

Project Name:	8 Second Cross Road, Twickenham
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Document Name:	Technical Note
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Revision Record				
Rev	Date	By	Summary of Changes	Aprvd
2	20.09.24	LMR	Client Comments	HLC
3	24.09.24	LMR	Client Comments	IDR

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1. INTRODUCTION

1.1 This Technical Note (TN) has been prepared by Paul Basham Associates on behalf of Mandarin Grange Investments to append to a Class MA application for a change of use from an existing office building (Class E use), to 3 residential units at 8 Second Cross Road in Twickenham. The site location is identified within **Figure 1**.

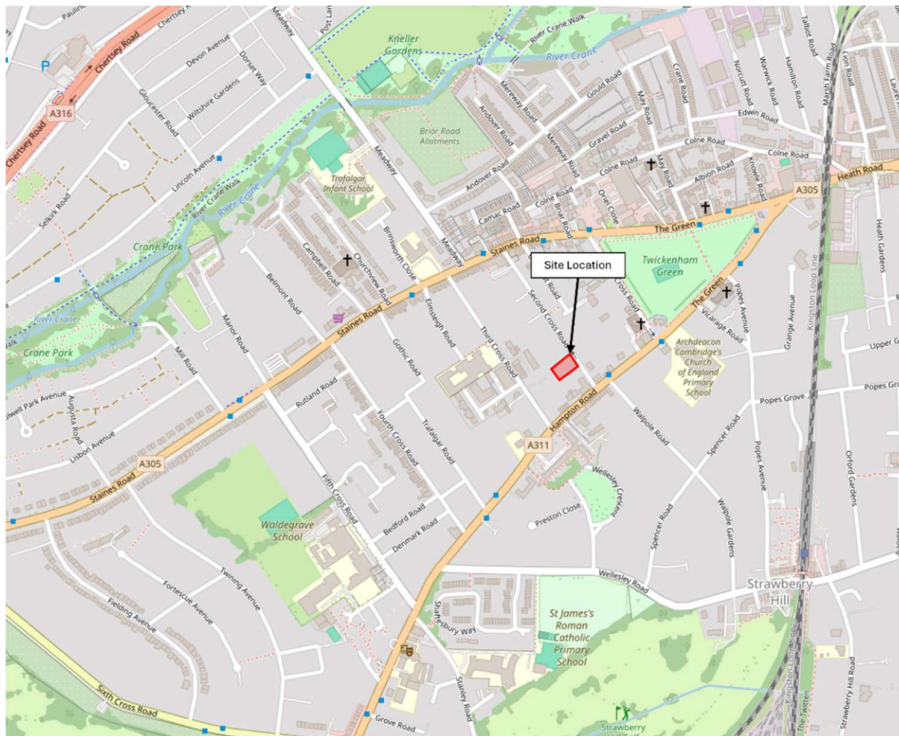


Figure 1: Site Location



2. EXISTING CONDITIONS AND SITE ACCESSIBILITY

2.1 As outlined above, the existing site comprises a Class E office building, as confirmed by a Certificate of Lawful Use (ref. 24/0476/ES191), located to the southwest of Second Cross Road in Twickenham. The site is bordered by residential properties to the southeast, southwest and northwest.

Local Road Network

2.2 Second Cross Road is a one-way road which mainly provides access to residential properties, in addition to several businesses. No entry signs are in place to restrict vehicles from entering Second Cross Road from Staines Road to the northwest, meaning traffic is only permitted to enter the road from Hampton Road in the southeast and exit via Staines Road. An 'unsuitable for HGVs' sign is present at the Second Cross Road access on account of the narrow and residential nature of the road and further enhancing road safety within the vicinity of the site.

2.3 Second Cross Road is subject to a 20-mph speed limit and is flanked by double-yellow line restrictions on both sides of the carriageway. Additionally, there are parking bays present on along Second Cross Road which are subject to a Controlled Parking Zone (CPZ) SH/WT, restricting parking between 08:30am-18:30pm Monday – Saturday for those who do not have a parking permit. In addition to the controlled parking spaces, there are also five spaces that can be paid for by phone for a maximum of 2 hours.

2.4 The A305 (Staines Road) provides connection to the A316 in the southwest and the A307 in the northeast while the A311 (Hampton Road) provides connection to the A308 in the south and in the A305 in the northeast.

Pedestrian and Cycle Network

2.5 Footways measuring circa 1.5m-2m are provided along both sides of Second Cross Road, with these connecting into a range of further footways along Hampton Road in the southeast and Staines Road in the northwest.

2.6 The majority of junctions within the local area are provided with dropped kerbs and tactile paving and signalised pedestrian crossings are present along Staines Road and Hampton Road to enable to safe passage of pedestrians.

2.7 The site is located within close proximity of a number of London Cycle Network Routes (LCNs), with the closest (LCN32) being accessible from Hampton Road and connecting to Harmondsworth in the northwest and Kingston-upon-Thames in the southeast. LCN 37 is accessible along Meadway, approximately 430m north of the site and provides cycle connections to Hanworth in the west and East Sheen in the east. Public realm cycle parking is present in close proximity of the site, with Sheffield stands provided at three locations within or surrounding Twickenham Green, with the closest being just 200m east of the site.

Local Facilities

2.8 The CIHT document, ‘Providing for journeys on foot’ (2000), identifies the ‘desirable’, ‘acceptable’ and ‘preferred maximum’ walking distances to locations within town centres and elsewhere. The distances are outlined within **Table 1** below.

	Town Centre (m)	Elsewhere (m)
Desirable	200	400
Acceptable	400	800
Preferred Maximum	800	1200

Table 1: CIHT Guidance for ‘Providing for journeys on foot’ (2000)

2.9 In addition, the CIHT’s ‘Planning for Walking’ (April 2015) identifies that whilst a number of pedestrian journeys are decreasing, ‘the average length of pedestrian journeys increased slightly from 0.7 miles to 0.85 miles’ between 1985 to 2007 (page 6). This equates to an average length of pedestrian journeys of 1,368m. The average duration also increased from 15 minutes to 17 minutes.

2.10 The site is positioned within walking/cycling distance of several local amenities which are compliant with the distances outlined within **Table 1**. Some of these local amenities include schools, cafes, public houses, restaurants, convenience stores, a supermarket, public parks, sports facilities and much more.

Public Transport

2.11 The Public Transport Accessibility Level (PTAL) is a measure of connectivity, with a higher score indicating good connectivity. The site is located in an area which has a PTAL rating of 3 out of a possible 6. Despite this score, it is evident that the site is located in a highly sustainable and accessible location, with two bus stops providing frequent services within 160m of the site, in addition to a train station just 650m away. **Figure 2** below outlines the PTAL rating for the area.



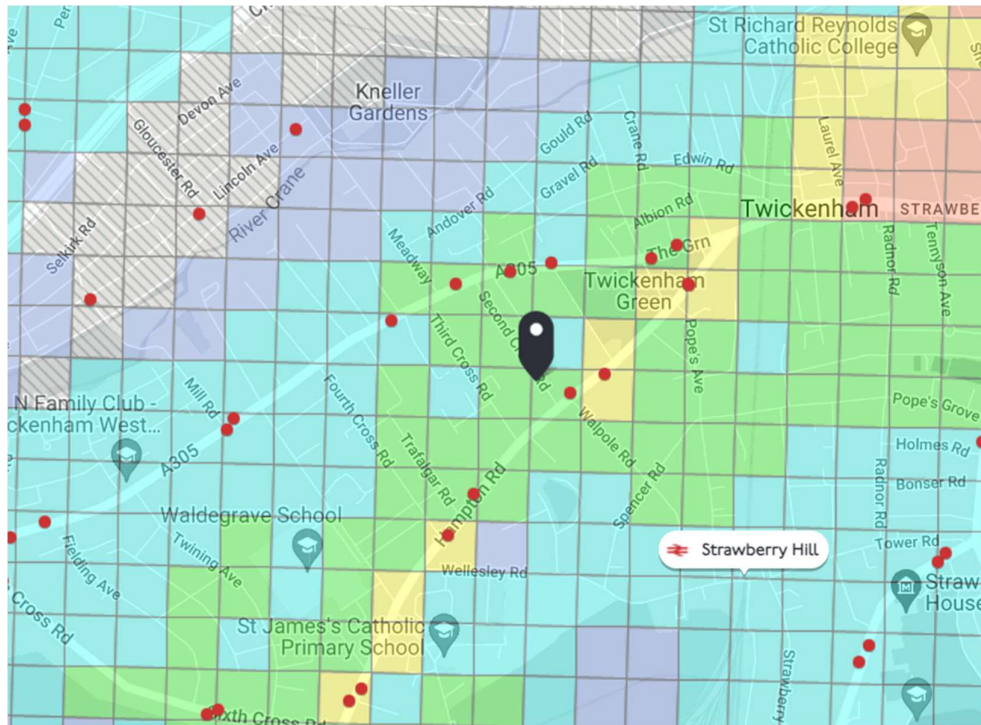


Figure 2: PTAL Output of the Area

2.12 The public transport links in the local area present an excellent opportunity to further encourage sustainable travel practices and remove the need for car ownership amongst future residents.

2.13 The closest bus stop to the site is approximately 90m southeast along Hampton Road (eastbound), equating to a 1-minute cycle ride or walk, with a further stop located approximately 160m southeast along Hampton Road (westbound), equating to a 1-minute cycle ride or a 2-minute walk. The eastbound stop comprises a simple flag and pole design with timetabling information while the westbound stop is provided with sheltered seating and timetabling information. There are six different bus services, the 267, 281, 290, 681, N22 and R70 which service the closest two bus stops to the site, providing approximately 22 services an hour and covering destinations such as Staines, Hampton, Fulwell, Tolworth, Ashford, Twickenham in a local context as well as further destinations within a larger distance.

Rail Services

2.14 Strawberry Hill train station is located approximately 650m southeast of the site equating to a 4-minute cycle or a 10-minute walk, and is equipped with a ticket office, passenger

information systems, as well as 16 cycle spaces. Strawberry Hill train station provides direct and regular services to Kingston (11 minutes), Wimbledon (26 minutes), Clapham Junction (33 minutes), Vauxhall (38 minutes) and London Waterloo (43 minutes).

Personal Injury Accident (PIA) Data

- 2.15 Personal Injury Accident (PIA) data has been obtained from Crashmap for the most recently recorded 5-year period between 2018 – 2022 in order to analyse the existing safety conditions of the local road network. Patterns in the data can be assessed with regards to the frequency, proximity and distribution of any accidents that have taken place in the vicinity of the site. All incidents that have occurred within an approximate 300m distance of the site within the specified 5-year period are indicated within **Figure 3**.

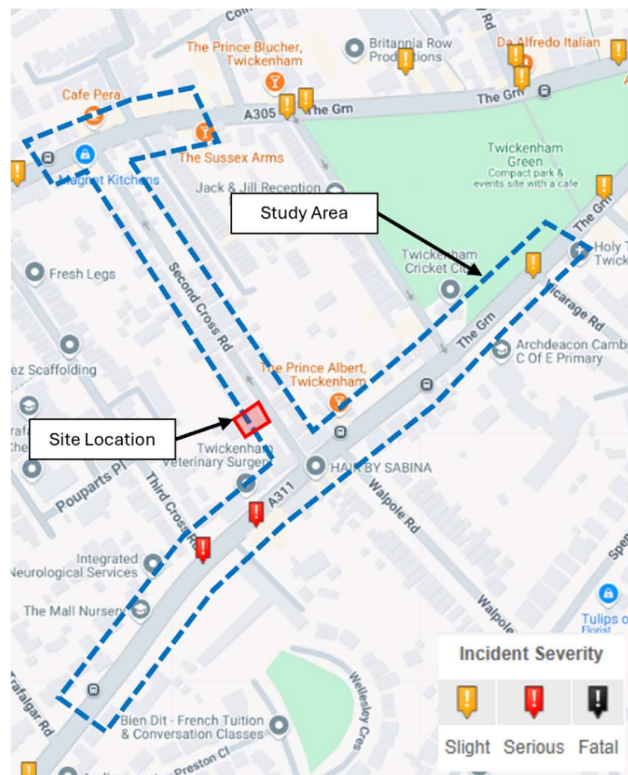


Figure 3: Personal Injury Accident (PIA) Data 2018 – 2022 (Source: Crashmap)

- 2.16 The PIA data indicates that there have been 3 incidents within an approximate 300m of the site, two of which were classified as ‘serious’, while one was classified as ‘slight’. It is acknowledged that there are further incidents on the map however, these occurred in excess of 300m from the site. It should be noted that of these three incidents, none involved a pedestrian or cycle casualty. A total of three incidents in a five-year period equates to 0.6 incidents a year and therefore the proposed development is not anticipated to result in an exacerbation of incidents along the local road network.

3. PROPOSED DEVELOPMENT

3.1 The development proposals involve converting the existing office building into three residential units comprising 2 x two-bed units and 1 x one-bed unit. There is not proposed to be any alteration of the existing access arrangement, with this continuing to occur via the southwestern side of Second Cross Road. The proposed layout is attached within **Appendix A**.

Parking Standards

3.2 The parking standards for London Borough of Richmond upon Thames are outlined within their latest adopted Local Plan, which was adopted in July 2018. The parking standards are outlined within Appendix 3 of the Adopted Local Plan, with reference being made to PTAL for car parking standards and the London Plan being referred to for cycle parking.

3.3 The car parking standards for 'Residential (including conversion/extension of existing)' are as follows:

- PTALs 0-3: 1-2 bedrooms – 1 space per unit

3.4 The existing parking provision of 5 spaces for the office use is set to be retained for the proposed residential use. This is 2 spaces in excess of the standards outlined within the London Borough of Richmond upon Thames adopted Local Plan, which is likely to ensure that no overspill parking occurs within the local area.

3.5 In terms of cycle parking, the London Plan 2021 outlines the following cycle parking standards for 'dwellings (all)':

- 1 space per studio or 1 person 1 bedroom dwelling
- 1.5 spaces per 2 person 1 bedroom dwelling
- 2 spaces per all other dwellings

3.6 A total of 6 cycle parking spaces will be provided at the site, in accordance with the standards outlined within the London Plan, with these spaces proposed to be located within the curtilage of each dwelling.

Servicing Arrangements

3.7 The refuse collection arrangement is proposed to continue as existing, with collection taking place on street via Second Cross Road. The bin store will continue to be located to the front

of the property within the car park, as can be seen within the site layout plan in **Appendix A**, with a refuse vehicle being able to reach within 10m of the bin store in accordance with Manual for Streets Eurobin guidance.

3.8 Similarly to the proposed refuse arrangements, the fire tender arrangements are proposed to be as existing, with a fire tender able to reach within 45m of all parts of the building in accordance with the Building Regulation Document B.

4. HIGHWAY IMPACT

Existing Trip Generation

4.1 As outlined previously, the site currently comprises an office building (Class E use), totalling a Gross Internal Area (GIA) of 223m². In order to determine what the likely existing trip generation of these offices are, the TRICS database has been consulted using the following parameters:

- Use Class ‘Employment’ and sub category ‘Offices’;
- Parameter of 0 – 750 m²;
- Sites in Greater London and England;
- Weekday surveys only; and
- ‘Edge of Town Centre’ locations only.

4.2 The outputs from the TRICS assessment based upon the office use area (223m²) are summarised within **Table 2**, with the full outputs attached in **Appendix B**.

Existing office use	AM Peak (0800-0900)			PM Peak (1700-1800)			Daily Total
	Arrivals	Departures	Total	Arrivals	Departures	Totals	
Office Trip Rate per 100m ²	2.826	0.251	3.077	0.126	1.193	1.319	18.053
Trip Generation (223m ² office use)	6	1	7	0	3	3	40

Table 2: Existing Development Trip Generation – Office Use

4.3 As shown in **Table 2**, the existing office use is expected to generate 7 trips in the AM peak, 3 trips in the PM peak and 40 trips across the 12-hour period.



Proposed Trip Generation

4.4 In order to determine the likely trips that will be generated from the proposals, the TRICS database has been consulted using the following parameters:

- Use Class ‘Residential’ and sub category ‘Houses Privately Owned’;
- Parameter of 0 – 100 dwellings;
- Sites in Greater London and England;
- Weekday surveys only; and
- ‘Edge of Town Centre’ locations only.

4.5 The outputs from the TRICS assessment are summarised within **Table 3**, with the full outputs attached in **Appendix B**.

Residential Development	AM Peak (0800-0900)			PM Peak (1700-1800)			Daily Total
	Arrivals	Departures	Total	Arrivals	Departures	Totals	
Trip Rate per 1 dwelling	0.131	0.309	0.440	0.299	0.154	0.453	4.154
Trip Generation (3 dwellings)	0	1	1	1	0	1	12

Table 3: Proposed Development Trip Generation (TRICS)

4.6 The TRICS assessment concludes that the proposed development is likely to generate 1 trip in the AM peak, 1 trip in the PM peak and 12 trips across a 12-hour period.

Net Traffic Impact Assessment

4.7 In order to compare the trip generation rates of the existing and proposed uses, a net traffic impact assessment has been completed This net traffic impact assessment is set out within **Table 4**.

	AM Peak	PM Peak	Daily Total
Existing Site Use (Offices)	7	3	40
Proposed Development (Residential)	1	1	12
Net Impact	-6	-2	-28

Table 4: Net Traffic Impact Assessment

4.8 As detailed in **Table 4**, the net traffic impact assessment estimates that the proposed development will result in 6 fewer trips in the AM peak, 2 fewer trips in the PM peak and 28 fewer trips across the day when compared to the existing office use. The proposals are therefore anticipated to result in a significant net reduction in trips and hence there will be

a betterment to the operation of the local road network when compared to the existing office use.

- 4.9 The National Planning Policy Framework (NPPF) (December 2023) states in paragraph 115 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 would be severe'.
- 4.10 Therefore, based on the above trip generation assessment, the proposed development should not be prevented or refused on highways grounds.

5. SUMMARY AND CONCLUSIONS

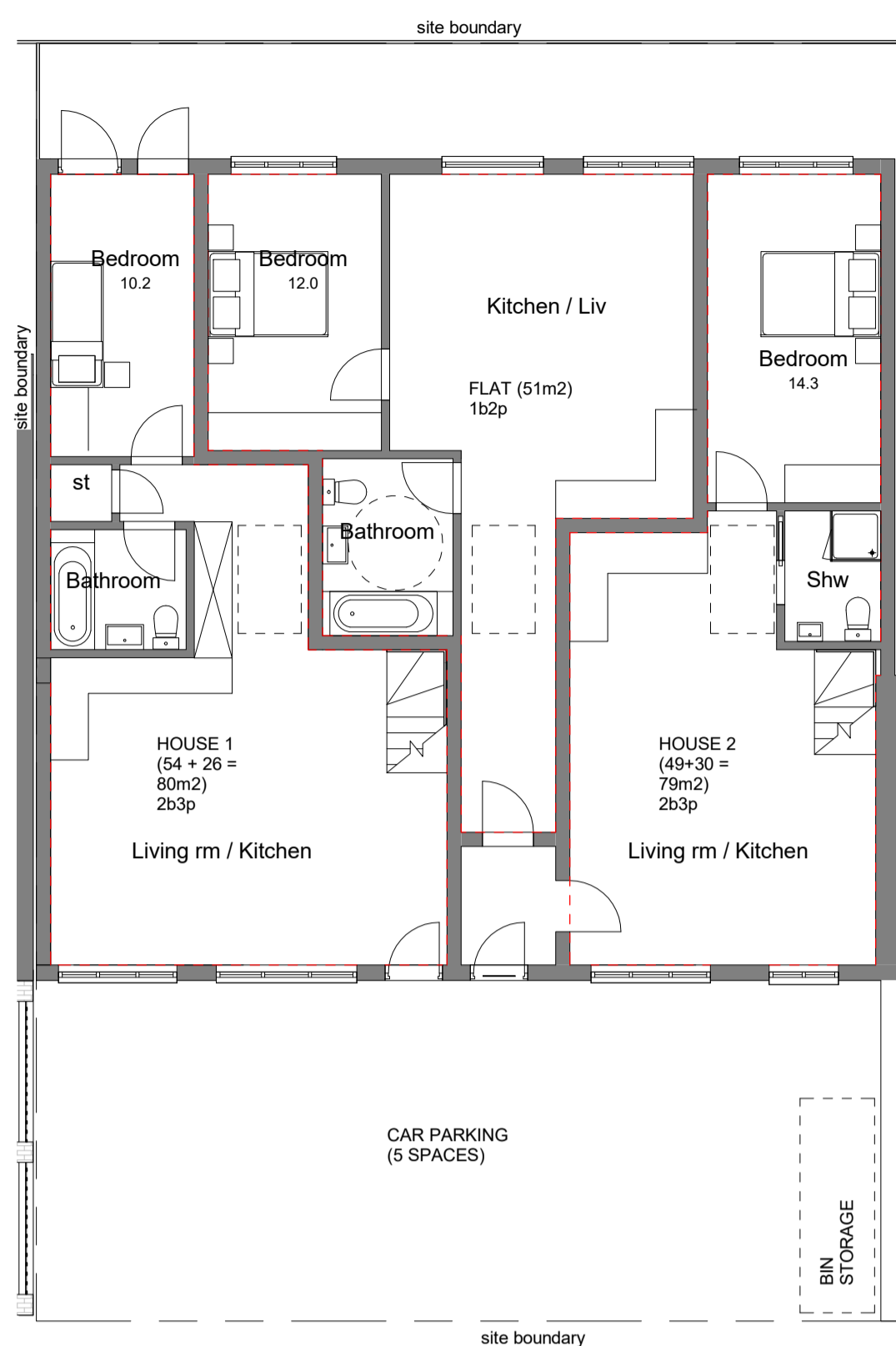
- 5.1 This Technical Note (TN) has been prepared by Paul Basham Associates on behalf of Mandarin Grange Investments to append to a Class MA application for a change of use from an existing office building (Class E use) to 3 residential units at 8 Second Cross Road in Twickenham.
- 5.2 The existing site comprises a Class E commercial use office building, located to the southwest of Second Cross Road in Twickenham. The site is bordered by residential properties to the southeast, southwest and northwest.
- 5.3 The Public Transport Accessibility Level (PTAL) is a measure of connectivity, with a higher score indicating good connectivity. The site is located in an area which has a PTAL rating of 3 out of a possible 6. Despite this score, it is evident that the site is located in a highly sustainable and accessible location, with two bus stops providing frequent services within 160m of the site, in addition to a train station just 650m away.
- 5.4 The proposed car parking provision for the site is five spaces, which is the same as the existing provision, and the proposed cycle parking at the site is six cycle parking spaces. The refuse and emergency vehicle access arrangements are proposed to remain as existing from Second Cross Road.
- 5.5 The net traffic impact assessment estimates that the proposed development will result in 6 fewer trips in the AM peak, 2 fewer trips in the PM peak and 28 fewer trips across the day when compared to the existing office use. The proposals are therefore anticipated to result in a significant net reduction in trips and hence there will be a betterment to the operation of the local road network when compared to the existing office use.

5.6 We therefore conclude that the traffic impacts of the proposed development involving a change of use from office to 3 residential units results in an overall improvement to the site on Second Cross Road and its immediate surrounds. Further to the above, it is concluded that traffic or highways impacts of the proposals are not therefore considered to be a constraint to the granting of planning permission.

Appendix A

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--- Cycle st abv

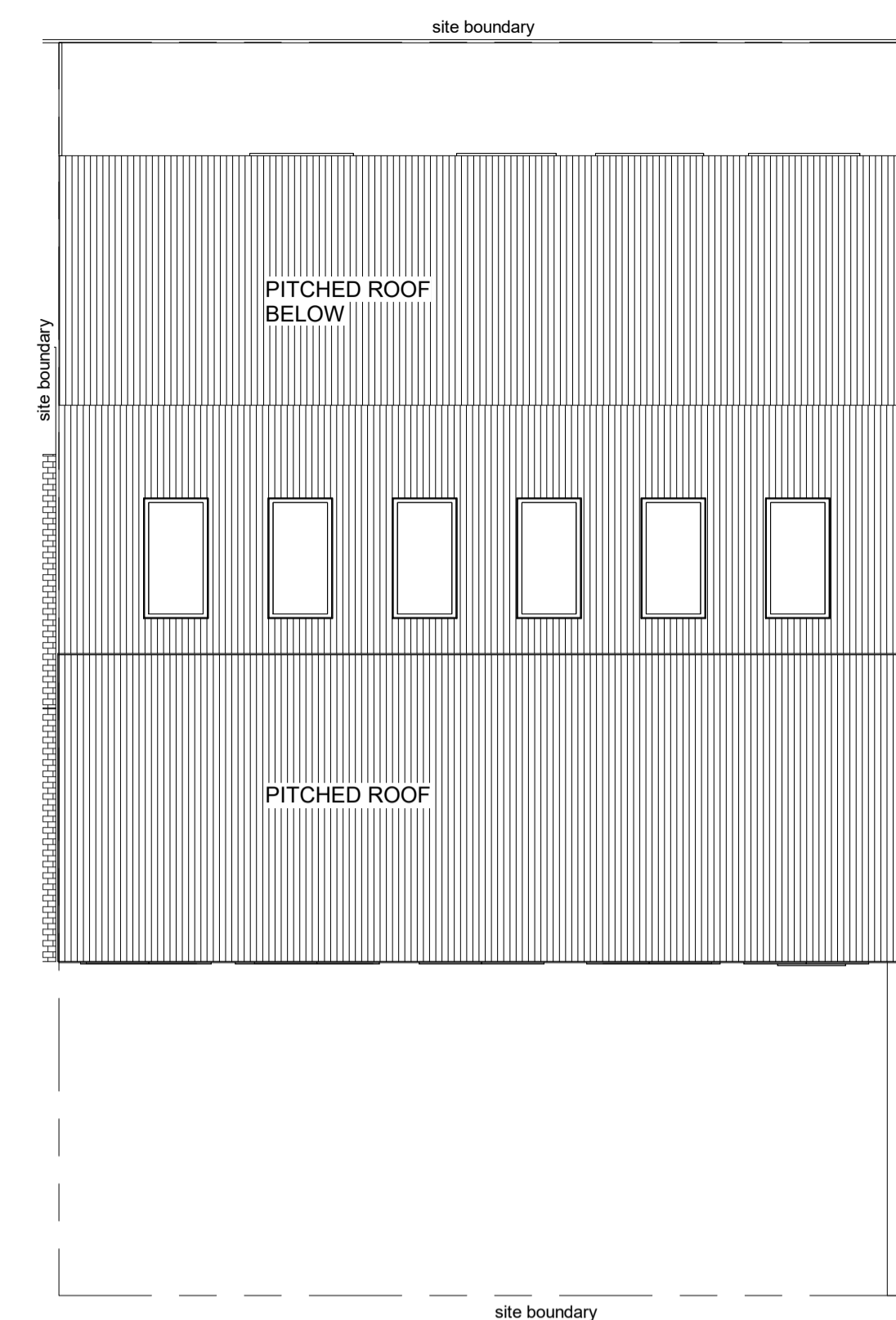


SECOND CROSS ROAD

1 GROUND FL PLAN
P302 1: 100



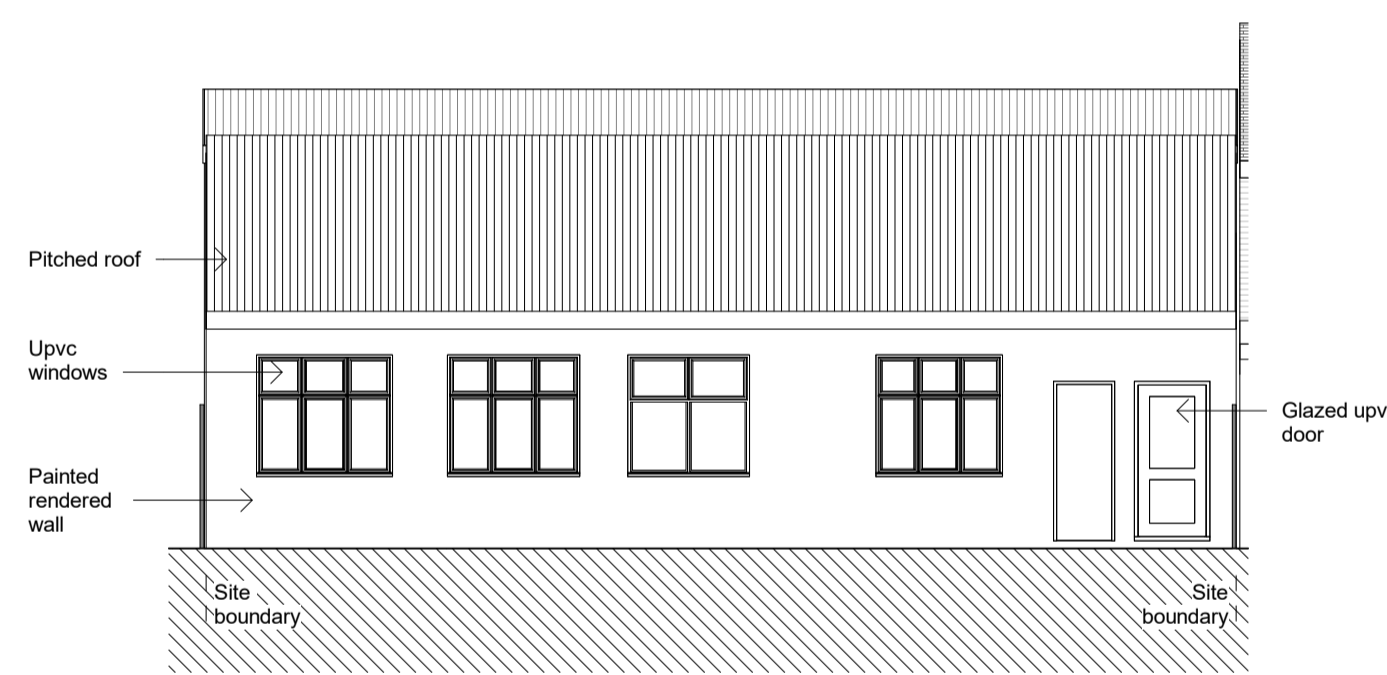
2 FIRST FLOOR PLAN
P302 1: 100



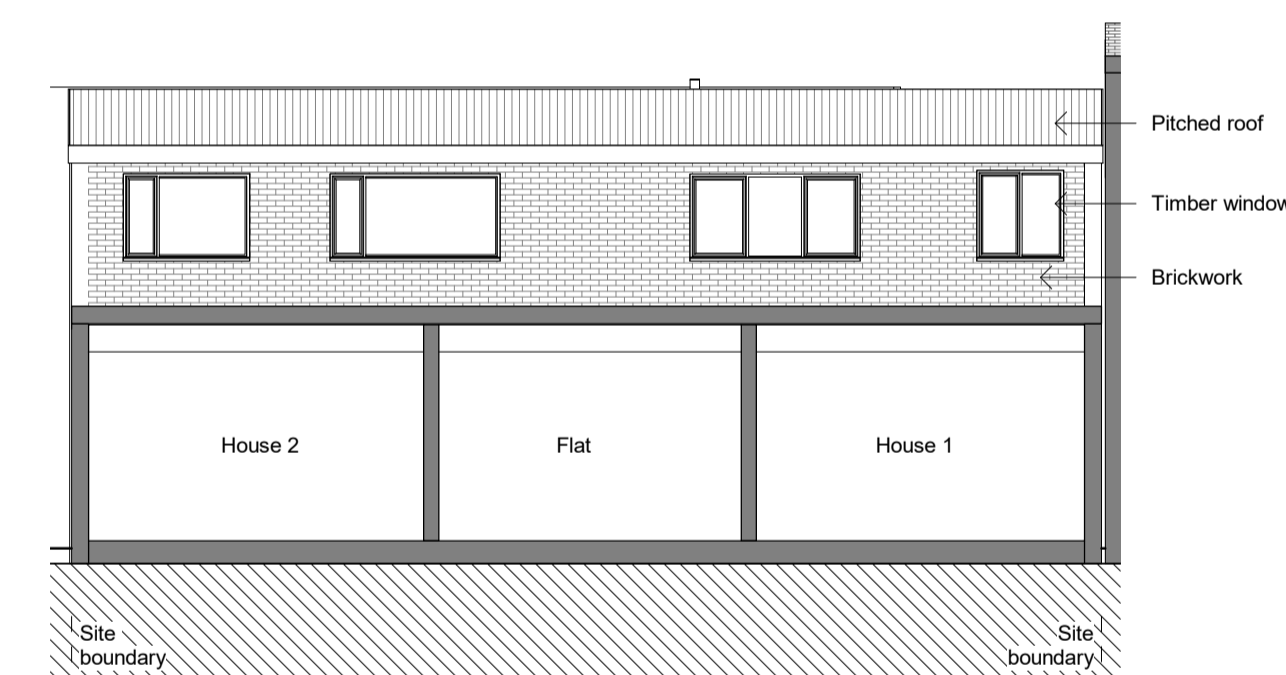
3 ROOF PLAN
P302 1: 100



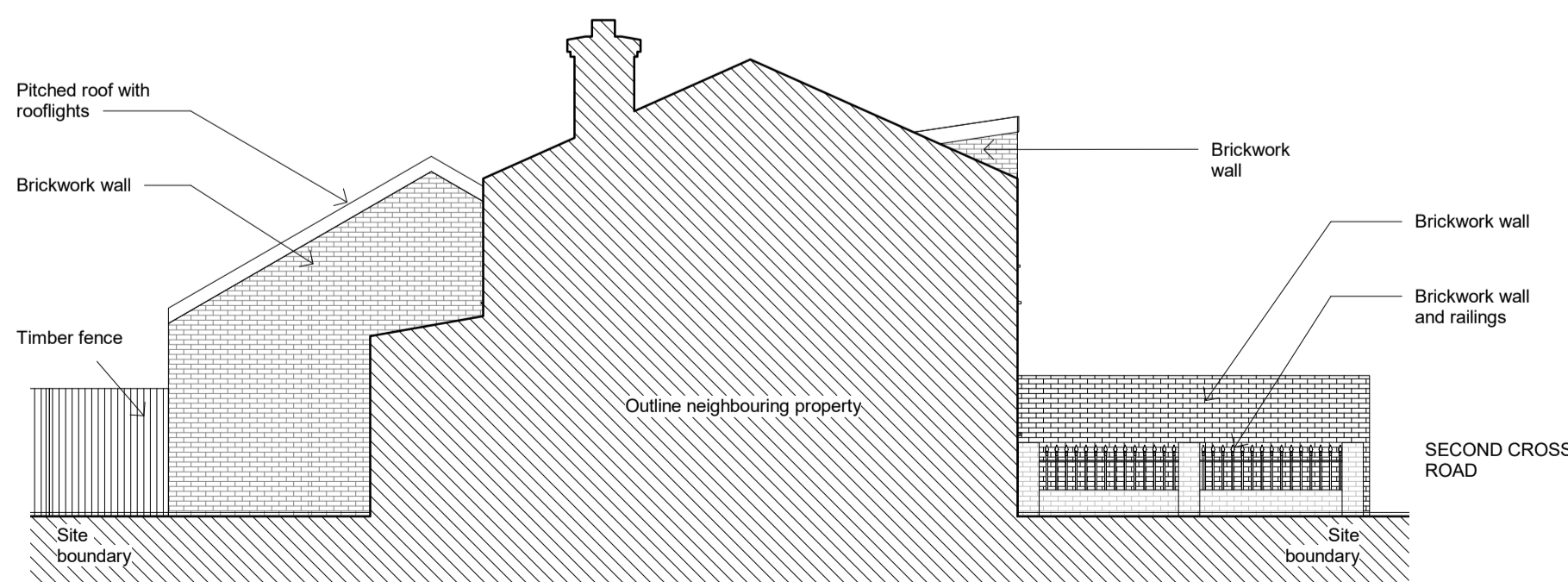
4 FRONT ELEVATION (EAST)
P302 1: 100



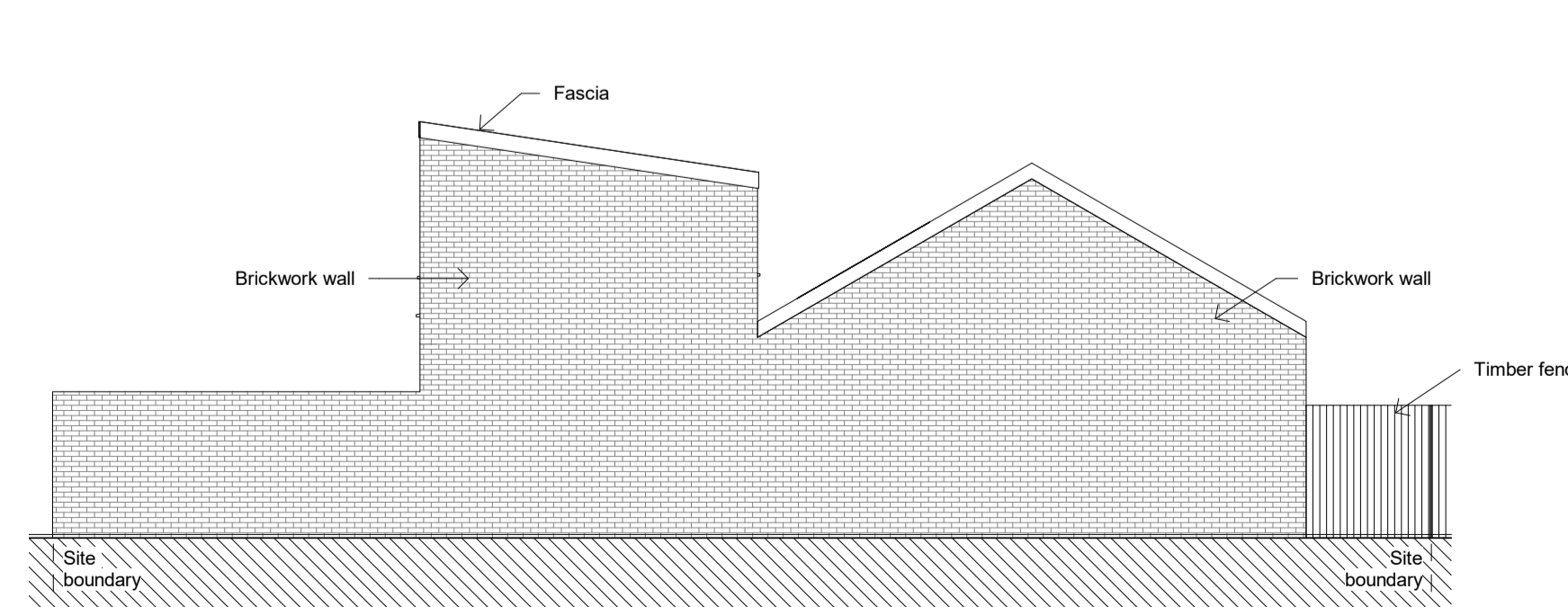
5 REAR ELEVATION (WEST)
P302 1: 100



8 1F REAR ELEVATION
P302 1: 100



6 SIDE ELEVATION (SOUTH)
P302 1: 100



7 SIDE ELEVATION (NORTH)
P302 1: 100



1	Planning issue	06/09/24	KN	SH
REV	DESCRIPTION	DD.MM.YY	BY	CHK

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PROJECT:
**8 SECOND CROSS ROAD
TW2 5RF**

DRAWING TITLE:
**PROPOSED PLANS AND
ELEVATIONS**

SCALE: 1 : 100 @ A1	DATE: 01/03/24
DRG STAMP: PLANNING	DRAWING NO: P302
PROJECT REF: SCR	REV: 1

Appendix B

Calculation Reference: AUDIT-247601-240912-0920

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 02 - EMPLOYMENT

Category : A - OFFICE

TOTAL VEHICLES

Selected regions and areas:

02	SOUTH EAST	
	BH BRIGHTON & HOVE	1 days
05	EAST MIDLANDS	
	DY DERBY	1 days
06	WEST MIDLANDS	
	WK WARWICKSHIRE	1 days
07	YORKSHIRE & NORTH LINCOLNSHIRE	
	NY NORTH YORKSHIRE	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: 178 to 594 (units: sqm)
Range Selected by User: 0 to 750 (units: sqm)

Parking Spaces Range: All Surveys Included

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/16 to 14/11/22

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
Wednesday 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 undertaken using machines.

Selected Locations:

Edge of Town 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
Built-Up Zone 1
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 5 days - Selected
Servicing vehicles Excluded X days - Selected

Secondary Filtering selection:

Use Class:

Not Known 4 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:

20,001 to 25,000	2 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	2 days
250,001 to 500,000	2 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:

No	4 days
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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
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This data displays the number of selected surveys with PTAL Ratings.

LIST OF SITES relevant to selection parameters

1	BH-02-A-05 ROMAN ROAD HOVE	OFFICES	BRIGHTON & HOVE
	Edge of Town Centre Residential Zone Total Gross floor area: 280 sqm <i>Survey date: WEDNESDAY 04/07/18</i>		<i>Survey Type: MANUAL</i>
2	DY-02-A-02 PRIME PARKWAY DERBY	REAL ESTATE DEVELOPERS	DERBY
	Edge of Town Centre No Sub Category Total Gross floor area: 594 sqm <i>Survey date: THURSDAY 21/10/21</i>		<i>Survey Type: MANUAL</i>
3	NY-02-A-01 NORTH PARK ROAD HARROGATE	SOLICITORS	NORTH YORKSHIRE
	Edge of Town Centre Built-Up Zone Total Gross floor area: 178 sqm <i>Survey date: THURSDAY 04/10/18</i>		<i>Survey Type: MANUAL</i>
4	WK-02-A-02 WHITEHALL ROAD RUGBY	OFFICES	WARWICKSHIRE
	Edge of Town Centre Residential Zone Total Gross floor area: 540 sqm <i>Survey date: MONDAY 14/11/22</i>		<i>Survey Type: MANUAL</i>

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

TRIP RATE for Land Use 02 - EMPLOYMENT/A - OFFICE

TOTAL VEHICLES

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 - 00:30									
00:30 - 01:00									
01:00 - 01:30									
01:30 - 02:00									
02:00 - 02:30									
02:30 - 03:00									
03:00 - 03:30									
03:30 - 04:00									
04:00 - 04:30									
04:30 - 05:00									
05:00 - 05:30									
05:30 - 06:00									
06:00 - 06:30									
06:30 - 07:00									
07:00 - 07:30	3	471	0.000	3	471	0.000	3	471	0.000
07:30 - 08:00	3	471	0.212	3	471	0.000	3	471	0.212
08:00 - 08:30	4	398	1.256	4	398	0.000	4	398	1.256
08:30 - 09:00	4	398	1.570	4	398	0.251	4	398	1.821
09:00 - 09:30	4	398	0.879	4	398	0.942	4	398	1.821
09:30 - 10:00	4	398	0.503	4	398	0.565	4	398	1.068
10:00 - 10:30	4	398	0.503	4	398	0.377	4	398	0.880
10:30 - 11:00	4	398	0.440	4	398	0.377	4	398	0.817
11:00 - 11:30	4	398	0.314	4	398	0.377	4	398	0.691
11:30 - 12:00	4	398	0.503	4	398	0.440	4	398	0.943
12:00 - 12:30	4	398	0.063	4	398	0.503	4	398	0.566
12:30 - 13:00	4	398	0.377	4	398	0.628	4	398	1.005
13:00 - 13:30	4	398	0.314	4	398	0.440	4	398	0.754
13:30 - 14:00	4	398	0.503	4	398	0.188	4	398	0.691
14:00 - 14:30	4	398	0.314	4	398	0.440	4	398	0.754
14:30 - 15:00	4	398	0.314	4	398	0.377	4	398	0.691
15:00 - 15:30	4	398	0.314	4	398	0.188	4	398	0.502
15:30 - 16:00	4	398	0.126	4	398	0.314	4	398	0.440
16:00 - 16:30	4	398	0.251	4	398	0.628	4	398	0.879
16:30 - 17:00	4	398	0.126	4	398	0.817	4	398	0.943
17:00 - 17:30	4	398	0.126	4	398	0.879	4	398	1.005
17:30 - 18:00	4	398	0.000	4	398	0.314	4	398	0.314
18:00 - 18:30	3	471	0.000	3	471	0.000	3	471	0.000
18:30 - 19:00	3	471	0.000	3	471	0.000	3	471	0.000
19:00 - 19:30									
19:30 - 20:00									
20:00 - 20:30									
20:30 - 21:00									
21:00 - 21:30									
21:30 - 22:00									
22:00 - 22:30									
22:30 - 23:00									
23:00 - 23:30									
23:30 - 24:00									
Total Rates:			9.008			9.045			18.053

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:	178 - 594 (units: sqm)
Survey date range:	01/01/16 - 14/11/22
Number of weekdays (Monday-Friday):	4
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	1
Surveys manually removed from selection:	0

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

Calculation Reference: AUDIT-247601-240912-0928

TRIP RATE CALCULATION SELECTION PARAMETERS:

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

Selected regions and areas:

01	GREATER LONDON	
	WF WALTHAM FOREST	1 days
02	SOUTH EAST	
	HC HAMPSHIRE	1 days
03	SOUTH WEST	
	SD SWINDON	1 days
04	EAST ANGLIA	
	NF NORFOLK	1 days
	PB PETERBOROUGH	1 days
06	WEST MIDLANDS	
	WK WARWICKSHIRE	1 days
07	YORKSHIRE & NORTH LINCOLNSHIRE	
	NY NORTH YORKSHIRE	1 days
08	NORTH WEST	
	AC CHESHIRE WEST & CHESTER	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: 9 to 34 (units:)
Range Selected by User: 0 to 40 (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 05/06/23

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	1 days
Tuesday	1 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	8 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:

Edge of Town Centre	2
Suburban Area (PPS6 Out of Centre)	6

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	8
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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	2 days - Selected
Servicing vehicles Excluded	6 days - Selected

Secondary Filtering selection:

Use Class:

C3	8 days
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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	3 days
15,001 to 20,000	1 days
20,001 to 25,000	2 days
25,001 to 50,000	1 days
50,001 to 100,000	1 days

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

Population within 5 miles:

50,001 to 75,000	2 days
125,001 to 250,000	3 days
250,001 to 500,000	2 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	4 days
1.1 to 1.5	4 days

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

Travel Plan:

Yes	2 days
No	6 days

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

PTAL Rating:

No PTAL Present	7 days
5 Very Good	1 days

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

LIST OF SITES relevant to selection parameters

1	AC-03-A-04	TOWN HOUSES		CHESHIRE WEST & CHESTER
	LONDON ROAD			
	NORTHWICH			
	LEFTWICH			
	Suburban Area (PPS6 Out of Centre)			
	Residential Zone			
	Total No of Dwellings:		24	
	Survey date: THURSDAY		06/06/19	Survey Type: MANUAL
2	HC-03-A-30	TERRACED HOUSES		HAMPSHIRE
	MEUDON AVENUE			
	FARNBOROUGH			
	Edge of Town Centre			
	Residential Zone			
	Total No of Dwellings:		31	
	Survey date: FRIDAY		14/10/22	Survey Type: MANUAL
3	NF-03-A-51	SEMI -DETACHED		NORFOLK
	CITY ROAD			
	NORWICH			
	LAKENHAM			
	Suburban Area (PPS6 Out of Centre)			
	Residential Zone			
	Total No of Dwellings:		34	
	Survey date: TUESDAY		13/09/22	Survey Type: MANUAL
4	NY-03-A-13	TERRACED HOUSES		NORTH YORKSHIRE
	CATTERICK ROAD			
	CATTERICK GARRISON			
	OLD HOSPITAL COMPOUND			
	Suburban Area (PPS6 Out of Centre)			
	Residential Zone			
	Total No of Dwellings:		10	
	Survey date: WEDNESDAY		10/05/17	Survey Type: MANUAL
5	PB-03-A-04	DETACHED HOUSES		PETERBOROUGH
	EASTFIELD ROAD			
	PETERBOROUGH			
	Suburban Area (PPS6 Out of Centre)			
	Residential Zone			
	Total No of Dwellings:		28	
	Survey date: MONDAY		17/10/16	Survey Type: MANUAL
6	SD-03-A-01	SEMI DETACHED		SWINDON
	HEADLANDS GROVE			
	SWINDON			
	Suburban Area (PPS6 Out of Centre)			
	Residential Zone			
	Total No of Dwellings:		27	
	Survey date: THURSDAY		22/09/16	Survey Type: MANUAL
7	WF-03-A-02	SEMI DETACHED & TERRACED		WALTHAM FOREST
	PALMERSTON ROAD			
	WALTHAMSTOW			
	Edge of Town Centre			
	Residential Zone			
	Total No of Dwellings:		9	
	Survey date: THURSDAY		06/06/19	Survey Type: MANUAL
8	WK-03-A-03	DETACHED HOUSES		WARWICKSHIRE
	BRESE AVENUE			
	WARWICK			
	GUY'S CLIFFE			
	Suburban Area (PPS6 Out of Centre)			
	Residential Zone			
	Total No of Dwellings:		23	
	Survey date: WEDNESDAY		25/09/19	Survey Type: MANUAL

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

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED

TOTAL VEHICLES

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

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									
07:00 - 08:00	8	23	0.102	8	23	0.231	8	23	0.333
08:00 - 09:00	8	23	0.199	8	23	0.371	8	23	0.570
09:00 - 10:00	8	23	0.204	8	23	0.199	8	23	0.403
10:00 - 11:00	8	23	0.177	8	23	0.210	8	23	0.387
11:00 - 12:00	8	23	0.194	8	23	0.129	8	23	0.323
12:00 - 13:00	8	23	0.167	8	23	0.183	8	23	0.350
13:00 - 14:00	8	23	0.194	8	23	0.183	8	23	0.377
14:00 - 15:00	8	23	0.231	8	23	0.280	8	23	0.511
15:00 - 16:00	8	23	0.382	8	23	0.344	8	23	0.726
16:00 - 17:00	8	23	0.296	8	23	0.210	8	23	0.506
17:00 - 18:00	8	23	0.226	8	23	0.188	8	23	0.414
18:00 - 19:00	8	23	0.183	8	23	0.134	8	23	0.317
19:00 - 20:00	1	9	0.000	1	9	0.000	1	9	0.000
20:00 - 21:00	1	9	0.111	1	9	0.000	1	9	0.111
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			2.666			2.662			5.328

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: 9 - 34 (units:)
Survey date range: 01/01/16 - 05/06/23
Number of weekdays (Monday-Friday): 8
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 shown. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.