

THE DELTA BUILDING 121 KINGS ROAD, READING

PERMITTED DEVELOPMENT
CHANGE OF USE CLASS

TRANSPORT
STATEMENT

MARCH 2025

PROPOSED CHANGE OF USE (E TO C3 RESIDENTIAL)
CLASS MA – PERMITTED DEVELOPMENT
THE DELTA BUILDING, 121 KINGS ROAD, READING, RG1 3ES

TRANSPORT STATEMENT

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1. INTRODUCTION

- 1.1 **Firmin Transport Planning Ltd (FTP)** have been instructed by **London Two Ltd** to prepare a Transport Statement (TS) to support a Class MA (Permitted Development) application to Reading Borough Council (RBC) for the change of use of **The Delta Building, 121 Kings Road, Reading, RG1 3ES from Class E (g) to C3 Residential to provide a total of 77 flats.**
- 1.2 The Delta Building is a five-storey commercial building with a total floor area of **54,988 sqft (5,108 sqm)** plus basement parking with a total provision of **84 spaces**. The building is one of three blocks constructed on site.
- 1.3 This TS has been prepared in accordance with the latest national and local guidance documents including the National Planning Policy Framework (NPPF) and the Reading Local Plan and Local Transport Plan.
- 1.4 This TS is structured in the following way:
- **Section 2 – Transport Policy** reviews the relevant transport policies at national, regional and local levels;
 - **Section 3 – The Site and Existing Transport Network** provides a detailed understanding of the existing site and surrounding highway network including, walking, cycling, public transport and other modes of Active Travel and how the existing and anticipated users travel to and from the site;
 - **Section 4 – Development Proposals** provides a detailed understanding of the development proposals and describes how the site is accessed; how it will be serviced and managed; and the proposed cycle and car parking strategy;
 - **Section 5 – Development Impacts** assesses the trip generation of the existing and proposed sites and reviews the net impact of the proposals on the surrounding highway network; and
 - **Section 6 – Summary and Conclusions** provides a summary of the key transport impacts, issues and solutions of the development proposals.
- 1.5 This TS is supported by a Residential Travel Plan (TP) which should be read in conjunction with this TS:
- 1.6 This TS examines the existing transport network and considers the transport impacts of the proposed development.

2. TRANSPORT POLICY

Introduction

- 2.1 This section of the TS reviews the transport related planning policies at national, regional and local levels which have informed the development proposals.

National Planning Policy Framework (NPPF)

- 2.2 The NPPF was published in March 2012 and most recently updated in December 2024. It sets out the government's planning policies for England and how these are expected to be applied.

- 2.3 Section 9 of the NPPF deals with promoting sustainable transport and paragraph 109 states that *"Transport issues should be considered from the earliest stages of plan-making and development proposals, using a vision-led approach to identify transport solutions that deliver well-designed, sustainable and popular places. This should involve:*

- a) making transport considerations an important part of early engagement with local communities;*
- b) ensuring patterns of movement, streets, parking and other transport considerations are integral to the design of schemes, and contribute to making high quality places;*
- c) understanding and addressing the potential impacts of development on transport networks;*
- d) realising opportunities from existing or proposed transport infrastructure, and changing transport technology and usage – for example in relation to the scale, location or density of development that can be accommodated; and*
- e) identifying and pursuing opportunities to promote walking, cycling and public transport use; and*
- f) identifying, assessing and taking into account the environmental impacts of traffic and transport infrastructure – including appropriate opportunities for avoiding and mitigating any adverse effects, and for net environmental gains."*

- 2.4 Paragraph 110 states that *"Significant development should be focused on locations which are or can be made sustainable, through limiting the need to travel and offering a genuine choice of transport modes. This can help to reduce congestion and emissions, and improve air quality and public health. However, opportunities to maximise sustainable transport solutions will vary between urban and rural areas, and this should be taken into account in both plan-making and decision-making."*

- 2.5 The NPPF outlines in paragraph 116 that *"Development should only be prevented or refused on highways grounds if there would be an unacceptable impact on highway safety, or the residual cumulative impacts on the road network, following mitigation, would be severe, taking into account all reasonable future scenarios."*

Planning Practice Guidance (PPG)

- 2.6 The NPPF is supported by the PPG and a separate section titled *"Travel Plans, Transport Assessments and Statements"* provides advice on when Travel Plans, Transport Assessments or Statements are required and what they should contain. The advice was published in March 2014.

- 2.7 The PPG outlines the purpose of a Travel Plan and states that they are *“long-term management goals for integrating proposals for sustainable travel into the planning process. They are based on evidence of the anticipated transport impacts of development and set measures to promote and encourage sustainable travel.”*
- 2.8 A Transport Assessment or Transport Statement is defined as a *“way of assessing the potential transport impacts of developments”* and they *“may propose mitigation measures to promote sustainable development. Where that mitigation relates to matters that can be addressed by management measures, the mitigation may inform the preparation of Travel Plans”*.
- 2.9 The PPG also confirms that Travel Plans, Transport Assessments and Transport Statements make positive contributions to:
- *Encouraging sustainable travel;*
 - *Lessening traffic generation and its detrimental impacts;*
 - *Reducing carbon emissions and climate impacts;*
 - *Creating accessible, connected, inclusive communities;*
 - *Improving health outcomes and quality of life;*
 - *Improving road safety; and*
 - *Reducing the need for new development to increase existing road capacity or provide new roads.*

Local Planning Policy – Reading Borough Council

- 2.10 Local Transport Policy in the context of the proposals is set out within the Reading Local Plan (adopted November 2019), the Reading Transport Strategy 2040 and the RBC parking standards document (2011).
- 2.11 Policy TR1 of the Local Plan states that *“Proposed development should contribute appropriately to meeting the objectives of the most up-to-date Local Transport Plan or any successor document, including sub-strategies, specific projects identified and the local action plans.*

Planning permission will not be granted for major development proposals unless there is a commitment to implement measures to promote and improve sustainable transport facilities, such as through provision to encourage walking, cycling and the use of public transport; and through agreed travel plans, safe routes to local facilities and services, including schools and parks, and similar measures.

All development proposals should make appropriate provision for works and contributions to ensure an adequate level of accessibility and safety by all modes of transport from all parts of a development, particularly by public transport, walking and cycling, in accordance with any agreed transport assessment submitted as part of the application.”

- 2.12 The Local Transport Plan (2011 – 2026) was superseded by the Reading Transport Strategy 2040 in June 2024. The Vision of the Reading Transport Strategy is to *“deliver a sustainable transport system in Reading that creates an attractive, green and vibrant town with neighbourhoods that promote healthy choices and wellbeing. Future mobility options will enable everyone in Reading to thrive, enjoy an exceptional quality of life and adapt to meet future challenges and opportunities.”*

2.13 The Vision is underpinned by five key objectives:

- *Create a Clean and Green Reading;*
- *Supporting Healthy Lifestyles;*
- *Enabling Sustainable and Inclusive Growth;*
- *Connecting People and Places; and*
- *Embracing Smart Solutions.*

Healthy Streets

2.14 The RBC Vision integrates the principles of Healthy Streets. The Healthy Streets Approach puts people and their health at the centre of decisions about how we design, manage and use public spaces. It aims to make our streets healthy, safe and welcoming for everyone. The approach is based on 10 indicators of a Healthy Street which focus on the experience of people using streets.

2.15 If a street is a healthy and inclusive environment then we should see all members of the community out on the street sitting, standing, walking, cycling and using public transport.

2.16 There are two main indicators;

1. Pedestrians from all walks of life.
2. People choose to walk, cycle and use public transport.

2.17 There are eight other indicators;

3. Easy to cross.
4. Shade and Shelter.
5. Places to stop and rest.
6. Not too noisy.
7. People feel safe.
8. Things to see and do.
9. People feel relaxed.
10. Clean air.

2.18 The development proposals will contribute to the Healthy Streets Approach in the following ways.

- Enhancing the public realm within the site.
- Ensuring that all Delivery & Servicing is undertaken on-site.
- Enhanced provision of cycle parking in accordance with LTN 1/20.
- Locating residential development in a location which is highly sustainable.

Policy Summary

2.19 This TS demonstrates that the development proposals are in accordance with the national, regional and local transport policies identified above by demonstrating that the site is within a highly sustainable location whereby safe and suitable access is provided for all users.

3. THE SITE AND EXISTING CONDITIONS

The Site

- 3.1 The site is located on the northern side of Kings Road with Gas Works Road forming the south-eastern boundary, commercial buildings forming the western boundary and the River Kennet forming the northern boundary. It is located around 500m east of Reading Town Centre.
- 3.2 The wider site consists of three commercial buildings (Alpha, Beta and Delta) which share an underground car park and access from Gas Works Road. The application site is the eastern building only (The Delta Building). The southern building (Beta) will remain as existing whilst the western building (Alpha Building – Kennet Place) has recently received planning approval for the conversion to a total of 93 residential dwellings.
- 3.3 A site location plan is shown at **Figure 1**.

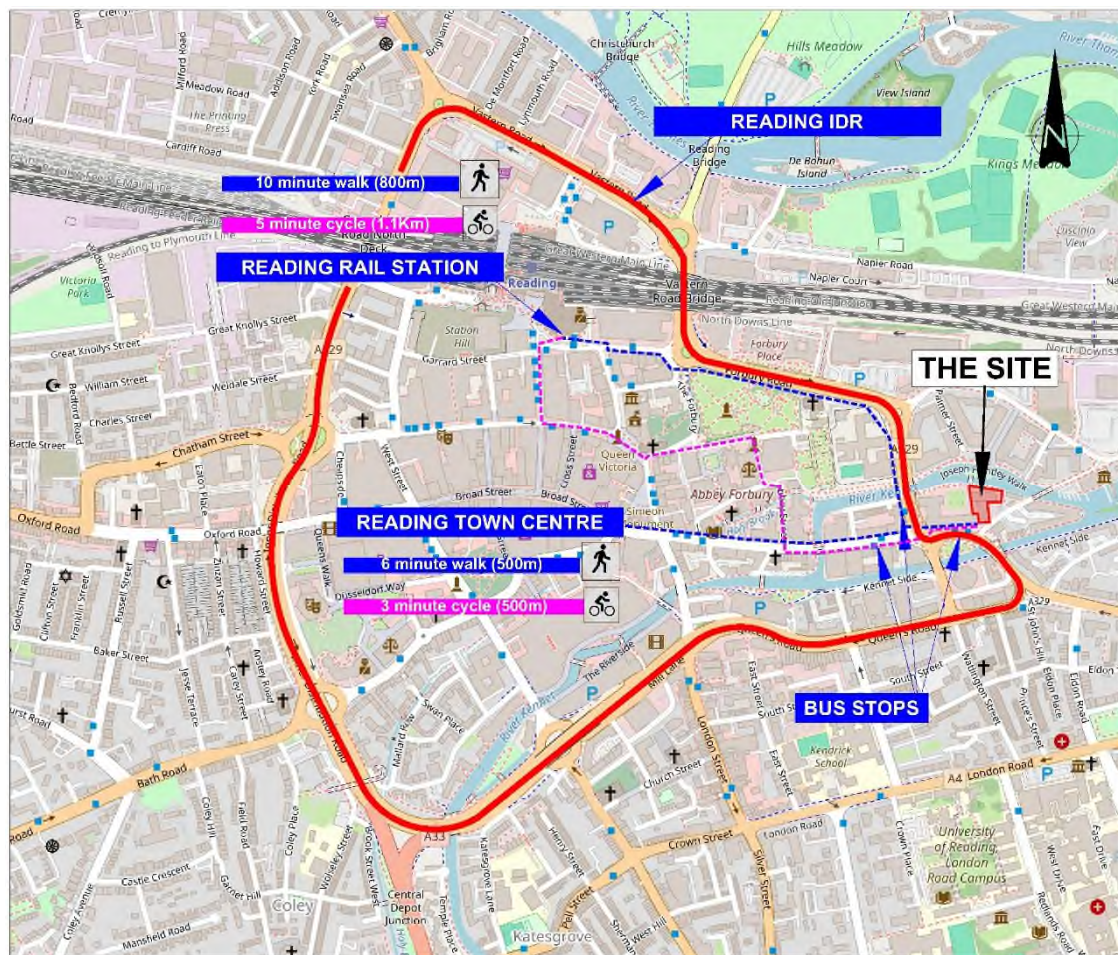


Figure 1: Site Location Plan (OS © OpenStreetMap)

Local Road Network

- 3.4 Kings Road is the primary east-west route connecting the Reading Inner Distribution Road (IDR) with East Reading and Maidenhead / Woking to the east via the A4 / A3290. In the vicinity of the site, it is dual carriageway in an eastern direction only and has double red line road markings on both sides of the road

preventing loading or waiting at any time. It is street lit; subject to a 30mph speed limit; and provides footways on both sides of the road.

- 3.5 Forbury Road forms the eastern side of the IDR which is a mostly dual carriageway ring road around the town centre of Reading. In the vicinity of the site, it is dual carriageway and subject to double yellow line road markings and is classified as an Urban Clearway which prevents any waiting or loading between 7.45 – 9.15am and 4.30 - 6.30pm Monday to Friday. It is street lit; subject to a 30mph speed limit; and provides footways on both sides of the road.
- 3.6 Gas Works Road is a private road between Kings Road and the new Kenavon Drive estate to the north of the River Kennet (and surrounding areas). The bridge over the River Kennet has recently been closed to through traffic due to poor road surface conditions and to prevent rat-running of traffic. It is not understood if the road is due to be opened again to vehicular traffic.
- 3.7 The site is very well located in terms of access to the surrounding Strategic Road Network with direct access to the IDR and surrounding strategic routes including the A33 to the west and the M4 to the south and east.

Parking

- 3.8 The site is not located within a Controlled Parking Zone (CPZ), however all roads within a minimum of 200m of the site are restricted by on-street parking restrictions including double yellow and double-red lines. Therefore, there is no availability of unrestricted on-street parking within a minimum of 200m of the site.

Public Transport – Bus Services

- 3.9 The nearest bus stops are located on Kings Road at the southern side of the building (for eastbound services), Forbury Road on the western side of the building (northbound services) and Kings Road around 200m (2.5-minute walk distance) west of the building for westbound and eastbound services. The eastbound bus stop on Kings Road provides shelters, seating and live timetable information as shown at **Figure 2** below. The northbound bus stop on Forbury Road and the western bus stops on Kings Road provide flagpoles with timetable information as shown at **Figure 3** below.



Figure 2: Eastbound Bus Stop



Figure 3: Northbound Bus Stop

- 3.10 The surrounding bus stops are served by 10 regular bus services as summarised in the table below:

Table 1: Bus services summary

Bus Service	Route	Peak Hour Frequency (per hour)			Weekday	
		Weekday	Saturday	Sunday	First	Last
4 Lion / X4 Lion	Reading – Bracknell	3	3	2	0500	2200
17 Purple	Wokingham Road - Tilehurst	7	7	6	0500	0400
500 P&R	Winnersh Triangle	4	4	-	0820	1840
13 Orange	Reading - Woodley	2	2	1	0515	0030
14 Orange	Reading – Woodley	2	2	1	0500	2300
127 / 128 / 129	Wokingham – Maidenhead	1	1	1	0640	1845
850	Reading – High Wycombe	1	1	-	0540	2310
3 Leopard	Reading – Wokingham	3	3	2	0545	2325
9 Buzz	Reading – Green Park Station	1	1	-	0600	1945
18 / 18a Buzz	Tilehurst Triangle	2	2	1	0650	1915
19A / B / C Little Orange	Central Reading	3	3	-	0630	1850
Total		29	29	14		

3.11 The table above confirms that there are 29 peak hour bus services available from bus stops within a 200m walk distance of the site. The site therefore benefits from very good access to local bus services providing access to the local employment, education and shopping areas including Reading, Wokingham and Maidenhead.

3.12 In addition, a large number of the regular services stop at Reading railway station which is a 3-minute bus journey from the site and will be of benefit to users who have difficulty walking.

Public Transport – Rail Services

3.13 Reading railway station is an 800m (10-minute) walk distance from the main entrance of the building as shown on the site location plan at **Figure 1**. It is a major transport hub served by four operators: Great Western Railway, CrossCountry, South Western Railway and the Elizabeth Line.

3.14 The station is served by an average of around 40 trains per hour with services to London Paddington, London Waterloo, Maidenhead, Slough, Oxford, Swindon, Bristol and the wider surrounding areas.

3.15 The station is accessible by wheelchair to all platforms and provides a ticket office, step-free access, ticket machines, toilets, seating, waiting rooms and wi-fi.

3.16 A total of 344 covered and secure cycle parking spaces are provided at the station. Bicycles are permitted to travel on the trains (with some peak-time restrictions if travelling within London) allowing users to complete the start and end of their journeys by bicycle.

Active Travel – Walking and Cycling

- 3.17 The site is very well served by footway, footpaths and on / off-road cycle routes ensuring that there is excellent access to active modes of travel for future residents at the site.
- 3.18 All roads surrounding the site have good quality, wide and street-lit footways on both sides of the road which provide convenient and direct access to all surrounding facilities including the local bus stops, rail station and town centre.
- 3.19 There are signalised pedestrian crossing points on all major roads, including Forbury Road and Kings Road, providing safe access to the wider area including the town centre and railway station and there are regular crossing opportunities for pedestrians along the main desire lines.
- 3.20 The site also has a direct connection to the canal towpath system along the northern side of the site, and around 100m to the south, which provides convenient and quiet walking routes to the surrounding areas.
- 3.21 The site is also very well located with direct access from Kings Road to the surrounding cycle network including the National Cycle Route 4 and Reading Town Centre route within 100m of the site. NCR4 is a long-distance route between London and Pembrokeshire via Reading, Bath, Bristol and surrounding areas.
- 3.22 The Reading Town Centre cycle route is also accessible within 100m of the site and links all local cycle routes as shown on the map extract at **Figure 4** below.

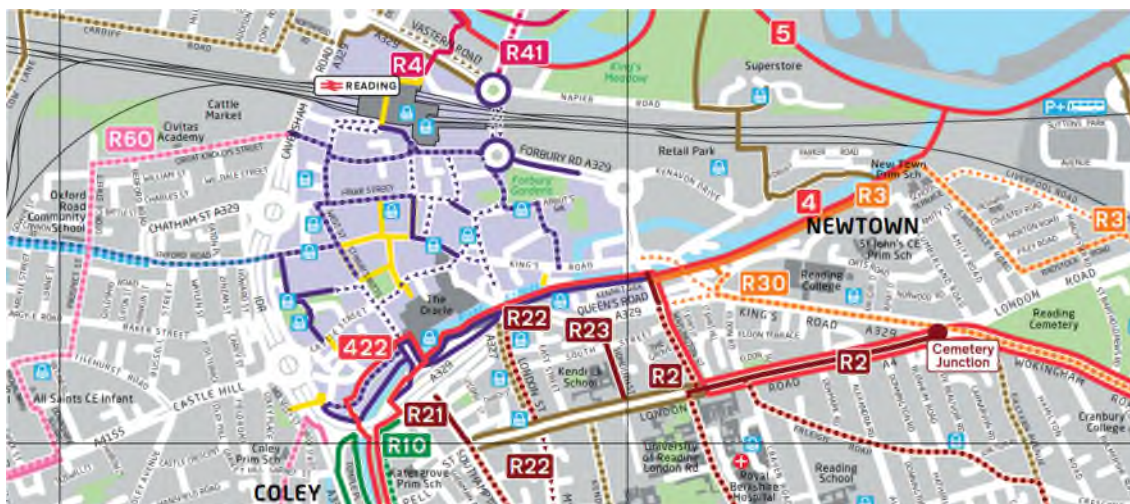


Figure 4: Reading Cycle Network Map Extract (Reading.gov.uk)

- 3.23 The following local cycle routes are accessible from the site:
- South Reading – Green Park & Whitley
 - Reading & Wokingham – RBH, University and Winnerish
 - East Reading & Woodley – Newtown & Bulmershe
 - North Reading – Caversham & Emmer Green
 - West Reading – Tilehurst & Prospect Park
 - South West Reading – Coley Park & Southcote
 - North West Reading – Tilehurst & Oxford Road

3.24 The site is therefore very well connected to the surrounding areas by all modes of transport including bus, rail, walking and cycling and is considered to be a highly sustainable location for development.

3.25 The table below outlines the facilities available within a short walking and cycling distance of the site. The list is not exhaustive but demonstrates that the site has excellent accessibility to all daily needs within a reasonable distance to encourage sustainable travel behaviours.

Table 2: Local Amenities

Amenity / Facility	Location	Distance (m)	Walking Time (mins)	Cycling Time (mins)
Bus Stops	Kings Road, Forbury Road	<80m	1	-
Rail Station	Reading Station	800m	10	5
Town Centre	West of the site	500m	6	3
Outdoor Space	Kins Road Park	<50m	1	-
Supermarket	Tesco Express, Sainsburys and Marks & Spencer	650m	8	4
Leisure Facility	Rivermead Leisure Centre	2.2km	30	13
Nursery / Childcare	Closest 3 Options	<400m	5	-
Primary Education	St Johns Primary	700m	9	2
Secondary Education	Reading School	700m	9	2

Cycling times have not been included when they are less than a 5-minute walking journey.

3.26 The site therefore benefits from excellent access to the surrounding areas by all modes of transport including bus, rail, walking and cycling and is therefore considered to be a highly sustainable location for development.

Car Clubs

3.27 A car club is a short-term car rental service that provides members with access to a vehicle when they need it. Car clubs are a cheaper, more environmentally friendly alternative to owning a car. They can help reduce the number of private vehicles on the road, freeing up parking spaces and reducing CO2 emissions.

3.28 Car clubs are a relatively new service within Reading and it is understood that Reading Borough Council are seeking to encourage provision of new car club vehicles by working with operators to bring vehicles to Reading and also by working with developers to allocated space for car club vehicles within their developments.

3.29 Currently Co-Wheels operate a number of cars within Reading with the closest vehicles to the site being on Filbert Street within 350m (4-minute walk distance) of the site which were provided as part of the Kenavon Drive development to the north.

3.30 There are a total of 3 vehicles provided within a 400m walk distance of the site which will encourage residents to reduce their personal car ownership levels. A photograph of the car club spaces is shown at **Figure 5** below. At the time of the site visit all car club vehicles were in use with one car (not a car club vehicle) parked in one of the bays.

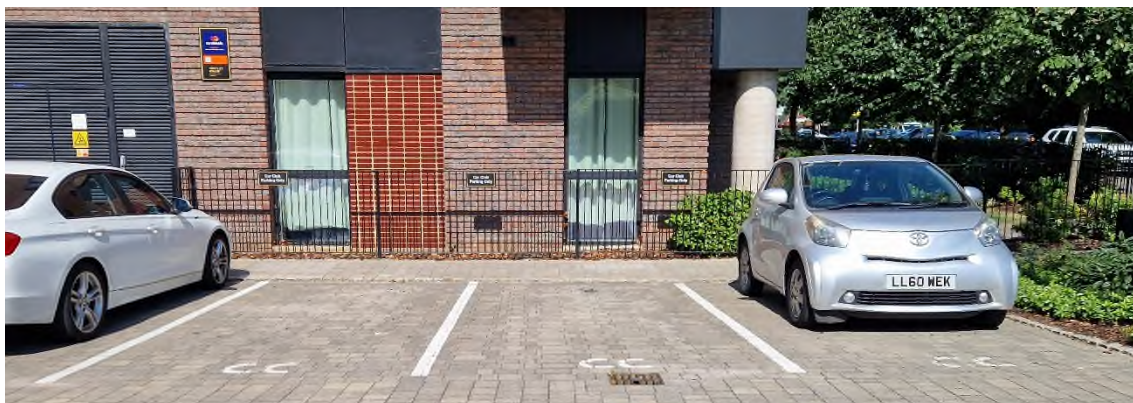


Figure 5: Filbert Street Car Club Bays

- 3.31 The latest 2023 figures from COMO UK (como.org.uk) estimate that each car club vehicle in the UK replaced around 26 private cars and in London this increased to up to 32 private cars.

Census Information

- 3.32 The Census information for the 2011 and 2021 datasets have been interrogated for the mid layer super output area (MSOA) which covers the site and the immediate surrounding area including Reading town centre.

Note: MSOA areas changed between the 2011 – 2021 Census results and the MSOA area boundary varies between the two datasets.

- 3.33 The Census information provides detailed information from 2011 and 2021 on car ownership levels for flats and on the method of travel to work for residents. The Census output reports are attached at **Appendix A** and discussed in detail below.
- 3.34 The table below summarises car ownership levels as calculated for flats in the surrounding area. The Census results demonstrate that car ownership between 2011 and 2021 has reduced with the most recent results showing that 61% of flats do not own a car with 34% owning one car and 5% owning 2 or more cars. Car ownership is therefore considered to be low.

Table 3: Census Output Information – Car ownership levels for flats

	2011	2021
No Cars or Vans	50%	61%
1 Car or Van	44%	34%
2+ Cars or Vans	7%	5%

- 3.35 The table below summarises method of travel to work data for residents. It is widely understood that the results of this query associated with the 2021 census are heavily skewed as a result of the Covid Pandemic due to the very high number of responses relating to working from home. As such work from home data for both the 2011 and 2021 census results have been removed (along with those not in employment) to give the best indication as to the modal split for work journeys.
- 3.36 The Census output reports are attached at **Appendix A** and the results are summarised below:

Table 4: Census Output Information – Method of Travel to Work

	2011	2021
Rail	21%	13%
Bus	12%	17%
Motorcycle	0%	1%
Driving a Car / Van	31%	37%
Passenger in Car / Van	3%	5%
Cycling	3%	4%
Walking	30%	33%

- 3.37 The census results have a large variation between 2011 and 2021 with an increase in the number of residents driving to work and a decrease in the number of residents using underground and rail services. It is understood now that rail and underground usage has returned to pre-pandemic levels in most areas and as such the results within this TS will be based on method of travel to work information from the 2011 dataset.

4. DEVELOPMENT PROPOSALS

Development Overview

- 4.1 The development proposals consist of a Class MA (Permitted Development) application to Reading Borough Council (RBC) for the change of use of **The Delta Building, 121 Kings Road, Reading, RG1 3ES from Class E (g) to C3 Residential to provide a total of 77 flats.**
- 4.2 The Delta Building is a five-storey commercial building with a total floor area of **54,988 sqft (5,108 sqm)** plus basement parking with a total provision of **84 spaces**. The building is one of three blocks constructed on site.
- 4.3 The proposals consist of **77 flats** of the following size:
- 19 x Studio / 1 bed / 1 person units;
 - 39 x 1 bed / 2 person units;
 - 14 x 2 bed / 3 person units; and
 - 5 x 2 bed / 4 person units.

Pedestrian and Cycle Access

- 4.4 The proposals do not result in any changes to the access arrangements of the existing site with all vehicular, pedestrian and cycle access remaining the same as existing.
- 4.5 The main pedestrian access to the building is from the courtyard entrance on the western side of the building as shown on the plans at **Appendix B**. Access to the courtyard is available from Forbury Road (step-free) as shown at **Figure 6** or from the southern side of the building from Kings Road as shown at **Figure 7**. The access from Kings Road has steps and is therefore not suitable for cyclists or users with mobility issues.

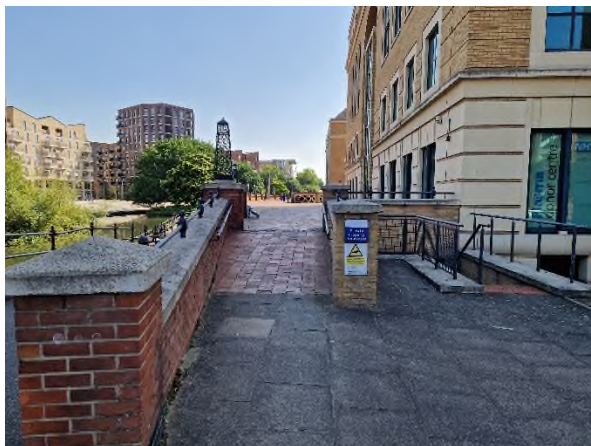


Figure 6: Forbury Road Access



Figure 7: Kings Road Access

- 4.6 There is a secondary point of access to the building from the eastern elevation which is accessible from the service area off Gas Works Road. This access has steps leading up to the building entrance and is therefore not suitable for cyclists or users with mobility issues.

Vehicular Access

- 4.7 As shown at **Figure 8**, vehicular access is from Gas Works Road. Upon entering the site from Gas Works Road there is a ramp on the left-hand side which leads up to the shared surface area forming the courtyard between the three buildings and provides access to the main pedestrian entrance to the building including the stairwell, lifts and reception.
- 4.8 On the right when entering the site from Gas Works Road there is a ramp which leads down to the shared underground car park including bin stores and cycle stores.

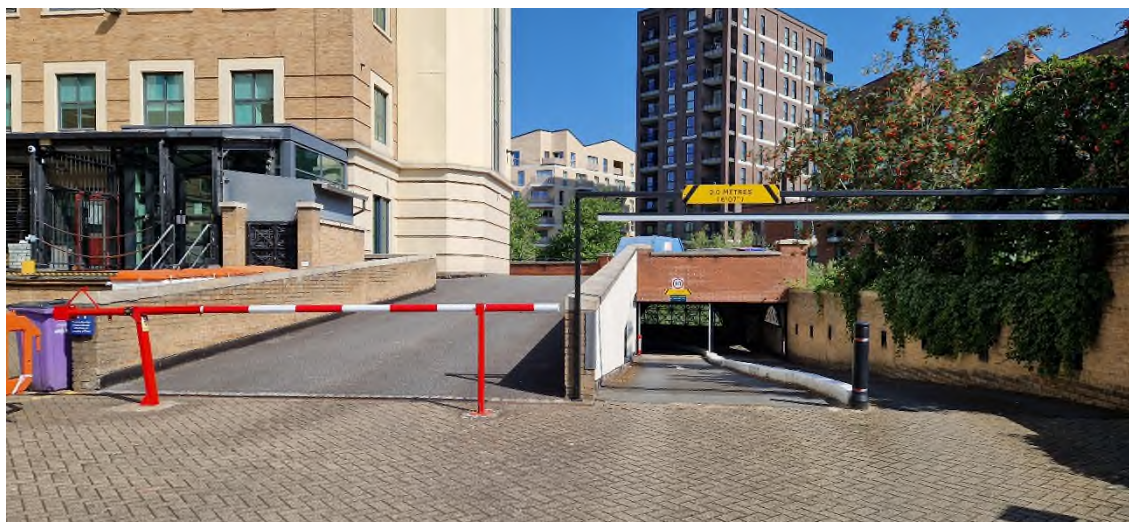


Figure 8: Vehicular Access to courtyard (left) and Car Park (right)

- 4.9 The cycle stores are within the basement car park to ensure that they are secure and covered. Access is either via the main ramp from Gas Works Road or residents can carry their bikes up / down the stairwells to the courtyard entrance or use the lifts if their bicycles are clean.

Vehicular Parking

- 4.10 Parking standards are outlined within the Reading Borough Council (RBC) Revised Parking Standards and Design SPD Adopted October 2011.
- 4.11 The parking standards are based on a zonal system with different standards applicable depending on the location and access to alternative sustainable travel modes.
- 4.12 Forbury Road forms the boundary of Zone 1 (Central Core Area) and the site falls within Zone 2 (Primary Core Area). However, due to the location of the site and the excellent access to sustainable travel modes as detailed within this TS it is considered appropriate to consider the parking standards outlined for both Zone 1 and Zone 2.

Table 5: Residential Car Parking Standards (Minimum)

C3 – Car Parking Standards	Zone 1	Zone 2
1 – 2 bed flat	0.5	1
Visitor Parking	0	1 per 10 flats

- 4.13 The site is located within Zone 2 which requires 1 parking space per 1-2 bedroom flat. However, a reduced provision of 0.5 spaces per dwelling could also be considered acceptable based on the location of the site which forms the boundary of Zone 1.
- 4.14 The car ownership levels from the Census information demonstrate that car ownership levels in the surrounding area are low with 61% of flats not owning a car, 34% owning 1 car and 5% owning 2 or more cars. Based on the surrounding car ownership levels the proposed development would generate a parking demand of 35 cars.
- 4.15 As the existing site has an underground car park with a total provision of 84 spaces it is considered appropriate to retain a total of 77 spaces for the residential use, at the ratio of 1 space per flat, with anticipated parking demand considered to be much lower.
- 4.16 A total of 5 (6%) resident disabled bays will be provided as shown on the plan at **Appendix B**.
- 4.17 The standards require 1 space per 10 flats for visitor parking for Zone 2 and no visitor parking for Zone 1. The proposals include a total of 4 visitor parking bays.
- 4.18 There will be a loss of 1 parking space within the basement to accommodate the uplift in disabled parking provision compared to the existing layout.
- 4.19 Policy TR5 of the RBC Local Plan states that *"within communal car parks for residential or non-residential developments of at least 10 spaces, 10% of spaces should provide an active charging point"* for electric vehicles.
- 4.20 The proposals will provide a total of 8 active Electric Vehicle Charging Points (EVCPs) which will be fast charging (minimum 7KW).
- 4.21 The proposed car parking layout is attached at **Appendix B**.
- 4.22 In total, the car parking allocation for the proposed development will be as follows:
- 77 unallocated residential parking bays, including 5 disabled bays;
 - 4 visitor parking bays;
 - 7 residential electric vehicle charging points;
 - 2 car club bays, including 1 electric vehicle charging point; and

Total of 83 parking bays retained.

Car Club

- 4.23 Section 9 of the RBC parking standards document confirms that for developments of more than 10 residential units in Zones 1 and 2 developments will be required to provide a minimum of 2 car club vehicles including creation of dedicated car club bays and 6-months of free / discounted memberships for all new residents.

- 4.24 The proposals include provision of 2 car club spaces, including EVCPs, to encourage the uptake of sustainable modes of travel and to assist with the expansion of car club operations in Reading. The location of the parking spaces are shown on the plan at **Appendix B**.
- 4.25 The provision of the car club spaces will be secured via the S106 agreement and the development will fund the provision of car club vehicles through Co-Wheels car club to tie in with the existing car club provision in the surrounding area.
- 4.26 It is considered appropriate for the developer to fund implementation of a single car club vehicle from the outset with the second vehicle being secured once demand requires. The development will be supported by a Travel Plan and demand for the car club vehicle will be monitored through the Travel Plan.

Cycle Parking

- 4.27 Cycle parking standards are also contained within the Reading Borough Council (RBC) Revised Parking Standards and Design SPD Adopted October 2011 which state the following requirements.

Table 6: Residential Cycle Parking Standards (Minimum)

C3 – Car Parking Standards	Zone 1	Zone 2
1 – 2 bed flat	0.5	0.5

- 4.28 The standards therefore require a minimum of 39 cycle parking spaces for residents. A total of 48 spaces, in excess of the minimum standards, are shown on the plan at **Appendix B**.
- 4.29 Whilst visitor cycle parking is not discussed within the guidance documents, the proposals include 4 visitor cycle spaces (2 Sheffield stands) at the bottom of the stair access from Kings Road for visitors and deliveries, as shown on the plan at **Appendix B** and in the extract below (**Figure 9**).

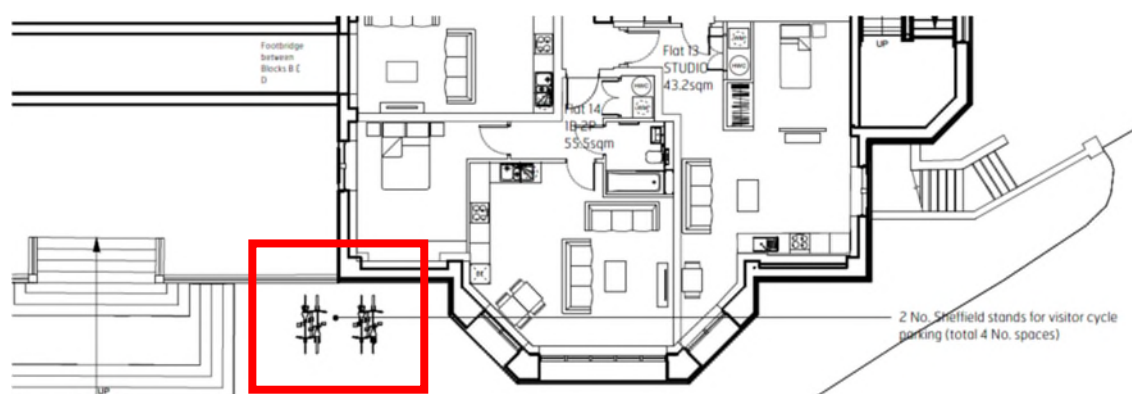


Figure 9: Visitor / Delivery Cycle Parking – Kings Road

Delivery and Servicing

- 4.30 The proposed development will be serviced in the typical manner for all residential developments with the following regular delivery and servicing movements:
- Refuse and Recycling - 1 / 2 times per week.
 - Deliveries (on-line shopping / supermarkets) - Daily (on-demand)
 - Deliveries (food and drink takeaways etc) - Daily (on-demand)

- 4.31 The plan attached at **Appendix B** demonstrates that refuse and recycling will be stored within a single dedicated store at basement level of the building, adjacent to the internal stairwell for convenient access. The store provides separate containers for refuse, recycling and food waste.
- 4.32 The basement level does not accommodate a refuse vehicle due to the ceiling height and as such all relevant bins will be moved from the refuse store to the external bin holding area located within the service area off Gas Works Road. Once collection is complete all bins will be returned to the bin store.
- 4.33 The bins will be moved by the on-site management team utilising the existing goods lift opposite the bin store which connects the basement with the service yard.
- 4.34 The route from the bin store to the external storage position is shown below at **Figure 10**.

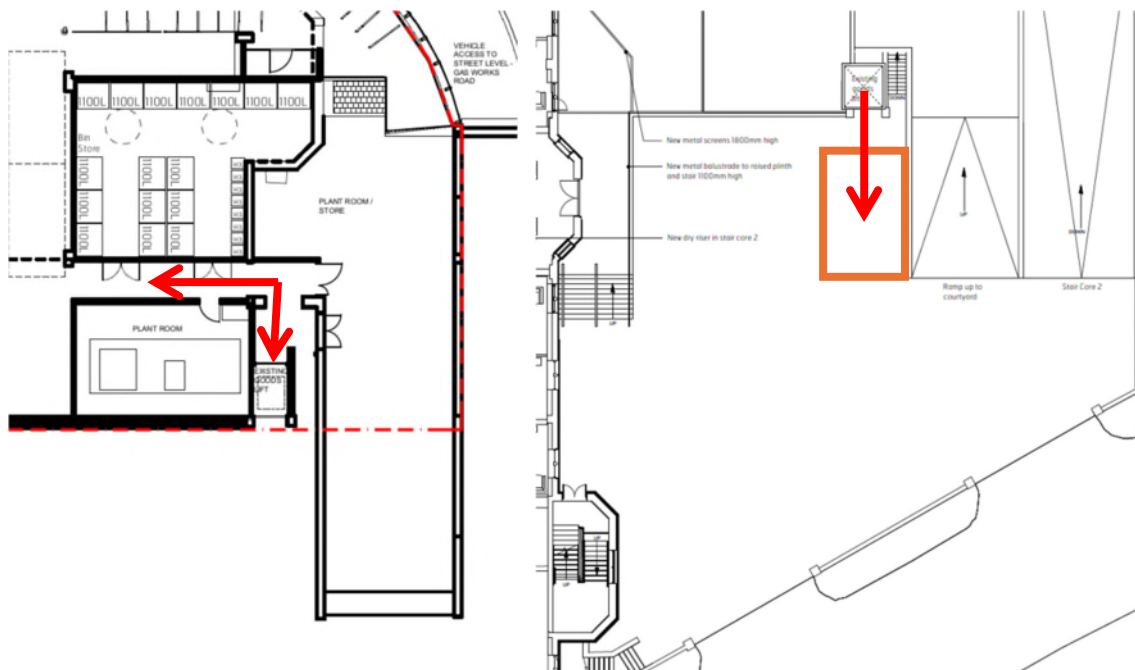


Figure 10: Route from basement level bin store to the external storage position via the goods lift

5. DEVELOPMENT IMPACT

Existing Trip Generation – Office

5.1 The TRICS database has been examined to determine the multi-modal trip generation of the existing building using representative sites that share similar characteristics in terms of location, use class, accessibility and parking provision. The following parameters have been used:

- Employment – Offices;
- Total GFA 4000 – 10000 sqm; and
- Town Centre / Edge of Town Centre Locations.

5.2 The TRICS output report is attached at **Appendix C** and the peak hour and daily trip rates are summarised in the table below:

Table 7: Existing Multi-Modal Trip Rates (Office)

Travel Mode	TRICS Trip Rates – per 100 sqm		
	AM Peak Hour 0800 - 0900	PM Peak Hour 1700 - 1800	Daily 0700 - 1900
Rail	0.184	0.244	0.968
Bus	0.244	0.146	1.169
Walking	0.270	0.265	4.711
Cycling	0.065	0.049	0.422
Vehicles	0.591	0.341	3.535
Total People	1.515	1.110	11.558

5.3 The existing site had a total GFA of 5,108 sqm. Based on the multi-modal trip rates detailed within **Table 7** the existing site would have generated the following number of movements.

Table 8: Existing Multi-Modal Trips

Travel Mode	Existing Trips (5,108 sqm)		
	AM Peak Hour 0800 - 0900	PM Peak Hour 1700 - 1800	Daily 0700 - 1900
Rail	9	13	49
Bus	13	7	60
Walking	14	14	241
Cycling	3	3	22
Vehicles	30	18	181
Total People	77	57	590

5.4 The table above confirms that the existing building will have generated around 77 person movements during the AM peak hour, 57 during the PM peak hour and a total of 590 person movements throughout the day. In total, at least 70% of movements will have been undertaken using sustainable modes of transport including rail, bus, walking and cycling.

5.5 The existing site, due to the provision of on-site parking, would have generated around 18 – 30 vehicle movements during the AM and PM peak hours and a total of around 180 vehicle movements per day (90 vehicles arriving and departing).

Proposed Trip Generation – Residential

- 5.6 The TRICS database has also been examined to provide a 'total person' trip rate for residential flats within Town Centre and Edge of Town Centre locations. The TRICS output report is attached at **Appendix D** and the peak hour and daily total person trip rates are summarised in the table below:

Table 9: Proposed Residential Trip Rates

Travel Mode	TRICS Trip Rates – per dwelling		
	AM Peak Hour 0800 - 0900	PM Peak Hour 1700 - 1800	Daily 0700 - 2100
Total People	0.636	0.682	6.012

- 5.7 It is considered that the most accurate way to assess the trip generation of the proposed development is to base the total person trip generation on the method of travel to work census information detailed within **Section 3** of this TS. This approach provides a site-specific trip generation which is based on the sustainable modes of travel that are available.
- 5.8 As discussed, due to the impact of the Covid pandemic on the 2021 results the proposed modal split has been based on the 2011 census results detailed within **Table 4**.
- 5.9 Based on the proposed modal split and the total person movements derived from TRICS the proposals are likely to generate the following number of movements:

Table 10: Proposed Multi-Modal Trips

Travel Mode	Proposed Trips – 77 dwellings		
	AM Peak Hour 0800 - 0900	PM Peak Hour 1700 - 1800	Daily 0700 - 2100
Rail	11	12	97
Bus	6	7	56
Motorcycle	0	0	0
Driving a Car	15	15	144
Passenger in Car	2	2	14
Cycling	2	2	14
Walking	14	15	139
Total People	49	53	463

- 5.10 The assessment above demonstrate that residents of the proposed development will make use of the excellent sustainable modes of transport available to them with more than 70% of trips undertaken using sustainable modes including rail, bus, cycling and walking.

Proposed Development – Net Trip Generation Impact

- 5.11 The table below shows the net impact of the proposals on all transport modes when compared to the existing use of the site:

Table 11: Net Trip Generation Impact

Travel Mode	Net Trip Generation		
	AM Peak Hour 0800 - 0900	PM Peak Hour 1700 - 1800	Daily 0700 - 2100
Rail	+2	-1	+48
Bus	-7	0	-4
Walking	0	+1	-102
Cycling	-1	-1	-8
Vehicles	-15	-3	-37
Total People	-28	-4	-127

- 5.12 Overall, the net impact of the development is negative with the proposals generating fewer total person movements during the AM and PM peak hours and throughout the day when compared to the existing use.
- 5.13 The proposals will result in a reduction of 15 vehicle movements during the AM peak hour, 3 vehicle movements during the PM peak hour and 37 vehicle movements throughout the day. The proposals will therefore have a positive impact on the capacity and highway safety of the surrounding highway network.
- 5.14 The proposals result in a reduction in the total number of walking and cycling movements, however this is due to the overall reduction in total person movements and the modal split for walking and cycling will remain high.
- 5.15 The proposals result in an increase in the number of rail users with no material difference in the number of bus users when compared to the existing site. **Section 3** of this TA confirms that there are more than 40 rail services per hour within a 10-minute walk distance of the site. The proposals will therefore not have a material impact on the capacity of surrounding rail services when the proposed increase of 48 users is spread across the wide range of services available.

6. SUMMARY AND CONCLUSIONS

- 6.1 This Transport Assessment has been prepared by **Firmin Transport Planning Ltd (FTP)** to support a Class MA (Permitted Development) application to Reading Borough Council (RBC) for the change of use of **The Delta Building, 121 Kings Road, Reading, RG1 3ES from Class E (g) to C3 Residential to provide a total of 77 flats.**
- 6.2 The Delta Building is a five-storey commercial building with a total floor area of **54,988 sqft (5,108 sqm)** plus basement parking with a total provision of **84 spaces**. The building is one of three blocks constructed on site.
- 6.3 The proposals consist of **77 flats** of the following size:
- 19 x Studio / 1 bed / 1 person units;
 - 39 x 1 bed / 2 person units;
 - 14 x 2 bed / 3 person units; and
 - 5 x 2 bed / 4 person units.
- 6.4 This TS demonstrates that the site is within a sustainable location which benefits from excellent access to public transport services and walking and cycling routes.
- 6.5 Overall, the net impact of the development is negative with the proposals generating fewer total person movements during the AM and PM peak hours and throughout the day when compared to the existing use.
- 6.6 The proposals will result in a reduction of 15 vehicle movements during the AM peak hour, 3 vehicle movements during the PM peak hour and 37 vehicle movements throughout the day. The proposals will therefore have a positive impact on the capacity and highway safety of the surrounding highway network.
- 6.7 This TS demonstrates that cycle parking will be provided in excess of the minimum RBC standards with a total provision of 48 long-stay and 4 short-stay spaces.
- 6.8 This TS is supported by a Residential Travel Plan (TP) which promotes the use of sustainable modes of travel and sets targets to reduce the level of private car usage.
- 6.9 Overall, this TS provides a robust assessment of the transport impacts of the development proposals and demonstrates that the proposals can be accommodated on the surrounding highway network without resulting in any severe cumulative impacts. The proposals are considered to be in accordance with national and local transport policies and should therefore be considered acceptable.

APPENDIX A

CENSUS OUTPUT REPORTS

LC4415EW - Accommodation type by car or van availability by number of usual residents aged 17 or over in household

ONS Crown Copyright Reserved [from Nomis on 29 July 2024]

population	All households
units	Persons
date	2011
area type	2011 super output areas - middle layer
area name	E02003399 : Reading 011
accommodation type	Flat, maisonette, apartment, caravan or other mobile or temporary structure

Cars or Vans	One usual resident aged 17 or over in household	Two or more usual residents aged 17 or over in household	Total	%
All categories: Car or van avail	2,416	2,127	4,543	
No cars or vans in household	1,412	838	2,250	50%
1 car or van in household	957	1,027	1,984	44%
2 or more cars or vans in house	47	262	309	7%

In order to protect against disclosure of personal information, records have been swapped between different geographic areas. Some counts will be affected, particularly small counts at the lowest geographies.

RM001 - Accommodation type by car or van availability by number of usual residents aged 17 years or over in household

ONS Crown Copyright Reserved [from Nomis on 29 July 2024]

population	All households
units	Households
date	2021
area type	2021 super output areas - middle layer
area name	E02006939 : Reading 019
accommodation type	Flat, maisonette, apartment, caravan or other mobile or temporary structure

Number of cars or vans	One usual resident aged 17 years or over in household	Two or more usual residents aged 17 years or over in household	Total	%
Total	1,278	1,511	2,789	
No cars or vans in household	872	834	1,706	61%
1 car or van in household	392	557	949	34%
2 or more cars or vans in house	14	120	134	5%

In order to protect against disclosure of personal information, records have been swapped between different geographic areas and counts perturbed by small amounts. Small counts at the lowest geographies will be most affected.

QS701EW - Method of travel to work

ONS Crown Copyright Reserved [from Nomis on 29 July 2024]

population	All usual residents aged 16 to 74
units	Persons
area type	2011 super output areas - middle layer
area name	E02003399 : Reading 011
rural urban	Total

Method of Travel to Work	2011	%
Underground / Train	1,455	21%
Bus, minibus or coach	806	12%
Taxi	27	0%
Motorcycle, scooter or moped	26	0%
Driving a car or van	2,133	31%
Passenger in a car or van	218	3%
Bicycle	244	3%
On foot	2,066	30%
Total	6,975	

In order to protect against disclosure of personal information, records have been swapped between different geographic areas. Some counts will be affected, particularly small counts at the lowest geographies.

TS061 - Method used to travel to work

ONS Crown Copyright Reserved [from Nomis on 29 July 2024]

population	All usual residents aged 16 years and over in employment the week before the census
units	Persons
area type	2021 super output areas - middle layer
area name	E02006939 : Reading 019

Method of travel to workplace	2021	%
Underground / Train	264	13%
Bus, minibus or coach	341	17%
Taxi	20	1%
Motorcycle, scooter or moped	15	1%
Driving a car or van	756	37%
Passenger in a car or van	109	5%
Bicycle	86	4%
On foot	688	33%
Total	2,279	

In order to protect against disclosure of personal information, records have been swapped between different geographic areas and counts perturbed by small amounts. Small counts at the lowest geographies will be most affected.

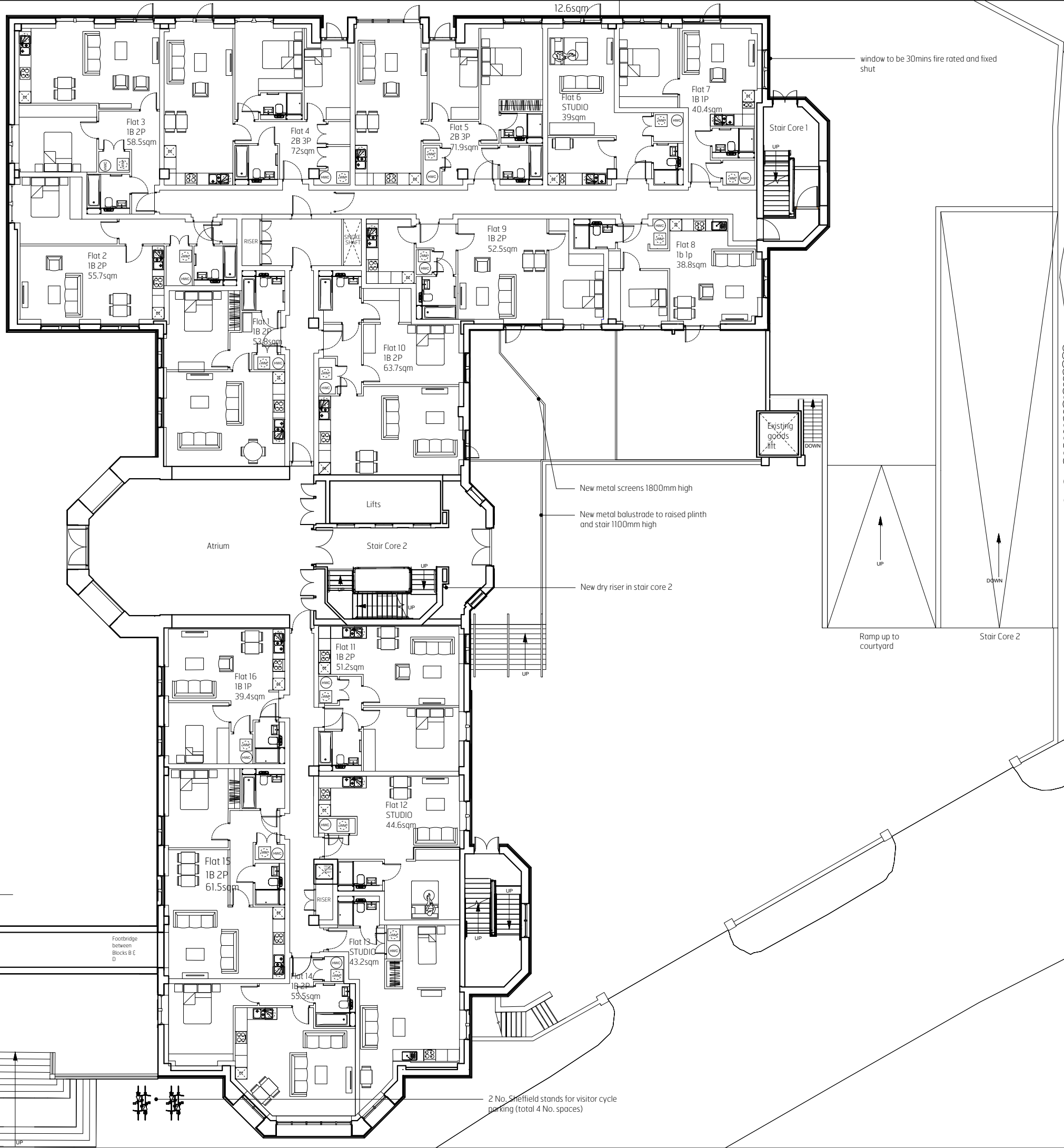
Census 2021 took place during a period of rapid change. We gave extra guidance to help people on furlough answer the census questions about work. However, we are unable to determine how furloughed people followed the guidance. Take care when using this data for planning purposes. Read more about specific quality considerations in our <https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/methodologies/traveltoworkqualityinformationforcensus2021>.

APPENDIX B

PROPOSED SITE LAYOUT PLANS

USE FIGURED DIMENSIONS ONLY. DO NOT SCALE FROM THIS DRAWING EXCEPT FOR PLANNING PURPOSES. ALL DIMENSIONS MUST BE CHECKED ON SITE ANY INCONSISTENCIES MUST BE REPORTED BACK TO THE ARCHITECT. THE DRAWING AND ANY DESIGNS INDICATED THEREON ARE THE COPYRIGHT OF BROOKS / MURRAY ARCHITECTS. ALL RIGHTS ARE RESERVED. NO PART OF THIS WORK MAY BE PRODUCED WITHOUT PRIOR PERMISSION IN WRITING FROM BROOKS / MURRAY ARCHITECTS. THESE DRAWINGS ARE INTENDED FOR PLANNING PURPOSES ONLY. THEY ARE NOT TO BE USED FOR BUILDING, AND IF THEY ARE, THIS WILL BE IN BREACH OF BROOKS MURRAY'S COPYRIGHT.

REV.	AMENDMENT	BY:	DATE
P1	Planning submission		AC 13.03.2025



Brooks Murray Architects
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brooks murray

CLIENT:
PRIVATE CLIENT

JOB:
THE DELTA BUILDING
READING
RG1 3ES

DRAWING TITLE:
PROPOSED GROUND FLOOR PLAN

SCALE:
1:200 @ A3

DATE:
DEC 2024

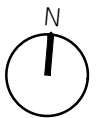
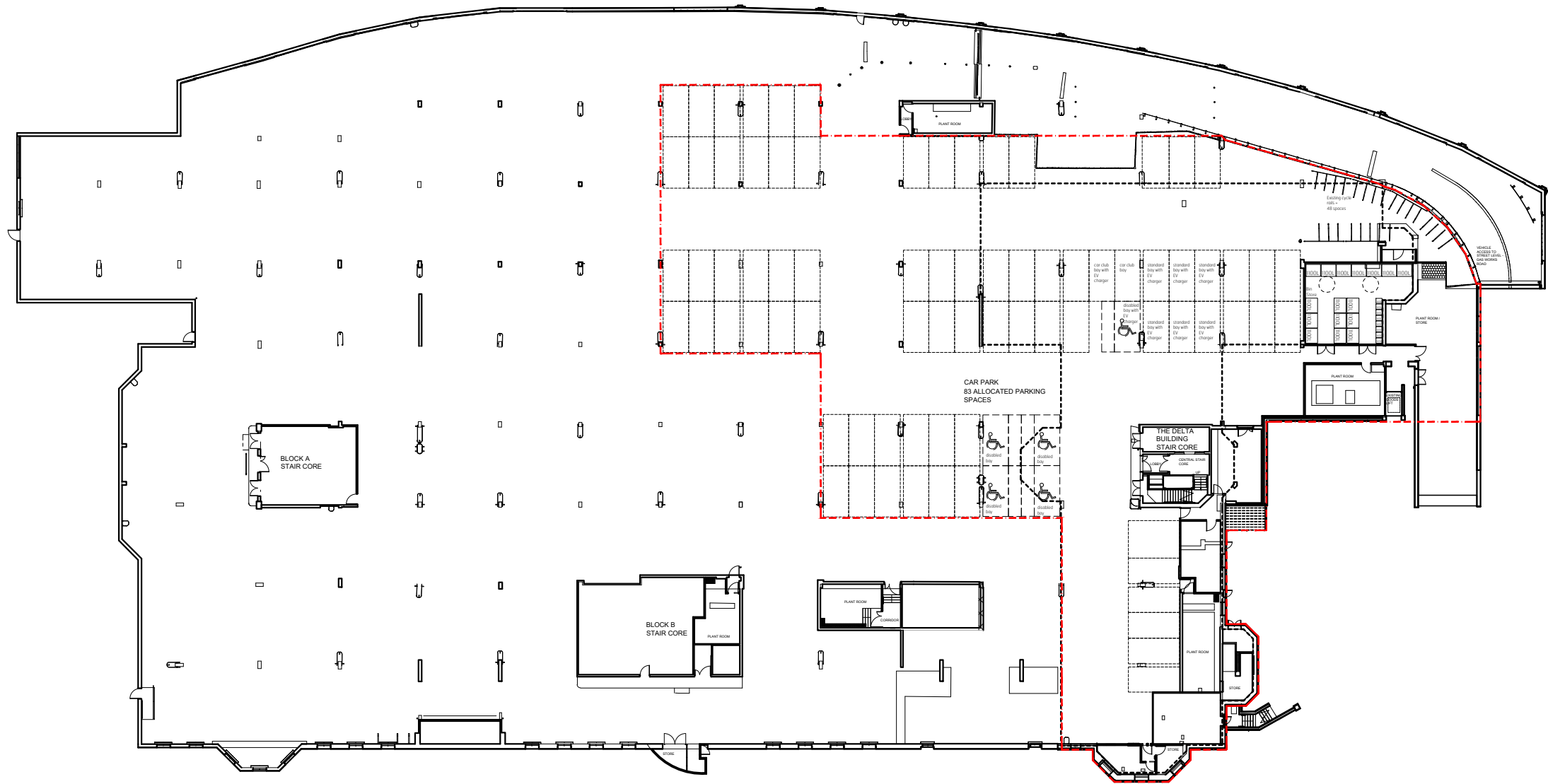
STATUS:
PLANNING

DRAWING NUMBER: 1378 - 100
REV: P1
ISSUED BY: AC

USE FIGURED DIMENSIONS ONLY. DO NOT SCALE FROM THIS DRAWING EXCEPT FOR PLANNING PURPOSES. ALL DIMENSIONS MUST BE CHECKED ON SITE ANY INCONSISTENCIES MUST BE REPORTED BACK TO THE ARCHITECT. THE DRAWING AND ANY DESIGNS INDICATED THEREON ARE THE COPYRIGHT OF BROOKS / MURRAY ARCHITECTS. ALL RIGHTS ARE RESERVED. NO PART OF THIS WORK MAY BE PRODUCED WITHOUT PRIOR PERMISSION IN WRITING FROM BROOKS / MURRAY ARCHITECTS. THESE DRAWINGS ARE INTENDED FOR PLANNING PURPOSES ONLY. THEY ARE NOT TO BE USED FOR BUILDING, AND IF THEY ARE, THIS WILL BE IN BREACH OF BROOKS MURRAY'S COPYRIGHT.

REV.	AMENDMENT	BY:	DATE
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-



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**brooks
murray**

CLIENT:
PRIVATE CLIENT

JOB:
THE DELTA BUILDING
READING
RG1 3ES

DRAWING TITLE:
PROPOSED BASEMENT PLAN

SCALE:
1:500 @ A3

DATE:
DEC 2024

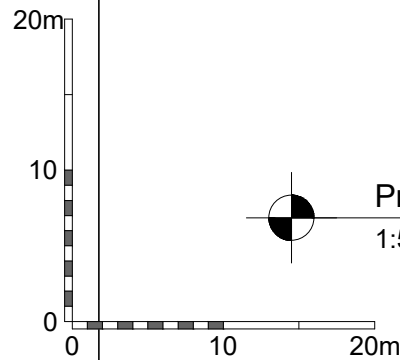
STATUS:
PLANNING

DRAWING NUMBER:	REV:	ISSUED BY:
1378.100	-	AC



Proposed Basement Plan

1:500 @ A3



APPENDIX C

TRICS OUTPUT - EXISTING

Calculation Reference: AUDIT-719701-240729-0718

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 02 - EMPLOYMENT
Category : A - OFFICE
MULTI-MODAL TOTAL VEHICLES

Selected regions and areas:

01	GREATER LONDON	
	EN ENFIELD	1 days
04	EAST ANGLIA	
	NF NORFOLK	1 days
08	NORTH WEST	
	GM GREATER MANCHESTER	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: Gross floor area
 Actual Range: 5500 to 6552 (units: sqm)
 Range Selected by User: 4000 to 10000 (units: sqm)

Parking Spaces Range: All Surveys Included

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/16 to 07/06/22

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:

Tuesday 2 days
 Friday 1 days

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

Selected survey types:

Manual count 3 days
 Directional ATC Count 0 days

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

Selected Locations:

Town Centre 2
 Edge of Town Centre 1

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

Selected Location Sub Categories:

Commercial Zone 1
 Built-Up Zone 2

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

Inclusion of Servicing Vehicles Counts:

Servicing vehicles Included 1 days - Selected
 Servicing vehicles Excluded 2 days - Selected

Secondary Filtering selection:

Use Class:

Not Known 3 days

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

Filter by Site Operations Breakdown:

All Surveys Included

Population within 500m Range:

All Surveys Included

Secondary Filtering selection (Cont.):

Population within 1 mile:

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:

25,001 to 50,000	1 days
250,001 to 500,000	1 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	2 days
1.1 to 1.5	1 days

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

Travel Plan:

No	3 days
----	--------

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

PTAL Rating:

No PTAL Present	2 days
4 Good	1 days

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

TRIP RATE for Land Use 02 - EMPLOYMENT/A - OFFICE
 MULTI-MODAL TOTAL VEHICLES
 Calculation factor: 100 sqm
 BOLD print indicates peak (busiest) period
 Total People to Total Vehicles ratio (all time periods and directions): 3.27

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	3	6157	0.249	3	6157	0.065	3	6157	0.314
08:00 - 09:00	3	6157	0.466	3	6157	0.125	3	6157	0.591
09:00 - 10:00	3	6157	0.292	3	6157	0.168	3	6157	0.460
10:00 - 11:00	3	6157	0.184	3	6157	0.097	3	6157	0.281
11:00 - 12:00	3	6157	0.076	3	6157	0.070	3	6157	0.146
12:00 - 13:00	3	6157	0.097	3	6157	0.135	3	6157	0.232
13:00 - 14:00	3	6157	0.108	3	6157	0.097	3	6157	0.205
14:00 - 15:00	3	6157	0.060	3	6157	0.162	3	6157	0.222
15:00 - 16:00	3	6157	0.087	3	6157	0.179	3	6157	0.266
16:00 - 17:00	3	6157	0.060	3	6157	0.222	3	6157	0.282
17:00 - 18:00	3	6157	0.065	3	6157	0.276	3	6157	0.341
18:00 - 19:00	3	6157	0.038	3	6157	0.157	3	6157	0.195
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			1.782			1.753			3.535

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

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

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Parameter summary

Trip rate parameter range selected:	5500 - 6552 (units: sqm)
Survey date date range:	01/01/16 - 07/06/22
Number of weekdays (Monday-Friday):	3
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	0

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 02 - EMPLOYMENT/A - OFFICE
 MULTI-MODAL CYCLISTS
 Calculation factor: 100 sqm
 BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	3	6157	0.016	3	6157	0.000	3	6157	0.016
08:00 - 09:00	3	6157	0.065	3	6157	0.000	3	6157	0.065
09:00 - 10:00	3	6157	0.054	3	6157	0.000	3	6157	0.054
10:00 - 11:00	3	6157	0.016	3	6157	0.005	3	6157	0.021
11:00 - 12:00	3	6157	0.011	3	6157	0.011	3	6157	0.022
12:00 - 13:00	3	6157	0.022	3	6157	0.016	3	6157	0.038
13:00 - 14:00	3	6157	0.011	3	6157	0.011	3	6157	0.022
14:00 - 15:00	3	6157	0.000	3	6157	0.016	3	6157	0.016
15:00 - 16:00	3	6157	0.011	3	6157	0.032	3	6157	0.043
16:00 - 17:00	3	6157	0.000	3	6157	0.049	3	6157	0.049
17:00 - 18:00	3	6157	0.000	3	6157	0.049	3	6157	0.049
18:00 - 19:00	3	6157	0.005	3	6157	0.022	3	6157	0.027
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.211			0.211			0.422

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 02 - EMPLOYMENT/A - OFFICE
MULTI-MODAL PEDESTRIANS
 Calculation factor: 100 sqm
 BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	3	6157	0.103	3	6157	0.022	3	6157	0.125
08:00 - 09:00	3	6157	0.227	3	6157	0.043	3	6157	0.270
09:00 - 10:00	3	6157	0.287	3	6157	0.097	3	6157	0.384
10:00 - 11:00	3	6157	0.141	3	6157	0.125	3	6157	0.266
11:00 - 12:00	3	6157	0.200	3	6157	0.173	3	6157	0.373
12:00 - 13:00	3	6157	0.439	3	6157	0.688	3	6157	1.127
13:00 - 14:00	3	6157	0.579	3	6157	0.439	3	6157	1.018
14:00 - 15:00	3	6157	0.238	3	6157	0.152	3	6157	0.390
15:00 - 16:00	3	6157	0.125	3	6157	0.125	3	6157	0.250
16:00 - 17:00	3	6157	0.032	3	6157	0.119	3	6157	0.151
17:00 - 18:00	3	6157	0.027	3	6157	0.238	3	6157	0.265
18:00 - 19:00	3	6157	0.005	3	6157	0.087	3	6157	0.092
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			2.403			2.308			4.711

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 02 - EMPLOYMENT/A - OFFICE
 MULTI-MODAL BUS/TRAM PASSENGERS
 Calculation factor: 100 sqm
 BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	3	6157	0.103	3	6157	0.000	3	6157	0.103
08:00 - 09:00	3	6157	0.244	3	6157	0.000	3	6157	0.244
09:00 - 10:00	3	6157	0.087	3	6157	0.022	3	6157	0.109
10:00 - 11:00	3	6157	0.038	3	6157	0.032	3	6157	0.070
11:00 - 12:00	3	6157	0.022	3	6157	0.032	3	6157	0.054
12:00 - 13:00	3	6157	0.022	3	6157	0.054	3	6157	0.076
13:00 - 14:00	3	6157	0.038	3	6157	0.060	3	6157	0.098
14:00 - 15:00	3	6157	0.016	3	6157	0.032	3	6157	0.048
15:00 - 16:00	3	6157	0.005	3	6157	0.043	3	6157	0.048
16:00 - 17:00	3	6157	0.005	3	6157	0.119	3	6157	0.124
17:00 - 18:00	3	6157	0.000	3	6157	0.146	3	6157	0.146
18:00 - 19:00	3	6157	0.011	3	6157	0.038	3	6157	0.049
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.591			0.578			1.169

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 02 - EMPLOYMENT/A - OFFICE
 MULTI-MODAL TOTAL RAIL PASSENGERS
 Calculation factor: 100 sqm
 BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	3	6157	0.043	3	6157	0.000	3	6157	0.043
08:00 - 09:00	3	6157	0.184	3	6157	0.000	3	6157	0.184
09:00 - 10:00	3	6157	0.206	3	6157	0.000	3	6157	0.206
10:00 - 11:00	3	6157	0.032	3	6157	0.000	3	6157	0.032
11:00 - 12:00	3	6157	0.016	3	6157	0.005	3	6157	0.021
12:00 - 13:00	3	6157	0.000	3	6157	0.011	3	6157	0.011
13:00 - 14:00	3	6157	0.005	3	6157	0.011	3	6157	0.016
14:00 - 15:00	3	6157	0.005	3	6157	0.011	3	6157	0.016
15:00 - 16:00	3	6157	0.000	3	6157	0.049	3	6157	0.049
16:00 - 17:00	3	6157	0.000	3	6157	0.076	3	6157	0.076
17:00 - 18:00	3	6157	0.000	3	6157	0.244	3	6157	0.244
18:00 - 19:00	3	6157	0.000	3	6157	0.070	3	6157	0.070
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.491			0.477			0.968

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 02 - EMPLOYMENT/A - OFFICE
 MULTI-MODAL TOTAL PEOPLE
 Calculation factor: 100 sqm
 BOLD print indicates peak (busiest) period
 Total People to Total Vehicles ratio (all time periods and directions): 3.27

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	3	6157	0.558	3	6157	0.092	3	6157	0.650
08:00 - 09:00	3	6157	1.326	3	6157	0.189	3	6157	1.515
09:00 - 10:00	3	6157	0.964	3	6157	0.319	3	6157	1.283
10:00 - 11:00	3	6157	0.444	3	6157	0.282	3	6157	0.726
11:00 - 12:00	3	6157	0.352	3	6157	0.303	3	6157	0.655
12:00 - 13:00	3	6157	0.601	3	6157	0.947	3	6157	1.548
13:00 - 14:00	3	6157	0.769	3	6157	0.633	3	6157	1.402
14:00 - 15:00	3	6157	0.336	3	6157	0.422	3	6157	0.758
15:00 - 16:00	3	6157	0.238	3	6157	0.487	3	6157	0.725
16:00 - 17:00	3	6157	0.103	3	6157	0.644	3	6157	0.747
17:00 - 18:00	3	6157	0.092	3	6157	1.018	3	6157	1.110
18:00 - 19:00	3	6157	0.065	3	6157	0.374	3	6157	0.439
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			5.848			5.710			11.558

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

Calculation Reference: AUDIT-719701-240716-0740

TRIP RATE CALCULATION SELECTION PARAMETERS:

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

Selected regions and areas:

01	GREATER LONDON	
	BE BEXLEY	1 days
	BM BROMLEY	1 days
	HM HAMMERSMITH AND FULHAM	1 days
	HO HOUNSLOW	1 days
	IS ISLINGTON	1 days
	WF WALTHAM FOREST	3 days
02	SOUTH EAST	
	CT CENTRAL BEDFORDSHIRE	3 days
	HF HERTFORDSHIRE	1 days
	PO PORTSMOUTH	1 days
04	EAST ANGLIA	
	SF SUFFOLK	1 days
05	EAST MIDLANDS	
	NG NOTTINGHAM	1 days
10	WALES	
	CO CONWY	1 days
14	LEINSTER	
	WX WEXFORD	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: 28 to 194 (units:)
 Range Selected by User: 25 to 250 (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: 01/01/16 to 16/11/23

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

Selected survey days:

Monday	3 days
Tuesday	8 days
Wednesday	2 days
Thursday	3 days
Friday	1 days

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

Selected survey types:

Manual count	17 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 undertaken using machines.

Selected Locations:

Town Centre	3
Edge of Town Centre	14

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

Selected Location Sub Categories:

Development Zone	3
Residential Zone	7
Built-Up Zone	6
No Sub Category	1

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

Inclusion of Servicing Vehicles Counts:

Servicing vehicles Included	16 days - Selected
Servicing vehicles Excluded	3 days - Selected

Secondary Filtering selection:

Use Class:

C3 17 days

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

Population within 500m Range:

All Surveys Included

Secondary Filtering selection (Cont.):

Population within 1 mile:

5,001 to 10,000	1 days
10,001 to 15,000	1 days
25,001 to 50,000	11 days
50,001 to 100,000	3 days
100,001 or More	1 days

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

Population within 5 miles:

25,001 to 50,000	1 days
50,001 to 75,000	3 days
125,001 to 250,000	2 days
250,001 to 500,000	3 days
500,001 or More	8 days

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

Car ownership within 5 miles:

0.5 or Less	2 days
0.6 to 1.0	10 days
1.1 to 1.5	4 days
1.6 to 2.0	1 days

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

Travel Plan:

Yes	5 days
No	12 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
2 Poor	1 days
3 Moderate	1 days
4 Good	2 days
5 Very Good	2 days
6a Excellent	1 days
6b (High) Excellent	1 days

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

Covid-19 Restrictions	Yes	At least one survey within the selected data set was undertaken at a time of Covid-19 restrictions
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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): 3.17

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	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	1	42	0.048	1	42	0.000	1	42	0.048
07:00 - 08:00	17	99	0.062	17	99	0.347	17	99	0.409
08:00 - 09:00	17	99	0.110	17	99	0.526	17	99	0.636
09:00 - 10:00	17	99	0.125	17	99	0.217	17	99	0.342
10:00 - 11:00	17	99	0.160	17	99	0.189	17	99	0.349
11:00 - 12:00	17	99	0.147	17	99	0.176	17	99	0.323
12:00 - 13:00	17	99	0.187	17	99	0.190	17	99	0.377
13:00 - 14:00	17	99	0.173	17	99	0.176	17	99	0.349
14:00 - 15:00	17	99	0.140	17	99	0.142	17	99	0.282
15:00 - 16:00	17	99	0.276	17	99	0.176	17	99	0.452
16:00 - 17:00	17	99	0.277	17	99	0.175	17	99	0.452
17:00 - 18:00	17	99	0.384	17	99	0.200	17	99	0.584
18:00 - 19:00	17	99	0.441	17	99	0.241	17	99	0.682
19:00 - 20:00	8	118	0.307	8	118	0.149	8	118	0.456
20:00 - 21:00	8	118	0.170	8	118	0.101	8	118	0.271
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			3.007			3.005			6.012

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.

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