operation of the highway network, measures will be adopted to assist with the management of vehicle movements to and from the highway network.
6.1.2 Through these measures, the applicant would aim to achieve the following:

- Encourage sustainable travel
- Reduce vehicle use from the development, were possible
- Minimise the impact of the development on highway safety, walking and cycling


### 6.2 Vehicle Signage

6.2.1 Signage will be provided at the site access and within the site to inform drivers of the 5 mph speed limit.

### 6.3 Arrival and Departure Profile

6.3.1 Arrivals and departures from the site for those beginning and ending their residency will be controlled and separated to an extent as check-in is likely to occur after 2 pm and check out by 11 am (with some slight variations, dependent on operational requirements). As such vehicles exiting the site would be unlikely to conflict with those arriving at the site during the peak arrival and departure times which would occur during check in and out.
6.3.2 Due to the way in which the site would operate, it is unlikely that vehicles on the site would all leave during the same hour as tenancies would begin and end on different days and departures are likely to be staggered over a number of hours. The same would apply to those arriving at the site.
6.3.3 On this basis, the separation of check-out and check-in times would provide an element of traffic management by reducing the potential for vehicle conflicts and vehicle platooning, therefore minimising the potential for blocking back to the highway.
6.3.4 The site access has also been designed to accommodate two-way movements to avoid vehicles reversing onto the highway.

### 6.4 Visitor Information Pack

6.4.1 Visitors to the site will be advised of local facilities and of safe and suitable walking and cycling routes to these within a visitor information pack which will be within each individual unit. These packs will be kept up to date by site management. These packs will also include details of the cycle hire scheme and public transport timetables.

### 6.5 Website

6.5.1 The site will provide a website which will have a dedicated travel section. This will show the public transport options and links to the bus timetables / operators to access the site. In addition, walking and cycling routes will be provided on the website. This will enable visitors to be fully informed of all travel options when travelling to the site (and when staying on the site) and assist in reducing car use, wherever possible.

### 6.6 Booking Confirmation

6.6.1 Upon making a booking at the site, an email address will be taken for the booking and a confirmation email sent to the visitor. This confirmation will fully explain the arrival and departures protocols, whereby arriving visitors are only permitted onto the after 2 pm and must vacate the site before 11am on their departure date.
6.6.2 The confirmation will also provide brief details of public transport options.
6.6.3 Where visitors do not have an email address, a leaflet will be sent out with the booking confirmation through the post which provides the same details.

### 6.7 Staff

6.7.1 Staff will be encouraged, where feasible, to walk, cycle or travel by public transport to and from the site. In addition, management will look to facilitate car sharing arrangements on an informal basis, where possible to reduce the level of vehicle use by staff, albeit there is likely to be a low number of employees on the site at one time.

### 6.8 Check-In Process

6.8.1 Upon check-in to the site visitors will be informed of the departure protocol, whereby they must vacate the site before 11am. They will also be informed of the walking and cycling opportunities within the vicinity of the site, the local bus stop locations and cycle hire scheme.

TRANSPORT PLANNING

## 7. SUMMARY AND CONCLUSIONS

### 7.1 Summary

7.1.1 This Transport Statement (TS) accompanies an application for a proposed development of tourist holiday accommodation, on land to the east of Duffryn Lane in St. Nicholas, Vale of Glamorgan.
7.1.2 The proposals will consist of 14 touring and camping pitches, four glamping pods, two lodges, and 2 no. one-bed accommodation units. The proposed plan also includes a laundry unit, toilets, and shower facilities.
7.1.3 This TS has considered the impacts of the proposals in relation to transport, including the site connectivity, parking provision and access arrangements, road safety and vehicle trip generation. It has been produced to inform the Vale of Glamorgan Council (VoGC) of any highways and transport implications related to the proposals and demonstrates that the site location is suitable for the proposed use and can be safely and appropriately accessed from Duffryn Lane.
7.1.4 The site will be accessed from Duffryn Lane via an upgraded junction broadly at the location of the existing private gated access which currently serves the residential dwelling attached to the site.
7.1.5 The proposed access provides appropriate geometry to accommodate all vehicle movements safely and suitably, including emergency vehicles. The access has been designed in accordance with TAN18 and MfS guidance for the observed speeds. Furthermore, the design ensures two-way movements can be accommodated appropriately and minimise the potential for vehicles blocking back to Duffryn Lane.
7.1.6 Parking is provided at an appropriate level for the proposed use which reflects the site's rural location and the Parking Standards SPG and is considered acceptable within the context of the VoGC Tourism and Leisure Development SPG and low impact tourism criteria.
7.1.7 The internal site layout minimises vehicle speeds and allows vehicles to manoeuvre safely and appropriately. It provides a suitable shared space arrangement for all users.
7.1.8 Obtained road safety data does not indicate an existing safety issue which would be exacerbated by the proposals. There is no evidence of a road safety issue within the vicinity of the proposed site access or along Duffryn Lane, including in relation to pedestrian and cyclist movements.
7.1.9 Pedestrian and cyclist access to the site will be on-carriageway via Duffryn Lane, connecting to footways on Duffryn Lane to the north. Duffryn Lane already operates as a shared route with no evidence of a road safety issue, the recorded speeds and flows are low, carriageway widths provide sufficient space for passing vehicles, step off areas are provided, and forward visibility is acceptable for the observed speeds. Duffryn Lane is therefore considered suitable for shared use by pedestrians, cyclists, and vehicles in accordance with Welsh Government, Manual for Streets and DfT guidance on shared use streets.
7.1.10 The site is therefore situated in a location which offers the potential for access by walking, cycling and public transport. Visitors can walk or cycle to key facilities and services within appropriate distances, which would help to reduce the need to travel by car. However, users are also likely to be selfsufficient during their stay and would not require the same level of amenities as, for example, a 'typical' residential use.
7.1.11 On a weekday, the site is forecast to generate between one and four vehicle movements per hour, which equates to a maximum of approximately one vehicle every 15 minutes, on average. Movements
are forecast to be slightly higher at the weekend, with a maximum of 10 vehicle movements in the busiest hour. This would equate to approximately 1 vehicle every 6 minutes, on average. This level of movements would not have a material impact on the capacity of the local highway network and on the operation of local junctions.
7.1.12 Duffryn Lane has low background traffic levels, with a maximum of 34 two-way movements recorded during the worst case hour and a maximum of 605 daily movements. With the addition of the proposed development trips, the two-way traffic flow would remain low and within the MfS, DfT (Quiet Lane guidance) and Active Travel Act guidance thresholds for which routes are considered suitable for shared use by walkers, cyclists, and vehicles. The development would not materially change the conditions on the network in this regard. As such, Duffryn Lane would remain suitable for pedestrian and cycle journeys to and from the site.
7.1.13 Measures to manage movements to and from the site will be adopted to minimise the impact on the highway. This will encourage visitors and staff to travel sustainably by raising awareness of local routes and the nearby bus stops on the A48, in addition to promoting the use of an on-site cycle hire scheme.

### 7.2 Conclusions

7.2.1 The site location offers users a realistic choice of sustainable travel options, considering the type of use and its rural location. The proposals will also encourage staff car sharing and promote the use of a bike hire scheme for visitors. As such it is in line with transport policies in Future Wales and PPW11, TAN18 and the VoGC Local Development Plan.
7.2.2 The site can be accessed from Duffryn Lane via a safe and suitable junction arrangement and space is provided within the site to accommodate vehicles appropriately, including emergency vehicles.
7.2.3 The development will not have a material impact on the operation of the surrounding highway network or an unacceptable impact on highway safety, in accordance with TAN18.
7.2.4 It is therefore considered that the information provided within this TS will enable the highway authority to provide a positive response to the application.

## Appendix A Traffic Surveys

| SS608 Duffryn Lane <br> JANUARY 2022 |  |  |  |  |  | Posted <br> Speed <br> Limit <br> (PSL) | Total Vehicles | 5 Day Ave. | 7 Day Ave. | Posted Speed Limit (PSL) |  | $\begin{gathered} 110 \%(\text { PSL })+2 \\ (\text { SL1) } \end{gathered}$ |  | $\begin{gathered} \text { DfT PSL+15 } \\ \text { (SL2) } \end{gathered}$ |  | Mean Speed | $85 \%$ ile <br> Speed |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Site | Location | Lat / Long | Direction | Start Date | End Date |  |  |  |  | >PSL | >PSL\% | >SL1 | >SL1\% | >SL2 | >SL2\% |  |  |
| 1 | Duffryn Lane | $\begin{gathered} 51.45459, \text { - } \\ 3.306064 \end{gathered}$ | Northbound | 13 January 2022 | $\begin{aligned} & 19 \text { January } \\ & 2022 \end{aligned}$ | 60 | 1875 | 256 | 268 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 23.8 | 28.1 |
|  |  |  | Southbound | 13 January 2022 | 19 January 2022 |  | 1875 | 258 | 268 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 26.7 | 30.5 |
|  |  |  | Two-Way | 13 January 2022 | $\begin{aligned} & 19 \text { January } \\ & 2022 \end{aligned}$ |  | 3750 | 514 | 536 | 0 | 0 | 0 | 0 | 0 | 0 | 25 | 30 |


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| SS608 Duffryn Lane <br> JANUARY 2022 |  |  |  |  |  | Posted <br> Speed <br> Limit <br> (PSL) | Total <br> Vehicles | 5 Day Ave. | 7 Day Ave. | Posted Speed Limit (PSL) |  | $\begin{gathered} 110 \%(\text { PSL) }+2 \\ \text { (SL1) } \end{gathered}$ |  | $\begin{gathered} \text { DfT PSL+15 } \\ \text { (SL2) } \end{gathered}$ |  | Mean <br> Speed | $85 \%$ ile <br> Speed |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Site | Location | Lat / Long | Direction | Start Date | End Date |  |  |  |  | >PSL | >PSL\% | >SL1 | >SL1\% | >SL2 | >SL2\% |  |  |
| 2 | Duffryn Lane | $\begin{gathered} 51.453788,- \\ 3.304927 \end{gathered}$ | Northbound | 13 January 2022 | $\begin{aligned} & 19 \text { January } \\ & 2022 \end{aligned}$ | 60 | 1668 | 227 | 238 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 24.2 | 29.2 |
|  |  |  | Southbound | 13 January 2022 | $19 \text { January }$ $2022$ |  | 1777 | 242 | 254 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 30.3 | 35.6 |
|  |  |  | Two-Way | $\begin{aligned} & 13 \text { January } \\ & 2022 \end{aligned}$ | $\begin{aligned} & 19 \text { January } \\ & 2022 \end{aligned}$ |  | 3445 | 469 | 492 | 0 | 0 | 0 | 0 | 0 | 0 | 27 | 33 |


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| SS608 Duffryn Lane |  |  |  |  |  | Site 2 <br> Direction Two-Way |  | Location | Duffryn Lane (51.453788, -3.304927) |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 13 January | 2022 | to | 19 January | 2022 |  |  |  |  |  |  |  |  |  |  |
| TIME PERIOD | TOTAL VEHICLES | MOTORCYCLES | $\begin{gathered} \text { CARS OR } \\ \text { CAR- } \\ \text { BASED } \\ \text { LGV } \\ \hline \end{gathered}$ | LIGHT GOODS VEHICLES | BUSES | Two AXLE, SIX TYRE, RIGID | THREE <br> AXLE <br> RIGID | FOUR OR MORE AXLE RIGID | $\begin{gathered} \text { FOUR OR } \\ \text { LESS } \\ \text { AXLE } \\ \text { ARTIC } \\ \hline \end{gathered}$ | FIVE <br> AXLE <br> ARTIC | SIX OR <br> MORE <br> AXLE <br> ARTIC | FIVE OR <br> LESS <br> AXLE <br> MULTI- <br> TRAILER <br> ARTIC | SIX AXLE <br> MULTI- <br> TRAILER <br> ARTIC | SEVEN OR MORE AXLE ARTIC |
| 14 January 2022 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 0000 | 2 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0200 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0300 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0400 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0500 | 2 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0600 | 3 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0700 | 18 | 0 | 13 | 3 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0800 | 21 | 0 | 10 | 11 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0900 | 25 | 0 | 20 | 4 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1000 | 31 | 0 | 23 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1100 | 66 | 1 | 55 | 9 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1200 | 59 | 2 | 51 | 4 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1300 | 61 | 0 | 52 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1400 | 70 | 3 | 58 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1500 | 77 | 0 | 69 | 7 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1600 | 51 | 2 | 46 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1700 | 11 | 0 | 9 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1800 | 5 | 0 | 2 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1900 | 6 | 0 | 5 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2000 | 6 | 0 | 5 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2100 | 5 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2200 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2300 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 07-19 | 495 | 8 | 408 | 72 | 0 | 5 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 06-22 | 515 | 8 | 425 | 75 | 0 | 5 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 06-00 | 516 | 8 | 426 | 75 | 0 | 5 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 00-00 | 520 | 8 | 429 | 76 | 0 | 5 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |


| SS608 Duffryn Lane |  |  |  |  |  | Site $\mathbf{2}$ <br> Direction $\mathbf{T}$ |  | Location | Duffryn Lane (51.453788, -3.304927) |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 13 January | 2022 | to | 19 January 2022 |  |  |  |  |  |  |  |  |  |  |
| TIME PERIOD | TOTAL VEHICLES | MOTORCYCLES | CARS OR CARBASED LGV | $\begin{gathered} \text { LIGHT } \\ \text { GOODS } \\ \text { VEHICLES } \\ \hline \end{gathered}$ | BUSES | TWO AXLE, SIX TYRE, RIGID | THREE <br> AXLE RIGID |  | FOUR OR <br> MORE <br> AXLE <br> RIGID | FOUR OR <br> LESS <br> AXLE <br> ARTIC |  | SIX OR <br> MORE <br> AXLE <br> ARTIC | FIVE OR <br> LESS <br> AXLE <br> MULTI- <br> TRAILER <br> ARTIC | SIX AXLE <br> MULTI- <br> TRAILER <br> ARTIC | SEVEN OR MORE AXLE ARTIC |
| 15 January 2022 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 0000 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0100 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0200 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0300 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0400 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0500 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0600 | 2 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0700 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0800 | 8 | 0 | 7 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0900 | 28 | 3 | 20 | 4 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1000 | 35 | 2 | 30 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1100 | 63 | 2 | 56 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1200 | 71 | 4 | 57 | 8 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 1300 | 71 | 0 | 67 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1400 | 86 | 1 | 77 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1500 | 74 | 1 | 69 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1600 | 63 | 1 | 59 | 2 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 1700 | 8 | 0 | 6 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 1800 | 6 | 0 | 5 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1900 | 3 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2000 | 4 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2100 | 3 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2200 | 3 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2300 | 2 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 07-19 | 514 | 14 | 454 | 41 | 0 | 1 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 1 |
| 06-22 | 526 | 14 | 465 | 42 | 0 | 1 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 1 |
| 06-00 | 531 | 14 | 470 | 42 | 0 | 1 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 1 |
| 00-00 | 533 | 14 | 472 | 42 | 0 | 1 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 1 |







## Appendix B Proposed Site Layout



## Appendix C Proposed Site Access and Visibility Splay Plan



## Appendix D Swept Path Analysis




## Appendix E TRICS Report

## TRIP RATE CALCULATI ON SELECTI ON PARAMETERS:

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

Selected regions and areas:
03 SOUTH WEST
DC DORSET 1 days
06 WEST MI DLANDS
WM WEST MIDLANDS
1 days
10 WALES
PS POWYS
1 days

This section displays the number of survey days per TRICS $\circledR^{\circledR}$ sub-region in the selected set

## Primary Filtering 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: | 86 to 122 (units: ) |
| Range Selected by User: | 31 to 300 (units:) |
|  |  |
| Parking Spaces Range: | All Surveys Included |

Public Transport Provision:
Selection by: Include all surveys
Date Range: $\quad 01 / 01 / 00$ to $17 / 08 / 21$
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:

| Monday | 1 days |
| :--- | :--- |
| Friday | 2 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.

## Selected Locations:

Free Standing (PPS6 Out of Town) 3
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:
Out of Town

## 3

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.

## Secondary Filtering selection:

Use Class:
$\mathrm{n} / \mathrm{a} \quad 3$ 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 ${ }^{\circledR}$.

Population within 500 m Range:
All Surveys Included
Population within 1 mile:
1,000 or Less 1 days
1,001 to $5,000 \quad 2$ days
This data displays the number of selected surveys within stated 1-mile radii of population.
Population within 5 miles:

| 5,001 to 25,000 | 2 days |
| :--- | :--- |
| 25,001 to 50,000 | 1 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 | 1 days |
| 1.6 to 2.0 | 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 | 1 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.

PTAL Rating:
No PTAL Present 3 days
This data displays the number of selected surveys with PTAL Ratings.

LIST OF SITES relevant to selection parameters

1 DC-03-J-05

CAMPI NG/ CARAVAN
DORSET

STATION ROAD

MORETON
Free Standing (PPS6 Out of Town)
Out of Town
Total Number of units:
122
Survey date: FRIDAY 11/07/08
2 PS-03-J-01
CAMPI NG/ CARAVAN
Survey Type: MANUAL
HAY ROAD
NEAR BRECON
Free Standing (PPS6 Out of Town)
Out of Town
Total Number of units:
Survey date: FRIDAY
115
CARAVAN PARK
MILL LANE
NEAR COVENTRY
ASTON CANTLOW
Free Standing (PPS6 Out of Town)
Out of Town
Total Number of units:
86
Survey date: MONDAY 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
TOTAL VEHI CLES
Calculation factor: 1 UNITS
BOLD print indicates peak (busiest) period

|  | ARRIVALS |  |  | DEPARTURES |  |  | TOTALS |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Time Range | No. Days | Ave. UNITS | Trip Rate | No. Days | Ave. UNITS | Trip Rate | No. Days | Ave. UNITS | Trip 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 | 108 | 0.015 | 3 | 108 | 0.012 | 3 | 108 | 0.027 |
| 08:00-09:00 | 3 | 108 | 0.031 | 3 | 108 | 0.022 | 3 | 108 | 0.053 |
| 09:00-10:00 | 3 | 108 | 0.022 | 3 | 108 | 0.074 | 3 | 108 | 0.096 |
| 10:00-11:00 | 3 | 108 | 0.034 | 3 | 108 | 0.093 | 3 | 108 | 0.127 |
| 11:00-12:00 | 3 | 108 | 0.059 | 3 | 108 | 0.108 | 3 | 108 | 0.167 |
| 12:00-13:00 | 3 | 108 | 0.068 | 3 | 108 | 0.068 | 3 | 108 | 0.136 |
| 13:00-14:00 | 3 | 108 | 0.074 | 3 | 108 | 0.074 | 3 | 108 | 0.148 |
| 14:00-15:00 | 3 | 108 | 0.071 | 3 | 108 | 0.059 | 3 | 108 | 0.130 |
| 15:00-16:00 | 3 | 108 | 0.071 | 3 | 108 | 0.056 | 3 | 108 | 0.127 |
| 16:00-17:00 | 3 | 108 | 0.062 | 3 | 108 | 0.037 | 3 | 108 | 0.099 |
| 17:00-18:00 | 3 | 108 | 0.146 | 3 | 108 | 0.028 | 3 | 108 | 0.174 |
| 18:00-19:00 | 3 | 108 | 0.077 | 3 | 108 | 0.056 | 3 | 108 | 0.133 |
| 19:00-20:00 | 2 | 104 | 0.087 | 2 | 104 | 0.048 | 2 | 104 | 0.135 |
| 20:00-21:00 | 2 | 104 | 0.043 | 2 | 104 | 0.005 | 2 | 104 | 0.048 |
| 21:00-22:00 | 1 | 122 | 0.000 | 1 | 122 | 0.000 | 1 | 122 | 0.000 |
| 22:00-23:00 |  |  |  |  |  |  |  |  |  |
| 23:00-24:00 |  |  |  |  |  |  |  |  |  |
| Total Rates: |  |  | 0.860 |  |  | 0.740 |  |  | 1.600 |

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.

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## Parameter summary

Trip rate parameter range selected:
Survey date date range:
Number of weekdays (Monday-Friday):
Number of Saturdays:
Number of Sundays:
Surveys automatically removed from selection:
Surveys manually removed from selection:

86-122 (units: )
01/01/00-17/08/21
3
0
0
0

This section displays a quick summary of some of the data filtering selections made by the TRICS ${ }^{\circledR}$ user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are show. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.


## TRIP RATE CALCULATI ON SELECTI ON PARAMETERS:

Land Use : 03-RESIDENTIAL
Category : J-HOLIDAY ACCOMMODATION
TOTAL VEHICLES
Selected regions and areas:

## 10 WALES

PS POWYS 1 days
This section displays the number of survey days per TRICS® sub-region in the selected set

## Primary Filtering 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: | 115 to 115 (units:) |
| Range Selected by User: | 31 to 300 (units:) |

Parking Spaces Range: All Surveys Included
Public Transport Provision:
Selection by: Include all surveys
Date Range: $\quad 01 / 01 / 00$ to $17 / 08 / 21$
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:
Saturday
1 days

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

```
Selected survey types:
Manual count 1 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.

## Selected Locations:

Free Standing (PPS6 Out of Town)
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: Out of Town

1

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.

## Secondary Filtering selection:

## Use Class:

$\mathrm{n} / \mathrm{a} \quad 1$ 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 $®$.

Population within 500 m Range:
All Surveys Included

## Secondary Filtering selection (Cont.):

Population within 1 mile:
1,001 to $5,000 \quad 1$ days
This data displays the number of selected surveys within stated 1-mile radii of population.
Population within 5 miles:
5,001 to $25,000 \quad 1$ days
This data displays the number of selected surveys within stated 5 -mile radii of population.
Car ownership within 5 miles:
0.6 to $1.0 \quad 1$ 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 1 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.

PTAL Rating:
No PTAL Present 1 days
This data displays the number of selected surveys with PTAL Ratings.

## LIST OF SITES relevant to selection parameters

## 1 PS-03-J-01 <br> CAMPI NG/ CARAVAN <br> POWYS <br> HAY ROAD <br> NEAR BRECON <br> Free Standing (PPS6 Out of Town) <br> Out of Town <br> Total Number of units: <br> 115 <br> 20/07/02 <br> Survey Type: MANUAL <br> 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
TOTAL VEHI CLES

## Calculation factor: 1 UNITS

BOLD print indicates peak (busiest) period

| Time Range | ARRIVALS |  |  | DEPARTURES |  |  | TOTALS |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | No. Days | Ave. UNITS | Trip Rate | No. Days | Ave. UNITS | Trip Rate | No. Days | Ave. UNITS | Trip 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 | 1 | 115 | 0.000 | 1 | 115 | 0.009 | 1 | 115 | 0.009 |
| 08:00-09:00 | 1 | 115 | 0.017 | 1 | 115 | 0.026 | 1 | 115 | 0.043 |
| 09:00-10:00 | 1 | 115 | 0.026 | 1 | 115 | 0.096 | 1 | 115 | 0.122 |
| 10:00-11:00 | 1 | 115 | 0.052 | 1 | 115 | 0.104 | 1 | 115 | 0.156 |
| 11:00-12:00 | 1 | 115 | 0.104 | 1 | 115 | 0.174 | 1 | 115 | 0.278 |
| 12:00-13:00 | 1 | 115 | 0.261 | 1 | 115 | 0.174 | 1 | 115 | 0.435 |
| 13:00-14:00 | 1 | 115 | 0.165 | 1 | 115 | 0.139 | 1 | 115 | 0.304 |
| 14:00-15:00 | 1 | 115 | 0.200 | 1 | 115 | 0.139 | 1 | 115 | 0.339 |
| 15:00-16:00 | 1 | 115 | 0.148 | 1 | 115 | 0.078 | 1 | 115 | 0.226 |
| 16:00-17:00 | 1 | 115 | 0.139 | 1 | 115 | 0.148 | 1 | 115 | 0.287 |
| 17:00-18:00 | 1 | 115 | 0.096 | 1 | 115 | 0.139 | 1 | 115 | 0.235 |
| 18:00-19:00 | 1 | 115 | 0.130 | 1 | 115 | 0.070 | 1 | 115 | 0.200 |
| 19:00-20:00 |  |  |  |  |  |  |  |  |  |
| 20:00-21:00 |  |  |  |  |  |  |  |  |  |
| 21:00-22:00 |  |  |  |  |  |  |  |  |  |
| 22:00-23:00 |  |  |  |  |  |  |  |  |  |
| 23:00-24:00 |  |  |  |  |  |  |  |  |  |
| Total Rates: |  |  | 1.338 |  |  | 1.296 |  |  | 2.634 |

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.

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## Parameter summary

Trip rate parameter range selected:
Survey date date range:
Number of weekdays (Monday-Friday):
Number of Saturdays:
Number of Sundays:
Surveys automatically removed from selection:
Surveys manually removed from selection:

```
115-115 (units:)
01/01/00-17/08/21
O
1
0
0
0
```

This section displays a quick summary of some of the data filtering selections made by the TRICS ${ }^{\circledR}$ user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are show. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

