Land at Hayeswood Road, Barry

Transport Statement

Client: Vale of Glamorgan Council

Project Number: 60728993

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Quality information

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1. Introduction

1.1 Introduction

1.1.1 AECOM has been commissioned by the Vale of Glamorgan Council (VOGC) to provide development transport planning advice regarding the proposed development of land to the south of Hayeswood Road, Barry.

1.1.2 This Transport Statement (TS) has been prepared to inform VOGC's site selection process, as well as providing the basis for a future submission to VOGC, in its role as Local Highway Authority (LHA) as part of a potential future planning application.

1.2 Development Proposals

1.2.1 At this stage, the exact quantum of development is not known as the future quantum of development has not been decided. However, for the purpose of this assessment, development proposals include the provision of 9 one-bedroom flats together with 28 two-bedroom houses, 15 three-bedroom houses and 2 four-bedroom houses which have been set out within an indicative masterplan. It is envisaged that all 54 units would be designated as affordable housing, managed by VOGC.

1.2.2 The site is located within Barry, a seaside town in South Wales. The development consists of a 2ha parcel of land, bounded to the west by Hayes Lane, to the northwest by Hayeswood Road, and to the southeast by a forested area. Access to the site will be provided via a new 5.5m wide priority 'T' junction off Hayeswood Road.

1.3 Document Structure

1.3.1 This TS examines the existing transport and highway issues relating to the proposed development. It considers the expected travel demand and also investigates methods of limiting car-based travel to produce a sustainable development in line with national and local planning guidance.

1.3.2 The TS is structured as follows:

- **Chapter 2** – Planning Policy Review: Considers the development in the context of relevant national and local planning and transport policies;
- **Chapter 3** – Existing Situation and Site Accessibility: Examines the local transport conditions in the vicinity of the site and the accessibility of the site to non-car modes of travel;
- **Chapter 4** – Development Proposals: Provides a detailed description of the development proposals, including the proposed means of access and parking provision;
- **Chapter 5** – Trip Generation and Assessment of Impact: Sets out the forecast trip generation and impact the Proposed Development is forecast to have on the local network;
- **Chapter 6** – Transport Implementation Strategy;
- **Chapter 7** – Summary and Conclusions: Summarises the key findings and conclusions of the TA.

2. Planning Policy Review

2.1 Introduction

2.1.1 This section of the TS provides a review of existing planning and transport policies at a national and local level considered relevant to the Proposed Development.

2.2 National Policy

Planning Policy Wales

2.2.1 Edition 12 of PPW was published in February 2024 and sets out the land use planning policies of the Welsh Government (WG). It is supported by a number of Technical Advice Notes (TANs), which provide detailed planning advice on subjects contained within PPW. *TAN 18: Transport* is considered of particular relevance to the Proposed Development and is included in this policy review. An overarching theme within PPW is the commitment of the Welsh Government (WG) to sustainability.

2.2.2 Planning policy in Wales is plan-led, with up-to-date Local Development Plans (LDPs) forming a fundamental part of the system. PPW states that planning applications *"must be determined in accordance with the adopted plan unless material considerations indicate otherwise."*

2.2.3 PPW outlines the vision for development of a more effective and efficient transport system, the promotion of more sustainable and healthy forms of travel, as well as minimising the need to travel. PPW indicates that this will be achieved through integration:

- *"Within and between different types of transport;*
- *Between transport measures and land use planning;*
- *Between transport measures and policies to protect and improve the environment; and*
- *Between transport measures and policies for education, health, social inclusion and wealth creation."*

2.2.4 The PPW outlines a support for a transport hierarchy in relation to the accessibility of new development that prioritises walking and cycling in the first instance, followed by public transport, ultra-low emissions vehicles and finally other private motor vehicles.

2.2.5 Paragraph 4.1.11 states:

> *"Development proposals must seek to maximise accessibility by walking, cycling and public transport, by prioritising the provision of appropriate on-site infrastructure and, where necessary, mitigating transport impacts through the provision of off-site measures, such as the development of active travel routes, bus priority infrastructure and financial support for public transport services."*

2.2.6 Paragraph 4.1.41 relates to the provision of facilities for EVs:

> *"To encourage the use of Ultra Low Emission Vehicles (ULEVs), the planning system should encourage and support the provision of ULEV charging points as part of new development."*

2.2.7 Paragraph 4.1.50 states that car parking provision has a major influence on both mode choice and development patterns.

2.2.8 Paragraphs 4.1.56 to 4.1.57 identify the requirements for development proposals to be accompanied by an appropriate level of transport assessment. It directs professionals to the TAN 18 for guidance on the preparation and content of assessments.

Future Wales: The National Plan 2040

2.2.1 Future Wales is the National Development Plan for Wales. It influences all levels of the planning system in Wales and helps to shape Strategic and Local Development Plans prepared by councils and national park authorities. Future Wales sets out 11 outcomes to support its vision, with these outcomes based on the national planning principles and national sustainable placemaking outcomes set out in Planning Policy Wales.

2.2.2 In order to support the 11 outcomes, Future Wales has developed a spatial strategy, which acts as a guiding framework for where large-scale change and nationally important developments will be focused over the next 20 years.

2.2.3 Policy 12 '*Regional Connectivity'* sets out how the Welsh Government will support and invest in improving regional connectivity, through improving and integrating active travel and public transport. Policy 12 sets out a commitment for the Welsh Government to work with Transport for Wales, local authorities, operators and partners to improve regional connectivity through enhanced active travel, improved bus service and delivery, development of the South East, South West and North Wales Metro, and through supporting the roll out of Ultra-Low Emission Vehicles, particularly in rural areas where options for alternative travel are limited.

Technical Advice Note 18: Transport

2.2.4 TAN 18 was published in March 2007. It describes how to integrate land use and transport planning and explains how transport impacts should be assessed and mitigated. It supports, and should be read in conjunction with, PPW.

2.2.5 The integration of land use and transport planning forms part of an overall sustainable development approach by the WG towards strategy and policy objectives. This is predominantly through maximising the accessibility of developments by sustainable modes of transport. This also includes reducing the need to travel and encouraging multi-purpose trips. Accessibility is defined in TAN 18 as *"the relative ability to take up services, markets or facilities."*

2.2.6 Paragraph 4.6 states that parking standards for new developments should be determined on an evidence basis which includes accessibility to other modes of transport.

2.2.7 Section 5 requires all new development to be designed in a way that is inclusive for all. The design of the development also plays an important role in providing genuine alternatives to car travel.

2.2.8 Section 6 highlights the ability for walking and cycling to replace shorter car journeys, as well as the ways in which developments can encourage this. This includes the creation and protection of safe and legible pedestrian and cycle routes along key desire lines, and provision of cycle parking and facilities.

2.2.9 Section 7 considers the role that public transport can play in offering an alternative to car travel, giving emphasis to the provision of new services and facilities, as well as facilitating interchange, as methods of encouraging uptake.

2.2.10 Paragraph 9.2 states that "developers should be required by local authorities to submit transport assessments to accompany planning applications for developments that are likely to result in significant trip generation." This TS will demonstrate that the development proposals are suitable in terms of travel demand and impact.

2.2.11 TAN 18 requires a Transport Implementation Strategy to be included within a TA/TS. This should seek to:

- *"Identify what policy objectives and requirements are set by the development plan in terms of access to the development and movements in and around the site;*
- *Identify what access arrangements are required for a successful development (meeting the needs of the developer, end user, addressing impacts on neighbours and existing movements surrounding the site); and*

- *Specify the package of physical, management and promotional measures needed to accommodate the requirements identified above, such as physical infrastructure, the design and location of buildings, parking management, financial incentives and dedicated travel plan co-ordinators."*

2.2.12 The TIS is set out in **Section 6**.

The Wales Transport Strategy 2021

2.2.13 The *Wales Transport Strategy 2021* (WTS) was published in March 2021 and provides a long-term vision for transport over the next 20 years. The vision of the WTS is *"an accessible, sustainable and efficient transport system."* In order to deliver its vision, the WTS sets out three priorities:

- Priority 1 – Bring services to people in order to reduce the need to travel;
- Priority 2 – Allow people and goods to move easily from door to door by accessible, sustainable transport; and
- Priority 3 – Encourage people to make the change to more sustainable transport.

National Transport Finance Plan

2.2.14 The *National Transport Finance Plan* (NTFP) provides the timescales for financing and delivery of schemes in Wales. The NTFP is not a policy document and nor does it prioritise schemes to be taken forward. It was published in 2015 and an update was since published in 2018.

Active Travel (Wales) Act 2013

2.2.15 The *Active Travel (Wales) Act* became law in Wales in November 2013. The Act makes it a legal requirement for local authorities in Wales to map and plan for suitable routes for active travel, and to build and improve their infrastructure for walking and cycling every year. It also requires both the WG and local authorities to promote walking and cycling as a mode of transport.

2.2.16 This document sets out a suggested appropriate minimum cycle parking provision for residential developments with the following standards:

- Long stay: 1 space per bedroom.
- Short stay: No requirement
- Parking for adapted cycles for disabled people:
  - Short stay: 1 space minimum. 10% (up to 50 spaces), 5% of total capacity (over 50 spaces) co-located with disabled car parking;
  - Long stay: 1 space minimum. 10% (up to 50 spaces), 5% of total capacity (over 50 spaces) co-located with disabled car parking.

2.2.17 The Act is accompanied by a statutory design guidance document, published in December 2014, which provides advice on the planning, design, construction and maintenance of active travel networks and infrastructure, and is to be used at all stages of the process. Reference has been made to this guidance in the planning and design of the Proposed Development.

Wellbeing of Future Generations (Wales) Act 2015

2.2.18 The *Wellbeing of Future Generations (Wales) Act 2015* has resulted in the WG outlining seven goals in a 'wellbeing statement' (published in 2021) that contribute to sustainable development and details the aims to improve economic, social, environmental and cultural wellbeing of Wales for future generations. The Act places a duty on Local Authorities to set wellbeing objectives and contribute to achieving the seven well-being goals, which are:

- A prosperous Wales;
- A resilient Wales;

- A healthier Wales;
- A more equal Wales;
- A Wales of cohesive communities;
- A Wales of vibrant culture and thriving Welsh language; and
- A globally responsible Wales.

2.3 Local Policy

Vale of Glamorgan Local Development Plan 2011-2026

2.3.1 The Vale of Glamorgan Local Development Plan (LDP) is the development plan for the Vale, and is the basis for land use planning within the Council's administrative area. The Plan guides development within Barry, Sully and the wider Vale up to 2026. It is noted that the LDP is reviewed every year. In 2021 it was agreed that a new replacement LDP should be prepared. It is expected that public examination of the replacement plan will start in February 2025, for the plan to be adopted in August 2026.

2.3.2 Vale of Glamorgan Council has set 10 corporate objectives, which the Plan is ideally placed to deliver.

2.3.3 Objectives 1 and 4 relate to a need to create sustainable communities.

2.3.4 Objectives 2 and 3 relate to climate change, and ensuring that development and land use makes a positive contribution to minimising, mitigating or adapting to the causes and impacts of climate change. The plan identifies transport as a major source of greenhouse gases, and seeks to reduce the need to travel, and enable those journeys that do need to be made to be made using sustainable methods.

2.3.5 Objective 7 encourages the provision of a range of new housing options in sustainable locations that support the needs of the local community, and enhance the function of settlements, creating integrated, diverse and sustainable communities.

2.3.6 Objective 10 relates to the efficient use of land for development, encouraging the re-use of previously developed land, and the sustainable use of natural resources in development.

2.3.7 Strategic Policy (SP) 1 relates to improvements to the living and working environment, reinforcing the role of Barry as a provider of cultural, commercial and community services, and enhancing the built environment.

2.3.8 SP3 and SP4 relate to the provision of new residential units, and the provision of affordable housing to meet the needs of the Vale. It identifies a need for a large increase in the number of housing units built over the plan period, and a desire for these to form a mix of houses, apartments and older people's accommodation.

Vale of Glamorgan Parking Standards SPG (2019)

2.3.9 Parking standards for the Vale of Glamorgan are set out in the Supplementary Planning Guidance (SPG) to the LDP. These Parking Standards will be material to decisions on individual planning applications and will be used as a technical reference document. The underlying rationale for these standards is to provide sufficient parking to avoid the need for vehicles to park on-street and thereby cause congestion, danger and visual intrusion.

2.3.10 The Parking Standards SPG was adopted in March 2019, and uses a system of zones to designate different parking maximums based on the local situation. **Table 2-1** shows each parking zone, and some of the characteristics which areas within these zones feature.

Table 2-1: VOGC Parking Zones

Zone	Characteristics
Zone A – Town Centre	A "destination". Full range of businesses and needs within walking distance, with good bus and rail access. High density with limited private car parking.
Zone B – Urban	Many basic local facilities within a 400m walk. A range of bus routes offering practical access to most but not all essential facilities. Off street parking is limited.
Zone C – Suburban or Near Urban	Outer edges of a town. At least an hourly bus connection, with some facilities such as a Doctor's Surgery within walking distance.
Zone D - Countryside	Small villages with few local facilities within walking distance. Motorized travel is required for most journeys, and public transport is infrequent and offers only one destination.
Zone E – Deep Rural	Scattered individual buildings with no local facilities in walking distance. Motorized travel is required for all journeys. Public transport is very infrequent and out of walking distance.

Source: Parking Standards SPG

2.3.11 Given the current levels of accessibility to the site and Plan 1 provided in the Parking Standards SPG, the site is within Zone C. (Suburban or near urban). There are relatively few services in the local vicinity at present, with the development surrounded primarily by industrial uses as well as recently constructed residential properties. The site is connected to Sully and Barry via an hourly bus service

2.3.12 **Table 2-2**: Vehicle Parking Maximums by Land Use shows the vehicle parking maximums by land use and parking zone, as specified in the Parking Standards SPG. This notes that "…the standards set out in this SPG should be interpreted as **maximum** rather than minimum standards i.e they are 'not more than' figures."

Table 2-2: Vehicle Parking Maximums by Land Use

Parking Zone	Type of Development	Residents/Staff	Visitors
All Zones	Apartments	1 space per bedroom (maximum requirement 3 spaces)	1 space per 5 units
	Houses	1 space per bedroom (maximum requirement 3 spaces)	1 space per 5 units

Source: Parking Standards SPG

2.3.13 **Table 2-3** shows the minimum number of cycle spaces of each type that should be provided for each of the relevant land uses, as shown in the Parking Standards SPG.

Table 2-3: Minimum Cycle Provision by Land Use

Type of Development	Minimum Cycle Parking Provision	
	Long Stay Requirement (secure and ideally covered)	Short Stay Requirement (obvious, easily accessed and close to destination)
Apartments	1 stand per 5 bedrooms	No requirement
Houses	No requirement	No requirement

Source: Parking Standards SPG

2.3.14 As detailed in Table 2-3, VOG requires a minimum of one space per five bedrooms for apartments and no requirement for houses. However, Active Travel Wales standards refer to a minimum of one cycle space per unit.

3. Existing Situation and Site Accessibility

3.1 Introduction

3.1.1 This chapter of the TS provides a description of the site location and existing use, the surrounding highway network, the current highway safety and traffic conditions and the accessibility of the site for non-car modes of travel.

3.2 Site Location and Existing Usage

3.2.1 The site is located within Barry, a seaside town in South Wales with a population of approximately 56,589 (2021 Census, ONS). The development consists of a 2ha parcel of land, bounded to the west by Hayes Lane, to the northwest by Hayeswood Road, and to the southeast by a forested area. The development boundary is shown in Error! Not a valid bookmark self-reference..

Figure 3-1: Site Location

Basemap Source: OpenStreetMap Contributors

3.2.2 The Atlantic Trading Estate is located to the southwest of the site and contains a range of employment opportunities (primarily light and heavy industrial) as well as the Barry Recycling Centre and a Gym. A number of recent housing developments are located in the vicinity of Hayeswood Road, including a 53-unit housing development opposite the site on the northern side of Hayeswood Road (App Ref: 2021/00378/RG3).

3.2.3 The site is located approximately 1.5km to the west of Sully village where there is a good selection of services and facilities including a primary school, GP surgery, convenience store.

3.2.4 Barry town centre is approximately 2km to the northwest of the site where a wide range of services and facilities can be accessed. In summary, the site is considered to be in an appropriate location where there is a range of services and facilities nearby.

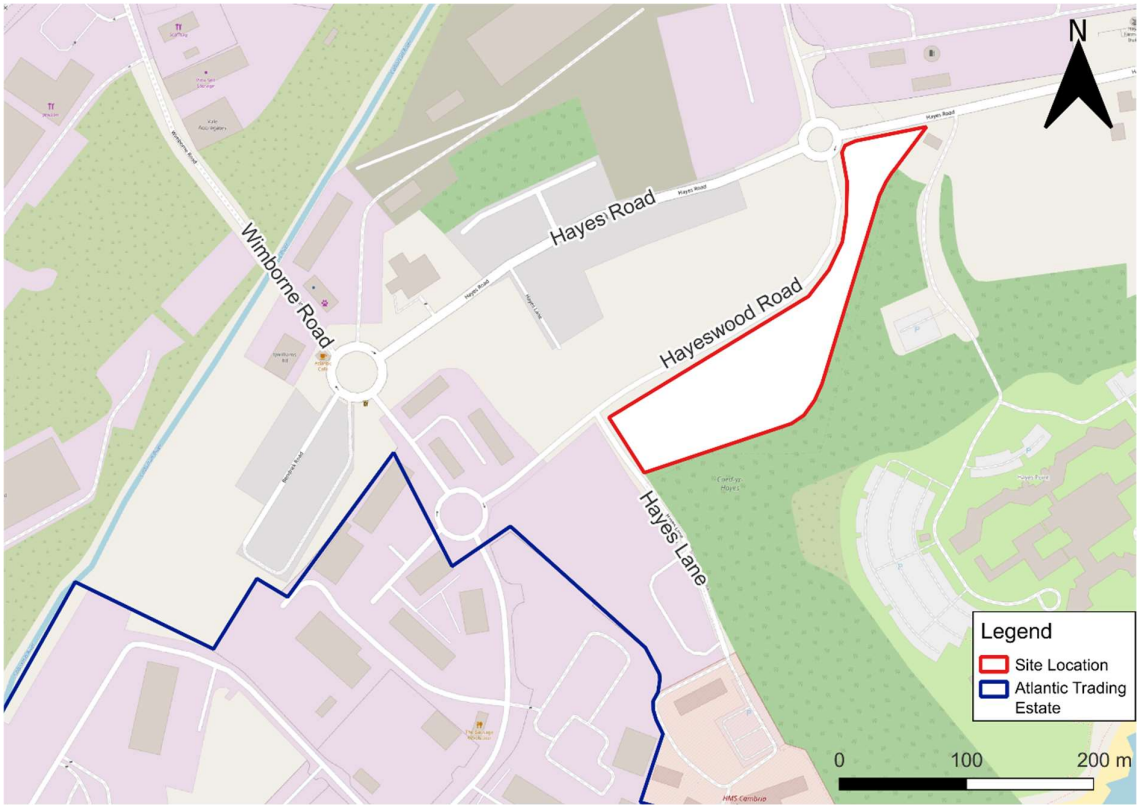
Existing Usage

3.2.5 At present the site is unused and consists of a primarily grass field fenced with a high-security fence. As a result, it can be assumed that the site generates negligible trips at present.

Local Highway Network

3.2.6 The following section provides a description of the characteristics of the local highway network surrounding the proposed development. The local road network in the vicinity of the development site is comprised of a mix of residential and collector roads as shown in **Figure 3-2** and described in the following sections.

Figure 3-2: Local Highway Network



Basemap Source: OpenStreetMap Contributors

Hayeswood Road

3.2.7 Hayeswood Road is a wide single carriageway road with a hatched central reserve and is subject to a 20mph speed limit within the vicinity of the site. Parking is unrestricted, except for at junctions. Hayeswood Road connects with Hayes Road to the east of the development.

Hayes Road

3.2.8 Hayes Road is the primary route in and out of the area to the southeast of Barry Docks. It connects with the B4267 / Sully Moors Road approximately 1.2km to the east of the site, allowing access to Barry, Sully and destinations further afield. The road is single carriageway, with a speed limit of 30mph in the vicinity of the site, increasing to 40mph approximately 500m to the east of the site. The road is wide, serving as both an industrial route and a bus route. Footways are provided continuously on the north side of the road, with intermittent sections on the south side.

Hayes Lane

3.2.9 Hayes Lane connects a number of light industrial/commercial uses, including a used car dealership, as well as the former HMS Cambria site. It connects with Hayeswood Road just west of the proposed development, running along the west boundary of the site. The road has a 20-mph speed limit, and is narrow due to on-street parking.

Wimbourne Road

3.2.10 Wimbourne Roads connects Hayes Road with Ffordd Y Mileniwm to the north providing access to Associated British Ports land uses. Wimbourne Road is a no access private road, subject to a 10mph speed limit and is signed as no pedestrian access.

3.3 Walking and Cycling

Pedestrian Access

3.3.1 The majority of roads within the vicinity of the proposed development have footway provision on one or both sides of the carriageway.

3.3.2 As set out previously, the closest settlement to the site by foot is Sully, located approximately 1.5km east of the development where there are a number of facilities and services including a primary school, GP surgery and a convenience store. A continuous footway is available to reach Sully, via Hayes Road and B4267 South Road, with informal crossings with tactile paving provided at all necessary crossing points.

3.3.3 The Chartered Institute of Highways and Transportation (CIHT) guidelines 'Providing for Journeys on Foot' indicate that the desirable walking distance for commuting and school journeys is 500m, the acceptable walking distance is 1km, and 2km is the preferred maximum. The guidelines also indicate that walking trips for other purposes have a desirable walking distance of 400m, acceptable distance of 800m and the preferred maximum of 1.2km.

3.3.4 The services and facilities described above within Sully and Barry are therefore within walking distance to the site.

Cycle Routes

3.3.5 No dedicated cycle facilities exist on Hayeswood Road or Hayes Road, meaning that cyclists would be expected to travel on the carriageway. Shared pedestrian-cycle informal crossings are present at the Hayes Road / B4267 roundabout, although cyclists are expected to rejoin the carriageway on all sides of the junction. Settlements such as Sully, Barry and Penarth are within reasonable cycle distance of the site.

3.3.6 National Cycle Road 88 is a proposed cycle route along the South Wales coast from Bridgend to Newport, via Barry and Sully. At present only limited sections of this route are operational; the closest section runs along Ffordd Y Mileniwm, approximately 1km north of the development site.

3.4 Public Transport

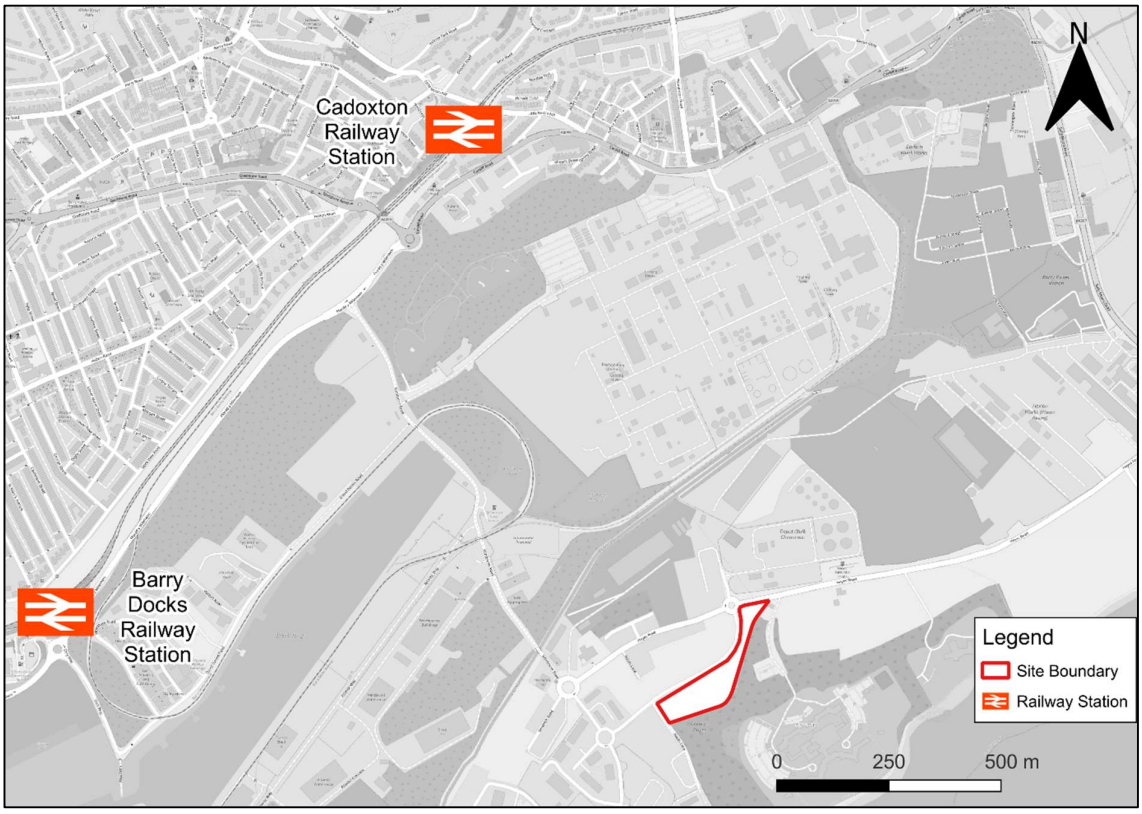
Bus Services

3.4.1 The closest bus stops to the site are located on Hayes Road, approximately 100m northeast of the site for west bound services and 200m northeast of the proposed development for east bound services. These stops are served by two routes. The 88, operated by Adventure Travel provides an hourly service in each direction between the development, Barry and Penarth between 07:11 and 16:11 Monday-Saturday. Outside of these hours the 94, operated by Cardiff Bus, provides a connection between the site, Barry, Penarth and Sully with 2 services in the morning and 6 services in the evening (between 19:00-23:30). These services combined provide a reasonable connection between the site and the closest major towns of Barry and Penarth throughout the day.

Rail Services

3.4.2 The nearest railway station is Cadoxton station, located approximately 3.8km (52 minute walk, 15 minute cycle) to the north of the site. Due to the industrial port, access to these stations is via Sully Moors Road, running along the eastern boundary of the docks. This station provides a good range of services towards Barry Island, Bridgend, Cardiff and the valleys. Barry Docks Railway Station is also located approximately 5.3km to the northwest of the site and is served by the same routes as Cadoxton station. The location of this station is shown on **Figure 3-3**.

Figure 3-3: Location of Rail Stations



Basemap Source: OpenStreetMap Contributors

3.4.3 Facilities provided at Cadoxton railway station are shown in **Table 3-1**. The service pattern at is summarised in **Table 3-2**.

Table 3-1: Facilities at Cadoxton Railway Station

Facility	Present at station?
Car Parking	31 spaces
Disabled Car Parking	No
Taxi Rank	No
Cycle Storage	No
Staffing / Ticket Office	Yes, weekday AM peak only
Self Service Ticket Machines	Yes
Step Free Access Coverage	Step Free access to all platforms

Table 3-2: Frequency of Services at Cadoxton Railway Station

Direction	First Service	Last Service	Approximate Frequency
To Cardiff	05:36	23:19	4 per hour
To Barry Island	05:33	23:47	4 per hour
To Bridgend	05:56	22:56	1 per hour
To Ystrad Mynach/Bargoed	06:00	23:00	2 per hour
To Rhymney	06:19	21:49	2 per hour

Source: Real Time Trains (January 2025)

3.4.4 Overall, there is a reasonable provision of rail services from Cadoxton station to key destinations, both locally and regionally. Services begin early in the morning and finish late at night, ensuring a provision to suit a wide range of travel times. The regular connection to Cardiff Central (every 15 mins) provides opportunities to board services covering a number of national destinations in Wales and England.

3.5 Highway Safety

A review of Personal Injury Collision (PIC) data has been undertaken using the Department for Transport (DfT) Mapping Application for Visualising Road Injury Collisions (MAVRIC) and Crashmap. Neither tool identified any collisions within the past 5 years (from January 1 2019) in the local area. In the longer record, one slight collision occurred at the Hayeswood Road / Hayes Road Roundabout (May 2018). This indicates that at the current level of traffic seen on the road network that there are no inherent highway safety issues.

4. Development Proposals

4.1 Introduction

4.1.1 This section of the TS outlines the development proposals, including the method of access for all mode types, as well as strategy for internal movement, parking, deliveries and servicing.

4.2 Overview of Proposals

4.2.1 As set out previously, the proposed development consists of 54 dwellings, a mix one-bedroom flats and two, three and four-bedroom houses. All properties will be affordable, to be operated as social housing. An indicative accommodation schedule is shown in **Table 4-1**.

Table 4-1: Accommodation Schedule

Type	Number	Total number of bedrooms
One-bedroom flat	9	9
Two-bedroom house	28	56
Three-bedroom house	15	45
Four-bedroom house	2	8
Total	**54**	**118**

4.2.2 An indicative site layout for the site is shown in **Figure 4-1** and **Appendix A**.

Figure 4-1: Indicative Site Layout

4.3 Access Strategy

Vehicle Access

4.3.1 Access to the site will be provided via a new 5.5m wide priority 'T' junction off Hayeswood Road, as shown in **Appendix B**.

4.3.2 The required visibility splays at the access junctions are based on the sight stopping distance (SSD) of vehicles along the site frontage as shown in **Appendix B**.

4.3.3 In accordance with a speed limit of 20mph along Hayeswood Road, the required SSD is 25m in accordance with Manual for Streets (MfS). The required visibility splays can be accommodated at all junctions within land owned by the applicant/highway authority.

Pedestrian and Cycle Access

4.3.4 Traffic volumes within the site will be low, as the development will be a cul-de-sac serving only a limited number of dwellings. The development will provide the necessary pedestrian and cyclist infrastructure within the site to enable residents to walk and cycle, with 2m wide footways included on one or both sides of the carriageway throughout the site, prioritising the needs of pedestrians and cyclists over that of vehicles.

4.3.5 As shown in **Appendix A**, pedestrian footways are proposed at the access junction with pedestrian footways provided on both sides of the carriageway.

4.4 Car Parking

4.4.1 Car parking provision for the proposed development will be provided in accordance with Vale of Glamorgan Parking Standards, 2019 which is supplementary planning guidance of the Local Planning Authority. The parking standards also refer to the use of Travel Plans and the sustainability of new developments.

4.4.2 Paragraph 4.2.2 of the parking standards quotes paragraph 8.4.2 of Planning Policy Wales which states:

'*Car parking provision is a major influence on the choice of means of transport and the pattern of development. Local authorities should ensure that new developments provide lower levels of parking than have been generally achieved in the past. Minimum parking standards are no longer appropriate.*'

4.4.3 The Vale of Glamorgan Parking Standards SPG states that for both houses and apartments, the maximum parking that can be provided for new developments is 1 space per bedroom (max 3), with 1 space per 5 units designated for visitor parking. Based on the accommodation schedule shown in **Table 4-1** this means that a maximum of 116 spaces could be provided for residents, with 10-11 visitor spaces, totalling a maximum of 126-127 spaces overall.

4.4.4 As identified in Appendix A, the indicative layout shows the provision of a total of 100 residential car parking spaces, which is within the maximum provision based on the maximum standards detailed in the adopted parking standards SPG.

4.4.5 Paragraph 5.5 of the Authority' Parking Standards Supplementary Planning Guidance states:

'There is the potential for a reduction in residential parking levels……. there is evidence of low car ownership.'

4.4.6 As set out previously, it is likely that any application to develop the site will be 100% affordable housing.

4.4.7 This approach to transport, with the change from predicting and providing for cars to managing traffic and reducing car dependency, means a new role for parking provision and control which the standards hope to address.

4.4.8 Full details of car parking provision will be detailed in any future planning application for the site in accordance with the Vale of Glamorgan adopted car parking standards at the time of the application.

4.5 Cycle Parking

4.5.1 The VOGC Parking Standards SPG provides guidance on the minimum number of cycle parking spaces required for each land use type. “No requirement” is given for “Houses”, whilst a minimum of one space per 5 bedrooms should be provided for “Apartments”. The proposed development involves 9 one-bedroom apartments, totalling 9 bedrooms. As a result, a minimum of 2 secure cycle parking spaces should be provided. However, it is assumed that cycle parking provision will be incorporated within secured and covered sheds in the gardens of any houses and within a shared secure and covered facility within any apartment provided within the development site.

4.5.2 Full details of cycle parking provision will be detailed in any future planning application for the site in accordance with the Vale of Glamorgan adopted car parking standards at the time of the application.

5. Trip Generation and Impact Assessment

5.1 Introduction

5.1.1 This chapter of the TS set out the methodology for calculating the forecast trip generation of the Proposed Development and the predicted impact of the proposals.

5.2 Proposed Development Trip Generation

5.2.1 As stated in Chapter 4, the indicative development consists of nine one-bedroom flats, and 45 two, three and four-bedroom houses, totalling 54 units. All trips generated by these properties would be "new", and do not currently exist on the highway network.

5.2.2 In order to determine the vehicle trip generation of the proposed development, TRICS has been used to obtain suitable trip rates from similar developments. TRICS Sites in the "Local Authority Flats" and "Houses Privately Owned" categories have been selected to provide a lower and upper bound of expected trip rates from residents. A more appropriate "Local Authority Houses" category is available within TRICS, although only one appropriate site is available, which would potentially not give a robust trip rate and has therefore been discounted. TRICS Sites were selected based on the following criteria:

- England, Scotland and Wales sites, excluding Greater London
- Most recent survey of a site, from 01/01/2014
- Suburban and Edge of Town locations
- Multi-modal surveys

5.2.3 In addition to these criteria, further filtering was applied to the "Houses Privately Owned" category to increase the comparability of these surveys:

- Removed sites consisting primarily of detached houses
- Developments of between 6 and 100 units
- Edge of town location (only)

5.2.4 With these filters applied, six sites are available in the Local Authority Flats category, with 18 sites in the Houses Privately Owned category. The average all-person trip rate from these sites on a per-unit basis is shown in **Table 5-1.**

Table 5-1: All Person Trip Rates (per unit)

TRICS Category	AM (0800-0900)			PM (1500-1600)		
	Arrivals	Departures	Two Way	Arrivals	Departures	Two Way
Local Authority Flats	0.119	0.394	**0.513**	0.389	0.174	**0.563**
Houses Privately Owned	0.249	0.745	**0.994**	0.610	0.296	**0.906**

5.2.5 The trip rates extracted from TRICS have been multiplied by the number of units to give the total number of all-person trips generated in each peak hour and are shown in **Table 5-2**.

Table 5-2: All Person Trip Generation

TRICS Category	AM (0800-0900)			PM (1500-1600)		
	Arrivals	Departures	Two Way	Arrivals	Departures	Two Way
Local Authority Flats	6	21	**28**	21	9	**30**
Houses Privately Owned	13	40	**54**	33	16	**49**

5.2.6 Table 5-2 shows that it would be expected that the development would generate between 28 and 54 people trips in the AM peak hour, and between 30 and 49 people trips in the PM peak hour.

5.2.7 The average vehicle trip rate from these sites on a per-unit basis is shown in **Table 5-13**

Table 5-3: Vehicle Trip Rates (per unit)

TRICS Category	AM (08:00-09:00)			PM (15:00-16:00)		
	Arrivals	Departures	Two Way	Arrivals	Departures	Two Way
Local Authority Flats	0.06	0.109	**0.169**	0.092	0.08	**0.172**
Houses Privately Owned	0.177	0.356	**0.533**	0.311	0.184	**0.495**

5.2.8 The trip rates extracted from TRICS have been multiplied by the number of units to give the total number of vehicle trips generated in each peak hour and are shown in **Table 5-24**.

Table 5-4: Vehicle Trip Generation

TRICS Category	AM (0800-0900)			PM (1500-1600)		
	Arrivals	Departures	Two Way	Arrivals	Departures	Two Way
Local Authority Flats	3	6	**9**	5	4	**9**
Houses Privately Owned	10	19	**29**	17	10	**27**

5.2.9 Table 5-4 shows that it is predicted that the development could generate between 9 and 29 vehicle trips in the AM peak hour, and between 9 and 30 vehicle trips in the PM peak hour.

5.3 Impact of the Development Proposals

5.3.1 It is envisaged that the proposed development with have very limited impact on the local highway network during the AM and PM peak hour periods, or throughout the course of the day, based on the low levels of trip generation.

5.3.2 As set out previously, it is forecast that the proposed development could generate a maximum of up to 29 vehicle movements (two-way) in the AM peak and 27 vehicle movements (two-way) in the PM peak period, equating to one vehicle movement (two-way) every two minutes.

5.3.3 As such, it is considered that this level of traffic generation will have a limited impact on the performance of Hayeswood Road and the wider road network. Therefore, no further junction analysis is necessary.

6. Transport Implementation Strategy

6.1 Introduction

6.1.1 As set out at **Chapter 2**, TAN 18 requires any TS / TA to include a TIS. The TIS should:

- Identify the access arrangements required for a successful development. These are set out in **Chapter 4**;
- Identify the policy objectives and requirements set by the development plan in terms of access to the development and movements in and around the site. These are documented in **Chapter 2**;
- Specify the package of physical, management and promotion measures needed to accommodate these requirements. These are set out in the following paragraphs.

6.1.2 The development has been designed as a walkable neighbourhood suitable for all users including pedestrians, cyclists and public transport users.

6.2 Travel Plan

6.2.1 A TIS shares many of the same goals as a Travel Plan (TP), therefore the modal information, targets and measures set out in this chapter will inform the TP which will be prepared and submitted alongside the TS as part of the planning application submission.

Mode Share and Targets

6.2.2 Mode share targets are used to evaluate the success of the TIS and to identify areas on which further measures should be focused to help to drive travel behaviour change. To enable the setting of valid and realistic targets, a baseline first needs to be established.

6.2.3 **Table 6-1**Error! Reference source not found. sets out the forecast mode share of the residents at the proposed development. The development site sits on the boundary between the 2021 census 'Vale of Glamorgan 008' MSOA geography, which covers Sully and locations to the southwest of the docks, and the 'Vale of Glamorgan 015" MSOA, which covers the Barry Waterfront development as well as part of Barry Island and the Atlantic Trading Estate. Given the locations covered by each MSOA, it is considered that 'Vale of Glamorgan 008' is most representative of the development locality, as this covers the western part of Sully and other less urban environments.

Table 6-1: 2021 Census travel to work mode share

Mode	Vale of Glamorgan 008	Vale of Glamorgan 015
Train	2%	5%
Bus, minibus or coach	3%	2%
Taxi	0%	0%
Motorcycle, scooter or moped	1%	1%
Driving a car or van	80%	76%
Passenger in a car or van	6%	5%
Bicycle	2%	1%
On foot	6%	10%

6.2.4 This shows that 80% of residents are likely to travel to work as a driver of a car / van, 6% as a passenger in a car / van, 6% on foot, 5% via public transport, 2% via bicycle and 1% via motorcycle. This mode share does not consider any site-specific measure to reduce journeys to and from the proposed development via car modes and is therefore considered to be a robust case for car travel to and from the site.

6.2.5 A TP will be prepared and will accompany the TS as part of the planning submission. It is appropriate to set a target based on the forecast mode share. The target will be to reduce the 'car' mode share by 6% over five years, consistent with the DfT Smarter Choices' report *Changing the way we travel* (2004). Following a baseline travel survey the target can be confirmed or adjusted as appropriate following discussions with VOGC.

Monitoring and Evaluation

6.2.6 The point at which baseline travel surveys are required will be subject to agreement with VOGC as the LHA. A target minimum response rate to the travel surveys will be required to be set and agreed to ensure that the data is representative.

6.2.7 The format of the baseline and monitoring surveys will also need to be agreed with VOGC. In general, these will seek to establish the actual travel patterns, the reasons for travel choice and potential measures to encourage consideration of alternatives.

6.2.8 The results of the baseline travel surveys will be analysed and the factors influencing travel behaviour will be investigated. It will then be necessary for the Travel Plan Co-ordinator (TPC) to review and update the respective TP to include additional details and the need for any other measures not already included that require further investigation.

6.2.9 Specific objectives and targets will need to be identified, separated into short/medium/long term targets, and will need to be SMART (Specific, Measurable, Achievable, Realistic, and Timed). Specific actions and measures to encourage sustainable modes of travel will be identified. For the on-going management of the TP to be successful and to deliver the desired outcomes, it is important that the parties involved in the delivery of the TP work effectively in partnership to achieve the desired results.

6.2.10 Monitoring of the TP will be required for a five-year period from the date of the baseline travel surveys. They will be undertaken at intervals of one, three and five years after the date (or close to the date) of the baseline travel surveys. The TPC will aim to coordinate the baseline travel surveys and subsequent monitoring surveys to ensure consistency between the collection of data for the TP. Surveys will avoid sustained periods of inclement weather or when there is significant disruption to the local road or public transport network.

6.2.11 A monitoring report will be prepared by the TPC for each monitoring survey. These will identify the results of the surveys and success of the measures implemented in achieving the targets. The reports will be submitted to NCC for comment. If the targets are not met, then it will be necessary to review what remedial measures need to be implemented to mitigate the impact of any under achievement.

Travel Plan Measures and Interventions

6.2.12 In order to achieve the reduction in single occupancy car use and encourage a modal shift to more sustainable forms of travel, a number of TP measures will be implemented.

6.2.13 A TP will be prepared and will accompany the TS as part of the planning application submission. A TPC will be appointed who will be responsible in ensuring the success of the TP and its targets and objectives. The TP will contain a range of measures additional to those that will be provided as part of the development to enhance the attractiveness of sustainable travel and to encourage the use of the walking, cycling and public transport modes.

6.3 Summary

6.3.1 Targets will be set in the TP for the reduction of private car use and a commitment to a TP and monitoring programme has been made. These targets will need to be reviewed in the context of the location of the site and the results of the first travel surveys. The measures that will be implemented as part of the development proposals have been outlined to help to achieve the targets and objectives set. This will include the provision of cycle parking.

6.3.2 TP measures will add another layer of interventions once the TP is established. This will continue to promote and encourage the range of facilities available and improve awareness or provision wherever possible.

7. Summary and Conclusions

7.1 Summary

7.1.1 AECOM was commissioned by VOGC to provide transport planning services for a residential development off Hayeswood Road, Barry. This Transport Statement (TS) has been prepared to inform VOGC's site selection process, as well as providing the basis for a future submission to VOGC, in its role as Local Highway Authority (LHA) as part of a potential future planning application.

7.1.2 The proposed development, located to the south of Hayeswood Road on vacant land consists of the construction of 54 dwellings, a mix of one-bedroom flats and two, three and four-bedroom houses, likely to be operated as affordable housing.

7.1.3 Analysis of the local highway network, including provision for pedestrian, cyclist and public transport movement has been undertaken, and concluded that there are opportunities for residents of the proposed development to undertake trips by alternative modes of travel to the private car.

7.1.4 Vehicular access is proposed via a new priority junction on to Hayeswood Close, which will meet the required design standards.

7.1.5 The development will provide the necessary pedestrian and cyclist infrastructure within the site to encourage residents to walk and cycle, with 2m wide footways included on one or both sides of the carriageway for its entire length, prioritising the needs of pedestrians and cyclists over that of vehicles.

7.1.6 Car parking and cycle parking will be provided for the development in accordance with the Vale of Glamorgan's adopted parking standards.

7.1.7 It is estimated that the proposed development could generate up to 29 vehicle movements (two-way) in the AM peak and 27 vehicle movements (two-way) in the PM peak period, equating to one vehicle movement (two-way) every two minutes. This is likely to have only a very limited impact on the local highway network.

7.2 Conclusion

7.2.1 In conclusion, it is considered that this development is appropriate and acceptable in traffic and transport terms.

Appendix A Indicative Site Layout

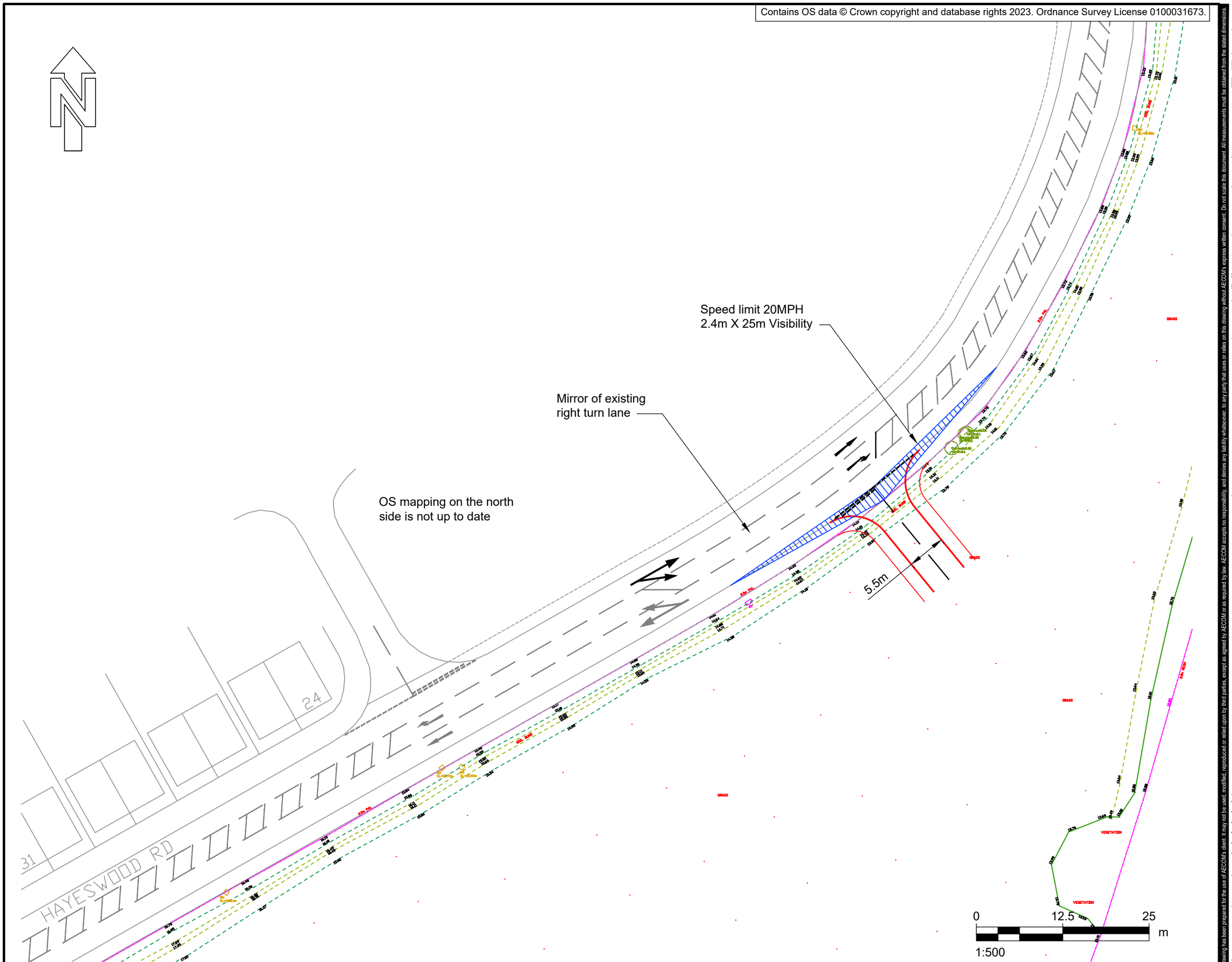
ACCOMMODATION SCHEDULE				
House type	**Name**	**sq/m**	**Number**	**Total sq/m**
Apt A	1 bedroom flat	53	9	477
421	2 bedroom house	83	26	2158
422	2 bedroom house	88	2	176
531	3 bedroom house	93	11	1023
532	3 bedroom house	98	4	392
641	4 bedroom house	110	2	220
		Totals	**54**	**4446**

Proposed Development at Hayes Lane, Barry, for Bluefield Land Ltd, Initial Capacity Layout, Scale 1:500 @ A1 I January 2023

T 01656 656267
E Info@spring-consultancy.co.uk
W www.spring-consultancy.co.uk

2692-00(02)-101

Appendix B Site Access



AECOM

PROJECT

Land at Hayeswood Road, Barry

CLIENT

Vale of Glamorgan Council

CONSULTANT

AECOM
One Temple Quay
Temple Back East
Bristol
BS1 6DZ
www.aecom.com

NOTES

Drawing based on OS and Topographical survey

LEGEND

- Visibility splay
- Existing road markings
- New road markings
- Proposed kerbs

ISSUE/REVISION

I/R	DATE	DESCRIPTION
A	24/02/2025	FIRST ISSUE

PROJECT NUMBER

60728993

SHEET TITLE

APPENDIX B
SITE ACCESS JUNCTION AND VISIBILTY

SHEET NUMBER

-ACM-UK-XX-DR-IM-000020

Project Management Initials: Designer: CH Checked: OS Approved: CC ISO A3 297mm x 420mm

Filename: L:\LEGACY\UKBRI2FP001\VOL1TP\PROJECTS\DEVELOPMENT PLANNING\WESTERN GATEWAY, BARRY\CAD\HAYESWOOD ROAD & HMS CAMBRIA-ACM-UK-XX-DR-IM-000020.DWG
Last saved by: HATTONCM(2025-02-24) Last Plotted: 2025-02-24

Appendix C TRICS Output

Calculation Reference: AUDIT-204605-250107-0130

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 03 - RESIDENTIAL
Category : D - AFFORDABLE/LOCAL AUTHORITY FLATS
MULTI-MODAL TOTAL VEHICLES

Selected regions and areas:

02	SOUTH EAST		
	BH	BRIGHTON & HOVE	1 days
03	SOUTH WEST		
	BR	BRISTOL CITY	1 days
	GS	GLOUCESTERSHIRE	2 days
05	EAST MIDLANDS		
	LN	LINCOLNSHIRE	1 days
	NG	NOTTINGHAM	1 days
07	YORKSHIRE & NORTH LINCOLNSHIRE		
	SE	SHEFFIELD	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: No of Dwellings
Actual Range: 10 to 450 (units:)
Range Selected by User: 6 to 467 (units:)

Parking Spaces Range: All Surveys Included

Parking Spaces per Dwelling Range: All Surveys Included

Bedrooms per Dwelling Range: All Surveys Included

Percentage of dwellings privately owned: All Surveys Included

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/14 to 05/03/24

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:

Tuesday	2 days
Wednesday	2 days
Thursday	3 days

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

Selected survey types:

Manual count	7 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:

Suburban Area (PPS6 Out of Centre)	6
Edge 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:

Residential Zone	6
No Sub Category	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.

Inclusion of Servicing Vehicles Counts:

Servicing vehicles Included	3 days - Selected
Servicing vehicles Excluded	5 days - Selected

Secondary Filtering selection:

Use Class:

C3	7 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order (England) 2020 has been used for this purpose, which can be found within the Library module of TRICS®.

Population within 500m Range:
All Surveys Included

Secondary Filtering selection (Cont.):

Population within 1 mile:

5,001 to 10,000	1 days
15,001 to 20,000	1 days
25,001 to 50,000	4 days
50,001 to 100,000	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	3 days
250,001 to 500,000	4 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	3 days
1.1 to 1.5	4 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:

Yes	1 days
No	6 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	7 days

This data displays the number of selected surveys with PTAL Ratings.

LIST OF SITES relevant to selection parameters

1 BH-03-D-03 FLATS & HOUSES BRIGHTON & HOVE
WELLINGTON ROAD
BRIGHTON

Suburban Area (PPS6 Out of Centre)
Residential Zone
Total No of Dwellings: 15
Survey date: THURSDAY *16/10/14* *Survey Type: MANUAL*

2 BR-03-D-05 BLOCKS OF FLATS BRISTOL CITY
WHITCHURCH LANE
BRISTOL
HARTCLIFFE
Edge of Town
No Sub Category
Total No of Dwellings: 450
Survey date: TUESDAY *05/03/24* *Survey Type: MANUAL*

3 GS-03-D-01 BLOCKS OF FLATS GLOUCESTERSHIRE
SAINT STEPHEN'S ROAD
CHELTENHAM SPA

Suburban Area (PPS6 Out of Centre)
Residential Zone
Total No of Dwellings: 40
Survey date: THURSDAY *04/05/23* *Survey Type: MANUAL*

4 GS-03-D-02 BLOCKS OF FLATS GLOUCESTERSHIRE
PRINCESS ELIZABETH WAY
CHELTENHAM SPA

Suburban Area (PPS6 Out of Centre)
Residential Zone
Total No of Dwellings: 27
Survey date: THURSDAY *04/05/23* *Survey Type: MANUAL*

5 LN-03-D-02 FLATS LINCOLNSHIRE
ADDISON DRIVE
LINCOLN

Suburban Area (PPS6 Out of Centre)
Residential Zone
Total No of Dwellings: 22
Survey date: WEDNESDAY *01/07/15* *Survey Type: MANUAL*

6 NG-03-D-01 BLOCK OF FLATS NOTTINGHAM
WATCOMBE ROAD
NOTTINGHAM
CARRINGTON
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total No of Dwellings: 22
Survey date: TUESDAY *23/06/15* *Survey Type: MANUAL*

7 SE-03-D-01 BLOCK OF FLATS SHEFFIELD
SAINT LAWRENCE ROAD
SHEFFIELD

Suburban Area (PPS6 Out of Centre)
Residential Zone
Total No of Dwellings: 10
Survey date: WEDNESDAY *21/06/23* *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/D - AFFORDABLE/LOCAL AUTHORITY FLATS
MULTI-MODAL TOTAL VEHICLES
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period
Total People to Total Vehicles ratio (all time periods and directions): 2.45

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	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	7	84	0.038	7	84	0.087	7	84	0.125
08:00 - 09:00	7	84	0.060	7	84	0.109	7	84	0.169
09:00 - 10:00	7	84	0.082	7	84	0.075	7	84	0.157
10:00 - 11:00	7	84	0.055	7	84	0.067	7	84	0.122
11:00 - 12:00	7	84	0.070	7	84	0.087	7	84	0.157
12:00 - 13:00	7	84	0.063	7	84	0.056	7	84	0.119
13:00 - 14:00	7	84	0.075	7	84	0.078	7	84	0.153
14:00 - 15:00	7	84	0.077	7	84	0.096	7	84	0.173
15:00 - 16:00	7	84	0.092	7	84	0.080	7	84	0.172
16:00 - 17:00	7	84	0.111	7	84	0.080	7	84	0.191
17:00 - 18:00	7	84	0.113	7	84	0.078	7	84	0.191
18:00 - 19:00	7	84	0.096	7	84	0.068	7	84	0.164
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.932			0.961			1.893

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:	10 - 450 (units:)
Survey date date range:	01/01/14 - 05/03/24
Number of weekdays (Monday-Friday):	7
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	1
Surveys manually removed from selection:	0

This section displays a quick summary of some of the data filtering selections made by the TRICS® 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 for Land Use 03 - RESIDENTIAL/D - AFFORDABLE/LOCAL AUTHORITY FLATS
MULTI-MODAL TOTAL PEOPLE
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period
Total People to Total Vehicles ratio (all time periods and directions): 2.45

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	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	7	84	0.039	7	84	0.198	7	84	0.237
08:00 - 09:00	7	84	0.119	7	84	0.394	7	84	0.513
09:00 - 10:00	7	84	0.145	7	84	0.167	7	84	0.312
10:00 - 11:00	7	84	0.116	7	84	0.154	7	84	0.270
11:00 - 12:00	7	84	0.140	7	84	0.210	7	84	0.350
12:00 - 13:00	7	84	0.189	7	84	0.155	7	84	0.344
13:00 - 14:00	7	84	0.138	7	84	0.174	7	84	0.312
14:00 - 15:00	7	84	0.205	7	84	0.273	7	84	0.478
15:00 - 16:00	7	84	0.389	7	84	0.174	7	84	0.563
16:00 - 17:00	7	84	0.297	7	84	0.176	7	84	0.473
17:00 - 18:00	7	84	0.247	7	84	0.172	7	84	0.419
18:00 - 19:00	7	84	0.222	7	84	0.140	7	84	0.362
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			2.246			2.387			4.633

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.*

Calculation Reference: AUDIT-204605-250107-0140

TRIP RATE CALCULATION SELECTION PARAMETERS:

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

Selected regions and areas:

02	SOUTH EAST		
	ES	EAST SUSSEX	2 days
	HC	HAMPSHIRE	2 days
	WS	WEST SUSSEX	2 days
03	SOUTH WEST		
	DC	DORSET	2 days
	SM	SOMERSET	1 days
04	EAST ANGLIA		
	NF	NORFOLK	5 days
08	NORTH WEST		
	EC	CHESHIRE EAST	1 days
09	NORTH		
	IM	ISLE OF MAN	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: No of Dwellings
Actual Range: 24 to 92 (units:)
Range Selected by User: 6 to 100 (units:)

Parking Spaces Range: All Surveys Included

Parking Spaces per Dwelling Range: All Surveys Included

Bedrooms per Dwelling Range: All Surveys Included

Percentage of dwellings privately owned: All Surveys Included

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/14 to 18/09/24

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	3 days
Tuesday	5 days
Wednesday	2 days
Thursday	4 days
Friday	2 days

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

Selected survey types:

Manual count	16 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:

Edge of Town	16

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	13
Out of Town	1
No Sub Category	2

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.

Inclusion of Servicing Vehicles Counts:

Servicing vehicles Included	9 days - Selected
Servicing vehicles Excluded	31 days - Selected

Secondary Filtering selection:

Use Class:

C3	16 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order (England) 2020 has been used for this purpose, which can be found within the Library module of TRICS®.

Population within 500m Range:
All Surveys Included

Secondary Filtering selection (Cont.):

Population within 1 mile:

1,001 to 5,000	3 days
5,001 to 10,000	5 days
10,001 to 15,000	5 days
15,001 to 20,000	1 days
20,001 to 25,000	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	3 days
25,001 to 50,000	4 days
50,001 to 75,000	6 days
75,001 to 100,000	3 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	14 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:

Yes	12 days
No	4 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	16 days

This data displays the number of selected surveys with PTAL Ratings.

LIST OF SITES relevant to selection parameters

1 DC-03-A-09 MIXED HOUSES DORSET
A350
SHAFTESBURY

Edge of Town
No Sub Category
Total No of Dwellings: 50
Survey date: FRIDAY *19/11/21* *Survey Type: MANUAL*

2 DC-03-A-10 MIXED HOUSES DORSET
ADDISON CLOSE
GILLINGHAM

Edge of Town
Residential Zone
Total No of Dwellings: 26
Survey date: WEDNESDAY *09/11/22* *Survey Type: MANUAL*

3 EC-03-A-06 TERRACED HOUSES CHESHIRE EAST
GREYSTOKE ROAD
MACCLESFIELD
HURDSFIELD
Edge of Town
Residential Zone
Total No of Dwellings: 24
Survey date: MONDAY *24/11/14* *Survey Type: MANUAL*

4 ES-03-A-07 MIXED HOUSES & FLATS EAST SUSSEX
NEW ROAD
HAILSHAM
HELLINGLY
Edge of Town
Residential Zone
Total No of Dwellings: 91
Survey date: THURSDAY *07/11/19* *Survey Type: MANUAL*

5 ES-03-A-09 DETACHED & SEMI-DETACHED EAST SUSSEX
THE FAIRWAY
NEWHAVEN

Edge of Town
Residential Zone
Total No of Dwellings: 47
Survey date: MONDAY *13/03/23* *Survey Type: MANUAL*

6 HC-03-A-27 MIXED HOUSES HAMPSHIRE
DAIRY ROAD
ANDOVER

Edge of Town
Residential Zone
Total No of Dwellings: 73
Survey date: TUESDAY *16/11/21* *Survey Type: MANUAL*

7 HC-03-A-31 MIXED HOUSES & FLATS HAMPSHIRE
KILN ROAD
LIPHOOK

Edge of Town
Residential Zone
Total No of Dwellings: 44
Survey date: FRIDAY *07/10/22* *Survey Type: MANUAL*

8 IM-03-A-05 MIXED HOUSES ISLE OF MAN
SCARLETT ROAD
CASTLETOWN

Edge of Town
Residential Zone
Total No of Dwellings: 45
Survey date: TUESDAY *21/05/24* *Survey Type: MANUAL*

LIST OF SITES relevant to selection parameters (Cont.)

9 NF-03-A-05 MIXED HOUSES NORFOLK
HEATH DRIVE
HOLT

Edge of Town
Residential Zone
Total No of Dwellings: 40
Survey date: THURSDAY *19/09/19* *Survey Type: MANUAL*

10 NF-03-A-25 MIXED HOUSES & FLATS NORFOLK
WOODFARM LANE
GORLESTON-ON-SEA

Edge of Town
Residential Zone
Total No of Dwellings: 55
Survey date: TUESDAY *21/09/21* *Survey Type: MANUAL*

11 NF-03-A-34 MIXED HOUSES NORFOLK
NORWICH ROAD
SWAFFHAM

Edge of Town
Out of Town
Total No of Dwellings: 80
Survey date: TUESDAY *27/09/22* *Survey Type: MANUAL*

12 NF-03-A-36 MIXED HOUSES NORFOLK
LONDON ROAD
WYMONDHAM

Edge of Town
No Sub Category
Total No of Dwellings: 75
Survey date: THURSDAY *29/09/22* *Survey Type: MANUAL*

13 NF-03-A-37 MIXED HOUSES NORFOLK
GREENFIELDS ROAD
DEREHAM

Edge of Town
Residential Zone
Total No of Dwellings: 44
Survey date: TUESDAY *27/09/22* *Survey Type: MANUAL*

14 SM-03-A-01 DETACHED & SEMI SOMERSET
WEMBDON ROAD
BRIDGWATER
NORTHFIELD
Edge of Town
Residential Zone
Total No of Dwellings: 33
Survey date: THURSDAY *24/09/15* *Survey Type: MANUAL*

15 WS-03-A-10 MIXED HOUSES WEST SUSSEX
TODDINGTON LANE
LITTLEHAMPTON
WICK
Edge of Town
Residential Zone
Total No of Dwellings: 79
Survey date: WEDNESDAY *07/11/18* *Survey Type: MANUAL*

LIST OF SITES relevant to selection parameters (Cont.)

16 WS-03-A-19 MIXED HOUSES & FLATS WEST SUSSEX
TURNERS HILL ROAD
EAST GRINSTEAD

Edge of Town
Residential Zone
Total No of Dwellings: 92
Survey date: MONDAY *15/05/23* *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.

MANUALLY DESELECTED SITES

Site Ref	Reason for Deselection
BC-03-A-02	Differing housing type
ES-03-A-13	Housing Type: Detatched Houses
NF-03-A-03	Housing Type: Detatched Houses
NY-03-A-14	Housing Type: Bungalows
SF-03-A-05	Housing Type: Detatched Houses
SH-03-A-06	Housing Type: Bungalows

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
MULTI-MODAL TOTAL VEHICLES
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period
Total People to Total Vehicles ratio (all time periods and directions): 1.60

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	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	16	56	0.106	16	56	0.339	16	56	0.445
08:00 - 09:00	16	56	0.177	16	56	0.356	16	56	0.533
09:00 - 10:00	16	56	0.145	16	56	0.174	16	56	0.319
10:00 - 11:00	16	56	0.128	16	56	0.158	16	56	0.286
11:00 - 12:00	16	56	0.150	16	56	0.161	16	56	0.311
12:00 - 13:00	16	56	0.185	16	56	0.182	16	56	0.367
13:00 - 14:00	16	56	0.170	16	56	0.183	16	56	0.353
14:00 - 15:00	16	56	0.184	16	56	0.212	16	56	0.396
15:00 - 16:00	16	56	0.311	16	56	0.184	16	56	0.495
16:00 - 17:00	16	56	0.291	16	56	0.199	16	56	0.490
17:00 - 18:00	16	56	0.367	16	56	0.160	16	56	0.527
18:00 - 19:00	16	56	0.248	16	56	0.164	16	56	0.412
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			2.462			2.472			4.934

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:	24 - 92 (units:)
Survey date date range:	01/01/14 - 18/09/24
Number of weekdays (Monday-Friday):	16
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	6

This section displays a quick summary of some of the data filtering selections made by the TRICS® 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 for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
MULTI-MODAL TOTAL PEOPLE
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period
Total People to Total Vehicles ratio (all time periods and directions): 1.60

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	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	16	56	0.145	16	56	0.509	16	56	0.654
08:00 - 09:00	16	56	0.249	16	56	0.745	16	56	0.994
09:00 - 10:00	16	56	0.210	16	56	0.252	16	56	0.462
10:00 - 11:00	16	56	0.178	16	56	0.244	16	56	0.422
11:00 - 12:00	16	56	0.220	16	56	0.235	16	56	0.455
12:00 - 13:00	16	56	0.275	16	56	0.269	16	56	0.544
13:00 - 14:00	16	56	0.273	16	56	0.257	16	56	0.530
14:00 - 15:00	16	56	0.268	16	56	0.317	16	56	0.585
15:00 - 16:00	16	56	0.610	16	56	0.296	16	56	0.906
16:00 - 17:00	16	56	0.503	16	56	0.329	16	56	0.832
17:00 - 18:00	16	56	0.579	16	56	0.269	16	56	0.848
18:00 - 19:00	16	56	0.390	16	56	0.249	16	56	0.639
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			3.900			3.971			7.871

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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