Merchants Place and Cory's Building

Transport Statement

Client: Dukes Education Group Limited

27 July 2022

Document Reference: C22007/TS01

This document is formatted for double sided printing.

Registered Office:
30 Summerfield Avenue
Cardiff
CF14 3QA

QUALITY MANAGEMENT

REPORT DETAILS

Issued by	**Apex Transport Planning Ltd** 11-13 Penhill Road Cardiff CF11 9PQ	Tel: 02920 619 361 info@apextp.co.uk www.apextp.co.uk
Client	Dukes Education Group Limited	
Project Name	Merchants Place and Cory's Building	
Report Title	Transport Statement	
Report Ref.	TS01	
Project No.	C22007	
Date	27/07/2022	

ISSUE HISTORY

Issue No.	Status	Date	Produced by	Approved by	Revision Details
1	Draft	01/07/2022	SD / GP	DC	First Issue
2	Final	27/07/2022	SD / GP	DC	Second Issue

NOTICE

CONTENTS

Tables

Figures

Appendices

1. INTRODUCTION

1.1 Background

1.1.1 Apex Transport Planning has been commissioned by Dukes Education Group to produce a Transport Statement (TS) in relation to proposals for a new sixth form education facility located at Merchants Place and the Cory's Building site, Bute Street, Cardiff Bay.

1.1.2 The proposed site will be supported by a new build accommodation development at Pierhead Street which will provide lodging for a significant proportion of future students. At 280 metres apart, the sites are within a short walk of each other and would operate as one overall boarding school facility.

1.1.3 Dukes Education Group Limited was founded in 2015 and is a family of nurseries, schools and colleges in the UK. Dukes Education currently has 23 schools and colleges, and 20 nurseries. Cardiff Sixth Form College is part of this family and is currently located in leased accommodation at Trinity Court, 21-27 Newport Rd, Cardiff. The majority of students currently board in college accommodation in Cardiff. The College's overarching aim is to provide a permanent new home for the College's teaching space and boarding accommodation across the two chosen sites.

1.1.4 Overall the proposed campus would provide new teaching facilities for Cardiff Sixth Form College to accommodate a total of 500 students, consisting of 400 boarders and 100 day students across the Merchants Place / Cory's Building site and Plot 5 Pierhead Street sites. The proposals at Pierhead Street will be supported by sports facilities, amenity space, ancillary parking and other facilities to support the education use. The aim of the proposed campus scheme is to provide a world leading teaching facility supported by high quality boarding accommodation nearby.

1.1.5 This TS has been produced to support the Merchants Place / Cory's Building site which will be referred to as the "site." There is a significant crossover between the two sites due to the close proximity to and as they are being brought forwards as one single campus.

1.1.6 Each site benefits from planning consents for other development uses. As such movements into and out of the sites for other uses have previously been accepted on the network by Cardiff Council (CC).

1.2 Scope

1.2.1 The sites will be submitted as two separate planning applications and be supported by separate TS's to reflect the slightly different uses and demands for each site. Although separate, the sites are interdependent, with each site relying on the success of the other for the boarding school campus to be viable under the proposals.

1.2.2 Each application will also be supported by a Framework Travel Plan, although this would be a single document which will cover both sites as the operations will be interdependent and the plan would be managed by the same Travel Plan Coordinator. The Travel Plan contains measures for encouraging sustainable travel for students / boarders, staff and visitors.

1.2.3 This approach and the content of this TS has considered the views of CC, obtained in response to a Scoping Note issued on 7th February 2022 and by an initial pre-application meeting held with the CC planning authority. The Scoping correspondence can be found at Appendix A.

1.2.4 This TS also considers policies and advice set out in Future Wales, Planning Policy Wales 11 (PPW11), Technical Advice Note 18: Transport (TAN18), the Active Travel Act (Wales – 2013), the CC Local Development Plan (LDP) and Managing Transportation Impacts Supplementary Planning Guidance (SPG), as well as considering our previous experience of other similar sites.

2. EXISTING CONDITIONS

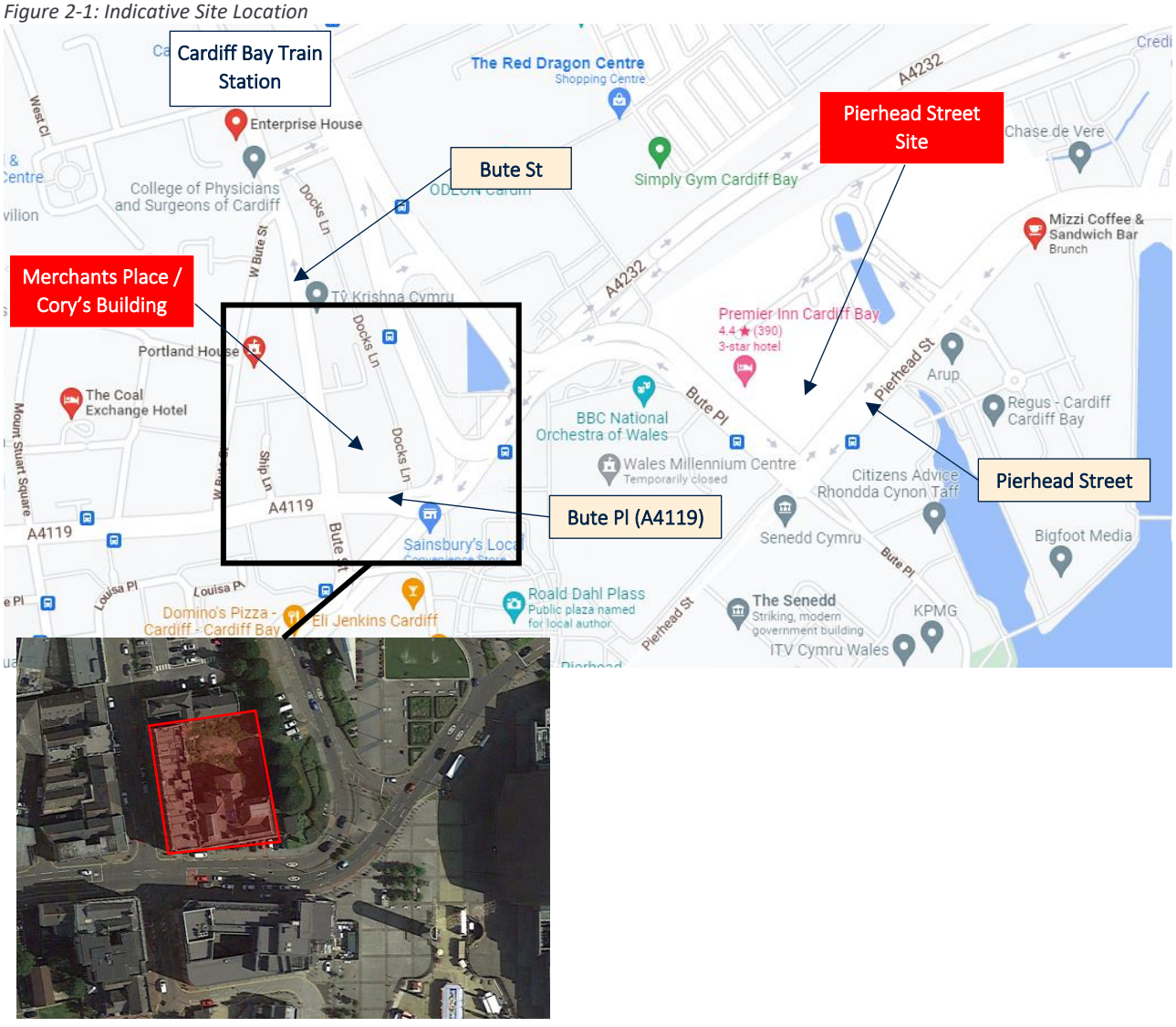
2.1 Site Location, Use and Access

2.1.1 The site is located within the Cardiff Bay area, between Docks Lane and Bute Street, to the north of Bute Place (A4119) and the Wales Millennium Centre.

2.1.2 The site is bound by Custom House to the north, Docks Lane and Lloyd George Avenue to the east, Bute Place to the south and Bute Street to the west.

2.1.3 The indicative location of the site is shown in Figure 2-1. This also shows the location of the associated Pierhead Street site.

Figure 2-1: Indicative Site Location



Source: Google Maps

2.2 Current Operation

2.2.1 The college is currently situated on Newport Road approximately 200m from Cardiff City Centre. It has 365 students (308 boarders and 57 day pupils) which is expected to grow to a total of 500 after the new site has been developed. At present there are 116 full and part time staff at the college which is forecast to grow to 160 with the new site.

2.3 Planning Context

Planning History on the Site

2.3.1 An application was approved in 2004 for the 'Refurbishment of Cory's and Immigration buildings, Bute Street Former Post Office Bute Place and Redevelopment of adjoining courtyard and Car Park' (ref: 03/01574/C).

2.3.2 Subsequent planning permissions have since been granted for:

- the refurbishment, conversion and extension to create 5th and 6th floor of existing building providing ground floor retail/A3 and 24 self-contained 1 and 2 bedroom apartments (ref: 06/02527/C, granted 2016). This application was extended in 2019 as part of application 19/01024/MJR.
- Construction of an eight storey office block above the decked car park in existing courtyard (ref: 07/02353/C, granted 2016).
- Internal refurbishment, construction of rooftop extension, and construction of vehicular access through building to rear surface car park (ref: 07/02362/C, granted 2008).

2.3.3 As shown, the site benefits from a history of successful applications to restore and convert the existing buildings as well as for the creation of an eight storey office block to the rear (reaching a maximum height of 9 storeys). The approvals included a vehicular access to serve a rear car park from Bute Street as part of the 2008 consent (07/02362/C).

Relevant nearby applications

2.3.4 A planning application (App Ref: 22/01162/MNR) has recently been submitted seeking permission to develop the adjacent Custom House office building to accommodate a residential scheme comprising apartment units.

2.3.5 Access into the site is provided off Bute Street at the frontage of the site, as well as Docks Lane to the rear of the site. This is secured by gated access for residents. The existing gates at the front of the site are to be retained and refurbished to retain the character and appearance along the Bute Street

Atlantic Wharf Regeneration

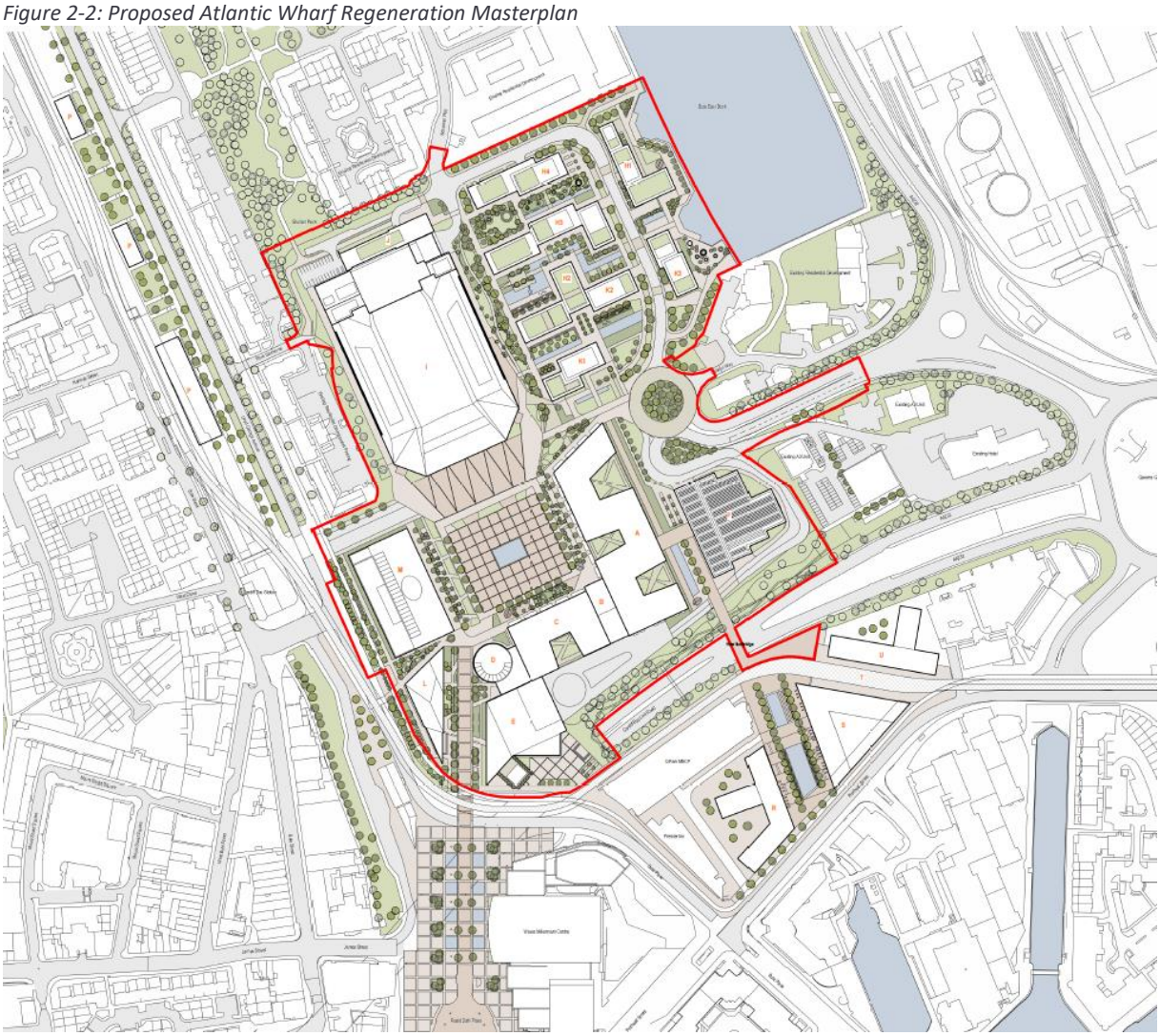
2.3.6 The site lies within the vicinity of the proposed Atlantic Wharf regeneration scheme, proposed as part of a joint partnership between CC and Robertson Property Ltd. The proposals seek to extend the public realm from Cardiff Bay Waterfront into Atlantic Wharf, supported by a 17,000 capacity events arena and mixed-use developments including residential, office, food and leisure. The wider masterplan will also incorporate improvements delivered through the Metro which will include a new rail link between Cardiff Central, Cardiff Bay and the new St Mellon's Parkway station. The scheme will improve active travel by extending the car-free public realm areas, which will enhance pedestrian connections to and from the site as well as between the two college sites. A Hybrid planning application was submitted in November 2021 (App Ref: 21/02687/MJR) and this was granted at committee in March 2022, subject to conditions and agreeing a S106. The proposal was for:

> *A mixed-use masterplan within the inner harbour, Cardiff Bay including outline details for up to 890no. residential dwellings (use class C3), 1,090 no. hotel bed spaces (use class C1), 19,500 sqm of employment floorspace (use class B1), 27,500 sqm of leisure floorspace (use classes D1 and D2) and 12,310 sqm of retail floorspace (use classes A1 and A3). Plus associated public realm, open space, hard and soft landscaping, drainage, walking, cycling, car parking and other transport infrastructure. Together with full details for a multi-use, indoor arena (use class D2) with supporting uses and cafe (use class A3) a 182 no. bed space hotel*

(use class C1) plus associated public realm, hard and soft landscaping, drainage, walking, cycling, car parking and other transport infrastructure.

2.3.7 The masterplan in the context of the site is shown in which demonstrates the significant changes which will be delivered by the regeneration scheme particularly to the roads within the vicinity of the site and the walking routes between the education facility at Merchants Place and the accommodation at Pierhead Street.

Figure 2-2: Proposed Atlantic Wharf Regeneration Masterplan



Source: Rio Architects Proposed Context Masterplan for Atlantic Wharf application

2.3.8 As such, the proposed Cardiff Sixth Form College scheme will benefit from the significant improvements which will be delivered by the approved scheme, particularly for walking between the two sites. The proposed Cardiff Sixth Form College scheme will also contribute towards the wider regeneration and improvements delivered within the area.

2.4 Local Highway Network

Bute Street

2.4.1 Bute Street lies to the west of the site and routes in a north-south direction between the A4119 and Cardiff City Centre, which is located approximately 1.5km north of the site. Bute Street is a single carriageway road subject to a 20mph speed limit and serves as one of the main routes to the site,

providing both pedestrian and vehicle access. It also serves as a bus route for services 5, 8, 8S and C8 which operate from one of the nearest bus stops (approximately 40m north).

2.4.2 Between the A4119 and Hemingway Road, adjacent to the site, it operates as a one-way route for vehicles travelling north only. North of this, it becomes a two-way route for the majority of its length. Bute Street becomes New George Street to the south of Bute Crescent, which in turn links to the A4232 Cardiff Bay Link Road to the west.

2.4.3 Within the vicinity of the site, Bute Street serves a mix of land uses with commercial and residential properties fronting the street on either side. For the majority of the one-way section, parking is restricted with marked bays providing short stay pay and display parking between 0800-1800, with a maximum stay of 5 hours, although the first hour is free.

2.4.4 Bute Street is considered suitable for on-carriageway cycling and provides links to on-carriageway and traffic free routes leading to and from Cardiff City Centre.

Bute Place (A4119)

2.4.5 Located directly to the south of the site, Bute Place forms part of one of the key east-west links within Cardiff Bay. It connects to Bute Street at the signalised crossroad junction located to the south of the site, which enables connections in all directions.

2.4.6 To the east it provides a connection to Lloyd George Avenue which links to the City Centre as well as Cardiff Bay Link Road (A4232) via Pierhead Street. The link road continues east before connecting to the A48, which in turn serves the M4 J29. To the west Bute Place becomes St James St (A4119) which links to the A48 via the A4232 at Culverhouse Cross.

2.4.7 Pedestrian crossings are located on all arms of the signal controlled junction of Bute Place and Bute Street in addition to advanced stop lines for cyclists which connect to the local on-carriageway cycle lanes which run along the site frontage.

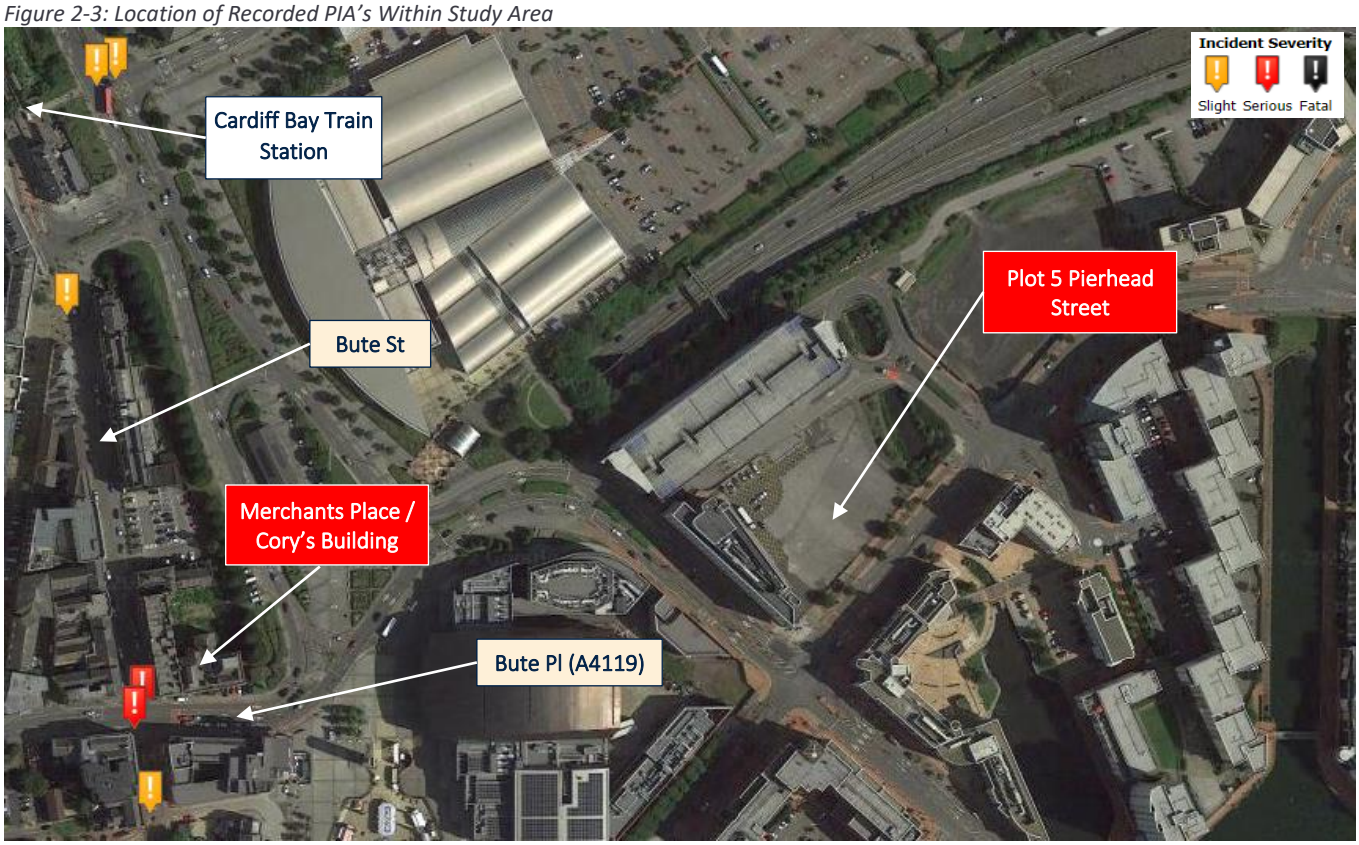
2.5 Road Safety

2.5.1 Personal Injury Accident (PIA) data has been obtained from road safety data published annually by the Department for Transport (DfT). The statistics provide PIA data which has been recorded using the STATS19 accident reporting form. The most recently available five year pre-pandemic dataset (i.e. 2015-2019) has been considered, alongside 2020 and provisional 2021 data. This amounts to 6.5 years of data, inclusive of provisional and pandemic information, which is considered robust.

2.5.2 Due to the nature of the proposals, the proposed study area to be considered within this road safety review covers the local highway network within the vicinity of and connecting both sites. This includes the route to the Cardiff Bay Rail Station and to the proposed college boarding site off Pierhead Street.

2.5.3 Figure 2-3 shows the PIA's recorded within this study area over the 6.5 year study period.

Figure 2-3: Location of Recorded PIA's Within Study Area



Source: Crashmap.co.uk

2.5.4 Figure 2-3 shows that there were seven PIAs with the study period, comprising five slight PIAs and two serious PIAs. No fatal PIAs were recorded within the study area or within the vicinity of the site.

2.5.5 Two of the PIAs involved pedestrians, although none involved children. These accidents were recorded as slight and occurred at different locations along Bute Street, with one located to the north near Hemingway Road and the other to the south opposite Bute Crescent.

2.5.6 Two of the recorded PIAs involved pedal cycle casualties, which occurred at the signalised junction of Bute Street / A4119 adjacent to the site. These were recorded as serious, although occurred on different arms of the junction.

2.5.7 There were no clusters of four or more PIAs occurring in the same location and therefore no evidence to suggest a re-occurring road safety issue.

2.5.8 There were no PIAs on the route between the two sites which does not suggest there is a road safety issue for pedestrian movements on this key route.

2.5.9 In addition, there were no PIAs along Bute Place on the boundary of the site or at the access with Docks Lane which does not suggest there is a safety issue with the pedestrian or cyclist environment along the site frontage.

2.5.10 Although all incidents are regrettable, the PIAs that occurred do not indicate a specific pattern of issue with the geometry of the highway that would be exacerbated by the proposed development. There is no evidence of a specific highway safety issue on key routes or the site frontage, particularly for pedestrian movements.

2.6 Modal Share

2.6.1 The site is located within middle layer super output area (MSOA) Cardiff 048. The Census data (2011) has been analysed for this output area to establish the journey to work modal split for the workplace population to show the potential modes of travel for staff. Cardiff 048 MSOA covers a wide area, including numerous leisure, retail and industrial uses within Cardiff Bay.

2.6.2 Table 2-1 shows how the existing employees in this area currently travel to work, as well as a comparison with the entire of CC as obtained from 2011 Census data (via Nomis dataset WP703EW).

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

Mode	Cardiff 048	Cardiff
Public Transport	12.8%	16.7%
Car Driver	65.7%	60.4%
Car Passenger	5.0%	5.6%
Motorcycle	0.4%	0.5%
Bicycle	4.3%	3.3%
On Foot	11.1%	12.6%
Other	0.6%	0.8%
Total	**100.0%**	**100%**

2.6.3 Table 2-1 shows that 66% of existing employees travel to work to the Cardiff 048 MSOA by car or motorcycle driver and an additional 5% travel to work as a car passenger. A total of 28% travel by sustainable modes of transport, of which 11% travel on foot, 13% travel by public transport and 4% travel by bicycle.

2.6.4 The data shows that the method of travel is similar in Cardiff 048 MSOA and across the wider CC area.

2.6.5 The data shows that employees in this area travel by sustainable modes and the level of cycling is higher than across the wider CC area. As such, this demonstrates that there is potential for walking, cycling, and public transport trips to be made to and from the site and that these movements already occur in this area.

2.6.6 The Census data is also 11 years old, and the percentage of journeys made by cycling (for example) within Cardiff has 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, it is likely that there is a higher level of sustainable travel use than shown.

2.6.7 CC's Transport Survey report (published 2018) also provides more recent modal share analysis for education which may be more appropriate to apply to the proposals. Section 4.2 of the report shows 35% of trips for education purposes were as a car driver, with 34% walking, 25% travelling by public transport, 9% as a car passenger and 19% cycling. These figures do not add up to 100% as respondents could give more than one answer. However, adjusting the figures shows that 40% of movements were generated by car.

2.6.8 This is a significantly lower level of vehicle movements than shown within the Census, however this data would comprise of students, staff and possibly parent drop offs, so would not necessarily be directly applicable to staff movements, albeit it may be appropriate for day students. However, it does demonstrate that education journeys generate a significant proportion of trips via sustainable modes and that a similar trend can be expected for the day students travelling from the surrounding area.

2.7 Public Car Parking

2.7.1 There are a number of chargeable public car parks within close proximity to the site, which have been summarised in Table 2-2.

Table 2-2: Car parks within close proximity of the site

Car Park	Walking Distance from site (metres)	Number of Spaces
Mermaid Quay Car Park	260	380
Pierhead St Car Park	300	1239
Red Dragon Centre Car Park	500	765
Havannah St Car Park	500	238
Total Spaces		**2,622**

2.7.2 In addition to the public car parks shown in Table 2-2, there is also chargeable on-street parking on some of the surrounding streets including:

- Bute Street (approximately 42 spaces)
- West Bute Street (approximately 28 spaces)
- Bute Crescent (approximately 11 spaces)
- James Street (approximately 10 spaces)
- Mount Stuart Square (approximately 33 spaces)

2.7.3 There is also free parking available along the following roads within walking distance of the site:

- Bute Street (approximately 50 spaces)
- Hodges and Loudon Square (approximately 133 spaces)
- Dudley Street (approximately 17 spaces)
- Eleanor Place (approximately 17 spaces)
- Windsor Esplanade (approximately 25 spaces)
- Havannah Street (approximately 8 spaces)
- West Close, Hannah Street, Henry Street (approximately 123 spaces)

2.7.4 There are a number of parking options within short walking distance of the site, with four large public car parks located within 500 metres providing a total of c.2,622 spaces. In particular, two car parks are situated within 300 metres or less from the site providing 1,619 spaces. There are also a number of electric car charging points located within Cardiff Bay which will help support the use of sustainable vehicles.

2.7.5 It is considered that there is a significant level of car parking available within the vicinity of the site which can accommodate the potential vehicle demand associated with the college day students, non-boarding staff, visitors and pick-up / drop-offs for day students.

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, which would include educational facilities.

3.1.10 The site is situated in a highly sustainable location in an existing urban area within a short walking distance to public transport links, key facilities, education and employment areas. Existing active travel connections connect to the site which encourages walking and cycling for local journeys. The site is also excellently situated to benefit from public transport services.

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 11th Edition (PPW11)

3.2.1 PPW11 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 PPW11 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 PPW11 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 areas, which is fully compliant with PPW11, 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 Paragraph 3.8 states that *"Locations that are highly accessible by a variety of travel modes offer significant opportunities to make travel patterns more sustainable."*

3.3.3 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 neighbourhoods;
- 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 Policy KP8 relates to sustainable transport, which shows that development in Cardiff will be integrated into existing transport infrastructure in order to achieve a target of a 50:50 modal split between cars and journeys by walking cycling and public transport on the network. The proposed development is in line with this policy as the site location offers a realistic choice of travel modes and does not provide on-site car parking.

4. SUSTAINABLE CONNECTIVITY

4.1 Introduction

4.1.1 This section describes the opportunities to make everyday trips by non-car modes and demonstrates the sustainable travel options which are available to students, staff and visitors to and from the site. It considers the likelihood of trips being made on foot, by cycle, bus, and rail. The site location is demonstrated to be in accordance with sustainable transport policies in Future Wales, PPW11, TAN18 and the LDP.

4.1.2 The site benefits from being located within Cardiff Bay, an area which provides extensive sustainable travel infrastructure and thereby will provide opportunities for potential future users to make everyday trips by non-car modes.

4.1.3 As demonstrated in Section 2, the site location already accommodates sustainable travel movements without evidence of an existing safety issue. As such, the location is considered safe and suitable to accommodate the proposed demand from the college.

4.2 Walking and Cycling

Infrastructure

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.

4.2.2 The site benefits from being located to nearby existing and well-established walking routes, public open spaces and car-free areas which enhance pedestrian permeability. Suitable footways and crossings are provided throughout the local area, as would be expected within an existing and established urban area. The majority of streets within the vicinity of the site are subject to 20mph speed limits and benefit from footways on one or both sides of the carriageway, providing pedestrian friendly links between the two sites as well as to the surrounding facilities and public transport services.

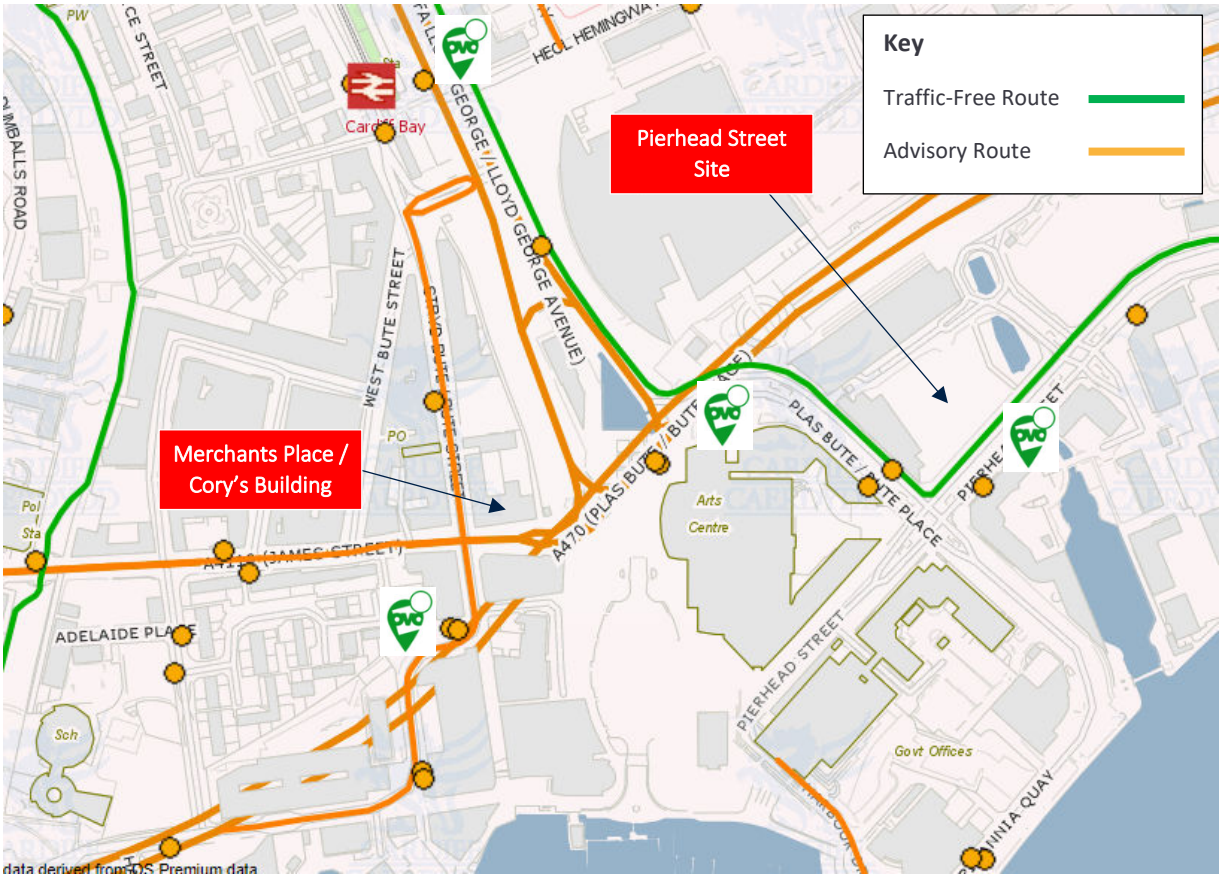
4.2.3 There are signal controlled crossings on Bute Place in three locations on the route between the two sites, with further signal controlled crossings on Lloyd George Avenue. As such, there are suitable crossing points for pedestrians to safely cross the surrounding streets.

4.2.4 The site benefits from access to a good standard of cycle infrastructure including on and off-carriageway routes, providing connections in all directions. Advisory on-carriageway cycle lanes can be found to the south of the site along Bute Place as well as advanced stop lines at signal junctions. Bute Street is considered suitable for on-carriageway cycling due to its 20mph speed limit.

Cycle Routes

4.2.5 The site is located 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 on Figure 4-1. Cycle routes are available in all directions from the site including a number of traffic-free routes which serve Cardiff Bay as well as the City Centre and Penarth and west Cardiff. In particular, Lloyd George Avenue provides routes connecting to and from Cardiff City Centre and Cardiff Central Rail Station and a traffic free route also runs adjacent to Bute Place connecting the site to the Pierhead Street site.

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



Source: Cardiff City Council My Maps

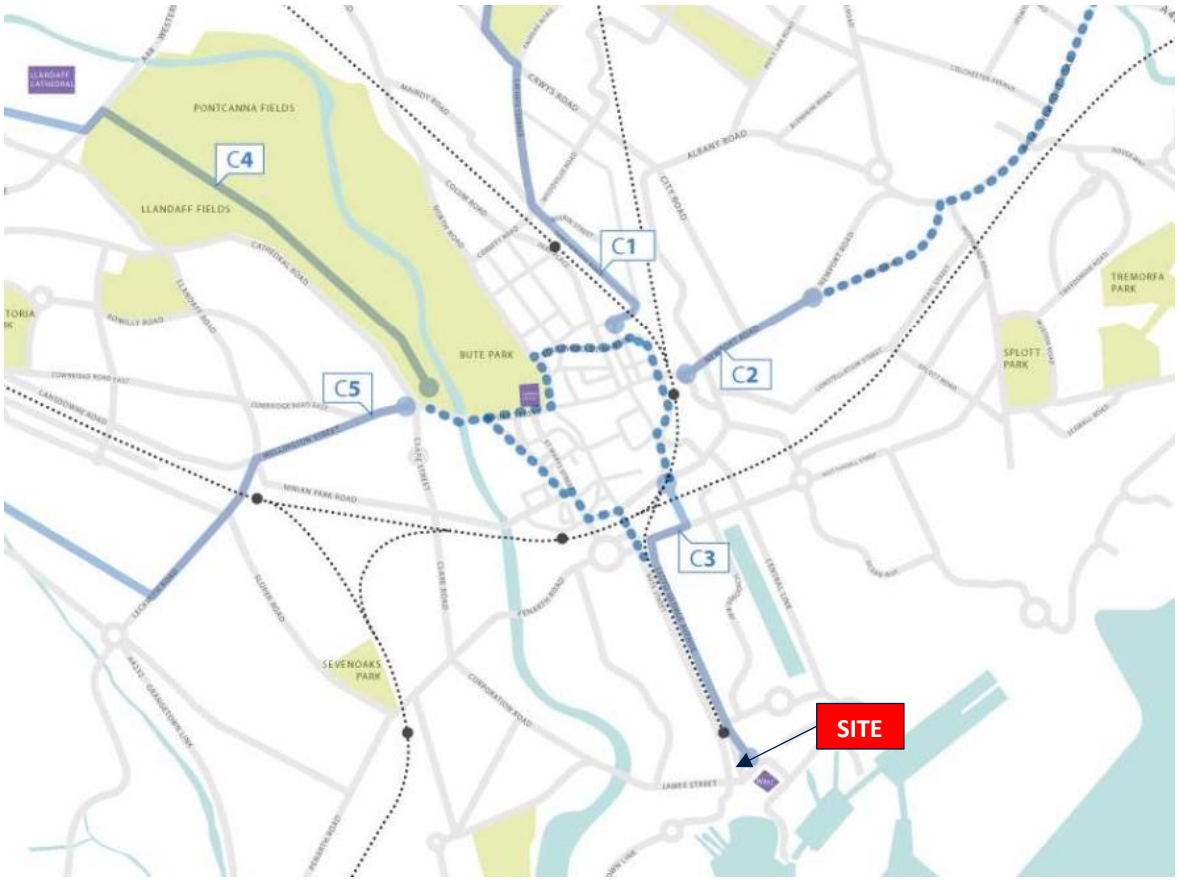
4.2.6 Cardiff Council is also developing proposals for five permanent cycleways to support and promote cycling. The routes will connect communities to major destinations across the city, including the City Centre and Cardiff Bay. The routes are as follows:

- 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

4.2.7 Cycleway 3 routes within close proximity of the site along Lloyd George Avenue and has already been completed. This route connects the City Centre to Cardiff Bay as well as linking to other existing and planned routes. Once completed, these routes will provide a network of high quality cycling connections to numerous parts of the city.

4.2.8 A plan of the five cycleways is shown on Figure 4-2.

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



Source: Cardiff Council website

Nextbike

4.2.9 CC has implemented a cycle hire scheme operated by Nextbike, called OVO Bike. Nextbike is a subscription-based bike sharing system that has 50 stations throughout Cardiff with over 1,000 bikes to rent from as little as £1 per 30 minutes. As shown on Figure 4-1, four OVO Bike stations are located within the local area with the closest on New George Street approximately 150m south of the site. This station provides both standard bikes and e-bikes. This allows students and staff the ability to travel to and from the site using the hire bikes and travel via existing well-established cycle routes.

Summary

4.2.10 The site is considered to be situated in a highly sustainable location for active travel, as would be expected for an existing site in an established urban area. This will encourage walking and cycling and reduce the need to travel by car, consistent with relevant policy and guidance, including sustainable transport policies in Future Wales, PPW11 and TAN18.

4.3 Distances

4.3.1 To enable an assessment of the viability of walking between the site and surrounding residential areas as well as the proposed boarding accommodation, it is appropriate to establish the maximum distance that people are generally prepared to walk for educational purposes.

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

- Welsh Government - Active Travel (Wales) Act 2013: Within the ATADG it is stated within paragraph 4.1.4 that "*walking as a mode of travel predominates for journeys of less than two miles whilst cycling is more convenient for longer journeys, typically of up to five miles for regular journeys*". This equates to distances for walking of up to 3.2km and cycling of up to 8km.
- 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) – i.e. this would include education uses. 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 education 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).

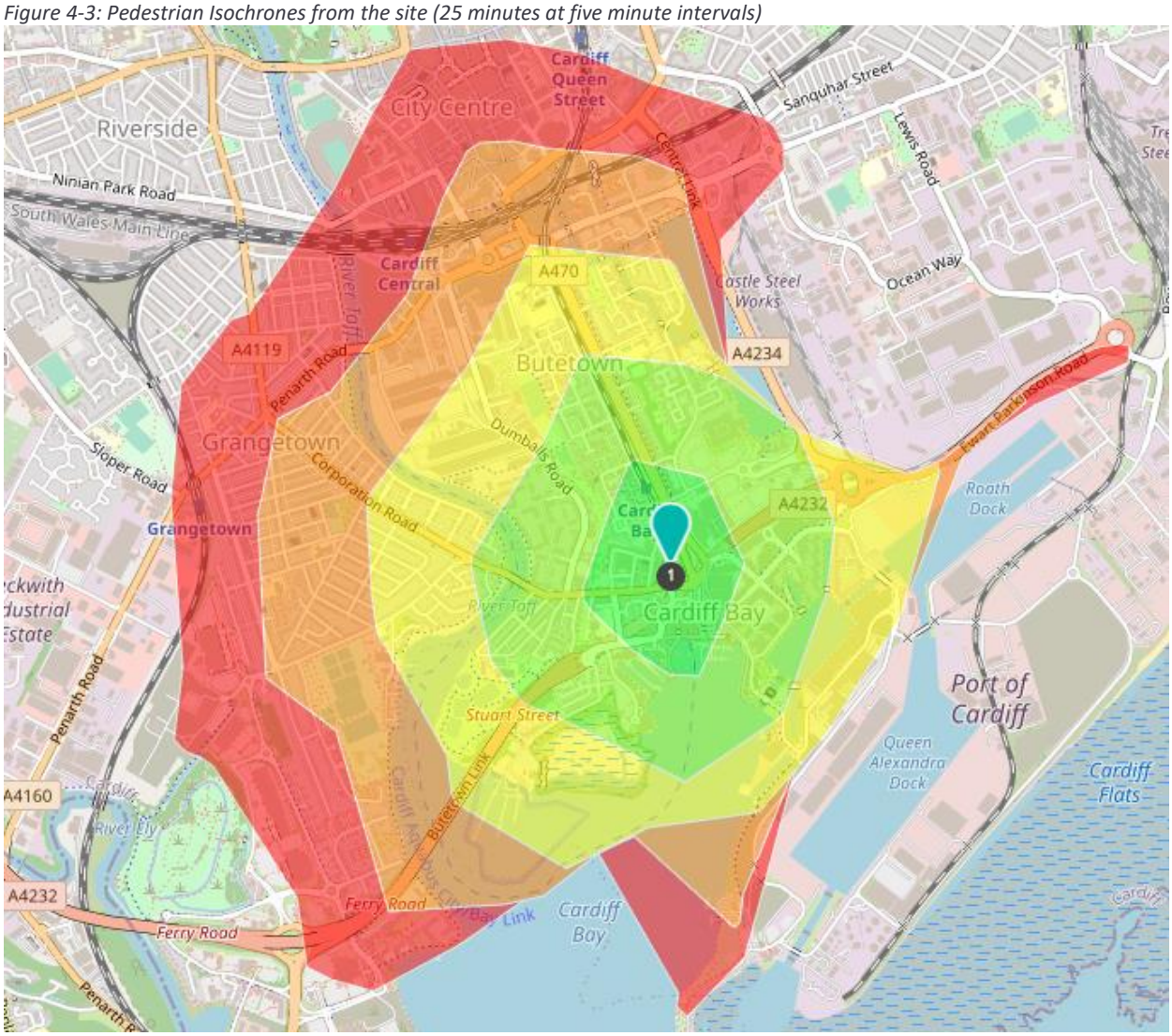
Walking

4.3.3 Based on guidance, it is considered that suitable walking distances could be up to 3.2km. This equates to around a 40-minute walk travelling at 3mph. However, distances of 2km are considered more likely for walking journeys and residential areas within 800 metres are considered to be within 'walkable neighbourhood' distances.

4.3.4 Openroute Service has been used to generate pedestrian isochrones at five-minute (c.400m) intervals as shown in Figure 4-3. This is based on walking speeds of 5km per hour (c. 3mph). It shows that a significant part of Cardiff City Centre and Cardiff Bay are accessible within a 25-minute walk from the site (c. 2km).

4.3.5 Within a 25 minute walk are Cardiff Bay, Butetown, Cardiff Central Station, Cardiff City Centre and the eastern extent of Grangetown. This shows that there is potential for a number of staff and students to live within walking distance of the college and that the site is highly accessible on foot. As such, a proportion of students (and staff) could travel to the site on foot. In addition, it also shows potential for staff and students to travel as part of a multi-modal journey from local bus stops and rail stations located within acceptable walking distances.

Figure 4-3: Pedestrian Isochrones from the site (25 minutes at five minute intervals)



Source: Openroute Service

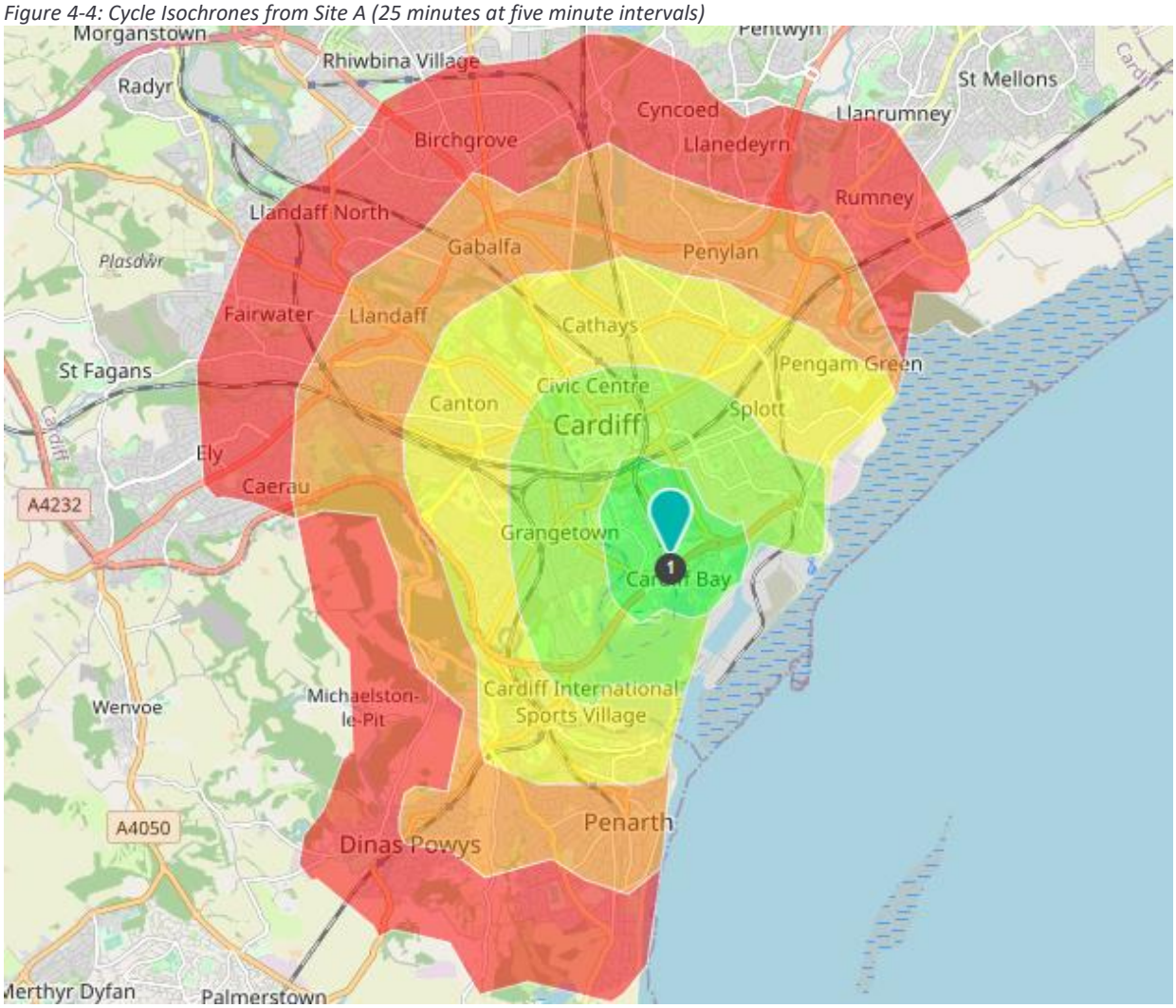
Cycling

4.3.6 It has been assumed that journeys of up to 8km are within an acceptable cycling distance. A cycling journey of 8km would equate to approximately a 25 minute trip.

4.3.7 The Openroute Service has been used to generate cycle isochrones at five minute intervals up to a total of 25 minutes (c.8km) using roads and cycle routes (i.e. not straight line distances). This has been shown in Figure 4-4.

4.3.8 The isochrones are generated based on speeds dependent on the surface and highway type. The majority (if not all) of the routes used would be paved and as such would be subject to an 18kph speed based on the parameters in the software. A five minute isochrone would therefore cover a distance of c. 1.5km, with a 25 minute isochrone covering a distance of c.7.5km. As such, this is broadly in accordance with the relevant design guidance (indeed, cycle journeys to the site could originate from slightly greater distances, up to 8km from the site, in accordance with the guidance).

Figure 4-4: Cycle Isochrones from Site A (25 minutes at five minute intervals)



Source: Openroute Service

4.3.9 The majority of Cardiff is situated within a 25 minute cycle, including residential locations such as Penarth, Dinas Powys, Canton, Llandaff, Gabalfa, Birchgrove, Penylan, Splott, Pengam Green, Rumney, Llanedeyrn and Cyncoed. As such, travelling to the site by cycle is considered a feasible and realistic option for students and staff at the college. Figure 4-4 also demonstrates that staff and students could include cycling as part of multi-modal journey from the bus and rail stations located in the City Centre which are located within a 5-10 minute cycle of the site.

4.4 Public Transport

Bus

4.4.1 The closest bus stops to the site are at Mermaid Quay which is located within a 120m walk. Mermaid Quay is served by the 5, 8, 99, X2 Cymru Clipper and 2 City Circle. The bus stop adjacent to the Millennium Centre is also within a 120m walk and this stop is served by bus services 6 Baycar, 304, and C8. Further stops are located on Lloyd George Avenue within a 140m walk. These provide a connection to further services being the 89A / 89B.

4.4.2 These combined services provide a high frequency of buses connecting to Cardiff City Centre and outer areas of Cardiff. A summary of the services during the college peak arrival and departure times is set out in Table 4-1.

Table 4-1: Local Bus Services

Route No.	Route	Frequency	
		Mon-Fri AM peak, arrival (0730 – 0900)	Mon-Fri PM peak, departure (1500-1700)
5	Cardiff – Cardiff International Sports Village	No service	1 service per hour
8	Heath Hospital – Cardiff Bay via Whitchurch Road, City Centre, Grangetown	2 services per hour	Every 24 minutes
99	Cardiff – Penarth Pier via Cardiff Bay	No service	1 service
C8	Taffs Well – Cardiff Millennium Centre via Thornhill, Cardiff City Centre	2 services per hour	2 services per hour
6 Baycar	City Centre to Cardiff Bay via Lloyd George Avenue, County Hall	2 services per hour	2 services per hour
304	Llantwit Major – Cardiff, via Llandough, Grangetown, Barry	1 service per hour	1 service per hour
X2 Cymru Clipper	Porthcawl – Cardiff via Bridgend, Cowbridge	2 services per hour	2 services per hour
2 City Circle	City Circle via Ocean Way, Splott, Tremorfa, Albany Road, Heath Hospital, CMet Llandaff, Canton, Grangetown, Cardiff Bay	1 service per hour	1 service per hour
89A / 89B	Dinas Powys Square - Cardiff City Centre Customhouse Street	1 service	1 service

4.4.3 There are a significant number of frequent bus services which stop within close proximity of the site and provide services which would be suitable for college start and finish times. These services therefore provide a viable and realistic alternative to the car.

4.4.4 Given the extent and proximity of numerous bus routes, the site has excellent accessibility by bus which offers a realistic travel option for students and staff at the site. This will assist in minimising the vehicle trip generation from the site and the demand for parking.

Rail

4.4.5 Cardiff Bay Rail Station is located approximately a 260m walk north of the site. This can be accessed within a 3 minute walk. Cardiff Bay Rail Station runs regular services to Cardiff Queen Street Station, every 12 minutes Monday to Saturday (between 06:30 and 23:30) and every 12 minutes on Sundays (between 11:00 and 16:30).

4.4.6 The station is accessed from either Bute Street or Lloyd George Avenue and provides users with a sheltered seating area, ticket machines, cycle parking, live train information boards and CCTV.

4.4.7 There is a journey time of 4 minutes for journeys to Cardiff Queen Street and 11-18 minutes to Cardiff Central (changing at Queen Street).

4.4.8 Queen Street Rail Station provides connections to several destinations to the north and east of the city centre and operates as the main Valleys Line network serving Cardiff, the Vale of Glamorgan, Bridgend and South Wales Valleys.

4.4.9 From Cardiff Central it is possible to access frequent services to numerous other destinations across Cardiff and areas outside such as Bristol and Swansea, from where students or staff would travel.

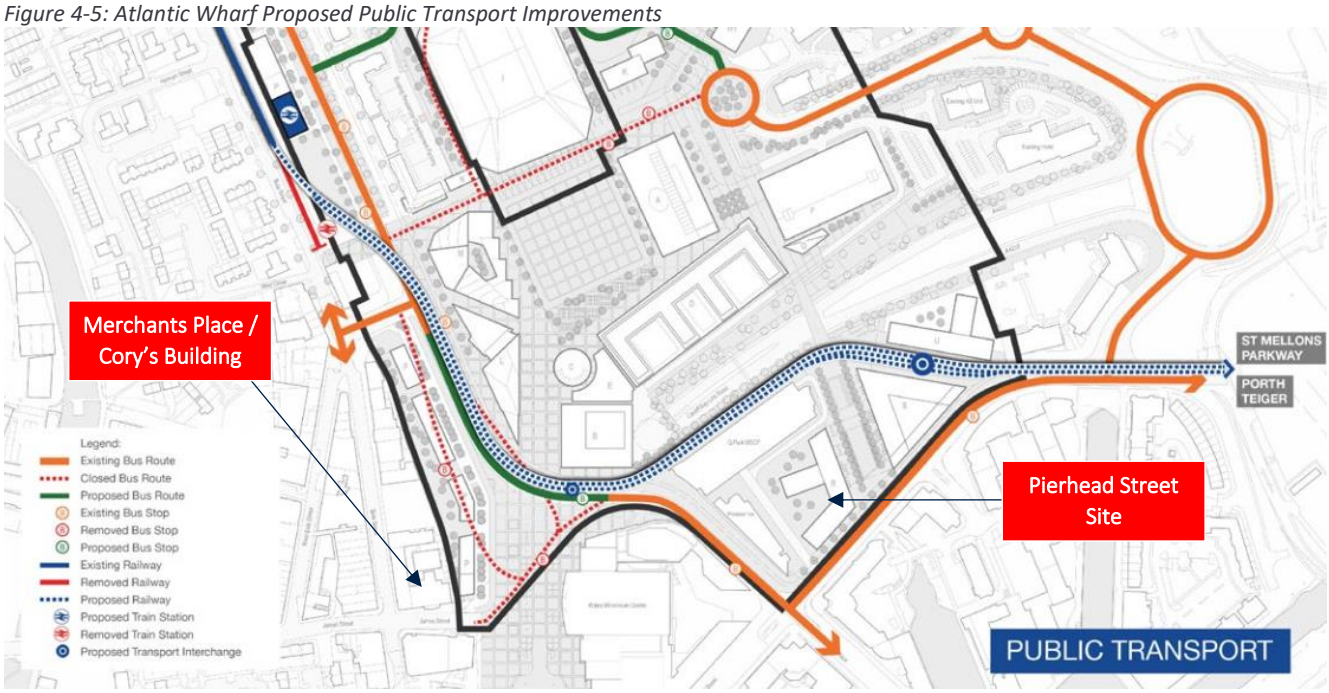
4.4.10 Cardiff Central Rail Station is also a 1.6km walk (20 minutes) or cycle from the site and accessible via continuous routes. It is therefore suitable for staff and students to travel to and from the site on rail via Cardiff Central, without interchanging at Queen Street.

4.4.11 As such, it is feasible to use the rail services for travelling to the site, a combined walk/cycle and rail journey therefore would be an attractive mode of travel for both staff and students.

4.5 Potential Future Improvements

4.5.1 As shown in Section 2, the masterplan for the Atlantic Wharf regeneration scheme shows the location of a potential new rail link which forms part of the Metro and which will potentially provide stops within close proximity to the site, as well as link Cardiff Bay to the proposed St Mellon's Parkway Station to the east. Figure 4-5 shows an extract from the Atlantic Wharf Masterplan demonstrating the potential public transport links within the proximity of the site and the accommodation at Pierhead Street. This will provide additional sustainable transport connections for users of the site, further enhancing the sustainable connectivity.

Figure 4-5: Atlantic Wharf Proposed Public Transport Improvements



Source: Cardiff Council

4.6 Summary

4.6.1 The site is situated in a location which has excellent sustainable transport links and benefits from being connected to a high standard of walking and cycling infrastructure and public transport routes.

4.6.2 Students and staff will be able to walk (or cycle) to the site, as well as to services and facilities within appropriate distances. In this regard, the site location is consistent with the sustainable transport policies in Future Wales and PPW11.

4.6.3 Future users will also benefit from the potential regeneration of the surrounding area as part of the Atlantic Wharf regeneration and the potential Metro scheme improvements.

4.6.4 As such, there is a realistic choice of modes of travel for all journey purposes, which will assist in constraining the level of vehicle generation from the site and minimise any impacts on the highway network from the development. This is fully in accordance with transport policies in Future Wales, TAN18, PPW11 and the Active Travel Act.

5. DEVELOPMENT PROPOSALS

5.1 Overview

5.1.1 The proposals comprise a new higher educational facility to be developed at Merchants Place and the Cory's Building, Bute Street, Cardiff Bay.

5.1.2 The proposals comprise the conversion and restoration of the Grade II listed buildings and a new eight storey building to the rear within the courtyard surface parking area. The development will provide new teaching facilities for Cardiff Sixth Form College to accommodate a total of 500 students, consisting of 400 boarders and 100 day students. The new eight storey education building is consistent with the previously consented eight storey office block.

5.1.3 The new facility will form part of plans to establish a new campus for Cardiff Sixth Form College within Cardiff Bay, with associated boarding accommodation proposed at a separate site located off Pierhead Street. A separate standalone TS has been produced to support the Pierhead Street site. The proposals for Pierhead Street comprise the college boardings which will house and cater for 400 students as well as some staff.

5.1.4 The proposals will be supported by sports facilities, amenity space, an auditorium, and other facilities to support the education use.

5.1.5 The proposed site layout is provided in Appendix B.

5.2 Staff

5.2.1 There are currently 116 staff at the college. This consists of 46 teachers (FTE), 40 non-teaching staff, and 23 boarding staff. It is anticipated that the number of staff would increase at the site. The forecast level of staff is as follows:

- Teachers (FTE) - 66
- Non-Teaching - 50
- Boarding Staff - 30
- Total Staff – 160

5.2.2 As such, there would be 116 staff travelling to and from both the teaching facilities and boarding accommodation sites on a daily basis (assuming the FTE teaching staff equate to one member of staff). The non-teaching staff would include part-time staff and those working outside of 'typical' hours, such as cleaners and catering staff.

5.3 Access

5.3.1 The proposals show access to pedestrians will be available from both Bute Street and Bute Place via the existing footways, as well as from Docks Lane. The main staff and visitor entrance to the building will be provided from Bute Place. The main student entrance would be provided from Bute Street using the existing Cory's Building access. Docks Lane will provide out of hours, cycle store and servicing and delivery access.

5.3.2 The proposals seek to enhance the environment for pedestrians and cyclists along Bute Street, Bute Place and Docks Lane through new surfacing on the footways, landscaping and improved surfacing at the crossing at Bute Street. Further details on the proposed enhancements are considered in more detail in Section 7.

5.3.3 Docks Lane is of suitable width to accommodate both pedestrians and cyclists and can therefore safely operate as a shared space from Bute Place. Pedestrians and cyclists can currently access the lane from existing footways along Bute Place to the south which also link to the adjacent on-carriageway cycle lanes and crossing facilities. The Docks Lane access will lead to a secure cycle parking area provided within the site. In addition, Docks Lane will provide access to the proposed service accesses and will be used by staff to transport goods in and out as well as refuse bins.

5.3.4 An out of hours entrance from Docks Lane will provide Docks Lane with a purpose and increase footfall which will enhance the footfall and natural security along this street.

5.3.5 The site is not providing car parking and as such will have no vehicular access. The consented residential scheme on the site proposed 27 car parking spaces and as such, the proposals would reduce vehicle movements into and out of the building compared with the consent.

5.3.6 Some staff parking will be provided as part of the Pierhead Street accommodation scheme. In addition, as demonstrated in Section 2, there are a significant number of public car parks within short walking distance of the site that would be suitable for day students, non-boarding staff members and visitors. Sustainable travel will also be actively encouraged through measures in the Travel Plan.

Route between the two sites

5.3.7 In relation to the route between the sites, this is appropriate to accommodate all movements. As set out in Section 2, there is no evidence of a safety issue between the two sites. Considering the route from the Pierhead Street accommodation site towards the teaching facility site, the shared footway / cycleway on the eastern side of Bute Place is of sufficient width to accommodate pedestrians associated with the college and has a high capacity for accommodating these movements. There are two signal controlled crossings along Bute Place, one at the junction with Pierhead Street and one opposite the multi-storey car park. There are large waiting areas on both sides of the crossings, with the car park crossing also providing a large central reservation waiting area.

5.3.8 Pedestrians would then walk around the perimeter of the Millennium Centre before crossing at another signal controlled pedestrian crossing point at Bute Place / Lloyd George Avenue. This has a large central reservation area which can accommodate a significant number of pedestrians. On the northern side of the crossing, the footway is 2m wide, although it is considered appropriate for pedestrians to wait on a 2m wide footway and guardrail is provided to ensure pedestrians cross in the appropriate locations.

5.3.9 These crossings and footways already accommodate pedestrian movements associated with the existing uses in the area and there is no evidence of a recorded safety issue on the footways or at crossings. The route is considered safe and suitable for accommodating movements between the sites.

5.3.10 As shown in Section 4, the Atlantic Wharf masterplan and permitted Indoor Arena led mixed-use development are proposing changes in this area, which would result in a significant amount of the route between the sites becoming pedestrianised. This would enhance the pedestrian route between the sites.

5.4 Parking

5.4.1 Maximum car parking standards are set out in CC's Supplementary Planning Guidance (SPG) *Managing Transportation Impacts (Incorporating Parking Standards)* as adopted in July 2018. In accordance with the SPG in Figure 6.1, the site is situated within the Central Area zone.

Car Parking Provision

5.4.2 The site forms part of Cardiff Sixth Form Campus which comprises two sites, and although they are to be dealt with via separate planning applications, they are interrelated and are being brought forwards as one development scheme. As such, it is considered appropriate to consider the parking provision in relation to the overall scheme as a whole based on the boarding school standards within the SPG. These are considered more appropriate than other uses set out within the SPG.

5.4.3 The SPG sets out a maximum standard of 1 space per 4 bedrooms for boarding schools, which equates to a potential maximum of 113 car parking spaces.

5.4.4 It is proposed that 20 staff car parking spaces will be provided at the boarding accommodation site at Pierhead Street, with no parking to be provided at the Merchants Place and The Cory's Building site. Staff will be expected to walk between the sites, which is considered acceptable given the short distances via suitable routes.

5.4.5 This level of parking is significantly less than the maximum standards and is therefore considered appropriate and in line with the Cardiff aspirations and policies for constraining car use. The site itself has no car parking which is considered in accordance with the CC Parking Standards, LDP and Future Wales policies for reducing car use.

5.4.6 The proposed level of parking for each site is also significantly below the level agreed as part of the approved outline schemes at each site.

5.4.7 No student parking will be provided at either campus site and this is considered acceptable given the highly sustainable location of the college. The Travel Plan will promote and encourage the use of sustainable modes of travel and discourage the use of private cars.

5.4.8 Although when this is not a viable option, students and/or pick-up and drop-offs will be encouraged to use the public car parks and park away from the site frontage.

5.4.9 Disabled parking will be provided in accordance with the SPG at the boarding accommodation site, equating to 5% of the total parking provision with a further 5% provided as enlarged spaces. In addition, one disabled space will be provided for each disabled staff member.

5.4.10 Electric vehicle charging points will be provided at the boarding accommodation site. It is envisaged that two (10% of parking provision) charging points will be provided on the Pierhead Street site, for use by college staff or visitors.

5.4.11 The TS for the Pierhead Street site includes further details on the layout of the parking area and demonstrates how these spaces can be accessed safely and appropriately.

Cycle Parking

5.4.12 The SPG sets out that boarding schools should provide a minimum of 5 cycle parking spaces plus one space per 10 beds. Applied to the college as an overall entity across both sites, this would equate to 45 cycle parking spaces.

5.4.13 It is proposed to provide a total of 90 cycle spaces across both campus sites, with 30 spaces provided at the Merchants Place and Cory's Building site and 60 spaces provided at the Pierhead Street site. This is significantly above the levels required for a boarding school site within the SPG and reflects the sustainable location of the site and the operators commitment to encouraging travel via cycle.

5.4.14 The proposed site layout shows these spaces are located within a secure internal cycle store accessible from Docks Lane. The proposals also include showers, changing facilities and lockers for users.

5.4.15 Due to the short distance between the site and the boarding accommodation at Pierhead Street, all boarding students will walk between the sites and would not cycle. As such the provision on the site for 30 cycle parking spaces is considered appropriate. The spaces will only be utilised by the day students, staff and visitors. Approximately 100 day students are estimated, so the provision on the site equates to in excess of 1 space per 5 day students. This is in accordance with the parking standards for secondary schools in the SPG which states a minimum of 1 space per 5 pupils.

5.4.16 As such, the provision on the site is considered appropriate and in line with the CC standards. This will encourage travel by sustainable modes, assisting in reducing the demand for off-site parking.

5.5 Servicing and Deliveries

5.5.1 The college will provide three meals a day to students, which will require food deliveries and waste management.

5.5.2 Servicing and deliveries would be undertaken on-street from Bute Street in line with the other retail and office units along Bute Street. This arrangement is considered acceptable as there is sufficient width on the one-way street to accommodate a short-stay service vehicle without impacting through vehicle movements.

5.5.3 Bute Place was considered as a waiting point, but this was discounted as a parked vehicle would obstruct the cycle lane and partially obstruct the main carriageway for through vehicle movements. It would also not be suitable for vehicles to wait on the footway.

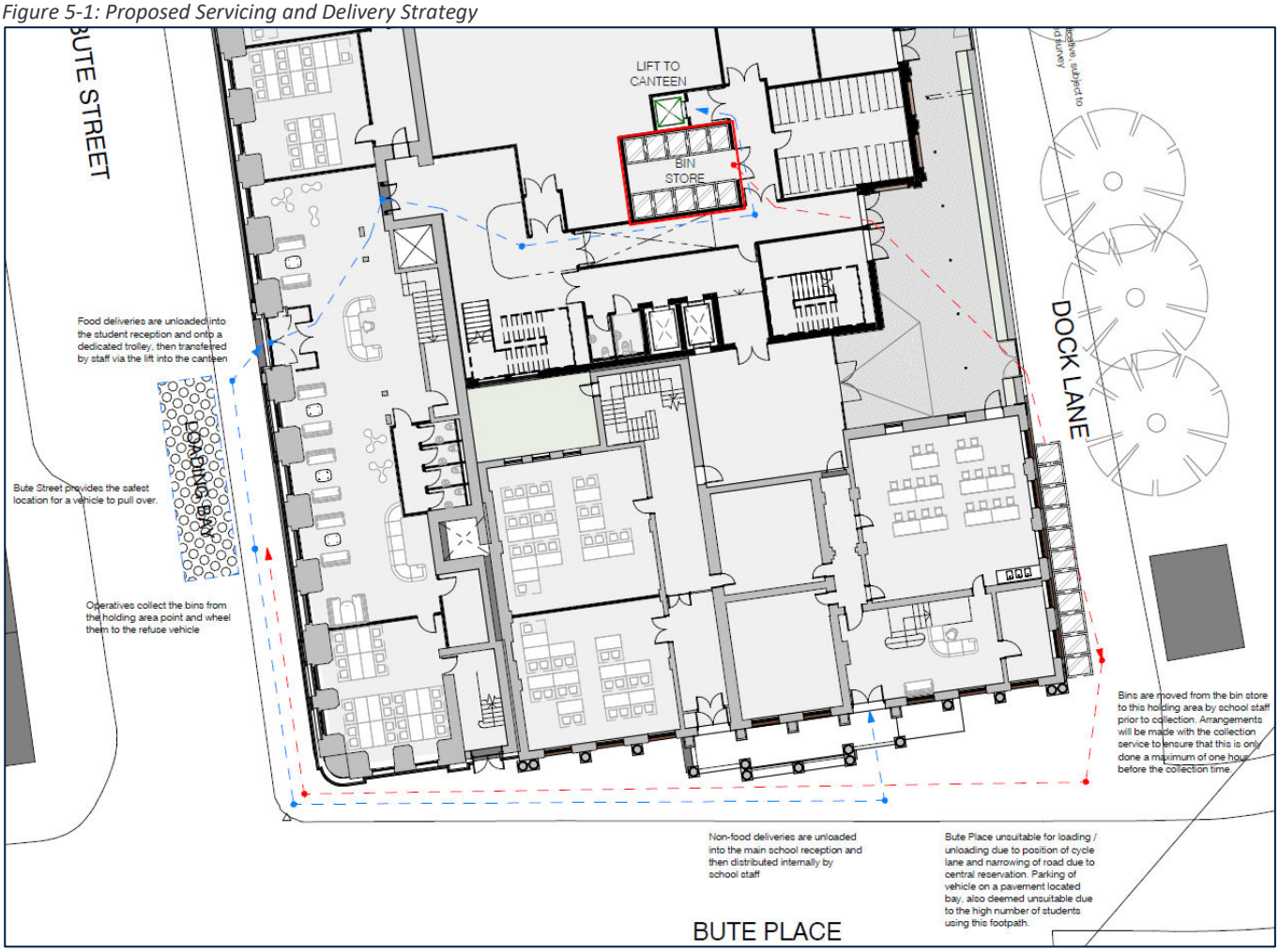
5.5.4 The refuse collection strategy is illustrated on Figure 5-1 with a description of this plan set out as follows.

5.5.5 Food deliveries would be unloaded into the staffed student reception via the Cory's Building entrance and onto a dedicated trolley to be transferred by staff to the kitchen (dashed blue line). College supplies (non-food) would be carried or wheeled round to the main college reception on Bute Place where they would be dropped off (other dashed blue line).

5.5.6 Waste collection would be undertaken by a private contractor due to the distances between the bin storage areas located to the rear of the building and the vehicle waiting point on Bute Street. Waste will be collected twice per week, in accordance with the arrangements at the existing College site. All waste will initially be stored in the internal bin store to rear of the building. On collection days bins will be moved from the bin store to a holding location at the entrance to Docks Lane by college staff. Operatives collect the bins from the holding point and wheel them to the refuse vehicle before returning the empty bins to Docks Lane (dashed red line). The collection times would be arranged to fall outside of both the network peak hours and college start and finish times to reduce conflict between vehicles and students.

5.5.7 Servicing and delivery vehicles would temporarily stop on Bute Street on double yellow lines. This approach has been accepted in principle by CC in pre-application correspondence.

Figure 5-1: Proposed Servicing and Delivery Strategy



5.5.8 In addition, there would be light vehicles for maintenance purposes on ad-hoc occasions. These vehicles would park off-site, for example utilising the short-stay bays along Bute Street adjacent to the site.

6. TRIP GENERATION AND TRAFFIC IMPACTS

6.1 Overview

6.1.1 This section provides a comparison between the forecast vehicle movements for the proposed college and those accepted for the consented residential use of the site (19/01024/MJR). The analysis considers the change in movements during the typical network peak hours between 0800-0900 and 1700-1800.

6.1.2 It should be noted that there is no parking provided as part of the proposals and sustainable transport will be encouraged as part of the Travel Plan. As such, this will assist in minimising the vehicle movements generated by the proposals. In addition, the majority of movements to and from the site would be from the boarding accommodation at Pierhead Street and these would be made on foot.

6.1.3 Finally a key point is that the two sites for the teaching facility and boarding accommodation at Pierhead Street would operate as one overall boarding school facility. As such, the delivery of both sites would be required in order for the proposals to be brought forwards. A single standalone education facility at Merchants Place and Cory's Building is not being proposed and would not come forwards as part of this scheme. The Pierhead Street site has a large office use consent with a high level of parking which would generate a significant level of vehicle trips, particularly in the peak hours. As such, the overall boarding accommodation scheme would generate a lower level of vehicle movements on the network than the combined movements from the consented schemes on each site.

6.2 Consented Site Use – Vehicle Trip Generation

6.2.1 The site benefits from a history of approvals to restore, convert and extend the existing building footprints for a mixture of uses including office, residential and retail. The most recent planning consent is for a residential led mixed-use scheme comprising 24 residential self-contained 1 and 2 bedroom apartments with ground floor retail uses (ref: 06/02527/C, granted 2016). This application was extended in 2019 as part of application 19/01024/MJR. As such, this is considered the fallback position for the site and the position against which the proposals should be assessed.

6.2.2 The approved planning application did not contain any trip generation analysis. As such, trip rates have been obtained from the TRICS software to forecast the vehicle trips associated with the consented use. In the interests of a robust assessment, the trip generation for the retail units have been omitted, as these are unlikely to be vehicle trip generators in their own right. This assessment therefore considers the generation from the 24 apartments.

6.2.3 The following search criteria have been applied in TRICS to obtain surveys of similar residential uses to the proposals:

- 03 – Residential/C – Flats Privately Owned
- Multi-Modal Surveys
- Located in England and Wales (excluding London)
- Surveys from Monday to Friday
- Surveys from 2000 onwards (excluding surveys undertaken during the pandemic)
- Sites with between 6 and 100 dwellings
- Town Centre and Edge of Town Centre locations
- Removal of sites with less than 75,000 population within 5 miles

6.2.4 The application of these parameters resulted in a total of nine surveys of similar sites. A summary of the forecast vehicle trip rates and trip generation associated with the 24 private apartments for the

consented scheme is shown in Table 6-1. The full outputs of the TRICS analysis, including the sites used, are provided within Appendix C.

Table 6-1: Consented Flats - Vehicle Trip Rates and Generation

Time Period	Trip Rates (per dwelling)			Trip Generation (24 Apartments)		
	Arrive	Depart	Two-way	Arrive	Depart	Two-way
07:00-08:00	0.038	0.110	0.148	1	3	4
08:00-09:00	0.055	0.205	0.260	1	5	6
09:00-10:00	0.072	0.072	0.144	2	2	4
10:00-11:00	0.078	0.082	0.160	2	2	4
11:00-12:00	0.074	0.087	0.161	2	2	4
12:00-13:00	0.106	0.110	0.216	3	3	6
13:00-14:00	0.110	0.116	0.226	3	3	6
14:00-15:00	0.087	0.087	0.174	2	2	4
15:00-16:00	0.085	0.066	0.151	2	2	4
16:00-17:00	0.127	0.080	0.207	3	2	5
17:00-18:00	0.163	0.101	0.264	4	2	6
18:00-19:00	0.121	0.059	0.180	3	1	4
Daily				**28**	**29**	**57**

6.2.5 Table 6-2 shows that the consented site use is forecast to generate approximately 6 two-way vehicle movements in the AM peak hour (0800-0900), 6 two-way vehicle movements in the PM peak hour (1700-1800) and a total of 57 two-way vehicle movements over a 12 hour period (07:00-19:00).

6.3 Proposed Site Use – Vehicle Trip Generation

6.3.1 The majority of students will be boarding in the accommodation units located at the Pierhead Street site and would walk to the site. As such, vehicle movements on the network would be generated by the 100 day students that live off-campus, the non-boarding college staff, as well as some movements for visitors and deliveries / servicing.

6.3.2 No on-site car parking is provided, with the only on-site parking being provided at the boarding accommodation site at Pierhead Street, with 20 staff spaces. These will mainly be used by staff at that site, including those staying in the accommodation.

6.3.3 No on-site parking is provided for students across either site. If parking is required, students will be expected to use the public car parks, although it is likely that the majority of students would travel by sustainable modes given the highly sustainable location.

6.3.4 As such, the constrained on-site parking and highly sustainable location is likely to minimise the level of vehicle movements generated by the site.

Student Movements

6.3.5 To forecast the vehicle trip generation for the proposals, per student trip rates have been obtained from similar sites in the TRICS software and applied to the number of day students. The most appropriate and comparable use within TRICS has been considered, which is a college use. These trip rates are considered to represent the number of movements generated by the day students. Although these trip rates would also include some staff movements, for robustness they have been considered as the day student movements only.

6.3.6 The following search criteria have been applied in TRICS to obtain surveys of similar uses to the proposals:

- 04 – Education/C – College/University
- Multi-modal surveys

- Located in England and Wales (excluding London)
- Surveys from Monday to Friday
- Surveys from 2000 onwards (excluding surveys undertaken during the pandemic)
- Sites with between 500 and 2,000 students
- Edge of Town Centre and Suburban Area location (to maximise the number of comparable surveys)
- Removal of sites with less than 100,000 population within 5 miles
- Removal of all University Sites
- Removal of sites with high levels of on-site parking

6.3.7 The above search criteria resulted in the identification of four similar sites. The forecast vehicle trip rates per student and trip generation for the proposed site which will have up to 100 day students is set out in Table 6-2. Although these are per student trip rates, these will also include for trips generated by staff and visitors. The full TRICS reports are included within Appendix D.

Table 6-2: Proposed education use - Student Vehicle Trip Rates and Generation

Time Period	Trip Rates (per student)			Trip Generation (100 day students)		
	Arrive	Depart	Two-way	Arrive	Depart	Two-way
07:00-08:00	0.011	0.003	0.014	1	0	1
08:00-09:00	0.112	0.047	0.159	11	5	16
09:00-10:00	0.055	0.034	0.089	6	3	9
10:00-11:00	0.023	0.013	0.036	2	1	3
11:00-12:00	0.029	0.030	0.059	3	3	6
12:00-13:00	0.026	0.026	0.052	3	3	6
13:00-14:00	0.024	0.025	0.049	2	3	5
14:00-15:00	0.022	0.031	0.053	2	3	5
15:00-16:00	0.032	0.051	0.083	3	5	8
16:00-17:00	0.035	0.082	0.117	4	8	12
17:00-18:00	0.032	0.030	0.062	3	3	6
18:00-19:00	0.020	0.017	0.037	2	2	4
Daily				**42**	**39**	**81**

6.3.8 Table 6-2 shows the proposed education use on the site is forecast to generate 16 two-way vehicle movements in the AM peak hour (0800-0900), 6 two-way vehicle movements in the PM peak hour (1700-1800) and 81 two-way vehicle movements over a 12 hour period (07:00-19:00).

6.3.9 This analysis assumes that 100 students would generate around 40 vehicles to the site across a day, albeit the arrivals would occur throughout the day. If it is assumed that students generate just one arrival and departure to and from the site across a day, this would equate to a 40% modal share by car which is below the CC target level of 50% of trips made by sustainable modes. It is also consistent with the Cardiff survey 2018 Transport Survey which shows around 40% of movements for education purposes were generated by vehicles (as set out in Section 2). It is noted that the TRICS analysis would have additional movements on and off the campus from students, for example to visit local facilities during break times and as such, this 40% level would not necessarily reflect the modal share of all journeys to and from the site for day students.

Staff Movements

6.3.10 In relation to the staff movements, these have been considered based on the total number of 116 staff travelling to and from the site (66 FTE teaching staff and 50 non-teaching staff). The movements would arrive and depart throughout the day as the teaching day lasts from 08:55-17:55, with potential one-to-one tuition starting at 08:00 and additional classes and clubs running until 19:00.

6.3.11 There would also be non-teaching staff working at meal times and cleaners working outside of teaching hours. As such, the movements of staff would occur across the day. On this basis, the profile of arrivals and departures as obtained from TRICS and shown in Table 6-2 is considered appropriate to apply to the staff movements.

6.3.12 To estimate the number of vehicle movements generated by staff, for robustness the Census modal share data in Section 2 has been utilised. It has been assumed that all staff make two trips, one to and one from the College, so a total of 232 two-way person movements. The trips by all modes based on the Census modal split and the TRICS trip profiles are shown in Table 6-5. It should be noted that these trips would be generated in relation to both the teaching and the boarding accommodation sites.

Table 6-3: Proposed Education Use – Staff Trip Generation by Mode

Time Period	% of movements	Vehicles	Passengers	Cyclists	Pedestrians	PT	Total
Modal Split		66%	5%	4%	11%	13%	
07:00-08:00	1.7%	3	0	0	0	1	4
08:00-09:00	19.6%	30	2	2	5	6	45
09:00-10:00	11.0%	17	1	1	3	3	25
10:00-11:00	4.4%	7	1	0	1	1	10
11:00-12:00	7.3%	11	1	1	2	2	17
12:00-13:00	6.4%	10	1	1	2	2	16
13:00-14:00	6.0%	9	1	1	2	2	15
14:00-15:00	6.5%	10	1	1	2	2	16
15:00-16:00	10.2%	16	1	1	3	3	24
16:00-17:00	14.4%	22	2	1	4	4	33
17:00-18:00	7.7%	12	1	1	2	2	18
18:00-19:00	4.6%	7	1	0	1	1	10
Daily		**152**	**12**	**10**	**26**	**30**	**232**

6.4 Net Change in Vehicle Movements

6.4.1 The net change in two-way vehicle movements between the forecast vehicle trip generation for the site's consented use (Table 6-1) and the proposed education use (Table 6-2 and Table 6-3) is shown in Table 6-4.

Table 6-4: Net Change in Two-Way Vehicle Movements for the Merchants Place and Cory's Building site

Time Period	Consented Residential Use	Proposed Education Use			Net Change
		Day Students	Staff	Total	
07:00-08:00	4	1	3	4	0
08:00-09:00	6	16	30	46	40
09:00-10:00	4	9	17	26	22
10:00-11:00	4	3	7	10	6
11:00-12:00	4	6	11	17	13
12:00-13:00	6	6	10	16	10
13:00-14:00	6	5	9	14	8
14:00-15:00	4	5	10	15	11
15:00-16:00	4	8	16	24	20
16:00-17:00	5	12	22	34	29
17:00-18:00	6	6	12	18	12
18:00-19:00	4	4	7	11	7
Daily	**57**	**81**	**152**	**233**	**176**

6.4.2 The analysis shows that the proposed development is forecast to generate an additional 40 vehicle movements in the AM peak hour (08:00 – 09:00) and 12 vehicle movements in the PM peak hour (17:00 - 18:00). These vehicle movements will be distributed across the network to surrounding parking areas, rather than concentrated at the access as per the consented scheme.

6.4.3 This would equate to a maximum of less than one additional vehicle on the local highway network, on average, during the busiest hour. This level of trips will not have a material impact on the local highway network, particularly as these would be distributed across the network to different car parking areas. As such, no formal capacity analysis is considered to be required.

6.4.4 The other key point is that this would be the trip generation for the proposed development across both sites, as the boarding accommodation site would generate a minimal level of movements on a typical day which would mainly be associated with servicing and deliveries. The staff numbers equate to the total number of staff over both sites so any movements set out would also include the daily movements to and from the boarding school as the two sites are intrinsically linked.

6.4.5 Considering the Pierhead Street site, this site has a planning consent for an office scheme. The Transport Assessment submitted with the application (Arup – March 2016) set out that the site would generate 121 vehicular trips in the AM peak hour and 93 vehicular trips in the PM peak hour. These trips would no longer be generated once the proposed development of both sites are built out.

6.4.6 As such, the total level of vehicle movements in the peak hours would significantly reduce by 81 movements in the AM peak and 71 movements in the PM peak when comparing the proposed development on both sites against the consented development on both sites.

6.4.7 The overall scheme will be brought forwards as one inter-dependent facility across two applications will decrease movements on the surrounding network.

6.4.8 As such, the proposals would not have a material or unacceptable impact on road safety or highway capacity.

6.4.9 In addition, the travel plan being submitted with the application will also encourage sustainable travel to and from the site, assisting to further constrain the level of vehicular movements on the network.

6.4.10 The proposals are therefore considered fully compliant with policies in Future Wales, PPW11, Cardiff Council LDP and TAN18.

6.5 Modal Split

6.5.1 Table 6-5 shows the forecast modal split for the proposed 100 day students based on the TRICS multi-modal survey trip rates. All movements to and from the boarding accommodation at Pierhead Street would be made on foot, so the proportion of walking movements to and from the site by all students would be significantly higher than shown.

Table 6-5: Proposed Education Use – Day Student Modal Split and Number of Movements by Mode

Time Period	Vehicles	Passengers	Cyclists	Pedestrians	PT	Total
Modal Split	***24%***	***24%***	***0%***	***34%***	***18%***	
07:00-08:00	1	1	0	0	0	2
08:00-09:00	16	14	1	7	17	55
09:00-10:00	9	9	0	7	5	30
10:00-11:00	3	4	0	16	2	25
11:00-12:00	6	6	0	15	3	30
12:00-13:00	6	6	0	31	2	45
13:00-14:00	5	6	0	12	3	26
14:00-15:00	5	6	0	10	4	25
15:00-16:00	8	8	0	10	14	40
16:00-17:00	12	12	0	5	9	38
17:00-18:00	6	8	0	2	1	17
18:00-19:00	4	3	0	0	0	7
Daily	**81**	**83**	**1**	**115**	**60**	**340**

6.5.2 The TRICS modal split analysis indicates that 52% of all trips would be made by sustainable modes. In addition, 24% of movements are forecast as car passengers and 24% as car drivers.

6.5.3 However, the trip generation analysis is based on a college whereby all movements would be on a daily basis and there is no boarding accommodation. As the majority of movements to and from the campuses would be by walking from boarders residing at Pierhead Street, for the movements generated by the remainder of the day students and staff it is considered unlikely that 33% would be by walking as one-third of the day students are unlikely to live within walking distance, unlike a typical sixth form college which would serve a local catchment area.

6.5.4 In addition, cycling would likely have a higher share of the total trips than shown, due to the highly sustainable location of the site and access to good quality cycle infrastructure which can capture movements from further from the site. This is evidenced in both the 2011 Census data for journeys to work and CC's Transport Survey report (published 2018). The Census data suggests that 4.3% of existing employees cycle to work in this location (Cardiff 048 MSOA) and CC's Transport Survey shows that 19% of trips to education facilities would be completed by bicycle. In addition, there is a high level of cycle parking provided across the two sites, in excess of the standards for a boarding school.

6.5.5 Finally, there may be a higher level of public transport use given the excellent accessibility by rail and buses. It is considered that the level of vehicle use is appropriate given the site's highly sustainable location and constrained on-site parking provision.

6.5.6 As such, it is likely that there could be a slightly revised modal split with higher levels of cycling and public transport and lower walking movements. An adjusted day student daily modal split reducing pedestrian movements by 10% of the modal share and reallocating across cycling and public transport accordingly has therefore been shown in Table 6-6.

Table 6-6: Proposed Education Use – Day Student Adjusted Modal Split and Number of Movements by Mode

Time Period	Vehicles	Passengers	Cyclists	Pedestrians	PT
Modal Split	*24%*	*24%*	*8%*	*24%*	*20%*
Daily	**81**	**81**	**27**	**81**	**68**

6.5.7 The overall forecast number of daily movements including the staff movements shown in Table 6-3, is set out in Table 6-7.

Table 6-7: Proposed Education Use – Forecast Daily Movements by Mode

Time Period	Vehicles	Passengers	Cyclists	Pedestrians	PT
Day Students	81	81	27	81	68
Staff	152	12	10	26	30
Total	**233**	**93**	**37**	**107**	**98**

7. MITIGATION

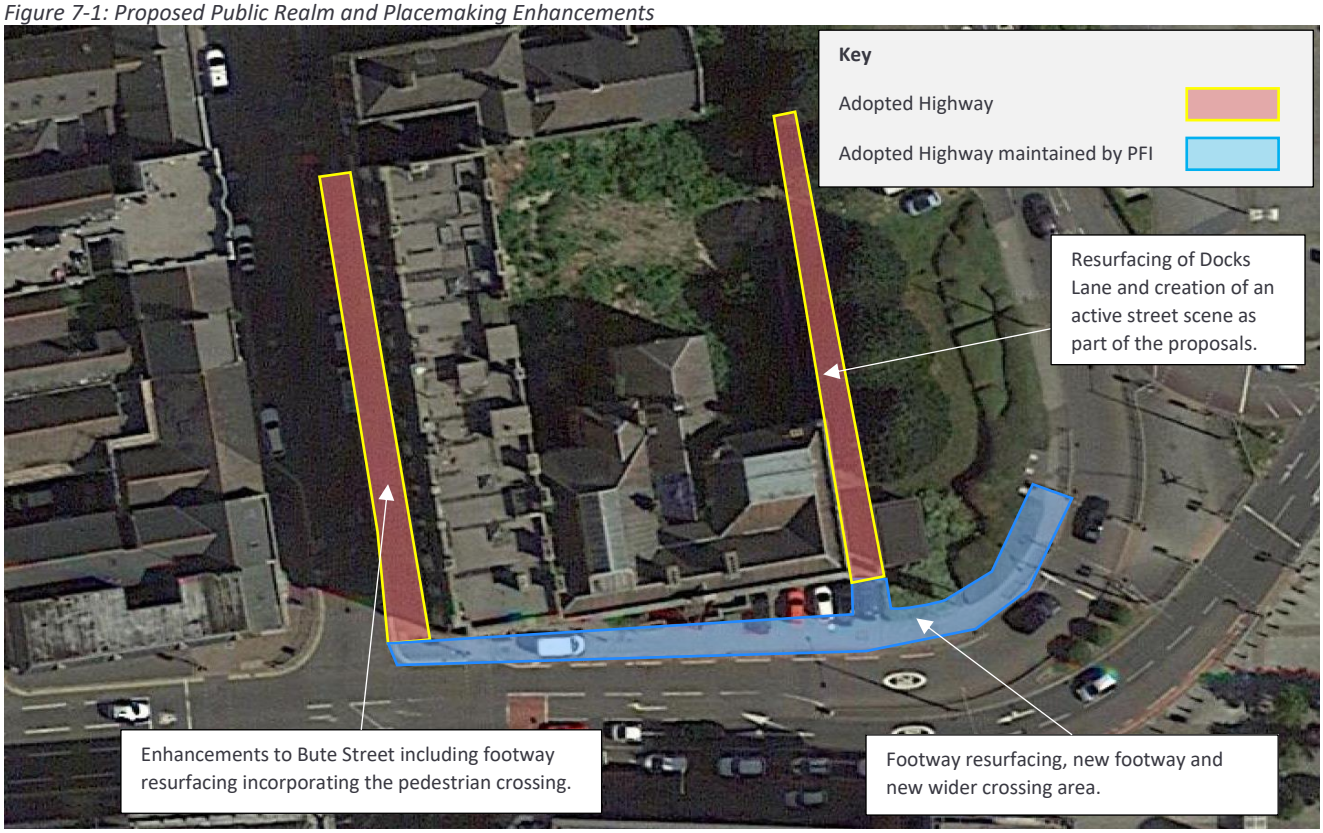
7.1 Public Realm and Placemaking Enhancements

7.1.1 Following the pre-application discussions with CC, a scheme of works is proposed to enhance the area along the site boundaries on Bute Place, Bute Street and Docks Lane.

7.1.2 The location of the proposed enhancements are illustrated on Figure 7-1 and have been summarised as follows:

- Docks Lane will be enhanced along the site boundary as part of the proposals. This will comprise the refurbishment and relaying of the historic pennant paviours, and general improvements to the lane through the proposals. This will also enable cyclists improved access to and from Bute Place.
- Bute Place will be resurfaced to match the existing materials along the site frontage.
- The proposals would include improvements further east up to the existing crossing and comprise footway widening and a larger crossing waiting area as requested by CC. The wider footway would enhance the access to the site for pedestrians and cyclists. The applicant would work with CC to bring forward the improvements which lie within the adopted highway but maintained by Private Finance Initiative (PFI). It is noted that the existing arrangements are considered appropriate, but these improvements will provide an enhanced pedestrian environment.
- The proposals will enhance the frontage along Bute Street through providing new natural stone paving to improve the pedestrian environment. This will include enhancing the materials at the existing signalised crossing. No amendments to the parking restrictions or Traffic Regulation Orders are required to deliver the scheme.

Figure 7-1: Proposed Public Realm and Placemaking Enhancements



Source: Google Maps

7.1.3 These works could be delivered through a S278 / S38 agreement and form a condition to any forthcoming planning consent, as per the latest office consent on Pierhead Street for the boarding accommodation site.

7.1.4 Some of the proposed improvements are subject to the delivery mechanism for adopted land situated within the PFI area such as the Bute Place enhancements and the entrance to Docks Lane.

7.1.5 The delivery of the development itself will significantly enhance the streetscene along Bute Place and Bute Street which would create a more pleasant walking and cycling environment.

8. SUMMARY AND CONCLUSIONS

8.1 Summary

8.1.1 This Transport Statement (TS) has been provided in support of a planning application for a new sixth form education facility located at Merchants Place and the Cory's Building site, Bute Street, Cardiff Bay.

8.1.2 This report has been prepared to provide the necessary information for the Local Highway and Planning Authorities to consider the merits of the proposals in terms of location, connectivity, highway safety, parking, access and the impact on the local highway network.

8.1.3 The proposals comprise the conversion and restoration of the Grade II listed buildings and a new eight storey building to the rear within the courtyard surface parking area. The development will provide new teaching facilities for Cardiff Sixth Form College to accommodate a total of 500 students, consisting of 400 boarders and 100 day students. The new eight storey education building is consistent with the previously consented eight storey office block.

8.1.4 The new facility will form part of plans to establish a new campus for Cardiff Sixth Form College within Cardiff Bay, with associated boarding accommodation proposed at a separate site located off Pierhead Street. A separate standalone TS has been produced to support the Pierhead Street site. The proposals for Pierhead Street comprise the college boardings which will house and cater for 400 students as well as some staff.

8.1.5 The site is situated in a location which has excellent sustainable transport links and benefits from being connected to a high standard of walking and cycling infrastructure and public transport routes. Students and staff will be able to walk (or cycle) to the site, as well as to services and facilities within appropriate distances. Future users will also benefit from the potential regeneration of the surrounding area as part of the Atlantic Wharf regeneration and the potential Metro scheme improvements.

8.1.6 The proposals show access to pedestrians will be available from both Bute Street and Bute Place via the existing footways, as well as from Docks Lane. The main staff and visitor entrance to the building will be provided from Bute Place. The main student entrance would be provided from Bute Street using the existing Cory's Building access. Docks Lane will provide out of hours, cycle store and servicing and delivery access.

8.1.7 The site is not providing car parking and as such will have no vehicular access. The consented residential scheme on the site proposed 27 car parking spaces and as such, the proposals would reduce vehicle movements into and out of the building compared with the consent.

8.1.8 Some staff parking will be provided as part of the Pierhead Street accommodation scheme. There are a significant number of public car parks within short walking distance of the site that would be suitable for day students, non-boarding staff members and visitors. The level of car parking is in accordance with the Cardiff Council maximum standards.

8.1.9 It is proposed to provide a total of 90 cycle spaces across both campus sites, with 30 spaces provided at the Merchants Place and Cory's Building site and 60 spaces provided at the Pierhead Street site. This is significantly above the levels required for a boarding school site within Cardiff Council standards and reflects the sustainable location of the site and the operators commitment to encouraging travel via cycle.

8.1.10 Due to the short distance between the site and the boarding accommodation at Pierhead Street, all boarding students will walk between the sites and would not cycle. As such the provision on the site for 30 cycle parking spaces is considered appropriate. The spaces will only be utilised by the day students, staff and visitors. Approximately 100 day students are estimated, so the provision on the site equates to more than 1 space per 5 day students. This is in accordance with the parking standards for secondary schools in the SPG which states a minimum 1 space per 5 pupils.

8.1.11 Obtained road safety data does not indicate an existing safety issue which would be exacerbated by the proposals and no evidence of a safety issue on the key pedestrian route between the site and the proposed boarding accommodation at Pierhead Street.

8.1.12 Servicing and deliveries would be undertaken on-street from Bute Street in line with the other retail and office units along Bute Street. This arrangement is considered acceptable as there is sufficient width on the one-way street to accommodate a short-stay service vehicle without impacting through vehicle movements.

8.1.13 Waste collection would be undertaken by a private contractor due to the distances between the bin storage areas located to the rear of the building and the vehicle waiting point on Bute Street.

8.1.14 The site is forecast to increase vehicle movements from the consented scheme by a maximum of 40 movements in the peak hour. This is a minimal increase of less than one vehicle a minute, on average, which will not have a material impact on the local highway network, particularly as these would be distributed across the network to different car parking areas.

8.1.15 In addition, the associated boarding accommodation proposals at the Pierhead Street site will significantly decrease movements to and from that site, which has a consented office use. As such, the overall scheme which will be brought forwards as one inter-dependent facility across two applications will significantly decrease movements on the surrounding network, particularly in the network peak hours.

8.1.16 Improvements to the public realm will be provided on the streets surrounding the site to enhance the pedestrian environment and further improve pedestrian connectivity and the route between the two sites.

8.1.17 Sustainable transport will be encouraged and promoted to students and staff through the Travel Plan, which has been submitted separately as a standalone document.

8.2 Conclusions

8.2.1 The site location will encourage and promote sustainable travel behaviour and discourage car use and is therefore fully in accordance with transport policies in Future Wales, TAN18, PPW11 and the Cardiff Council LDP.

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

8.2.3 The proposed parking provision is in accordance with the Cardiff Parking Standards as well as the objectives for encouraging sustainable travel and reducing car use as set out in PPW11 and Future Wales.

8.2.4 The proposals will not have a material impact on the operation of the highway network.

8.2.5 The analysis presented within this TS allows the highway authority to provide a positive recommendation on the planning application.

Appendix A Scoping and Pre-App discussions with Cardiff Council

David Chapman

From: Perry, Matthew <Matthew.Perry@cardiff.gov.uk>
Sent: 15 March 2022 14:05
To: Sutcliffe, Amanda
Cc: DC Consultations / Ymgynghoriadau DC
Subject: RE: 15840 - Cardiff Sixth Form College - Merchants Place, Cory's and Plot - 5 -PA /21/00127/MJR

Hi Amanda

Further to some points made at the meeting, comments on the Transport Scoping Note below.

4.2.1 – OK in-principle with the proposed access strategy, subject to suitable details regards numbers, servicing, management etc. Note that for 600 pupils the maximum number of car park spaces allowed would be 20. The access would require existing parking bays to be removed.

4.2.7 – I'm not aware that Docks Lane can currently be ridden on by cyclists legally, but there could be merit in seeking a change in future allowing this, as would enable better access to the site for cyclists.

4.2.8 – we would be keen for a footway improvement between Docks Avenue and the western side of The Flourish, to enhance pedestrian accessibility.

4.2.12 – whilst the proposed level of car parking is within allowable standards, it seemed high for students. It is understood that there would also be teachers boarding as well. The TS should set out the proposed number of these, although as a general point we should be looking to limit the amount of car parking in such a sustainable area.

4.2.15 – a direct pedestrian/cycle link to the north west (north of Premier Inn) would be beneficial, though it is appreciated this is not in client's land control.

4.2.19 – we can further consider the merits in widening the pedestrian crossing points/waiting areas, especially considering that the site could generate relatively large numbers of pupils in a short time period.

4.2.22 – I am in the process of clarifying the process for any highway works required in areas managed by the PFI.

4.3.2 – whilst the two sites have links, they are ultimately different sites with different land uses. Any deviation from parking standards at each site would need appropriate justification.

4.3.8 – the school site would require 120 long stay spaces plus 30 short-stay spaces. It is accepted that staff/pupils located in the boarding facility may be less likely to cycle (and thus require cycle storage at the school site), although it is still considered there would be some demand. We would therefore accept some reduction on the minimum standards, although there should be no reduction for non-boarding staff and students.

4.3.9 – it is understood that a significant number of boarders may be international students and thus perhaps not so likely to own a cycle. However, given the age of pupils it is considered that there may be significant demand for cycle use. It would be useful if the applicant considers its own direct cycle use/hire scheme, to encourage cycling for users who may otherwise not be so likely to own a cycle.

4.4.1 – no issues in-principle with refuse access from Bute St, but frequency of collection should be set out, and bin collection points may be needed.

4.4.2 – I do not envisage the level of service vehicles should be enough to warrant a dedicated loading bay. Appropriate TRO amendments may be needed, and as above it seems at least some parking bays would be lost.

5.1.1 – our position is that the consented site is not in operation and thus any traffic impacts should focus on the change compared to the current number of vehicle trips at the sites. However, given the present quantum of car parking spaces proposed, and the existing parking restrictions around both sites (although that would need to be fully assessed for Site B in particular), it is not considered that traffic/junction assessment is needed, although the TS should indicate the breakdown of trips by mode during the busiest development operation periods.

6.1.2 – it is considered that resurfacing of the frontage footway at Bute St/Bute Place would be required.

I would also generally concur with Mike Barnett's public realm enhancement areas sketch.

Regards, Matt

From: Sutcliffe, Amanda <ASutcliffe@cardiff.gov.uk>
Sent: 01 March 2022 17:42
To: Cannon, Ross <RCannon@cardiff.gov.uk>; Perry, Matthew <Matthew.Perry@cardiff.gov.uk>
Subject: RE: 15840 - Cardiff Sixth Form College - Merchants Place, Cory's and Plot - 5 -PA /21/00127/MJR

Hi both
Further to our meeting today, I would be grateful if Ross you could provide comments on the Heritage Assessment (and any other comments you would wish to make) and Matt, comments on the Transport Scoping Note (dated 07/02/22).
Many thanks
Amanda

Amanda Sutcliffe BSc (Hons), M.Phil, MRTPI
Prif Gynllunydd: Rheoli Datblygu Strategol a Gwella Cymunedau I Principal Planner: Development Management Strategic & Placemaking
Cynllunio, Trafnidiaeth a'r Amgylchedd I Planning, Transport and Environment
Cyngor Caerdydd I Cardiff Council

E-bost/Email: ASutcliffe@caerdydd.gov.uk / ASutcliffe@cardiff.gov.uk
Ffôn/Tel: 029 2233 0825
Ystafell 223, Neuadd y Sir, Glanfa'r Iwerydd CAERDYDD CF10 4UW
Room 223, County Hall, Atlantic Wharf CARDIFF CF10 4UW

From: Emma Penson <emma.penson@dwdllp.com>
Sent: 01 March 2022 09:23
To: Sutcliffe, Amanda <ASutcliffe@cardiff.gov.uk>; Ball, Steve <Steve.Ball@cardiff.gov.uk>; Cannon, Ross <RCannon@cardiff.gov.uk>; Arnall, Guy <Guy.Arnall@cardiff.gov.uk>
Cc: Harriet Swale <Harriet.Swale@dwdllp.com>
Subject: RE: 15840 - Cardiff Sixth Form College - Merchants Place, Cory's and Plot - 5 -PA /21/00127/MJR

Dear All,

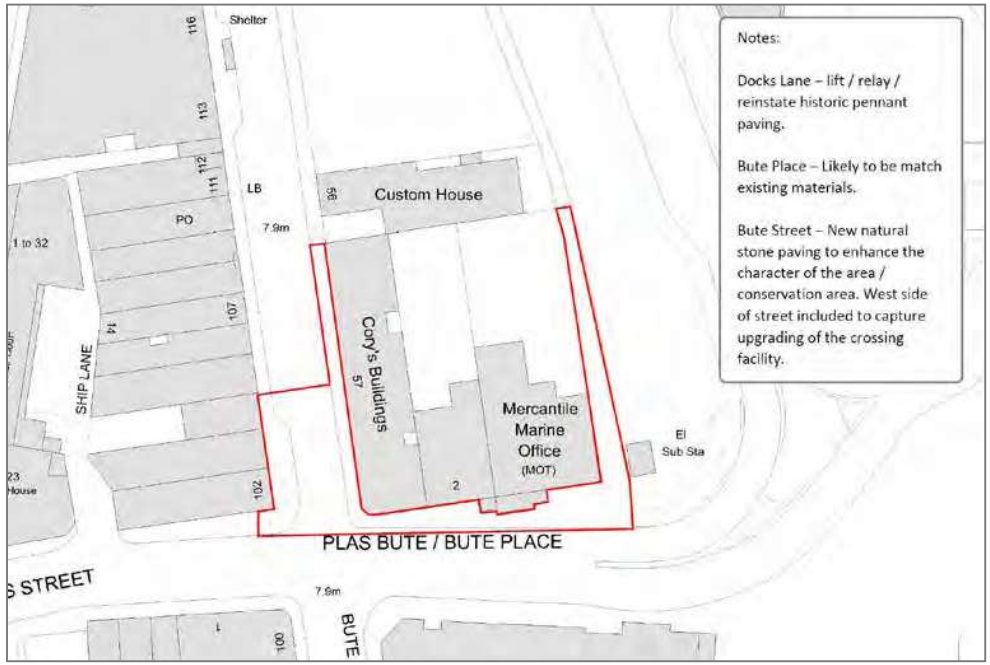
We have replaced the heritage statement in the same file share link, with an updated version. The significance plans have been completed in this version but the bulk of the report is the same.

We wanted you to have the most up to date version, but if you've already looked at the earlier version it is much the same.

https://dwd.ctit.co/url/8yjbd2ed5skieyj5

We look forward to discussing the project with you further this afternoon.

As part of the pre-application process the client has been asked to consider improvements to the surrounding public realm. The design team have taken this into consideration and explored how Dock Lane in particular could be enhance, not just from an aesthetic perspective but from a usability perspective too. This is demonstrated in the proposals.



PA_21_00127_MJR - Merchant House (19th January 2022)

Email from Michael Barnett in regards to the Pre-application:

Public realm comments are as follows:

The pre-application proposes an education facility at Site 1 (Merchant Place/Cory's Buildings) and associated student accommodation at Site 2 (Plot 5, Pierhead Street).

These are large scale proposals which will place increased pressure on the surrounding pedestrian environment. The public realm in these areas is generally of a poor quality (particularly at Bute Street) and there is a need for it to be upgraded in order to provide an enhanced and more efficient pedestrian environment than that which serves the sites at present.

Planning Policy Wales, paragraph 4.1.19 states that 'Well-designed, people orientated streets are fundamental to creating sustainable places and increasing walking, cycling and use of public transport. New development should improve the quality of place and create safe, social, attractive streets where people want to walk, cycle and enjoy'. Cardiff Local Development Plan Policy KP6 (New Infrastructure) seeks that new developments make appropriate provision for, or contribute towards, necessary infrastructure required as a consequence of proposed development, including public realm improvements.

To help integrate the proposed developments with the surrounding areas and to improve pedestrian movements to, from and around the sites, a scheme of public realm/highway improvement works would be sought as part of an application. An indicative boundary for the extent of the improvement works at both sites is attached. The works would include, but not be limited to, surfacing, kerbs, edging, drainage, street lighting, lining, signing, street furniture, trees and new/ revised TROs required as a consequence of the schemes.

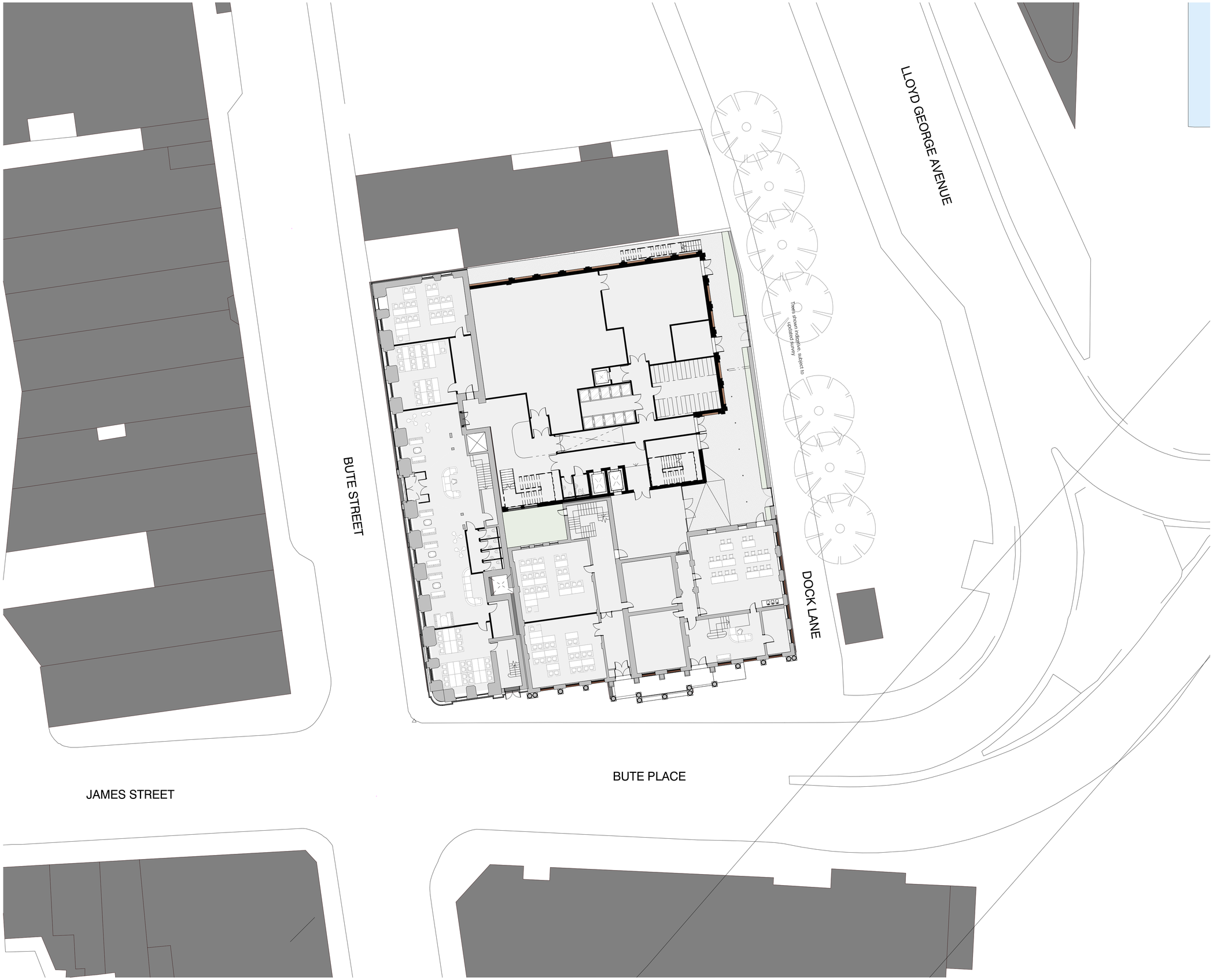
Appendix B Proposed Site Layout

Figured dimensions only are to be taken from this drawing. All dimensions are to be checked on site before any workis put in hand.

N

0m 4m 8m 12m 16m 20m

VISUAL SCALE 1:200 @ A1



Revision	Description	Date	Issued
02	Issued for Pre-Application Consultation	29.07.22	ML
01	Pre-planning Update	07.06.22	ML

EXPEDITE DESIGN SERVICES LTD

RIBA Chartered Practice

Client's Name
Cardiff 6th Form College

Job Title
Cardiff 6th Form Academic Hub

Status
Preliminary

Suitability
S0

Scale
1 : 200 @ A1

Document Reference
21.22-EDS-XX-ZZ-DR-A-(00)201

Drawing Title
Proposed Site Plan

Drawing Number
(00)201

Revision
02

Figured dimensions only are to be taken from this drawing. All dimensions are to be checked on site before any workis put in hand.

0m 2m 4m 6m 8m 10m

VISUAL SCALE 1:100 @ A1

Key

- Existing structure
- Demolished structure
- Proposed structure

Revision	Description	Date	Issued
05	Issued for Pre-Application Consultation	29.07.22	ML
04	Planting added	12.07.22	ML
03	Pre-planning Update	07.06.22	ML
02	Issued for client review	20.05.22	ML
01	Issued for client review	30.03.22	ML

EXPEDITE DESIGN SERVICES LTD

RIBA Chartered Practice

Client's Name
Cardiff 6th Form College

Job Title
Cardiff 6th Form Academic Hub

Status
Preliminary

Suitability
S0

Scale
1 : 100 @ A1

Document Reference
21.22-EDS-XX-00-DR-A-(01)200

Drawing Title
Proposed Ground Floor Plan

Drawing Number
(01)200

Revision
05

Appendix C TRICS Output – Consented scheme

Filtering Summary

Land Use	03/C	RESIDENTIAL/FLATS PRIVATELY OWNED
Selected Trip Rate Calculation Parameter Range	6-100 DWELLS	
Actual Trip Rate Calculation Parameter Range	6-94 DWELLS	
Date Range	Minimum: 01/01/00	Maximum: 15/10/21
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	3
	Wednesday	1
	Thursday	2
	Friday	3
Main Location Types selected	Town Centre	2
	Edge of Town Centre	7
Population within 500m	All Surveys Included	
Population < 1 Mile ranges selected	10,001 to 15,000	2
	20,001 to 25,000	1
	25,001 to 50,000	6
Population < 5 Mile ranges selected	75,001 to 100,000	1
	125,001 to 250,000	4
	250,001 to 500,000	3
	500,001 or More	1
Car Ownership < 5 Mile ranges selected	0.6 to 1.0	3
	1.1 to 1.5	6
PTAL Rating	No PTAL Present	9

Calculation Reference: AUDIT-502501-220726-0759

TRIP RATE CALCULATION SELECTION PARAMETERS:

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

Selected regions and areas:

02	**SOUTH EAST**		
	EX	ESSEX	2 days
	HC	HAMPSHIRE	1 days
	HF	HERTFORDSHIRE	1 days
06	**WEST MIDLANDS**		
	WM	WEST MIDLANDS	1 days
07	**YORKSHIRE & NORTH LINCOLNSHIRE**		
	WY	WEST YORKSHIRE	1 days
08	**NORTH WEST**		
	CH	CHESHIRE	1 days
	GM	GREATER MANCHESTER	1 days
09	**NORTH**		
	CB	CUMBRIA	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: 6 to 94 (units:)
Range Selected by User: 6 to 100 (units:)

Parking Spaces Range: All Surveys Included

Parking Spaces per Dwelling Range: All Surveys Included

Bedrooms per Dwelling Range: All Surveys Included

Percentage of dwellings privately owned: All Surveys Included

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/00 to 15/10/21

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

Selected survey days:

Tuesday	3 days
Wednesday	1 days
Thursday	2 days
Friday	3 days

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

Selected survey types:

Manual count	9 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	2
Edge of Town Centre	7

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

Selected Location Sub Categories:

Residential Zone	3
Built-Up Zone	5

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

Secondary Filtering selection:

Use Class:

C3	9 days

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

Population within 500m Range:

All Surveys Included

Population within 1 mile:

10,001 to 15,000	2 days
20,001 to 25,000	1 days
25,001 to 50,000	6 days

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

Population within 5 miles:

75,001 to 100,000	1 days
125,001 to 250,000	4 days
250,001 to 500,000	3 days
500,001 or More	1 days

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

Car ownership within 5 miles:

0.6 to 1.0	3 days
1.1 to 1.5	6 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	7 days

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

PTAL Rating:

No PTAL Present	9 days

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

LIST OF SITES relevant to selection parameters

1 **CB-03-C-01** **BLOCK OF FLATS** **CUMBRIA**
KING STREET
CARLISLE

Town Centre
Built-Up Zone
Total No of Dwellings: 40
Survey date: THURSDAY *12/06/14* *Survey Type: MANUAL*

2 **CH-03-C-01** **BLOCKS OF FLATS** **CHESHIRE**
NEW CRANE STREET
CHESTER

Edge of Town Centre
Residential Zone
Total No of Dwellings: 60
Survey date: FRIDAY *17/10/08* *Survey Type: MANUAL*

3 **EX-03-C-01** **FLATS** **ESSEX**
WESTCLIFF PARADE
SOUTHEND-ON-SEA
WESTCLIFF
Edge of Town Centre
Residential Zone
Total No of Dwellings: 6
Survey date: TUESDAY *22/10/13* *Survey Type: MANUAL*

4 **EX-03-C-02** **BLOCK OF FLATS** **ESSEX**
WESTCLIFF PARADE
SOUTHEND-ON-SEA
WESTCLIFF
Edge of Town Centre
Residential Zone
Total No of Dwellings: 94
Survey date: TUESDAY *22/10/13* *Survey Type: MANUAL*

5 **GM-03-C-03** **BLOCK OF FLATS** **GREATER MANCHESTER**
FAIRFIELD STREET
MANCHESTER

Town Centre
Built-Up Zone
Total No of Dwellings: 20
Survey date: FRIDAY *14/10/11* *Survey Type: MANUAL*

6 **HC-03-C-01** **BLOCKS OF FLATS** **HAMPSHIRE**
CROSS STREET
PORTSMOUTH

Edge of Town Centre
Built-Up Zone
Total No of Dwellings: 90
Survey date: TUESDAY *05/06/18* *Survey Type: MANUAL*

7 **HF-03-C-03** **BLOCK OF FLATS** **HERTFORDSHIRE**
SHENLEY ROAD
BOREHAMWOOD

Edge of Town Centre
Built-Up Zone
Total No of Dwellings: 91
Survey date: THURSDAY *14/11/19* *Survey Type: MANUAL*

8 **WM-03-C-03** **FLATS** **WEST MIDLANDS**
LODE LANE
SOLIHULL

Edge of Town Centre
No Sub Category
Total No of Dwellings: 60
Survey date: FRIDAY *21/09/07* *Survey Type: MANUAL*

LIST OF SITES relevant to selection parameters (Cont.)

9 WY-03-C-02 BLOCK OF FLATS WEST YORKSHIRE
KINGS MILL LANE
HUDDERSFIELD
ASPLEY
Edge of Town Centre
Built-Up Zone
Total No of Dwellings: 12
Survey date: WEDNESDAY 13/09/06 Survey Type: MANUAL

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

MANUALLY DESELECTED SITES

Site Ref	Reason for Deselection
MS-03-C-04	Covid
SF-03-C-05	Covid

TRIP RATE for Land Use 03 - RESIDENTIAL/C - FLATS PRIVATELY OWNED
MULTI-MODAL TOTAL VEHICLES
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period
Total People to Total Vehicles ratio (all time periods and directions): 2.06

	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	9	53	0.038	9	53	0.110	9	53	0.148
08:00 - 09:00	9	53	0.055	**9**	**53**	**0.205**	9	53	0.260
09:00 - 10:00	9	53	0.072	9	53	0.072	9	53	0.144
10:00 - 11:00	9	53	0.078	9	53	0.082	9	53	0.160
11:00 - 12:00	9	53	0.074	9	53	0.087	9	53	0.161
12:00 - 13:00	9	53	0.106	9	53	0.110	9	53	0.216
13:00 - 14:00	9	53	0.110	9	53	0.116	9	53	0.226
14:00 - 15:00	9	53	0.087	9	53	0.087	9	53	0.174
15:00 - 16:00	9	53	0.085	9	53	0.066	9	53	0.151
16:00 - 17:00	9	53	0.127	9	53	0.080	9	53	0.207
17:00 - 18:00	**9**	**53**	**0.163**	9	53	0.101	**9**	**53**	**0.264**
18:00 - 19:00	9	53	0.121	9	53	0.059	9	53	0.180
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			1.116			1.175			2.291

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

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

Parameter summary

Trip rate parameter range selected:	6 - 94 (units:)
Survey date date range:	01/01/00 - 15/10/21
Number of weekdays (Monday-Friday):	9
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	2

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
MULTI-MODAL 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	9	53	0.004	9	53	0.004	9	53	0.008
08:00 - 09:00	9	53	0.000	9	53	0.002	9	53	0.002
09:00 - 10:00	9	53	0.002	9	53	0.002	9	53	0.004
10:00 - 11:00	9	53	0.002	9	53	0.002	9	53	0.004
11:00 - 12:00	9	53	0.008	9	53	0.008	9	53	0.016
12:00 - 13:00	**9**	**53**	**0.013**	**9**	**53**	**0.013**	**9**	**53**	**0.026**
13:00 - 14:00	9	53	0.002	9	53	0.002	9	53	0.004
14:00 - 15:00	9	53	0.002	9	53	0.002	9	53	0.004
15:00 - 16:00	9	53	0.000	9	53	0.000	9	53	0.000
16:00 - 17:00	9	53	0.008	9	53	0.006	9	53	0.014
17:00 - 18:00	9	53	0.004	9	53	0.002	9	53	0.006
18:00 - 19:00	9	53	0.002	9	53	0.004	9	53	0.006
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.047			0.047			0.094

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
MULTI-MODAL 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	**9**	**53**	**0.006**	**9**	**53**	**0.006**	**9**	**53**	**0.012**
08:00 - 09:00	9	53	0.000	9	53	0.000	9	53	0.000
09:00 - 10:00	9	53	0.002	9	53	0.002	9	53	0.004
10:00 - 11:00	9	53	0.000	9	53	0.000	9	53	0.000
11:00 - 12:00	9	53	0.002	9	53	0.000	9	53	0.002
12:00 - 13:00	9	53	0.000	9	53	0.002	9	53	0.002
13:00 - 14:00	9	53	0.000	9	53	0.000	9	53	0.000
14:00 - 15:00	9	53	0.000	9	53	0.000	9	53	0.000
15:00 - 16:00	9	53	0.000	9	53	0.000	9	53	0.000
16:00 - 17:00	9	53	0.000	9	53	0.000	9	53	0.000
17:00 - 18:00	9	53	0.000	9	53	0.000	9	53	0.000
18:00 - 19:00	9	53	0.000	9	53	0.000	9	53	0.000
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.010			0.010			0.020

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
MULTI-MODAL 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	9	53	0.004	**9**	**53**	**0.011**	**9**	**53**	**0.015**
08:00 - 09:00	9	53	0.000	9	53	0.002	9	53	0.002
09:00 - 10:00	9	53	0.002	9	53	0.002	9	53	0.004
10:00 - 11:00	9	53	0.004	9	53	0.006	9	53	0.010
11:00 - 12:00	9	53	0.006	9	53	0.000	9	53	0.006
12:00 - 13:00	9	53	0.002	9	53	0.008	9	53	0.010
13:00 - 14:00	9	53	0.002	9	53	0.000	9	53	0.002
14:00 - 15:00	9	53	0.004	9	53	0.002	9	53	0.006
15:00 - 16:00	9	53	0.002	9	53	0.002	9	53	0.004
16:00 - 17:00	9	53	0.000	9	53	0.000	9	53	0.000
17:00 - 18:00	**9**	**53**	**0.011**	9	53	0.002	9	53	0.013
18:00 - 19:00	9	53	0.004	9	53	0.000	9	53	0.004
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.041			0.035			0.076

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
MULTI-MODAL VEHICLE OCCUPANTS
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	9	53	0.047	9	53	0.140	9	53	0.187
08:00 - 09:00	9	53	0.063	**9**	**53**	**0.245**	9	53	0.308
09:00 - 10:00	9	53	0.080	9	53	0.089	9	53	0.169
10:00 - 11:00	9	53	0.106	9	53	0.106	9	53	0.212
11:00 - 12:00	9	53	0.093	9	53	0.110	9	53	0.203
12:00 - 13:00	9	53	0.135	9	53	0.146	9	53	0.281
13:00 - 14:00	9	53	0.150	9	53	0.150	9	53	0.300
14:00 - 15:00	9	53	0.097	9	53	0.104	9	53	0.201
15:00 - 16:00	9	53	0.106	9	53	0.085	9	53	0.191
16:00 - 17:00	9	53	0.173	9	53	0.095	9	53	0.268
17:00 - 18:00	**9**	**53**	**0.205**	9	53	0.129	**9**	**53**	**0.334**
18:00 - 19:00	9	53	0.152	9	53	0.068	9	53	0.220
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			1.407			1.467			2.874

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
MULTI-MODAL PEDESTRIANS
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	9	53	0.023	9	53	0.061	9	53	0.084
08:00 - 09:00	9	53	0.034	**9**	**53**	**0.114**	9	53	0.148
09:00 - 10:00	9	53	0.038	9	53	0.051	9	53	0.089
10:00 - 11:00	9	53	0.044	9	53	0.061	9	53	0.105
11:00 - 12:00	9	53	0.040	9	53	0.070	9	53	0.110
12:00 - 13:00	9	53	0.059	9	53	0.061	9	53	0.120
13:00 - 14:00	9	53	0.063	9	53	0.057	9	53	0.120
14:00 - 15:00	9	53	0.085	9	53	0.061	9	53	0.146
15:00 - 16:00	9	53	0.057	9	53	0.040	9	53	0.097
16:00 - 17:00	9	53	0.099	9	53	0.066	9	53	0.165
17:00 - 18:00	**9**	**53**	**0.118**	9	53	0.080	**9**	**53**	**0.198**
18:00 - 19:00	9	53	0.070	9	53	0.049	9	53	0.119
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.730			0.771			1.501

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
MULTI-MODAL BUS/ TRAM PASSENGERS
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	9	53	0.002	9	53	0.011	9	53	0.013
08:00 - 09:00	9	53	0.013	**9**	**53**	**0.032**	**9**	**53**	**0.045**
09:00 - 10:00	9	53	0.002	9	53	0.011	9	53	0.013
10:00 - 11:00	9	53	0.002	9	53	0.000	9	53	0.002
11:00 - 12:00	9	53	0.004	9	53	0.002	9	53	0.006
12:00 - 13:00	9	53	0.011	9	53	0.017	9	53	0.028
13:00 - 14:00	9	53	0.002	9	53	0.015	9	53	0.017
14:00 - 15:00	9	53	0.004	9	53	0.002	9	53	0.006
15:00 - 16:00	9	53	0.002	9	53	0.004	9	53	0.006
16:00 - 17:00	9	53	0.006	9	53	0.000	9	53	0.006
17:00 - 18:00	**9**	**53**	**0.015**	9	53	0.002	9	53	0.017
18:00 - 19:00	9	53	0.011	9	53	0.002	9	53	0.013
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.074			0.098			0.172

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

MULTI-MODAL TOTAL RAIL PASSENGERS

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	9	53	0.000	**9**	**53**	**0.021**	**9**	**53**	**0.021**
08:00 - 09:00	9	53	0.000	9	53	0.004	9	53	0.004
09:00 - 10:00	9	53	0.000	9	53	0.002	9	53	0.002
10:00 - 11:00	9	53	0.002	9	53	0.000	9	53	0.002
11:00 - 12:00	9	53	0.004	9	53	0.002	9	53	0.006
12:00 - 13:00	9	53	0.000	9	53	0.002	9	53	0.002
13:00 - 14:00	9	53	0.000	9	53	0.004	9	53	0.004
14:00 - 15:00	9	53	0.004	9	53	0.000	9	53	0.004
15:00 - 16:00	9	53	0.004	9	53	0.000	9	53	0.004
16:00 - 17:00	9	53	0.008	9	53	0.000	9	53	0.008
17:00 - 18:00	**9**	**53**	**0.019**	9	53	0.000	9	53	0.019
18:00 - 19:00	9	53	0.011	9	53	0.006	9	53	0.017
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.052			0.041			0.093

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
MULTI-MODAL PUBLIC TRANSPORT USERS
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	9	53	0.002	9	53	0.032	9	53	0.034
08:00 - 09:00	9	53	0.013	**9**	**53**	**0.036**	**9**	**53**	**0.049**
09:00 - 10:00	9	53	0.002	9	53	0.013	9	53	0.015
10:00 - 11:00	9	53	0.002	9	53	0.000	9	53	0.002
11:00 - 12:00	9	53	0.004	9	53	0.004	9	53	0.008
12:00 - 13:00	9	53	0.011	9	53	0.019	9	53	0.030
13:00 - 14:00	9	53	0.004	9	53	0.019	9	53	0.023
14:00 - 15:00	9	53	0.004	9	53	0.002	9	53	0.006
15:00 - 16:00	9	53	0.008	9	53	0.004	9	53	0.012
16:00 - 17:00	9	53	0.015	9	53	0.000	9	53	0.015
17:00 - 18:00	**9**	**53**	**0.034**	9	53	0.002	9	53	0.036
18:00 - 19:00	9	53	0.025	9	53	0.008	9	53	0.033
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.124			0.139			0.263

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

MULTI-MODAL TOTAL PEOPLE

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

Total People to Total Vehicles ratio (all time periods and directions): 2.06

	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	9	53	0.076	9	53	0.243	9	53	0.319
08:00 - 09:00	9	53	0.110	**9**	**53**	**0.397**	9	53	0.507
09:00 - 10:00	9	53	0.123	9	53	0.154	9	53	0.277
10:00 - 11:00	9	53	0.156	9	53	0.173	9	53	0.329
11:00 - 12:00	9	53	0.144	9	53	0.184	9	53	0.328
12:00 - 13:00	9	53	0.207	9	53	0.235	9	53	0.442
13:00 - 14:00	9	53	0.220	9	53	0.226	9	53	0.446
14:00 - 15:00	9	53	0.190	9	53	0.169	9	53	0.359
15:00 - 16:00	9	53	0.173	9	53	0.131	9	53	0.304
16:00 - 17:00	9	53	0.288	9	53	0.161	9	53	0.449
17:00 - 18:00	**9**	**53**	**0.368**	9	53	0.214	**9**	**53**	**0.582**
18:00 - 19:00	9	53	0.252	9	53	0.125	9	53	0.377
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			2.307			2.412			4.719

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.*

Appendix D TRICS Output – Proposed Scheme

Filtering Summary

Land Use	04/C	EDUCATION/COLLEGE/UNIVERSITY
Selected Trip Rate Calculation Parameter Range	500-2000 STUDEN	
Actual Trip Rate Calculation Parameter Range	879-1650 STUDEN	
Date Range	Minimum: 01/01/00	Maximum: 06/04/22
Parking Spaces Range	All Surveys Included	
Days of the week selected	Monday	1
	Tuesday	1
	Thursday	2
Main Location Types selected	Suburban Area (PPS6 Out of Centre)	4
Population within 500m	All Surveys Included	
Population < 1 Mile ranges selected	10,001 to 15,000	1
	15,001 to 20,000	1
	25,001 to 50,000	2
Population < 5 Mile ranges selected	100,001 to 125,000	1
	125,001 to 250,000	2
	250,001 to 500,000	1
Car Ownership < 5 Mile ranges selected	0.6 to 1.0	2
	1.1 to 1.5	2
PTAL Rating	No PTAL Present	4

Calculation Reference: AUDIT-502501-220726-0715

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 04 - EDUCATION
Category : C - COLLEGE/UNIVERSITY
MULTI-MODAL TOTAL VEHICLES

Selected regions and areas:

02	**SOUTH EAST**		
	ES	EAST SUSSEX	1 days
07	**YORKSHIRE & NORTH LINCOLNSHIRE**		
	KH	KINGSTON UPON HULL	1 days
08	**NORTH WEST**		
	LC	LANCASHIRE	1 days
10	**WALES**		
	SW	SWANSEA	1 days

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

Primary Filtering selection:

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

Parameter:	Number of students
Actual Range:	879 to 1650 (units:)
Range Selected by User:	500 to 2000 (units:)

Parking Spaces Range: All Surveys Included

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/00 to 06/04/22

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

Selected survey days:

Monday	1 days
Tuesday	1 days
Thursday	2 days

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

Selected survey types:

Manual count	4 days
Directional ATC Count	0 days

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

Selected Locations:

Suburban Area (PPS6 Out of Centre)	4

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

Selected Location Sub Categories:

Residential Zone	2
No Sub Category	2

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

Secondary Filtering selection:

Use Class:

F1(a)	4 days

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

Population within 500m Range:

All Surveys Included

Population within 1 mile:

10,001 to 15,000	1 days
15,001 to 20,000	1 days
25,001 to 50,000	2 days

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

Population within 5 miles:

100,001 to 125,000	1 days
125,001 to 250,000	2 days
250,001 to 500,000	1 days

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

Car ownership within 5 miles:

0.6 to 1.0	2 days
1.1 to 1.5	2 days

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

Travel Plan:

Not Known	1 days
Yes	1 days
No	2 days

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

PTAL Rating:

No PTAL Present	4 days

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

LIST OF SITES relevant to selection parameters

1 **ES-04-C-05** **COLLEGE** **EAST SUSSEX**
PENLAND ROAD
BEXHILL ON SEA

Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of students: 1500
Survey date: THURSDAY *03/11/11* *Survey Type: MANUAL*

2 **KH-04-C-01** **COLLEGE** **KINGSTON UPON HULL**
PARKFIELD DRIVE
HULL
WEST PARK
Suburban Area (PPS6 Out of Centre)
No Sub Category
Total Number of students: 1650
Survey date: TUESDAY *16/10/01* *Survey Type: MANUAL*

3 **LC-04-C-03** **RC COLLEGE** **LANCASHIRE**
SHEAR BROW
BLACKBURN
FOUR LANE ENDS
Suburban Area (PPS6 Out of Centre)
No Sub Category
Total Number of students: 1465
Survey date: THURSDAY *07/10/04* *Survey Type: MANUAL*

4 **SW-04-C-02** **COLLEGE** **SWANSEA**
WALTER ROAD
SWANSEA

Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of students: 879
Survey date: MONDAY *21/10/13* *Survey Type: MANUAL*

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

MANUALLY DESELECTED SITES

Site Ref	Reason for Deselection
BD-04-C-01	High Parking
SC-04-C-01	University
TW-04-C-01	High Parking

TRIP RATE for Land Use 04 - EDUCATION/C - COLLEGE/UNIVERSITY

MULTI-MODAL TOTAL VEHICLES

Calculation factor: 1 STUDEN

BOLD print indicates peak (busiest) period

Total People to Total Vehicles ratio (all time periods and directions): 3.09

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. STUDEN	Trip Rate	No. Days	Ave. STUDEN	Trip Rate	No. Days	Ave. STUDEN	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	4	1374	0.011	4	1374	0.003	4	1374	0.014
08:00 - 09:00	**4**	**1374**	**0.112**	4	1374	0.047	**4**	**1374**	**0.159**
09:00 - 10:00	4	1374	0.055	4	1374	0.034	4	1374	0.089
10:00 - 11:00	4	1374	0.023	4	1374	0.013	4	1374	0.036
11:00 - 12:00	4	1374	0.029	4	1374	0.030	4	1374	0.059
12:00 - 13:00	4	1374	0.026	4	1374	0.026	4	1374	0.052
13:00 - 14:00	4	1374	0.024	4	1374	0.025	4	1374	0.049
14:00 - 15:00	4	1374	0.022	4	1374	0.031	4	1374	0.053
15:00 - 16:00	4	1374	0.032	4	1374	0.051	4	1374	0.083
16:00 - 17:00	4	1374	0.035	**4**	**1374**	**0.082**	4	1374	0.117
17:00 - 18:00	4	1374	0.032	4	1374	0.030	4	1374	0.062
18:00 - 19:00	4	1374	0.020	4	1374	0.017	4	1374	0.037
19:00 - 20:00	3	1331	0.006	3	1331	0.008	3	1331	0.014
20:00 - 21:00	3	1331	0.008	3	1331	0.030	3	1331	0.038
21:00 - 22:00	3	1331	0.003	3	1331	0.020	3	1331	0.023
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.438			0.447			0.885

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

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

Parameter summary

Trip rate parameter range selected:	879 - 1650 (units:)
Survey date date range:	01/01/00 - 06/04/22
Number of weekdays (Monday-Friday):	4
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	2
Surveys manually removed from selection:	3

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 04 - EDUCATION/C - COLLEGE/UNIVERSITY
MULTI-MODAL OGVS
Calculation factor: 1 STUDEN
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. STUDEN	Trip Rate	No. Days	Ave. STUDEN	Trip Rate	No. Days	Ave. STUDEN	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	**4**	**1374**	**0.001**	4	1374	0.000	**4**	**1374**	**0.001**
08:00 - 09:00	4	1374	0.000	**4**	**1374**	**0.001**	4	1374	0.001
09:00 - 10:00	4	1374	0.000	4	1374	0.000	4	1374	0.000
10:00 - 11:00	4	1374	0.000	4	1374	0.000	4	1374	0.000
11:00 - 12:00	4	1374	0.000	4	1374	0.000	4	1374	0.000
12:00 - 13:00	4	1374	0.000	4	1374	0.000	4	1374	0.000
13:00 - 14:00	4	1374	0.000	4	1374	0.000	4	1374	0.000
14:00 - 15:00	4	1374	0.000	4	1374	0.000	4	1374	0.000
15:00 - 16:00	4	1374	0.000	4	1374	0.000	4	1374	0.000
16:00 - 17:00	4	1374	0.000	4	1374	0.000	4	1374	0.000
17:00 - 18:00	4	1374	0.000	4	1374	0.000	4	1374	0.000
18:00 - 19:00	4	1374	0.000	4	1374	0.000	4	1374	0.000
19:00 - 20:00	3	1331	0.000	3	1331	0.000	3	1331	0.000
20:00 - 21:00	3	1331	0.000	3	1331	0.000	3	1331	0.000
21:00 - 22:00	3	1331	0.000	3	1331	0.000	3	1331	0.000
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.001			0.001			0.002

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 04 - EDUCATION/C - COLLEGE/UNIVERSITY
MULTI-MODAL PSVS
Calculation factor: 1 STUDEN
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. STUDEN	Trip Rate	No. Days	Ave. STUDEN	Trip Rate	No. Days	Ave. STUDEN	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	4	1374	0.000	4	1374	0.000	4	1374	0.000
08:00 - 09:00	**4**	**1374**	**0.004**	**4**	**1374**	**0.003**	**4**	**1374**	**0.007**
09:00 - 10:00	4	1374	0.001	4	1374	0.001	4	1374	0.002
10:00 - 11:00	4	1374	0.000	4	1374	0.000	4	1374	0.000
11:00 - 12:00	4	1374	0.000	4	1374	0.001	4	1374	0.001
12:00 - 13:00	4	1374	0.001	4	1374	0.000	4	1374	0.001
13:00 - 14:00	4	1374	0.001	4	1374	0.001	4	1374	0.002
14:00 - 15:00	4	1374	0.001	4	1374	0.000	4	1374	0.001
15:00 - 16:00	4	1374	0.003	4	1374	0.003	4	1374	0.006
16:00 - 17:00	4	1374	0.001	4	1374	0.001	4	1374	0.002
17:00 - 18:00	4	1374	0.000	4	1374	0.000	4	1374	0.000
18:00 - 19:00	4	1374	0.000	4	1374	0.000	4	1374	0.000
19:00 - 20:00	3	1331	0.000	3	1331	0.000	3	1331	0.000
20:00 - 21:00	3	1331	0.000	3	1331	0.000	3	1331	0.000
21:00 - 22:00	3	1331	0.000	3	1331	0.000	3	1331	0.000
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.012			0.010			0.022

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 04 - EDUCATION/C - COLLEGE/UNIVERSITY

MULTI-MODAL CYCLISTS

Calculation factor: 1 STUDEN

BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. STUDEN	Trip Rate	No. Days	Ave. STUDEN	Trip Rate	No. Days	Ave. STUDEN	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	4	1374	0.000	4	1374	0.000	4	1374	0.000
08:00 - 09:00	**4**	**1374**	**0.007**	4	1374	0.001	**4**	**1374**	**0.008**
09:00 - 10:00	4	1374	0.004	4	1374	0.002	4	1374	0.006
10:00 - 11:00	4	1374	0.000	4	1374	0.000	4	1374	0.000
11:00 - 12:00	4	1374	0.002	4	1374	0.001	4	1374	0.003
12:00 - 13:00	4	1374	0.002	4	1374	0.002	4	1374	0.004
13:00 - 14:00	4	1374	0.001	4	1374	0.001	4	1374	0.002
14:00 - 15:00	4	1374	0.001	4	1374	0.002	4	1374	0.003
15:00 - 16:00	4	1374	0.001	4	1374	0.002	4	1374	0.003
16:00 - 17:00	4	1374	0.001	**4**	**1374**	**0.004**	4	1374	0.005
17:00 - 18:00	4	1374	0.001	4	1374	0.003	4	1374	0.004
18:00 - 19:00	4	1374	0.000	4	1374	0.000	4	1374	0.000
19:00 - 20:00	3	1331	0.000	3	1331	0.000	3	1331	0.000
20:00 - 21:00	3	1331	0.000	3	1331	0.000	3	1331	0.000
21:00 - 22:00	3	1331	0.000	3	1331	0.000	3	1331	0.000
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.020			0.018			0.038

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 04 - EDUCATION/C - COLLEGE/UNIVERSITY

MULTI-MODAL VEHICLE OCCUPANTS

Calculation factor: 1 STUDEN

BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. STUDEN	Trip Rate	No. Days	Ave. STUDEN	Trip Rate	No. Days	Ave. STUDEN	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	4	1374	0.012	4	1374	0.002	4	1374	0.014
08:00 - 09:00	**4**	**1374**	**0.132**	4	1374	0.013	**4**	**1374**	**0.145**
09:00 - 10:00	4	1374	0.068	4	1374	0.017	4	1374	0.085
10:00 - 11:00	4	1374	0.026	4	1374	0.010	4	1374	0.036
11:00 - 12:00	4	1374	0.034	4	1374	0.027	4	1374	0.061
12:00 - 13:00	4	1374	0.029	4	1374	0.031	4	1374	0.060
13:00 - 14:00	4	1374	0.030	4	1374	0.025	4	1374	0.055
14:00 - 15:00	4	1374	0.018	4	1374	0.037	4	1374	0.055
15:00 - 16:00	4	1374	0.020	4	1374	0.060	4	1374	0.080
16:00 - 17:00	4	1374	0.021	**4**	**1374**	**0.104**	4	1374	0.125
17:00 - 18:00	4	1374	0.041	4	1374	0.040	4	1374	0.081
18:00 - 19:00	4	1374	0.020	4	1374	0.014	4	1374	0.034
19:00 - 20:00	3	1331	0.006	3	1331	0.009	3	1331	0.015
20:00 - 21:00	3	1331	0.007	3	1331	0.036	3	1331	0.043
21:00 - 22:00	3	1331	0.003	3	1331	0.026	3	1331	0.029
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.467			0.451			0.918

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 04 - EDUCATION/C - COLLEGE/UNIVERSITY

MULTI-MODAL PEDESTRIANS

Calculation factor: 1 STUDEN

BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. STUDEN	Trip Rate	No. Days	Ave. STUDEN	Trip Rate	No. Days	Ave. STUDEN	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	4	1374	0.000	4	1374	0.000	4	1374	0.000
08:00 - 09:00	4	1374	0.066	4	1374	0.002	4	1374	0.068
09:00 - 10:00	4	1374	0.046	4	1374	0.020	4	1374	0.066
10:00 - 11:00	4	1374	0.082	4	1374	0.081	4	1374	0.163
11:00 - 12:00	4	1374	0.075	4	1374	0.074	4	1374	0.149
12:00 - 13:00	**4**	**1374**	**0.150**	**4**	**1374**	**0.157**	**4**	**1374**	**0.307**
13:00 - 14:00	4	1374	0.072	4	1374	0.053	4	1374	0.125
14:00 - 15:00	4	1374	0.035	4	1374	0.057	4	1374	0.092
15:00 - 16:00	4	1374	0.021	4	1374	0.077	4	1374	0.098
16:00 - 17:00	4	1374	0.006	4	1374	0.042	4	1374	0.048
17:00 - 18:00	4	1374	0.005	4	1374	0.007	4	1374	0.012
18:00 - 19:00	4	1374	0.003	4	1374	0.004	4	1374	0.007
19:00 - 20:00	3	1331	0.002	3	1331	0.001	3	1331	0.003
20:00 - 21:00	3	1331	0.000	3	1331	0.002	3	1331	0.002
21:00 - 22:00	3	1331	0.000	3	1331	0.002	3	1331	0.002
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.563			0.579			1.142

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 04 - EDUCATION/C - COLLEGE/UNIVERSITY

MULTI-MODAL PUBLIC TRANSPORT USERS

Calculation factor: 1 STUDEN

BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. STUDEN	Trip Rate	No. Days	Ave. STUDEN	Trip Rate	No. Days	Ave. STUDEN	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	4	1374	0.001	4	1374	0.000	4	1374	0.001
08:00 - 09:00	**4**	**1374**	**0.174**	4	1374	0.000	**4**	**1374**	**0.174**
09:00 - 10:00	4	1374	0.048	4	1374	0.001	4	1374	0.049
10:00 - 11:00	4	1374	0.017	4	1374	0.003	4	1374	0.020
11:00 - 12:00	4	1374	0.017	4	1374	0.013	4	1374	0.030
12:00 - 13:00	4	1374	0.012	4	1374	0.009	4	1374	0.021
13:00 - 14:00	4	1374	0.017	4	1374	0.008	4	1374	0.025
14:00 - 15:00	4	1374	0.006	4	1374	0.032	4	1374	0.038
15:00 - 16:00	4	1374	0.002	**4**	**1374**	**0.143**	4	1374	0.145
16:00 - 17:00	4	1374	0.002	4	1374	0.086	4	1374	0.088
17:00 - 18:00	4	1374	0.002	4	1374	0.008	4	1374	0.010
18:00 - 19:00	4	1374	0.000	4	1374	0.000	4	1374	0.000
19:00 - 20:00	3	1331	0.000	3	1331	0.002	3	1331	0.002
20:00 - 21:00	3	1331	0.000	3	1331	0.001	3	1331	0.001
21:00 - 22:00	3	1331	0.000	3	1331	0.002	3	1331	0.002
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.298			0.308			0.606

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 04 - EDUCATION/C - COLLEGE/UNIVERSITY

MULTI-MODAL TOTAL PEOPLE

Calculation factor: 1 STUDEN

BOLD print indicates peak (busiest) period

Total People to Total Vehicles ratio (all time periods and directions): 3.09

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. STUDEN	Trip Rate	No. Days	Ave. STUDEN	Trip Rate	No. Days	Ave. STUDEN	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	4	1374	0.014	4	1374	0.002	4	1374	0.016
08:00 - 09:00	**4**	**1374**	**0.378**	4	1374	0.016	**4**	**1374**	**0.394**
09:00 - 10:00	4	1374	0.165	4	1374	0.040	4	1374	0.205
10:00 - 11:00	4	1374	0.126	4	1374	0.094	4	1374	0.220
11:00 - 12:00	4	1374	0.127	4	1374	0.115	4	1374	0.242
12:00 - 13:00	4	1374	0.193	4	1374	0.198	4	1374	0.391
13:00 - 14:00	4	1374	0.121	4	1374	0.086	4	1374	0.207
14:00 - 15:00	4	1374	0.061	4	1374	0.128	4	1374	0.189
15:00 - 16:00	4	1374	0.044	**4**	**1374**	**0.282**	4	1374	0.326
16:00 - 17:00	4	1374	0.029	4	1374	0.237	4	1374	0.266
17:00 - 18:00	4	1374	0.049	4	1374	0.058	4	1374	0.107
18:00 - 19:00	4	1374	0.023	4	1374	0.019	4	1374	0.042
19:00 - 20:00	3	1331	0.008	3	1331	0.012	3	1331	0.020
20:00 - 21:00	3	1331	0.007	3	1331	0.038	3	1331	0.045
21:00 - 22:00	3	1331	0.003	3	1331	0.030	3	1331	0.033
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			1.348			1.355			2.703

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.*