APEX
TRANSPORT PLANNING

Traders Yard Phase II & St Mary's House

Transport Statement

Client: **Urban Centric (Penarth Road) Ltd**

22 May 2026
Document Reference: C26080/TS01

© 2026 Apex Transport Planning Ltd. All rights reserved.
Apex Transport Planning Ltd is registered in England and Wales (Company No. 12293642).
Registered Office: Tudor House, 16 Cathedral Road, Cardiff, CF11 9LJ.

QUALITY MANAGEMENT

REPORT DETAILS

Issued by	**Apex Transport Planning Ltd** Clockwise, Brunel House 2 Fitzalan Road Cardiff CF24 0HA Tel: 02920 619 361 info@apextp.co.uk www.apextp.co.uk
Client	Urban Centric (Penarth Road) Ltd
Project Name	Traders Yard Phase II & St Mary's House
Report Title	Transport Statement
Report Ref.	TS01
Project No.	C26080
Date	22/05/2026

ISSUE HISTORY

Issue No.	Status	Date	Produced by	Approved by	Revision Details
1	Final	22/05/2026	SD	DC	First Issue

DISCLAIMER

This report has been prepared by Apex Transport Planning Ltd for Urban Centric (Penarth Road) Ltd in accordance with the terms and conditions of appointment. It is intended solely for use in relation to the Traders Yard Phase II & St Mary's House project, and its contents are confidential.

Apex Transport Planning Ltd accepts no responsibility or liability for any use of, or reliance on, this report by any third party, save that, where the report accompanies a planning application, it may be relied upon by the Local Planning Authority, any relevant highway authority, and any other statutory consultee for the purposes of determining or providing a consultation response on that application.

CONTENTS

1.	**INTRODUCTION**	**1**
1.1	Background	1
1.2	Scope of Report	1
2.	**EXISTING SITUATION**	**2**
2.1	Site Location, Use and Access	2
2.2	Planning Context	3
2.3	Local Highway Network	4
2.4	Road Safety	5
2.5	Public Car Parks	6
2.6	Existing Modal Share	6
3.	**PLANNING POLICY**	**8**
3.1	Future Wales: The National Plan 2040	8
3.2	Planning Policy Wales 12th Edition (PPW12)	8
3.3	Technical Advice Note 18: Transport (TAN18)	9
3.4	Cardiff Local Development Plan (LDP) (2006-2026)	9
4.	**CONNECTIVITY BY SUSTAINABLE MODES OF TRAVEL**	**11**
4.1	Introduction	11
4.2	Walking and Cycling	11
4.3	Distances to Facilities	15
4.4	Public Transport	19
4.5	Summary	20
5.	**DEVELOPMENT PROPOSALS**	**21**
5.1	Overview	21
5.2	Site Access and Layout	21
5.3	Accessible Access	22
5.4	Car Parking Provision	22
5.5	Cycle Parking Provision	23
5.6	Servicing and Deliveries	24
5.7	Construction	24
6.	**TRIP GENERATION AND IMPACTS**	**26**
6.1	Introduction	26
6.2	Proposed Trip Generation	26
6.3	Multi-modal trips	27
7.	**SUMMARY AND CONCLUSIONS**	**29**
7.1	Summary	29
7.2	Conclusions	29

Tables

Table 2-1: Journey to Work Mode Split (Census 2011) 6
Table 4-1: Proximity of the site to local facilities and services 16
Table 4-2: Local Bus Services 19
Table 6-1: Proposed Co-Living – Vehicle Trip Rates and Trip Generation 27
Table 6-2: Forecast Modal Split for proposed development (using Census data) 28

Figures

Figure 2-1: Indicative Site Location 3
Figure 2-2: Location of Recorded PIA's 5
Figure 4-1: Cycle Network within the vicinity of the site 13
Figure 4-2: Proposed Cycleways in Proximity of City Centre 14
Figure 4-3: Active Travel Network Map - within vicinity of the site 15
Figure 4-4: Location of facilities within proximity of the site 18

Appendices

Appendix A
Proposed Site Layout

Appendix B
Swept Path Analysis

Appendix C
TRICS Outputs – Private Flats

1. INTRODUCTION

1.1 Background

1.1.1 Apex Transport Planning Ltd ('Apex TP') has been commissioned by Urban Centric (Penarth Road) Ltd to produce a Transport Statement (TS) in relation to a proposed co-living residential scheme at 51 – 59 Penarth Road and St Mary's House Cardiff.

1.1.2 The application site ('the site') is situated between Penarth Road and Trade Street Lane on the edge of Cardiff City Centre. The site currently comprises a 4-storey office, tyre depot and a car wash.

1.1.3 The proposals are to redevelop the existing site into 228 co-living residential units within a 13 storey building with workspace, amenity space, and 4no. commercial units. The proposals will provide no on-site car parking and 212 cycle parking spaces.

1.1.4 This TS provides an assessment of the sustainable connectivity and transport impacts of the proposed development and sets out details of the proposed parking and access arrangements. It has been produced to inform Cardiff Council (CC) of the highways and transport implications of the proposals.

1.2 Scope of Report

1.2.1 The scope of work has considered policies and advice set out in Future Wales, Planning Policy Wales 12 (PPW12), Technical Advice Note 18: Transport (TAN18), the Active Travel Act (Wales – 2021), the CC Local Development Plan (LDP) and Managing Transportation Impacts Supplementary Planning Guidance (SPG), as well as experience of other similar sites. This includes consideration of the highway authority comments and advice in relation to an existing live application on the site for a similar scheme (App Ref: 25/01022/FUL), further details of which are provided in Section 2.2.

1.2.2 As such, the TS has been structured to include the following:

- A description of the existing conditions including, site location and access, planning context, highway network and parking restrictions, road safety analysis and existing travel behaviour in the surrounding area
- Review of the connectivity of the site by sustainable modes
- Description of the development proposals, demonstrating safe and appropriate access by all modes, car and cycle parking and servicing and delivery arrangements
- Forecast vehicle trip generation in the peak hours
- Consideration of the impact of the proposals on the local highway network

2. EXISTING SITUATION

2.1 Site Location, Use and Access

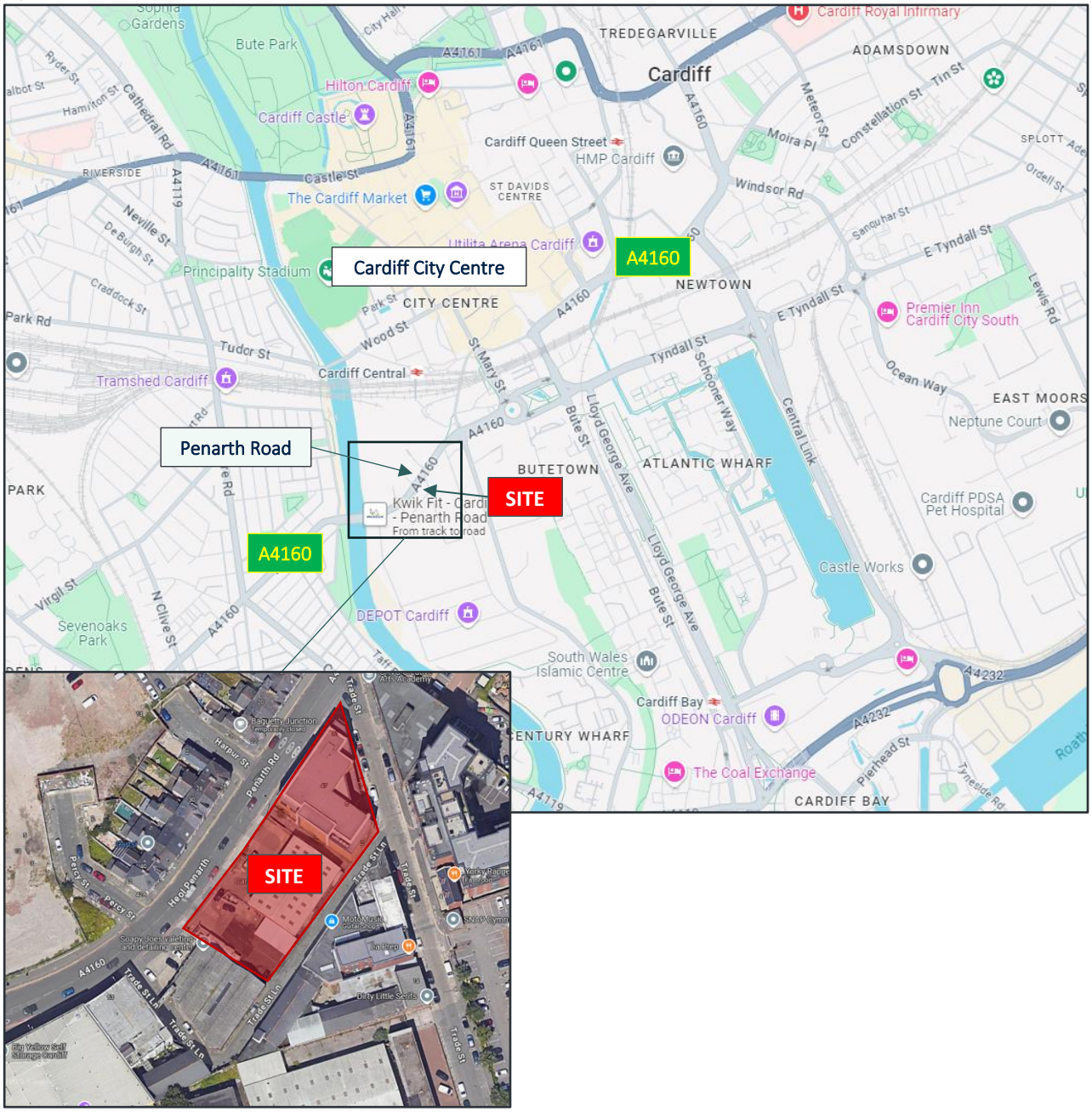
2.1.1 The site directly fronts onto Penarth Road (A4160) which runs along the northwestern boundary of the site. Trade Street Lane runs along the southeastern boundary of the site which loops between Penarth Road and Trade Street. This provides rear access to some properties, although this is limited to light vehicles as there is a constrained geometry around the bend at the southwestern corner. The site has an access onto Trade Street Lane from a gated access, but this has not been used for many years.

2.1.2 The site also has an access into St Mary's House from Trade Street, which is gated and connects to an undercroft parking area. This is situated approximately 5m to the north of the junction with Trade Street Lane.

2.1.3 The site is located approximately 400m to the south of Cardiff City Centre and Cardiff Central Rail Station, and approximately 1.6km northwest of Cardiff Bay. The site is bounded by an office block to the northeast and by live residential application (Ref: 24/02716/FUL) for 182 co-living units to the southwest (Asset House). Being within proximity of both Cardiff City Centre and Cardiff Bay, the site is surrounded by a mixture of uses.

2.1.4 Figure 2-1 shows the indicative location of the site.

Figure 2-1: Indicative Site Location



Source: Google Maps

2.1.5 The site currently consists of a 4-storey office block (St Mary's House) and an industrial unit that accommodates a tyre depot, and a yard with a temporary structure that accommodates a car wash (Traders Yard). Both are accessed from Penarth Road, although St Mary's House also fronts Trade Street. There is car parking adjacent to the industrial unit with a capacity of 4 cars. There is also informal parking that occurs within the car wash yard. Servicing occurs on Trade Street Lane and as such the carriageway already accommodates service vehicles, associated with the existing site uses and other uses along the lane.

2.2 Planning Context

2.2.1 The most recent planning application relating to the site, is application 25/01022/FUL at 51–59 Penarth Road. This was submitted on 12 May 2025 and remains pending determination, although the drafted committee report recommends that planning permission be granted. The application proposes the

demolition of the existing buildings and redevelopment of the site to provide 174 co-living accommodation units within a single building of up to nine storeys, together with commercial floorspace at ground floor level, indoor and outdoor amenity space, cycle parking and associated works. The existing live application covered a slightly smaller area as this did not include St Mary's House.

2.2.2 Prior to the submission of the current live application, a planning application was submitted on the site (App Ref: 22_02997_FUL) for an 8-storey building with commercial use on the ground floor and 39no. 1 and 2 bedroom apartments above (with a total of 58 bedrooms). The scheme included undercroft car parking for 8 vehicles. Whilst this application was subsequently withdrawn, consultation responses were received from the Highway Authority and responded to by Traffic and Transport Planning on behalf of the applicant.

2.2.3 Both applications proposed amendments to the local highway arrangement, including the introduction of a one-way arrangement on Trade Street Lane, footway improvements adjacent to the site and introducing no-waiting at any time parking restrictions. These changes were accepted by the highway authority, albeit they noted that the final decision on restrictions would be determined by a traffic regulation order (TRO).

2.2.4 A number of comments were also made by the highway authority on the 22_02997_FUL scheme in relation to cycle parking and the internal layout, although they were not objecting to the scheme.

2.2.5 As such, the principle of a residential scheme on the site has been discussed with the highway authority as part both the withdrawn and current live planning application, who provided a positive response to the application, as demonstrated in the recommendation for planning approval from the case officer. The agreed principles of the live application for the smaller site, in particular for servicing, cycle parking and pedestrian access have been carried through into this revised application incorporating St Mary's House.

2.3 Local Highway Network

2.3.1 As a result of the site being located within close proximity to the city centre, the highway network within the vicinity of the site is of good quality, accommodates high levels of vehicular movements, is well maintained, lit and benefits from active frontages and natural surveillance.

2.3.2 The site directly fronts the A4160 Penarth Road. Penarth Road is a single carriageway road with one lane in each direction, increasing to two lanes in each direction on the Penarth Road Bridge. Within the vicinity of the site, the carriageway measures approximately 9m in width and has footways on each side.

2.3.3 Penarth Road is subject to a 20mph speed limit and routes in a northeast to southwest and then south direction. At its northwestern extent, it continues as Tresillian Way (A4160) and forms a junction with Dumballs Road and Penarth Road (N). Penarth Road (N) routes north forming part of the main route into the city centre.

2.3.4 In a wider context, the A4160 provides a connection between Cardiff and Penarth from Newport Road (A4161) in Cardiff City Centre to the Stanwell Road / Plymouth Road / Hickman Road / Stanwell Road junction in Penarth.

2.3.5 Within the vicinity of the site, Penarth Road is subject to double yellow line parking restrictions and loading restrictions from Monday to Saturday between the hours of 07:45 and 18:00. Additionally, there are advisory cycle lanes which line both sides of the carriageway.

2.4 Road Safety

2.4.1 Personal Injury Accident (PIA) data has been reviewed from data published annually by the Department for Transport (DfT). The statistics provide PIA data which has been recorded using the STATS19 accident reporting form. This review covers the two-year period prior to the pandemic between 1st January 2018 and 31st December 2019, data from the two years during the pandemic between 1st January 2020 and 31st December 2021, as well as the most recent publicly available data which covers up to 31 December 2024. The most recent seven years of data has therefore been reviewed, which includes the most recent five full years of data outside of the pandemic.

2.4.2 The study area includes Penarth Road within the vicinity of the site and the route to Cardiff Central Rail Station. The entire study area is shown in Figure 2-2.

Figure 2-2: Location of Recorded PIA's

Source: Crashmap

2.4.3 Over the seven-year period, there were a total of 11 PIAs, eight of which were classified as slight injury incidents, and three of which were classified as serious injury incidents. There were no fatal PIAs that occurred within the study area during this period.

2.4.4 Four of the PIAs involved a cyclist, all of which were classified as slight incidents. One occurred to the north of the Trade Street / Penarth Road junction and three occurred at the Penarth Road / A4160 / Dumballs Road junction.

2.4.5 Four of the PIAs involved a pedestrian, two of which were classified as serious and two were classified as slight. One of the serious PIAs occurred on Tresillian Way involving a car and a pedestrian, resulting

in one casualty. The other serious PIA occurred at the junction of Penarth Road (N) and Tresillian Way involving a goods vehicle and a pedestrian resulting in one casualty.

2.4.6 As such, there were a total of eight PIAs which involved active travel movements over the seven year period, equivalent to just over one per year, on average. As an area which accommodates high levels of walking and cycling activity, this level of incidents involving active travel does not indicate a specific road safety issue which would require mitigation, particularly given these occurred in differing locations on the network, and the Penarth Road / A4160 / Dumballs Road junction already has high quality pedestrian and cyclist crossing infrastructure.

2.4.7 Based on the accident data review, it is not considered that there is a specific existing safety issue which would be exacerbated by the proposals.

2.5 Public Car Parks

2.5.1 Although likely to be minimal, the parking demands of potential visitors can be accommodated within existing public car parks. As such, it is considered there would be a minimal requirement for parking adjacent to the site to accommodate vehicles, particularly associated with residents.

2.5.2 Car parks that are situated within walking distance of the site include the following:

- 250 metres walk – Cardiff Central Station – 260 spaces
- 500 metres walk – Cardiff Central Riverside car park – 110 spaces
- 650 metres walk – John Lewis car park – 550 spaces
- 950 metres walk – St Davids car park – 2,000 spaces
- 950 metres walk – NCP Cardiff Westgate Street – 330 spaces

2.5.3 As such, there are a significant number of spaces (3,250) available in car parks within a short walk of the site which can be utilised by visitors.

2.6 Existing Modal Share

2.6.1 The site is located within output area W00008809 in Cardiff. Table 2-1 shows how the existing residents of this output area currently travel to work, as well as providing a comparison with the entire of CC as obtained from 2011 Census data. Although this data is available from the 2021 census, this is not considered as appropriate due to restrictions in place at that time reducing the level of movements to and from work, particularly by public transport.

Table 2-1: Journey to Work Mode Split (Census 2011)

Mode	OA W00008809	Cardiff
Public Transport	18%	14%
Car Driver	30%	59%
Motorcycle	0%	0%
Car Passenger	3%	5%
Bicycle	4%	4%
On Foot	45%	16%
Other	0%	1%
Total	**100%**	**100%**

2.6.2 The census data shows that 30% of residents living in the surrounding area and commuting to work travel as a car driver, with 45% walking, 18% travelling by public transport, 3% as a car passenger and 4% cycling.

2.6.3 This is a significantly higher level of sustainable travel than across the entire of Cardiff which demonstrates the high potential for residents of the site to travel by sustainable modes.

2.6.4 These statistics have been adjusted to exclude working from home. If this was included, c.6% of residents currently in work, do so from home rather than commuting, with c. 4% doing this across Cardiff. These levels are likely to have significantly increased since 2011. This demonstrates that there is further potential for the site to constrain car use, particularly given the site provides no car parking.

2.6.5 Travelling to work is only one journey purpose during peak hours from a residential site. A significant proportion of journeys will also be for education, leisure, and retail purposes and these are likely to have even higher levels of sustainable travel, particularly given local education facilities, retail and leisure opportunities are situated within suitable walking distances via appropriate routes (as shown in Section 4).

2.6.6 The Census data is also 15 years old, and the percentage of journeys made by cycling within Cardiff have increased since this time. Cardiff Council's Transport White Paper (2020) suggests that cycling has increased from 7% of journeys to work in 2010 to 13% in 2020, together with increases in public transport use. The percentage of car journeys has fallen from 57% to 49% over the same 10-year period. As such, the level of cycle journeys is also likely to have increased from the levels shown.

2.6.7 On this basis, Table 2-1 confirms that there is excellent potential for walking, cycling and public transport trips to be made to and from the site and a significant number of these movements already occur in this area (and without evidence of a specific safety issue).

3. PLANNING POLICY

3.1 Future Wales: The National Plan 2040

3.1.1 This is the national development framework, setting the direction for development in Wales to 2040. It provides an overarching development plan with a strategy for addressing key national priorities through the planning system. Planning decisions at every level of the planning system in Wales must be taken in accordance with the development plan as a whole.

3.1.2 In relation to transport, it is states on page 51 that *"Growth should be shaped around sustainable forms of transport and places that make us and the environment healthier".* Page 55 continues on to state that *"Development will focus on active travel and public transport, allied with a reduced reliance on private vehicles"*.

3.1.3 In the supporting text for Policy 2 - Shaping Urban Growth and Regeneration – Strategic Placemaking, it is stated that *"To enable active and healthy lives, people should be able to easily walk to local facilities and public transport."*

3.1.4 Policy 11 sets out National Connectivity, this states that *"Our priorities are to encourage longer distance trips to be made by public transport, while also making longer journeys possible by electric vehicles."*

3.1.5 Policy 12 sets out Regional Connectivity. This states that *"in urban areas our priorities are improving and integrating active travel and public transport."*

3.1.6 In relation to Active Travel and developments it is stated that *"Active travel must be an essential and integral component of all new developments, large and small."*

3.1.7 In relation to travelling in Wales, on page 84 it is stated that *"The Welsh Government's aim is to reduce the need to travel, particularly by private vehicles, and support a modal shift to walking, cycling and public transport."*

3.1.8 On page 174, supporting Policy 36, it is stated that *"Welsh Government wishes to see development built in sustainable locations that are supported by the active travel and public transport infrastructure and services needed to enable people to live active and healthy lives."*

3.1.9 As such, the key themes are that development should be sited where it can benefit from active travel and public transport connections and reduce the need to travel by car. Facilities should be within easy walking distance.

3.1.10 The site is situated on the edge of a city centre within a short walking distance to key public transport links, key facilities, and education facilities. Existing active travel connections connect to the site which encourages walking and cycling for local journeys.

3.1.11 The site location is consistent with the policies and aims of Future Wales and is fully in accordance with the Welsh Government aspirations for where development should be focused. Full details of the sustainable connectivity are set out within Section 4.

3.2 Planning Policy Wales 12th Edition (PPW12)

3.2.1 PPW12 provides overarching Welsh Government policies with transport policies set out in Section 4.1. This states in paragraph 4.1.10 *"The planning system has a key role to play in reducing the need to*

travel, particularly by private car, and supporting sustainable transport, by facilitating developments which:

** are sited in the right locations, where they can be easily accessed by sustainable modes of travel and without the need for a car*

** make it possible for all short journeys within and beyond the development to be easily made by walking and cycling."*

3.2.2 PPW12 sets out a "*Sustainable Transport Hierarchy for Planning*" in Figure 9. This states in paragraph 4.1.12 "*It is Welsh Government policy to require the use of a sustainable transport hierarchy in relation to new development, which prioritises walking, cycling and public transport ahead of the private motor vehicles. The transport hierarchy recognises that Ultra Low Emission Vehicles also have an important role to play in the decarbonisation of transport."*

3.2.3 It continues to state that "*The sustainable transport hierarchy should be used to reduce the need to travel [and] prevent car-dependent developments in unsustainable locations*."

3.2.4 PPW12 also states in paragraph 3.39 that development should "*where possible, offer good active travel connections to the centres of settlements to reduce the need to travel by car for local journeys*."

3.2.5 The site is situated in a location which is highly accessible by walking, cycling and public transport, with active travel links to numerous key facilities and services, which is fully compliant with PPW12, as demonstrated in Section 4 of this TS.

3.3 Technical Advice Note 18: Transport (TAN18)

3.3.1 The importance of walking and cycling in contributing towards sustainable travel patterns is detailed in the guidance contained within TAN18: Transport (March 2007). The guidance emphasises not only the role walking and cycling can have as main modes of transport for local journeys but also the considerable contribution they play in forming parts of longer journeys by public transport.

3.3.2 The importance of the location of a site in relation to encouraging sustainable travel is set out within paragraph 3.3 which states *"The location of new residential development has a significant influence on travel patterns as the majority of trips start or finish at home... It should be a key aim of development plans to identify residential sites that are accessible to jobs, shops and services by modes other than the car."*

3.3.3 Paragraph 3.8 continues on to state that *"Locations that are highly accessible by a variety of travel modes offer significant opportunities to make travel patterns more sustainable."*

3.3.4 As such it is recognised by TAN18 that the sustainable location of a site, such as the application site, has a significant influence in engraining sustainable travel habits.

3.4 Cardiff Local Development Plan (LDP) (2006-2026)

3.4.1 Section 4 of the LDP relates to Transport. Policy T1 specifically refers to walking and cycling. This states that to enable people to access employment, services and community facilities by walking and cycling, the Council will support developments which incorporate;

- High quality, sustainable design which makes a positive contribution to the distinctiveness of communities and places;
- Permeable and legible networks of safe, convenient and attractive walking and cycling routes;

- Measures to minimise vehicle speed and give priority to pedestrians and cyclists;
- Safe, convenient and attractive walking and cycling connections to existing developments, neighbourhoods, jobs and services;
- Infrastructure designed in accordance with standards of good practice including the Council's Cycling Design Guide;
- Supporting facilities including, signing, secure cycle parking and, where necessary shower and changing faculties.

3.4.2 Policy T6 states that Development will not be permitted which would cause unacceptable harm to the safe and efficient operation of the highway, public transport and other movement networks including pedestrian and cycle routes, public rights of way and bridle routes. This TS demonstrates that the proposals would not have an unacceptable impact on transport.

3.4.3 One of the keys of the LDP is the Transport Strategy which seeks to achieve a 50% modal split of cars for all trips on the network (and 50% other modes). The proposed development is in line with this policy by offering a realistic choice of travel modes and no on-site parking provision.

4. CONNECTIVITY BY SUSTAINABLE MODES OF TRAVEL

4.1 Introduction

4.1.1 This section describes the opportunities to make everyday trips by non-car modes. It considers the likelihood of trips being made on foot, by cycle, bus and rail, albeit it is recognised that for this site with no on-site parking provision, the significant majority of movements would be made by sustainable modes. The site location is demonstrated to be consistent with the aims of TAN18 and in accordance with sustainable transport policies in Future Wales, PPW12 and the LDP.

4.2 Walking and Cycling

4.2.1 Walking and cycling (collectively known as active travel) are the most important modes of travel at a local level and offer the greatest potential to replace short car journeys.

Walking

4.2.2 The site is situated on the edge of the city centre in an area which currently accommodates significant levels of pedestrian movements. As such, the majority of surrounding streets have good quality footways and appropriate crossing facilities to accommodate these movements safely between the site and close by facilities, city centre, car parks and public transport hubs. Trade Street Lane operates as a shared space arrangement, although this has low traffic flows and sufficient width for vehicles to pass pedestrians.

4.2.3 All routes, with the exception of Trade Street Lane include street lighting and have a posted speed limit of 20mph, all of which contributes to an attractive environment for pedestrians. This would be expected for a site situated on the edge of the city centre, accessed by routes which already accommodate walking.

4.2.4 The western frontage of the site connects directly to a c.2.5m wide footway located on the southeastern side of Penarth Road. Penarth Road has footways on both sides of the carriageway for its length which connect to those on Tresillian Way at its eastern extent. At the Penarth Road / Tresillian Way / Dumballs Road junction there are signalised crossings on each arm which provide connections in each direction. This includes connections along Penarth Road which links to Cardiff Central Rail Station and the city centre.

4.2.5 The footways at this junction also route south on Dumballs Road connecting to Cardiff Bay, as well as east on Callaghan Square which links to Atlantic Wharf.

4.2.6 The footways on Penarth Road also route west across the Penarth Road Bridge and connect to facilities within Grangetown.

4.2.7 The northern frontage of the site is onto Trade Street which is a no through road with low speeds and flows and wide footways on both sides of the carriageway adjacent to the site.

4.2.8 As such, the site is well situated to benefit from good pedestrian links and crossings in all directions. The site is therefore considered to be well situated so that the majority of trips can be undertaken on foot.

Cycling

4.2.9 The site's location benefits from access to a high standard of cycle infrastructure including on and off-road routes. There are on-carriageway advisory cycle lanes running along the frontage of the site on Penarth Road which connect to further routes to both the east and west of the site.

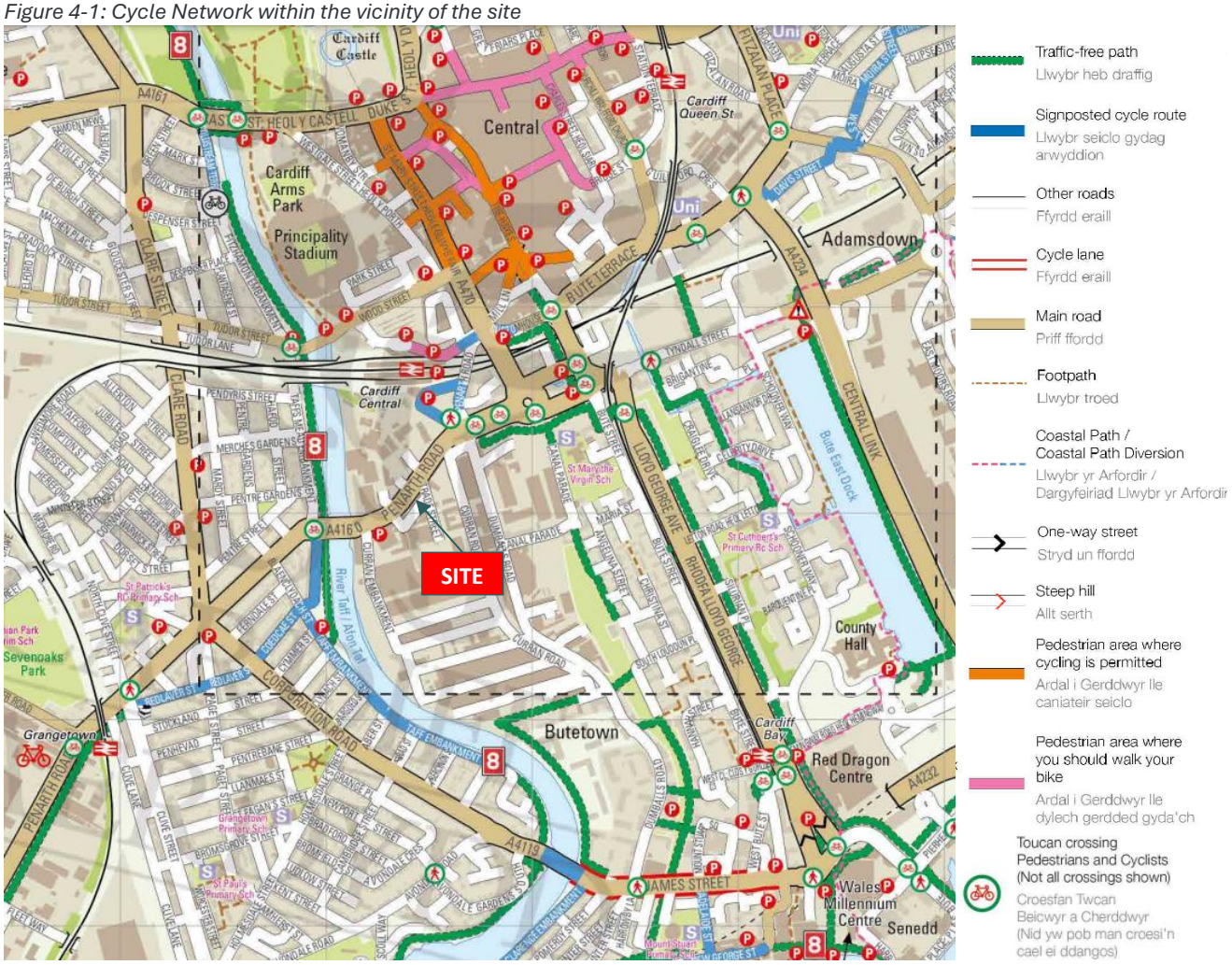
4.2.10 A traffic-free shared footway / cycleway route is located to the northeast of the site which runs from Penarth Road, along Tresillian Way and links to the city centre. This includes a crossing suitable for cyclists at the signal junction of Penarth Road and Tresillian Way.

4.2.11 There is a traffic free cycle route to the west of the site known as the Taff Trail which stretches 88km linking to key locations within Cardiff, Rhondda Cynon Taf, Merthyr Tydfil, and Powys. These off-carriageway routes link to other cycle infrastructure within the vicinity of the site and surrounding the city centre.

4.2.12 There are also advanced stop lines provided at key local signal controlled junctions. As such the site is within close proximity of extensive cycle infrastructure.

4.2.13 The site is in close proximity to several cycling routes as indicated on the Cardiff Cycling and Walking map. An extract of this map showing cycle routes in the vicinity of the site is shown in Figure 4-1. The highway authority has indicated that this map is not necessarily up to date on all proposals/existing provision. However, it is considered to provide a helpful overview of some routes, prior to the publication of active travel routes, as shown on DataMap Wales considered in more detail later in this section.

Figure 4-1: Cycle Network within the vicinity of the site



Source: Cardiff Council

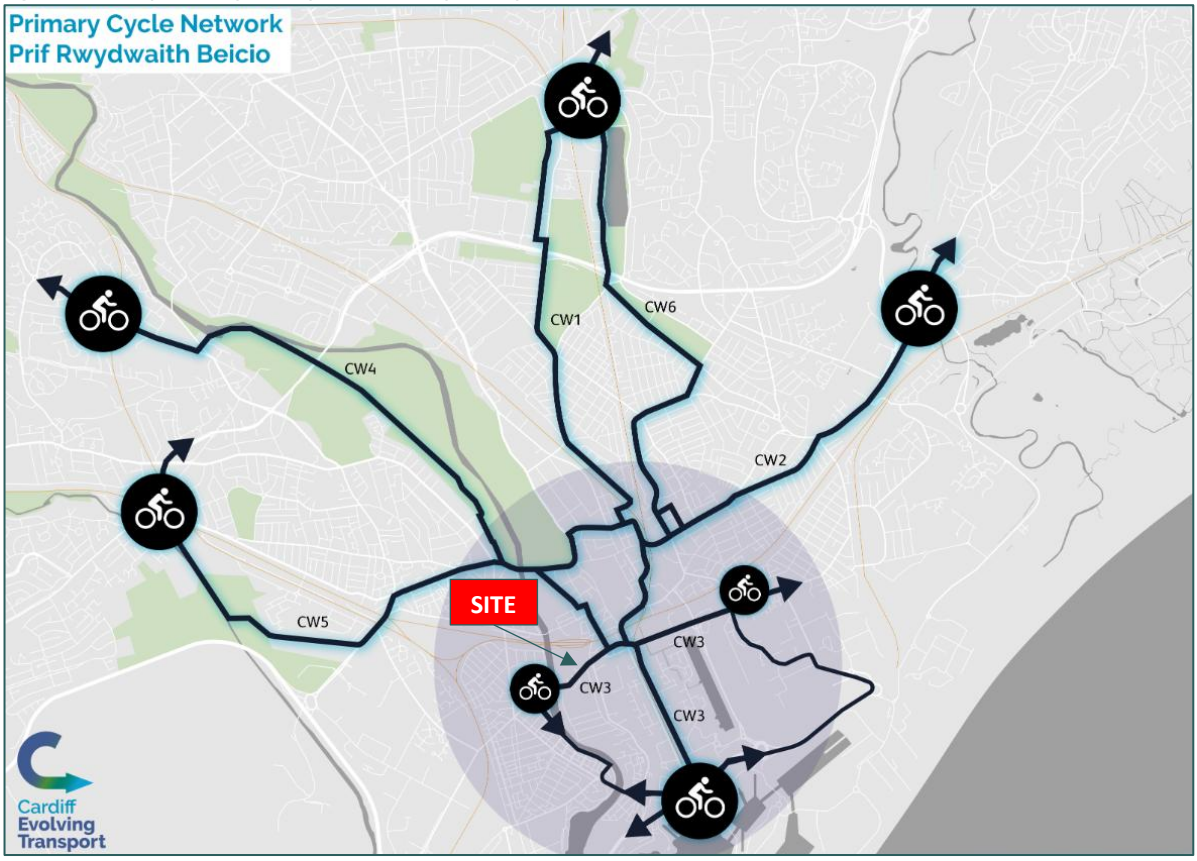
4.2.14 Cardiff Council has an overarching proposal for six permanent cycleways to support and promote cycling. A number of these have been completed already and others will be completed over the coming years. The routes will connect communities to major destinations across the city, including the City Centre and Cardiff Bay. The routes are as follows:

- Cycleway 1: City Centre to Cathays, University Hospital Wales, Heath High Level and Heath Low Level Rail Stations and North East Cardiff Strategic Development Site
- Cycleway 2: City Centre to Adamsdown, Newport Road retail parks, Rumney, Llanrumney and St Mellons Business Park
- Cycleway 3: City Centre to Cardiff Bay
- Cycleway 4: City Centre to Llandaff, Danescourt and North West Strategic Development Site
- Cycleway 5: City Centre to Riverside, Ely and Caerau
- Cycleway 6: Roath Cycleway; City Centre to Plasnewydd, Penylan, Cyncoed and Roath Park.

4.2.15 Cycleway 3 has already been completed in some locations and this will route along the site frontage (albeit this section has not yet been completed), then along Tresillian Way and then north through Cardiff City Centre. This route also runs along Lloyd George Avenue connecting the City Centre to Cardiff Bay, as well as linking to other existing and planned routes. This forms a convenient and good quality route for users of the site. Cycleway 3 also provides a connection to Cycleway 4 and Cycleway 5 which link to Llandaff and Canton.

4.2.16 A plan of the six cycleways is shown on Figure 4-2.

Figure 4-2: Proposed Cycleways in Proximity of City Centre



Source: Cardiff Council website

Integrated Network Map and Active Travel Routes

4.2.17 The Welsh Government DataMap Wales shows the Active Travel Network Maps (ATNM) across all authorities, including CC. This shows existing walking routes and where upgrades or new routes are anticipated to be provided for the next 15 years.

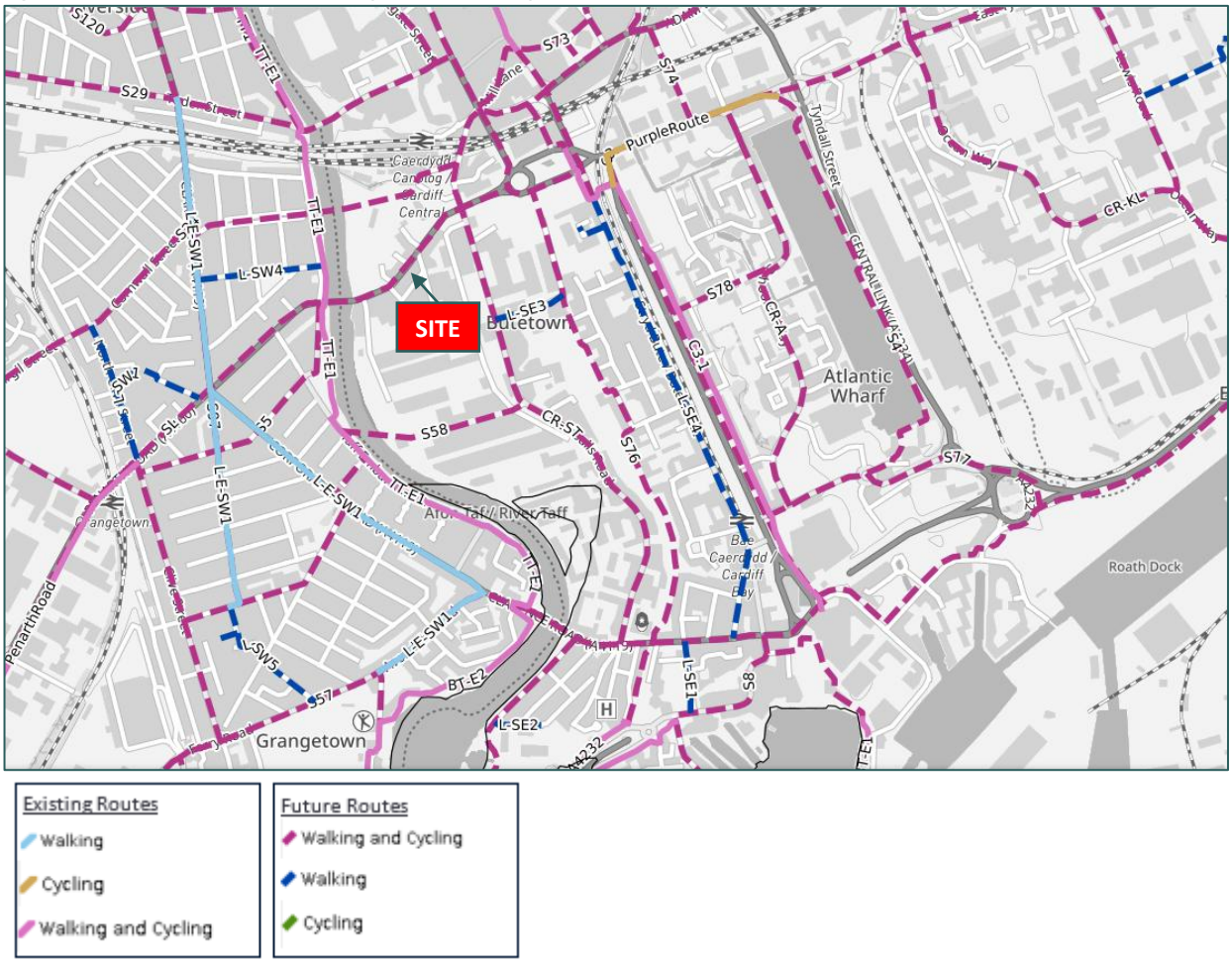
4.2.18 The nearest existing walking / cycling route in relation to the site is the 'TT.E1' route accessed via Penarth Road, approximately 230m to the west of the site. This routes north and south along the River Taff connecting to Cardiff Bay to the south and to Cardiff City Centre, Gabalfa, Whitchurch, and eventually to Brecon at its northern extent. This is a two-way traffic free cycle route described as previously – being the Taff Trail. This route is also accessible via proposed walking / cycling route 'SL' from the site access.

4.2.19 The nearest proposed route to the site, runs along the site frontage on Penarth Road and is known as route 'SL'. This is shown as a proposed walking and cycling route and can be accessed directly from the site access. To the northeast, this route connects to future walking and cycle route S73 which links to Cardiff Central Rail Station and to the city centre. To the southwest, route 'SL' continuous through Grangetown and provides connections to the facilities within including a doctor's surgery, Tesco Express, and Grangetown Hub.

4.2.20 Therefore, the site is well positioned to benefit from existing and potential future high-quality walking and cycling links, which connect to further routes, to the city centre, to Cardiff Central Rail Station and to numerous services and facilities. The active travel routes located throughout Cardiff have been considered appropriate by CC for walking and cycling (once all are completed).

4.2.21 The Welsh Government ATNM showing these and other routes within the vicinity of the site has been reproduced in Figure 4-3.

Figure 4-3: Active Travel Network Map - within vicinity of the site



Source: Welsh Government Active Travel Network Map

4.2.22 The ATNM demonstrates that the site is situated within a short distance of a number of existing and proposed future walking and cycling routes, which are considered appropriate for use by CC.

Summary

4.2.23 The site is situated in a highly sustainable location for active travel, as would be expected for an existing site in an established urban area on the edge of the city centre. This will encourage walking and cycling and reduce the travel by car, consistent with relevant policy and guidance, including sustainable transport policies in Future Wales, PPW12 and TAN18.

4.3 Distances to Facilities

4.3.1 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 Guidance 2021: It is stated within paragraph 9.1.5 that “Walking is most suitable for journeys of less than two miles whilst cycling is also convenient for longer journeys, typically up to five miles for regular utility journeys”. This equates to distances for walking of up to 3.2km and cycling of up to 8km.

- This also states in paragraph 9.5.3 that "Walkable neighbourhoods also referred to as 'low-traffic neighbourhoods', or 'active neighbourhoods', (see figure 9.6) are characterised by having a range of facilities within 20 minutes' walking distance which people may access comfortably on foot." This would equate to c. 1.6km.
- 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 2km.
- 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 (1.6km) are made wholly on foot'.
- CIHT - Guidelines for Providing for Journeys on Foot (2000): suggests preferred maximum distances for commuting journeys are up to 2km.
- 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).

4.3.2 As such, based on guidance, it is considered that suitable walking distances are up to 3.2km but journeys within 2km have a greater potential to be made on foot. A 2km distance equates to around a 25-minute walk travelling at 3mph (4.8kph). A 3.2km distance equates to around a 40-minute walk. Sites with a range of facilities within 1.6km are considered to be within a 'walkable neighbourhood' and would be highly sustainable locations.

4.3.3 It is considered that journeys of up to 8km are within a suitable cycling distance. A cycling journey of 8km would equate to approximately a 25-minute travel time.

4.3.4 To demonstrate the site's connectivity, nearby key facilities within appropriate distances which are accessed via suitable and established routes have been summarised in Table 4-1. The location of the facilities in the context of the site are shown in Figure 4-4. These facilities have been summarised based on approximate travel distances from the site access via appropriate routes, not straight-line distances.

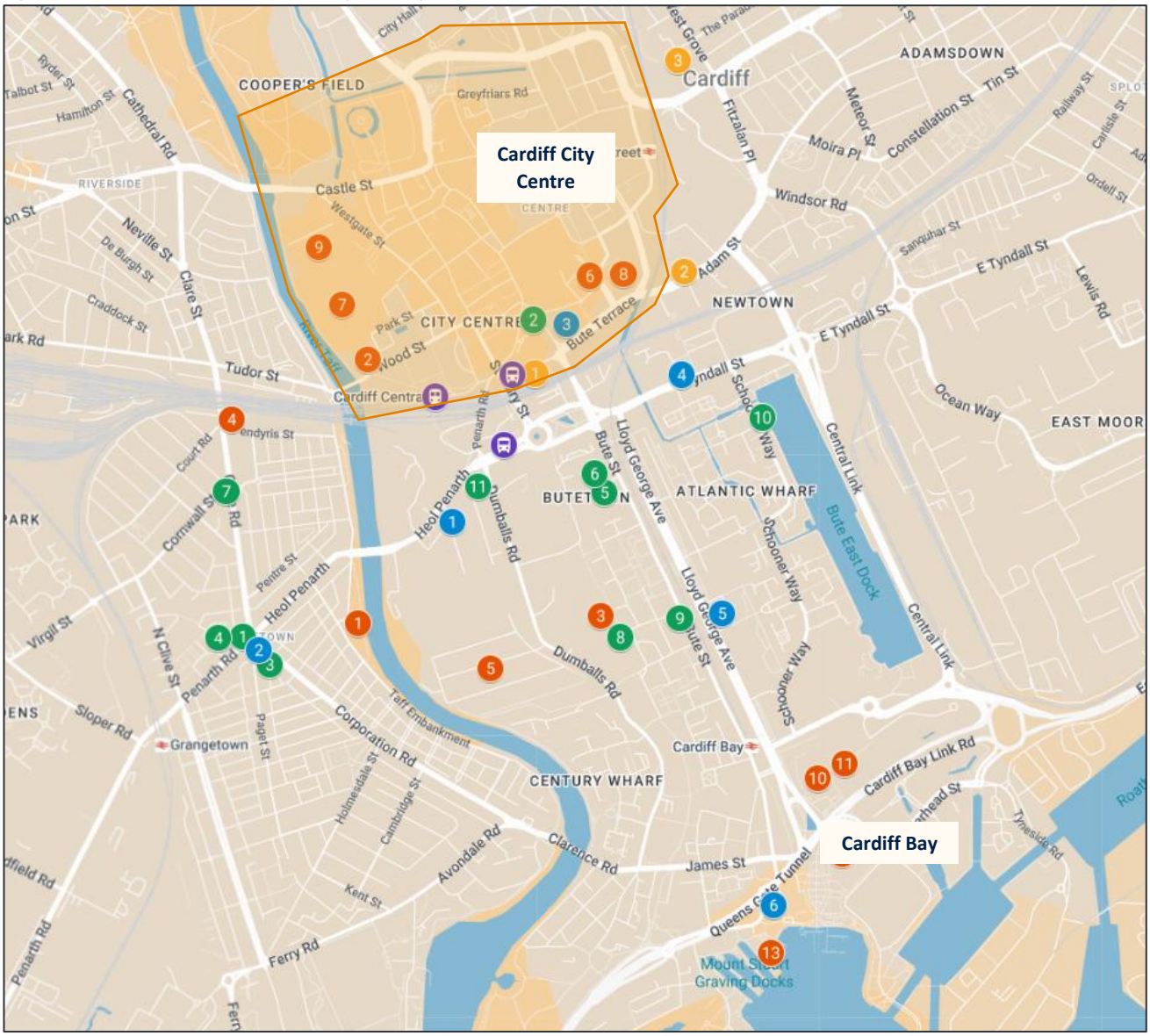
Table 4-1: Proximity of the site to local facilities and services

Facility / Amenity		Distance from site access (metres)	Walking Travel Time (minutes) *	Cycling Travel Time (minutes) *
Community Facilities				
1	Lloyds Bank Commercial Finance	230	3	1
2	Well Pharmacy	610	8	2
3	Cardiff Central Library	640	8	2
4	Corporation Road Surgery	690	9	2
5	Grangetown Hub	720	9	2
6	St Mary's Church	720	9	2
7	Greek Orthodox Church of St Nicholas	760	10	2
8	Cornwall Street Post Office	780	10	2
9	Butetown Community Centre	930	12	3
10	Butetown Medical Practice	1080	14	3
11	Cardiff Bay Dental	1110	14	3
Public Transport				
	Tresillian Way Bus Stops	270	3	1
	Customhouse Street Bus Stops	500	6	2
	Cardiff Central Rail Station	350	4	1
Retail				
1	Trade Street Stores	120	2	<1
2	Tesco Express	630	8	2

Facility / Amenity		Distance from site access (metres)	Walking Travel Time (minutes) *	Cycling Travel Time (minutes) *
3	Cardiff City Centre (John Lewis)	750	9	2
4	Coop	830	10	3
5	Morrisons Daily	1200	15	4
6	Mermaid Quay	1850	23	6
Education				
1	The Open University Wales	570	7	2
2	University of South Wales, Cardiff Campus	1150	14	4
3	Cardiff University	1850	23	6
Leisure				
1	Taff Embankment Park	420	5	1
2	PureGym Cardiff Central	650	8	2
3	Tiger Bay FC	820	10	3
4	Tramshed Cardiff	840	11	3
5	DEPOT Cardiff	890	11	3
6	Cineworld - Cardiff	940	12	3
7	Principality Stadium	940	12	3
8	Utilita Arena Cardiff	980	12	3
9	Cardiff Arms Park	1080	14	3
10	ODEON Cardiff	1770	22	6
11	The Red Dragon Centre	1850	23	6
12	Wales Millennium Centre	1920	24	6
13	Cardiff Bay Waterfront	1950	24	6

** Based on walking speeds of 80 metres per minute and Cycling Speeds of 320 metres per minute*

Figure 4-4: Location of facilities within proximity of the site



Source: Google Maps
Note: Numbers and colours correlate to Table 4-1

4.3.5 Table 4-1 and Figure 4-4 demonstrate a significant range and number of facilities and services are located within comfortable walking and cycling distances to the site which can be accessed via suitable active travel routes. All facilities are within Welsh Government guidance walking and cycling distances, with numerous facilities within a 'walkable neighbourhood' distance. This demonstrates the highly sustainable location of the site.

4.3.6 Within a 400m walk, residents would be able to access a convenience store, the closest bus stops, a bank and Cardiff Central Station. Within an 800m walk residents can access a gym, a doctor's surgery, a pharmacy, a library, a post office, The Open University Wales, a food store and Cardiff City Centre.

4.3.7 A large number of further everyday key facilities and services are located within easy walking distance of c. 10-15 minutes. This includes a dentist, a community centre, University of South Wales, a cinema, music venues, the Utilita Arena, the Principality Stadium, and leisure facilities.

4.3.8 The site is situated in a highly sustainable location, as would be expected for a site in an existing and established area on the edge of the city centre. This will encourage walking and cycling and reduce the

reliance on the private car, consistent with relevant policies and guidance, including sustainable transport policies in Future Wales, PPW12 and TAN18.

4.4 Public Transport

Bus

4.4.1 The closest bus stops to the site are located on Tresillian Way within a 270m (3 minute) walk. These bus stops are provided with bus shelter, bus flag, seating, and raised kerb for accessible boarding. These stops are served by bus service T1C.

4.4.2 Additionally, bus service 304 is accessible within 500m walk at Customhouse Street bus stop. This service links to numerous locations including Barry, Grangetown, Llantwit Major, Dinas Powys and Rhoose.

4.4.3 Cardiff Bus Interchange is also accessible within a 550m (7 minute walk) which offers 38 bus services linking to additional locations including Newport, Dinas Powys, Leckwith, Pentrebane, Creigiau, Barry, Barry Island, Penarth, Tonypandy, and Maerdy. These bus services are operated by Cardiff Bus, Adventure Travel, First Bus, and Stagecoach.

4.4.4 A summary of the services from the nearest bus stops are set out in Table 4-2.

Table 4-2: Local Bus Services

Route No.	Route and stop	Frequency				
		Mon-Fri Peaks	Mon-Fri Daytime	Mon-Fri Evening	Sat	Sun
T1C	Aberystwyth - Cardiff (Tresillian Way)	PM peak (17:10)	17:10	17:10	17:10	17:10
	Cardiff – Aberystwyth (Tresillian Way)	No service	13:50	No service	13:50	13:50
304	Llantwit Major – Cardiff via Roose, Barry, Dinas Powys, Grangetown (Customhouse Street)	Hourly	Hourly 08:39 – 00:37	Hourly	Hourly 08:39 – 00:37	Every 2 hours 08:42 – 00:43

4.4.5 Within 500m of the site, there are hourly services in peak hours, with an additional service operated in the PM peak hour. The services also extend across the weekend, enabling access to buses seven days a week ensuring these are a viable and realistic mode of travel.

4.4.6 Within 550m of the site, Cardiff Bus Interchange provides access to high frequency of bus services with 14 bays accommodating approximately 60 bus services per hour, equating to an average frequency of around one service every minute.

4.4.7 As such, potential future residents of the site can access a high frequency of bus services, linking to a variety of destinations including local and more regional destinations. The bus services from closest to the site, as well as the Interchange, provide a feasible and highly attractive option for all journey purposes.

4.4.8 Given the extent and proximity of numerous bus routes, the site has excellent accessibility by bus which offers a realistic travel option for potential future residents of the site. This will assist in minimising the vehicle trip generation from the site and reduce the need for residents to own a car.

Rail

4.4.9 The nearest rail station to the site is Cardiff Central within 350m (a 4 minute walk). Cardiff Central Rail Station provides numerous services to local, regional and national locations including Bristol, Swansea, London Paddington, Manchester Piccadilly, Taunton, and Portsmouth Harbour. Rail services from Cardiff Central would be an extremely attractive travel option for residents travelling to and from the site.

4.4.10 There are numerous services departing from Cardiff Central with a combined approximately 35 trains per hour. The station also provides cycle parking for up to 102 cycles across platforms 1 and 2, 3 and 4, 6 and 7. As such this provides the option of a combined cycle then rail journey for future residents, albeit the station is within a short walk.

4.4.11 As such, it is feasible and attractive to use the rail services for commuting purposes although rail is also likely to be attractive for other journey purposes such as leisure, retail, or business journeys. A combined walk and rail journey has excellent potential for replacing car journeys and further reducing the requirement for owning or travelling by car.

4.5 Summary

4.5.1 The site is situated in a highly sustainable location. Potential future residents can walk or cycle to a significant number and range of facilities and services within appropriate distances via good quality routes, reducing the need to travel by car. In this regard, the site location is consistent with the sustainable transport policies in PPW12 (in particular paras 4.1.10 – 4.1.17) and is situated in a 'walkable neighbourhood' location.

4.5.2 The site also has excellent public transport links, which provide a suitable, attractive and realistic travel mode. This will assist in minimising the need for residents to own or travel by car. It will also benefit and attract residents that would prefer to travel by public transport.

4.5.3 Potential future residents would have a realistic choice of modes of travel for all journey purposes. This will minimise the impact of the development on the surrounding area. The site location will encourage and promote sustainable travel behaviour and is fully in accordance with transport policies in TAN18, PPW12 and Future Wales.

5. DEVELOPMENT PROPOSALS

5.1 Overview

5.1.1 The proposals are for a co-living concept, residential-led redevelopment scheme, which provides communal, social and workspaces.

5.1.2 The proposals are to construct a 13-storey building providing a co-living residential development totalling 228 units with a resident's plaza, as well as four commercial units on the ground floor fronting Penarth Road.

5.1.3 In summary, the scheme comprises of the following:

- 228 no. units / 293 bedrooms
  - 2no. 'Duo' (2 bed) cluster flats
  - 9no. 'Trio' (3 bed) cluster flats
  - 11no. 'Quad' (4 bed) cluster flats
  - 6no. Duplex (3 bed) flats
  - 200no. Studio flats
- 4 commercial units (totalling 393.3 sqm)
- 18no. office suites (9no. at 1st floor and 9no. at 2nd floor) and breakout spaces on both floors
- Amenity room
- Front and rear outside terrace space
- Cycle stores

5.1.4 The co-living flats are designed as living units with separated sleeping, cooking, eating, bathing and relaxing / workspace areas.

5.1.5 The co-living scheme would be private rented flats with the addition of shared facilities. The spaces in the flats are minimised and the socialisation aspects are exported into the shared facilities on site to keep them affordable. These are well-planned small flats so that occupiers have a 'real home' experience in a well-planned small space whilst still benefiting from on-site shared common spaces. This builds communal feel, encourages visitors and constructs an on-site social network.

5.1.6 The flats are aimed at young professionals, key workers, mature students, single people and couples starting out due to the affordable nature of the facility.

5.1.7 There would be no car parking on the site, given the central location and the highly sustainability of the area, the demand for parking is likely to be low and this is considered appropriate.

5.1.8 The proposed site layout is included as Appendix A.

5.2 Site Access and Layout

5.2.1 The primary pedestrian access to the building will be from Penarth Road via the footway that runs adjacent to the site. This connects to the terrace that runs along the front of the building. The terrace provides access to the main entrance, leading into the communal amenity space and lobby. From here, residents can access the stair and lift core, as well as the connection to the adjacent proposed co-living scheme (App Ref: 24/02716/FUL). The commercial units will also front onto Penarth Road, with direct access from the terrace and footway to create an active frontage.

5.2.2 Additional entrances are located fronting onto Penarth Road and Trade Street which provide a direct connection to the stair core linking to the second floor office space. On the second floor, 9no. office units and communal break out space occupy the western side of the building. This space can also be accessed through the residential section of the building.

5.2.3 A rear access is provided from Trade Street Lane. This access links to the communal amenity space and to the stair and lift core that will connect to all floors and provide access to the residential units. The units will be dispersed from the first floor across to the thirteenth floor. The communal areas are located on the ground floor, second floor, and fourth floor. Separate accesses to the cycle stores are located from Penarth Road and Trade Street, and access to the refuse store is located at the rear of the building, accessed from Trade Street Lane. This will enable refuse collection to occur adjacent to the refuse store and allow suitable access for cyclists to reach the cycle storage.

5.3 Accessible Access

5.3.1 The proposals include the following measures, to provide access for those with mobility and visual impairments:

- step free accesses
- disabled toilets
- internal doors that allow the passage of wheelchair users
- lifts to upper floors
- a colour scheme will be used at the pedestrian accesses to assist those with visual impairments

5.4 Car Parking Provision

Residential

5.4.1 Maximum car parking standards are set out in Cardiff Council Supplementary Planning Guidance (SPG) *Managing Transportation Impacts (Incorporating Parking Standards)* as adopted in July 2018.

5.4.2 In accordance with the SPG in Figure 6.1, the site is situated within the Central Area. For residential use, the SPG suggests a maximum of one car parking space per unit in the central area.

5.4.3 The proposals are to provide no car parking on the site, which is in accordance with the maximum levels in the guidance. This is considered appropriate for the proposed development as it reflects the excellent connectivity of the site and encourages travel via sustainable modes. The site is within close proximity to a wide range and high number of amenities and has excellent public transport links so is ideally situated for sustainable travel. This was also accepted as part of the live application on the site for the same use.

5.4.4 It is also proposed to provide four commercial units with a floorspace totalling 393.3 sqm. For A1 use in a central location, the maximum standards outline 1 space per 400sqm and for A3 use in a central location, the maximum standards state up to one space to be provided. As such, through applying the standards to the overall scheme, this would equate to up to one space. As such, the provision of no parking for these uses is considered to be in accordance with this guidance.

5.4.5 A residential scheme with no parking provision is also considered to be in accordance with the Welsh Government overarching planning policy *Future Wales: The National Plan 2040* which states on page 86 that *"Planning authorities should promote car-free and low car developments in accessible locations."*

5.4.6 Additionally, there are numerous public car parks which can accommodate visitor parking appropriately within the vicinity of the site.

5.5 Cycle Parking Provision

5.5.1 Cycle parking standards are set out in the Managing Transportation Impacts SPG.

5.5.2 The standards suggest a minimum of one cycle parking space per bedroom for residential use, which is equivalent to 293 cycle spaces. This reflects the aspirational targets set by CC to increase cycling numbers. It is considered that this level of cycle parking provision would significantly exceed the demand from the proposals, particularly given the site's highly accessible location and attractiveness for walking trips. With a number of key facilities and services accessible via appropriate pedestrian infrastructure within 400m of the site, the propensity to walk rather than cycle would be high.

5.5.3 Table 2-1 shows that only 4% of residents living in the surrounding area and commuting to work travel by bike. The Cardiff Council and Sustrans document 'Bike Life Cardiff', published in 2017 and in 2019, shows an 8% modal share for cycling in Cardiff as a whole. The 2017 report states that 47% of households in Cardiff do not own a bike, and the 2019 report shows only 22% of residents cycle at least once a week. As such, this does not show the high demand for cycling in Cardiff promoted in the standards.

5.5.4 The proposals would provide 90 two-tiered cycle racks (180 spaces) and 11 Sheffield Stands (22 spaces) for residents (202 spaces in total) across two separate cycle stores on the ground floor. This equates to a 69% compliance ratio when compared to the aspirational standards. It is considered that this provides an appropriate level of cycle parking to meet the likely demand. There is capacity to provide further cycle parking up to the standards, by changing the Sheffield Stands for double tiered parking. However, a third of the provision has been provided as Sheffield Stands, as requested by the highway authority on the previous live application. This provision is in accordance with the levels accepted for the live application on the site.

5.5.5 A review of two recently consented schemes within proximity to the site shows a similar and lower ratio of cycle parking, further demonstrating the appropriate level of provision. The consented Central Quay scheme (21/02883/MJR & 23/02718/DOC) includes 240 cycle rack spaces and 28 external Sheffield stands, which were accepted by CC upon discharging Condition 14 (Cycle Storage). This represents a compliance ratio of 50.4% when compared to the standards. This is a lower ratio than shown on the proposed site layout for this application. In addition, the consented Central Square development (21/02984/MJR) shows a similar level of compliance when compared to the proposals, with 74% of cycle spaces to beds.

5.5.6 In relation to the retail use, the standards require 2 secure and covered spaces per 100sqm for staff. This would equate to 8 spaces. There will be three Sheffield stands located adjacent to the northwestern side of the building accessed from Penarth Road for visitors, as well as two additional Sheffield Stands adjacent to the commercial units, also accessed from Penarth Road. This allows for parking for 10 cycles. This parking will be utilised by the retail units and as such, this provision is considered to be in accordance with the standards.

5.5.7 All cycle parking is provided with appropriate dimensions, with the two-tier stands having been designed in accordance with the Bike Storage Company gas assisted two tier cycle rack specifications. There is at least a 2m aisle width in which to manoeuvre bikes in and out of the spaces, from beyond where the upper racks are brought down to ground level. There is at least a 6.8m width across the cycle parking area to accommodate two-tiered stands appropriately, this is 2.8m which is required for the top

rack to be extended, plus 2m aisle width. The Sheffield stands have a 1m spacing and are 0.6m from any walls. As such, there is appropriate manoeuvring space to get bikes into and out of all cycle parking appropriately.

5.6 Servicing and Deliveries

5.6.1 Servicing would mainly relate to deliveries of parcels and food, as well as refuse collection which will access the site via Trade Street Lane. The refuse stores are located on the ground floor with doors opening to the rear of the building to enable access from Trade Street Lane. The refuse vehicle is able to navigate along Trade Street Lane and access the refuse stores. A layby has been provided to enable a refuse vehicle to pull into the site and leave sufficient space for another large vehicle to pass. A refuse vehicle of up to 9.5m in length is able to access Trade Street Lane and the layby, so as part of the revisions to Trade Street Lane it is suggested that the TRO includes limiting the length of vehicles to 9.5m. Swept path analysis has been provided in Appendix B, which shows a refuse vehicle pulling into the layby appropriately. The vehicle would then continue through the revised alignment of Trade Street Lane which forms part of the adjacent Asset House application.

5.6.2 When parked kerbside, it will be possible for another vehicle to pass the parked refuse vehicle in this location. These arrangements are considered appropriate and an improvement over the existing situation. This will also retain suitable access for the lane opposite the site.

5.6.3 Vehicles stopping at this location would be well within 25 metres of the bins to enable collection by Council operators, albeit it is recognised that the waste collection vehicles for the Council may be larger than 9.5m in length and on this basis a private collection may be required.

5.6.4 MfS states Building Regulations on refuse collection distances in that waste collection vehicles should be able to get within 25 metres of the storage points. As such, the arrangements are in line with Building Regulations (and MfS) and considered safe and appropriate.

5.6.5 A fire tender will also be able to get within 45 metres of all parts of the building. As such, the layout is appropriate for access by emergency vehicles.

5.6.6 In relation to ad-hoc deliveries of parcels and food, vehicles can stop on-street on Trade Street Lane and utilise the servicing bay, which can accommodate at least two large panel vans, as this is 13m in length. Vehicles can also utilise the servicing layby provided for the adjacent Asset House scheme, which forms a separate application but within an adjoining building.

5.7 Construction

5.7.1 The route of the construction vehicles will be agreed with CC by the contractor as part of a Construction Traffic Management Plan (CTMP).

5.7.2 The CTMP, which can be secured through a planning condition, would contain measures such as the following:

- locations where vehicles would load/unload from the highway
- construction access locations,
- the extents of any footways or roads that may need to be closed at any stage
- a routing strategy to and from the site
- details of an appropriate signage strategy
- measures to minimise construction freight trips on the local highway network, particularly during peak times or school drop-off / pick-up times

- car parking demand/locations for construction staff
- measures to encourage construction staff to reduce car use to the site, particularly through car sharing and, where feasible, by public transport, walking and cycling
- accommodating construction worker vehicles to reduce the impact of on-street parking on the local highway network
- wheel washing and dust sheeting will be implemented to reduce the impact of mud, dust and dirt on the local highway network

6. TRIP GENERATION AND IMPACTS

6.1 Introduction

6.1.1 This section sets out the forecast trip generation relating to the proposed co-living accommodation. Although the site has no car parking, it would still generate some vehicle movements in relation to taxis, pick-ups / drop-offs, and service / delivery vehicles, albeit vehicle trips are likely to be minimal, particularly during network peak hours.

6.1.2 The vehicle trip generation has been obtained using the Trip Rate Information Computer System (TRICS). The TRICS database predicts the likely numbers of arrivals and departures by utilising surveys of existing sites. The database has been analysed for sites with similar characteristics in terms of use, scale, parking, location, and accessibility. Trip rates have been obtained and applied to forecast trip generation during the typical network peak hours and over a daily (12 hour) period.

6.1.3 For robustness, the offsetting of trips associated with the existing site use has not been considered within the analysis, although the existing St Mary's House use, in particular, could generate a significant level of trip generation.

6.2 Proposed Trip Generation

6.2.1 The following parameters have been applied to the search criteria to obtain as many similar sites as possible:

- 03 – Residential/C – Flats Privately Owned
- Located in England and Wales (including London)
- Sites with 50 units or above
- Surveys from Monday to Friday
- Town Centre / Edge of Town Centre
- From 2010 onwards
- Sites with a parking ratio of up to 0.5 spaces per dwelling
- Removed sites carried out during COVID-19 restrictions

6.2.2 The use of the privately owned flats trip rates is considered robust as rented flats typically have a lower level of vehicle generation. However, a review of the TRICS database showed that the surveys of affordable flats with low levels of parking had significantly higher vehicle trip generation which was not comparable with this type of co-living residential use, with no on-site parking. The trip rates applied are therefore the closest match within the database and have been presented accordingly.

6.2.3 There are no surveys within the TRICS database of sites with no parking. As such using comparative sites with up to 0.5 spaces per dwelling was the most suitable threshold at which an appropriate number of surveys could be utilised.

6.2.4 The application of these parameters resulted in a total of three surveys of similar sites. A summary of the forecast total vehicle trip rates and trip generation associated with the 228 proposed co-living flats are shown in Table 6-1. The full outputs of the TRICS analysis including the sites used can be found in Appendix D.

Table 6-1: Proposed Co-Living – Vehicle Trip Rates and Trip Generation

Time Period	Trip Rates (per unit)			Trip Generation (228 units)		
	Arrivals	Departures	Two-way	Arrivals	Departures	Two-way
AM Peak (07:00-08:00)	0.012	0.021	0.033	3	5	8
AM Peak (08:00-09:00)	0.029	0.037	0.066	7	8	15
PM Peak (16:00-17:00) *	0.052	0.046	0.098	12	10	22
PM Peak (17:00-18:00)	0.037	0.027	0.064	8	6	14
12 Hours (07:00-19:00)	0.390	0.379	0.769	89	86	175

** This is also the development peak hour*

6.2.5 Based on the robust forecast trip rates, the proposed development is forecast to generate approximately 8 to 22 two-way vehicle movements during the network peak hours and 175 two-way vehicle movements over a 12 hour period. The development peak hour is also shown to occur between 16:00-17:00.

6.2.6 It is considered that this trip generation would be a robust forecast of vehicle movements given the site is providing no car parking. However, it is recognised that there will be some vehicle movements generated on the network for delivery and servicing movements, as well as taxis and visitor vehicles. Some of these vehicles could utilise local public car parking areas and others would utilise the servicing bay provided as part of the scheme.

6.2.7 However, even when considering the robust forecast of vehicle movements, this would equate to a maximum of just one vehicle movement on the network every 2-3 minutes, on average, during the busiest hour.

6.2.8 The site is surrounded by parking restrictions and vehicles associated with residents or visitors should not wait or park on-carriageway adjacent to the site. The on-site staff will be in a position to monitor this, and Cardiff Council will be able to enforce this, if needed.

Commercial Units

6.2.9 The commercial units are likely to generate a minimal level of vehicles, associated with staff movements and some ad hoc deliveries. The majority of movements are likely to be associated with pedestrians passing by the site or diverting into the site from the local area, or from the residents on site. As there are no dedicated parking bays on site for this use, this would restrict vehicle movements to the site and attract those travelling by sustainable modes. Any vehicle movements for staff would be accommodated in local car parks. As such, a detailed analysis of vehicle movements has not been considered separately.

6.3 Multi-modal trips

6.3.1 To provide an estimation of the number of trips by each mode of travel during the peak hours and across a 12 hour period, the modal split obtained from the Census journey to work information has been utilised. The resultant forecast modal split and number of trips by each mode of travel (based on applying the vehicle trips from the TRICS analysis to other modes) has been set out in Table 6-2.

Table 6-2: Forecast Modal Split for proposed development (using Census data)

Mode	Census Modal Split %	Number of Two-Way Person Trips		
		AM Peak (08:00-09:00)	PM Peak (16:00-17:00)	12 Hours (07:00-19:00)
Public Transport	18%	9	13	105
Car Driver	30%	15	22	175
Motorcycle	0%	0	0	0
Car Passenger	3%	2	2	18
Bicycle	4%	2	3	23
On Foot	45%	23	33	263
Other	0%	0	0	0
Total	**100%**	**51**	**73**	**584**

6.3.2 The modal split demonstrates the sustainable location of the site and the choice of travel modes available, and that visitors and residents would not need to travel by car to access the site.

6.3.3 The proposals would not have a material impact on any mode of travel, particularly considering that the existing uses would also generate movements on the network which have not been considered in the trip generation analysis. The surrounding network is suitable for accommodating up to 46 pedestrian movements in the peak hours (walking plus public transport) considering the existing uses would also generate walking movements.

6.3.4 The car driver modal split is considered to be significantly higher than what will occur given there would be on-site no car parking. As such, it is likely that some of these car driver movements would actually be made by sustainable modes of travel, although some of these vehicles could also park in nearby public car parks. The car passenger movements could also be higher in relation to taxi movements or other drop-offs / pick-ups.

6.3.5 As shown in Section 2, there is no evidence of an existing specific safety issue within the vicinity of the site, including for walking and cycling movements. As such, the minimal change in movements associated with the site (given the existing uses) would not have a material or unacceptable impact on road safety, including on the key routes to the city centre and public transport interchanges. The network would remain suitable for accommodating these movements and no mitigation is required.

6.3.6 As such, the proposals are fully in accordance with key transport policies in PPW12, by reducing vehicle use and encouraging sustainable travel.

7. SUMMARY AND CONCLUSIONS

7.1 Summary

7.1.1 This Transport Statement (TS) has been produced to accompany an application for a proposed co-living residential scheme at 51 – 59 Penarth Road and St Mary's House Cardiff.

7.1.2 The application site ('the site') is situated between Penarth Road and Trade Street Lane on the edge of Cardiff City Centre. The site currently comprises a 4-storey office (St Mary's House), tyre depot and a car wash (Traders Yard).

7.1.3 The proposals are to redevelop the existing site into 228 co-living residential units within a 13 storey building with workspace, amenity space, and 4no. commercial units. The proposals will provide no on-site car parking and 212 cycle parking spaces.

7.1.4 The car parking provision is in accordance with the Cardiff Council standards and the Welsh Government aspirations for promoting car-free developments in accessible locations. Cycle parking will be provided at an appropriate level in accordance with the anticipated demand whilst in accordance with Cardiff Council's ambitions for increasing cycling. The evidence presented within the report shows that the level of cycle parking is in line with other consented schemes within this location, and as such should be considered appropriate.

7.1.5 The site is situated in a highly sustainable location. Potential future residents can walk or cycle to a number and range of facilities, services and employment within appropriate distances via good quality routes, reducing the need to own or travel by car.

7.1.6 The site also has excellent public transport links, which provide a suitable, attractive and realistic alternative to travelling by car. In particular, the site is within a short walk of Cardiff Central Rail Station and Cardiff Bus Interchange. As such, public transport will offer a highly attractive travel option for residents. This will further assist in constraining vehicle generation and reduce the need for residents to own or travel by car. It will also benefit and attract residents that would prefer to travel by public transport.

7.1.7 Road safety data has been analysed and there is no evidence of a highway safety issue within the vicinity of the site that would be exacerbated by the proposals.

7.1.8 Trip generation analysis has shown that the proposed co-living residential use would generate a minimal level of vehicle movements, given that the site is providing no car parking. There have also been movements generated historically by the existing uses of the site, which would further minimise the impacts of the scheme.

7.1.9 The site would also provide a servicing layby which can appropriately accommodate service and refuse vehicles associated with the site.

7.2 Conclusions

7.2.1 The site location will encourage and promote sustainable travel behaviour, attract residents who choose not to own a car and is fully in accordance with transport policies in Future Wales, PPW12, TAN18 and the Cardiff Council Managing Transportation Impacts SPG.

7.2.2 The development would not have an unacceptable impact on road safety.

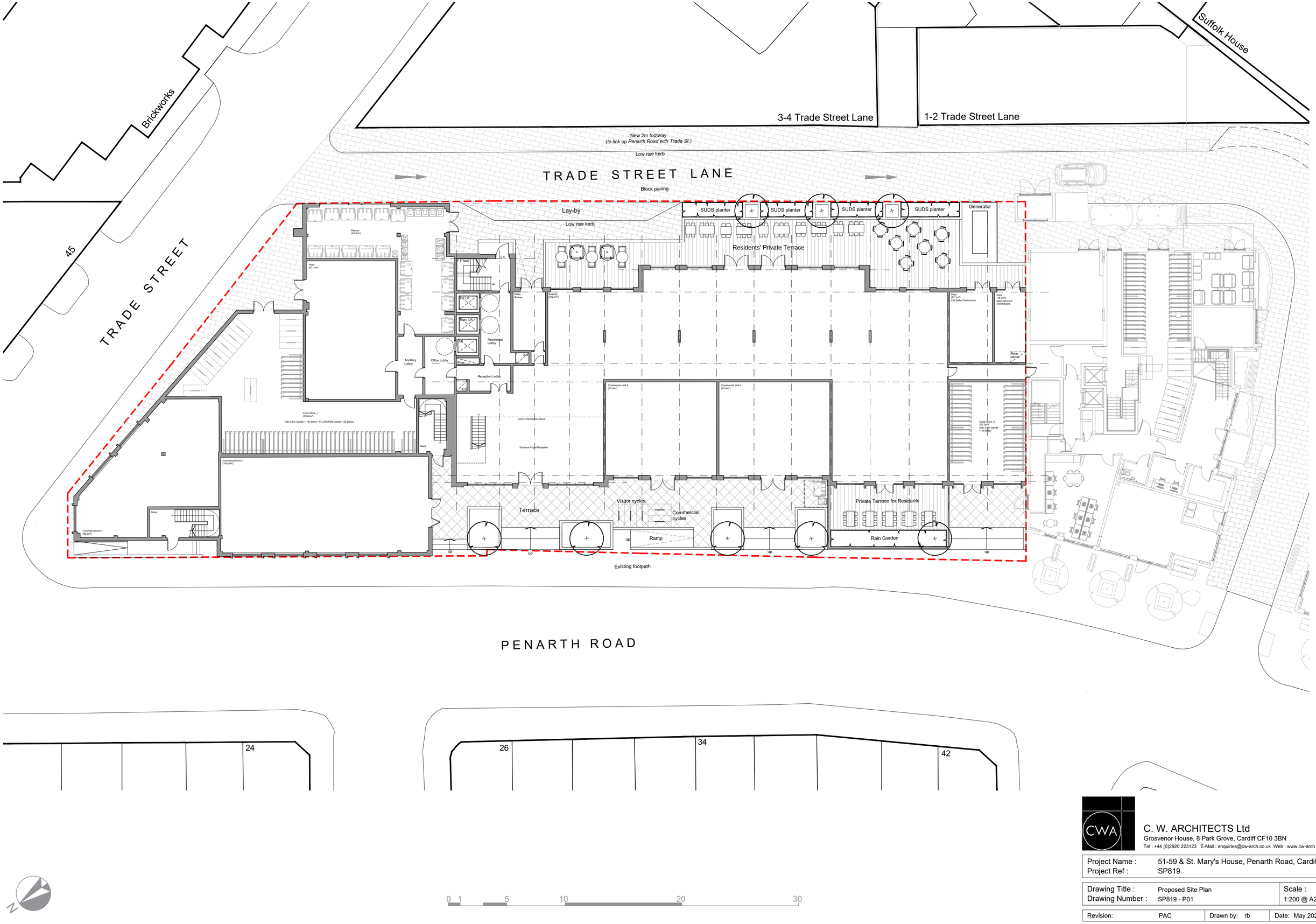
7.2.3 Providing no on-site parking provision is fully in accordance with the objectives for encouraging sustainable travel and reducing car use as set out in PPW12 and Future Wales. The proposals would not have a material impact on parking stress given the surrounding parking restrictions and availability of public car parking.

7.2.4 The vehicle generation would not have a material impact on the operation of the highway network.

7.2.5 As such, the analysis presented within this TS allows the highway authority to provide a positive recommendation on the planning application.

APPENDIX A

Proposed Site Layout



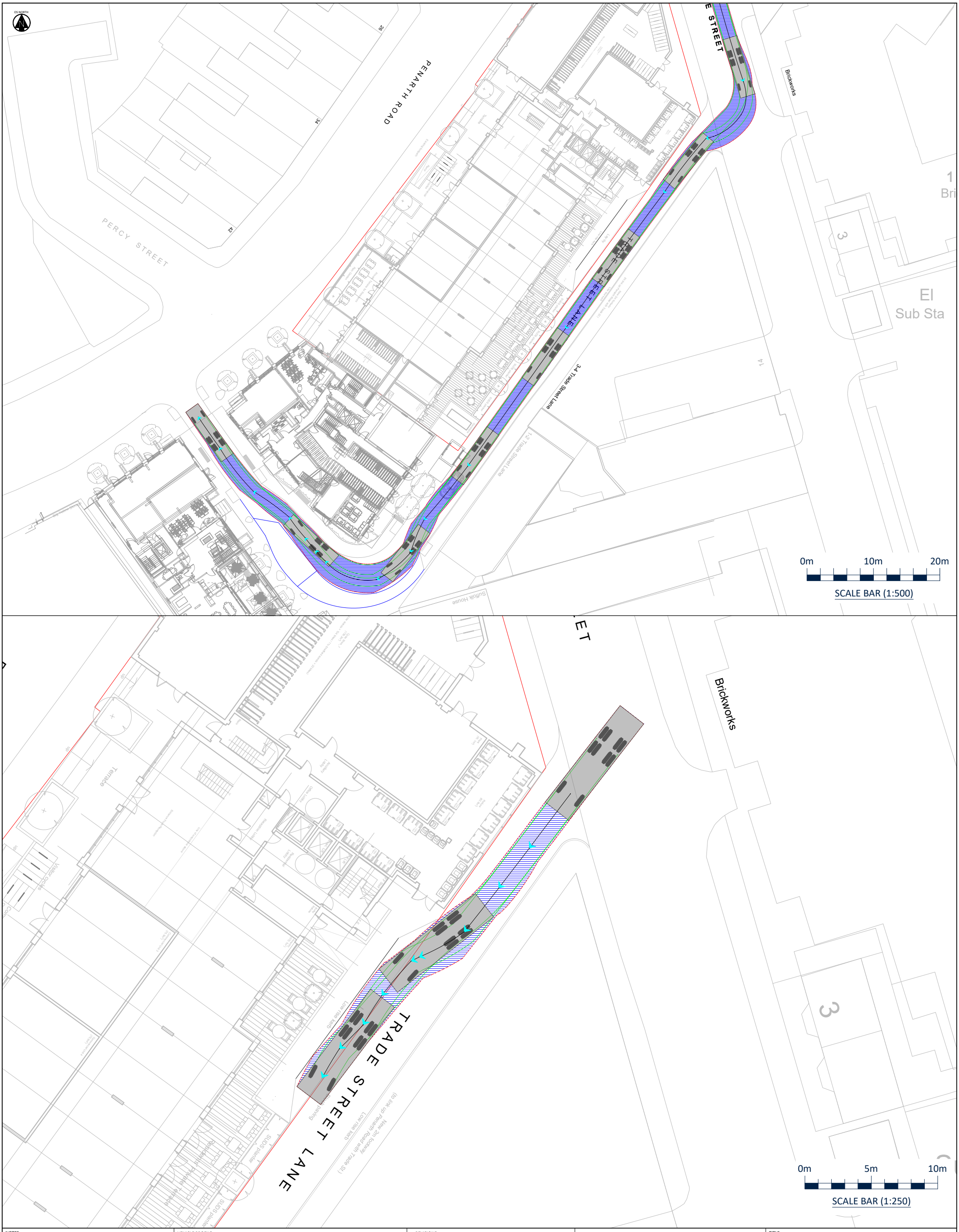
C. W. ARCHITECTS Ltd
Grosvenor House, 8 Park Grove, Cardiff CF10 3BN
Tel : +44 (0)2920 223123 E-Mail : enquiries@cw-arch.co.uk Web : www.cw-arch.co.uk

Project Name :	51-59 & St. Mary's House, Penarth Road, Cardiff		
Project Ref :	SP819		
Drawing Title :	Proposed Site Plan	Scale :	
Drawing Number :	SP819 - P01	1:200 @ A2	
Revision:	PAC	Drawn by: rb	Date: May 2026

0 1 5 10 20 30

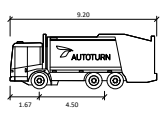
APPENDIX B

Swept Path Analysis



NOTES

VEHICLE PROFILE

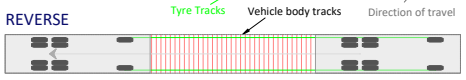


Refuse Vehicle

		metres
Width	:	2.25
Track	:	2.00
Lock to Lock Time	:	6.0
Steering Angle	:	32.9

FORWARD

REVERSE



REVISIONS

Rev	Date	Description	By	App
P01	22/05/26	First Issue	DC	DC

Apex TRANSPORT PLANNING

CLOCKWISE
BRUNEL HOUSE
CARDIFF
CF24 0EB
t: 02920 619 361
e: cardiff@apextp.co.uk

RUNWAY EAST
101 VICTORIA STREET
BRISTOL
BS1 6PU
t: 0117 427 0414
e: bristol@apextp.co.uk

CLIENT
URBAN CENTRIC (PENARTH ROAD) LTD

PROJECT
TRADERS YARD PHASE 2 & ST MARYS HOUSE

TITLE
SWEPT PATH ANALYSIS - REFUSE VEHICLE

PROJECT NO.
C26-085

SCALE @ A3
1:250 and 1:500

STATUS DESCRIPTION
INFORMATION

STATUS
S2

DRAWING NO.
C26085-ATP-DR-TP-001

APPENDIX C

TRICS Outputs – Private Flats

Apex Transport Planning Ltd Clockwise, Brunel House Cardiff Licence No: 502501

Filtering Summary

Land Use	03/C	RESIDENTIAL/FLATS PRIVATELY OWNED
Selected Trip Rate Calculation Parameter Range	50-724 DWELLS	
Actual Trip Rate Calculation Parameter Range	51-194 DWELLS	
Date Range	Minimum: 01/01/10	Maximum: 05/09/24
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	
Days of the week selected	Tuesday Thursday	2 1
Main Location Types selected	Town Centre Edge of Town Centre	1 2
Inclusion of Servicing Vehicles Counts	Servicing vehicles Included Servicing vehicles Excluded	13 - Selected 11 - Selected
Population within 500m	All Surveys Included	
Population <1 Mile ranges selected	50,001 to 100,000 100,001 or More	2 1
Population <5 Mile ranges selected	500,001 or More	3
Car Ownership <5 Mile ranges selected	0.5 or Less 0.6 to 1.0	2 1
PTAL Rating	5 Very Good 6b (High) Excellent	2 1

Calculation Reference: AUDIT-502501-250128-0103

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 03 - RESIDENTIAL
Category : C - FLATS PRIVATELY OWNED
TOTAL VEHICLES

Selected regions and areas:

01	GREATER LONDON		
	HM	HAMMERSMITH AND FULHAM	1 days
	IS	ISLINGTON	1 days
	WF	WALTHAM FOREST	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: 51 to 194 (units:)
Range Selected by User: 50 to 724 (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: 01/01/10 to 05/09/24

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:

Tuesday	2 days
Thursday	1 days

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

Selected survey types:

Manual count	3 days
Directional ATC Count	0 days

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

Selected Locations:

Town Centre	1
Edge of Town Centre	2

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:

Development Zone	1
Residential Zone	1
Built-Up Zone	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	13 days - Selected
Servicing vehicles Excluded	11 days - Selected

Secondary Filtering selection:

Use Class:

C3	3 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:

50,001 to 100,000	2 days
100,001 or More	1 days

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

Population within 5 miles:

500,001 or More	3 days

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

Car ownership within 5 miles:

0.5 or Less	2 days
0.6 to 1.0	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	2 days
No	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:

5 Very Good	2 days
6b (High) Excellent	1 days

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

LIST OF SITES relevant to selection parameters

Site(1):	HM-03-C-02	Site area:	0.45 hect
Development Name:	BLOCKS OF FLATS	No of Dwellings:	194
Location:	HAMMERSMITH	Housing density:	431
Postcode:	W6 0BU	Total Bedrooms:	375
Main Location Type:	Town Centre	Survey Date:	30/04/19
Sub-Location Type:	Built-Up Zone	Survey Day:	Tuesday
PTAL:	6b (High) Excellent	Parking Spaces:	53
Site(2):	IS-03-C-08	Site area:	0.21 hect
Development Name:	BLOCK OF FLATS	No of Dwellings:	190
Location:	ISLINGTON	Housing density:	1462
Postcode:	EC1V 1AD	Total Bedrooms:	307
Main Location Type:	Edge of Town Centre	Survey Date:	20/10/22
Sub-Location Type:	Development Zone	Survey Day:	Thursday
PTAL:	5 Very Good	Parking Spaces:	88
Site(3):	WF-03-C-01	Site area:	0.40 hect
Development Name:	BLOCKS OF FLATS	No of Dwellings:	97
Location:	WALTHAMSTOW	Housing density:	571
Postcode:	E17 6GR	Total Bedrooms:	184
Main Location Type:	Edge of Town Centre	Survey Date:	05/11/19
Sub-Location Type:	Residential Zone	Survey Day:	Tuesday
PTAL:	5 Very Good	Parking Spaces:	28

MANUALLY DESELECTED SURVEYS

Site Ref	Survey Date	Reason for Deselection
BE-03-C-01	19/09/18	Too much parking
BM-03-C-01	12/11/18	Too much parking
BY-03-C-01	08/09/20	covid
CT-03-C-01	15/05/18	Too much parking
CT-03-C-02	15/05/18	Too much parking
CT-03-C-03	15/05/18	Too much parking
GM-03-C-02	13/10/11	Too much parking
HF-03-C-03	14/11/19	Too much parking
HO-03-C-02	03/09/14	Too much parking
HO-03-C-03	18/11/16	Too much parking
KI-03-C-02	14/06/10	Too much parking
KN-03-C-03	11/05/12	Too much parking
NF-03-C-01	11/12/14	Too much parking
PO-03-C-01	05/06/18	Too much parking
SF-03-C-01	18/12/14	Too much parking
SF-03-C-05	23/06/21	covid
SK-03-C-01	19/09/14	Too much parking
SS-03-C-02	22/10/13	Too much parking
WM-03-C-04	11/11/16	Too much parking

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

	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	3	160	0.012	3	160	0.021	3	160	0.033
08:00 - 09:00	3	160	0.029	3	160	0.037	3	160	0.066
09:00 - 10:00	3	160	0.037	3	160	0.025	3	160	0.062
10:00 - 11:00	3	160	0.052	3	160	0.040	3	160	0.092
11:00 - 12:00	3	160	0.031	3	160	0.044	3	160	0.075
12:00 - 13:00	3	160	0.031	3	160	0.031	3	160	0.062
13:00 - 14:00	3	160	0.025	3	160	0.027	3	160	0.052
14:00 - 15:00	3	160	0.019	3	160	0.029	3	160	0.048
15:00 - 16:00	3	160	0.025	3	160	0.023	3	160	0.048
16:00 - 17:00	3	160	0.052	3	160	0.046	3	160	0.098
17:00 - 18:00	3	160	0.037	3	160	0.027	3	160	0.064
18:00 - 19:00	3	160	0.040	3	160	0.029	3	160	0.069
19:00 - 20:00	3	160	0.052	3	160	0.046	3	160	0.098
20:00 - 21:00	3	160	0.031	3	160	0.031	3	160	0.062
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.473			0.456			0.929

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.*

The survey data, graphs and all associated supporting information, contained within the TRICS Database are published by TRICS Consortium Limited ("the Company") and the Company claims copyright and database rights in this published work. The Company authorises those who possess a current TRICS licence to access the TRICS Database and copy the data contained within the TRICS Database for the licence holders' use only. Any resulting copy must retain all copyrights and other proprietary notices, and any disclaimer contained thereon.

The Company accepts no responsibility for loss which may arise from reliance on data contained in the TRICS Database. [No warranty of any kind, express or implied, is made as to the data contained in the TRICS Database.]

Parameter summary

Trip rate parameter range selected:	51 - 194 (units:)
Survey date date range:	01/01/10 - 05/09/24
Number of weekdays (Monday-Friday):	22
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	21
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/C - FLATS PRIVATELY OWNED
TAXIS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	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	3	160	0.002	3	160	0.002	3	160	0.004
08:00 - 09:00	3	160	0.010	3	160	0.010	3	160	0.020
09:00 - 10:00	3	160	0.006	3	160	0.006	3	160	0.012
10:00 - 11:00	3	160	0.012	3	160	0.012	3	160	0.024
11:00 - 12:00	3	160	0.010	3	160	0.010	3	160	0.020
12:00 - 13:00	3	160	0.004	3	160	0.004	3	160	0.008
13:00 - 14:00	3	160	0.006	3	160	0.006	3	160	0.012
14:00 - 15:00	3	160	0.004	3	160	0.004	3	160	0.008
15:00 - 16:00	3	160	0.004	3	160	0.004	3	160	0.008
16:00 - 17:00	3	160	0.006	3	160	0.006	3	160	0.012
17:00 - 18:00	3	160	0.004	3	160	0.004	3	160	0.008
18:00 - 19:00	3	160	0.002	3	160	0.002	3	160	0.004
19:00 - 20:00	3	160	0.010	3	160	0.010	3	160	0.020
20:00 - 21:00	3	160	0.008	3	160	0.008	3	160	0.016
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.088			0.088			0.176

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.*

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

	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	3	160	0.000	3	160	0.000	3	160	0.000
08:00 - 09:00	3	160	0.002	3	160	0.002	3	160	0.004
09:00 - 10:00	3	160	0.002	3	160	0.002	3	160	0.004
10:00 - 11:00	3	160	0.002	3	160	0.000	3	160	0.002
11:00 - 12:00	3	160	0.006	3	160	0.008	3	160	0.014
12:00 - 13:00	3	160	0.000	3	160	0.000	3	160	0.000
13:00 - 14:00	3	160	0.000	3	160	0.000	3	160	0.000
14:00 - 15:00	3	160	0.004	3	160	0.004	3	160	0.008
15:00 - 16:00	3	160	0.000	3	160	0.000	3	160	0.000
16:00 - 17:00	3	160	0.000	3	160	0.000	3	160	0.000
17:00 - 18:00	3	160	0.000	3	160	0.000	3	160	0.000
18:00 - 19:00	3	160	0.000	3	160	0.000	3	160	0.000
19:00 - 20:00	3	160	0.000	3	160	0.000	3	160	0.000
20:00 - 21:00	3	160	0.000	3	160	0.000	3	160	0.000
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.016			0.016			0.032

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.*

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

	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	3	160	0.000	3	160	0.000	3	160	0.000
08:00 - 09:00	3	160	0.002	3	160	0.012	3	160	0.014
09:00 - 10:00	3	160	0.000	3	160	0.000	3	160	0.000
10:00 - 11:00	3	160	0.008	3	160	0.012	3	160	0.020
11:00 - 12:00	3	160	0.000	3	160	0.000	3	160	0.000
12:00 - 13:00	3	160	0.008	3	160	0.006	3	160	0.014
13:00 - 14:00	3	160	0.008	3	160	0.010	3	160	0.018
14:00 - 15:00	3	160	0.006	3	160	0.004	3	160	0.010
15:00 - 16:00	3	160	0.006	3	160	0.006	3	160	0.012
16:00 - 17:00	3	160	0.008	3	160	0.004	3	160	0.012
17:00 - 18:00	3	160	0.006	3	160	0.004	3	160	0.010
18:00 - 19:00	3	160	0.012	3	160	0.010	3	160	0.022
19:00 - 20:00	3	160	0.015	3	160	0.008	3	160	0.023
20:00 - 21:00	3	160	0.010	3	160	0.010	3	160	0.020
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.089			0.086			0.175

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.*

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

	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	3	160	0.006	3	160	0.015	3	160	0.021
08:00 - 09:00	3	160	0.002	3	160	0.017	3	160	0.019
09:00 - 10:00	3	160	0.010	3	160	0.004	3	160	0.014
10:00 - 11:00	3	160	0.008	3	160	0.008	3	160	0.016
11:00 - 12:00	3	160	0.006	3	160	0.008	3	160	0.014
12:00 - 13:00	3	160	0.010	3	160	0.008	3	160	0.018
13:00 - 14:00	3	160	0.010	3	160	0.010	3	160	0.020
14:00 - 15:00	3	160	0.004	3	160	0.008	3	160	0.012
15:00 - 16:00	3	160	0.010	3	160	0.006	3	160	0.016
16:00 - 17:00	3	160	0.025	3	160	0.015	3	160	0.040
17:00 - 18:00	3	160	0.027	3	160	0.017	3	160	0.044
18:00 - 19:00	3	160	0.027	3	160	0.017	3	160	0.044
19:00 - 20:00	3	160	0.021	3	160	0.015	3	160	0.036
20:00 - 21:00	3	160	0.015	3	160	0.015	3	160	0.030
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.181			0.163			0.344

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.*

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

	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	3	160	0.004	3	160	0.004	3	160	0.008
08:00 - 09:00	3	160	0.012	3	160	0.006	3	160	0.018
09:00 - 10:00	3	160	0.017	3	160	0.010	3	160	0.027
10:00 - 11:00	3	160	0.019	3	160	0.012	3	160	0.031
11:00 - 12:00	3	160	0.006	3	160	0.012	3	160	0.018
12:00 - 13:00	3	160	0.010	3	160	0.010	3	160	0.020
13:00 - 14:00	3	160	0.004	3	160	0.006	3	160	0.010
14:00 - 15:00	3	160	0.002	3	160	0.008	3	160	0.010
15:00 - 16:00	3	160	0.006	3	160	0.008	3	160	0.014
16:00 - 17:00	3	160	0.017	3	160	0.021	3	160	0.038
17:00 - 18:00	3	160	0.004	3	160	0.004	3	160	0.008
18:00 - 19:00	3	160	0.002	3	160	0.002	3	160	0.004
19:00 - 20:00	3	160	0.008	3	160	0.008	3	160	0.016
20:00 - 21:00	3	160	0.002	3	160	0.002	3	160	0.004
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.113			0.113			0.226

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.*

TRIP RATE for Land Use 03 - RESIDENTIAL/C - FLATS PRIVATELY OWNED
MOTOR CYCLES
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	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	3	160	0.000	3	160	0.000	3	160	0.000
08:00 - 09:00	3	160	0.002	3	160	0.002	3	160	0.004
09:00 - 10:00	3	160	0.002	3	160	0.002	3	160	0.004
10:00 - 11:00	3	160	0.010	3	160	0.006	3	160	0.016
11:00 - 12:00	3	160	0.002	3	160	0.004	3	160	0.006
12:00 - 13:00	3	160	0.006	3	160	0.008	3	160	0.014
13:00 - 14:00	3	160	0.004	3	160	0.004	3	160	0.008
14:00 - 15:00	3	160	0.004	3	160	0.004	3	160	0.008
15:00 - 16:00	3	160	0.004	3	160	0.004	3	160	0.008
16:00 - 17:00	3	160	0.004	3	160	0.004	3	160	0.008
17:00 - 18:00	3	160	0.002	3	160	0.002	3	160	0.004
18:00 - 19:00	3	160	0.008	3	160	0.008	3	160	0.016
19:00 - 20:00	3	160	0.012	3	160	0.012	3	160	0.024
20:00 - 21:00	3	160	0.006	3	160	0.006	3	160	0.012
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.066			0.066			0.132

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.*

TRIP RATE for Land Use 03 - RESIDENTIAL/C - FLATS PRIVATELY OWNED
Servicing Vehicles
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	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	3	160	0.006	3	160	0.006	3	160	0.012
08:00 - 09:00	3	160	0.017	3	160	0.012	3	160	0.029
09:00 - 10:00	3	160	0.021	3	160	0.012	3	160	0.033
10:00 - 11:00	3	160	0.027	3	160	0.021	3	160	0.048
11:00 - 12:00	3	160	0.015	3	160	0.023	3	160	0.038
12:00 - 13:00	3	160	0.019	3	160	0.017	3	160	0.036
13:00 - 14:00	3	160	0.010	3	160	0.012	3	160	0.022
14:00 - 15:00	3	160	0.008	3	160	0.010	3	160	0.018
15:00 - 16:00	3	160	0.008	3	160	0.010	3	160	0.018
16:00 - 17:00	3	160	0.025	3	160	0.029	3	160	0.054
17:00 - 18:00	3	160	0.006	3	160	0.006	3	160	0.012
18:00 - 19:00	3	160	0.008	3	160	0.008	3	160	0.016
19:00 - 20:00	3	160	0.019	3	160	0.019	3	160	0.038
20:00 - 21:00	3	160	0.008	3	160	0.008	3	160	0.016
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.197			0.193			0.390

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.*

TRANSPORT PLANNING