

Red Kangaroo

8 Bridgewater Close, Reading

Transport Statement

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1 INTRODUCTION

- 1.1 Caneparo Associates has been appointed by Red Kangaroo ('the Applicant') to provide traffic and transport advice in relation to the change of use from an existing go-karting use to an indoor trampoline park at 8 Bridgewater Close, Reading.
- 1.2 The development proposal seeks to permit a change of use of the existing building to accommodate an indoor trampoline park within the Use Class D2, in addition to external works to facilitate adequate parking arrangements.
- 1.3 This Transport Statement examines the transport related effects of the proposed development. It considers practical matters such as trip generation, accessibility, car parking provision, waste collection, and delivery.
- 1.4 The remainder of this report is structured as follows:
- Section 2 summarises the existing situation;
 - Section 3 sets out the site's accessibility;
 - Section 4 reviews the relevant planning policies;
 - Section 5 outlines the detail of the proposed development;
 - Section 6 considers the effects of the development; and,
 - Section 7 presents a summary and conclusion.
- 1.5 Pre-application advice was sought from Reading Borough Council previously in January 2016 for an indoor trampoline park on behalf of a different applicant (Rush). This application has been prepared with the comments raised by Transport Development Control borne in mind, primarily associated with car parking and the opportunity for the site to accommodate its adequate parking provision.

2 EXISTING SITUATION

The Site

- 2.1 The existing site is located within Bridgewater Close which is formed of a collection of employment / industrial buildings named the Portman Road Industrial Estate accessed from Portman Road. The site is the southernmost building within the Industrial Estate and measures approximately 3,500sqm GFA in size and is served by 39 car parking spaces, including two wheelchair accessible spaces across the northern and eastern sides of the building.
- 2.2 The site is currently vacant and has previously operated as an indoor go-karting arena (within the D2 planning use class). It is bound by industrial / commercial buildings to the north and a mix of commercial and residential properties to the east, south and west.
- 2.3 A site location plan has been included at **Figure 1**, appended to this report.

Local Highway Network

- 2.4 Bridgewater Close is a cul-de-sac road serving a small number of industrial/commercial units and accessed via Portman Road to the north of the site. Portman Road is a c.7.3m wide single carriageway road and is subject to a 40mph speed limit. Portman road is a distributor road, providing access to a number of businesses and commercial premises located along its northern side primarily.
- 2.5 Portman Road links to the wider primary highway network across reading and as such the site is suitably located to provide access by car without requiring staff or customers to make use of secondary roads such as residential streets.

3 ACCESSIBILITY

- 3.1 The site is well-located within walking and cycling distance of numerous day-to-day facilities and public transport services. As such, there are opportunities for future employees and customers to use modes other than the private car. This section outlines the accessibility of the site by sustainable modes of transport.

Walking

- 3.2 The local area benefits from a good pedestrian environment providing suitable and accessible links to local facilities and public transport services as well as wide footways, dropped kerbs, regular crossing opportunities and street lighting. Pedestrian links exist to the east via a link through to Dorset Street and to the south onto Oxford Road via the proposed car park or via Dorset Street and Alma Street.
- 3.3 It is generally accepted that for journeys of up to 2km walking is an appropriate mode to replace car trips and this is set out in '*Guidelines for Providing for Journeys on Foot*' (CIHT, 2000) which suggests a maximum 'acceptable' walking distance for pedestrians without mobility impairment of 2km.
- 3.4 The site is located within an acceptable walk distance of a significant proportion of western Reading and within a short 200m (2 minute) walk distance to frequent bus services on Oxford Road. **Figure 3.1** below is a graphic representation of a 2km walking isochrone from the site demonstrating the extent of Reading that can be readily reached on foot.

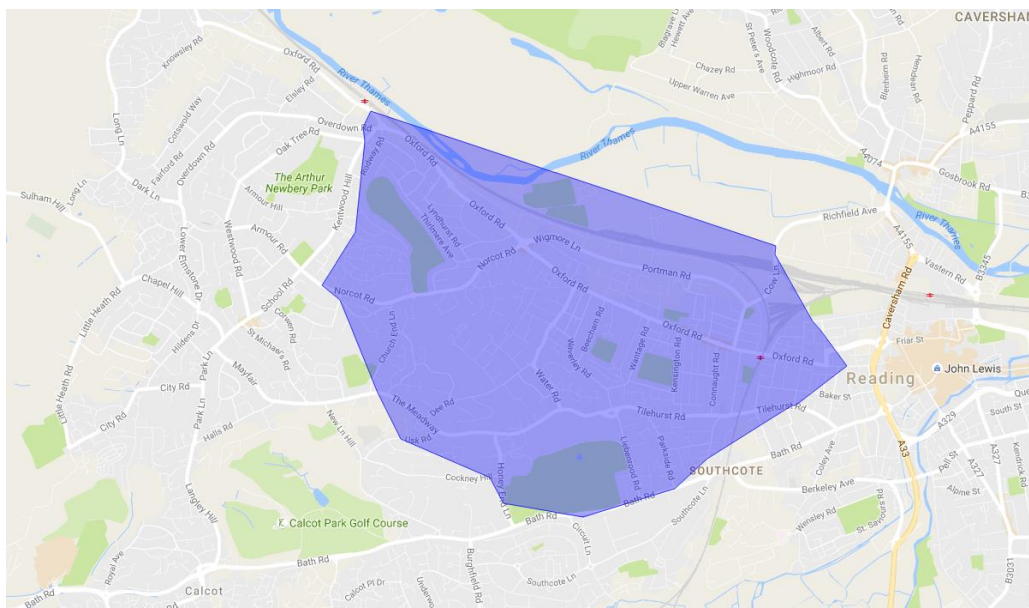


Figure 3.1: 2km Walking Isochrone from Proposed Site

Cycling

- 3.5 It is generally accepted that 8km (or 5 miles) is an acceptable cycling distance, representing a journey time on average of 30 minutes. In the vicinity of the site are a number of roads which are suitable for cycling, notably Portman Road forms part of the West Reading (R5) cycle route, forming an important link between the centre of Reading and Tilehurst rail station.
- 3.6 A 5km cycle distance covers the entirety of western Reading, extending as far south as the area of Calcot and as far east as the University of Reading London Road Campus.
- 3.7 A copy of the Reading cycle map is included at **Appendix A**.

Public Transport

Bus Services

- 3.8 Bus services can be accessed via Oxford Road within an approximate 200m / 2-minute walk distance of the building entrance. A link will be provided through the parking to the south of the site.
- 3.9 Three main bus lines route via the stops on Oxford Road (15, 16 and 17) which provide ready access into the centre of Reading and much of western Reading. As many as 20 buses in each



direction across all three services during peak hours. This ensures travelling to the site by bus is attractive, particularly for customers and staff from across the Reading area who can change buses in central Reading and make a quick change to one of the three buses highlighted previously.

Rail Services

- 3.10 Reading West rail station is located approximately 1.4km walking distance to the east of the site and provides access to frequent services to Reading, Bedwyn, Newbury Maidenhead, Slough and Ealing Broadway. Additionally, Reading Station is only a 3-minute train journey from Reading West and provides mainline services between London and the west of England and Wales.

4 POLICY CONTEXT

- 4.1 This Section provides a summary of the relevant transport policies at a national (Central Government), and local (Reading Borough Council) level.

National Policy

National Planning Policy Framework

- 4.2 The National Planning Policy Framework (NPPF) was published on 27th March 2012 and sets out the Government's planning policies for England and how these are expected to be applied.
- 4.3 Chapter 4 – 'Promoting Sustainable Transport' sets out central government national transport policy, with paragraph 29 setting out that:

"Transport policies have an important role to play in facilitating sustainable development but also in contributing to wider sustainability and health objectives. Smarter use of technologies can reduce the need to travel. The transport system needs to be balanced in favour of sustainable transport modes, giving people a real choice about how they travel. However, the Government recognises that different policies and measures will be required in different communities and opportunities to maximise sustainable transport solutions will vary from urban to rural areas.

Encouragement should be given to solutions which support reductions in greenhouse gas emissions and reduce congestion. In preparing Local Plans, local planning authorities should therefore support a pattern of development which, where reasonable to do so, facilitates the use of sustainable modes of transport."

- 4.4 Chapter 4 – 'Promoting Sustainable Transport' paragraph 32 continues by stating that:

"All developments that generate significant amounts of movement should be supported by a Transport Statement or Transport Assessment. Plans and decisions should take account of whether:

- the opportunities for sustainable transport modes have been taken up depending on the nature and location of the site, to reduce the need for major transport infrastructure;*
- safe and suitable access to the site can be achieved for all people; and*

- *improvements can be undertaken within the transport network that cost effectively limit the significant impacts of the development. Development should only be prevented or refused on transport grounds where the residual cumulative impacts of development are severe."*

Local Policy

Reading Borough Local Development Framework Adopted Core Strategy

- 4.5 Reading Borough Council adopted its Core Strategy in January 2008, with alterations adopted January 2015. This document, in conjunction with the policies of the Local Plan, forms the suite of policies at a local level by which planning applications are considered.
- 4.6 Policy CS4 (Accessibility and the Intensity of Development) states that "the scale and density of development within the Borough will be related to its level of accessibility by walking, cycling and public transport to a range of services and facilities."
- 4.7 Policy CS20 (Implementation of the Reading Transport Strategy) specifically relates to highways and provides guidance with regard to development proposals and their impact upon the highway network and the promotion of alternatives to the use of the private car.
- 4.8 Policy CS22 seeks to ensure an adequate level of accessibility and safety by all modes of transport whereby permission will not be granted unless an appropriate provision or contributions towards such a provision are given.
- 4.9 Policy CS23 states that permission will not be granted for major development proposals unless there is a commitment to implement measures to promote and improve sustainable transport facilities such as through agreed travel plans.
- 4.10 Policy CS24 stipulates that maximum car and cycle parking requirements will be applied in relation to the accessibility of locations within the Borough to sustainable transport facilities.

Sites and Detailed Policies Document

- 4.11 The document contains detailed policies to help guide decisions on planning applications and is used to support and complement the Core Strategy and was originally adopted in October 2012 before being revised in January 2015 to accord with the Core Strategy Alterations. It contains a number of planning policies.

- 4.12 Policy DM12 relates to access, traffic and highway related matters. It notes that in determining proposals consideration will be given to the effect on safety congestion and the environment if proposals involve new or altered access onto the transport network, improvement works, creation of new transport infrastructure or the generation of additional trips. It is noted that the proposals constitute only a change of use of an existing building with a reduction in traffic envisaged and as such is not subject to the scrutiny of Policy DM12.
- 4.13 The site is listed within the document as being within a Core Employment Area (Policy SA12) and listed specifically as SA12j: Bridgewater Close.

Revised Parking Standards and Design

- 4.14 The Revised Parking Standards and Design document forms part of Reading's LDF and provides guidance to support the local policies. The document was adopted in October 2011.
- 4.15 There is a zonal system for parking standards in Reading. There are 4 zones that have been identified. The application site is located close to the boundary but within Zone 3 which is defined as a Secondary Core Area containing a variety of land uses, within 400m walk of high frequency bus services.
- 4.16 Whilst the parking guidance sets out maximum car parking standards for a variety of uses, there are no specific standards that can be applied to the proposed trampoline park use and as such, car and cycle parking is determined on a case by case basis.
- 4.17 As such, the proposed quantum of parking set out in this document will demonstrate that there will be no overspill parking on the public highway; however, providing adequate parking which does not unduly encourage private car use.

Reading Borough Council Third Local Transport Plan, 2011-2026

- 4.18 Reading's third Local Transport Plan (LTP3) was published in April 2011 and provides the context for Reading in terms of the economy, environment and quality of life. The long-term vision for transport in Reading is the aim of better 'connecting Reading' through a transport system that enables people to move around easily, safely, sustainably and in comfort promoting inclusion, intervention and innovation. This is reflected in the key LTP3 objectives which are:

- To facilitate more physically active travel for journeys in a healthy environment;

- To improve personal safety on the transport network;
- To provide affordable, accessible and inclusive travel options for everyone;
- To ensure that the transport network operates safely and efficiently to meet the needs of all users;
- To align transport and land use planning to enable sustainable travel choices, improve mobility, reduce the need to travel and preserve the natural environment;
- To deliver balanced packages of value for money transport solutions and make best use of existing transport investment;
- To offer sustainable transport choices for the Travel to Work Area and beyond, integrating within and between different types of transport;
- To improve journey times, journey time reliability and the availability of information; and
- To reduce carbon emissions from transport, improve air quality and create a transport network which supports a mobile, affordable low carbon future.

Policy Summary

- 4.19 Transport policy at all levels advocates locating new developments in areas that are accessible by public transport, walking and cycling or which can be made accessible by these modes and that the level of parking provided at sites in such locations should be constrained.
- 4.20 It is evident that the site's location is sustainable, being accessible by a choice of travel modes, and is therefore considered suitable in transport policy terms for the proposed development.
- 4.21 The level of car and cycle parking provided shall be demonstrated to be suitable by ensuring there is no overspill beyond the site confines; however, it also accords with the principles of Reading's parking policy to ensure travelling by sustainable modes is encouraged.

5 PROPOSED DEVELOPMENT

- 5.1 The proposed development seeks the change of planning use of 8 Bridgewater Close from a go-karting centre for use as an indoor trampoline park with associated parking. The site is formed of a c3,000sqm building with parking accessed via Bridgewater Close.
- 5.2 A copy of the proposed plans are included at **Appendix B**.

Site Operation

- 5.3 The trampoline centre will be designed to accommodate as many as 125 trampoline users at any one time who will be supported by 12 members of staff at any one time.
- 5.4 The sessions will be staggered at half-hourly periods i.e. half of the 125 using the trampolines will start on the hour and the remaining half will start half an hour later. This permits a staggering of the changeover of users and prevents 125 users leaving whilst 125 arrive. As such, at maximum capacity there may be a further 63 waiting participants at any one time.
- 5.5 It is noted that should it be necessary or more desirable, the site management will stagger the sessions at 15-minute intervals, permitting a changeover of a quarter of the site's customers each 15 minutes.
- 5.6 The staggering of start times has been designed to reduce strain on staff and the operation of the site, but also benefits the operation of the highway with a reduced strain on parking and upon the capacity of local junctions.
- 5.7 It is also envisaged that there could be approximately 16 people 'spectating' such as parents and guardians not involved in the use of the trampolines.

Vehicle Access

- 5.8 The existing vehicular access from Bridgewater Close will remain in its current configuration. The car park is to be extended into an area adjacent to the Hotel Ibis to the south of the site which is currently redundant land. As such, vehicles will be able to route through the proposed car park and will be permitted to exit only onto Oxford Road. The existing crossover will be utilised onto Oxford Road.

Cycle Facilities

- 5.9 At present the site does not have any cycle parking facilities, requiring potential staff to park in an ad hoc manner within each of the units.
- 5.10 A total of 5 'Sheffield' style cycle parking stands will be provided in a dedicated store adjacent to car parking spaces 11 and 22 providing space for up to 10 bicycles to be securely accommodated. This provides space for up to 8% of the users at any one time to cycle to the site and park securely.

Car Parking Facilities

- 5.11 At present, the site is understood to be served by 39 car parking spaces, including two wheelchair parking spaces across the northern and eastern site boundaries.
- 5.12 As part of the proposals, the car park will be extended into redundant land to the south of the site. As such, the proposed car park will benefit from a total of 67 parking spaces and set out for the following uses:
- 4 disabled/wheelchair parking spaces;
 - 5 staff-only parking spaces; and
 - 58 customer parking spaces.
- 5.13 A copy of the proposed parking layout is included at **Appendix C**.

Servicing and Refuse Collection

- 5.14 It is noted that the deliveries associated with the trampoline park are highly likely to be undertaken by LGVs only such as transit vans or similar given the low volume of goods required. Deliveries will be timed to avoid peak periods so as to ensure arriving vehicles do not disrupt the use of the car park when it is most needed.
- 5.15 Delivery vehicles will be able to wait across the building frontage whilst they quickly undertake their activity without affecting access to many parking spaces nor impacting upon the access to the neighbouring businesses.
- 5.16 It is likely that there may be only one delivery for vended items each week, one refuse collection per week and a monthly delivery of other stock including office supplies. This level of goods vehicle trip generation will be similar to that exhibited by the existing go-karting use of the site.

6 EFFECTS OF DEVELOPMENT PROPOSAL

6.1 This section considers the potential effects of the planning application proposals in relation to trip generation, car parking accumulation, parking and how servicing will be undertaken.

Trip Generation

Existing Vehicle Trip Generation

6.2 In order to assess the potential impact of the proposed use on the local highway network it is important to consider the potential trip generation associated with the permitted use of the site, i.e. as an indoor go-karting centre.

6.3 There is no data available in the TRICS trip rate database and the site is no longer occupied and as such no surveys could be undertaken. Therefore, the potential vehicle trip generation for the previous use has been estimated using a first-principles approach taking account of a number of assumptions and facts stated within the Traffic Impact Assessment which was submitted to support the original application for the site's go-karting use. The following assumptions were applied:

- The existing go-karting centre comprises a single track which could accommodate a maximum of 8 go-karts simultaneously;
- The biggest events held were attended by 80 delegates / 64 drivers;
- The average car occupancy is approximately 2 delegates/drivers per vehicle;
- The site employed 9 staff (2 office; 2 maintenance and 5 track staff);
- The centre was busiest during evenings and weekends within a maximum of 30 car movement during these periods (15 in and 15 out); and
- Its opening hours were 09:00-23:00, 7 days a week.

6.4 Based on the above, two scenarios have been created to show the likely traffic associated with the site during weekdays and at weekends whereby the site would generate no more than 30 vehicles per hour during its peak periods, and the use of the site outside of the peak periods would reflect a proportional number of vehicle movements. **Table 6.1** below summarises the daily vehicle trip generation below for weekdays and weekends.

Table 6.1: Existing Go-Karting Use – Vehicle Use								
Time	Typical Weekday				Typical Weekend			
	% Busy	In	Out	Total	% Busy	In	Out	Total
08:00-09:00	10%	2	2	4	10%	2	2	3
09:00-10:00	10%	2	2	4	40%	6	6	12
10:00-11:00	10%	2	2	4	80%	12	12	24
11:00-12:00	10%	2	2	4	100%	15	15	30
12:00-13:00	10%	2	2	4	100%	15	15	30
13:00-14:00	10%	2	2	4	100%	15	15	30
14:00-15:00	20%	3	3	6	100%	15	15	30
15:00-16:00	40%	6	6	12	100%	15	15	30
16:00-17:00	60%	9	9	18	70%	11	11	21
17:00-18:00	80%	12	12	24	50%	8	8	15
18:00-19:00	100%	15	15	30	20%	3	3	6
19:00-20:00	100%	15	15	30	10%	2	2	3
20:00-21:00	100%	15	15	30	10%	2	2	3
21:00-22:00	80%	12	12	24	10%	2	2	3
22:00-23:00	50%	8	8	16	10%	2	2	3
Daily		107	107	214		122	122	243
Note: Any minor numerical discrepancies are a consequence of rounding.								

6.5 **Table 6.1** illustrates that the existing unit could generate 4 two-way vehicle trips between 08:00 and 09:00 and 24 two-way vehicle trips between 17:00 and 18:00 on an average weekday. Across a typical weekday, the existing site could be expected to generate approximately 214 two-way vehicle movements.

- 6.6 Between weekdays and weekends, the site would be largely expected to generate similar levels of traffic, albeit typical weekend would be expected to generate as many as 242 two-way vehicle movements per day and a weekend will have different peak periods.

Sensitivity Existing Scenario

- 6.7 The site is located within a designated Core Employment area whereby Reading Borough Council will encourage business / commercial uses to be promoted including use classes B1(c), B2 and B8. As such, it is prudent to understand the likely associated trip generation for comparison and context.
- 6.8 To consider the potential commercial use of the site, TRICS trip rate database was interrogated to calculate the traffic which would be likely to be generated.
- 6.9 The use 'Employment – Industrial Unit' was selected to best reflect the existing site, and sites were selected to reflect the scale and location of the building. A summary of the trip rates across the entire day, in addition to a daily trip rate are given in **Table 6.2** below with the full TRICS output included at **Appendix D**. The trip rates extracted from the TRICS database have also been factored by the existing 3,500sqm of floor area. To calculate the weekend vehicle trips, it is assumed that the site could be expected to operate at 50% of its capacity and as such the vehicle trips have been reduced by half.

Table 6.2: Potential Use (TRICS) – Vehicle Trip Rates (trips per 100sqm GFA)			
	Two-Way Vehicle Trip Rates (number of vehicle movements per 100sqm GFA)	Weekday Two-way vehicle movements (3,000sqm)	Weekday Two-way vehicle movements (3,000sqm)
06:00-07:00	0.341	10	5
07:00-08:00	0.703	21	11
08:00-09:00	1.757	53	26
09:00-10:00	0.49	15	7
10:00-11:00	0.331	10	5
11:00-12:00	0.287	9	4
12:00-13:00	0.52	16	8
13:00-14:00	0.639	19	10
14:00-15:00	0.43	13	6
15:00-16:00	0.421	13	6
16:00-17:00	0.545	16	8
17:00-18:00	1.242	37	19
18:00-19:00	0.641	19	10
Daily	8.347	250	125
Note: Any minor numerical discrepancies are a consequence of rounding associated with use of TRICS data.			

6.10 **Table 6.2** illustrates that the site as a commercial use could generate 53 two-way vehicle trips between 08:00 and 09:00 and 37 two-way vehicle trips between 17:00 and 18:00 on an average weekday. Across a typical day, the existing site could be expected to generate approximately 250 two-way vehicle movements.

6.11 Due to the nature of the potential industrial use a number of the trips generated are likely to be by larger vehicles, including HGVs, which could equate to up to 10% of daily vehicle movements.

Proposed Use

6.12 To assist in determining the likely traffic generation of the proposed indoor trampoline centre, the TRICS trip rate data base was interrogated. No recorded surveys of a trampoline centre exist and as such, the database was interrogated for other leisure type uses. It was considered that there were no surveyed sites that would reflect the site use as a Trampoline Centre for the following reasons:

- The sites selected /available from TRICS are multiple use leisure centres with gyms and swimming pools, for instance, and as a consequence have a higher density of occupancy than the proposed trampoline centre;
- Trampoline centres have significantly less demand per sqm than traditional leisure facilities given the inherent safety risk that would be created by a crowded centre and multiple users of each trampoline – only limited volumes of people are permitted to be in the centre at any one time;
- The proposed trampoline centre would be open for fewer hours. The proposed opening hours are: Monday to Saturday 09:00 to 23:00 and Sunday 09:00 to 22:00. The comparison sites within TRICS are open between 06:00 and 23:00 on a weekday. Given the opening hours, the proposed trampoline centre would generate no vehicle trips during the traditional weekday AM peak hour.
- Although the proposed indoor trampoline centre would be open to all ages, experience of similar sites elsewhere in the UK and also in the USA where indoor trampoline sites are becoming increasingly prevalent indicate that children and teenagers make up a significant proportion of visitor numbers. This age range is more likely to make use of active travel modes as they are too young to drive and teenagers in particular like to be independent from their parents / guardians.
- The capacity of the facility would be limited to 125 participants, plus approximately 16 spectators and 12 staff. It is noted that sessions will be staggered on a half-hourly basis, allowing for the swap-over of customers not occurring all at one time. As such at any one time there could be 216 people (125 participants, 63 waiting participants, 12 staff and 16 spectators). It is considered that during normal weekdays this capacity would not be reached, with peak periods only occurring during weekends and school holidays when flows on the highway network are lower.

- 6.13 For these reasons a comparison of trip rates using TRICS “leisure centres” is not an appropriate methodology and therefore, in order to better understand how many vehicle trips the proposed indoor trampoline centre would generate and to present a validated and robust assessment of the likely number of vehicle movements, use has been made of data recently accepted by a Planning Inspector for a trampoline park in St Albans.
- 6.14 The planning application relates to a site St Albans City and District Council where a Planning Inspector considered an Appeal for the change of use from a B1/B2 (general industrial) to a trampoline park in October 2015. Transport consideration formed a main issue in the Appeal. The Appeal was allowed.
- 6.15 The significance of the decision is that it has been scrutinised by Hertfordshire County Council as the highway authority and the Planning Inspectorate (PINS) as an independent body and found to be robust and sound. It therefore holds significant weight as a material consideration. The Appeal reference is APP/B1930/W/15/3053087.
- 6.16 The data used to inform the traffic generation was set out in the ‘Response to Request for Additional Information’ prepared by Fuller Long dated 2 March 2015. A number of factors were considered, including:
- The trip generation and parking analysis undertaken by Fuller Long assumed all 150 ‘jumpers’ would be driven to and from the site to adopt a robust analysis given it makes no allowance for any sustainable transport use which is unrealistic;
 - In addition, the analysis which was undertaken was based on site occupancy survey data and vehicle survey data for another trampoline park undertaken during school half term holidays when use is at its highest. The occupancy data was broken down into four typical day periods – Monday to Thursday; Fridays; Saturdays; and Sundays and Bank Holidays – to reflect the changing operation and occupancy exhibited; and
 - Fuller Long was also able to establish that there were between 2.84 and 3.25 ‘jumpers’ per car, representing an average of 3.08 ‘jumpers’ per vehicle.
- 6.17 It is therefore asserted that the use of the data presented by Fuller Long is robust and suitable to be factored to calculate the likely trip generation of the proposed trampoline park in Reading.

Proposed Trip Generation Using St Albans Data

- 6.18 To predict how many vehicles trips the proposed trampoline centre could generate during the weekday evening peak hours, the following methodology was employed:
1. Extract raw data from Appeal proposal;
 2. Divide raw data by St Albans maximum number of 'jumpers' to provide a trip rate of *number of vehicles per maximum jumpers*;
 3. Extrapolate the data to provide trip rates for hours proposed at Reading which were not proposed at St Albans i.e. 09:00 start time and 23:00 finish time;
 4. Multiply the trip rates from Step (3) by 125 persons i.e. the maximum number of jumpers proposed to give rise to the proposed vehicle trip rate;
 5. Divide the number of vehicles presented in Step (4) by the average number of jumpers per car calculated by Fuller Long (3.08 jumpers per car); and
 6. Undertake a realistic scenario. The data calculated in Steps 1-5 assumed 100% car modal share. In reality this will only be approximately 75% given opportunities for sustainable travel.
- 6.19 A copy of the full set of calculations for the above methodology is included at **Appendix E** with the two-way vehicle trip generation per hour extracted for Step 6 shown in **Table 6.3** below.

Table 6.3: Extract of Step 6 data – proposed two-way vehicle movements at Reading with 75% car modal share

Time	Day			
	Monday - Thursday	Friday	Saturday	Sun & Bank Holidays
0800-0900	3	2	5	4
0900-1000	3	2	5	4
1000-1100	3	5	36	23
1100-1200	6	5	61	42
1200-1300	6	4	61	46
1300-1400	6	4	36	31
1400-1500	8	5	20	27
1500-1600	13	11	36	42
1600-1700	16	17	31	46
1700-1800	14	19	15	39
1800-1900	14	27	15	31
1900-2000	16	34	41	27
2000-2100	12	33	61	19
2100-2200	12	18	61	19
2200-2300	12	18	0	0
Total	142	202	485	401

6.20 It is considered that the above represents an over-estimation of the number of likely vehicle trips at Reading and is very much a worst-case assessment. Given the raw St Albans data had to be extrapolated to correspond with the proposed Reading opening hours (Step 3), each of the four day periods considered included a notable over-estimation of the daily patronage. For example, as can be seen in Appendix E, in the Monday to Friday scenario it was subsequently calculated

that there would be a daily footfall of 122%, effectively showing the site to operate 22% over expected footfall.

- 6.21 In addition, the calculations set out for St Albans assumed a complete site user switch over each hour. However, the applicant will be instigating a staggered start-time on a half-hourly basis whereby half of the customer's sessions will change at half-hourly intervals. This will spread the impact of the changeover of customers with notable benefits to local highway capacity and the safe operation of the proposed car park.
- 6.22 The trip generation calculation has given no account for linked trip rates, whereby a proportion of the traffic calculated above would already be on the local highway network. The data presented by Fuller Long in support of the St Albans proposals demonstrated that Monday to Saturdays new vehicle trips would represent only between 30% and 60% of the number calculates; i.e. between 40% and 70% of the traffic calculated above would already be on the local highway network.
- 6.23 As can be seen above, the trip generation of the proposed indoor trampoline park is likely to only be limited during a typical weekday, particularly across the network peak hours (08:00-09:00 and 17:00-18:00). The site would be likely to generate its greatest vehicle trip generation across a Saturday when background network traffic is likely to be lower.

Net Residual Traffic Impact

- 6.24 Consideration has also been given to the difference in vehicle trips that could be generated by the existing go-karting use (Table 6.1) and that which is likely should the site be converted to a trampoline park across each of the day periods (summarised in Table 6.3). The net difference in trips is summarised in **Table 6.4** below.

Table 6.4: Net Two-Way Vehicle Trip Change (Existing vs Proposed)				
Time	Day			
	Monday - Thursday	Friday	Saturday	Sun & Bank Holidays
0800-0900	-1	-2	2	1
0900-1000	-1	-2	-7	-8
1000-1100	-1	1	12	-1
1100-1200	2	1	31	12
1200-1300	2	0	31	16
1300-1400	2	0	6	1
1400-1500	2	-1	-10	-3
1500-1600	1	-1	6	12
1600-1700	-2	-1	10	25
1700-1800	-10	-5	0	24
1800-1900	-16	-3	9	25
1900-2000	-14	4	38	24
2000-2100	-18	3	58	16
2100-2200	-12	-6	58	16
2200-2300	-4	2	-3	-3
Total	-72	-12	242	158

6.25 **Table 6.3** illustrates that the proposed trampoline centre would have a positive impact on the local highway network during the traditional AM peak hour (08:00 and 09:00) throughout the week with as many as 2 fewer two-way vehicle movements expected on a Friday. Across the PM peak hour during the week (17:00-18:00) the proposed centre would be expected to generate 10 fewer two-way movements. Across a typical weekday the proposed trampoline centre will

generate a reduction in two-way vehicle trips with as many as 72 fewer two-way movements per day.

- 6.26 The proposed trampoline centre would only be expected to generate an increase in vehicle movements across the weekend when few businesses will be in operation across in Bridgewater Close and background network traffic is generally lower. The number of additional vehicle movements is considered to be negligible across the day. Furthermore, consideration has not been given to the number of linked trips which would be expected to be far higher on a weekend when people traditionally spend the day going to various leisure activities.
- 6.27 It is therefore concluded that based on the above traffic assessment of the proposed development, it will not have a material impact in terms of highway safety, capacity or amenity. Furthermore, the level of additional impact does not constitute a cumulative significant impact.

Industrial Use Sensitivity Scenario – Net Traffic

- 6.28 Consideration has also been given to the difference in vehicle trips that could be generated by the potential industrial use (summarised in Table 6.1) and that which is likely should the site be converted to a trampoline park across each of the day periods (summarised in Table 6.2).
- 6.29 It is noted that data was only considered for the hours between 08:00 – 19:00 hours as this is the only comparable data between the existing industrial use data extracted from TRICS and that calculated for the proposed use. The net difference in trips is summarised in **Table 6.3** below.

Table 6.3: Net Two-Way Vehicle Trip Change (Sensitivity vs Proposed)				
Time	Day			
	Monday - Thursday	Friday	Saturday	Sun & Bank Holidays
0800-0900	-7	-12	0	-4
0900-1000	-18	-23	-5	-19
1000-1100	-50	-52	9	-27
1100-1200	-9	-14	54	5
1200-1300	-4	-10	56	11
1300-1400	-3	-9	31	-3
1400-1500	-8	-17	13	-11
1500-1600	-6	-20	26	3
1600-1700	3	-14	24	19
1700-1800	1	-17	9	17
1800-1900	-2	-19	7	17
Total	-109	-48	360	276

6.30 As can be seen in the table above, with consideration to the commercial use sensitivity scenario, the trampoline park would be expected to generate less traffic throughout a typical week with as many as 109 fewer two-way movements across a typical day. As was displayed with the comparison with the go-karting lawful use of the site, the proposed development would yield an increase in traffic across a typical weekend; however, this would be when few businesses will be in operation across in Bridgewater Close and background network traffic is generally lower.

Development Impacts

Traffic

6.31 It has been demonstrated that the proposed development would yield a reduction in vehicular traffic across typical weekdays (Monday to Friday) compared to the existing go-karting use of the

site with a reduction of up to 2 two-way vehicle movements during the morning peak hour and a reduction of as many as 10 fewer two-way vehicle movements across the evening peak hour.

- 6.32 The site would be expected to generate its greatest impact across weekends given the greater number of people not at work and children not being at school. It is considered that the uplift in traffic created at the weekend would not result in a significant impact given that the majority of neighbouring businesses would not be in operation and traffic on the local highway would be expected to be lower.
- 6.33 Furthermore, the trip generation of the proposed trampoline park has been calculated on a number of worst-case, robust assumptions and as such in reality the level of trip generation will be less and thus a reduced impact created. The trip generation calculations were based on data taken during school holidays where patronage is at its highest.
- 6.34 It is noted that the way in which the business will operate has been thoughtfully considered in a manner that also seeks to reduce the impact upon highways and transport. The sessions will start at half-hourly intervals with half of the maximum occupancy able to begin each half hour. This allows a steady and manageable changeover period without requiring an entire centre's worth of customers arriving and departing simultaneously. It should be borne in mind that the site management will review this system to ensure any impacts are minimal, and should it be necessary or desirable, the hourly slots will be increased in frequency to be staggered every 15 minutes; thereby reducing the impact even further.
- 6.35 Consideration has also been given to a sensitivity scenario given the site is located within a designated employment area where the site would typically be expected to accommodate uses which are designated as B1(c), B2 and B8 within the planning use class order. It has been demonstrated that the proposed trampoline use would yield a reduction in traffic compared to a typical commercial use of the building during the week, and an insignificant increase in traffic during the weekend.

Parking

- 6.36 As noted previously, 67 car parking spaces are proposed to serve the development.
- 6.37 To calculate the parking accumulation of the site the trip generation calculations outlined above and summarised in Table 6.3 have been interrogated. The calculations are included in the full data

output in Appendix E. **Table 6.4** below provided the hourly maximum car parking accumulation across all four day periods outlined.

Table 6.4: Maximum Car Park Accumulation				
Time	Day			
	Monday - Thursday	Friday	Saturday	Sun & Bank Holidays
0800-0900	3	9	12	11
0900-1000	6	11	17	15
1000-1100	9	12	43	30
1100-1200	9	11	43	34
1200-1300	9	11	43	34
1300-1400	9	11	17	19
1400-1500	10	12	27	30
1500-1600	14	17	33	34
1600-1700	14	17	22	34
1700-1800	12	20	17	26
1800-1900	14	25	22	26
1900-2000	14	27	43	22
2000-2100	9	24	43	19
2100-2200	4	12	43	15
2200-2300	0	0	43	15

6.38 As such, as can be seen in the table above, at any one time the maximum parking accumulation will occur on a Saturday when the site is at its greatest use (10:00-13:00 and 19:00-23:00). The maximum parking accumulation will be for 43 spaces at any one time.

6.39 It is proposed that 5 car parking spaces are set aside for staff use only. As such, the total demand for parking will be 48 car parking spaces, representing a maximum capacity of 71.6%.

- 6.40 As such, the proposed car park will have 30% of spaces free at any one time or 20 spaces which will be able to accommodate any unexpected increase in car parking demand and ensuring that there will be no parking overspill beyond the site boundary and protecting the amenity of neighbouring businesses.
- 6.41 Reference to the observations detailed within the St Albans assessment used to ascertain trip generation noted that 89% of the vehicles recorded remained parked for the duration of the session and as such 11% of the vehicles only parked temporarily to set-down or pick-up users. As such, in between sessions, the car park accumulation outlined above will be 11% less, or 5-6 spaces fewer.
- 6.42 Furthermore, the above represents the use of the centre at maximum capacity based upon data collected during a school holiday where the number of users will be at its peak, therefore demonstrating a worst-case assessment. During school term-times the parking demand will be notably less, particularly during the working week.
- 6.43 It is noted that on occasion, small groups may arrive by high occupancy vehicles such as mini-buses associated with birthday parties or team-building events. In such circumstances, there is plentiful car park space available for these vehicles to wait temporarily whilst they set-down or collect people without detriment to the amenity of the car park. This will also seek to ensure parking spaces are protected for use of customers arriving by private car.
- 6.44 With regard to cycle parking, the proposed quantum of cycle parking (10 spaces) will provide an adequate level of cycle parking to encourage users to cycle to and from the site. 10 spaces will accommodate approximately 8% of all users at any one time and therefore is a suitable quantum to prove attractive. In any regard, the site is employing the use of a Travel Plan and Red Kangaroo will monitor the use of cycle spaces and provide additional facilities to meet demand as necessary.
- 6.45 As such, it is considered the proposed parking quantum for both cars and cycles is acceptable and protects the amenity of neighbouring businesses and dwellings.

Public Transport

- 6.46 The site is located within a short walk distance (c.200m) of frequent bus services on Oxford Road (routes 15, 16 and 17) which provide a very good level of access to the centre of Reading where a multitude of connecting buses and trains can be reached across Reading and beyond. The site



is also within a reasonable walk distance of Reading West rail station which affords the opportunity to travel readily to the wider area.

- 6.47 It is considered that once dispersed across the public transport network, the patronage associated with the proposed development would have an insignificant impact upon any one service.

7 SUMMARY AND CONCLUSION

Summary

- 7.1 Caneparo Associates has been appointed by Red Kangaroo ('The Applicant') to provide traffic and transport advice in relation to the development proposal at 8 Bridgewater Close, Reading.
- 7.2 The development proposal seeks the conversion of the existing industrial building to accommodate an indoor trampoline centre measuring approximately 3,500sqm GFA with associated parking. The proposed development will constitute internal building works to facilitate the accommodation of the trampolines and other ancillary space. The parking area will also be reconfigured and extended.
- 7.3 The trampoline centre will be designed to accommodate as many as 125 trampoline users at any one time who will be supported by 12 staff. It is noted that the trampoline sessions will be staggered at half-hourly intervals so that half of the trampoline users change every half an hour. This then allows a staggering of changeover, and prevents all participants leaving when a large number of customers have just arrived. This therefore reduces strain on parking and highway amenity.
- 7.4 The site is situated in a sustainable and accessible location where it can be reached readily on foot, by bike and by public transport. As such, the site's location affords the opportunity for a number of journeys to be made by means other than private vehicle.
- 7.5 A vehicle trip generation assessment has been undertaken whereby it has been demonstrated that the proposed development is likely to yield a reduction in vehicular traffic across a typical weekday with a reduction in traffic across the morning and evening peak hours compared to the existing go-karting use. The proposed use would be expected to generate the greatest number of vehicular trips across weekends and evenings with the highest demand during these times within school holiday periods. This arrival and departure profile will complement the existing employment uses within Bridgewater Close and along Portman Road, with its greatest vehicle generation periods being outside of that normally exhibited by neighbouring businesses.
- 7.6 The quantum of parking provided shall be more than adequate to accommodate the demand during the greatest peak periods and shall seek to ensure that no overspill parking should be

created upon roads within the estate, which is understood to already accommodate some overspill parking associated with other neighbouring buildings.

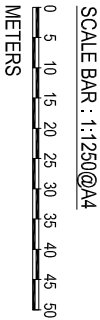
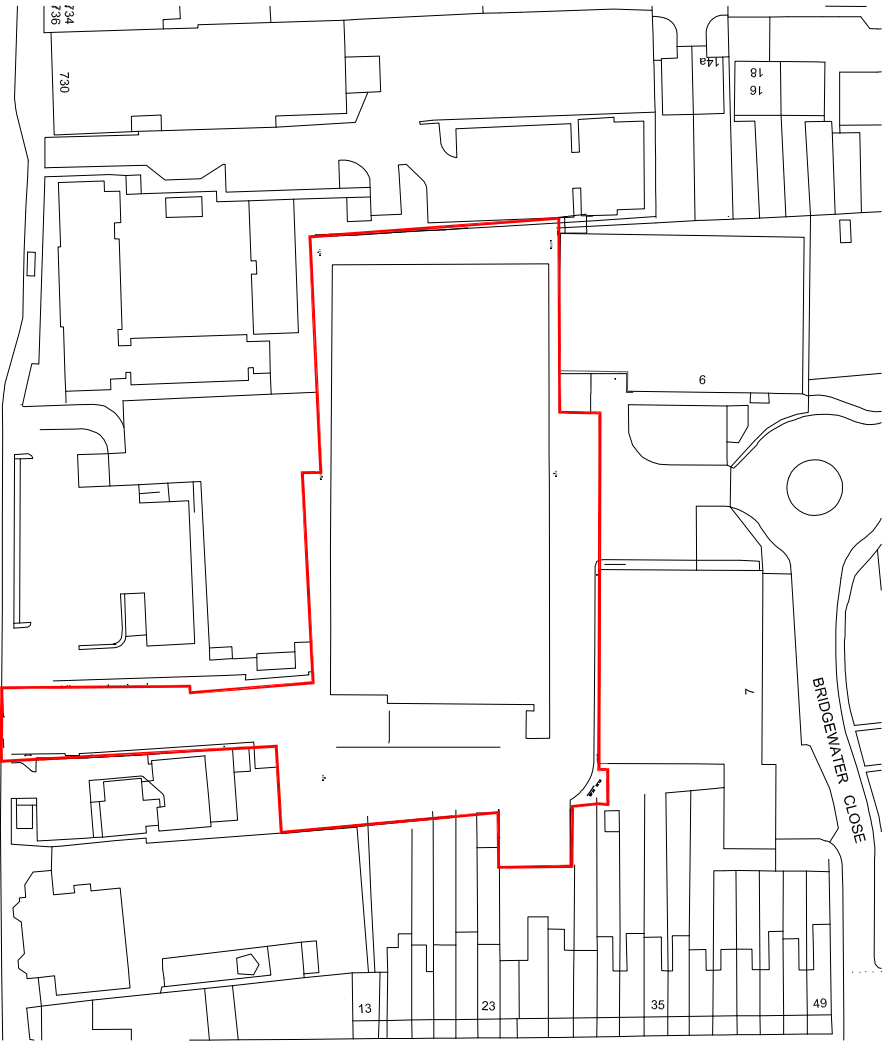
- 7.7 The proposed development will not generate any wider transport issues. Furthermore, it is considered that the proposals are likely to lead to a reduced parking impact, and as such, will seek to protect local amenity for both businesses and local residents. The expected patronage on public transport services is likely to generate only an insignificant impact once users have been dispersed across the transport network locally.

Conclusion

- 7.8 The proposed scheme is consistent with relevant transport policy guidance and will not give rise to any material transport related impacts. It therefore meets the test of the NPPF, which states that: *“Development should only be prevented or refused on transport grounds where the residual cumulative impacts of development are severe.”*
- 7.9 We therefore conclude that the planning application proposal is acceptable in traffic and transport terms, and there are no reasons why the development should be prevented or refused on transport grounds.

Figure 1

PLANNING



REVISION NOTES
Rev. A - 21/09/2016 (SN/GG)
Red line removed from building.
Carpark layout removed.

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PROJECT ADDRESS

**RED KANGAROO Reading,
8 Bridgewater Close,
Reading,
RG30 1JT**

DRAWING TITLE

SITE LOCATION PLAN

DRAWING NO.

13078-PL-019

REV.

A

DRAWN BY

SN

SCALE

1:1250 @ A4

DATE

20/09/2016

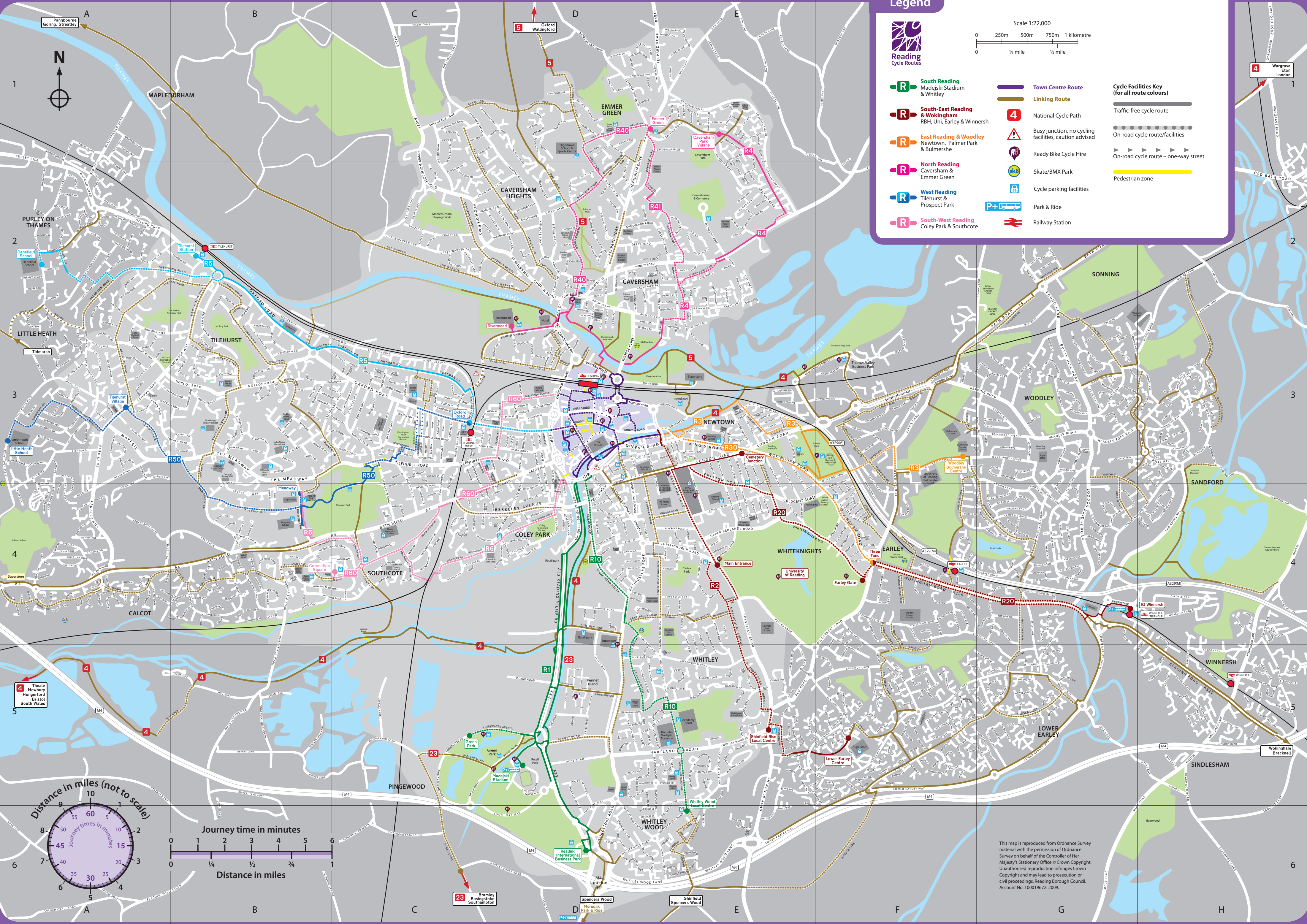
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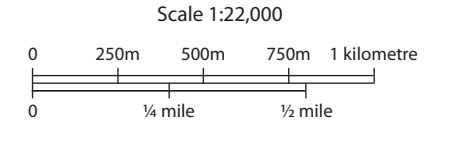


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Appendix A



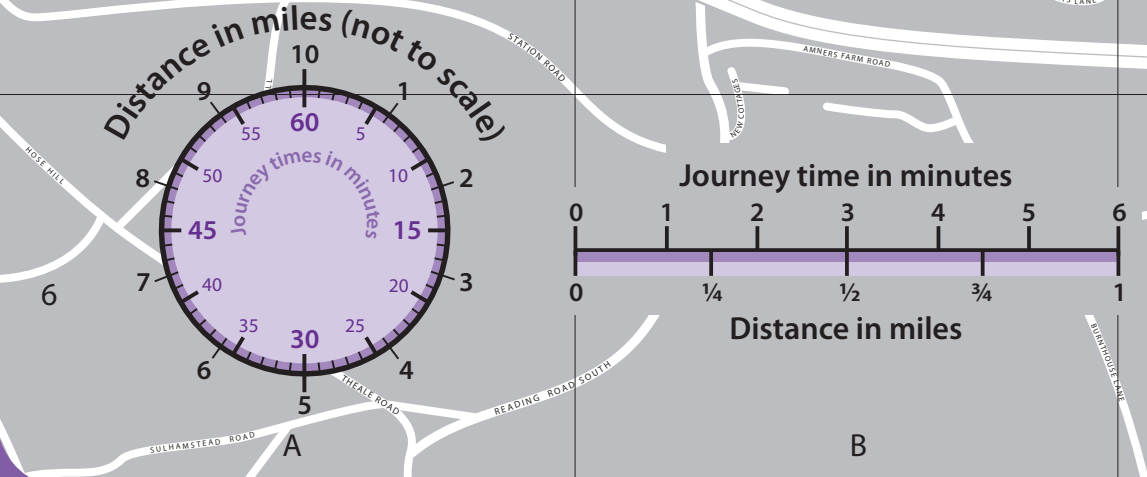
Legend



- R** South Reading
Madejski Stadium & Whitley
- R** South-East Reading & Wokingham
RBH, Uni, Earley & Winnersh
- R** East Reading & Woodley
Newtown, Palmer Park & Bulmershe
- R** North Reading
Caversham & Emmer Green
- R** West Reading
Tilehurst & Prospect Park
- R** South-West Reading
Coley Park & Southcote

- Town Centre Route**
- Linking Route**
- 4** National Cycle Path
- Busy junction, no cycling facilities, caution advised
- Ready Bike Cycle Hire
- Skate/BMX Park
- Cycle parking facilities
- Park & Ride
- Railway Station

- Cycle Facilities Key (for all route colours)**
- Traffic-free cycle route
 - On-road cycle route/facilities
 - On-road cycle route – one-way street
 - Pedestrian zone

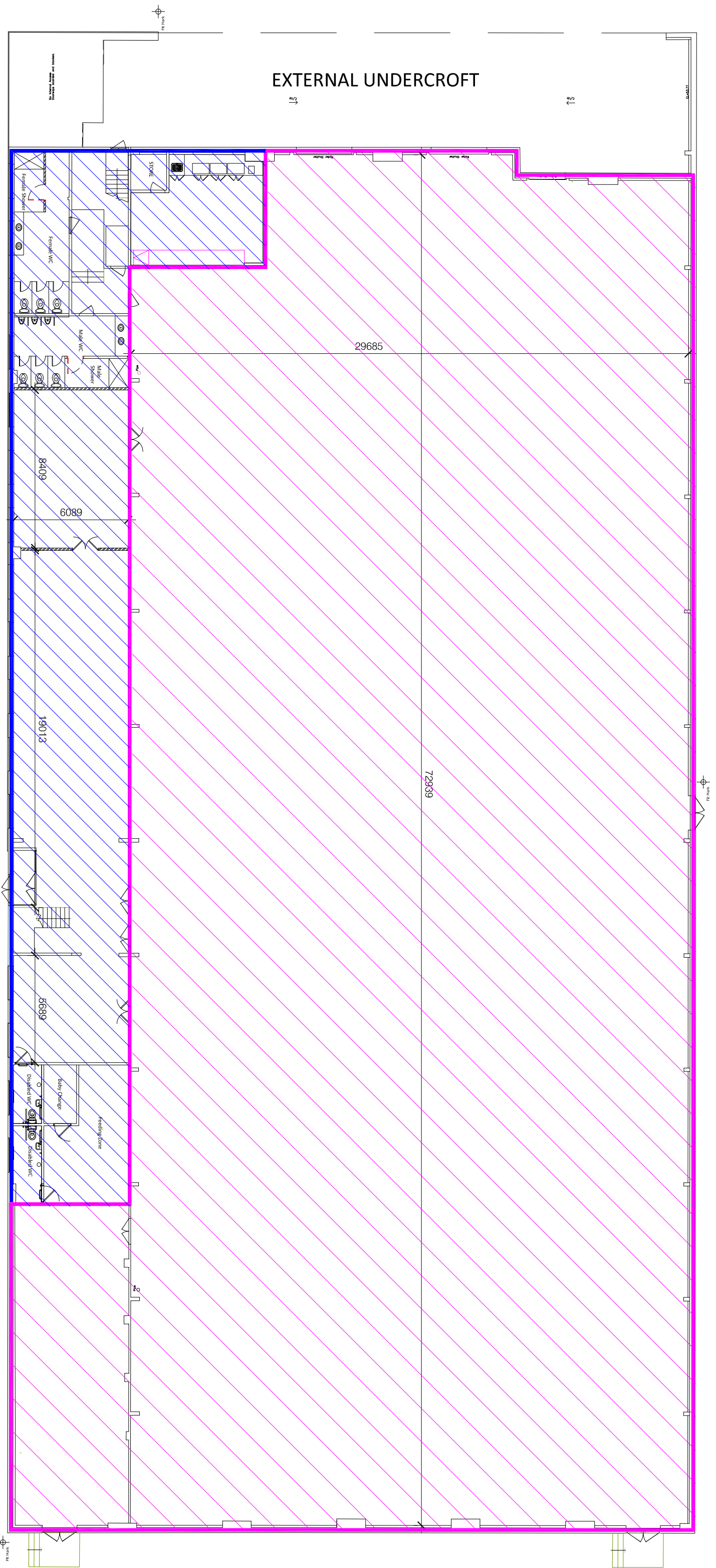


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Appendix B

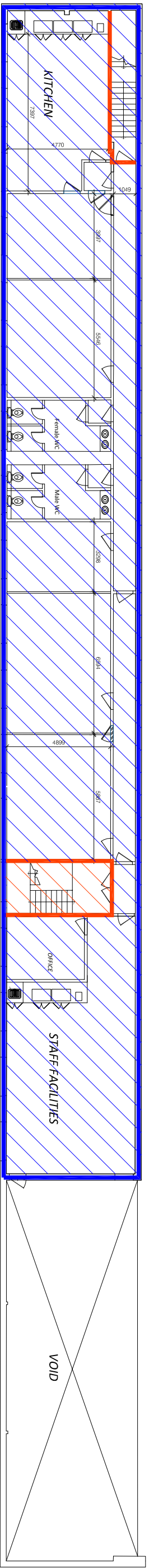
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Proposed Ground Floor Plan

SCALE 1:200 @ A1

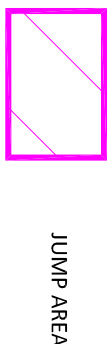
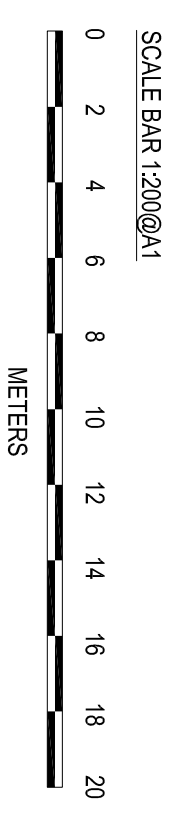


Proposed First Floor Plan

SCALE 1:200 @ A1

PLANNING

REVISION NOTES
Rev. A - 21/09/2016 (SN/GG) Minor annotations added



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CLIENT
RED KANGAROO

PROJECT
8 BRIDGEWATER CLOSE
READING
RG30 1JT

DRAWING TITLE
Proposed Ground/First Floor Plans

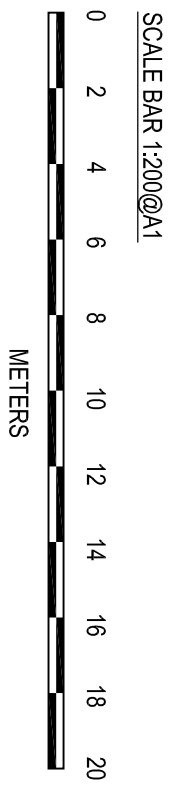
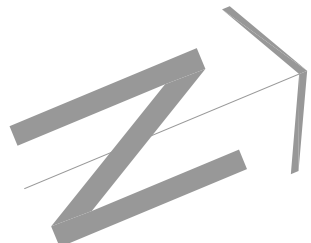
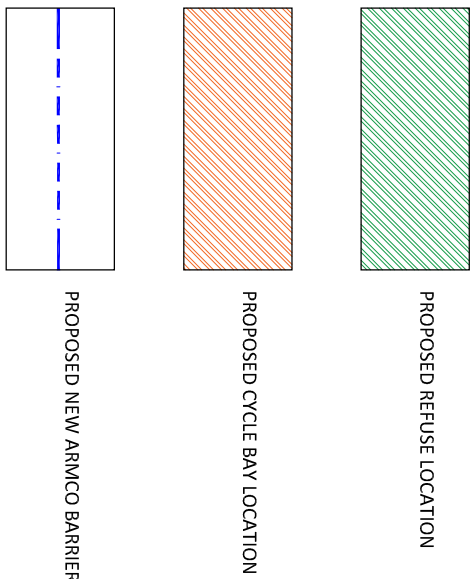
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Appendix C

Appendix D

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PLANNING



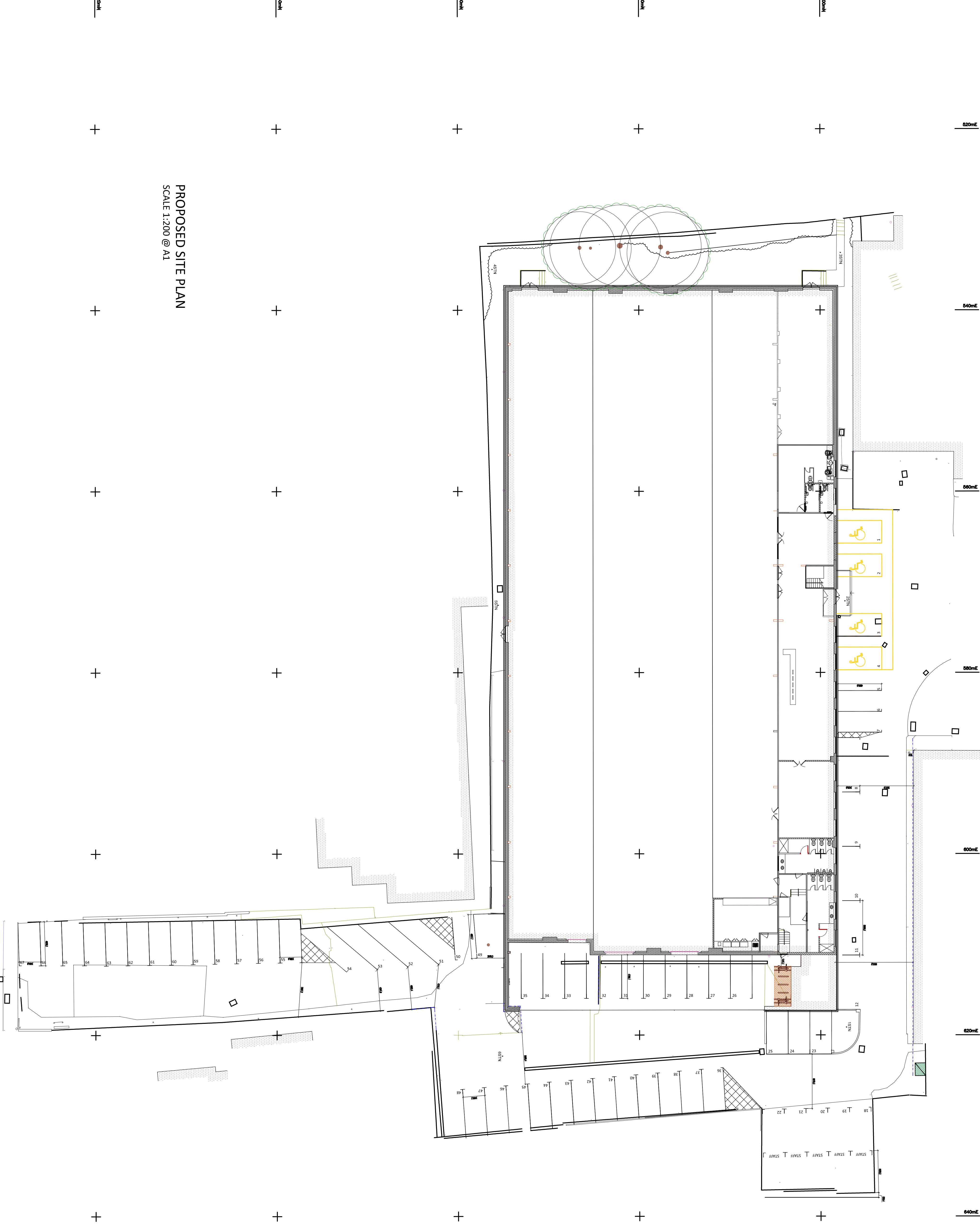
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CLIENT
RED KANGAROO

PROJECT
RED KANGAROO Reading,
8 Bridgewater Close,
Reading,
RG30 1JT

DRAWING TITLE
PROPOSED SITE PLAN

DRAWN BY	DATE	SCALE	PAPER SIZE
SN	13/09/2016	1:200	A1
CHECKED BY	DRAWING NUMBER	REV.	
GG	13078-PL-200		



PROPOSED SITE PLAN
SCALE 1:200 @ A1

Calculation Reference: AUDIT-358901-160712-0742

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 02 - EMPLOYMENT
 Category : C - INDUSTRIAL UNIT
 VEHICLES

Selected regions and areas:

02	SOUTH EAST	
	RE READING	1 days
03	SOUTH WEST	
	DC DORSET	1 days
04	EAST ANGLIA	
	SF SUFFOLK	1 days
06	WEST MIDLANDS	
	HE HEREFORDSHIRE	1 days
	WM WEST MIDLANDS	1 days
07	YORKSHIRE & NORTH LINCOLNSHIRE	
	NY NORTH YORKSHIRE	1 days
11	SCOTLAND	
	EB CITY OF EDINBURGH	1 days
	SR STIRLING	1 days

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

Filtering Stage 2 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: 645 to 5467 (units: sqm)
 Range Selected by User: 300 to 7000 (units: sqm)

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/08 to 25/06/15

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

Selected survey days:

Monday	3 days
Tuesday	3 days
Thursday	1 days
Friday	1 days

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

Selected survey types:

Manual count	8 days
Directional ATC Count	0 days

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

Selected Locations:

Edge of Town	7
Neighbourhood Centre (PPS6 Local Centre)	1

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

Selected Location Sub Categories:

Industrial Zone	5
Commercial Zone	1
Village	1
No Sub Category	1

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

Filtering Stage 3 selection:

Use Class:

B1	6 days
B2	2 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 1 mile:

1,001 to 5,000	2 days
5,001 to 10,000	2 days
10,001 to 15,000	3 days
15,001 to 20,000	1 days

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

Population within 5 miles:

5,001 to 25,000	1 days
50,001 to 75,000	2 days
75,001 to 100,000	2 days
125,001 to 250,000	3 days

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

Car ownership within 5 miles:

0.6 to 1.0	3 days
1.1 to 1.5	5 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	8 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.

LIST OF SITES relevant to selection parameters

1	DC-02-C-07	NEW LOOK	DORSET
	MERCERY ROAD		
	WEYMOUTH		
	Edge of Town		
	No Sub Category		
	Total Gross floor area:	5467 sqm	
	Survey date: MONDAY	07/07/08	Survey Type: MANUAL
2	EB-02-C-01	BREWERY	CITY OF EDINBURGH
	DRYDEN ROAD		
	LOANHEAD		
	EDINBURGH		
	Edge of Town		
	Industrial Zone		
	Total Gross floor area:	1200 sqm	
	Survey date: MONDAY	16/06/08	Survey Type: MANUAL
3	HE-02-C-02	THERMAL PROCESSING	HEREFORDSHIRE
	COLLEGE ROAD		
	BURCOTT		
	HEREFORD		
	Edge of Town		
	Commercial Zone		
	Total Gross floor area:	1880 sqm	
	Survey date: TUESDAY	22/10/13	Survey Type: MANUAL
4	NY-02-C-01	FOOD PRODUCTION	NORTH YORKSHIRE
	FEARBY ROAD		
	MASHAM		
	Neighbourhood Centre (PPS6 Local Centre)		
	Village		
	Total Gross floor area:	2491 sqm	
	Survey date: TUESDAY	23/09/08	Survey Type: MANUAL
5	RE-02-C-01	SHEET METAL FABRICATION	READING
	COMMERCIAL ROAD		
	READING		
	Edge of Town		
	Industrial Zone		
	Total Gross floor area:	645 sqm	
	Survey date: THURSDAY	22/11/12	Survey Type: MANUAL
6	SF-02-C-01	JOINERY	SUFFOLK
	ANSON ROAD		
	MARTLESHAM HEATH		
	IPSWICH		
	Edge of Town		
	Industrial Zone		
	Total Gross floor area:	1100 sqm	
	Survey date: FRIDAY	12/07/13	Survey Type: MANUAL
7	SR-02-C-01	SPECIALIST MODEL MAKING	STIRLING
	BORROWMEADOW ROAD		
	STIRLING		
	Edge of Town		
	Industrial Zone		
	Total Gross floor area:	2350 sqm	
	Survey date: MONDAY	16/06/14	Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

8	WM-02-C-03	INDUSTRIAL GLASS	WEST MIDLANDS
	DOWNING STREET		
	SMETHWICK		
	Edge of Town		
	Industrial Zone		
	Total Gross floor area:	5070 sqm	
	Survey date: TUESDAY	06/11/12	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.

TRIP RATE for Land Use 02 - EMPLOYMENT/C - INDUSTRIAL UNIT
VEHICLES

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 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	2350	0.298	1	2350	0.043	1	2350	0.341
07:00 - 08:00	8	2525	0.614	8	2525	0.089	8	2525	0.703
08:00 - 09:00	8	2525	1.534	8	2525	0.223	8	2525	1.757
09:00 - 10:00	8	2525	0.342	8	2525	0.148	8	2525	0.490
10:00 - 11:00	8	2525	0.173	8	2525	0.158	8	2525	0.331
11:00 - 12:00	8	2525	0.134	8	2525	0.153	8	2525	0.287
12:00 - 13:00	8	2525	0.223	8	2525	0.297	8	2525	0.520
13:00 - 14:00	8	2525	0.337	8	2525	0.302	8	2525	0.639
14:00 - 15:00	8	2525	0.252	8	2525	0.178	8	2525	0.430
15:00 - 16:00	8	2525	0.134	8	2525	0.287	8	2525	0.421
16:00 - 17:00	8	2525	0.129	8	2525	0.416	8	2525	0.545
17:00 - 18:00	8	2525	0.084	8	2525	1.158	8	2525	1.242
18:00 - 19:00	7	2550	0.106	8	2525	0.535	7	2550	0.641
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:		4.360				3.987			8.347

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

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

Parameter summary

Trip rate parameter range selected: 645 - 5467 (units: sqm)
 Survey date range: 01/01/08 - 25/06/15
 Number of weekdays (Monday-Friday): 8
 Number of Saturdays: 0
 Number of Sundays: 0
 Surveys manually removed from selection: 1

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

TRIP RATE for Land Use 02 - EMPLOYMENT/C - INDUSTRIAL UNIT

TAXIS

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00	1	2350	0.000	1	2350	0.000	1	2350	0.000
07:00 - 08:00	8	2525	0.025	8	2525	0.020	8	2525	0.045
08:00 - 09:00	8	2525	0.005	8	2525	0.015	8	2525	0.020
09:00 - 10:00	8	2525	0.005	8	2525	0.005	8	2525	0.010
10:00 - 11:00	8	2525	0.020	8	2525	0.020	8	2525	0.040
11:00 - 12:00	8	2525	0.010	8	2525	0.010	8	2525	0.020
12:00 - 13:00	8	2525	0.010	8	2525	0.010	8	2525	0.020
13:00 - 14:00	8	2525	0.010	8	2525	0.010	8	2525	0.020
14:00 - 15:00	8	2525	0.005	8	2525	0.005	8	2525	0.010
15:00 - 16:00	8	2525	0.000	8	2525	0.005	8	2525	0.005
16:00 - 17:00	8	2525	0.020	8	2525	0.005	8	2525	0.025
17:00 - 18:00	8	2525	0.010	8	2525	0.030	8	2525	0.040
18:00 - 19:00	8	2525	0.010	8	2525	0.010	8	2525	0.020
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.130			0.145			0.275

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

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

Parameter summary

Trip rate parameter range selected: 645 - 5467 (units: sqm)
 Survey date range: 01/01/08 - 25/06/15
 Number of weekdays (Monday-Friday): 8
 Number of Saturdays: 0
 Number of Sundays: 0
 Surveys manually removed from selection: 1

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

TRIP RATE for Land Use 02 - EMPLOYMENT/C - INDUSTRIAL UNIT

OGVS

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	8	2525	0.005	8	2525	0.000	8	2525	0.005
08:00 - 09:00	8	2525	0.035	8	2525	0.030	8	2525	0.065
09:00 - 10:00	8	2525	0.025	8	2525	0.005	8	2525	0.030
10:00 - 11:00	8	2525	0.020	8	2525	0.025	8	2525	0.045
11:00 - 12:00	8	2525	0.010	8	2525	0.020	8	2525	0.030
12:00 - 13:00	8	2525	0.000	8	2525	0.015	8	2525	0.015
13:00 - 14:00	8	2525	0.020	8	2525	0.020	8	2525	0.040
14:00 - 15:00	8	2525	0.015	8	2525	0.015	8	2525	0.030
15:00 - 16:00	8	2525	0.010	8	2525	0.010	8	2525	0.020
16:00 - 17:00	8	2525	0.000	8	2525	0.010	8	2525	0.010
17:00 - 18:00	8	2525	0.005	8	2525	0.005	8	2525	0.010
18:00 - 19:00	8	2525	0.005	8	2525	0.000	8	2525	0.005
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.150			0.155			0.305

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

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

Parameter summary

Trip rate parameter range selected:	645 - 5467 (units: sqm)
Survey date range:	01/01/08 - 25/06/15
Number of weekdays (Monday-Friday):	8
Number of Saturdays:	0
Number of Sundays:	0
Surveys manually removed from selection:	1

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

TRIP RATE for Land Use 02 - EMPLOYMENT/C - INDUSTRIAL UNIT

PSVS

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00	1	2350	0.000	1	2350	0.000	1	2350	0.000
07:00 - 08:00	8	2525	0.000	8	2525	0.000	8	2525	0.000
08:00 - 09:00	8	2525	0.000	8	2525	0.000	8	2525	0.000
09:00 - 10:00	8	2525	0.000	8	2525	0.000	8	2525	0.000
10:00 - 11:00	8	2525	0.000	8	2525	0.000	8	2525	0.000
11:00 - 12:00	8	2525	0.000	8	2525	0.000	8	2525	0.000
12:00 - 13:00	8	2525	0.000	8	2525	0.000	8	2525	0.000
13:00 - 14:00	8	2525	0.000	8	2525	0.000	8	2525	0.000
14:00 - 15:00	8	2525	0.000	8	2525	0.000	8	2525	0.000
15:00 - 16:00	8	2525	0.000	8	2525	0.000	8	2525	0.000
16:00 - 17:00	8	2525	0.000	8	2525	0.000	8	2525	0.000
17:00 - 18:00	8	2525	0.000	8	2525	0.000	8	2525	0.000
18:00 - 19:00	8	2525	0.000	8	2525	0.000	8	2525	0.000
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.000			0.000			0.000

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

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

Parameter summary

Trip rate parameter range selected: 645 - 5467 (units: sqm)
 Survey date range: 01/01/08 - 25/06/15
 Number of weekdays (Monday-Friday): 8
 Number of Saturdays: 0
 Number of Sundays: 0
 Surveys manually removed from selection: 1

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

TRIP RATE for Land Use 02 - EMPLOYMENT/C - INDUSTRIAL UNIT
CYCLISTS

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	8	2525	0.035	8	2525	0.000	8	2525	0.035
08:00 - 09:00	8	2525	0.010	8	2525	0.000	8	2525	0.010
09:00 - 10:00	8	2525	0.010	8	2525	0.000	8	2525	0.010
10:00 - 11:00	8	2525	0.000	8	2525	0.000	8	2525	0.000
11:00 - 12:00	8	2525	0.000	8	2525	0.000	8	2525	0.000
12:00 - 13:00	8	2525	0.000	8	2525	0.000	8	2525	0.000
13:00 - 14:00	8	2525	0.000	8	2525	0.000	8	2525	0.000
14:00 - 15:00	8	2525	0.000	8	2525	0.005	8	2525	0.005
15:00 - 16:00	8	2525	0.000	8	2525	0.005	8	2525	0.005
16:00 - 17:00	8	2525	0.000	8	2525	0.030	8	2525	0.030
17:00 - 18:00	8	2525	0.000	8	2525	0.010	8	2525	0.010
18:00 - 19:00	8	2525	0.000	8	2525	0.010	8	2525	0.010
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.055			0.060			0.115

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

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

Parameter summary

Trip rate parameter range selected: 645 - 5467 (units: sqm)
 Survey date range: 01/01/08 - 25/06/15
 Number of weekdays (Monday-Friday): 8
 Number of Saturdays: 0
 Number of Sundays: 0
 Surveys manually removed from selection: 1

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

Appendix E

STEP 1

Raw Data From St Albans Additional Information

Mon-Thur				
	% of daily	Arr	dep	total
0800-0900				
0900-1000				
1000-1100	5%	14	0	14
1100-1200	5%	14	14	29
1200-1300	5%	14	14	29
1300-1400	5%	14	14	29
1400-1500	8%	23	14	37
1500-1600	14%	40	23	63
1600-1700	14%	40	40	80
1700-1800	10%	29	40	69
1800-1900	14%	40	29	69
1900-2000	14%	40	40	80
2000-2100	6%	17	40	57
2100-2200				
	100%	286	268	554

Fri				
	% of daily	Arr	dep	total
0800-0900				
0900-1000	2%	9	0	9
1000-1100	3%	14	9	23
1100-1200	2%	9	14	23
1200-1300	2%	9	9	18
1300-1400	2%	9	9	18
1400-1500	3%	14	9	23
1500-1600	9%	41	14	55
1600-1700	9%	41	41	82
1700-1800	12%	55	41	96
1800-1900	17%	78	55	133
1900-2000	20%	91	78	169
2000-2100	16%	73	91	164
2100-2200	3%	14	73	87
	100%	448	443	891

Sat				
	% of daily	Arr	dep	total
0800-0900				
0900-1000	2%	25	0	25
1000-1100	12%	151	25	176
1100-1200	12%	151	151	302
1200-1300	12%	151	151	302
1300-1400	2%	25	151	176
1400-1500	6%	75	25	101
1500-1600	8%	101	75	176
1600-1700	4%	50	101	151
1700-1800	2%	25	50	75
1800-1900	4%	50	25	75
1900-2000	12%	151	50	201
2000-2100	12%	151	151	302
2100-2200	12%	151	151	302
	100%	1257	1106	2362

Sun & Bank hols				
	% of daily	Arr	dep	total
0800-0900				
0900-1000	2%	19	0	19
1000-1100	10%	95	19	114
1100-1200	12%	114	95	209
1200-1300	12%	114	114	228
1300-1400	4%	38	114	152
1400-1500	10%	95	38	133
1500-1600	12%	114	95	209
1600-1700	12%	114	114	228
1700-1800	8%	76	114	190
1800-1900	8%	76	76	152
1900-2000	6%	57	76	133
2000-2100	4%	38	57	95
2100-2200				
	100%	952	914	1866

STEP 2

ST ALBANS TRAMPOLINE PARK HAD MAXIMUM CAPACITY OF 150 PERSONS AS SET OUT IN 'ADDITIONAL INFORMATION' DOCUMENT.
AS SUCH, THE TRIP NUMBERS DEMONSTRATED ABOVE HAS BEEN DIVIDED BY 150 TO GIVE RISE TO THE CALCULATION OF THE 'NUMBER TRIPS PER PERSON AT MAX CAPACITY'. THIS IS PRESENTED BELOW.
150 persons

Raw Data Converted to Trip Rates per Person at Max Capacity (150)

Mon-Thur				
	% of daily	Arr	dep	total
0800-0900				
0900-1000				
1000-1100	5%	0.0933333	0	0.0933333
1100-1200	5%	0.0933333	0.0933333	0.1933333
1200-1300	5%	0.0933333	0.0933333	0.1933333
1300-1400	5%	0.0933333	0.0933333	0.1933333
1400-1500	8%	0.1533333	0.0933333	0.2466667
1500-1600	14%	0.2666667	0.1533333	0.42
1600-1700	14%	0.2666667	0.2666667	0.5333333
1700-1800	10%	0.1933333	0.2666667	0.46
1800-1900	14%	0.2666667	0.1933333	0.46
1900-2000	14%	0.2666667	0.2666667	0.5333333
2000-2100	6%	0.1133333	0.2666667	0.38
2100-2200		0	0	0
	100%	1.9066667	1.7866667	3.6933333

Fri				
	% of daily	Arr	dep	total
0800-0900				
0900-1000	2%	0.06	0	0.06
1000-1100	3%	0.093333	0.06	0.153333
1100-1200	2%	0.06	0.093333	0.153333
1200-1300	2%	0.06	0.06	0.12
1300-1400	2%	0.06	0.06	0.12
1400-1500	3%	0.093333	0.06	0.153333
1500-1600	9%	0.273333	0.093333	0.366667
1600-1700	9%	0.273333	0.273333	0.546667
1700-1800	12%	0.366667	0.273333	0.64
1800-1900	17%	0.52	0.366667	0.886667
1900-2000	20%	0.606667	0.52	1.126667
2000-2100	16%	0.486667	0.606667	1.093333
2100-2200	3%	0.093333	0.486667	0.58
	100%	2.986667	2.953333	5.94

Sat				
	% of daily	Arr	dep	total
0800-0900				
0900-1000	2%	0.166667	0	0.166667
1000-1100	12%	1.006667	0.166667	1.173333
1100-1200	12%	1.006667	1.006667	2.013333
1200-1300	12%	1.006667	1.006667	2.013333
1300-1400	2%	0.166667	1.006667	1.173333
1400-1500	6%	0.5	0.166667	0.673333
1500-1600	8%	0.673333	0.5	1.173333
1600-1700	4%	0.333333	0.673333	1.006667
1700-1800	2%	0.166667	0.333333	0.5
1800-1900	4%	0.333333	0.166667	0.5
1900-2000	12%	1.006667	0.333333	1.34
2000-2100	12%	1.006667	1.006667	2.013333
2100-2200	12%	1.006667	1.006667	2.013333
	100%	8.38	7.373333	15.74667

Sun & Bank hols				
	% of daily	Arr	dep	total
0800-0900				
0900-1000	2%	0.126667	0	0.126667
1000-1100	10%	0.633333	0.126667	0.76
1100-1200	12%	0.76	0.633333	1.393333
1200-1300	12%	0.76	0.76	1.52
1300-1400	4%	0.253333	0.76	1.013333
1400-1500	10%	0.633333	0.253333	0.886667
1500-1600	12%	0.76	0.633333	1.393333
1600-1700	12%	0.76	0.76	1.52
1700-1800	8%	0.506667	0.76	1.266667
1800-1900	8%	0.506667	0.506667	1.013333
1900-2000	6%	0.38	0.506667	0.886667
2000-2100	4%	0.253333	0.38	0.633333
2100-2200		0	0	0
	100%	6.346667	6.093333	12.44

STEP 3

GIVEN THE READING PROPOSALS WILL BE OPEN FOR LONGER HOURS, THE TRIPS RATES AS PRESENTED ABOVE WILL BE EXTENDED TO COVER THE PROPOSED OPENING HOURS OF MONDAY TO SATURDAY 09:00 to 23:00 AND SUNDAY 09:00 to 22:00
THIS PRESENTS A WORST CASE WITH AN ASSUMPTION THAT MORE THAN 100% OF THE LIKELY DAILY FOOTFALL WILL ARRIVE. THE ADDED DATA IS HIGHLIGHTED IN THE TABLES BELOW.

Key
New data

Trip rates adjusted to account for proposed opening hours at Abingdon

Mon-Thur				
	% of daily	Arr	dep	total
0800-0900	5%	0.093	0.000	0.093
0900-1000	5%	0.093	0.000	0.093
1000-1100	5%	0.093	0.000	0.093
1100-1200	5%	0.093	0.093	0.193
1200-1300	5%	0.093	0.093	0.193
1300-1400	5%	0.093	0.093	0.193
1400-1500	8%	0.153	0.093	0.247
1500-1600	14%	0.267	0.153	0.420
1600-1700	14%	0.267	0.267	0.533
1700-1800	10%	0.193	0.267	0.460
1800-1900	14%	0.267	0.193	0.460
1900-2000	14%	0.267	0.267	0.533
2000-2100	6%	0.113	0.267	0.380
2100-2200	6%	0.113	0.267	0.380
2200-2300	6%	0.113	0.267	0.380
Total	122%	2.313	2.320	4.653

Fri				
	% of daily	Arr	dep	total
0800-0900	2%	0.060	0.000	0.060
0900-1000	2%	0.060	0.000	0.060
1000-1100	3%	0.093	0.060	0.153
1100-1200	2%	0.060	0.093	0.153
1200-1300	2%	0.060	0.060	0.120
1300-1400	2%	0.060	0.060	0.120
1400-1500	3%	0.093	0.060	0.153
1500-1600	9%	0.273	0.093	0.367
1600-1700	9%	0.273	0.273	0.547
1700-1800	12%	0.367	0.273	0.640
1800-1900	17%	0.520	0.367	0.887
1900-2000	20%	0.607	0.520	1.127
2000-2100	16%	0.487	0.607	1.093
2100-2200	3%	0.093	0.487	0.580
2200-2300	3%	0.093	0.487	0.580
Total	105%	3.200	3.440	6.640

Sat				
	% of daily	Arr	dep	total
0800-0900	2%	0.167	0.000	0.167
0900-1000	2%	0.167	0.000	0.167
1000-1100	12%	1.007	0.167	1.173
1100-1200	12%	1.007	1.007	2.013
1200-1300	12%	1.007	1.007	2.013
1300-1400	2%	0.167	1.007	1.173
1400-1500	6%	0.500	0.167	0.673
1500-1600	8%	0.673	0.500	1.173
1600-1700	4%	0.333	0.673	1.007
1700-1800	2%	0.167	0.333	0.500
1800-1900	4%	0.333	0.167	0.500
1900-2000	12%	1.007	0.333	1.340
2000-2100	12%	1.007	1.007	2.013
2100-2200	12%	1.007	1.007	2.013
2200-2300				
Total	102%	8.547	7.373	15.927

Sun & Bank hols				
	% of daily	Arr	dep	total
0800-0900	2%	0.126667	0	0.126667
0900-1000	2%	0.126667	0	0.126667
1000-1100	10%	0.633333	0.126667	0.76
1100-1200	12%	0.76	0.633333	1.393333
1200-1300	12%	0.76	0.76	1.52
1300-1400	4%	0.253333	0.76	1.013333
1400-1500	10%	0.633333	0.253333	0.886667
1500-1600	12%	0.76	0.633333	1.393333
1600-1700	12%	0.76	0.76	1.52
1700-1800	8%	0.506667	0.76	1.266667
1800-1900	8%	0.506667	0.506667	1.013333
1900-2000	6%	0.38	0.506667	0.886667
2000-2100	4%	0.253333	0.38	0.633333
2100-2200	4%	0.253333	0.38	0.633333
2200-2300				
Total	106%	6.713	6.460	13.173

STEP 4

THE ABOVE CAN THEN BE FACTORED BY PROPOSED CAPACITY OF 85 PERSONS. NOTE THAT THIS ASSUMES ALL DRIVING AND NO CAR SHARING

Proposed Vehicle Trips @ Abingdon. Trip Rates
Factored by 85 persons (proposed max capacity)

125 person capacity					
Mon-Thur					
	% of daily	Arr	dep	total	
0800-0900	5%	12	0	12	
0900-1000	5%	12	0	12	
1000-1100	5%	12	0	12	
1100-1200	5%	12	12	24	
1200-1300	5%	12	12	24	
1300-1400	5%	12	12	24	
1400-1500	8%	19	12	31	
1500-1600	14%	33	19	53	
1600-1700	14%	33	33	67	
1700-1800	10%	24	33	58	
1800-1900	14%	33	24	58	
1900-2000	14%	33	33	67	
2000-2100	6%	14	33	48	
2100-2200	6%	14	33	48	
2200-2300	6%	14	33	48	
Total	122%	289	290	582	

Fri					
	% of daily	Arr	dep	total	
0800-0900	2%	8	0	8	
0900-1000	2%	8	0	8	
1000-1100	3%	12	8	19	
1100-1200	2%	8	12	19	
1200-1300	2%	8	8	15	
1300-1400	2%	8	8	15	
1400-1500	3%	12	8	19	
1500-1600	9%	34	12	46	
1600-1700	9%	34	34	68	
1700-1800	12%	46	34	80	
1800-1900	17%	65	46	111	
1900-2000	20%	76	65	141	
2000-2100	16%	61	76	137	
2100-2200	3%	12	61	73	
2200-2300	3%	12	61	73	
Total	105%	400	430	830	

Sat					
	% of daily	Arr	dep	total	
0800-0900	2%	21	0	21	
0900-1000	2%	21	0	21	
1000-1100	12%	126	21	147	
1100-1200	12%	126	126	252	
1200-1300	12%	126	126	252	
1300-1400	2%	21	126	147	
1400-1500	6%	63	21	84	
1500-1600	8%	84	63	147	
1600-1700	4%	42	84	126	
1700-1800	2%	21	42	63	
1800-1900	4%	42	21	63	
1900-2000	12%	126	42	168	
2000-2100	12%	126	126	252	
2100-2200	12%	126	126	252	
2200-2300	0%	0	0	0	
Total	102%	1068	922	1991	

Sun & Bank hols					
	% of daily	Arr	dep	total	
0800-0900	2%	16	0	16	
0900-1000	2%	16	0	16	
1000-1100	10%	79	16	95	
1100-1200	12%	95	79	174	
1200-1300	12%	95	95	190	
1300-1400	4%	32	95	127	
1400-1500	10%	79	32	111	
1500-1600	12%	95	79	174	
1600-1700	12%	95	95	190	
1700-1800	8%	63	95	158	
1800-1900	8%	63	63	127	
1900-2000	6%	48	63	111	
2000-2100	4%	32	48	79	
2100-2200	4%	32	48	79	
2200-2300	0%	0	0	0	
Total	106%	839	808	1647	

STEP 5 THE ABOVE CAN BE FACTORED BY AVERAGE NUMBER OF 'JUMPERS' PER CAR. FULLER LONG CALCULATED BETWEEN 2.84 AND 3.25 JUMPERS PER CAR.
3.08 persons per car

Mon-Thur					
	% of daily	Arr	dep	total	Parking Accumulation
0800-0900	5%	4	0	4	4
0900-1000	5%	4	0	4	8
1000-1100	5%	4	0	4	11
1100-1200	5%	4	4	8	11
1200-1300	5%	4	4	8	11
1300-1400	5%	4	4	8	11
1400-1500	8%	6	4	10	14
1500-1600	14%	11	6	17	18
1600-1700	14%	11	11	22	18
1700-1800	10%	8	11	19	15
1800-1900	14%	11	8	19	18
1900-2000	14%	11	11	22	18
2000-2100	6%	5	11	15	12
2100-2200	6%	5	11	15	6
2200-2300	6%	5	11	15	0
Total	122%	94	94	189	

Fri					
	% of daily	Arr	dep	total	Parking Accumulation
0800-0900	2%	2	0	2	9
0900-1000	2%	2	0	2	12
1000-1100	3%	4	2	6	13
1100-1200	2%	2	4	6	12
1200-1300	2%	2	2	5	12
1300-1400	2%	2	2	5	12
1400-1500	3%	4	2	6	13
1500-1600	9%	11	4	15	21
1600-1700	9%	11	11	22	21
1700-1800	12%	15	11	26	24
1800-1900	17%	21	15	36	31
1900-2000	20%	25	21	46	34
2000-2100	16%	20	25	44	29
2100-2200	3%	4	20	24	13
2200-2300	3%	4	20	24	-3
Total	105%	130	140	269	

Sat					
	% of daily	Arr	dep	total	Parking Accumulation
0800-0900	2%	7	0	7	14
0900-1000	2%	7	0	7	21
1000-1100	12%	41	7	48	55
1100-1200	12%	41	41	82	55
1200-1300	12%	41	41	82	55
1300-1400	2%	7	41	48	21
1400-1500	6%	20	7	27	34
1500-1600	8%	27	20	48	41
1600-1700	4%	14	27	41	27
1700-1800	2%	7	14	20	21
1800-1900	4%	14	7	20	27
1900-2000	12%	41	14	54	55
2000-2100	12%	41	41	82	55
2100-2200	12%	41	41	82	55
2200-2300	0%	0	0	0	55
Total	102%	347	299	646	

Sun & Bank hols					
	% of daily	Arr	dep	total	Parking Accumulation
0800-0900	2%	5	0	5	12
0900-1000	2%	5	0	5	17
1000-1100	10%	26	5	31	38
1100-1200	12%	31	26	57	43
1200-1300	12%	31	31	62	43
1300-1400	4%	10	31	41	22
1400-1500	10%	26	10	36	38
1500-1600	12%	31	26	57	43
1600-1700	12%	31	31	62	43
1700-1800	8%	21	31	51	33
1800-1900	8%	21	21	41	33
1900-2000	6%	15	21	36	28
2000-2100	4%	10	15	26	22
2100-2200	4%	10	15	26	17
2200-2300	0%	0	0	0	17
Total	106%	272	262	535	

STEP 6 REALISTIC SCENARIO. GIVEN THE ABOVE HAS ASSUMED 100% CAR DRIVER TRIPS, CONSIDERATION IS GIVEN TO ACTUAL LIKELY MODAL SHARE. ROBUST CONSIDERATION OF 75% MODAL SHARE i.e. 75% OF PERSONS ARRIVING BY CAR
75% Modal share

Mon-Thur					
	% of daily	Arr	dep	total	Parking Accumulation
0800-0900	5%	3	0	3	3
0900-1000	5%	3	0	3	6
1000-1100	5%	3	0	3	9
1100-1200	5%	3	3	6	9
1200-1300	5%	3	3	6	9
1300-1400	5%	3	3	6	9
1400-1500	8%	5	3	8	10
1500-1600	14%	8	5	13	14
1600-1700	14%	8	8	16	14
1700-1800	10%	6	8	14	12
1800-1900	14%	8	6	14	14
1900-2000	14%	8	8	16	14
2000-2100	6%	3	8	12	9
2100-2200	6%	3	8	12	4
2200-2300	6%	3	8	12	0
Total	122%	70	71	142	

Fri					
	% of daily	Arr	dep	total	Parking Accumulation
0800-0900	2%	2	0	2	9
0900-1000	2%	2	0	2	11
1000-1100	3%	3	2	5	12
1100-1200	2%	2	3	5	11
1200-1300	2%	2	2	4	11
1300-1400	2%	2	2	4	11
1400-1500	3%	3	2	5	12
1500-1600	9%	8	3	11	17
1600-1700	9%	8	8	17	17
1700-1800	12%	11	8	19	20
1800-1900	17%	16	11	27	25
1900-2000	20%	18	16	34	27
2000-2100	16%	15	18	33	24
2100-2200	3%	3	15	18	12
2200-2300	3%	3	15	18	0
Total	105%	97	105	202	

Sat					
	% of daily	Arr	dep	total	Parking Accumulation
0800-0900	2%	5	0	5	12
0900-1000	2%	5	0	5	17
1000-1100	12%	31	5	36	43
1100-1200	12%	31	31	61	43
1200-1300	12%	31	31	61	43
1300-1400	2%	5	31	36	17
1400-1500	6%	15	5	20	27
1500-1600	8%	20	15	36	33
1600-1700	4%	10	20	31	22
1700-1800	2%	5	10	15	17
1800-1900	4%	10	5	15	22
1900-2000	12%	31	10	41	43
2000-2100	12%	31	31	61	43
2100-2200	12%	31	31	61	43
2200-2300	0%	0	0	0	43
Total	102%	260	224	485	

Sun & Bank hols					
	% of daily	Arr	dep	total	Parking Accumulation
0800-0900	2%	4	0	4	11
0900-1000	2%	4	0	4	15
1000-1100	10%	19	4	23	30
1100-1200	12%	23	19	42	34
1200-1300	12%	23	23	46	34
1300-1400	4%	8	23	31	19
1400-1500	10%	19	8	27	30
1500-1600	12%	23	19	42	34
1600-1700	12%	23	23	46	34
1700-1800	8%	15	23	39	26
1800-1900	8%	15	15	31	26
1900-2000	6%	12	15	27	22
2000-2100	4%	8	12	19	19
2100-2200	4%	8	12	19	15
2200-2300	0%	0	0	0	15
Total	106%	204	197	401	

Sensitivity: worst case scenario demonstrated above
factored by 75%