RGP

Former George & Dragon, Reading

TRANSPORT ASSESSMENT

for Proposed Drive-Thru / Bakery Unit

on behalf of Greene King Commercial Investments Ltd.

2023/6488/TA01

April 2023

www.rgp.co.uk

DOCUMENT CONTROL

Project:	Former George & Dragon, Reading for Proposed Drive-Thru / Bakery Unit
Report Type:	Transport Assessment
Client:	Greene King Commercial Investments Ltd.
Reference:	2023/6488/TA01

DOCUMENT REVIEW

Author:	SDH	Date:	31/01/2023
Checked by:	JSC	Date:	28/02/2023
Approved by:	NDR	Date:	28/02/2023

DOCUMENT STATUS

Issue	Date	Status	Issued by
1.	01/03/2023	Draft	JSC
2.	29/03/2023	Final	JSC
3.	03/04/2023	Final Rev A	JSC
4.			
5.			
6.			

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TABLE OF CONTENTS

1 INTRODUCTION 1
1.1 Report Context 1
1.2 Planning Context and Pre-Application 1
1.3 Report Structure 2
2 POLICY CONTEXT 3
2.1 National Planning Policy Framework 3
2.2 Reading Borough Local Plan 3
3 BASELINE CONDITIONS 5
3.1 Site Location & Local Highway Network 5
3.2 Highway Safety Appraisal 6
3.3 Accessibility Credentials 7
Walking 7
Cycling 8
Public Transport 9
Accessibility Summary 11
4 TRIP GENERATION 12
4.1 Existing Site Operation 12
4.2 Proposed Trip Generation – Drive-Thru Unit 13
Trip Types 14
4.3 Staff Trips 16
5 LAYOUT, ACCESS AND PARKING 18
5.1 Internal Layout 18
5.2 Access Arrangements 18
5.3 Parking 19
Parking Standards 19
Proposed Car Parking Provision 20
Car Parking Accumulation Exercise 20
Parking Management 22
Cycle Parking 23
6 TRAFFIC IMPACT 24
6.1 Scope 24
6.2 Traffic Surveys 24
6.3 Bath Road Directional Flows 24
6.4 Development Traffic Assignment 25
6.5 Site Access Junction Capacity Assessment 26
6.6 Queuing Analysis 27
Observed Queues 27
'Keep Clear' Introduction 29
7 DELIVERY AND SERVICING ARRANGEMEMENTS 31
7.1 Delivery / Servicing Activity 31
7.2 Delivery / Servicing Arrangements 31

8 SUMMARY AND CONCLUSIONS 33

Appendices

Appendix A Proposed Site Plans
Appendix B Pre-Application Response
Appendix C Public House TRICS Output
Appendix D Drive-Thru TRICS Output
Appendix E Traffic Survey Output
Appendix F Traffic Flow Diagrams
Appendix G PICADY Output

Drawings

2022/6488/003 Proposed Access Arrangement
2022/6488/005 Internal Swept Path Analysis
2022/6488/006 Internal Swept Path Analysis – Standard Car

Figures

Figure 1 – Site Location 5
Figure 2 – CrashMap Extract 6
Figure 3 – Collision Details 7
Figure 4 – Maximum / Desirable Walking Distances (CIHT, 2000) 7
Figure 5 – Indicative 2km Walking Catchment 8
Figure 6 – Indicative 5km Cycling Catchment 9
Figure 7 – Local Bus Service Information 10
Figure 8 – Public House Vehicle Trip Rates and Generation 12
Figure 9 – Drive-Thru Vehicle Trip Rates and Generation 14
Figure 10 – Historic Consented Planning Application Trip Proportions 15
Figure 11 – Potential 'New' Drive-Thru Vehicle Trips 16
Figure 12 – Method of Travel to Work Data (Reading 015 MSOA) 17
Figure 13 – Forecasted Weekday Parking Accumulation Profile 21
Figure 14 – Forecasted Weekend Parking Accumulation Profile 22
Figure 15 – General Baseline Weekday Traffic Net Impact (All Trips Two-Way) 25
Figure 16 – Development Trip Assignment 25
Figure 17 – Assignment of Development Trips (AM & PM) 25
Figure 18 – 2023 Baseline + Development PICADY Results 27
Figure 19 – AM Bath Road EB Queuing Analysis 28
Figure 20 – PM Bath Road EB Queuing Analysis 29

1 INTRODUCTION

1.1 Report Context

1.1.1 RGP is instructed by Greene King Commercial Investments Ltd. to provide planning and highways advice with regards to the redevelopment of the former George & Dragon public house, Bath Road, Reading, RG30 2HA ("the site").

1.1.2 The site has historically operated as an amenity public house / restaurant with an accompanying area of car parking, although has ceased trading and hence is therefore not currently operational. The development proposals can be summarised as follows:

"Demolition of existing pub/ restaurant and erection of 1 no Drive Thru retail / bakery unit (Class E) including erection of supporting structures, together with alterations to means of access, car parking, landscaping and associated works"

1.1.3 It is proposed that the unit would be operated under the Greggs brand. A copy of the proposed site layout is attached hereto at hereto at **Appendix A** for reference.

1.2 Planning Context and Pre-Application

1.2.1 Reading Borough Council (RBC) have jurisdiction over the site in their role as unitary authority. RGP has reviewed the planning history for the site and does not consider that there are any recent planning applications that would be of relevance to the proposals.

1.2.2 Pre-application advice regarding the proposed scheme was received from RBC on 13th September 2022. Full correspondence in terms of Highways and Transport is attached hereto at **Appendix B** for reference. The pertinent points are summarised as follows:

- Appropriate surface material should be used within the site upon approach to the adjacent cycle route along Bath Road;
- Consideration should be given to a dedicated cycle entrance to the site in light of the adjacent National Cycle Route 422;
- The proposed access arrangement should be subject to a full vehicle tracking exercise to ensure that simultaneous arrivals and departures can occur;
- The proposed size of delivery vehicle to serve the site should be confirmed, with consideration to other similar facilities within the borough and across the country;
- Appropriate measures should be detailed regarding the management and accommodation of delivery activities at the site;
- The suitability of the proposed car parking provision should be assessed to ensure that it is sufficient to accommodate the demands generated by the site;
- Access for larger vehicles to the site (e.g. refuse vehicles) should be ensured whilst reducing the residual impacts on other road users;
- All trips as presented as part of the pre-application engagement (i.e. new trips, pass-by trips etc.), should be considered in any assessments undertaken;

- Consideration should be given to the capacity of the right-turn facility serving the site;
- The means by which the number and type of trip were derived to support the pre-application engagement are accepted; and
- The means by which the number of parking spaces to serve the development were derived to support the pre-application engagement are accepted.

1.2.3 The pre-application comments are acknowledged and addressed throughout this report where necessary.

1.3 Report Structure

1.3.1 This Transport Assessment has been prepared to support the planning application for the proposed development. The report evaluates key transport and highways-related matters regarding the proposals in light of the pre-application response received and therefore comprises the following sections:

- **Section 2 – Policy Context**: details and assesses pertinent national and local policy and guidance documents under which development proposals are framed;
- **Section 3 – Baseline Conditions**: provides an overview of existing conditions at the site including the local highway network and accessibility via sustainable modes of travel;
- **Section 4 – Trip Generation**: details existing trip generation associated with the former public house and provides a forecast for potential trip generation associated with the proposed development to establish the net impact in these terms;
- **Section 5 – Layout, Access and Parking**: outlines the access strategy and layout of the site in the context of vehicle movements and general parking provision, including management measures / initiatives that would be adopted;
- **Section 6 – Traffic Impact**: assesses the potential impact of the proposed development on the local highway network;
- **Section 7 – Delivery and Servicing Arrangements**: details potential delivery and servicing movements and frequencies at the site; and
- **Section 8 – Summary and Conclusions**: provides an overall summary and concise set of conclusions of the findings of the report.

1.3.2 As background to this report, RGP has prepared a Travel Plan (document ref. 2023/6488/TP01) to also support the planning application. It is therefore recommended that this report is read in conjunction with the Travel Plan.

2 POLICY CONTEXT

2.1 National Planning Policy Framework

2.1.1 The National Planning Policy Framework (NPPF) was revised in 2021 and is the primary source of national planning guidance in England. The NPPF contains the Government's strategies for economic, social and environmental planning policies and is designed to be a single, tightly focused document.

2.1.2 Chapter 9 of the NPPF considers the promotion of sustainable transport and Paragraph 110 identifies that "*in assessing sites that may be allocated for development in plans, or specific applications for development, it should be ensured that:*

(i) appropriate opportunities to promote sustainable transport modes can be – or have been – taken up, given the type of development and its location;

(ii) safe and suitable access to the site can be achieved for all users;

(iii) the design of streets, parking areas, other transport elements and the content of associated standards reflects current national guidance, including the National Design Guide and the National Model Design Code 46; and

(iv) any significant impacts from the development on the transport network (in terms of capacity and congestion), or on highway safety, can be cost effectively mitigated to an acceptable degree."

2.1.3 Additionally, Paragraph 111 states 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.*" The criteria of severe can be considered to apply to capacity, congestion and highway safety, all of which are considered within this Transport Assessment.

2.1.4 Paragraph 113 of the NPPF states that "*all developments that will generate significant amounts of movement should be supported by a transport statement or transport assessment so that the likely impacts of the proposal can be assessed.*" In accordance with this requirement this Transport Assessment has been prepared in order to assess the impact of the new use on the site using all available information to establish the overall forecast impact.

2.2 Reading Borough Local Plan

2.2.1 The Reading Borough Local Plan (RBLP) was adopted in 2019 and is the primary policy document for dictating how Reading will develop up to 2036. The Plan identifies the amount of development that will take place, the areas and sites where development is expected to be accommodated, where it will be restricted, and sets out policies for how planning applications will be decided.

2.2.2 Chapter 4.5 discusses transport matters and Policy TR1 states development proposals should "*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.*"

2.2.3 Policy TR3 states *"in determining proposals involving a new or altered access onto the transport network, improvements works to the transport network, the creation of new transport infrastructure or the generation of additional trips on the transport network, consideration will be given to the effect on safety, congestion and the environment."*

2.2.4 Policy TR5 states *"development should provide car parking and cycle parking that is appropriate to the accessibility of locations within the Borough to sustainable transport facilities, particularly public transport."* The Policy further states that 10% of spaces, of non-residential developments of at least 10 spaces, should provide an active charging point.

2.2.5 Chapter 4.2 discusses built and natural environment matters and Policy EN15 states *"development should have regard to the need to improve air quality and reduce the effects of poor air quality."*

2.2.6 Where appropriate the Statement has drawn on Reading 'Local Transport Plan 2011 – 2026' and 'Revised Parking Standards and Design Supplementary Planning Document' (SPD), adopted in 2011.

3 BASELINE CONDITIONS

3.1 Site Location & Local Highway Network

3.1.1 The site is located to the west of Reading town centre to the northern side of the A4 Bath Road. The peripheries to the site are generally characterised by residential dwellings, resulting a high level of permeability to / from the site on foot. The figure below illustrates the site location and local neighbourhood context.

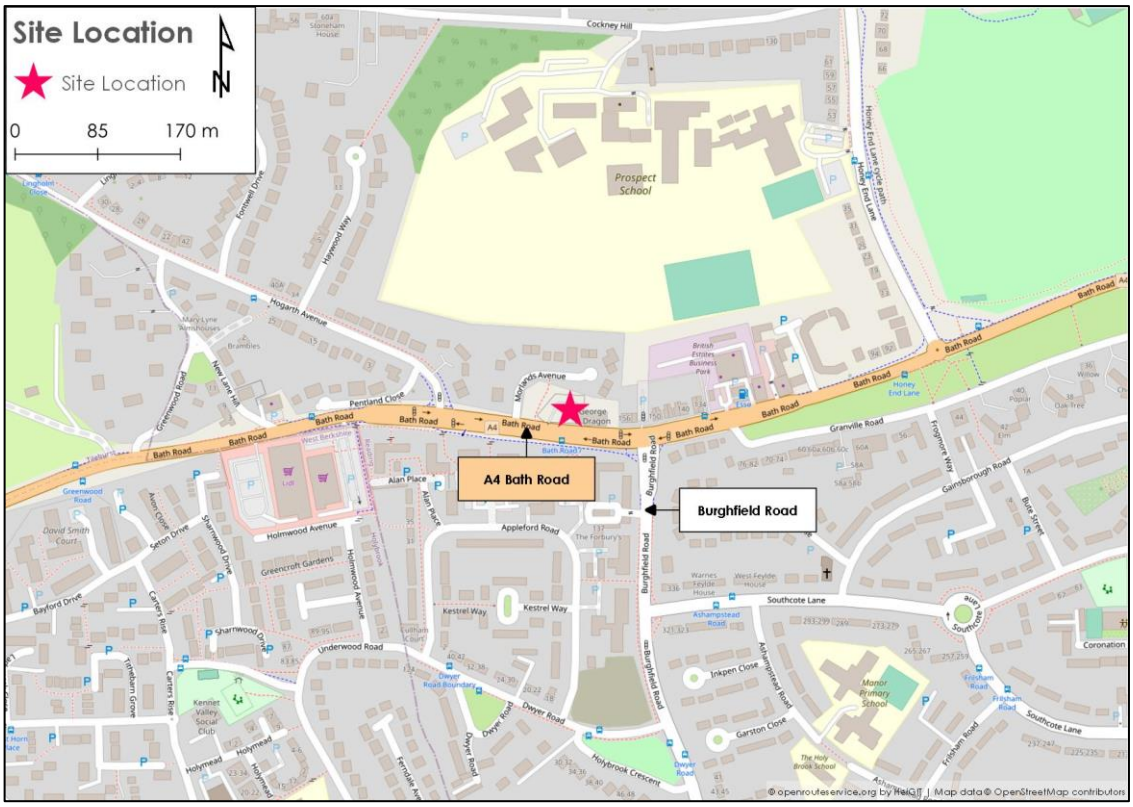


Figure 1 – Site Location

3.1.2 Bath Road offers a key route towards and away from Reading town centre, characterised by a general single-carriageway arrangement and subject to a 30mph posted speed limit. Circa 15m to the east of the site lies the signalised junction between Bath Road and Burghfield Road which offers pedestrian crossing facilities including tactile paving and a central refuge.

3.1.3 Adjacent to the single point of vehicular access to the site, a bus and cycle lane is provided along the westbound carriageway with a right-turn facility provided for vehicles entering the site.

3.1.4 A shared footway / cycleway is provided along the frontage of the site with tactile paving and dropped kerbs at key crossing points. A similar arrangement is provided along the southern flank of Bath Road.

3.2 Highway Safety Appraisal

3.2.1 To assess the local highway safety record within vicinity of the site, collision data has been taken into consideration in line with current Department for Transport (DfT) guidance. It is traditional for the most recent five-year period to be assessed, an additional two-years have been evaluated in light of unrepresentative data of 2020 and 2021 as a result of the Coronavirus pandemic. The range of analysis was therefore 2015 to 2021 inclusive, with data sourced from www.crashmap.co.uk.

3.2.2 A road collision is classified as one that involved personal injury and took place on the public highway. In summary 'road collisions' include:

- Collisions which commence on the highway but which involve casualties off the highway;
- Collisions involving the boarding and alighting of buses or coaches, and accidents in which passengers already aboard a bus / coach are injured, whether or not another vehicle or pedestrian is involved;
- Collisions with pedal cyclists or horse riders, where they injure themselves or another road user. Only accidents occurring on the public highway are included. The public highway usually includes the adjacent footway; and
- Some local authorities and organisations refer to road collisions as road accidents or road crashes.

3.2.3 Analysis highlighted there had been three 'slight' collisions at or adjacent to the junction between Bath Road and Burghfield Road. No collisions had taken place at the site access over the assessed period. The figure below illustrates the location of collisions.

Figure 2 – CrashMap Extract

3.2.4 The table overleaf summarises the details of the three collisions as recorded.

Severity	Date	Vehicles	Casualties
Slight	05/05/2015	2	1
Slight	05/11/2018	4	1
Slight	23/07/2020	3	1

Figure 3 – Collision Details

3.2.5 Analysis highlights the existing collision history does not lead to any significant concerns or demonstrate any discernible trends which could call for further assessment or require any additional mitigation measures. Collisions are sporadic and should not be expected to be exacerbated by the proposed development, should appropriate access and traffic arrangements be implemented.

3.3 Accessibility Credentials

3.3.1 In order to assess the potential for consumers and staff to access the site by modes other than the private car / vehicles, a review of existing local pedestrian, cycle and public transport infrastructure has been undertaken.

Walking

3.3.2 It is commonly accepted that walking is the most important mode of travel at local level; offering the greatest potential to replace short car trips. Walking yields numerous personal benefits such as health and fitness improvements, complementing the positive impact from an environmental standpoint.

3.3.3 The 'Planning for Walking' guidance (2015) produced by the Chartered Institution of Highways and Transportation (CIHT) has been considered as part of this Statement which provides information on the characteristics of pedestrian journeys, the benefits of walking and the legal framework that applies to pedestrians.

3.3.4 Further guidance set out within the CIHT guidance 'Providing for Journeys on Foot' (2000) has also been considered, in particular the section relating to desirable / acceptable / maximum walking distances. The table below outlines relative distances for different journey purposes from the guidance.

Standard	Town Centre	Commuting / School	Elsewhere
Desirable	200m	500m	400m
Acceptable	400m	1km	800m
Preferred Maximum	800m	2km	1.2km

Figure 4 – Maximum / Desirable Walking Distances (CIHT, 2000)

3.3.5 An indicative 2km walking catchment has been produced for the site in light of the above guidance and is illustrated overleaf.

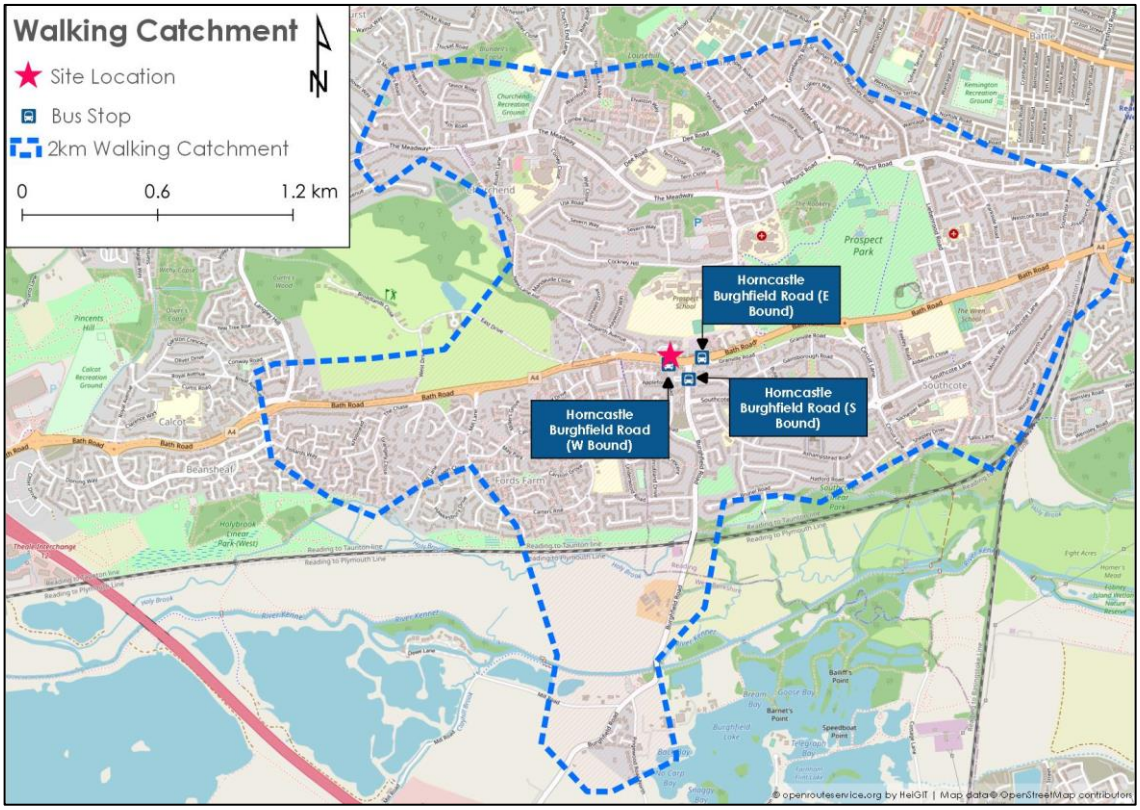


Figure 5 – Indicative 2km Walking Catchment

3.3.6 As illustrated, there is a significant residential catchment within the walking catchment which could offer an alternative means of accessing the site for staff and additionally customers. This includes south east Reading and Calcot, with access facilitated by the provision of pedestrian-oriented infrastructure within the immediate vicinity of the site as described above.

3.3.7 Although the development proposals are principally car-oriented, there would be scope to undertake journeys via alternative means where feasible.

Cycling

3.3.8 Cycling is an important part of the national and local transport policy agenda. An increased perception of cycling as a real alternative mode of transport to the car and growth in cycling as a leisure activity has increased demand for cycling.

3.3.9 Traditional DfT guidance outlines that many utility cycle trips are less than 3 miles (approximately 5km), but for commuter journeys a distance of over 5 miles (approximately 8km) is not uncommon. The CIHTs publication 'Cycle Friendly Infrastructure' (1996), suggests that reasonable fit individuals can comfortably cycle a distance of 8-km to workplace destinations. The figure overleaf illustrates an indicative 5km cycling catchment around the site.

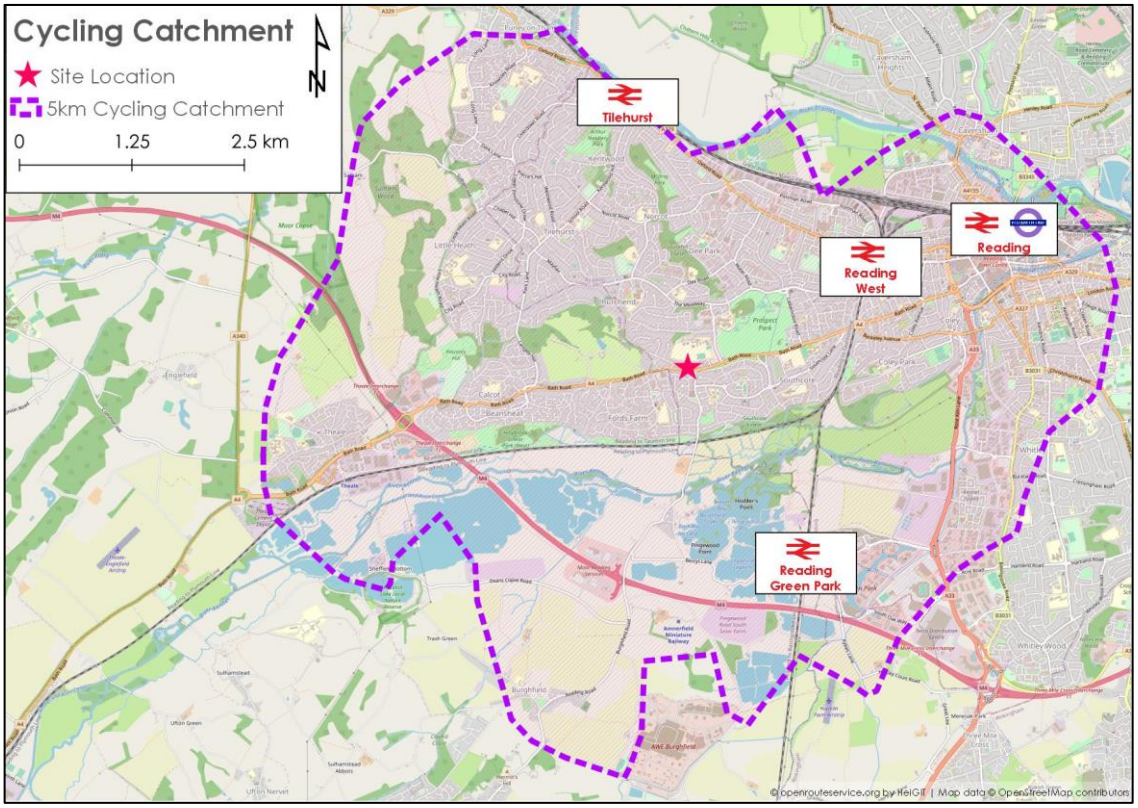


Figure 6 – Indicative 5km Cycling Catchment

3.3.10 As with the walking catchment, there is a large residential land use within the catchment to include Southcote, Tilehurst and Reading town centre. Staff and customers living within the catchment could travel by bicycle as an alternative means of accessing the site, facilitated by the provision of cycle parking as part of the development, full details of which are provided in **Section 5**. National Cycle Network (NCN) route 422 passes along the frontage of the site and has recently been implemented and improved to create a continuous route across the County of Berkshire.

Public Transport

3.3.11 The closet bus stops are located on Bath Road and Burghfield Road, circa 125m from the site (see **Figure 5** above). All stops are marked by a flag and pole arrangement with accompanying timetable information. Access to the stops on foot is facilitated by the dedicated local pedestrian infrastructure as previously outlined.

3.3.12 The provision of bus services at the local stops to the site is summarised in the table overleaf.

Stop Id.	Route / Provider	Route	Peak Frequency		
			Wk.	Sat.	Sun.
Horncastle Burghfield Road (E Bound)	1 – Reading Buses	Newbury – Reading Town Centre	2bph.	2bph.	1bph.
	2 – Reading Buses	Brimpton Common – Reading Town Centre	1bph.	1bph.	1bph.
	2a – Reading Buses	Brimpton Common – Reading Town Centre (Wk.) Mortimer – Reading Town Centre (Sat.)	1bph.	1bph.	
Horncastle Burghfield Road (W Bound)	1 – Reading Buses	Reading Town Centre – Theale (Wk. & Sat.) Reading Town Centre – Newbury (Sun.)	2bph.	2bph.	1bph.
Horncastle Burghfield Road (S Bound)	2 – Reading Buses	Reading Town Centre – Mortimer	1bph.	1bph.	
	2a – Reading Buses	Reading Town Centre – Mortimer (Wk. & Sat.) Reading Town Centre – Burghfield Common (Sun.)	1bph.	1bph.	1bph.

Figure 7 – Local Bus Service Information

3.3.13 The closest railway station to the site is Reading West located approximately 3.5km to the north-west of the site and is accessible by a cycle ride or bus journey. The station has a ticket office / machine and bicycle parking. Frequent links to local destinations include Newbury and Basingstoke and Reading Station, providing onward travel across the south of England.

3.3.14 It is not expected that public transport would serve as a primary mode of travel to the site by customers given its nature as a Drive-Thru unit. Nevertheless, staff residing within the local area could utilise the services on offer in an alternative arrangement to using the private car, hence reducing the demand for car parking at the site. This notion is supported through the preparation of a Travel Plan (2023/6488/TP01) to support the proposals.

Accessibility Summary

3.3.15 While the development proposal is principally oriented around car travel, the site is well-located to encourage journeys by means of other travel than the private car both by staff and consumers.

3.3.16 As noted, RGP has additionally prepared a Travel Plan to support the planning application, with a view to enhancing accessibility and sustainability credentials of the site for staff and customers.

4 TRIP GENERATION

4.1 Existing Site Operation

4.1.1 The site has historically housed the George & Dragon amenity public house / restaurant, however is now vacant following its closure. Nevertheless, the site could be reinstated as part of its lawful use without the need for planning permission. As such, RGP has undertaken an assessment of the historic and permissible trip generation at the site. The trade area of the former use was 244sqm, and this has been used within the assessment herein.

4.1.2 In order to establish the likely trip generation, RGP has interrogated the Trip Rate Information Computer System (TRICS) for surveys of sites similar to that being redeveloped.

4.1.3 Surveys have been filtered based upon the following parameters:

- Category: 06/C – Hotel, Food and Drink / Pub/Restaurant;
- Regions: All (excluding Greater London); and
- Locations: Edge of Town and Suburban.

4.1.4 Surveys have also been filtered to exclude those undertaken prior to the beginning of the Covid-19 pandemic (i.e. March 2020) in the interests of improving the representativeness of the assessment. Furthermore, the TRICS 'Good Practice Guide' highlights that the filtering parameter of local location is more prudent in filtering than wider regions across the UK, and hence all sites (excluding those in Greater London) have been retained.

4.1.5 Separate trip rates have been extracted for typical weekdays and weekends in light of the differing trading patterns across weekdays and weekends. Full TRICS outputs are attached hereto at **Appendix C** for reference. The table below summarises the extracted trip rates and resultant trip forecast.

Time Period	Trip Rate per 100sqm			Trip Generation – 244sqm		
	Arr.	Dep.	Total	Arr.	Dep.	Total
Weekday						
AM Peak 08:00 – 09:00	0.000	0.000	0.000	0	0	0
PM Peak 17:00 – 18:00	2.991	1.780	4.771	7	4	12
Daily	24.135	23.771	47.906	59	58	117
Weekend						
Actual Peak 13:00 – 14:00	3.560	2.696	6.256	9	7	15
Daily	30.484	29.793	60.277	74	73	147

Figure 8 – Public House Vehicle Trip Rates and Generation

4.1.6 The former use would be expected to generate a nominal number of trips during the traditional weekday AM peak, with 12 across the PM peak. There could be in the order of 117 two-way trips across a typical weekday. The actual peak hour during a weekend is forecasted to be 15 two-way trips ((13:00-14:00), with a daily total of 147.

4.1.7 RBC were consulted on the above assessment for the historic use of the site and were accepting of the methodology and resultant forecast through the pre-application engagement undertaken.

4.2 Proposed Trip Generation – Drive-Thru Unit

4.2.1 The TRICS database has further been interrogated to establish the likely trips that would be associated with the proposed development. In order to assess the likely trip attraction for the Drive-Thru unit, the following filtering parameters have been applied:

- Category: 06/D – Hotel, Food and Drink / Fast Food Drive Thru
- Regions: All
- Locations: Edge of Town and Suburban

4.2.2 The surveys have also been manually filtered to remove operators that do not offer breakfast services (e.g. KFC). This is an important consideration given that the proposed development will be operational during the early morning period, during which there may be a pronounced demand coinciding with the AM peak. Conversely, demand during late afternoon and evening periods at Greggs facilities is likely to be reduced when compared to a traditional Drive-Thru unit and the forthcoming assessment can therefore be considered robust in this sense.

4.2.3 RGP considers that using the 'Fast Food Drive Thru' category from the database will result in a more robust assessment than using the bespoke 'Drive Through Coffee Shop' category, due to a lack of comparable surveys within at the time of writing. From consulting historic planning applications across the country for similar developments, this is a common approach, and it should be added that the use of this category received no objection from RBC at pre-application stage. This is also a consistent approach to that undertaken in support of the recent local planning application for a similar Drive-Thru facility (LPA ref. 220637), receiving no Highways objections.

4.2.4 The locations of each individual applicable site have been examined in further detail. For example, several sites conforming to the above parameters are located within or adjacent to large retail sites (e.g. retail parks) which is not representative of the location of the application site and its surroundings. Retaining the surveys adjacent to large retail offerings would likely distort the trip generation profile and hence the rates would not be representative. The manual filtering is outlined within the full TRICS output attached hereto at **Appendix D.**

4.2.5 Separate trip rates have been extracted for weekday and weekends respectively due to differing levels of demand and trip generation / parking profiles across these periods. Although Saturday-only surveys for the weekend rates were initially examined, it is considered that the sample within TRICS is limited and would reduce the trip rates from those extracted. It is therefore considered that the weekend rates are highly robust in utilising both Saturday and Sunday surveys. This is similarly the case for the weekday surveys as opposed to Friday-only surveys, for example.

4.2.6 The figure below summarises the extracted trip rates for the weekday and weekend periods respectively and the resultant forecast for the number of vehicle trips at a development of 185.7sqm, as proposed.

Time Period	Trip Rate per 100sqm – Weekday			Trip Generation – 185.7sqm		
	Arr.	Dep.	Total	Arr.	Dep.	Total
Weekday						
AM Peak 08:00 – 09:00	5.728	6.094	11.822	11	11	22
PM Peak 17:00 – 18:00	15.243	13.624	28.867	28	25	54
Daily	168.327	169.883	338.210	313	315	628
Weekend						
Actual Peak 13:00 – 14:00	31.380	30.117	61.497	58	56	114
Daily	346.753	348.175	694.928	644	647	1,290

Figure 9 – Drive-Thru Vehicle Trip Rates and Generation

4.2.7 The Drive-Thru unit could generate in the order of 22 and 54 two-way trips across the respective AM and PM weekday peak periods. Over the course of a typical weekday, there could be up to 628 two-way trips experienced. The weekend periods are forecasted to be more traffic-intensive, with 114 two-way trips across the actual peak hour (13:00-14:00) and 1,290 across the course of a typical weekday.

4.2.8 Again, RBC have been consulted on the above trip generation forecast through the pre-application engagement with no objections raised.

4.2.9 It is evident from the above assessment that the net impact of the proposals in terms of the vehicles accessing the site itself would be notable when compared to the lawful and historic use of the site. However, it is important to consider the type of trips that the site would attract in respect of the above totals.

Trip Types

4.2.10 The vehicle trips shown in the above table simply refer to the total number of vehicles that would be entering and exiting the site as a 'unique' visit. These trips do not necessarily equate to 'new' vehicle trips on the highway network, with a significant proportion already on the wider network.

4.2.11 A proportion of the vehicular trips to the site are likely to comprise following:

- **Diverted** – Trips where a driver is already on the network and alters their route to visit the site; and
- **Pass-by** – Trips which are passing the site as part of a pre-determined route but decide to visit the site.

4.2.12 As the site lies along the A4 Bath Road, a key route to / from Reading town centre, it is likely that a significant proportion of trips would be classified within the above categories. Based upon RGP's experience of analysing similar schemes to that proposed, this figure can be in the region of 80-90% for suburban sites adjacent to A roads. In the interests of robustness, 20% of the trips to the site have been considered as 'new' trips on the network (i.e. 80% pass-by or diverted) in this instance.

4.2.13 In order to verify this assumption, RGP has consulted historic planning applications from across the UK for similar Greggs and general coffee Drive-Thru developments in respect of the proportion of new trips, all of which have been deemed acceptable by the respective local authorities. The figure below outlines that several recent planning applications have utilised an estimation of 20% or similar for new trips, based on consulting similar applications themselves or comparable site surveys.

LPA Reference	Local Authority	'New' Trips	'Other Trips'
19/1073 (Greggs)	Newport City Council	20%	80%
21/03170/FUL (Greggs)	Bradford City Council	25%	75%
19/02171/FUL	Harrogate Borough Council	20%	80%
P21/05301/F	South Gloucestershire Council	20%	80%
P/21/0056	Merthyr Tydfil County Borough Council	20%	80%

Figure 10 – Historic Consented Planning Application Trip Proportions

4.2.14 It is therefore considered that the trip type assumption is acceptable for use having been validated with the above examples. It should be noted that other planning applications have further reduced the proportion of new trips, and so this supports the robustness of the figure utilised.

4.2.15 As per the pre-application feedback received from RBC attached hereto at **Appendix B**, the methodology and justification as presented above is considered acceptable for use in the assessments within this report.

4.2.16 When considering the trips by type in the context of the above trip generation forecast, it is clear that there could be a significant reduction in trips than those indicated. The table below summarises the 'new' trips that the redeveloped site would attract when applying an 80% reduction.

Time Period	Arr.	Dep.	Total
Weekday			
AM Peak 08:00 – 09:00	2	2	4
PM Peak 17:00 – 18:00	6	5	11
Daily	63	63	126
Weekend			
Actual Peak 13:00 – 14:00	12	11	23
Daily	129	129	258

Figure 11 – Potential 'New' Drive-Thru Vehicle Trips

4.2.17 When considering the trips by type in the context of the above trip generation forecast, it is clear that there could be a significant reduction in trips than those indicated in the context of 'new' vehicles on the network. The figure below summarises the 'new' trips that the redeveloped site would attract when applying an 80% reduction from the values presented in **Figure 9**.

4.2.18 It is therefore clear in light of the above assumption that the practical traffic impact at the site and on the local highway network would be significantly reduced when considering the type of trips that would be experienced. This is even more so when considering the characteristics of Bath Road (i.e. a feeder route to / from Reading), which affirms the suggestion that there would be a high number of pass-by or diverted trips.

4.3 Staff Trips

4.3.1 In order to establish the likely means by which staff would travel to / from the site, data from the 2011 Census has been interrogated. This methodology should be considered acceptable for the likely future staff travel behaviours at the site, and additionally as existing in lieu of any site-specific travel survey information.

4.3.2 Statistics from the '*WU03EW - Location of usual residence and place of work by method of travel to work*' category have been extracted for the national workplace population employed within the Reading 015 Middle-Layer Super Output Area (MSOA), in which the site is located. Full data output is attached hereto at **Appendix xx**, with the mode share summarised in the table below.

Method of Travel	% Share
Train	2%
Bus	9%
Car Driver	64%
Car Passenger	5%
Cyclist	3%
Pedestrian	16%
Other	1%
Total	**100%**

Figure 12 – Method of Travel to Work Data (Reading 015 MSOA)

4.3.3 It is demonstrated that the most popular mode of travel for staff at the site would likely be the private car, although there are a notable proportion of trips that could be expected by public transport or on foot.

4.3.4 As noted, RGP has prepared a Travel Plan for the site (2023/6488/TP01) with a view to encouraging sustainable travel to / from the site, primarily aimed at influencing staff travel behaviours in these terms, but also containing measures pertaining to customers.

5 LAYOUT, ACCESS AND PARKING

5.1 Internal Layout

5.1.1 The proposals have been developed with consideration of Greggs' operational experience of operating similar facilities across the country.

5.1.2 The internal car park has been designed as a one-way system. Appropriate signage and road markings will be provided to direct vehicles through the one-way arrangement, and to each of the respective units. Car parking spaces will have minimum dimensions of 2.4m by 4.8m, and accessible spaces have an additional 1.2m buffer.

5.1.3 The length of the one-way drive-thru lane from the height restriction barrier at the entrance to the serving hatch is approximately 67m. On the basis of a standard vehicle measuring 5m in length, there would be capacity for circa 13 vehicles within the lane at any one time. This would also be supported by additional queuing length within the main parking area.

5.1.4 In the event that a customer places a larger order, which could take longer to prepare (and potentially delay other drivers using the drive thru lane), then a member of staff will divert them to one of the two 'Waiting Bays', as illustrated in the proposed layout attached hereto at **Appendix A**.

5.1.5 These bays are situated within close proximity of the unit entrances and once the order is ready, a member of staff will carry the meal from the unit to the customer.

5.1.6 Greggs has advised that the drive-thru lane would be sufficient to accommodate the anticipated demand without the need for backing-up into the car park onto Bath Road.

5.1.7 **Drawing 2022/6584/006**, attached hereto, demonstrates that a standard car would be able to enter, navigate and egress the drive-thru lane and the allocated parking spaces satisfactorily.

5.2 Access Arrangements

5.2.1 The proposed access arrangements at the site largely retain the existing layout that has previously served the public house / restaurant, however with appropriate improvements reflective of the feedback received from RBC through the pre-application engagement.

5.2.2 Drawing **2022/6488/003**, attached hereto, illustrates the proposed access arrangements with Bath Road. As shown, the existing junction would be widened to achieve a maximum width of 8m. This width would be sufficient to achieve simultaneous access for a refuse vehicle and standard car, as per the pre-application request from RBC. This improvement would yield benefit when compared to the previous use of the existing access which is subject to a circa 5.6m width, and hence would have been sub-optimal when delivery and servicing vehicles entered and egressed the site.

5.2.3 Drawing **2022/6488/003** also illustrates the achievable visibility splays at the site access along Bath Road for egressing drivers. Splays of 2.4m x 43m would be achievable in consideration of the 30mph posted speed limit and the corresponding requirements for such speeds within Manual for Streets (MfS).

5.2.4 As also illustrated in drawing **2022/6488/003**, the proposals would comprise the lengthening the existing right-turn pocket to increase vehicle storage. This arrangement was presented as part of the pre-application engagement with RBC. Contrary to the comment received in response however, this arrangement would not impact upon the effective storage of the adjacent right-turn pocket serving the Burghfield Road junction approach. The increased storage within that serving the site would be achieved through a reduction in the interim hatched area between the two pockets, and hence should be considered acceptable in these terms.

5.2.5 It is additionally proposed that 'Keep Clear' markings would be provided along the eastbound carriageway adjacent to the site access to alleviate blocking at times at which queues form along this link. A full assessment of the implications of this introduction is provided in **Section 6**.

5.2.6 A dedicated pedestrian and cycle access point would be provided along the site frontage to the east of the vehicular access. This access would tie into the footway / cycleway along the northern flank of Bath Road and would benefit from a crossing point over the drive-thru lane to ensure efficient and safe access.

5.3 Parking

Parking Standards

5.3.1 The locally adopted car parking standards are contained within the RBC 'Revised Parking Standards and Design' Supplementary Planning Document (SPD), published in 2011. The guidance does not contain specific reference to standards for Drive-Thru developments. Therefore, RGP has examined other planning applications across the region to establish the applicable car parking requirements for the site.

5.3.2 RGP presented the following evidence to RBC as part of the pre-application engagement undertaken, with confirmation received that the approach would be acceptable in principle to support a planning application at the site.

5.3.3 As noted, a planning application was submitted to RBC for a Drive-Thru restaurant and hot food takeaway at Scours Lane, Tilehurst (LPA ref. 220637). Although the development was refused planning permission in September 2022, a formal pre-application for the scheme was undertaken to ascertain advice and comment upon the proposals from a transport and highways perspective. The highways pre-application correspondence is attached to the Transport Statement submitted in support of the application.

5.3.4 The pre-application advice received from RBC was based upon the following proposals:

"… drive-thru unit under Use Classes A1/A3/A5 comprise 176m2 (1,900ft2) of floorspace over a single floor with parking for 20 cars."

5.3.5 The proposals are therefore aligned to those at the site in this instance in the context of land use, floor area and parking provision. With respect to the car parking requirements at the proposed development at Scours Lane, RBC cite the following within the pre-application advice:

"The site is located within Zone 3, Secondary Core Area, of the Council's adopted Parking Standards and Design SPD. Typically these areas are within 400m of a Reading Buses high frequency 'Premier Route', which provides high quality bus routes to and from Reading town centre and other local centre facilities. In accordance with the adopted SPD, a maximum parking standard of 1 space per 5sqm should be provided (based on class A3 Restaurant & Café' use) equating to 35 parking spaces."

5.3.6 The proposals are therefore also aligned in terms of the relative zoning classifications of the sites, both of which are considered as being within 'Secondary Core Areas'. As such, it is considered that the proposed development can be subject to the similar application of the A3 use class standards at 1 space per 5sqm. As noted, the pre-application correspondence attached hereto at **Appendix B** confirms that the application of these standards would be appropriate.

5.3.7 In light of the proposed GIA of the Drive-Thru unit of 185.7sqm, the car parking requirement at the site would be 37 spaces, although this should be viewed as the maximum provision, as per the parking standards SPD.

Proposed Car Parking Provision

5.3.8 As illustrated in the proposed site layout, a copy of which is attached hereto at **Appendix A**, the development would be accompanied by 21no. standard and disabled parking spaces, with a supplementary 2no. spaces to serve as waiting bays for vehicles post-ordering. A further 10no. spaces would be provided with Electric Vehicle (EV) charging facilities. Therefore, the overall provision of parking at the site would be 33 spaces; a minor shortfall of four spaces when considering the stringent application of the standards.

Car Parking Accumulation Exercise

5.3.9 As requested as part of the pre-application correspondence attached hereto at **Appendix B**, an accumulation exercise has been undertaken to ascertain the likely operational characteristics of the proposed provision of parking at the site.

5.3.10 Through calculation of the anticipated hourly arrivals and departures throughout a typical weekday and weekend period defined by the trip rates extracted from TRICS outputs (as presented in **Section 4**), the anticipated vehicle accumulation profiles at the site for weekday and weekend operations have been derived.

5.3.11 It is important to consider that not all vehicles at the site will utilise the parking provided, with several visits being Drive-Thru exclusive trips (i.e. the vehicle enters the site, orders via the Drive-Thru windows and departs immediately upon collection).

5.3.12 RGP has previously assessed the operational characteristics of Greggs Drive-Thru units, and it is expected at such sites that a significant proportion of visitors simply use the Drive-Thru and depart without the need for parking. This is especially relevant for coffee Drive-Thru facilities as opposed to more traditional food-based sites, due to the nature of the products on offer.

5.3.13 To inform the following assessment, the proportion of vehicles adopting this behaviour has been conservatively assumed at 25% (i.e. 75% of vehicles are assumed to park within the allocated spaces). In practice, this is likely to be a far higher proportion, although offers a robust assessment for the purpose of this exercise.

5.3.14 The figure below illustrates the adjusted vehicle accumulation profile for the typical weekday operations at the site. Reference is given to the total provision of 18 parking spaces which accounts for all standard and disabled provision, excluding the waiting bays and EV spaces. To further increase the robustness of the assessment, it is assumed that two vehicles will be parked in the car park at the start of the day, hence this represents the starting accumulation at the site.

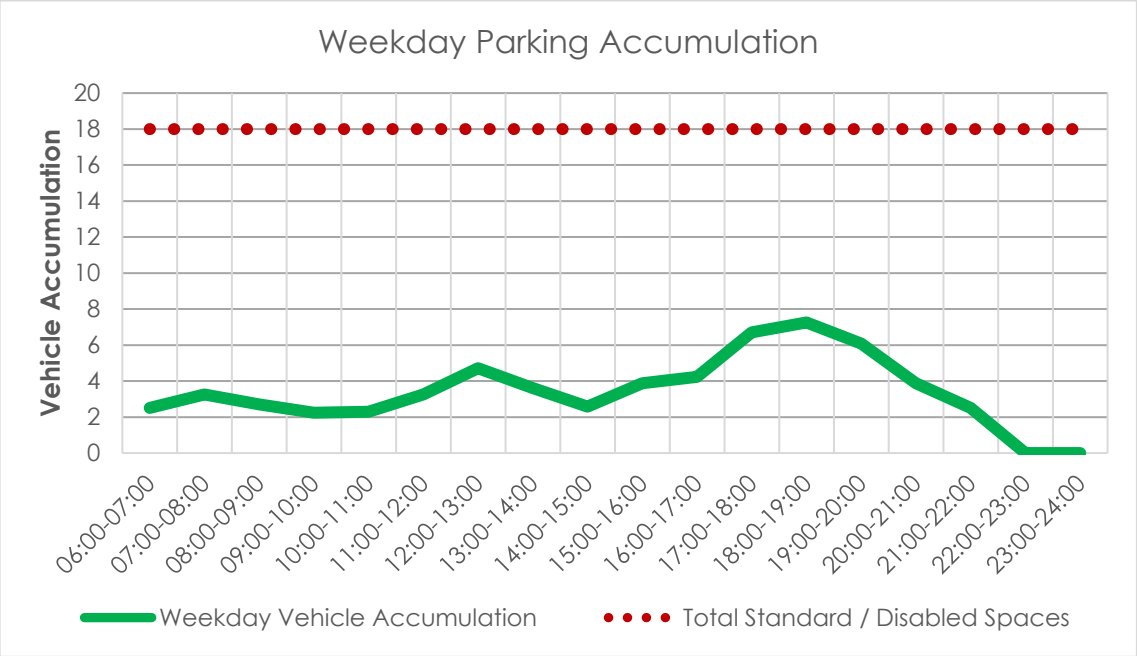


Figure 13 – Forecasted Weekday Parking Accumulation Profile

5.3.15 The analysis highlights a peak demand for only seven spaces during the 17:00-19:00 period. Therefore, at no point would the expected demand exceed the proposed provision of standard spaces and there would be significant spare capacity to accommodate any intra-hour peaks in demand. The figure below illustrates a similar exercise for the weekend periods.

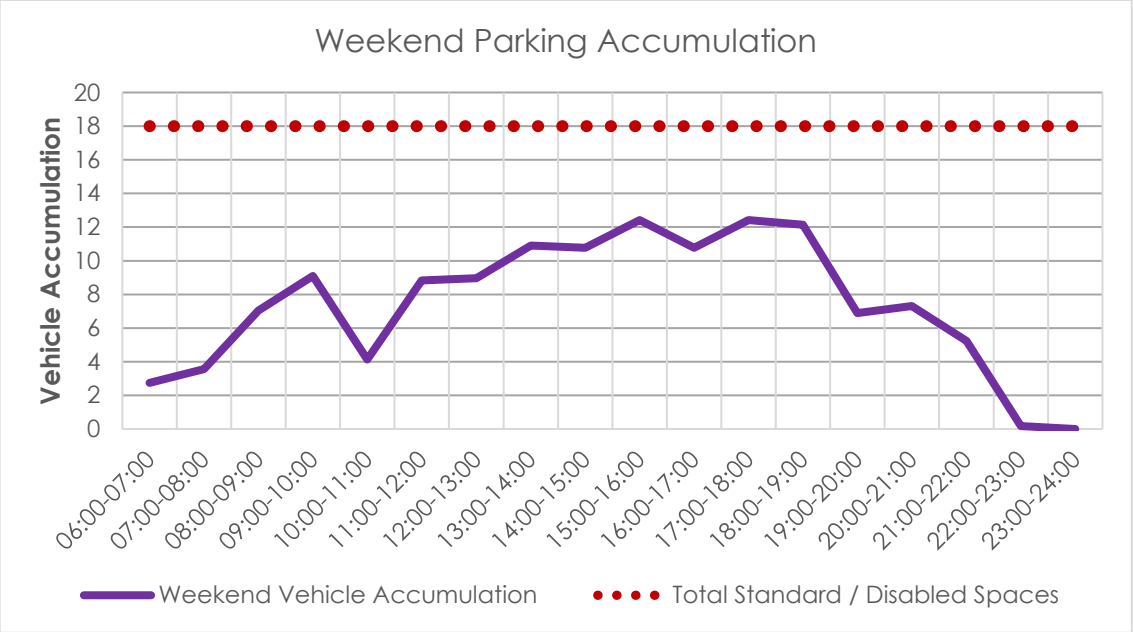


Figure 14 – Forecasted Weekend Parking Accumulation Profile

5.3.16 The analysis highlights a peak demand for 12 spaces during the 15:00-16:00 and 17:00-19:00 period. Therefore, at no point would the expected demand exceed the proposed provision of standard spaces and there would again be significant spare capacity to accommodate any intra-hour peaks in demand.

5.3.17 As noted, the assumptions and trip rates utilised result in the above being a robust assessment. It is therefore considered that the proposed number of spaces would be sufficient to accommodate the anticipated demand for parking and there would be sufficient spare capacity to accommodate any temporary fluctuations in demand. This therefore justifies the proposed number of car parking spaces and the relative deviation from the prescribed standards.

Parking Management

5.3.18 The on-site parking spaces would be monitored by staff at the unit from occupation in order to assess the need for car park management measures to be implemented.

5.3.19 Should it be considered required, an enforced limit upon the amount of time that vehicles would be permitted to park in the car park for would be implemented, as per other sites across the country. The proposed restriction would be assessed as follows:

- Car Parking Beat surveys would be undertaken 3 months post-opening to determine if there is a parking issue at the site, by recording parking demand in 15-minute intervals and also duration of stay for customer cars. This will establish as to whether there is an issue which requires mitigation to be implemented / adapted.

- A warden system would be employed on site with notices advising that wardens patrol the car park to discourage any non-customers parking on-site and walking off-site.

- If the problem persists, ANPR (CCTV) parking monitoring cameras would be implemented to manage demand and ensure that there is no abuse of the on-site spaces.

- The duration of stay and associated limits upon parking would be agreed between the operators and the Council.

5.3.20 The implementation of a Travel Plan at the site will encourage staff to adopt alternative modes of travel to the site other than the private car which will therefore reduce the overall demand for car parking.

Cycle Parking

5.3.21 Cycle parking standards are also contained within the adopted SPD. In accordance with the prescribed requirements for A5 use developments, spaces will be provided at a ratio of 1 per 6 staff and 1 per 300sqm.

5.3.22 As illustrated in the proposed layout, as attached at **Appendix A**, the site would be afforded five cycle stands within the main parking area for easy access by customers and staff.

6 TRAFFIC IMPACT

6.1 Scope

6.1.1 The pre-application feedback received from RBC, as attached at **Appendix B**, stipulates the following regarding any supporting analysis to accompany the planning application:

"The Highway Authority would require a full junction analysis of the access into the site to establish whether the right turn lane would be sufficient to accommodate the proposed level of traffic."

6.1.2 As such, RGP has undertaken extensive analysis to assess the operation of the proposed site access arrangements in the context of Bath Road and its existing traffic conditions.

6.2 Traffic Surveys

6.2.1 In order to better understand the existing traffic conditions along Bath Road adjacent to the site, RGP commissioned a traffic survey to be undertaken on Thursday 26th January 2023. The survey comprised CCTV footage which has been used to capture the following information:

- Directional counts for traffic travelling along Bath Road in both the eastbound and westbound directions;
- The number of vehicles queuing along the eastbound carriageway for each 'red phase' at the adjacent signalised junction to the east of the site access; and
- General observations into queuing and delays along Bath Road.

6.2.2 The full survey output is attached hereto at **Appendix E** for reference.

6.3 Bath Road Directional Flows

6.3.1 As noted, the survey captured the total number of vehicles passing along Bath Road adjacent to the site in both the eastbound and westbound directions respectively. In order to provide a high-level analysis of the likely impact of the development in these general traffic terms, RGP has compared the proposed trip generation to the recorded vehicular baseline flows.

6.3.2 The table overleaf summarises the directional flows across the respective AM and PM peak periods and subsequently outlines the net impact of the proposals on the assumption that 20% of the development trips would be 'new' to the network. As noted previously, the characteristics of Bath Road as a principal feeder route to and from the town centre will increase the likelihood of a trip being pass-by or diverted, hence this should be considered a robust assumption.

Trip Type	Period	No. Two-Way Trips
Surveyed Baseline	AM Peak 08:00-09:00	1,716
'New' (20%)		+4 (+0.2%)
Diverted / P-B (80%)		18 (1.0%)
Surveyed Baseline	PM Peak 17:00-18:00	1,772
'New' (20%)		+11 (+0.6%)
Diverted / P-B (80%)		43 (2.4%)

Figure 15 – General Baseline Weekday Traffic Net Impact (All Trips Two-Way)

6.3.3 As indicated, the number of 'new' trips along Bath Road to be generated by the development would equate to an increase in baseline traffic of 0.2% and 0.6% respectively across the AM and PM peak periods. This is not a significant increase and should not be viewed as 'severe' in the context of the NPPF. The number of pass-by and diverted trips would represent 1% and 2.4% of the baseline two-way trips respectively.

6.4 Development Traffic Assignment

6.4.1 In order to distribute all development trips to / from Bath Road, the directional flows as surveyed have been interrogated. As most trips are likely to be diverted / pass-by in nature, it is appropriate to distribute the development traffic proportionally on this basis.

Type	Period	Eastbound	Westbound
Surveyed Flows	AM Peak 08:00-09:00	883	833
%		51%	49%
Surveyed Flows	PM Peak 17:00-18:00	821	951
%		46%	54%

Figure 16 – Development Trip Assignment

6.4.2 As indicated, the relative distribution of flows in the eastbound and westbound directions is generally similar, however more so weighted to the westbound direction of travel during the PM peak hour.

6.4.3 Traffic flow diagrams are attached hereto at **Appendix F** to illustrate the directional flows along Bath Road and those into / out of the site. The table below summarises all arrival and departure trips to the site across the respective AM and PM peak periods in light of the above distribution analysis.

Time Period	Eastbound		Westbound	
	Arr.	Dep.	Arr.	Dep.
AM Peak 08:00 – 09:00	6	5	5	6
PM Peak 17:00 – 18:00	13	12	15	13

Figure 17 – Assignment of Development Trips (AM & PM)

6.4.4 Any arrivals in the westbound direction will require use of the right-turn pocket allocated for vehicle entry to the site. In the AM peak this would be used by five vehicles (an approximate vehicle movement every 12 minutes), and 15 across the PM peak (circa one vehicle every four minutes). This analysis would therefore indicate that the capacity of the right-turn facility (minimum two vehicles) would be sufficient to accommodate the necessary vehicle entrance manoeuvres to the site without any residual queueing into the westbound carriageway of Bath Road.

6.4.5 Similarly, the analysis indicates that there would be sufficient opportunity for vehicle exiting in the westbound direction to utilise the proposed access arrangement effectively.

6.5 Site Access Junction Capacity Assessment

6.5.1 PICADY from the TRL Junctions software package has been used to model the operation of the local junctions. Within the software, the time periods assessed are divided into a number of 15-minute time segments in order to simulate the likely arrival pattern of traffic more effectively. The results returned in the models are the Ratio of Flows to Capacity (RFC) and queue length (PCU).

6.5.2 RFC values between 0.00 and 0.85 are generally accepted as representing stable operating conditions, values between 0.85 and 1.00 represent variable operation (i.e. possible queues building up at the junction during the period under consideration and increases in vehicle delay moving through the junction). RFC values in excess of 1.00 represent overloaded conditions (i.e. congested conditions).

6.5.3 Level of Service (LoS) is an additional measure of junction performance, utilising letters A to F, with the definitions below being typical:

- A = Free flow;
- B = Reasonably free flow;
- C = Stable flow;
- D = Approaching unstable flow;
- E = Unstable flow; and
- F = Forced or breakdown flow.

6.5.4 In the interests of simplicity, a single scenario has been modelled. This scenario represents a 2023 baseline traffic plus development scenario (i.e. reflecting the likely operation of the junction if the development were to open today). This assessment uses the baseline traffic as identified through the survey and the proposed number of overall trips entering / exiting the site as per the forecast outlined in **Section 4**.

6.5.5 As noted above, the assignment of development trips to / from Bath Road has been derived through the surveyed flows along Bath Road. As per the pre-application feedback received, this assessment takes into account all trips to / from the site, regardless of whether they are new, diverted or pass-by. This Is considered highly robust and essentially double-counts the trips that would be on the network prior to accessing the site.

6.5.6 The table below summarises the results for the 2023 baseline plus development assessment scenario. Full modelling output is attached hereto at **Appendix G**.

	AM				PM			
	Queue (PCU)	Delay (s)	RFC	LoS	Queue (PCU)	Delay (s)	RFC	LoS
	2023 Baseline + Development							
Site Access	0.1	15.68	0.05	C	0.1	18.59	0.12	C
Right Turn into Site	0.0	8.43	0.01	A	0.0	8.33	0.04	A

Figure 18 – 2023 Baseline + Development PICADY Results

6.5.7 The results from the assessment indicate that the proposed arrangement would function satisfactorily within the junction's theoretical capacity. All RFC values are insignificant, and the junction would operate with a satisfactory LoS across both periods.

6.5.8 The capacity modelling suggests that the proposed arrangement would be acceptable, however RGP considers it important to interrogate the survey data for Bath Road, particularly in terms of residual queuing at the adjacent signal junction to the east, to more comprehensively assess the local traffic conditions and assess the likely impact of the proposals in these terms.

6.6 Queuing Analysis

Observed Queues

6.6.1 The traffic surveys undertaken along Bath Road recorded the queuing characteristics of the inside (ahead) and outside (right-turn) lanes at the junction with Burghfield Road in the eastbound direction from the site access. This data is important to consider given the associated implications for entry and egress manoeuvres at the site. For example, a queue of beyond a certain number of vehicles will lead to blocking of the access under its current layout (i.e. without any Keep Clear restrictions).

6.6.2 RGP has therefore analysed the queue samples provided for the respective AM (07:00-09:00) and PM (17:00-19:00) periods. The full results of the survey are attached hereto at **Appendix E** for reference.

6.6.3 Analysis of the CCTV footage used to capture the data indicates that it takes 11 vehicles queuing in the inside lane to block the site access. As the site is currently not operational, there is no need to retain access for entrance and egress, and hence vehicles block the access when a queue in excess of this value occurs.

6.6.4 Furthermore, the survey confirmed that it takes circa 22 vehicles queuing in the inside lane to reach the signalised junction with Hogarth Avenue.

6.6.5 The graph overleaf summarises the queueing results for the inside lane across the AM period, with reference to the respective capacities of 11 and 22 as described above. The queue has been analysed for each 'red phase' at the junction, of which there were 82 across this period.

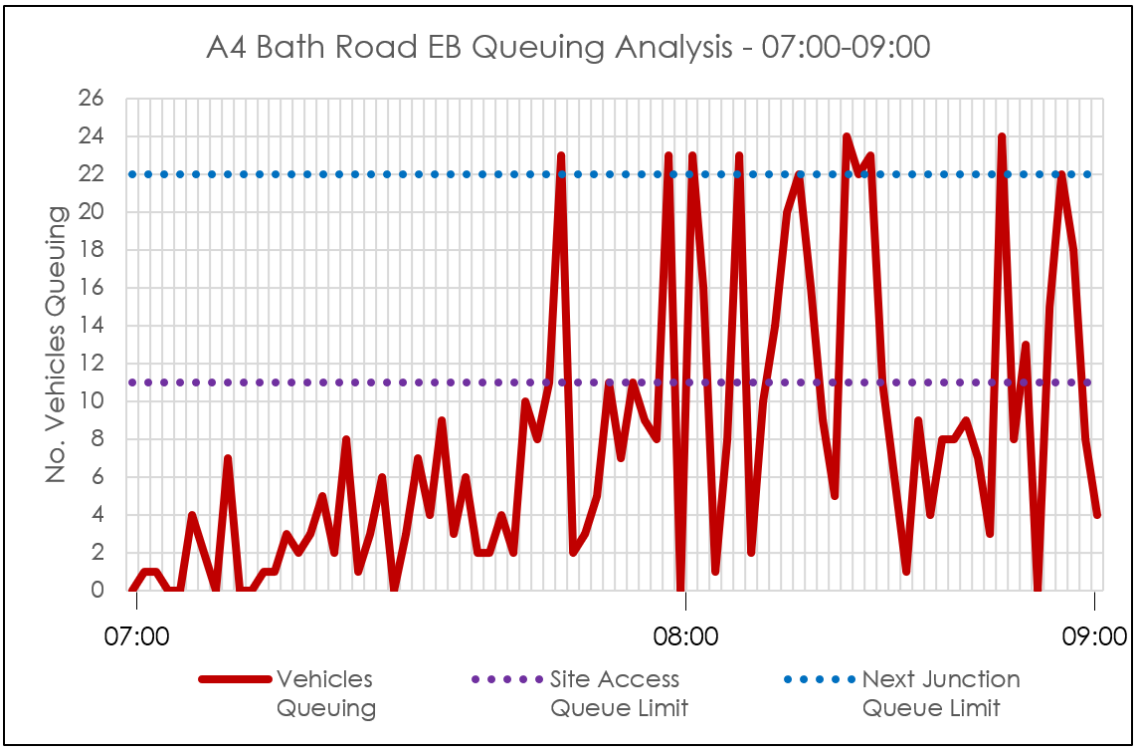


Figure 19 – AM Bath Road EB Queuing Analysis

6.6.6 The analysis indicates that there is a general increase in queue length per red phase from 08:00 onwards, when compared with the previous hour. The following highlights can be summarised from the data:

- Of the 82 red phases across the two hours, 18 resulted in a queue of 11 or more vehicles, therefore blocking the site access. This equates to 22% of all phases;
- Of the 82 phases across the two hours, 10 resulted in a queue of 22 or more vehicles, therefore reaching the western junction with Hogarth Avenue. This equates to 12% of all phases; and
- The average queue length across this period was 7.8 vehicles.

6.6.7 From these conclusions, it can be summarised that the incidence of a queue blocking the site access was minimal. In general, queues cleared from phase-to-phase (i.e. there were only isolated incidents where successional queues exceeded 11 vehicles).

6.6.8 Similarly, the incidence of queues backing-up to the Hogarth Avenue junction were sporadic, with even fewer successional phases exceeding a queue of 22 vehicles.

6.6.9 The figure overleaf outlines the similar results for the PM period as surveyed. A total of 87 phases were observed between 17:00 and 19:00.

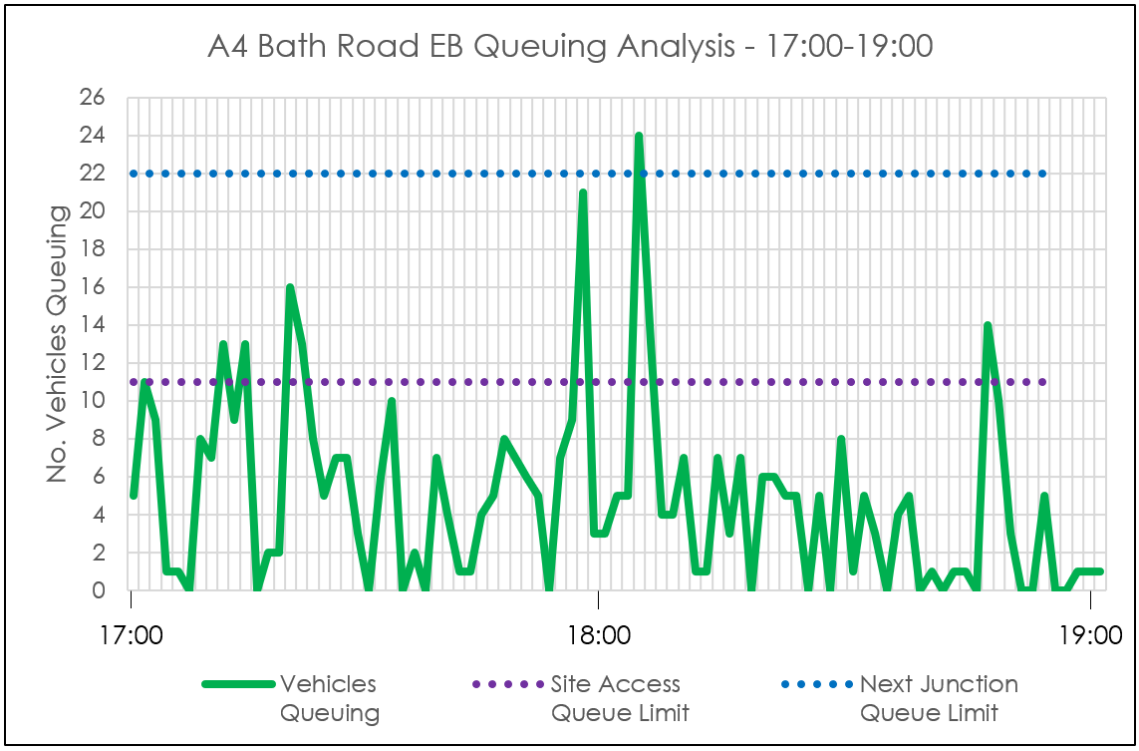


Figure 20 – PM Bath Road EB Queuing Analysis

6.6.10 The analysis indicates that there is a general increase in queue length per red phase from 17:00 onwards, with a peak around the 18:00 hour. The following highlights can be summarised from the data:

- Of the 87 red phases across the two hours, eight resulted in a queue of 11 or more vehicles, therefore blocking the site access. This equates to 9% of all phases;
- Of the 87 phases across the two hours, one resulted in a queue of 22 or more vehicles, therefore reaching the western junction with Hogarth Avenue. This equates to 1% of all phases; and
- The average queue length across this period was 4.3 vehicles.

6.6.11 From these conclusions, it can be summarised that the incidence of a queue blocking the site access was even more minimal than during the AM period. Similarly, the incidence of queues backing-up to the Hogarth Avenue junction were negligible, with a single occurrence just after 18:00.

'Keep Clear' Introduction

6.6.12 The reinstatement of the site as an active trip generator will have implications in terms of the queueing along Bath Road adjacent. As such, as profiled in **Section 5.2**, 'Keep Clear' markings would be provided along the eastbound carriageway to facilitate the free-passage of vehicles into and out of the access when queues occur.

6.6.13 The markings would prove most effective at times when the eastbound queue in the inside lane exceeds 11 vehicles (i.e. the number required to block the access at present). Based on the analysis undertaken above, this would be at 22% of the AM red phases, and 9% across the PM. As such, the markings would be more warranted in the AM period.

6.6.14 Introducing the Keep Clear markings would essentially push-back any queue exceeding the 11 vehicles required to block the site access as existing. In order to ascertain the practical implications for the observed queuing in these terms, RGP has adjusted the data accordingly. In the interests of robustness, it has been assumed that the Keep Clear markings would essentially add an additional two vehicles to any queue longer than 11 vehicles. As such, any surveyed queue in the inside lane exceeding the 11 has been increased by two.

6.6.15 The implications for the queueing in the eastbound direction would be most pronounced in those that exceed 22 vehicles (i.e. which lead to backing-up to the next junction with Hogarth Avenue). can be summarised as follows:

- There were 10 observed red phases during the AM period which experienced a 22 vehicle or more-long queue. The introduction of the Keep Clear markings would only increase such incidence by one (i.e. there would be 11 if this was implemented); and

- There was one observed red phases during the AM period which experienced a 22 vehicle or more-long queue. The introduction of the Keep Clear markings would again only increase such incidence by one (i.e. there would be two if this was implemented).

6.6.16 It can therefore be concluded that the residual impact of introducing the Keep Clear markings would not have material implications for queueing in the eastbound direction, based on the surveys undertaken. The theoretical capacity for vehicles within the confines of the eastbound inside lane would be sufficient to accommodate the effective enforced increase in queue length, with one exception in the AM peak and another in the PM respectively.

6.6.17 In terms of any conclusions for the operation of the right-turn facility to serve the site, it is evident from the above analysis that the introduction of Keep Clear markings would be favourable and significantly enhance the operational fluidity of the access arrangement.

7 DELIVERY AND SERVICING ARRANGEMEMENTS

7.1 Delivery / Servicing Activity

7.1.1 Delivery and servicing activities at the proposed development would not occur at an intensive level. It is anticipated that the site would operate in a consistent manner with other Greggs sites across the UK.

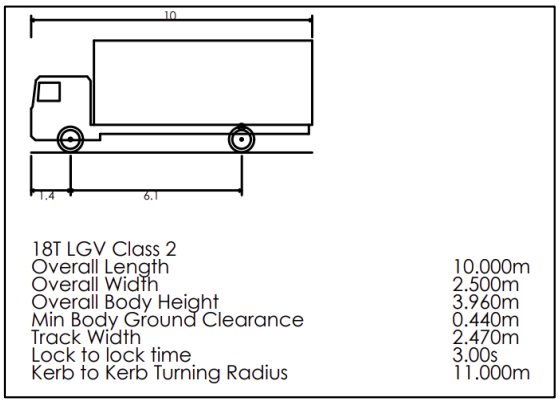
7.1.2 Deliveries are carefully managed to ensure minimal disruption on their general operations and the local highway network. For example, deliveries are typically scheduled to coincide with quieter trading periods whenever possible to limit any potential disruption.

7.1.3 Greggs is committed to ensuring that food and general waste are disposed of efficiently. The unit will receive three collections per week which will be privately arranged. All food waste will be transported back to the bakery where it will be disposed of accordingly and this would tie into the daily delivery activity to minimise vehicle trips to / from the site.

7.2 Delivery / Servicing Arrangements

7.2.1 The pre-application feedback confirms the size of vehicle likely to be required to serve the Drive-Thru unit, reflective of those at similar facilities across the borough and country. The size of vehicle has been confirmed by Greggs, as per the below dimensions.

Typical Greggs Delivery Vehicle



7.2.2 Drawing **2022/6488/003**, attached, illustrates that the above vehicle can successfully navigate the proposed access arrangements with Bath Road.

7.2.3 Deliveries would be scheduled to arrive at quiet trading periods. Deliveries during early morning (08:00-10:00) and lunchtime (12:00 – 14:00 hours) would be avoided to minimise any delays in deliveries. When a delivery occurs, restaurant staff helps to unload the delivery cages and store the food. Servicing such facilities during opening hours is a common practice and does not present any operational difficulties.

7.2.4 Drawing **2022/6488/005**, attached, illustrates that the delivery vehicle can navigate the internal layout of the car park to enable an entrance and egress manoeuvre in forward gear. It is not feasible given the height restrictor at the drive-thru lane for the vehicle to navigate this part of the site, and hence delivery activities would take place from the main parking area. In order to achieve this, six parking spaces would be suspended to allow for the vehicle to manoeuvre and park accordingly, as illustrated in the drawing.

7.2.5 The suspension of six parking spaces, at off-peak times as above, would be suitably accommodated without any adverse impact in terms of likely parking demands at these times, as per the analysis undertaken in **Section 5.3**.

7.2.6 All deliveries will be planned for a specific time slot and the staff will be made aware of this in advance in order to make the necessary arrangements such as cordoning-off the necessary parking spaces. This servicing and delivery procedure is common among fast food retail units and is commonly operated by Greggs.

7.2.7 Refuse collection would be collected by a private contractor circa three times per week and would also occur outside of peak hours to minimise disruption to the general operations of the site. This vehicle would also use the arrangements as proposed for general deliveries, with drawing **2022/6488/005** illustrating that this vehicle would be able to manoeuvre accordingly within the site. The manoeuvring of this vehicle within the site would only require the suspension of four car parking spaces, again illustrated accordingly in the attached drawing.

7.2.8 Greggs are committed to ensuring that food and general waste are disposed of efficiently. All food waste will be transported back to the bakery where it will be disposed of accordingly and this would tie into the daily delivery activity to minimise vehicle trips to / from the site.

8 SUMMARY AND CONCLUSIONS

8.1.1 RGP is instructed by Greene King Commercial Investments Ltd. to provide planning and highways advice with regards to the redevelopment of the former George & Dragon public house, Bath Road, Reading, RG30 2HA.

8.1.2 The site has historically operated as an amenity public house / restaurant with an accompanying area of car parking, although has ceased trading and hence is therefore not currently operational. The development proposals can be summarised as follows:

"Demolition of existing pub/ restaurant and erection of 1 no Drive Thru retail / bakery unit (Class E) including erection of supporting structures, together with alterations to means of access, car parking, landscaping and associated works"

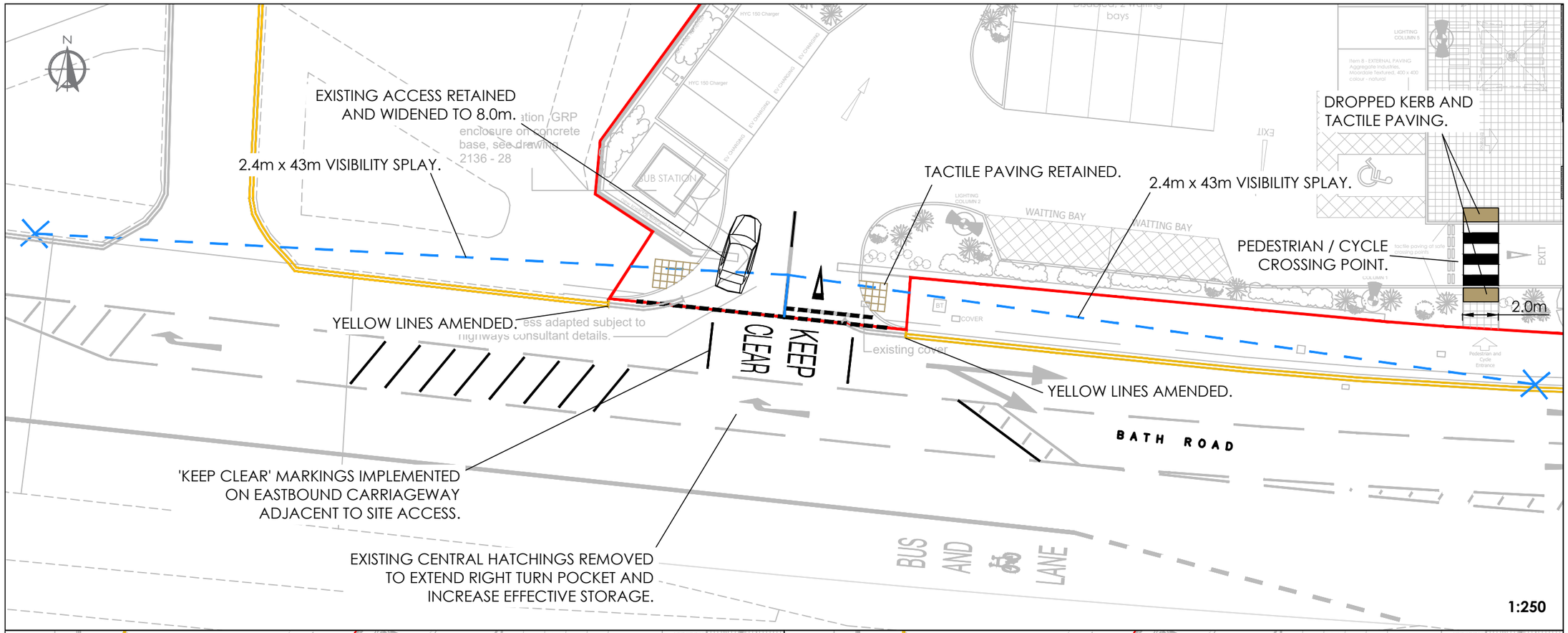
8.1.3 This Transport Assessment has evaluated the key transport and highways considerations of the proposals and can make the following conclusions:

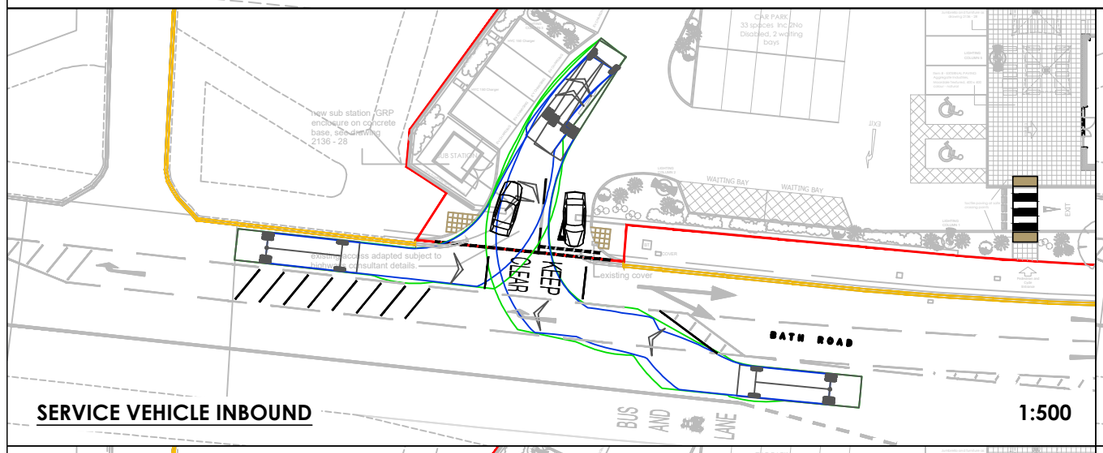
- The site is well-located for the form of development to be delivered in traffic terms, with Bath Road forming a key link into and out of Reading. The scope for pass-by and diverted vehicular trips (of which the majority of visits to drive-thru facilities comprise) would be high;
- The local highway network to the site does not exhibit an inherent safety issue;
- The local area includes features to encourage travel via alternative means to the private car (walking, cycling, public transport) which may have limited weighting to customers given the nature of the development, however would be of feasibility to staff;
- The site has historically operated as a public house / restaurant, and this will have attracted a moderate number of trips by vehicle. The proposals would introduce a more traffic-intensive use of the site across the respective AM and PM weekday periods, and additionally a typical weekend;
- The vehicular trips to be generated by the site would not all be 'new' to the network. The nature of a facility such as that proposed attracts a primarily existing traffic profile in pass-by and diverted trips, and these could constitute in the order of 80% of all movements according to historic data and precedence set by similar planning applications. The net impact of the proposals in general traffic terms would therefore not be as significant as if all trips were to be new in nature;
- The proposed drive-thru lane capacity would be sufficient based on the forecasted demands of the site at peak times. Queueing would be contained within the lane itself, with spare capacity available within the internal car parking area to accommodate any short-term peaks in demand. No vehicles would therefore be expected to back-up queuing to Bath Road;
- The existing access junction with Bath Road would be retained and widened to accommodate simultaneous vehicle arrivals, including servicing / refuse vehicles, as requested by RBC at pre-application stage;
- The existing right-turn facility would be extended to allow for further storage of vehicles in light of the traffic demands of the site. 'Keep Clear' markings would be provided to ensure that the access is not blocked during periods of queuing along Bath Road;

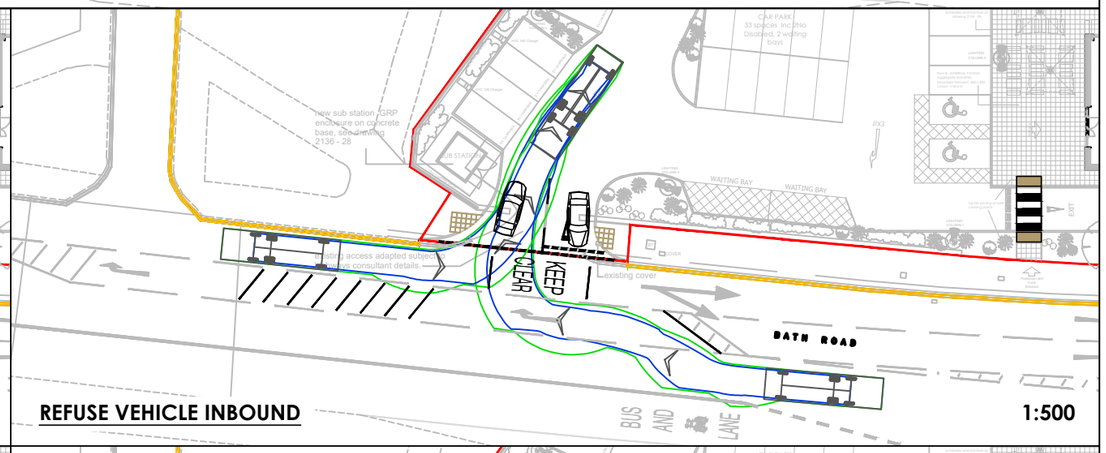
- A dedicated pedestrian and cycle access would be provided to segregate these movements from those by vehicles;
- 21no. standard and disabled parking spaces would be provided at the site, with a supplementary 2no. spaces to serve as waiting bays for vehicles post-ordering. A further 10no. spaces would be provided with Electric Vehicle (EV) charging facilities. The overall provisions for car parking would therefore be 33no. spaces which has been accepted by RBC at pre-application stage;
- A car parking accumulation exercise demonstrates that the standard and disabled spaces would be sufficient to accommodate the demands of the site on both a typical weekday and weekend. Significant capacity is forecasted to remain at peak times, alongside the additional capacity to be provided by the EV bays;
- Car parking management measures would be introduced should they be warranted to ensure that the spaces provided are being used most efficiently;
- Cycle parking would be provided in accordance with locally adopted standards and as confirmed by RBC through the pre-application engagement;
- Detailed analysis has been undertaken into the traffic implications of the proposals, informed by surveying the baseline conditions adjacent to the site along Bath Road. The general introduction of any 'new' trips to the site would represent a fraction (i.e. sub-1%) of baseline traffic across the respective weekday AM and PM peak periods;
- An assessment of the theoretical operational capacity of the site access arrangements has been undertaken which outlines that it would be acceptable in these terms when considering the baseline flows along Bath Road and the proposed number of arrival and departure trips at the site;
- Further analysis of the traffic conditions along Bath Road indicate a generally effective arrangement between the two signalised junctions to the east and west of the site respectively. Sporadic instances of vehicles queuing up to the site access and the junction with Hogarth Avenue were observed across the AM and PM sample periods;
- A sufficient number of natural 'gaps' in the eastbound traffic along Bath Road would be available for vehicles to turn into and out of the site;
- The introduction of 'Keep Clear' markings adjacent to the site access along the eastbound carriageway could be accommodated with a negligible impact upon the general vehicle queuing conditions; and
- All delivery and servicing activities would be accommodated within the site domain and clear of the adopted highway. The suspension of parking spaces to accommodate these demands would be feasible given the parking accumulation exercise undertaken and the scheduling of such activities to coincide with the quieter periods at the site.

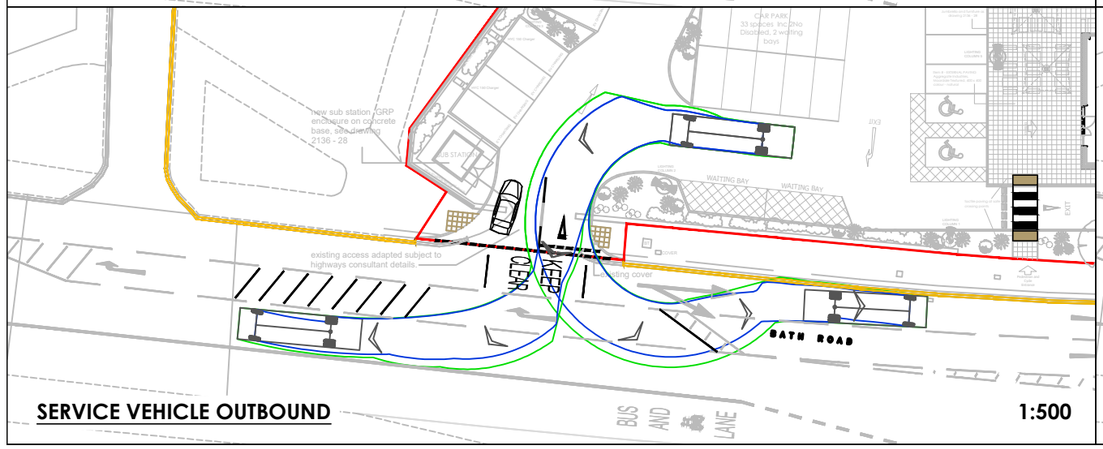
8.1.4 In summary, the assumptions, assessments and information contained within this report, and further to the pre-application engagement undertaken, demonstrate that the proposed drive-thru development could be accommodated satisfactorily in highways terms. Reading Borough Council are therefore respectfully invited to confirm that this is an appropriate assertion.

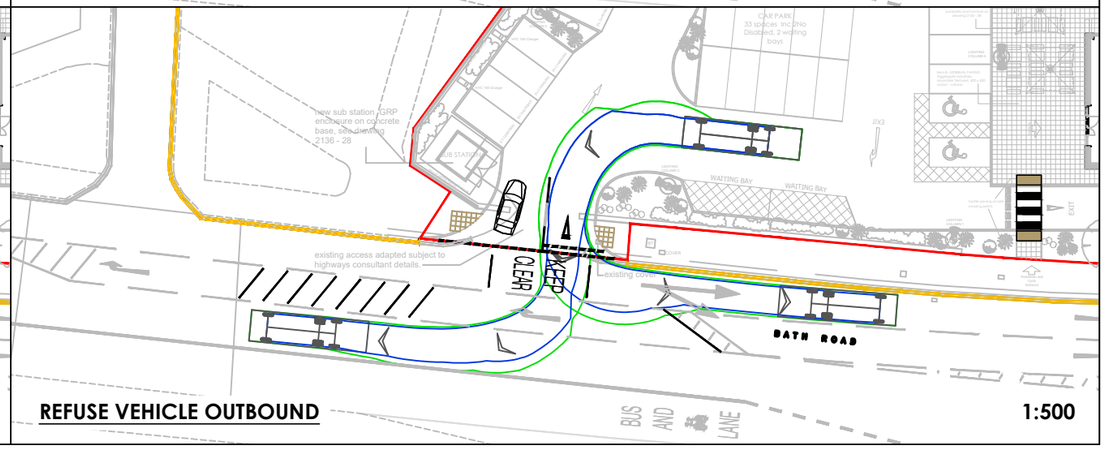
DRAWINGS











NOTES

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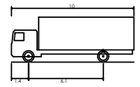
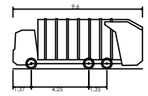


FTA Design 13/18 Tonne Rigid Vehicle (2016)

Overall Length	10.000m
Overall Width	2.550m
Overall Body Height	3.645m
Min Body Ground Clearance	0.440m
Track Width	2.470m
Lock to lock time	3.00s
Kerb to Kerb Turning Radius	11.000m



DAF CF 290 FAN 6x2 RS chassis

Overall Length	9.600m
Overall Width	2.550m
Overall Body Height	3.707m
Min Body Ground Clearance	0.260m
Track Width	2.250m
Lock to lock time	4.00s
Wall to Wall Turning Radius	7.950m

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RESIDUAL HAZARDS

In addition to the hazards/risks normally associated with the type of work detailed on this drawing, please note the following residual hazards:

It is assumed that all works will be carried out by a competent contractor working, where appropriate, to an approved risk assessment and method statement.

Rev.	Drawn	Comments	Date
P9	DH	Site layout updated	03/04/23
P8	DH	Site layout updated	28/03/23
P7	DH	Visibility splays added	22/02/23
P6	GE	Site layout and road markings updated	13/02/23
P5	GE	Site layout updated	13/02/23
P4	GE	Proposed road markings updated	09/02/23
P3	GE	Site layout and swept paths updated	30/01/23
P2	GE	Site layout updated	02/08/22
P1	GE	FIRST ISSUE	27/06/22

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1-2 Paris Garden, London, SE1 8ND
Tel: 01483 861681 / 020 7078 9662 www.rgp.co.uk

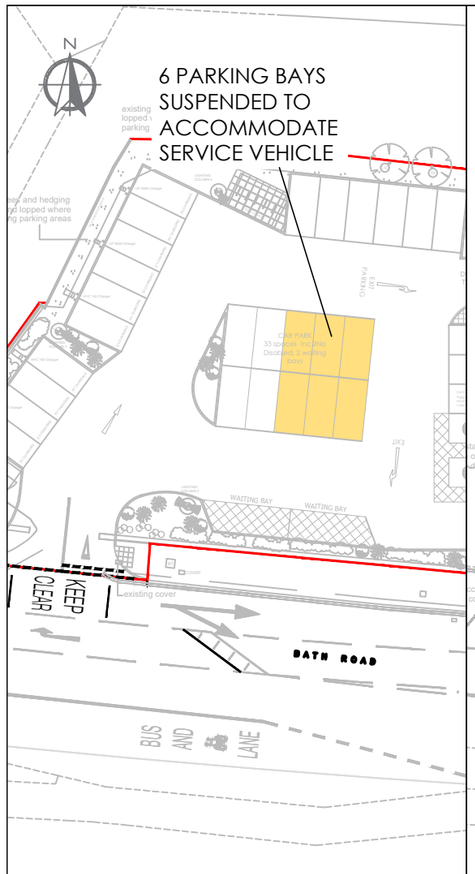
Client: Greene King

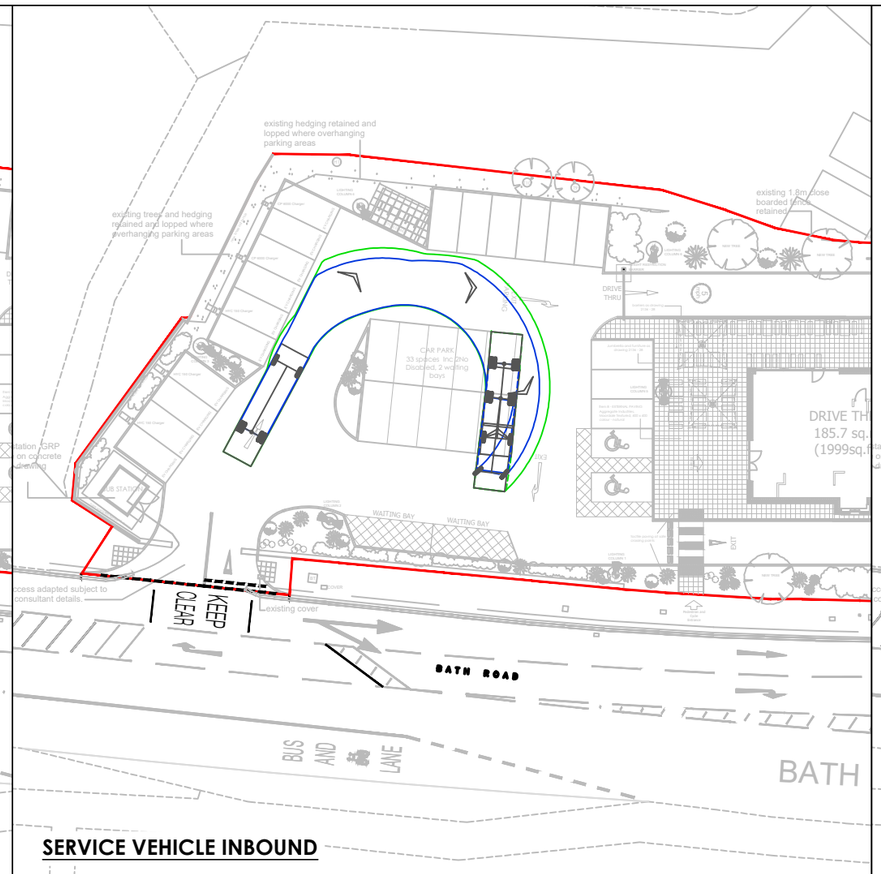
Project: George & Dragon, Reading

Drawing Title: Proposed Access Arrangement

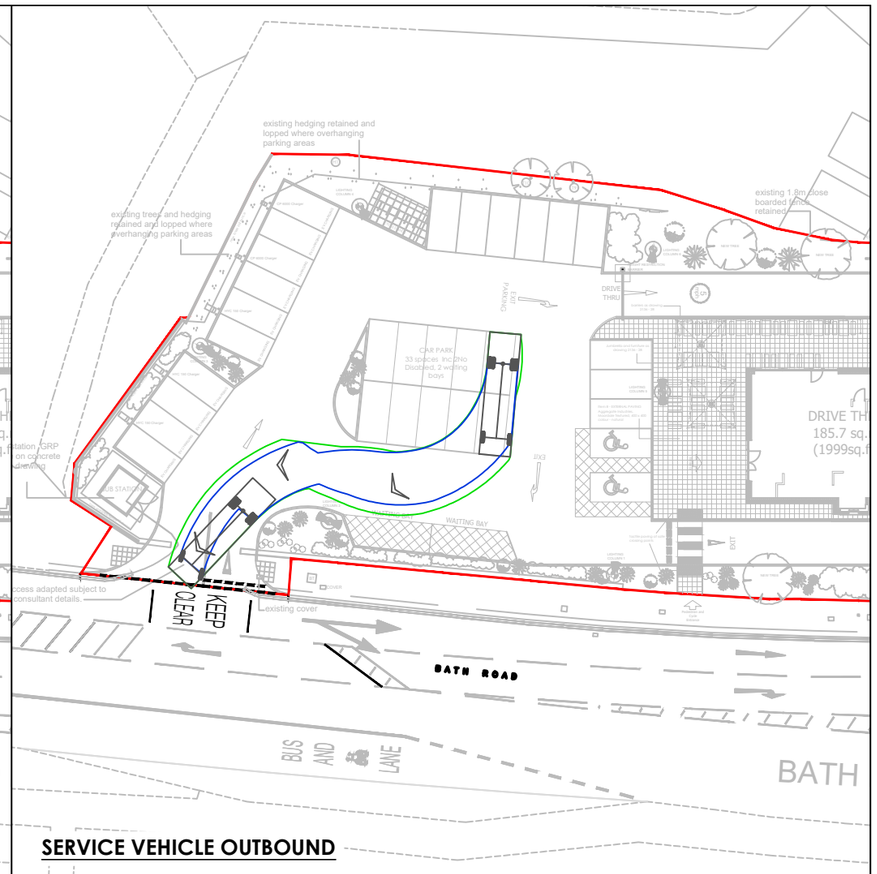
Drawing No.	Rev.
2022/6488/003	P9

Scale	Drawn By	Checked By	
As shown	GE	NR	A3





SERVICE VEHICLE INBOUND



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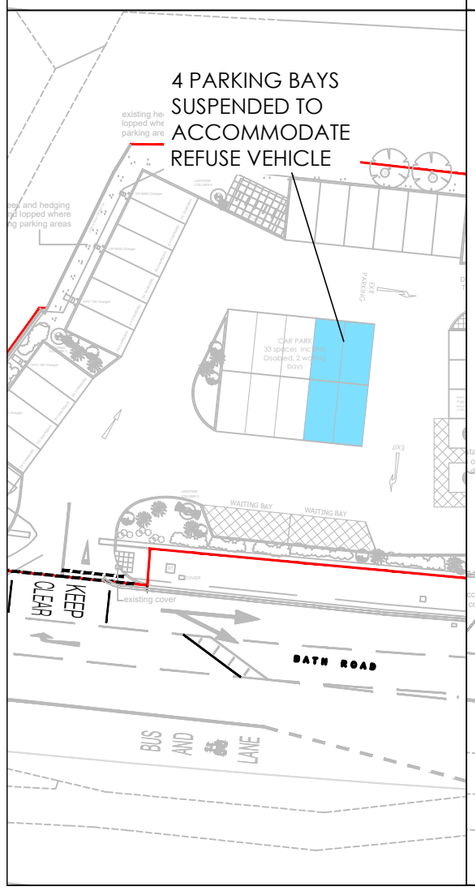
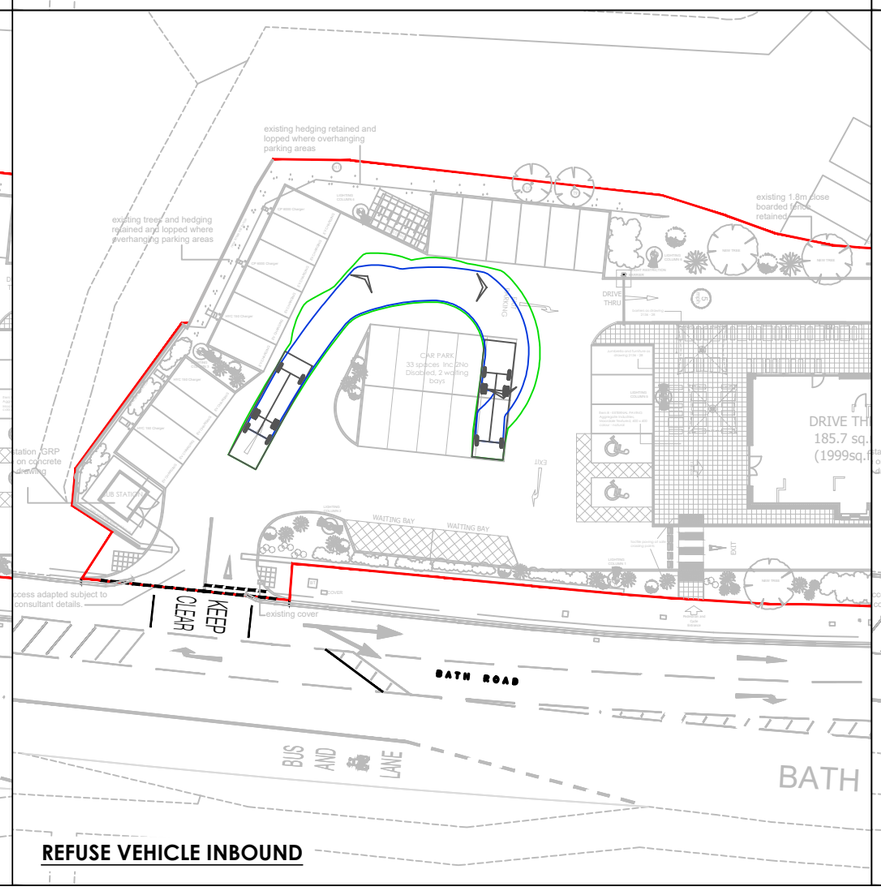
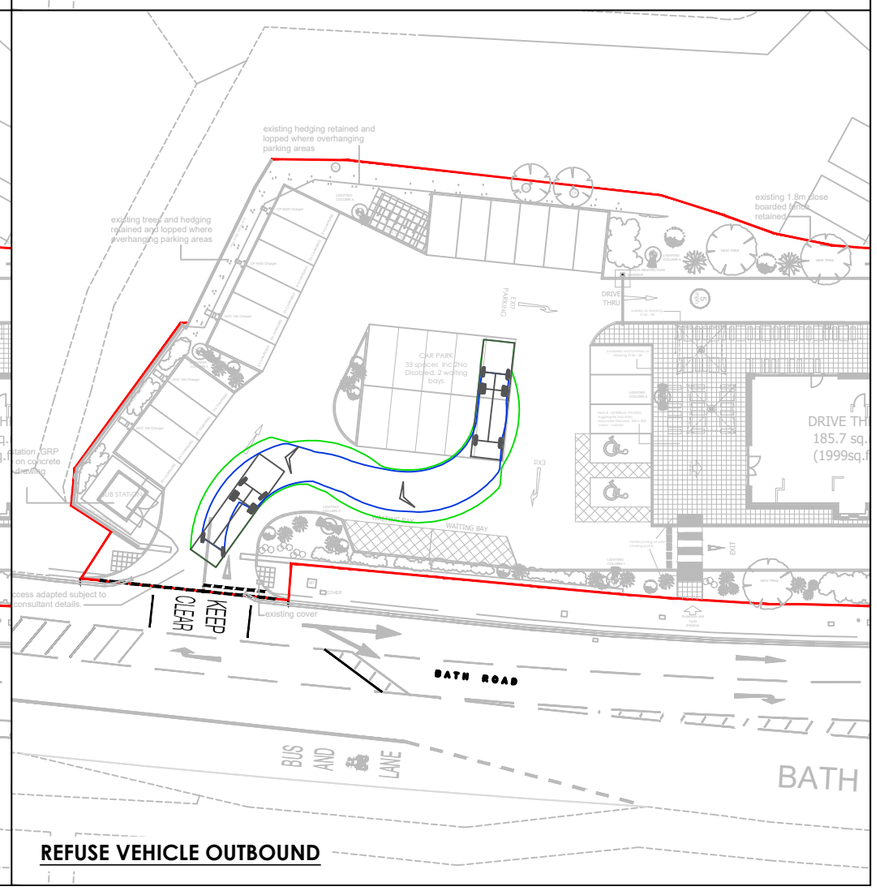




REFUSE VEHICLE INBOUND



REFUSE VEHICLE OUTBOUND

NOTES

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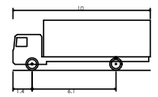
ASSUMED SITE BOUNDARY



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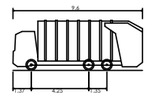
Lock to lock time	3.00s
Kerb to Kerb Turning Radius	11.000m



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Rev.	Drawn	Comments	Date
P4	DH	Layout updated	03/04/23
P3	DH	Layout updated	28/03/23
P2	DH	Site layout and swept paths updated	20/02/23
P1	GE	FIRST ISSUE	27/01/23

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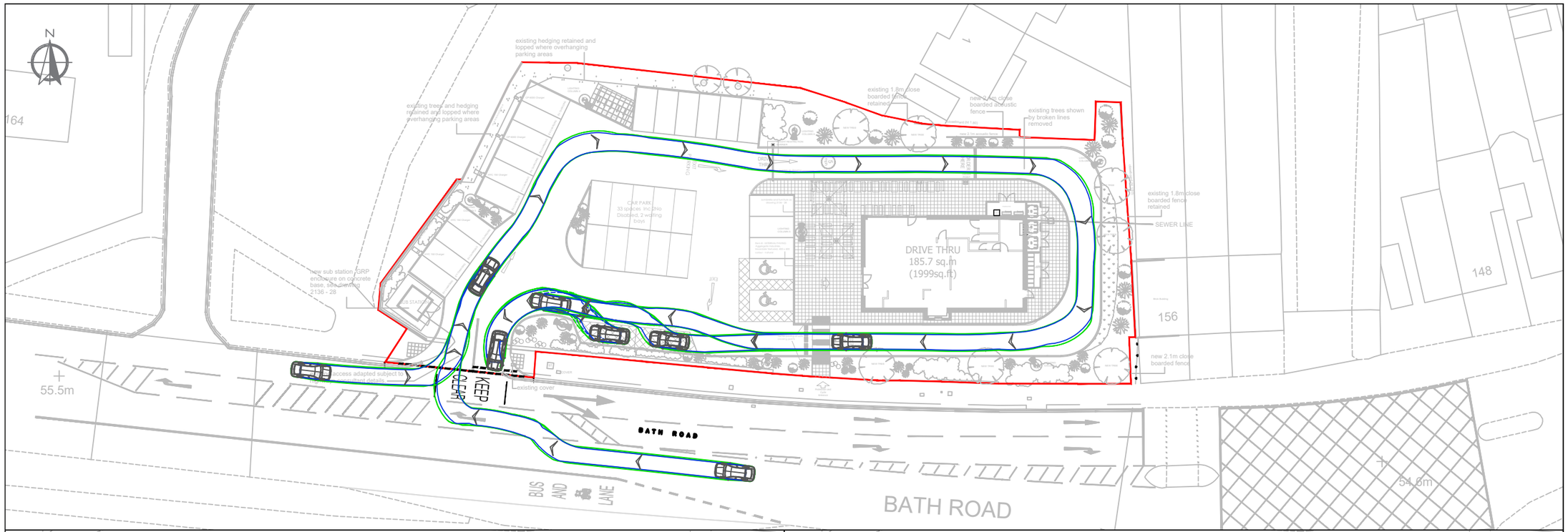
30 Stamford Street, London, SE1 9LQ
Tel: 01483 861681 / 020 7078 9662 www.rgp.co.uk

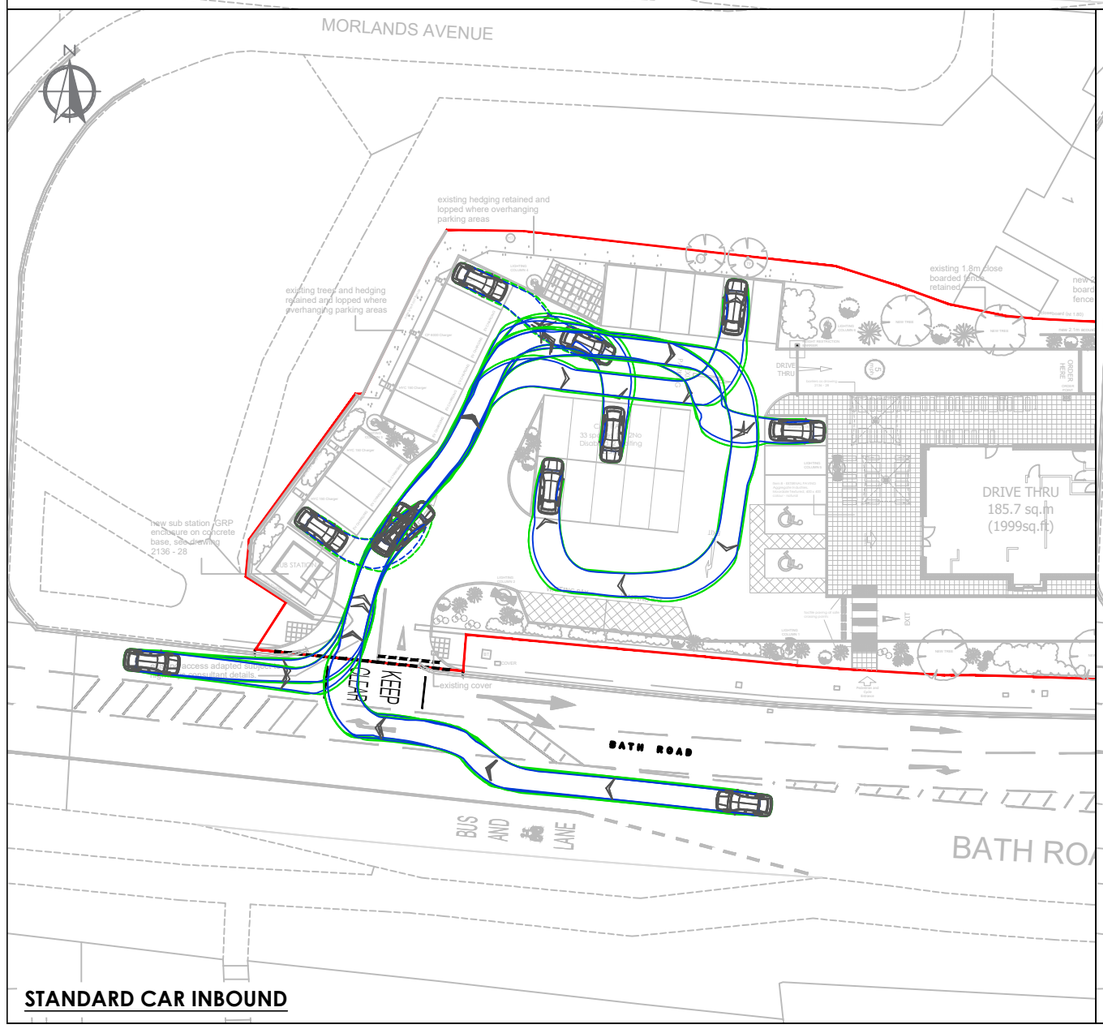
Client
Greene King

Project
George & Dragon, Reading

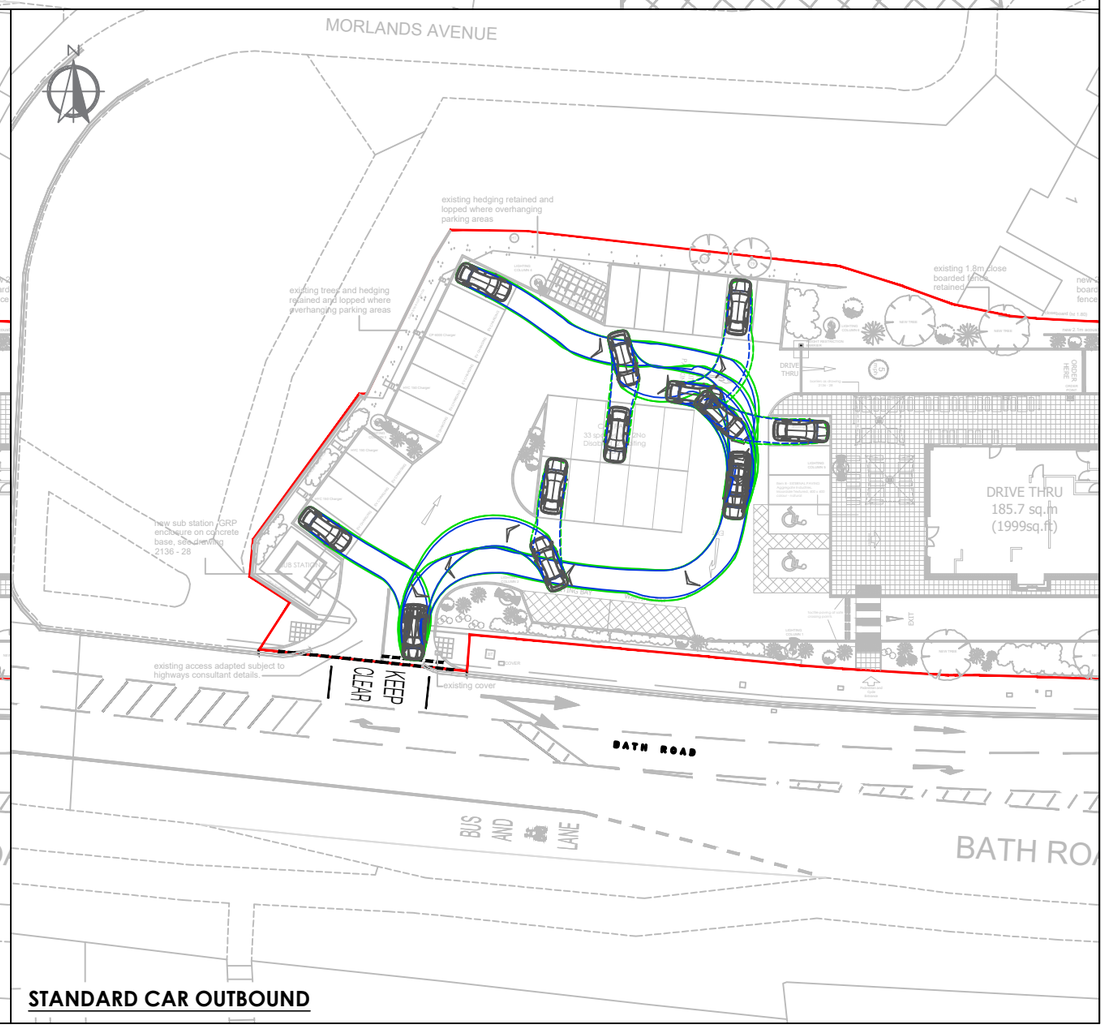
Drawing Title
Internal Swept Path Analysis

Drawing No.	Rev.		
2022/6488/005	P4		
Scale	Drawn By	Checked By	
1:500	DH	JC	A3





STANDARD CAR INBOUND



STANDARD CAR OUTBOUND

NOTES

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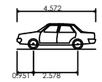
ASSUMED SITE BOUNDARY



Standard Car

Overall Length	4.572m
Overall Width	1.769m
Overall Body Height	1.488m
Min Body Ground Clearance	0.249m
Max Track Width	1.713m
Lock to lock time	4.00s
Kerb to Kerb Turning Radius	5.100m

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It is assumed that all works will be carried out by a competent contractor working, where appropriate, to an approved risk assessment and method statement.

Rev.	Drawn	Comments	Date
P3	DH	LAYOUT UPDATED	03/04/23
P2	DH	LAYOUT UPDATED	28/02/23
P1	DH	FIRST ISSUE	22/02/23

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30 Stamford Street, London, SE1 9LQ
Tel: 01483 861681 / 020 7078 9662 www.rgp.co.uk

Client: Greene King

Project: George & Dragon, Reading

Drawing Title: Drive-Thru Swept Path Analysis

Drawing No.	Rev.
2022/6488/006	P3

Scale	Drawn By	Checked By	
1:500	DH	JC	A3

APPENDIX A

NOTES

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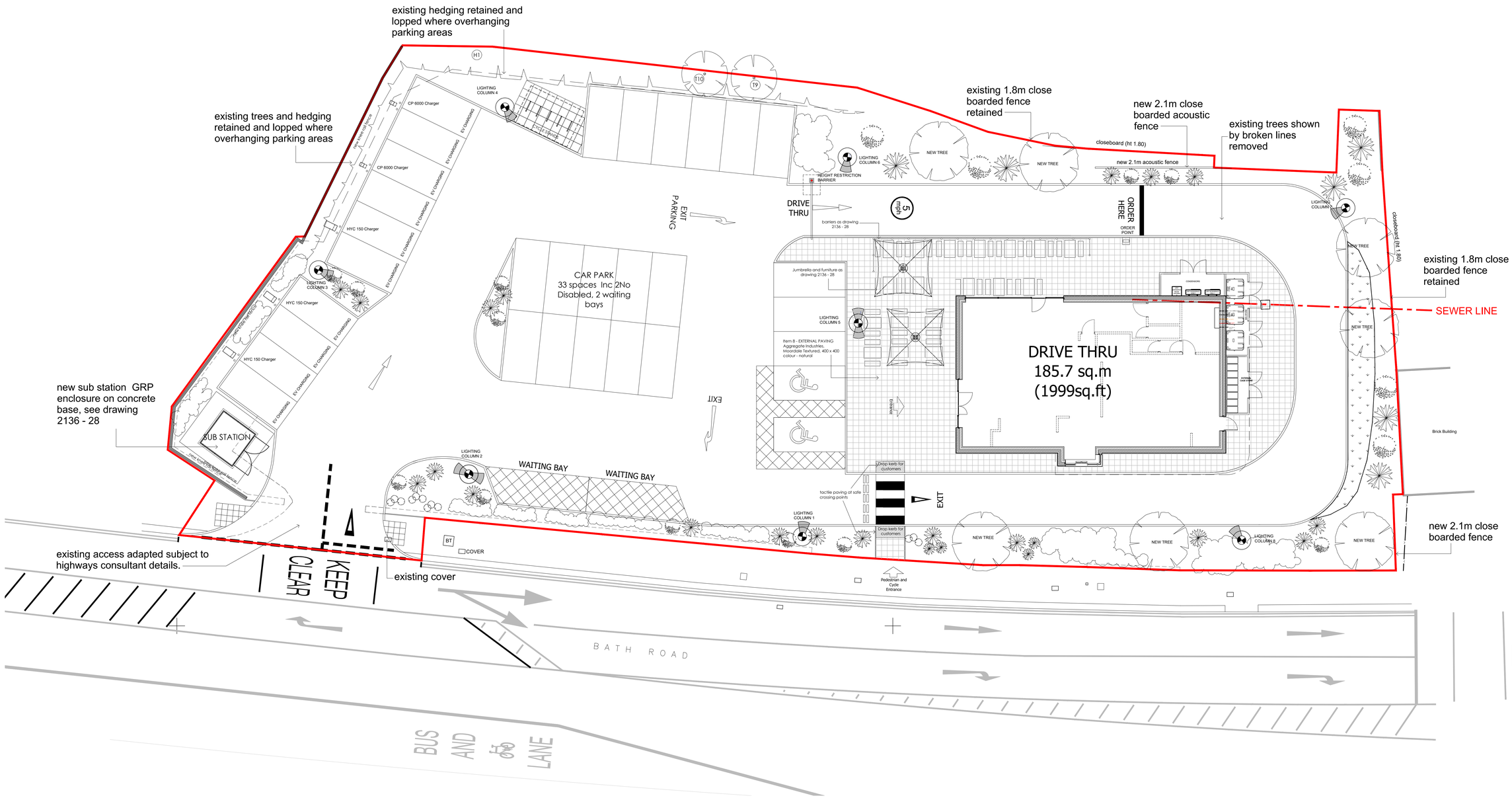
Contractors are to check all sites and dimensions before setting out any site or shopwork. Any errors or discrepancies to be reported to the designer.

Do not scale off this drawing.

REVISIONS	DATE
REV - A Boundary treatments updated, landscaping updated site entrance updated	24/02/23 MT
REV - B Minor amendments as agreed with planning consultant	02/03/23 MT
REV - C Knee rail fence added back to western boundary lighting columns 5,6 & 9 adjusted.Sub station updated. Condensor store relocated	23/03/23 MT
REV - D Charging points updated	28/03/23 MT
REV - E Bin Store layout updated	31/03/23 MT



GENERAL NOTES
PROPOSED SITE AREA = 2504 m2 , 0.25 ha
PROPOSED GIA = 185.7 m2, 1999sq ft

SCHEME

0 5 10
1-100 Scale Bar (metres)

DRAWING DESCRIPTION
PROPOSED SITE PLAN
GREGGS DRIVE THRU

JOB TITLE
GEORGE & DRAGON
162 BATH STREET ROAD
READING RG30 2HA

CLIENT
GREENE KING

DRAWN BY M. Taylor
SCALE 1:100@A0
DATE Apr 2022
DRAWING NO. 2136 - 23
REVISION E
CHECKED

John Dixon & Associates Ltd,
Unit 211
Chambers Business Centre,
Chapel Road,
Oldham
OL8 4QQ
TEL : 0161 682 0964
FAX : 0161 683 4106
E-MAIL : info@johndixon.co.uk
WEB : www.jda-design.com

jda architecture interior design project management

APPENDIX B

e) Contaminated Land

The development is situated on a potentially contaminated site (former smithy). A 'phase 1' desk study should be submitted with applications for developments on sites with potentially contamination to give an indication as to the likely risks and to determine whether further investigation is necessary.

Investigation must be carried out by a suitably qualified person to ensure that the site is suitable for the proposed use or can be made so by remedial action, in accordance with Policy EN16 of the Reading Borough Local Plan (2019).

f) Transport

The proposal has been reviewed by the Council's Transport Development Control Manager who has the following comments:

A dedicated pedestrian entrance has been proposed with a zebra crossing provided over the drive thru route. Given that the pedestrian route will connect with a cycle route corduroy paving should be provided just inside the site to advise pedestrians that cyclists may be present.

Given that cyclists are likely to be present along the Bath Road a dedicate cycle entrance should also be incorporated within the scheme to reduce the likelihood of conflict between cyclists and cars or cyclists or pedestrians.

The cycle lane that runs along the A4 Bath Road is NCN Route 422 and has been implemented and improved in the last few years to create a continuous route across the County of Berkshire. To aid cycle movements along this route and the additional movements generated by the development the cycle path should be widened to 4.75m in accordance with LTN 1/20 across the whole site frontage.

The proposed vehicular access is to be widened to 6m, but it is noted that the submitted plans appear to illustrate an access that does not match this proposed width and is in fact 5.6m approx. The access should be designed to be sufficient in accommodating two-way car flow as a minimum. However, should a full application be submitted tracking diagrams should be submitted to confirm this.

In relation to servicing the site it is noted that the tracking has been undertaken utilising a 7.5t rigid that is 8m in length however a current application for a Greggs bakery drive thru within Reading Borough has specified that deliveries would be served via an 18t rigid that would be 10m in length. This has also been the case for other Greggs facilities around the country and must be rectified should a full application be submitted.

The servicing of the site is also stated as taking place during quieter times but these have not been specified and it is acknowledged from the tracking that the access would not be able to accommodate a service / refuse vehicle and another vehicle. Given that the access is located on the A4 Bath Road the access should be widened to accommodate a car and a service / refuse vehicle. Tracking diagrams will also be required to ensure that can be accommodated.

The goods in entrance and bin store are both located at the rear of the site and therefore these operations will result in the drive thru facility having to be suspended whilst these operations occur, given that no dedicated delivery / servicing bay is proposed. Should an application be submitted it should be assessed and clarified that the proposed car parking provision would be sufficient to accommodate the vehicular traffic during these periods.

A refuse vehicle turning right into the site also results in the vehicle having to swing back out into the west bound traffic which would result in conflict with other Highway users. Should a full application be submitted a revised access arrangement should be designed to ensure that conflict with existing Highway users does not occur.

A vehicular dropped crossing is located towards the east of the site that would no longer be required and as such this section of footway should be reinstated to a full height kerb.

Irrespective of the new / pass by trips data that the applicant has put forward it has been stated that the facility could accommodate 626 vehicle trips during a weekday and 1,286 at the weekend, which is a considerable increase on the existing use of the site. The Highway Authority would require a full junction analysis of the access into the site to establish whether the right turn lane would be sufficient to accommodate the proposed level of traffic. I would also stress that although a proportion of the vehicles may already be on the network, they will not be utilising the proposed access in doing so, any junction assessment must therefore include all vehicle movements into and out of the access and not just what has been specified as new trips.

It should be stated that the existing right turn lane is to be altered and will increase its length, but this would still only provide a length of two cars, which is unlikely to be sufficient. The flows to the east are also extensive and the Highway Authority could not agree to the reduction in the right turn lane for the Bath Road/ Burghfield Road junction.

I have reviewed the trip rate analysis taken from the Trip Rate Information Computer System (TRICS) and this is consistent with other Greggs drive thru facilities considered within the Borough and as such I am happy that the data presented is representative of the proposed development. As part of the assessment the applicant has proposed that the actual new trips that would be generated by the development would be just 20% and this is accepted by the Highway Authority as a reasonable assumption, and this has previously been agreed by Reading Borough on other proposals as well something that has been agreed across the country. The Highway Authority are therefore happy that the trip rate analysis is acceptable.

The parking requirement for such a facility would usually be based on the standards within the Councils Parking SPD for a restaurant / café use which equates to 1 space per 5m2. The proposed floor area equates to 185m2 and therefore 37 spaces are required. The documentation provides illustrates a provision of 33 spaces 10 of which would be EV charging points and it is explained that a detailed accumulation assessment would be provided to justify the level of car parking. This approach is accepted but as sated above should also ensure this could accommodate those occasions when the drive thru is closed for servicing. Cycle parking is to be provided in accordance with the Councils standards and this is accepted in principle but the route to the cycle store should be accessible, and the cycle parking provided within a covered store.

g) The Natural Environment

Trees
The site sits within the AQMA (Policy EN15) and on a 'treed corridor', as defined in the Tree Strategy, and as such is a priority site for tree retention and planting.
The site contains a number of trees within and adjacent to it:

APPENDIX C

Calculation Reference: AUDIT-728001-220621-0627

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 06 - HOTEL, FOOD & DRINK
Category : C - PUB/RESTAURANT
TOTAL VEHICLES

Selected regions and areas:

02	SOUTH EAST		
	HC	HAMPSHIRE	1 days
04	EAST ANGLIA		
	SF	SUFFOLK	1 days
05	EAST MIDLANDS		
	LN	LINCOLNSHIRE	1 days
	NR	NORTHAMPTONSHIRE	1 days
06	WEST MIDLANDS		
	WM	WEST MIDLANDS	1 days
08	NORTH WEST		
	GM	GREATER MANCHESTER	1 days
09	NORTH		
	DH	DURHAM	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: 200 to 875 (units: sqm)
Range Selected by User: 112 to 2384 (units: sqm)

Parking Spaces Range: All Surveys Included

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/14 to 01/03/20

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	4 days
Friday	3 days

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

Selected survey types:

Manual count	7 days
Directional ATC Count	0 days

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

Selected Locations:

Suburban Area (PPS6 Out of Centre)	2
Edge of Town	5

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:

Industrial Zone	2
Commercial Zone	1
Residential Zone	1
Retail Zone	2
Out of Town	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.

Secondary Filtering selection:

Use Class:

Sui Generis	7 days

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

Population within 500m Range:

All Surveys Included

Population within 1 mile:

1,001 to 5,000	1 days
5,001 to 10,000	1 days
10,001 to 15,000	1 days
15,001 to 20,000	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	1 days
125,001 to 250,000	3 days
250,001 to 500,000	3 days

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

Car ownership within 5 miles:

0.5 or Less	1 days
0.6 to 1.0	2 days
1.1 to 1.5	3 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:

No	7 days

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

PTAL Rating:

No PTAL Present	7 days

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

LIST OF SITES relevant to selection parameters

1 DH-06-C-02 PUB/RESTAURANT DURHAM
STADIUM WAY
BISHOP AUCKLAND
TINDALE
Edge of Town
Retail Zone
Total Gross floor area: 450 sqm
Survey date: FRIDAY *31/03/17* *Survey Type: MANUAL*

2 GM-06-C-04 HUNGRY HORSE GREATER MANCHESTER
HELSMAN LANE
ROCHDALE

Edge of Town
Residential Zone
Total Gross floor area: 525 sqm
Survey date: TUESDAY *20/10/15* *Survey Type: MANUAL*

3 HC-06-C-04 PUB/RESTAURANT HAMPSHIRE
APOLLO RISE
FARNBOROUGH
COVE
Suburban Area (PPS6 Out of Centre)
Industrial Zone
Total Gross floor area: 615 sqm
Survey date: TUESDAY *11/06/19* *Survey Type: MANUAL*

4 LN-06-C-01 FLAMING GRILL LINCOLNSHIRE
CRUSADER ROAD
LINCOLN
NEW BOULTHAM
Edge of Town
Retail Zone
Total Gross floor area: 760 sqm
Survey date: TUESDAY *10/10/17* *Survey Type: MANUAL*

5 NR-06-C-01 PUB/RESTAURANT NORTHAMPTONSHIRE
BEDFORD ROAD
NORTHAMPTON
BRACKMILLS
Edge of Town
Commercial Zone
Total Gross floor area: 620 sqm
Survey date: FRIDAY *11/11/16* *Survey Type: MANUAL*

6 SF-06-C-02 PUB/RESTAURANT SUFFOLK
CLIFF ROAD
IPSWICH

Suburban Area (PPS6 Out of Centre)
Industrial Zone
Total Gross floor area: 875 sqm
Survey date: FRIDAY *18/09/15* *Survey Type: MANUAL*

7 WM-06-C-02 PUB/RESTAURANT WEST MIDLANDS
PENNWOOD LANE
WOLVERHAMPTON
PENN COMMON
Edge of Town
Out of Town
Total Gross floor area: 200 sqm
Survey date: TUESDAY *22/11/16* *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 06 - HOTEL, FOOD & DRINK/C - PUB/RESTAURANT

TOTAL VEHICLES

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	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									
08:00 - 09:00									
09:00 - 10:00									
10:00 - 11:00	7	578	0.593	7	578	0.272	7	578	0.865
11:00 - 12:00	7	578	1.335	7	578	0.593	7	578	1.928
12:00 - 13:00	7	578	3.313	7	578	1.014	7	578	4.327
13:00 - 14:00	7	578	1.978	7	578	2.769	7	578	4.747
14:00 - 15:00	7	578	1.286	7	578	2.546	7	578	3.832
15:00 - 16:00	7	578	0.939	7	578	1.063	7	578	2.002
16:00 - 17:00	7	578	2.101	7	578	0.989	7	578	3.090
17:00 - 18:00	7	578	2.991	7	578	1.780	7	578	4.771
18:00 - 19:00	7	578	3.140	7	578	2.101	7	578	5.241
19:00 - 20:00	7	578	2.522	7	578	2.719	7	578	5.241
20:00 - 21:00	7	578	1.780	7	578	2.695	7	578	4.475
21:00 - 22:00	7	578	1.211	7	578	1.879	7	578	3.090
22:00 - 23:00	7	578	0.742	7	578	2.621	7	578	3.363
23:00 - 24:00	6	571	0.204	6	571	0.730	6	571	0.934
Total Rates:			24.135			23.771			47.906

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:	200 - 875 (units: sqm)
Survey date date range:	01/01/14 - 01/03/20
Number of weekdays (Monday-Friday):	7
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.

Calculation Reference: AUDIT-728001-220621-0620

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 06 - HOTEL, FOOD & DRINK
Category : C - PUB/RESTAURANT
TOTAL VEHICLES

Selected regions and areas:

03	SOUTH WEST		
	DC	DORSET	1 days
07	YORKSHIRE & NORTH LINCOLNSHIRE		
	WY	WEST YORKSHIRE	1 days
11	SCOTLAND		
	GC	GLASGOW CITY	1 days
17	ULSTER (NORTHERN IRELAND)		
	AN	ANTRIM	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: 400 to 1029 (units: sqm)
Range Selected by User: 112 to 2384 (units: sqm)

Parking Spaces Range: All Surveys Included

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/14 to 01/03/20

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:

Saturday	3 days
Sunday	1 days

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

Selected survey types:

Manual count	4 days
Directional ATC Count	0 days

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

Selected Locations:

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

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

Selected Location Sub Categories:

Industrial Zone	2
Residential 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.

Secondary Filtering selection:

Use Class:

Sui Generis	4 days

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

Population within 500m Range:

All Surveys Included

Population within 1 mile:

1,000 or Less	1 days
1,001 to 5,000	1 days
10,001 to 15,000	1 days
25,001 to 50,000	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
125,001 to 250,000	1 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

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

PTAL Rating:

No PTAL Present	4 days

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

LIST OF SITES relevant to selection parameters

1 AN-06-C-01 PUB/RESTAURANT ANTRIM
STEWARTSTOWN ROAD
BELFAST
ANDERSONSTOWN
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Gross floor area: 1029 sqm
Survey date: SATURDAY 29/11/14 Survey Type: MANUAL

2 DC-06-C-02 PUB/RESTAURANT DORSET
ALINGTON AVENUE
DORCHESTER

Edge of Town
Residential Zone
Total Gross floor area: 400 sqm
Survey date: SUNDAY 18/09/16 Survey Type: MANUAL

3 GC-06-C-01 PUB/RESTAURANT GLASGOW CITY
ROW AVENUE
GLASGOW
SHIELDHALL
Suburban Area (PPS6 Out of Centre)
Industrial Zone
Total Gross floor area: 770 sqm
Survey date: SATURDAY 23/11/19 Survey Type: MANUAL

4 WY-06-C-05 PUB/RESTAURANT WEST YORKSHIRE
PIONEER WAY
CASTLEFORD

Edge of Town
Industrial Zone
Total Gross floor area: 694 sqm
Survey date: SATURDAY 20/05/17 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 06 - HOTEL, FOOD & DRINK/C - PUB/RESTAURANT

TOTAL VEHICLES

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	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									
08:00 - 09:00									
09:00 - 10:00	1	770	0.779	1	770	0.000	1	770	0.779
10:00 - 11:00	4	723	0.933	4	723	0.864	4	723	1.797
11:00 - 12:00	4	723	1.555	4	723	1.002	4	723	2.557
12:00 - 13:00	4	723	3.595	4	723	1.625	4	723	5.220
13:00 - 14:00	4	723	3.560	4	723	2.696	4	723	6.256
14:00 - 15:00	4	723	2.662	4	723	3.457	4	723	6.119
15:00 - 16:00	4	723	2.765	4	723	2.489	4	723	5.254
16:00 - 17:00	4	723	2.800	4	723	2.592	4	723	5.392
17:00 - 18:00	4	723	2.869	4	723	2.731	4	723	5.600
18:00 - 19:00	4	723	3.007	4	723	2.696	4	723	5.703
19:00 - 20:00	4	723	2.247	4	723	3.042	4	723	5.289
20:00 - 21:00	4	723	1.383	4	723	2.420	4	723	3.803
21:00 - 22:00	4	723	1.072	4	723	2.074	4	723	3.146
22:00 - 23:00	4	723	0.484	4	723	0.968	4	723	1.452
23:00 - 24:00	3	733	0.773	3	733	1.137	3	733	1.910
Total Rates:			30.484			29.793			60.277

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:	400 - 1029 (units: sqm)
Survey date date range:	01/01/14 - 01/03/20
Number of weekdays (Monday-Friday):	0
Number of Saturdays:	3
Number of Sundays:	1
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.

APPENDIX D

Calculation Reference: AUDIT-728001-220621-0628

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 06 - HOTEL, FOOD & DRINK
Category : D - FAST FOOD - DRIVE THROUGH
TOTAL VEHICLES

Selected regions and areas:

01	GREATER LONDON		
	EG	EALING	1 days
02	SOUTH EAST		
	SO	SLOUGH	1 days
04	EAST ANGLIA		
	CA	CAMBRIDGESHIRE	1 days
14	LEINSTER		
	KK	KILKENNY	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:	435 to 726 (units: sqm)
Range Selected by User:	123 to 800 (units: sqm)

Parking Spaces Range: All Surveys Included

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/10 to 01/03/20

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	1 days
Wednesday	1 days
Friday	2 days

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

Selected survey types:

Manual count	4 days
Directional ATC Count	0 days

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

Selected Locations:

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

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

Selected Location Sub Categories:

Industrial Zone	1
Residential Zone	2
Built-Up Zone	1

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

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 2005 has been used for this purpose, which can be found within the Library module of TRICS®.

Population within 500m Range:

All Surveys Included

Population within 1 mile:

5,001 to 10,000	1 days
10,001 to 15,000	1 days
15,001 to 20,000	1 days
20,001 to 25,000	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	2 days
100,001 to 125,000	1 days
125,001 to 250,000	1 days

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

Car ownership within 5 miles:

0.6 to 1.0	2 days
1.1 to 1.5	2 days

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

Travel Plan:

No	4 days

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

PTAL Rating:

No PTAL Present	3 days
3 Moderate	1 days

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

LIST OF SITES relevant to selection parameters

1 CA-06-D-02 MCDONALD'S CAMBRIDGESHIRE
NEWMARKET ROAD
CAMBRIDGE

Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Gross floor area: 435 sqm
Survey date: TUESDAY *19/09/17* *Survey Type: MANUAL*

2 EG-06-D-01 MCDONALD'S EALING
UXBRIDGE ROAD
SOUTHALL

Suburban Area (PPS6 Out of Centre)
Built-Up Zone
Total Gross floor area: 726 sqm
Survey date: FRIDAY *11/05/12* *Survey Type: MANUAL*

3 KK-06-D-01 MCDONALD'S KILKENNY
HEBRON ROAD
KILKENNY

Edge of Town
Industrial Zone
Total Gross floor area: 583 sqm
Survey date: FRIDAY *04/10/19* *Survey Type: MANUAL*

4 SO-06-D-01 MCDONALD'S SLOUGH
WINDSOR ROAD
SLOUGH

Edge of Town
Residential Zone
Total Gross floor area: 480 sqm
Survey date: WEDNESDAY *21/11/12* *Survey Type: MANUAL*

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

MANUALLY DESELECTED SITES

Site Ref	Reason for Deselection
AD-06-D-02	Adjacent Retail
CO-06-D-01	Location
CS-06-D-01	Adjacent Retail
DE-06-D-01	No breakfast offering
DL-06-D-01	Adjacent Retail
FI-06-D-02	No breakfast offering
KD-06-D-01	Adjacent Retail

TRIP RATE for Land Use 06 - HOTEL, FOOD & DRINK/D - FAST FOOD - DRIVE THROUGH

TOTAL VEHICLES

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	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	1	480	0.417	1	480	0.000	1	480	0.417
06:00 - 07:00	2	603	1.990	2	603	1.327	2	603	3.317
07:00 - 08:00	3	547	5.424	3	547	4.936	3	547	10.360
08:00 - 09:00	3	547	5.728	3	547	6.094	3	547	11.822
09:00 - 10:00	3	547	4.570	3	547	4.875	3	547	9.445
10:00 - 11:00	4	556	6.879	4	556	6.835	4	556	13.714
11:00 - 12:00	4	556	8.498	4	556	7.869	4	556	16.367
12:00 - 13:00	4	556	12.500	4	556	11.556	4	556	24.056
13:00 - 14:00	4	556	14.344	4	556	15.063	4	556	29.407
14:00 - 15:00	4	556	11.376	4	556	12.050	4	556	23.426
15:00 - 16:00	4	556	12.860	4	556	12.005	4	556	24.865
16:00 - 17:00	4	556	12.320	4	556	12.095	4	556	24.415
17:00 - 18:00	4	556	15.243	4	556	13.624	4	556	28.867
18:00 - 19:00	4	556	15.243	4	556	14.883	4	556	30.126
19:00 - 20:00	4	556	14.119	4	556	14.883	4	556	29.002
20:00 - 21:00	4	556	10.656	4	556	12.095	4	556	22.751
21:00 - 22:00	4	556	6.565	4	556	7.464	4	556	14.029
22:00 - 23:00	2	532	6.679	2	532	9.125	2	532	15.804
23:00 - 24:00	2	532	2.916	2	532	3.104	2	532	6.020
Total Rates:			168.327			169.883			338.210

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:	435 - 726 (units: sqm)
Survey date date range:	01/01/10 - 01/03/20
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:	7

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.

Calculation Reference: AUDIT-728001-220621-0658

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 06 - HOTEL, FOOD & DRINK
Category : D - FAST FOOD - DRIVE THROUGH
TOTAL VEHICLES

Selected regions and areas:

06	WEST MIDLANDS		
	WM	WEST MIDLANDS	1 days
13	MUNSTER		
	CR	CORK	1 days
15	GREATER DUBLIN		
	DL	DUBLIN	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:	362 to 375 (units: sqm)
Range Selected by User:	123 to 800 (units: sqm)

Parking Spaces Range: All Surveys Included

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/10 to 01/03/20

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:

Saturday	2 days
Sunday	1 days

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

Selected survey types:

Manual count	3 days
Directional ATC Count	0 days

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

Selected Locations:

Suburban Area (PPS6 Out of Centre)	1
Neighbourhood Centre (PPS6 Local Centre)	2

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

Selected Location Sub Categories:

Retail Zone	1
No Sub Category	2

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

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 2005 has been used for this purpose, which can be found within the Library module of TRICS®.

Population within 500m Range:

All Surveys Included

Population within 1 mile:

15,001 to 20,000	1 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:

100,001 to 125,000	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	1 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	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	3 days

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

LIST OF SITES relevant to selection parameters

1 CR-06-D-01 MCDONALD'S CORK
COMMONS ROAD
CORK

Suburban Area (PPS6 Out of Centre)
No Sub Category
Total Gross floor area: 372 sqm
Survey date: SATURDAY *15/12/12* *Survey Type: MANUAL*

2 DL-06-D-02 MCDONALD'S DUBLIN
SHEEPMOOR ROAD
DUBLIN
BLANCHARDSTOWN
Neighbourhood Centre (PPS6 Local Centre)
Retail Zone
Total Gross floor area: 362 sqm
Survey date: SATURDAY *15/09/12* *Survey Type: MANUAL*

3 WM-06-D-02 MCDONALD'S WEST MIDLANDS
BRISTOL ROAD SOUTH
BIRMINGHAM
LONGBRIDGE
Neighbourhood Centre (PPS6 Local Centre)
No Sub Category
Total Gross floor area: 375 sqm
Survey date: SUNDAY *08/11/15* *Survey Type: MANUAL*

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

MANUALLY DESELECTED SITES

Site Ref	Reason for Deselection
CE-06-D-01	Adjacent Retail
DS-06-D-01	No breakfast offering
DV-06-D-01	Adjacent Retail
NW-06-D-01	No breakfast offering
TW-06-D-01	No breakfast offering

TRIP RATE for Land Use 06 - HOTEL, FOOD & DRINK/D - FAST FOOD - DRIVE THROUGH

TOTAL VEHICLES

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	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	1	372	0.806	1	372	0.000	1	372	0.806
07:00 - 08:00	2	374	5.221	2	374	4.685	2	374	9.906
08:00 - 09:00	2	374	12.048	2	374	9.772	2	374	21.820
09:00 - 10:00	3	370	17.042	3	370	15.690	3	370	32.732
10:00 - 11:00	3	370	15.690	3	370	18.936	3	370	34.626
11:00 - 12:00	3	370	16.862	3	370	13.796	3	370	30.658
12:00 - 13:00	3	370	25.068	3	370	24.977	3	370	50.045
13:00 - 14:00	3	370	31.380	3	370	30.117	3	370	61.497
14:00 - 15:00	3	370	30.568	3	370	30.658	3	370	61.226
15:00 - 16:00	3	370	29.847	3	370	28.765	3	370	58.612
16:00 - 17:00	3	370	30.027	3	370	31.109	3	370	61.136
17:00 - 18:00	3	370	30.207	3	370	29.125	3	370	59.332
18:00 - 19:00	3	370	28.674	3	370	28.855	3	370	57.529
19:00 - 20:00	3	370	25.518	3	370	28.945	3	370	54.463
20:00 - 21:00	3	370	19.657	3	370	19.387	3	370	39.044
21:00 - 22:00	3	370	14.878	3	370	16.231	3	370	31.109
22:00 - 23:00	1	362	8.564	1	362	11.878	1	362	20.442
23:00 - 24:00	1	362	4.696	1	362	5.249	1	362	9.945
Total Rates:			346.753			348.175			694.928

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:	362 - 375 (units: sqm)
Survey date date range:	01/01/10 - 01/03/20
Number of weekdays (Monday-Friday):	0
Number of Saturdays:	2
Number of Sundays:	1
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	5

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.

APPENDIX E

CHARGE SURVEYS

Site: George & Dragon

Location: Bath Road, Reading RG30 2EU

Date: Thursday 26th January 2023

Times: Link Count 07:00-19:00 (12 hours) Queue Length Survey 07:00-09:00, 17:00-19:00 (4 hours)

CHARGE SURVEYS

Site: George & Dragon

Location: Bath Road, Reading RG30 2EU

Date: Thursday 26th January 2023

Time: 07:00-19:00 (12 hours)

A4 Bath Road Link Count (15 minute intervals)

	MOVEMENT 1								MOVEMENT 2							
	EASTBOUND FLOWS ON A4 BATH ROAD								WESTBOUND FLOWS ON A4 BATH ROAD							
	CAR	LGV	OGV1	OGV2	BUS	MCY	PCY	TOTAL	CAR	LGV	OGV1	OGV2	BUS	MCY	PCY	TOTAL
0700-0715	99	27	4	2	2	1	2	**137**	121	21	4	4	2	0	0	**152**
0715-0730	147	36	2	3	1	1	0	**190**	164	25	3	1	2	0	0	**195**
0730-0745	196	21	12	2	1	1	1	**234**	145	25	4	1	3	1	0	**179**
0745-0800	194	34	5	2	3	1	1	**240**	190	23	6	1	1	0	0	**221**
0800-0815	173	31	4	4	0	1	0	**213**	159	23	3	3	1	2	1	**192**
0815-0830	165	18	7	2	0	0	0	**192**	176	28	4	4	0	0	0	**212**
0830-0845	212	22	5	6	2	0	0	**247**	200	17	5	3	3	2	1	**231**
0845-0900	196	27	4	4	0	0	2	**233**	168	25	5	2	0	0	0	**200**
0900-0915	197	20	6	5	1	1	0	**230**	152	26	8	5	0	0	0	**191**
0915-0930	152	16	8	3	2	1	1	**183**	110	19	2	2	2	0	0	**135**
0930-0945	145	28	5	4	2	1	1	**186**	121	26	3	3	2	1	0	**156**
0945-1000	146	31	4	5	1	1	0	**188**	101	21	2	5	0	0	0	**129**
1000-1015	104	20	8	3	0	0	0	**135**	122	25	4	4	2	0	0	**157**
1015-1030	105	26	6	2	1	2	0	**142**	137	30	5	1	0	3	1	**177**
1030-1045	143	24	8	4	0	2	0	**181**	134	24	4	4	1	0	0	**167**
1045-1100	138	28	6	4	1	0	2	**179**	121	22	7	1	0	1	0	**152**
1100-1115	146	26	6	7	0	2	1	**188**	126	36	4	5	1	0	1	**173**
1115-1130	138	17	5	2	1	1	1	**165**	132	29	2	4	0	1	1	**169**
1130-1145	131	26	2	0	0	0	0	**159**	130	30	8	3	1	1	0	**173**
1145-1200	126	41	3	2	0	2	0	**174**	145	20	1	2	0	0	0	**168**
1200-1215	156	28	5	1	1	1	0	**192**	175	25	8	0	1	3	0	**212**
1215-1230	124	18	5	2	1	1	0	**151**	168	14	8	1	0	1	2	**194**
1230-1245	143	18	2	0	0	1	0	**164**	134	28	4	5	1	2	0	**174**
1245-1300	119	31	0	5	0	2	1	**158**	136	33	6	1	0	2	1	**179**
1300-1315	141	15	5	3	1	1	1	**167**	127	15	2	1	1	3	0	**149**
1315-1330	153	21	5	4	1	4	0	**188**	154	36	4	2	1	2	0	**199**
1330-1345	115	16	5	3	0	0	1	**140**	158	29	2	3	2	0	0	**194**
1345-1400	154	22	4	5	0	1	0	**186**	146	20	2	0	2	0	0	**170**
1400-1415	143	19	6	1	1	0	0	**170**	145	18	7	4	1	3	1	**179**
1415-1430	139	32	6	2	1	1	1	**182**	176	35	5	3	2	4	0	**225**
1430-1445	169	22	5	0	2	2	0	**200**	188	18	4	4	2	0	2	**218**
1445-1500	173	25	2	3	1	1	0	**205**	187	30	2	4	2	0	0	**225**
1500-1515	152	25	4	3	1	0	0	**185**	190	27	5	1	1	2	1	**227**
1515-1530	166	17	0	1	0	3	0	**187**	186	26	4	4	1	1	1	**223**
1530-1545	179	26	3	3	5	1	0	**217**	183	28	4	2	0	1	1	**219**
1545-1600	168	16	2	10	1	1	0	**198**	178	29	3	4	2	3	0	**219**
1600-1615	167	30	5	2	2	1	1	**208**	204	39	1	2	1	0	0	**247**
1615-1630	160	18	1	2	1	2	0	**184**	223	35	6	2	1	2	0	**269**
1630-1645	172	23	0	1	0	1	0	**197**	207	45	4	1	0	4	0	**261**
1645-1700	171	20	1	1	2	3	0	**198**	204	30	3	1	2	5	0	**245**
1700-1715	185	18	0	1	1	1	1	**207**	213	30	1	0	0	1	0	**245**
1715-1730	177	15	0	0	0	2	0	**194**	224	24	1	0	1	2	0	**252**
1730-1745	185	25	1	2	0	1	0	**214**	207	17	0	1	1	4	2	**232**
1745-1800	184	15	3	1	1	3	0	**207**	202	19	1	0	0	2	1	**225**
1800-1815	193	15	2	0	0	1	1	**212**	229	12	1	0	1	1	0	**244**
1815-1830	178	14	1	0	1	4	0	**198**	216	16	1	1	0	0	0	**234**
1830-1845	194	15	1	0	1	3	0	**214**	165	10	0	0	1	3	0	**179**
1845-1900	156	6	0	0	0	4	0	**166**	173	15	0	2	2	0	0	**192**
0700-1900	**7569**	**1084**	**184**	**122**	**43**	**64**	**19**	**9085**	**7952**	**1198**	**173**	**107**	**50**	**63**	**17**	**9560**

CHARGE SURVEYS

Site: George & Dragon

Location: Bath Road, Reading RG30 2EU

Date: Thursday 26th January 2023

Time: 07:00-19:00 (12 hours)

A4 Bath Road Link Count (hourly totals)

	MOVEMENT 1								MOVEMENT 2							
	EASTBOUND FLOWS ON A4 BATH ROAD								WESTBOUND FLOWS ON A4 BATH ROAD							
	CAR	LGV	OGV1	OGV2	BUS	MCY	PCY	TOTAL	CAR	LGV	OGV1	OGV2	BUS	MCY	PCY	TOTAL
0700-0800	636	118	23	9	7	4	4	**801**	620	94	17	7	8	1	0	**747**
0715-0815	710	122	23	11	5	4	2	**877**	658	96	16	6	7	3	1	**787**
0730-0830	728	104	28	10	4	3	2	**879**	670	99	17	9	5	3	1	**804**
0745-0845	744	105	21	14	5	2	1	**892**	725	91	18	11	5	4	2	**856**
0800-0900	746	98	20	16	2	1	2	**885**	703	93	17	12	4	4	2	**835**
0815-0915	770	87	22	17	3	1	2	**902**	696	96	22	14	3	2	1	**834**
0830-0930	757	85	23	18	5	2	3	**893**	630	87	20	12	5	2	1	**757**
0845-0945	690	91	23	16	5	3	4	**832**	551	96	18	12	4	1	0	**682**
0900-1000	640	95	23	17	6	4	2	**787**	484	92	15	15	4	1	0	**611**
0915-1015	547	95	25	15	5	3	2	**692**	454	91	11	14	6	1	0	**577**
0930-1030	500	105	23	14	4	4	1	**651**	481	102	14	13	4	4	1	**619**
0945-1045	498	101	26	14	2	5	0	**646**	494	100	15	14	3	3	1	**630**
1000-1100	490	98	28	13	2	4	2	**637**	514	101	20	10	3	4	1	**653**
1015-1115	532	104	26	17	2	6	3	**690**	518	112	20	11	2	4	2	**669**
1030-1130	565	95	25	17	2	5	4	**713**	513	111	17	14	2	2	2	**661**
1045-1145	553	97	19	13	2	3	4	**691**	509	117	21	13	2	3	2	**667**
1100-1200	541	110	16	11	1	5	2	**686**	533	115	15	14	2	2	2	**683**
1115-1215	551	112	15	5	2	4	1	**690**	582	104	19	9	2	5	1	**722**
1130-1230	537	113	15	5	2	4	0	**676**	618	89	25	6	2	5	2	**747**
1145-1245	549	105	15	5	2	5	0	**681**	622	87	21	8	2	6	2	**748**
1200-1300	542	95	12	8	2	5	1	**665**	613	100	26	7	2	8	3	**759**
1215-1315	527	82	12	10	2	5	2	**640**	565	90	20	8	2	8	3	**696**
1230-1330	556	85	12	12	2	8	2	**677**	551	112	16	9	3	9	1	**701**
1245-1345	528	83	15	15	2	7	3	**653**	575	113	14	7	4	7	1	**721**
1300-1400	563	74	19	15	2	6	2	**681**	585	100	10	6	6	5	0	**712**
1315-1415	565	78	20	13	2	5	1	**684**	603	103	15	9	6	5	1	**742**
1330-1430	551	89	21	11	2	2	2	**678**	625	102	16	10	7	7	1	**768**
1345-1445	605	95	21	8	4	4	1	**738**	655	91	18	11	7	7	3	**792**
1400-1500	624	98	19	6	5	4	1	**757**	696	101	18	15	7	7	3	**847**
1415-1515	633	104	17	8	5	4	1	**772**	741	110	16	12	7	6	3	**895**
1430-1530	660	89	11	7	4	6	0	**777**	751	101	15	13	6	3	4	**893**
1445-1545	670	93	9	10	7	5	0	**794**	746	111	15	11	4	4	3	**894**
1500-1600	665	84	9	17	7	5	0	**787**	737	110	16	11	4	7	3	**888**
1515-1615	680	89	10	16	8	6	1	**810**	751	122	12	12	4	5	2	**908**
1530-1630	674	90	11	17	9	5	1	**807**	788	131	14	10	4	6	1	**954**
1545-1645	667	87	8	15	4	5	1	**787**	812	148	14	9	4	9	0	**996**
1600-1700	670	91	7	6	5	7	1	**787**	838	149	14	6	4	11	0	**1022**
1615-1715	688	79	2	5	4	7	1	**786**	847	140	14	4	3	12	0	**1020**
1630-1730	705	76	1	3	3	7	1	**796**	848	129	9	2	3	12	0	**1003**
1645-1745	718	78	2	4	3	7	1	**813**	848	101	5	2	4	12	2	**974**
1700-1800	731	73	4	4	2	7	1	**822**	846	90	3	1	2	9	3	**954**
1715-1815	739	70	6	3	1	7	1	**827**	862	72	3	1	3	9	3	**953**
1730-1830	740	69	7	3	2	9	1	**831**	854	64	3	2	2	7	3	**935**
1745-1845	749	59	7	1	3	11	1	**831**	812	57	3	1	2	6	1	**882**
1800-1900	721	50	4	0	2	12	1	**790**	783	53	2	3	4	4	0	**849**
	HOURLY TOTALS								HOURLY TOTALS							

CHARGE SURVEYS

Site: George & Dragon

Location: Bath Road, Reading RG30 2EU

Date: Thursday 26th January 2023

Time: 07:00-09:00 (2 Hours)

Queue Length Survey for every red phase (stationary vehicles) AM QUEUES

A4 Bath Road (Western Arm)

TIME (00:00:00)	Inside Queue Lane Stationary Vehicles	TIME (00:00:00)	Outside Queue Lane Stationary Vehicles
06:59:45	2	07:00:06	0
07:00:32	0	07:00:52	2
07:01:18	1	07:01:38	1
07:02:09	1	07:02:32	0
07:02:58	0	07:03:25	2
07:03:58	0	07:04:13	0
07:04:45	4	07:05:03	0
07:05:30	2	07:05:49	0
07:06:24	0	07:07:01	1
07:07:33	7	07:08:06	1
07:08:45	0	07:09:19	4
07:09:47	0	07:10:26	1
07:10:55	1	07:11:22	0
07:11:50	1	07:12:23	4
07:12:55	3	07:13:28	0
07:13:56	2	07:14:20	0
07:14:51	3	07:15:24	4
07:16:34	5	07:17:17	6
07:18:02	2	07:18:21	0
07:18:55	8	07:19:30	0
07:20:04	1	07:20:35	1
07:21:11	3	07:21:56	3
07:22:31	6	07:23:18	7
07:23:50	0	07:24:13	1
07:24:53	3	07:25:21	2
07:26:15	7	07:26:39	3
07:27:09	4	07:27:27	0
07:28:00	9	07:28:40	3
07:29:17	3	07:29:45	1
07:30:21	6	07:30:41	2
07:31:20	2	07:31:48	1
07:32:42	2	07:33:32	7
07:34:20	4	07:34:50	7
07:36:08	2	07:36:49	2
07:38:10	10	07:39:07	9
07:39:50	8	07:40:37	1
07:41:16	11	07:41:49	1
07:42:39	23	07:43:43	3
07:43:37	2	07:43:57	11
07:45:18	3	07:45:49	3
07:46:37	5	07:47:21	9
07:48:40	11	07:49:29	5
07:50:20	7	07:51:05	9
07:52:13	11	07:52:52	7
07:53:53	9	07:54:22	8
07:55:07	8	07:55:42	7
07:56:51	23	07:57:42	5
07:58:26	0	07:59:20	2
08:00:53	23+	08:01:26	2
08:02:31	16	08:02:59	12
08:04:02	1	08:04:50	2
08:06:01	8	08:06:24	4
08:07:31	23+	08:08:01	0
08:09:13	2	08:10:12	18
08:11:46	10	08:12:20	5
08:13:04	14	08:13:49	7
08:14:36	20	08:15:22	3
08:16:26	22	08:17:00	11
08:18:19	16	08:19:00	23+
08:20:47	9	08:21:23	13
08:22:29	5	08:23:15	8
08:24:35	24+	08:25:10	7
08:26:02	22	08:26:31	12
08:27:31	23+	08:28:07	6
08:29:41	11	08:30:18	12
08:31:34	6	08:32:21	17
08:33:25	1	08:33:59	6
08:34:37	9	08:35:23	2
08:35:59	4	08:36:41	11
08:37:40	8	08:38:24	2
08:38:54	8	08:39:46	10
08:40:31	9	08:41:23	9
08:42:40	7	08:43:10	10
08:44:17	3	08:44:38	8
08:46:18	24+	08:46:55	8
08:47:57	8	08:49:05	10
08:50:04	13	08:50:58	11
08:52:02	0	08:52:34	13
08:53:28	15	08:53:52	7
08:54:55	22+	08:55:21	1
08:56:07	18	08:56:42	15
08:57:35	8	08:58:03	7
08:58:38	4	08:59:08	2

If the observed queue is "value+" this means that the queue extends beyond the next junction (A4 Bath Road / Hogarth Avneue)

CHARGE SURVEYS

Site: George & Dragon

Location: Bath Road, Reading RG30 2EU

Date: Thursday 26th January 2023

Time: 17:00-19:00 (2 Hours)

Queue Length Survey for every red phase (stationary vehicles) PM QUEUES

A4 Bath Road (Western Arm)

TIME (00:00:00)	Inside Queue Lane Stationary Vehicles
17:00:13	5
17:02:09	11
17:03:35	9
17:04:48	1
17:06:29	1
17:07:49	0
17:09:42	8
17:10:54	7
17:12:31	13
17:13:59	9
17:15:57	13
17:17:44	0
17:19:36	2
17:21:35	2
17:23:37	16
17:25:02	13
17:26:34	8
17:28:06	5
17:30:02	7
17:31:19	7
17:32:58	3
17:34:38	0
17:35:37	6
17:37:22	10
17:39:04	0
17:40:05	2
17:41:08	0
17:42:29	7
17:43:45	4
17:45:01	1
17:46:31	1
17:47:46	4
17:48:54	5
17:50:09	8
17:51:30	7
17:52:40	6
17:53:36	5
17:54:42	0
17:56:44	7
17:57:47	9
18:00:19	21
18:02:20	3
18:02:59	3
18:04:38	5
18:06:01	5
18:08:16	24+
18:09:57	13
18:11:48	4
18:13:43	4
18:15:07	7
18:16:59	1
18:18:40	1
18:20:38	7
18:21:57	3
18:23:47	7
18:25:06	0
18:26:07	6
18:26:53	6
18:28:05	5
18:29:39	5
18:31:03	0
18:32:14	5
18:33:10	0
18:34:23	8
18:35:18	1
18:36:10	5
18:37:30	3
18:39:07	0
18:40:29	4
18:41:27	5
18:42:19	0
18:43:14	1
18:44:10	0
18:45:30	1
18:46:27	1
18:47:17	0
18:49:09	14
18:50:34	10
18:52:00	3
18:52:54	0
18:53:42	0
18:54:52	5
18:55:50	0
18:56:37	0
18:57:34	1
18:58:46	1
18:59:40	1

TIME (00:00:00)	Outside Queue Lane Stationary Vehicles
17:00:56	8
17:02:41	4
17:04:03	6
17:05:27	0
17:07:03	3
17:08:38	10
17:10:19	3
17:11:44	5
17:13:18	4
17:14:33	4
17:16:51	7
17:18:39	1
17:20:34	11
17:22:22	7
17:24:17	6
17:25:44	4
17:27:23	2
17:28:43	6
17:30:33	11
17:32:05	1
17:33:44	5
17:35:02	4
17:36:12	1
17:38:07	10
17:39:34	3
17:40:42	2
17:41:34	3
17:42:52	6
17:44:17	4
17:45:43	7
17:47:04	6
17:48:24	4
17:49:40	3
17:50:43	6
17:51:54	7
17:53:00	5
17:54:11	3
17:55:30	9
17:57:08	3
17:59:12	6
18:01:17	14
18:03:33	6
18:05:11	5
18:06:51	6
18:09:04	4
18:10:45	8
18:12:37	3
18:14:33	5
18:16:03	5
18:18:07	6
18:19:29	1
18:21:22	4
18:22:30	5
18:24:30	3
18:25:41	1
18:26:26	1
18:27:20	1
18:28:37	3
18:30:11	7
18:31:34	0
18:32:38	3
18:33:31	2
18:34:38	0
18:35:32	2
18:36:34	3
18:38:25	8
18:39:51	4
18:40:50	2
18:41:47	1
18:42:48	1
18:43:40	3
18:44:45	4
18:45:58	2
18:46:42	1
18:48:00	4
18:49:32	0
18:51:20	3
18:52:22	1
18:53:13	2
18:54:15	3
18:55:11	2
18:56:11	1
18:57:02	3
18:58:18	1
18:59:11	2

If the observed queue is "value+" this means that the queue extends beyond the next junction (A4 Bath Road / Hogarth Avneue)

CHARGE SURVEYS

Site: George & Dragon

Location: Bath Road, Reading RG30 2EU

Date: Thursday 26th January 2023

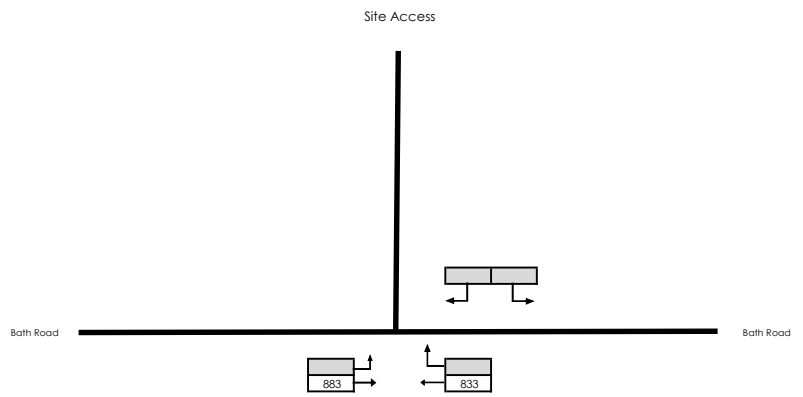
Time: 07:00-09:00, 17:00-19:00 (4 Hours)

APPENDIX F

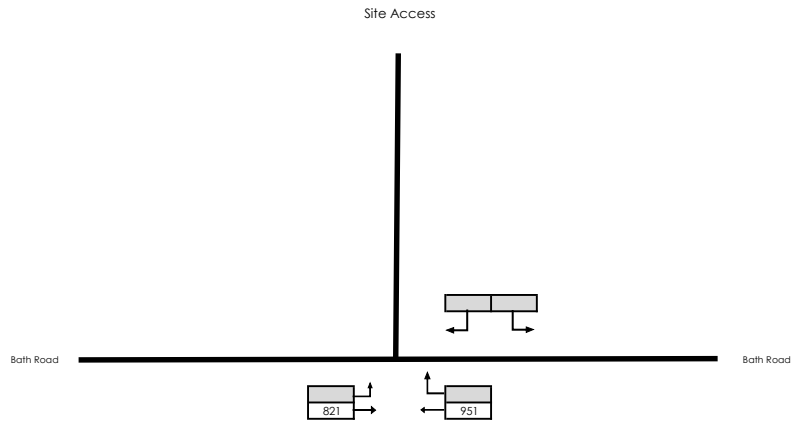
6488 - Traffic Flow Diagrams
Contents

George & Dragon, Reading	February 2023	RGP

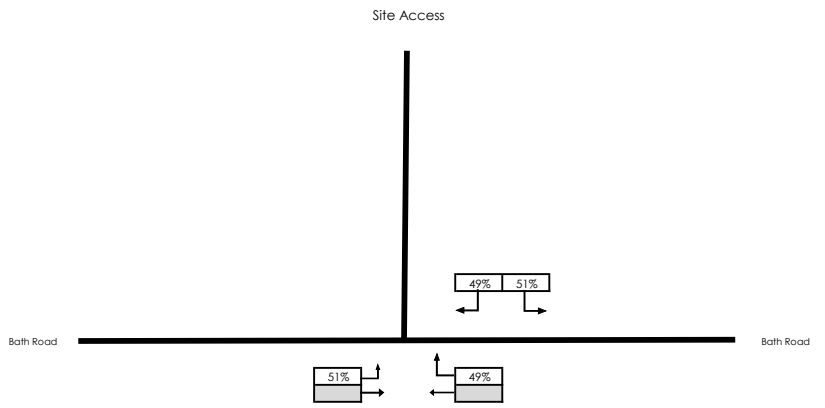
6488 - FLOW01	AM Surveyed Traffic
6488 - FLOW02	PM Surveyed Traffic
6488 - FLOW03	AM Development Traffic Distribution
6488 - FLOW04	PM Development Traffic Distribution
6488 - FLOW05	AM Development Traffic
6488 - FLOW06	AM Baseline + Development Traffic
6488 - FLOW07	PM Baseline + Development Traffic



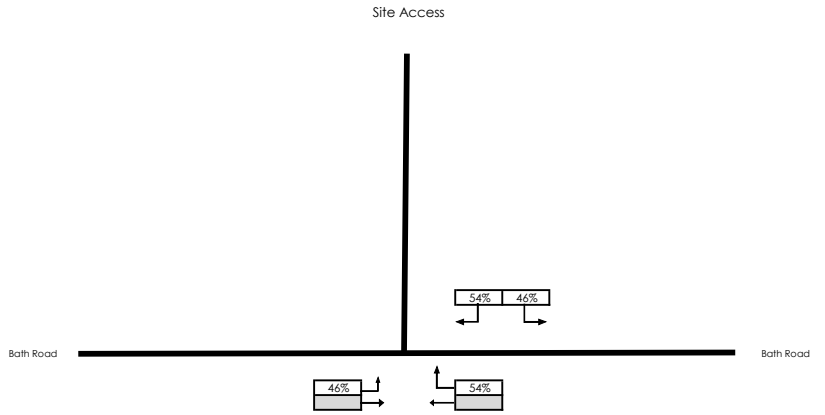
AM Peak	RGP		Project	George & Dragon, Reading
				Proposed Drive-Thru
JAN 23' SURVEYED BASELINE TRAFFIC	Created	JSC 01/2023	No.	6488 - FLOW01
	Checked	NDR 01/2023		



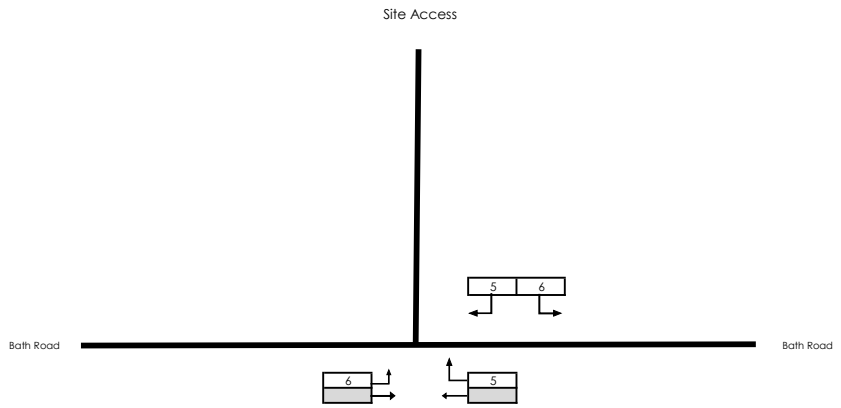
PM Peak	RGP		Project	George & Dragon, Reading
				Proposed Drive-Thru
JAN 23' SURVEYED BASELINE TRAFFIC	Created	JSC 01/2023	No.	6488 - FLOW02
	Checked	NDR 01/2023		



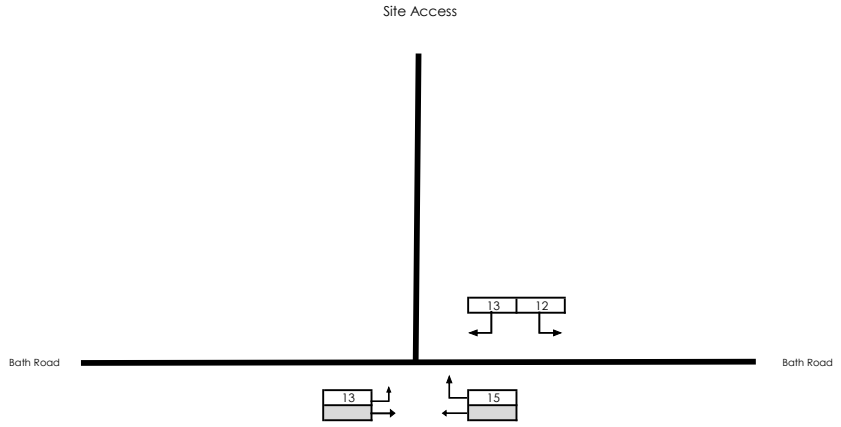
AM Peak	RGP		Project	George & Dragon, Reading
				Proposed Drive-Thru
DEVELOPMENT TRAFFIC DISTRIBUTION	Created	JSC 01/2023	No.	6488 - FLOW03
	Checked	NDR 01/2023		



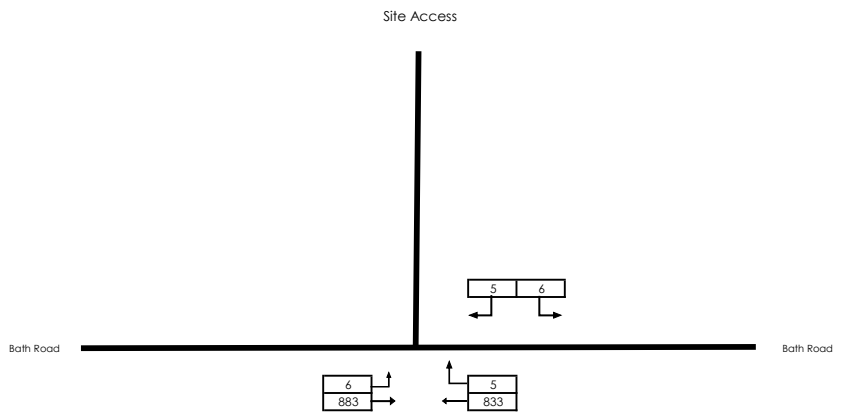
PM Peak	RGP		Project	George & Dragon, Reading
				Proposed Drive-Thru
DEVELOPMENT TRAFFIC DISTRIBUTION	Created	JSC 01/2023	No.	6488 - FLOW04
	Checked	NDR 01/2023		



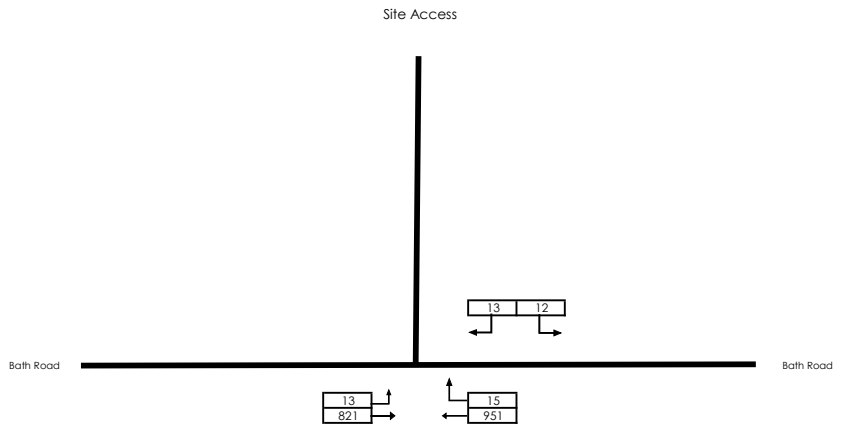
AM Peak	RGP		Project	George & Dragon, Reading
				Proposed Drive-Thru
DEVELOPMENT TRAFFIC - ALL TRIPS	Created	JSC 01/2023	No.	6488 - FLOW05
	Checked	NDR 01/2023		



PM Peak	RGP		Project	George & Dragon, Reading
				Proposed Drive-Thru
DEVELOPMENT TRAFFIC - ALL TRIPS	Created	JSC 01/2023	No.	6488 - FLOW06
	Checked	NDR 01/2023		



AM Peak	RGP		Project	George & Dragon, Reading
				Proposed Drive-Thru
BASELINE + DEVELOPMENT TRAFFIC	Created	JSC 01/2023	No.	6488 - FLOW01
	Checked	NDR 01/2023		



PM Peak	RGP		Project	George & Dragon, Reading
				Proposed Drive-Thru
BASELINE + DEVELOPMENT TRAFFIC	Created	JSC 01/2023	No.	6488 - FLOW01
	Checked	NDR 01/2023		

APPENDIX G

Junctions 10

PICADY 10 - Priority Intersection Module

Version: 10.0.4.1693
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The users of this computer program for the solution of an engineering problem are in no way relieved of their responsibility for the correctness of the solution

Filename: Site Access Model.j10
Path: C:\Users\JamesColston\RGP\Projects - Documents\2022 Projects (6401-6500)\6488 George & Dragon Reading\Technical Assessments\Junction Modelling
Report generation date: 22/03/2023 10:52:47

»2023 Base + Development, AM
»2023 Base + Development, PM

Summary of junction performance

	AM				PM			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
	2023 Base + Development							
Stream B-AC	0.1	15.68	0.05	C	0.1	18.59	0.12	C
Stream C-B	0.0	8.43	0.01	A	0.0	8.33	0.04	A

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle.

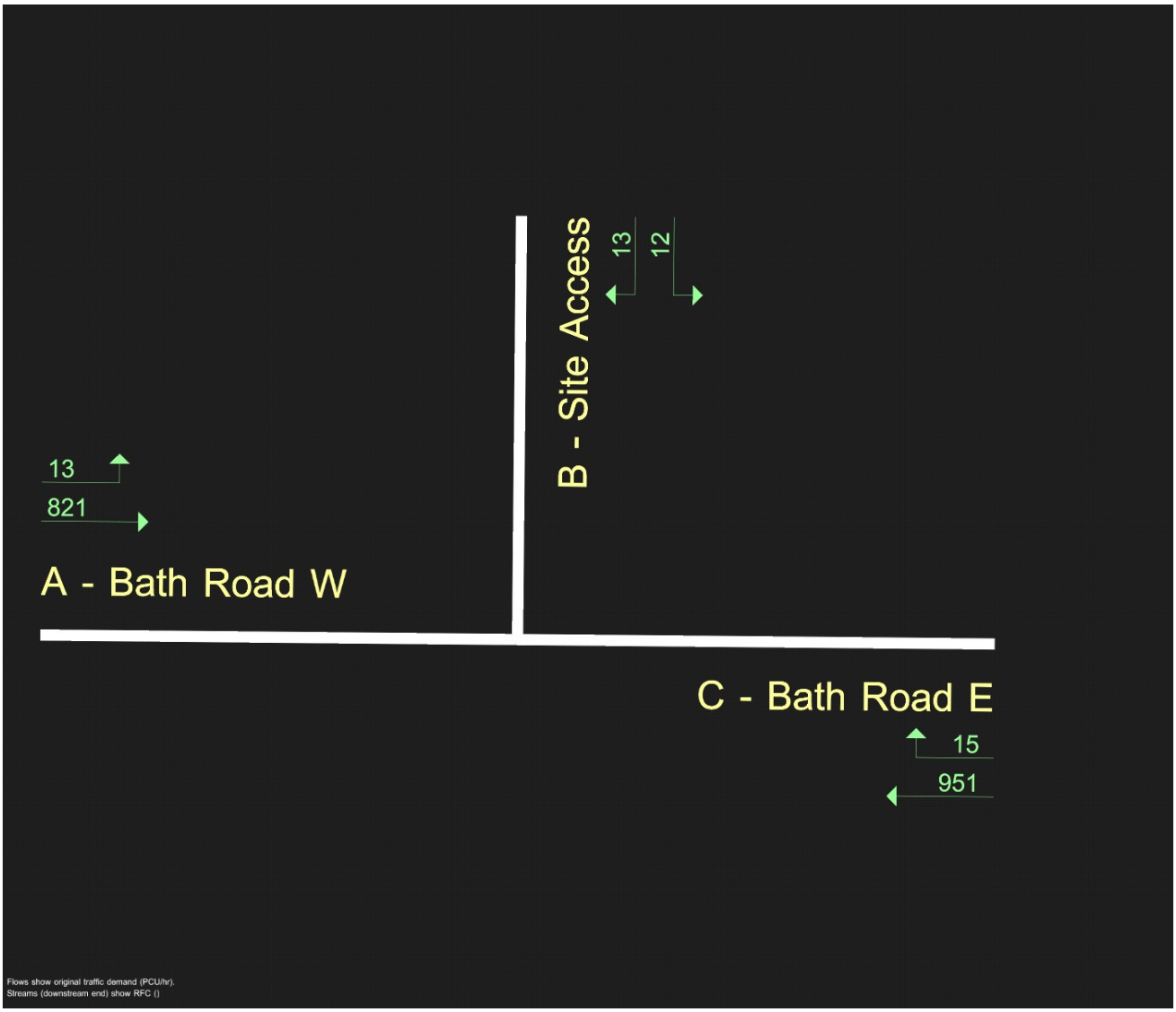
File summary

File Description

Title	George & Dragon Reading - Site Access Model
Location	
Site number	
Date	22/03/2023
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	JamesColston
Description	

Units

Distance units	Speed units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
m	kph	PCU	PCU	perHour	s	-Min	perMin



The junction diagram reflects the last run of Junctions.

Analysis Options

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Show lane queues in feet / metres	Show all PICADY stream intercepts	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)	Use iterations with HCM roundabouts	Max number of iterations for roundabouts
5.75						0.85	36.00	20.00		500

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2023 Base + Development	AM	ONE HOUR	07:45	09:15	15	✓
D2	2023 Base + Development	PM	ONE HOUR	16:45	18:15	15	✓

Analysis Set Details

ID	Include in report	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	✓	100.000	100.000

2023 Base + Development, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Bath Road / Site Access	T-Junction	Two-way	Two-way	Two-way		0.12	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	0.12	A

Arms

Arms

Arm	Name	Description	Arm type
A	Bath Road W		Major
B	Site Access		Minor
C	Bath Road E		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right-turn storage	Width for right-turn storage (m)	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C - Bath Road E	6.60		✓	3.00	100.0		-

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Visibility to left (m)	Visibility to right (m)
B - Site Access	One lane	4.00	0	0

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	526	0.093	0.236	0.148	0.337
B-C	686	0.102	0.259	-	-
C-B	687	0.259	0.259	-	-

The slopes and intercepts shown above include custom intercept adjustments only.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2023 Base + Development	AM	ONE HOUR	07:45	09:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Bath Road W		ONE HOUR	✓	891	100.000
B - Site Access		ONE HOUR	✓	11	100.000
C - Bath Road E		ONE HOUR	✓	838	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A - Bath Road W	B - Site Access	C - Bath Road E
From	A - Bath Road W	0	8	883
	B - Site Access	5	0	6
	C - Bath Road E	833	5	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - Bath Road W	B - Site Access	C - Bath Road E
From	A - Bath Road W	0	0	0
	B - Site Access	0	0	0
	C - Bath Road E	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.05	15.68	0.1	C	10	15
C-A					764	1147
C-B	0.01	8.43	0.0	A	5	7
A-B					7	11
A-C					810	1215

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	8	2	368	0.023	8	0.0	0.0	10.012	B
C-A	627	157			627				
C-B	4	0.94	513	0.007	4	0.0	0.0	7.068	A
A-B	6	2			6				
A-C	665	166			665				

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	10	2	317	0.031	10	0.0	0.0	11.713	B
C-A	749	187			749				
C-B	4	1	479	0.009	4	0.0	0.0	7.581	A
A-B	7	2			7				
A-C	794	198			794				

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	12	3	242	0.050	12	0.0	0.1	15.667	C
C-A	917	229			917				
C-B	6	1	433	0.013	5	0.0	0.0	8.428	A
A-B	9	2			9				
A-C	972	243			972				

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	12	3	242	0.050	12	0.1	0.1	15.678	C
C-A	917	229			917				
C-B	6	1	433	0.013	6	0.0	0.0	8.428	A
A-B	9	2			9				
A-C	972	243			972				

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	10	2	317	0.031	10	0.1	0.0	11.722	B
C-A	749	187			749				
C-B	4	1	479	0.009	5	0.0	0.0	7.581	A
A-B	7	2			7				
A-C	794	198			794				

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	8	2	368	0.023	8	0.0	0.0	10.018	B
C-A	627	157			627				
C-B	4	0.94	513	0.007	4	0.0	0.0	7.068	A
A-B	6	2			6				
A-C	665	166			665				

2023 Base + Development, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Bath Road / Site Access	T-Junction	Two-way	Two-way	Two-way		0.32	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	0.32	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D2	2023 Base + Development	PM	ONE HOUR	16:45	18:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Bath Road W		ONE HOUR	✓	834	100.000
B - Site Access		ONE HOUR	✓	25	100.000
C - Bath Road E		ONE HOUR	✓	966	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A - Bath Road W	B - Site Access	C - Bath Road E
From	A - Bath Road W	0	13	821
	B - Site Access	13	0	12
	C - Bath Road E	951	15	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - Bath Road W	B - Site Access	C - Bath Road E
From	A - Bath Road W	0	0	0
	B - Site Access	0	0	0
	C - Bath Road E	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.12	18.59	0.1	C	23	34
C-A					873	1309
C-B	0.04	8.33	0.0	A	14	21
A-B					12	18
A-C					753	1130

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	19	5	351	0.054	19	0.0	0.1	10.811	B
C-A	716	179			716				
C-B	11	3	524	0.022	11	0.0	0.0	7.018	A
A-B	10	2			10				
A-C	618	155			618				

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	22	6	299	0.075	22	0.1	0.1	13.002	B
C-A	855	214			855				
C-B	13	3	493	0.027	13	0.0	0.0	7.513	A
A-B	12	3			12				
A-C	738	185			738				

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	28	7	221	0.124	27	0.1	0.1	18.543	C
C-A	1047	262			1047				
C-B	17	4	449	0.037	16	0.0	0.0	8.325	A
A-B	14	4			14				
A-C	904	226			904				

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	28	7	221	0.124	28	0.1	0.1	18.588	C
C-A	1047	262			1047				
C-B	17	4	449	0.037	17	0.0	0.0	8.325	A
A-B	14	4			14				
A-C	904	226			904				

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	22	6	299	0.075	23	0.1	0.1	13.035	B
C-A	855	214			855				
C-B	13	3	493	0.027	14	0.0	0.0	7.517	A
A-B	12	3			12				
A-C	738	185			738				

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	19	5	351	0.054	19	0.1	0.1	10.832	B
C-A	716	179			716				
C-B	11	3	524	0.022	11	0.0	0.0	7.022	A
A-B	10	2			10				
A-C	618	155			618				

RGP – Transport Planning and Infrastructure Design Consultants

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Outlook

Re: George & Dragon Project Ecologist

From Celia Kenyon <cKenyon@e3p.co.uk>
Date Thu 14/11/2024 15:48
To Shane Mcnulty <ShaneMcnulty@greeneking.co.uk>; Phoebe Marshall <Phoebe.Marshall@viroconsult.com>; Christopher Chippendale <Christopher.Chippendale@ground-control.co.uk>; Helen Binns <Helen.Binns@walsingplan.co.uk>
Cc Paul Curlett <paul@kmaqs.co.uk>

Hi Phoebe,

These were determined through the requirements of Natural England on replacement roosts. An assessment was also made of what would be deemed suitable for the site in terms of professional judgement.

Celia Kenyon
Associate Director

e3p

Mobile: **07957 786 354** | Office: **0161 707 9612** | Manchester Office - **Taylor Road, Urmston, M41 7JQ**

From: Shane Mcnulty <ShaneMcnulty@greeneking.co.uk>
Sent: 14 November 2024 3:45 PM
To: Phoebe Marshall <Phoebe.Marshall@viroconsult.com>; Celia Kenyon <cKenyon@e3p.co.uk>; Christopher Chippendale <Christopher.Chippendale@ground-control.co.uk>; Helen Binns <Helen.Binns@walsingplan.co.uk>
Cc: Paul Curlett <paul@kmaqs.co.uk>; Shane Mcnulty <ShaneMcnulty@greeneking.co.uk>
Subject: RE: George & Dragon Project Ecologist

Celia / Helen

Reference the comment below from Phoebe.

Which planning document confirms what is required?

Please confirm ASAP as this sustainability reports needs pushing on now. Thanks in advance.

Kind Regards
Shane McNulty
DevCo Programme Manager
Greene King Property
Mob: 07974132984
E-mail: shanemcnulty@greeneking.co.uk

At Greene King, we allow flexible working.

Whilst it suits me to email you now, I don't expect a response or action outside of your normal working hours.

-
-

From: Phoebe Marshall <Phoebe.Marshall@viroconsult.com>
Sent: Thursday, 14 November 2024 03:38 PM
To: Shane Mcnulty <ShaneMcnulty@greeneking.co.uk>; Celia Kenyon <cKenyon@e3p.co.uk>; Christopher Chippendale <Christopher.Chippendale@ground-control.co.uk>
Cc: Paul Curlett <paul@kmaqs.co.uk>
Subject: [EXTERNAL] Re: George & Dragon Project Ecologist

Hi Shane,

All I need is evidence to confirm how the quantities and locations of the habitat features were determined.

Kind regards
Phoebe Marshall (She/Her) | **Viro** | Senior Sustainability Consultant

Suite 3, Churchgate Court, 3 Church Rd, Whitchurch, Cardiff, CF14 2DX
www.viroconsult.com | 0333 355 3610

Please note, my email address is now: phoebe.marshall@viroconsult.com

---

From: Shane Mcnulty <ShaneMcnulty@greeneking.co.uk>
Sent: 07 November 2024 15:39
To: Phoebe Marshall <Phoebe.Marshall@viroconsult.com>; Celia Kenyon <cKenyon@e3p.co.uk>; Christopher Chippendale <Christopher.Chippendale@ground-control.co.uk>
Cc: Paul Curlett <paul@kmaqs.co.uk>
Subject: RE: George & Dragon Project Ecologist

Phoebe

What is it you require?

We had bat roosts to decommission within the roof-space prior to demolition.

The BATS were located during our early-stage PEA.

This was done under the terms of a standard Natural England license.

Kind Regards
Shane McNulty
DevCo Programme Manager
Greene King Property
Mob: 07974132984
E-mail: shanemcnulty@greeneking.co.uk

At Greene King, we allow flexible working.
Whilst it suits me to email you now, I don't expect a response or action outside of your normal working hours.

From: Phoebe Marshall <Phoebe.Marshall@viroconsult.com>
Sent: Thursday, 7 November 2024 03:07 PM
To: Celia Kenyon <cKenyon@e3p.co.uk>; Christopher Chippendale <Christopher.Chippendale@ground-control.co.uk>; Shane Mcnulty <ShaneMcnulty@greeneking.co.uk>
Cc: Paul Curlett <paul@kmaqs.co.uk>
Subject: [EXTERNAL] Re: George & Dragon Project Ecologist

Hi Celia,

Can you elaborate on this please?

This information is required for the sustainability assessment which is required to comply with building regulations.

Your input is greatly appreciated.

Kind regards
Phoebe Marshall (She/Her) | **Viro** | Senior Sustainability Consultant

Suite 3, Churchgate Court, 3 Church Rd, Whitchurch, Cardiff, CF14 2DX
www.viroconsult.com | 0333 355 3610

Please note, my email address is now: phoebe.marshall@viroconsult.com

---

From: Phoebe Marshall <Phoebe.Marshall@viroconsult.com>
Sent: 31 October 2024 10:34
To: Celia Kenyon <cKenyon@e3p.co.uk>; Christopher Chippendale <Christopher.Chippendale@ground-control.co.uk>; Shane Mcnulty <ShaneMcnulty@greeneking.co.uk>
Cc: Paul Curlett <paul@kmaqs.co.uk>
Subject: Re: George & Dragon Project Ecologist

Hi Celia,

Can you elaborate on this please?

Kind regards
Phoebe Marshall (She/Her) | **Viro** | Sustainability Consultant

Suite 3, Churchgate Court, 3 Church Rd, Whitchurch, Cardiff, CF14 2DX
www.viroconsult.com | 0333 355 3610

Please note, my email address is now: phoebe.marshall@viroconsult.com

---

From: Celia Kenyon <cKenyon@e3p.co.uk>
Sent: 31 October 2024 10:31
To: Phoebe Marshall <Phoebe.Marshall@viroconsult.com>; Christopher Chippendale <Christopher.Chippendale@ground-control.co.uk>; Shane Mcnulty <ShaneMcnulty@greeneking.co.uk>
Cc: Paul Curlett <paul@kmaqs.co.uk>
Subject: Re: George & Dragon Project Ecologist

Hi Phoebe,

There is a separate requirement for the NE bat licence.

The proposed locations are acceptable.

Many thanks,

Celia Kenyon
Associate Director

e3p

Mobile: **07957 786 354** | Office: **0161 707 9612** | Manchester Office - **Taylor Road, Urmston, M41 7JQ**

From: Phoebe Marshall <Phoebe.Marshall@viroconsult.com>
Sent: Thursday, October 31, 2024 10:22 AM
To: Celia Kenyon <cKenyon@e3p.co.uk>; Christopher Chippendale <Christopher.Chippendale@ground-control.co.uk>; Shane Mcnulty <ShaneMcnulty@greeneking.co.uk>
Cc: Paul Curlett <paul@kmaqs.co.uk>
Subject: Re: George & Dragon Project Ecologist

> You don't often get email from phoebe.marshall@viroconsult.com. Learn why this is important

Hi Celia,

Apologies, I'm trying to get my head around who had which responsibilities and at which stages.

The first attachment details the proposed locations of the bat boxes; 2no. To be installed prior to demolition and remain in situ during operation and the remaining 2no. to be installed on the proposed building. Is that correct? The locations shown on the first attachment don't align with the planting plans; is there a reason for this? Are the proposed locations on the planting plans acceptable (second attachment)?

E3P were involved with the Biodiversity Metric calculation and reporting, weren't they? Ground Control's planting plan appended to the report (third attachment) confirms the following.

> **Habitat Features**
> *Habitat features as specified by project Ecologist. Final location to be determined on site by Project Ecologist.*

Do you know how the quantities were devised?

Kind regards

Phoebe Marshall (She/Her) | **Viro** | Sustainability Consultant

Suite 3, Churchgate Court, 3 Church Rd, Whitchurch, Cardiff, CF14 2DX
www.viroconsult.com | 0333 355 3610

Please note, my email address is now: phoebe.marshall@viroconsult.com

---

From: Celia Kenyon <cKenyon@e3p.co.uk>
Sent: 31 October 2024 09:50
To: Phoebe Marshall <Phoebe.Marshall@viroconsult.com>; Christopher Chippendale <Christopher.Chippendale@ground-control.co.uk>; Shane Mcnulty <ShaneMcnulty@greeneking.co.uk>
Cc: Paul Curlett <paul@kmaqs.co.uk>
Subject: Re: George & Dragon Project Ecologist

Hi Phoebe,

We came in on this at a later date so didn't do the ecology report. The only thing we have got, is the location of bat boxes as detailed within the licence for the demolition of the building.

Celia Kenyon
Associate Director

e3p

Mobile: **07957 786 354** | Office: **0161 707 9612** | Manchester Office - **Taylor Road, Urmston, M41 7JQ**

From: Phoebe Marshall <Phoebe.Marshall@viroconsult.com>
Sent: Thursday, October 31, 2024 9:48 AM
To: Christopher Chippendale <Christopher.Chippendale@ground-control.co.uk>; Celia Kenyon <cKenyon@e3p.co.uk>; Shane Mcnulty <ShaneMcnulty@greeneking.co.uk>
Cc: Paul Curlett <paul@kmaqs.co.uk>
Subject: Re: George & Dragon Project Ecologist

> You don't often get email from phoebe.marshall@viroconsult.com. Learn why this is important

Morning Chris,

Many thanks for your email below and for the updated planting plan.

@Celia Kenyon, could you provide the latest ecology documentation please? Do any of the documents confirm the quantities of refuges to be provided or were these figures determined elsewhere? If figures are recommended within documents, I would usually reference those and then use the planting plan to confirm that these have been incorporated, however, if the figures aren't proposed within the reports, I can use an email confirmation from yourself that you're satisfied that the proposed quantities are sufficient as evidence of compliance.

@Shane Mcnulty, has anyone discussed hedgehog highways with the adjoining landowner yet?

@Christopher Chippendale, I will use your email below to confirm re the grassland element.

Kind regards
Phoebe Marshall (She/Her) | **Viro** | Sustainability Consultant

Suite 3, Churchgate Court, 3 Church Rd, Whitchurch, Cardiff, CF14 2DX
www.viroconsult.com | 0333 355 3610

Please note, my email address is now: phoebe.marshall@viroconsult.com

---

From: Christopher Chippendale <Christopher.Chippendale@ground-control.co.uk>
Sent: 30 October 2024 13:00
To: Phoebe Marshall <Phoebe.Marshall@viroconsult.com>
Cc: Paul Curlett <paul@kmaqs.co.uk>; Shane Mcnulty <ShaneMcnulty@greeneking.co.uk>; Celia Kenyon <cKenyon@e3p.co.uk>
Subject: RE: George & Dragon Project Ecologist

Hi Phoebe,

I am well thanks, hope you are too.

The ecologist for the project is E3P of which the main point of contact is Celia who I have copied into this email who should be able to provide the latest ecology documentation.

The ecological enhancements are as per the locations and quantities set out on the schemes Soft Landscape Plan (attached).

In regard to the hedgehog holes these are not shown on the plan and would be incorporated by the contractor however, this would be subject to agreement with the adjoining landowner as it would result in a hole at the bottom of their fence so considerations such as whether that neighbour has dogs etc will need to be taken into account. However, the attached plan does incorporate a number of hedgehog houses.

The grassland element is not included within the scheme as all existing grassland has been removed.

Hope this helps but please do not hesitate to let me know regarding any queries.

Many thanks,

Chris

Best Regards,

Chris Chippendale BSc (Hons) LGD, MALA, CMLI
Principal Landscape Architect

Carbon Neutral and on target for Net Zero 2038

M: 07713 309 872 | E: christopher.chippendale@ground-control.co.uk
Ground Control Ltd, Kingfisher House, Radford Way, Billericay, CM12 0EQ

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From: Phoebe Marshall <Phoebe.Marshall@viroconsult.com>
Sent: 30 October 2024 12:38
To: Christopher Chippendale <Christopher.Chippendale@ground-control.co.uk>
Cc: Paul Curlett <paul@kmaqs.co.uk>; Shane Mcnulty <ShaneMcnulty@greeneking.co.uk>
Subject: [EXTERNAL] George & Dragon Project Ecologist

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Hi Chris,

I hope you're well.

I've had a lot of information through in the form of ecological surveys and reports and I've been reviewing them against Ground Control's Soft Landscape Management & Maintenance Plan.

Can you confirm who the Project Ecologist is please and provide any documentation produced by them? "Habitat features as specified by project Ecologist" is referenced in Ground Control's Soft Landscape Management & Maintenance Plan but from the documentation I've received, I can't see anything that aligns in terms of bat box and log pile figures etc. I want to make sure that I'm reviewing everything correctly as part of my validation.

From the PEA, I can see that the following has been recommended:

- Nest / Roost Boxes:
    - Bird and bat boxes should be incorporated into the development design, including those suitable for a range of bat species, swift, house sparrow and/or starling, which are all species of conservation concern and are likely to be present within 1 km of the site (Clause 5.4.1).
- Log Piles and 'Hedgehog Highways':
    - Log piles incorporated into quieter parts of the site landscaping to offer deadwood refuge for hedgehogs and invertebrates including the locally present stag beetle (Clause 5.4.2). These should be created using any logs generated from vegetation clearance.
    - Provision of 'hedgehog highways' (holes approx. 13 cm2) in any fencing on site would improve habitat connectivity for hedgehogs (Clause 5.4.2).
- Biodiversity Enhancement Measures (Clause 5.4.4):
    - Creation of new native species boundary hedgerows along the western and eastern boundaries to strengthen habitat connectivity and/or provide habitats or food sources for birds, bats and mammals.
    - Install bat and/or bird boxes on retained buildings and trees within the site to provide additional roosting/nesting locations for these species.
    - Any retained grassland can be enhanced by seeding with locally present native species. The addition of kidney vetch would provide opportunities for the protected NERC S41-listed small blue butterfly.

Have the items in red been specified?

Many thanks in advance for your assistance.

Kind regards

Phoebe Marshall (She/Her) | Sustainability Consultant

VIRO
GREEN ENVIRONMENTS

Suite 3, Churchgate Court, 3 Church Rd, Whitchurch, Cardiff, CF14 2DX
www.viroconsult.com | 0333 355 3610

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