



ttp consulting

transport planning specialists

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Arun Retail Park,
Bognor Regis, West Sussex

Transport Assessment

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Contents

1	INTRODUCTION	1
2	EXISTING SITUATION.....	2
	Background	2
	Local Highway Network	2
	Accessing the site by non-car modes.....	3
	Sustainable Mode Share	7
3	DEVELOPMENT PROPOSAL	8
	Car Parking	8
	Cycle Parking	9
	Servicing	9
	Travel Plan Statement	9
4	POLICY CONTEXT	11
	National Guidance.....	11
	Local Guidance	12
5	EFFECTS OF THE DEVELOPMENT.....	14
	Traffic Impact	14
	Parking.....	20
	Access Junction.....	25
	Servicing	27
6	SUMMARY AND CONCLUSION	28
	Conclusion.....	29

Figures

- Figure 1 - Site Location Plan
- Figure 2 - 800m Walk Isochrone Plan
- Figure 3 - 5 mile Cycle Isochrone Plan

Appendices

- Appendix A - Layout Plans
- Appendix B - Travel Plan Statement
- Appendix C - TRICS Output - Existing
- Appendix D - TRICS Output - Proposed
- Appendix E - Parking Beat Survey
- Appendix F - Access Junction Traffic Count
- Appendix G - PICADY Output - Baseline
- Appendix H - PICADY Output – Baseline + Development
- Appendix I - Swept Path Analysis

1 INTRODUCTION

- 1.1 TTP Consulting is retained by the BBC Pension Trust Ltd ("the applicant") c/o Orchard Street Investment Management to provide traffic and transportation advice associated with their development proposals for Arun Retail Park in Bognor Regis, West Sussex.
- 1.2 The application proposes to refurbish Units D1 & D2 and to install new mezzanine floor space in both Units. In addition the proposals seek variation of condition at Unit D1 (for the use of Unit D1 for food and drink sales without complying with condition 4 of planning permission BE/169/88) and a change of use for Unit D2 from Sui Generis (a Kwik Fit Motorist Centre) to Class A1.
- 1.3 Arun Retail Park is located to the north of Bognor Regis with access taken from Shripney Road (A29). The site location is indicated at **Figure 1**.
- 1.4 This report determines the likely traffic attraction of the enlarged Units and examines the potential impact of these trips on the local highway network, the site access junction and the site's car park. The accessibility of the site by non-car, sustainable modes of transport is also examined.
- 1.5 The remainder of this report is set out as follows:
- Section 2 sets out the existing situation and the accessibility of the site;
 - Section 3 sets out the development proposals;
 - Section 4 provides a summary of relevant national and local planning policies;
 - Section 5 sets out the effects of the proposals; and
 - Section 6 provides a summary and conclusion.

2 EXISTING SITUATION

Background

- 2.1 The site is located off the A29 Shripney Road between the roundabout junctions of Rowan Way with Shripney Road and Orchard Way with Shripney Road. Bognor Regis Town Centre is located approximately 1.8km south of the proposed development site.
- 2.2 The location of the site is shown at **Figure 1**.

Local Highway Network

- 2.3 The A29 passes through Bognor Regis in a north to south direction. To the north, the A29 provides links to the A27 Arundel Road, the A264 Five Oaks Road and the A281 Guildford Road. To the south of the site, the A259 Bognor Road runs through Bognor Regis in an east to west direction. It provides a link to the Havant Bypass and the M27 to the west and a link to the A259 Brighton Road to the east.
- 2.4 Shripney Road is a dual carriageway between the roundabout junctions of Rowan Way and Orchard Way. Right turns are not permitted along this stretch of road and the roundabouts provide u-turn facilities to access the opposite side of the carriageway.
- 2.5 Shripney Road benefits from footways and off-road cycleways. **Picture 1** illustrates the southbound shared use footway along Shripney Road.



Picture 1: Shared Use Footway / PUFFIN Crossing across Shripney Road between Sainsbury's and Arun Retail Park

- 2.6 The speed limit in the vicinity of the site is 40 mph and there is a speed camera on the southbound carriageway of the A29 to the north of the site to help regulate speeds.
- 2.7 Street lighting is provided to the north and south of the site along Shripney Road.

Accessing the site by non-car modes

Walking

- 2.8 Arun Retail Park is in a good location to encourage trips on foot and by bicycle as Bognor Regis town centre and Bognor Regis railway station are both within a 2km walk or cycle of the site. In addition, all of the existing retail and employment sites along Shripney Road are accessible within a 15 minute walk from the site which creates an opportunity for linked walking trips between the other retail sites and the other employment sites on Shripney Road.
- 2.9 The Institution of Highways and Transportation (IHT) 'Guidelines for Providing Journeys on Foot' (2000) suggests 'acceptable' and 'desirable' and 'preferred maximum' walking distances. **Table 2.1**, below, contains suggested acceptable walking distances for pedestrians without mobility impairment for some common trip purposes.

Table 2.1 Suggested Acceptable Walking Distances			
Definition	Walking Distances (metres)		
	Town Centres	Commuting / Schools	Elsewhere
Desirable	200	500	400
Acceptable	400	1000	800
Preferred Maximum	800	2000	1200
Source: Providing for Journeys on Foot, IHT, 2000			

- 2.10 **Table 2.2** sets out details of approximate distances between Arun Retail Park and local amenities.

Table 2.2 Approximate Distances		
Amenity	Location	Distance (approximate metres)
Northbound Bus Stop	Shripney Road	240
Southbound Bus Stop	Shripney Road	280
Supermarket (Sainsbury's)	Shripney Road	300
Railway Station	Station Road	1800
Bognor Regis High Street	High Street	200

2.11 **Table 2.2** illustrates that there are a number of local amenities located within 'acceptable' and 'preferred maximum' walking distance of the site. Specifically, local bus stops are located on Shripney Road and a food supermarket (Sainsbury's) is located on the other side of Shripney Road, directly opposite the site.

2.12 **Figure 2** illustrates an 800m walk catchment from the site. In addition, there is a reasonable density of residential development within 2 kilometres of the Arun Retail Park which presents a realistic opportunity for pedestrians (employees and customers) to access the site on foot.

2.13 Pedestrian infrastructure in the immediate vicinity of the site is good with footways and pedestrian crossings being located on expected desire lines.

Cycling

2.14 Guidance on cycling can be found in 'Cycle Friendly Infrastructure' guidelines published by the Institution of Highways and Transportation. This guidance highlights previous research by the DfT that three quarters of all journeys are less than 5 miles (8km) of which 60% are by car. The guidelines highlight that there is a 'Substantial potential for substituting cycling for driving' for distances up to 5 miles.

2.15 Much of Bognor Regis is within 5 miles of the site; therefore, there is scope for the uptake of this sustainable mode by people working and shopping at the site; a Cycle Isochrone Plan is included at **Figure 3**.

- 2.16 The existing footways / cycleways along the A29 are of good quality and allow cyclists to be segregated from faster moving traffic. Existing footways / cycleways are of varying width but typically are approximately 5m wide, with 2m provided for pedestrian footway and 3m accommodating a two-way cycleway.

Public Transport

- 2.17 This section explores the opportunities to travel to and from the site by public transport.

Bus Access

- 2.18 Northbound and southbound bus stops are provided on both sides of the A29 Shripney Road in close proximity of the site. **Picture 2** illustrates the southbound bus stop on Shripney Road opposite the site. The bus stop benefits from a shelter and timetable information.



Picture 2: Southbound Bus Stop on Shripney Road (opposite Arun Retail Park / Unit D2)

- 2.19 **Table 2.3** provides a summary of the bus services available from the site and the associated frequencies.

Table 2.3: Bus Services Accessible from the Site			
Service No	Route	Frequency (minutes, one-way)	
		Mon to Sat	Sunday
Star 1	Bersted – Bognor Regis – Felpham – Elmer	10 mins	No Service
61	Bognor Regis – Aldwick	6 / day	No Service
62	Nyetimber – Bognor Regis	7 / day	No Service
65	Littlehampton: Shripney Sainsbury's Circular	4 / day	No Service
66	Bognor Regis – Yapton (Circular)	7 / day	No Service
T2	Bognor Regis Tesco – Bognor Regis	2 / day (Tue / Thurs only)	No Service
T11	Bognor Regis Tesco – Elmer – Yapton	1 / day (Tue / Thurs only)	No Service
T12	Bognor Regis Tesco – Bersted – Bognor Regis	2 / day (Tue / Thurs only)	No Service
T13	Bognor Regis Tesco – Pagham – Rose Green	2 / day (Mon only)	No Service

2.20 **Table 2.3** illustrates that the local bus services are relatively frequent and provide access around Bognor Regis and the surrounding towns and villages.

National Rail Services

2.21 Bognor Regis railway station is located in the town centre approximately 1.8km to the south west of the site on Station Road, a 17 minute walk. The station and the trains servicing it are operated by Southern Rail.

- 2.22 To the east destinations include Barnham, Worthing and Shoreham-by-sea. To the north destinations include Arundel, Pulborough and Horsham. There is an hourly service to London Victoria as well as a regular connecting service to Barnham for services to Brighton.

Sustainable Mode Share

- 2.23 Although Arun Retail Park is an existing out of centre Retail Park, opportunities exist for modal shift from the private car to sustainable modes of travel for employees and customers. The site location is within a reasonable walking and cycling distance of a significant number of residential dwellings. The site also benefits from being within a reasonable distance from Bognor Regis railway station.

3 DEVELOPMENT PROPOSAL

3.1 The application proposes to refurbish Units D1 & D2 and to install new mezzanine floor space in both Units. In addition the proposals seek variation of condition at Unit D1 (for the use of Unit D1 for food and drink sales without complying with condition 4 of planning permission BE/169/88) and a change of use for Unit D2 from Sui Generis (a Kwik Fit Motorist Centre) to Class A1.

3.2 **Table 3.1** below details the Unit D1 existing and proposed floor space.

Table 3.1 Unit D1 Existing and Proposed Areas (GEA)			
Floor	Existing (m ²)	Proposed (m ²)	Difference (m ²)
Ground	953.0	966.3	+13.3
Mezzanine	438.2	485.9	+47.7
Total	1391.2	1452.2	+61.0

3.4 **Table 3.1** illustrates that the development proposals seek to increase the total floor space of Unit D1 by 61.0m² (GEA).

3.5 **Table 3.2** below details the Unit D2 existing and proposed floor space.

Table 3.2 Unit D2 Existing and Proposed Areas (GEA)			
Floor	Existing (m ²)	Proposed (m ²)	Difference (m ²)
Ground	717.7	894.8	+177.1
Mezzanine	0	820.7	+820.7
Total	717.7	1715.5	+997.8

3.7 **Table 3.1** illustrates that the development proposals seek to increase the total floor space of Unit D2 by 997.8m² (GEA).

3.8 **Appendix A** contains the architect's layout plans.

Car Parking

3.9 Arun Retail Park currently has 288 car parking spaces. The construction of the extension to Unit D2 will sit in an area of parking currently utilised by the existing tenant (Kwik-Fit) for

customer parking. It is proposed that these existing spaces are removed and the area landscaped – a loss of 13 parking spaces.

3.10 **Table 3.3** sets out the existing and proposed car parking spaces.

Table 3.3 Existing and Proposed Car Park Spaces		
Type of Bay	Existing	Proposed
Regular	268	257
Disabled	17	17
MOT Bay	2	0
Van Hire	1	1
Total	288	275

3.12 Car parking is discussed further in **Section 5**.

Cycle Parking

3.13 No cycle parking spaces are currently provided within Arun Retail Park. West Sussex policy on cycle parking standards can be found in the document 'West Sussex Revised County Parking Standards and Transport Contributions Methodology' (2010) which states that cycle parking for retail units should be provided at 1 space per 100m² for staff and 1 space per 100 m² for customers.

3.14 Therefore, based on West Sussex Parking standards, policy requires 62 spaces. It is proposed to provide 16 covered Sheffield style cycle stands located close to the entrance of the Units and 15 covered Sheffield style cycle stands in the service yard for staff. This is a provision of 62 spaces which is compliant with policy standards.

Servicing

3.15 Servicing will continue from the existing service yard that is located to the rear of Unit D1 and Unit D2. **Appendix A** contains a layout of the service yard.

Travel Plan Statement

3.16 A Travel Plan Statement has been produced to support the application. The main aim of a Travel Plan Statement is to put in place the management tools deemed necessary to enable employees to make more informed decisions about their travel, which at the same time can

minimise the adverse impacts of their travel on the environment. This is achieved by setting out a strategy for eliminating the barriers keeping the employees from using sustainable modes which in effect can self-manage single-occupancy vehicle use.

- 3.17 For the purposes of this planning application, a Travel Plan Statement has been produced. The Travel Plan Statement can be finalised, adapted and secured for each individual Unit through a Condition (i.e. if necessary and appropriate, each Unit would prepare its own separate Travel Plan that takes on board organisational policy).
- 3.18 The example Travel Plan Statement is located at **Appendix B**.

4 POLICY CONTEXT

- 4.1 This section summarises the relevant transport policies at national, regional and local level which have been considered.

National Guidance

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:

"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' continues by stating:

"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."

- 4.5 In relation to Travel Plans, at paragraph 36 the document states *"all developments which generate significant amounts of movement should be required to provide a Travel Plan"*.

Local Guidance

Arun District Local Plan (2003)

- 4.6 The Arun District Local Plan 2003 was adopted in April 2003. A number of policies in the plan have now expired. Those policies which remain relevant are known as 'saved' policies. A number of policies relevant to traffic and transport have been saved.
- 4.7 Policy GEN 12 concerns Parking In New Development and states *"the Local Planning Authority will base its consideration of the need for on-site parking provision on its parking standards contained within this Plan. Provision of parking in excess of these standards will not be allowed"*. The Local Plan (2003) sets out parking standards for all development uses classes in Appendix 2.
- 4.8 **Table 4.1** sets out the relevant parking standards.

Table 4.1 Parking Standards				
Land Use	Use	Parking Standard	Disabled Allocation	Cycle Parking
Retail	Other shop units (over 100m ²)	1 space per 18m ²	1 space per 20 car parking spaces	1 space per 16 car parking spaces

- 4.9 Policy GEN 15 concerns Cycling and Walking and states *"where appropriate, new development will be required to provide safe and attractive facilities for cyclists and pedestrians, both within the site and in the form of links to the surrounding area"*.

Arun District Local Plan (2011 – 2029)

- 4.10 Arun District Council is in the process of preparing a new Local Plan which will cover the period 2011 to 2029. The Local Plan will, in time, replace the 2003 Local Plan.

- 4.11 The Draft Local Plan at Policy DM 22 which concerns Parking and Development states *"all planning applications must be considered against West Sussex County Council guidance on parking provision. Parking provision for all vehicles within new development must be of a high quality design to ensure that they are safe and, where necessary, lit appropriately at night. The design of parking provision must be consistent with current national guidance and all Local Plan policies"*.

West Sussex Revised County Parking Standards and Transport Contributions Methodology (2010)

- 4.12 Adopted in November 2003, West Sussex's Supplementary Planning Guidance (SPG) sets out parking standards for development in West Sussex. In September 2010, the County adopted a new approach to parking in residential developments and updated the SPG to highlight these changes.
- 4.13 Called 'County Parking Standards and Transport Contributions Methodology', the SPG sets out:
- revised parking standards for all development use classes; and
 - a contributions methodology to be applied to commercial and residential development.
- 4.14 **Table 4.2** sets out the relevant West Sussex parking standards.

Table 4.2 West Sussex Parking Standards			
Land Use	Parking Standard	Disabled Allocation	Cycle Parking
Non-food Retail	1 space per 20m ²	1 space per 20 car parking spaces	1 space per 100sqm for staff and 1 space per 100sqm for customers.

5 EFFECTS OF THE DEVELOPMENT

- 5.1 This Section considers the effects of the development proposals in traffic and transport terms. In particular, we have considered the effects of the proposal in terms of its likely effect on trip generation and car parking.

Traffic Impact

Existing Traffic – Unit D1

- 5.1 Although the existing Unit is vacant, the vehicle trips to and from Unit D1 (previously occupied by Comet) has been estimated for a typical weekday and a Saturday using TRICS (version 2013(b) v6.12.1). The comparison sites and trip rates are detailed in the TRICS output included at **Appendix C**.
- 5.2 The weekday and Saturday peak hour vehicle trip rates for the comparison sites are detailed in **Table 5.1**.

Table 5.1: Existing D1 Unit - Vehicle Trip Rates (floor area)			
	IN	OUT	TOTAL
Weekday	17:00-18:00		
	1.40	1.47	2.88
Saturday	13:00-14:00		
	2.88	2.88	5.77

- 5.3 The predicted peak hour trip generation for Unit D1 is shown in **Table 5.2**.

Table 5.2: Total Existing Vehicle Trip Generation – Unit D1			
Time Range	Arrivals	Departures	Totals
Weekday			
17:00 - 18:00	20	20	40
Saturday			
13:00 - 14:00	40	40	80

- 5.4 **Table 5.2** illustrates that the existing Unit (D1), if operational, could generate 40 two-way daily trips during the weekday peak hour and 80 two-way trips during the Saturday peak hour.

Existing Traffic – Unit D2

- 5.5 The vehicle trips to and from the existing Kwik Fit Motorist Centre have been estimated for a typical weekday and a Saturday using TRICS. The trip rates have been based upon available data, taking into account the characteristics of the site such as its location, size and parking availability. It is pertinent to note that the Saturday trip rates taken from TRICS do include a survey of the Kwik Fit at Arun Retail Park (Unit D2). The comparison sites and trip rates are detailed in the TRICS output included at **Appendix C**.
- 5.6 The weekday and Saturday peak hour trip rates for the comparison sites are detailed in **Table 5.3**.

Table 5.3: Existing D2 Unit - Vehicle Trip Rates (floor area)			
	IN	OUT	TOTAL
Weekday	17:00-18:00		
	0.55	1.11	1.66
Saturday	13:00-14:00		
	1.73	1.90	3.63

- 5.7 The predicted peak hour trip generation for the existing Kwik Fit unit (Unit D2) is shown in **Table 5.4**.

Table 5.4: Total Existing Vehicle Trip Generation – Unit D2			
Time Range	Arrivals	Departures	Totals
Weekday			
17:00 - 18:00	4	8	12
Saturday			
13:00 - 14:00	12	14	26

5.8 **Table 5.4** illustrates that the existing Kwik Fit unit generates 12 two-way daily trips during the weekday peak hour and 26 two-way trips during the Saturday peak hour.

Development Traffic – Unit D1

5.9 To determine the likely traffic generation of the proposed M&S 'Simply Food' store the TRICS database was interrogated for food retail surveys.

5.10 Consideration was given to the difference in trip generation between 'retail parks including food' and 'retail parks excluding food', however the available surveys were not considered comparable to this proposal as they are mainly composed of large budget supermarkets with quite different traffic attraction characteristics to the proposed relatively small convenience style store.

5.11 Similarly the 'food superstores category' in TRICS is not considered generally applicable as the majority of available stores are for larger supermarkets utilised for the 'weekly shop' and are not directly comparable to relatively small M&S 'Simply Food' stores.

5.12 The only directly applicable site included in the TRICS database is an M&S food store located in Sale, Greater Manchester (TRICS reference GM-01-A-25). As with many of the food store surveys only data from a Saturday is available to pick up the traditional retail peak.

5.13 We have therefore assumed that the ratio between the TRICS Saturday peak hour trip rate and the weekday PM peak hour trip rate is the same as between the surveyed peak hours at the retail park allowing a weekday peak hour trip rate to be calculated.

5.14 The TRICS Output is included in **Appendix D** and the network peak hour trip rates are shown in **Table 5.5** below.

Table 5.5: Proposed Unit D1 - Vehicle Trip Rates (floor area)			
	IN	OUT	TOTAL
Weekday	17:00-18:00		
	2.89	3.15	6.04
Saturday	13:00-14:00		
	6.36	6.63	12.99

- 5.15 The development proposals include increasing the total floor space of Unit D1 by 61.0m². The predicted trip generation for the proposed 1,452.2m² retail floor space taking into account the change of use, is shown in **Table 5.6**.

Table 5.6: Total Proposed Vehicle Trip Generation Unit D1			
Time Range	Arrivals	Departures	Totals
Weekday			
17:00 - 18:00	42	46	88
Saturday			
13:00 - 14:00	92	96	189

- 5.1 **Table 5.6** illustrates that the proposed food retail unit would generate 88 two-way trips during the weekday peak hour and 189 two-way trips during the Saturday peak hour.

Development Traffic – Unit D2

- 5.2 To determine the likely traffic generation of the proposed non-food retail unit the TRICS database was integrated for the category “retail – other individual non-food superstores”.
- 5.3 The TRICS output is included at **Appendix D** and the weekday / Saturday peak hour trip rates are shown in **Table 5.7**.

Table 5.7: Proposed Unit D2 - Vehicle Trip Rates (floor area)			
	IN	OUT	TOTAL
Weekday	17:00-18:00		
	1.40	1.47	2.88
Saturday	13:00-14:00		
	2.88	2.88	5.77

- 5.4 The development proposals include increasing the total floor space of Unit D2 by 997.8m². The predicted trip generation for the proposed 1715.5m² retail floor space taking into account the change of use, is shown in **Table 5.8**.

Table 5.8: Total Proposed Vehicle Trip Generation Unit D2			
Time Range	Arrivals	Departures	Totals
Weekday			
17:00 - 18:00	24	25	49
Saturday			
13:00 - 14:00	49	49	98

- 5.5 **Table 5.8** illustrates that the proposed non-food retail unit would generate 49 two-way trips during the weekday peak hour and 98 two-way trips during the Saturday peak hour.

Cross Visitation / Linked Trips

- 5.6 It is considered that a number of customers visiting the new retail units would already be at the retail park visiting other stores or at the neighbouring retail opportunities along Shripney Road (for instance the nearby Sainsbury's). Furthermore, there are a number of research papers that conclude that up to 70% of trips to retail units could be associated with linked trips (i.e. trips that are not new to the network).
- 5.7 For this application, while an assumption of 70% linked trips may be applicable, to be robust we have assumed that 30% of the trips associated with the proposed retail unit would be

linked. **Table 5.9** shows the traffic generation of the proposed non-food retail unit and food retail unit once the 30% discount for linked trips has been applied.

Table 5.9: Proposed Vehicle Trip Generation with Reduction for Linked Trips			
Time Range	Arrivals	Departures	Totals
Weekday			
17:00 - 18:00	46	50	95
Saturday			
13:00 - 14:00	99	101	201

- 5.8 **Table 5.9** illustrates that taking into account linked trips the proposed retail units would generate 95 new two-way vehicle trips in the PM peak hour on an average weekday and 201 new two-way trips in the network peak hour on a Saturday.

Net Change

- 5.9 As with the proposed trip generation, and in order to make a fair comparison, the existing traffic flows to the site have been reduced by 30% to take into account linked trips. Although, it is pertinent to note that linked trips to the proposed retail unit at Unit D2 are likely to be higher than linked trips to the existing Kwik Fit Motorist Centre, as people are more likely to make a dedicated trip to motor garage.
- 5.10 **Table 5.10** shows the traffic generation for the existing use taking into account the reduction for linked trips.

Table 5.10: Existing Vehicle Trip Generation with Reduction for Linked Trips			
Time Range	Arrivals	Departures	Totals
Weekday			
17:00 - 18:00	17	20	37
Saturday			
13:00 - 14:00	37	38	75

5.11 **Table 5.11** compares the trip generation difference between the existing units and the development proposals taking into account linked trips.

Table 5.11: Trip Generation – Net Change (taking into account Linked Trips)			
Time Range	Arrivals	Departures	Totals
Weekday			
17:00 - 18:00	+29	+30	+58
Saturday			
13:00 - 14:00	+62	+63	+126

5.12 **Table 5.11** illustrates that the proposals on a weekday would generate approximately 58 additional two-way movements in the PM network peak hour. On a Saturday **Table 5.11** illustrates that the proposed retail unit would generate approximately 126 two-way additional movements in the network peak hour.

5.13 Therefore, given the level of additional new trips the Units are forecast to generate, it is not predicted that any material impact would occur on the local highway network as a result of the development proposals.

Parking

5.14 Arun Retail Park currently has 288 car parking spaces. The construction of the extension to Unit D2 will sit in an area of parking currently utilised by the existing tenant (Kwik-Fit) for customer parking. It is proposed that these existing spaces are removed and the area landscaped – a loss of 13 parking spaces.

5.15 **Table 5.12** sets out the existing and proposed car parking spaces.

Table 5.12 Existing and Proposed Car Park Spaces		
Type of Bay	Existing	Proposed
Regular	268	257
Disabled	17	17
MOT Bay	2	0
Van Hire	1	1
Total	288	275

Parking Beat Survey

Existing Situation

- 5.17 To determine existing use and assess future demand at the car park during peak times parking beat surveys were commissioned at the following dates and times:
- Wednesday 11th September 2013 between 12:00 and 20:00; and
 - Saturday 14th September 2013 between 10:00 and 16:00.
- 5.18 These times were selected to investigate the operation of the car park during a typical weekday afternoon period and the potentially busier Saturday peak trading period. The survey involved an independent survey company (K&M Traffic Surveys) recording occupancy levels at the car park every 30 minutes for the duration of the survey. The full results are included at **Appendix E** and **Table 5.13** and **Table 5.14** provide a summary of the results.

Table 5.13 Parking Beat Survey - Wednesday		
Time	Vehicles Parked	Spaces Available
12:00	119	169
12:30	116	172
13:00	118	170
13:30	109	179
14:00	118	170
14:30	117	171
15:00	112	176
15:30	107	181
16:00	118	170
16:30	94	194
17:00	97	191
17:30	82	206
18:00	74	214
18:30	67	221
19:00	49	239
19:30	41	247
20:00	33	255

5.19 From **Table 5.8** above it can be seen that there is a large amount of available capacity on the weekday with the car park only reaching 41% of capacity at its busiest period.

5.20 **Table 5.14** sets out the results for the Saturday survey.

Table 5.14 Parking Beat Survey - Saturday		
Time	Vehicles Parked	Spaces Available
10:00	73	215
10:30	85	203
11:00	85	203
11:30	107	181
12:00	105	183
12:30	116	172
13:00	139	149
13:30	133	155
14:00	119	169
14:30	115	173
15:00	123	165
15:30	111	177
16:00	93	195

- 5.21 From **Table 5.14** above it can be seen that there is also a large amount of available capacity on a Saturday as the car park does not exceed 50% of available capacity during its busiest period.

Development Case

- 5.22 The vehicle trips associated with the development proposals, derived from the TRICS database, have been used to produce an arrival and departure profile on a Saturday. Saturday was chosen as it has both a higher level of existing car parking and trip generation and can be seen as a worst case scenario.
- 5.23 To be robust the car park capacity calculations in **Table 5.15** consider each vehicle arrival and departure as a new trip.

Table 5.15 Arrival & Departure Profile (Saturday)			
Time	Arrivals	Departures	Accumulation
07:00	2	1	6
08:00	39	17	28
09:00	84	62	51
10:00	107	89	68
11:00	131	115	84
12:00	142	136	91
13:00	141	145	87
14:00	140	147	79
15:00	125	97	107
16:00	106	119	95
17:00	84	108	71
18:00	35	57	49
19:00	1	7	43

5.24 It can be seen that the maximum parking accumulation for this development proposal is reached at 15:00 when 107 additional vehicles will be parked. Inspection of the parking beat survey data shows that at this time there is available space for 152 vehicles (taking into account the reduction in the number of spaces). At 13:00 which is the busiest time for the car park there would be 226 (139+ 87) vehicles parked with this development in place leaving approximately 12% of the car park unoccupied (or 18% if the 17 disabled spaces and the van hire space are included). This is a worst case scenario as at all other times parking levels will be lower.

5.25 As previously detailed, it is considered that a number of customers visiting the new retail units would already be at the retail park visiting other stores or at the neighbouring retail opportunities along Shripney Road. Furthermore, there are a number of research papers that conclude that up to 70% of trips to retail units could be associated with linked trips (i.e. trips that are not new to the network). For this application, while an assumption of 70% linked trips may be applicable, to be robust the trip generation calculations have assumed that 30% of the trips associated with the proposed retail unit would be linked. Consequently **Table 5.16** illustrates the maximum parking accumulation taking into account linked trips.

Table 5.16 Arrival & Departure Profile (Saturday) - Linked Trips			
Time	Arrivals	Departures	Accumulation
07:00	2	1	4
08:00	27	12	20
09:00	59	43	36
10:00	75	62	48
11:00	91	80	59
12:00	100	95	63
13:00	99	102	61
14:00	98	103	56
15:00	87	68	75
16:00	75	83	66
17:00	59	76	49
18:00	24	40	34
19:00	1	5	30

5.26 Taking into account linked trips, **Table 5.16** illustrates that the maximum parking accumulation is reached at 15:00 when 75 additional vehicles will be parked. Inspection of the parking beat survey data shows that at this time there is available space for 152 vehicles (taking into account the reduction in parking spaces).

5.27 At 13:00 which is the busiest time for the car park there would be 200 (139+ 61) vehicles parked with this development in place leaving approximately 22% of the car park unoccupied (or 27% if the 17 disabled spaces and the van hire space are included). It is pertinent to note that this is a worst case scenario as at all other times parking levels will be lower.

Conclusion

5.28 The work undertaken to ascertain the car parks existing capacity and capacity with the new Units in place demonstrates that the car park has the available capacity to accommodate the development proposal during the peak hours.

Access Junction

5.29 Shripney Road is a dual carriageway between the roundabout junctions of Rowan Way and Orchard Way. Right turns are not permitted along this stretch of road and the roundabouts

provide u-turn facilities to access the opposite side of the carriageway. Consequently, it is only possible to enter the retail park from the northbound carriageway of Shripney Road and exit the retail park onto the northbound carriageway of Shripney Road.

- 5.30 As the junction benefits from a filter lane (shown in Picture 3 below) the only opposing flows at the junction are vehicles exiting the retail park onto Shripney Road and therefore it is unlikely that the development proposals will have a material impact on the operation or capacity of the access junction.



Picture 3: Filter Lane on Shripney Road (note: roadworks were taking place at the time of the site visit)

- 5.31 Nevertheless the junction has been modelled in PICADY to assess its performance. Baseline flows have been taken from an all movement's traffic survey at the junction that was undertaken on Thursday 28th November between 16:00 and 19:00 and Saturday 1st December between 12:00 and 16:00. The results of the survey are provided at **Appendix F**.
- 5.32 **Table 5.17** displays the summary results of the PICADY model for the existing situation. **Appendix G** contains the PICADY Outputs.

Table 5.17 PICADY Results – Existing Traffic				
Movement	Weekday PM Peak		Saturday Peak	
	RFC	Max Queue	RFC	Max Queue
Left out of Site	0.049	0	0.092	0

5.33 It can be seen that the existing access junction functions well within its capacity during the Weekday PM Peak and the Saturday Peak Hour – the maximum RFC exhibited is 0.092.

5.34 **Table 5.18** displays the summary results of the PICADY model for the baseline flows + development traffic. **Appendix H** contains the PICADY Outputs.

Table 5.18 PICADY Results – Existing Traffic + Development Traffic				
Movement	Weekday PM Peak		Saturday Peak	
	RFC	Max Queue	RFC	Max Queue
Left out of Site	0.075	0	0.148	0

5.35 It can be seen that the access junction functions well within its capacity during Weekday PM Peak and the Saturday Peak Hour – the maximum RFC exhibited is 0.148.

5.36 The results of the access junction modelling show that the site access has the available capacity to accommodate the development proposals during the peak hours.

Servicing

5.37 Both Unit D1 and D2 would continue to be serviced as per the existing arrangement for Arun Retail Park. Swept Paths illustrating a 16.5m and an 18.5m articulated vehicle entering and exiting the service yard are included at **Appendix I**.

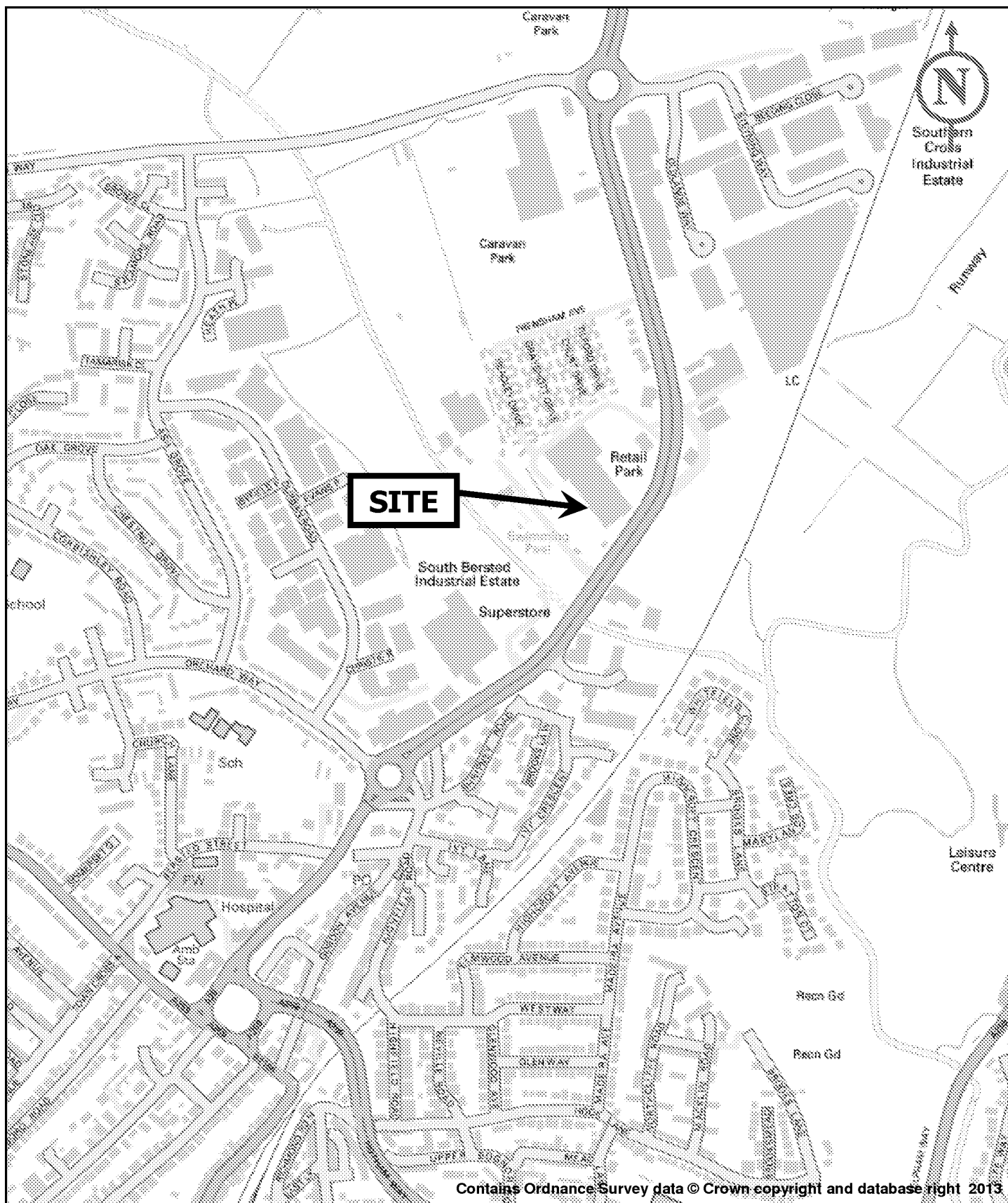
6 SUMMARY AND CONCLUSION

- 6.1 TTP Consulting is retained by BBC Pension Trust Ltd ("the applicant") c/o Orchard Street Investment Management to provide traffic and transportation advice associated with their development proposals for Arun Retail Park in Bognor Regis, West Sussex.
- 6.2 The application proposes to refurbish Units D1 & D2 and to install new mezzanine floor space in both Units. In addition the proposals seek variation of condition at Unit D1 (for the use of Unit D1 for food and drink sales without complying with condition 4 of planning permission BE/169/88) and a change of use for Unit D2 from Sui Generis (a Kwik Fit Motorist Centre) to Class A1.
- 6.3 The site is accessible to pedestrians from the local highway network. An audit undertaken during a site visit illustrated that the footways, that enable both local residential areas and public transport access points to be accessed, are of good quality, have good effective width and contain no trip hazards in the vicinity of the site. In addition as the site is located in close proximity to other retail stores on Shripney Road there is the opportunity for linked walking trips between the retail stores along Shripney Road. The scheme also includes the provision of secure cycle parking which would promote cycling as a viable and accessible means of sustainable travel.
- 6.4 A trip generation exercise has illustrated that the proposed Units would generate approximately 58 additional two-way vehicle movements during the weekday PM peak hour and an additional 126 two-way movements during the Saturday network peak hour. Therefore, given the volume of additional trips the Units are forecast to generate, it is not predicted that any material impact would occur on the local highway network as a result of the development proposals.
- 6.5 In addition, the work undertaken to ascertain the car parks existing capacity and capacity with the Units in place demonstrates that the existing car park has the available capacity to accommodate the development proposal; there would still be approximately 27% of total car parking spaces available in the busiest Saturday peak hour (including the 17 disabled spaces and the van hire space).

Conclusion

- 6.6 In light of the above, we conclude that the development would be in accordance with relevant policy guidance and could be successfully accommodated by the local transport network and existing public transport facilities.

Figures



TITLE:
Site Location Plan

PROJECT:
Arun Retail Park

CLIENT:
BBC Pension Trust Ltd



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DRAWN: M.T	CHECKED: P.C.	DATE: 120913	SCALE: NTS
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DRAWING REFERENCE:
Figure 1

REVISION:
.



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TITLE:

Approximate 800m Walk Isochrone Plan

PROJECT:

Arun Retail Park

CLIENT:

BBC Pension Trust Ltd



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130913

SCALE:

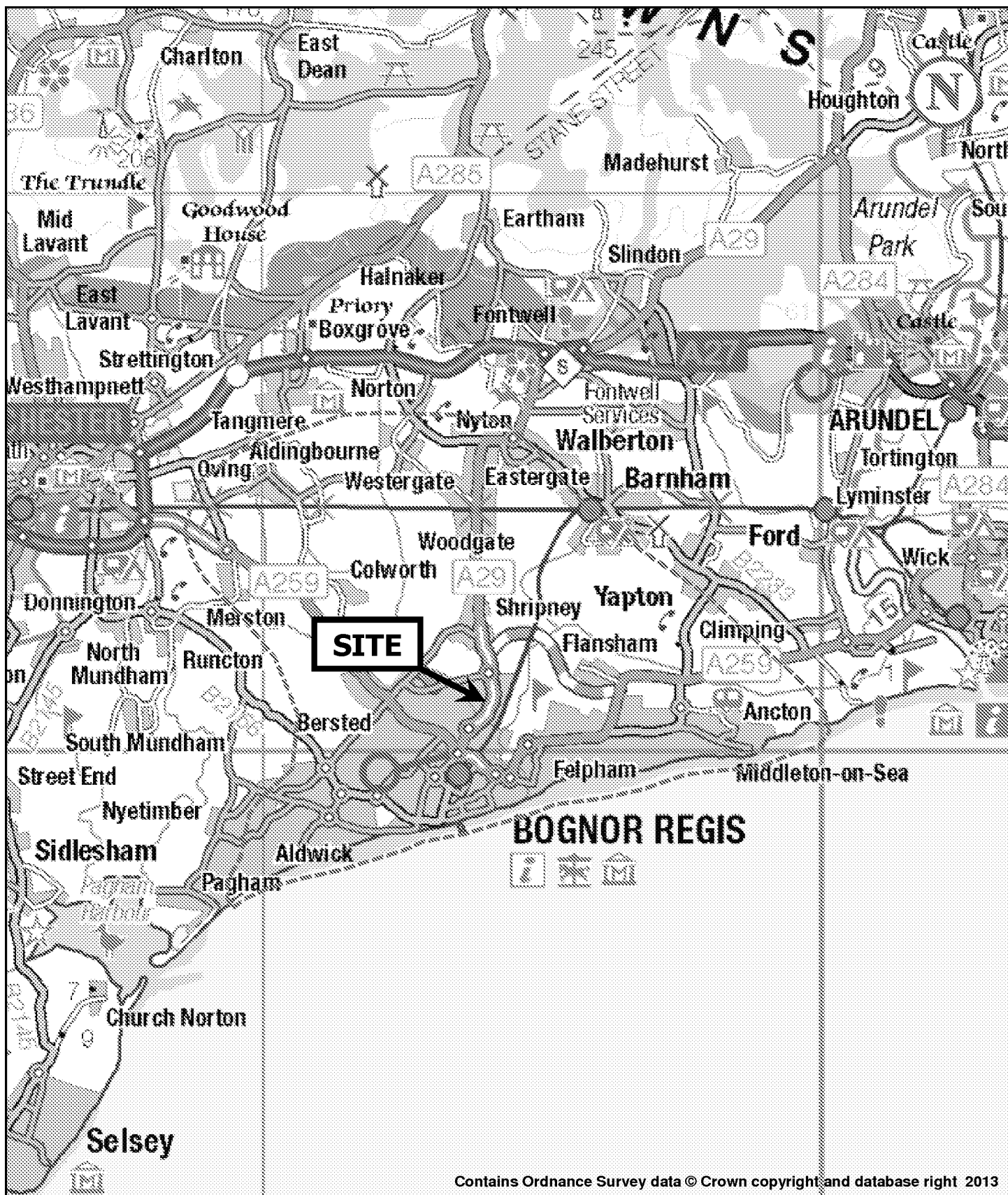
NTS

DRAWING REFERENCE:

Figure 2

REVISION:

1



TITLE:

Approximate Five Mile Cycle Isochrone Plan

PROJECT:

Arun Retail Park

CLIENT:

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DATE:

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SCALE:

NTS

DRAWING REFERENCE:

Figure 3

REVISION:

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APPENDIX A

Layout Plans

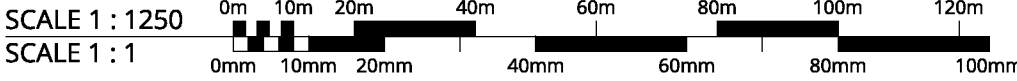


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Revision	Description	Date
URBANEDGE <i>architecture / masterplanning / design</i>		
Client	BBC PENSION TRUST LIMITED	
Project	ARUN RETAIL PARK BOGNOR REGIS UNITS D1 & D2	
Drawing	SITE BLOCK PLAN AS PROPOSED	
Scale	1:500 @ A3	Drawn DH
Date	AUG 2013	
Project No.	Drawing No.	Revision
1517	URB AR [08] 00 03	D00

PLANNING

ARUN DISTRICT COUNCIL BE/37/14/PL

APPENDIX B

Travel Plan Statement



ttp consulting

transport planning specialists

BBC Pension Trust Ltd

Unit D1 & Unit D2,
Arun Retail Park,
Bognor Regis, West Sussex

Travel Plan Statement

February 2014

TTP Consulting Ltd
111-113 Great Portland Street
London W1W 6QQ

[Redacted]

[Redacted]

Contents

1	INTRODUCTION	1
	Policy Context	1
	National Guidance.....	1
	DfT Guidance.....	2
	Scope.....	3
2	ACCESSIBILITY	4
	Background	4
	Local Highway Network	4
	Accessing the site by non-car modes.....	5
3	OBJECTIVES AND TARGETS	9
	Objectives	9
	Targets	9
4	TRAVEL PLAN STRATEGY	11
	Travel Plan Management	11
	Marketing Strategy	11
5	MEASURES AND INITIATIVES	12
	Introduction.....	12
	Walking	12
	Green Travel.....	12
	Cycling	12
	Personalised Travel Planning.....	14
	Measures to encourage Customers.....	14
6	REVIEW AND ACTION PLAN.....	15

Figures

Figure 1	-	Site Location Plan
Figure 2	-	Eight Hundred Metre Walk Isochrone Plan
Figure 3	-	Five Mile Cycle Isochrone Plan

1 INTRODUCTION

- 1.1 TTP Consulting is retained by the BBC Pension Trust Ltd ("the applicant") c/o Orchard Street Investment Management to provide traffic and transportation advice associated with their development proposals for Arun Retail Park in Bognor Regis, West Sussex.
- 1.2 The site is located off the A29 Shripney Road between the roundabout junctions of Rowan Way with Shripney Road and Orchard Way with Shripney Road. Bognor Town Centre is located approximately 1.8km south of Arun Retail Park. The location of the site is shown at **Figure 1**.
- 1.3 The application proposes to refurbish Units D1 & D2 and to install new mezzanine floor space in both Units. In addition the proposals seek variation of condition at Unit D1 (for the use of Unit D1 for food and drink sales without complying with condition 4 of planning permission BE/169/88) and a change of use for Unit D2 from Sui Generis (a Kwik Fit Motorist Centre) to Class A1.
- 1.4 This Travel Plan Statement has been prepared for both Unit D1 and Unit D2. This document can be finalised, adapted and secured for each individual Unit through a Condition (i.e. each Unit would use this document as a base to prepare their own Travel Plan Statement that includes any specific organisational policy).
- 1.5 The main aim of the document is to put in place the management tools deemed necessary to enable the employees to make more informed decisions about their travel, which at the same time minimises the adverse impacts of their travel on the environment. This is achieved by setting out a strategy for eliminating the barriers keeping employees from using sustainable modes which in effect can self-manage single-occupancy vehicle use.

Policy Context

National Guidance

National Planning Policy Framework

- 1.6 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.
- 1.7 Chapter 4 – 'Promoting Sustainable Transport' sets out central government national transport policy:

"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."

1.8 The National Planning Policy Framework states at paragraph 32:

"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:

- 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."*

1.9 In relation to Travel Plans, at paragraph 36 the document states *"all developments which generate significant amounts of movement should be required to provide a Travel Plan"*.

DfT Guidance

1.10 The Department for Transport's (DfT's) Good Practice Guidelines: Delivering Travel Plans through the Planning Process (2009) outlines the role and benefits of travel plans in the planning process, the way to secure them and their inter-relationship with transport assessments. It also discusses the requirements and elements of an effective travel plan.

Scope

- 1.11 This Travel Plan Statement (henceforth simply referred to as a 'Travel Plan') is a strategy setting out the sustainable travel options and measures for the employees of both Units. Due to the modest size of the development, AIM Targets and a formal monitoring regime has been deemed unnecessary.
- 1.12 The remainder of this Plan is structured as follows:
- Section 2 - Outlines the accessibility of the site;
 - Section 3 - Sets out the objectives of the Travel Plan;
 - Section 4 - Outlines the Travel Plan strategy;
 - Section 5 - Sets out the Measures that will be implemented; and
 - Section 6 - Outlines a review programme.

2 ACCESSIBILITY

Background

- 2.1 The site is located off the A29 Shripney Road between the roundabout junctions of Rowan Way with Shripney Road and Orchard Way with Shripney Road. Bognor Regis Town Centre is located approximately 1.8km south of the proposed development site.

Local Highway Network

- 2.2 The A29 passes through Bognor Regis in a north to south direction. To the north, the A29 provides links to the A27 Arundel Road, the A264 Five Oaks Road and the A281 Guildford Road. To the south of the site, the A259 Bognor Road runs through Bognor Regis in an east to west direction. It provides a link to the Havant Bypass and the M27 to the west and a link to the A259 Brighton Road to the east.
- 2.3 Shripney Road is a dual carriageway between the roundabout junctions of Rowan Way and Orchard Way. Right turns are not permitted along this stretch of road and the roundabouts provide u-turn facilities to access the other side of the carriageway.
- 2.4 Shripney Road benefits from footways and off-road cycleways. **Picture 1** illustrates the southbound shared use footway along Shripney Road.



Picture 1: Shared Use Footway / PUFFIN Crossing across Shripney Road between Sainsbury's and Arun Retail Park

- 2.5 The speed limit in the vicinity of the site is 40 mph and there is a speed camera on the southbound carriageway of the A29 to the north of the site to help regulate speeds.
- 2.6 Street lighting is provided to the north and south of the site along Shripney Road.

Accessing the site by non-car modes

Walking

- 2.7 Arun Retail Park is in a good location to encourage trips on foot and by bicycle as Bognor Regis town centre and Bognor Regis railway station are both within a 2km walk or cycle ride of the site. In addition, all of the existing retail and employment sites along Shripney Road are accessible within a 15 minute walk from the site which creates an opportunity for linked walking trips between the other retail sites and the other employment sites on Shripney Road.
- 2.8 The Institution of Highways and Transportation (IHT) 'Guidelines for Providing Journeys on Foot' (2000) suggests 'acceptable' and 'desirable' and 'preferred maximum' walking distances. **Table 2.1**, below, contains suggested acceptable walking distances for pedestrians without mobility impairment for some common trip purposes.

Table 2.1 Suggested Acceptable Walking Distances			
Definition	Walking Distances (metres)		
	Town Centres	Commuting / Schools	Elsewhere
Desirable	200	500	400
Acceptable	400	1000	800
Preferred Maximum	800	2000	1200
Source: Providing for Journeys on Foot, IHT, 2000			

- 2.9 **Table 2.2** sets out details of approximate distances between Arun Retail Park and local amenities.

Table 2.2 Approximate Distances		
Amenity	Location	Distance (approximate metres)
Northbound Bus Stop	Shripney Road	240
Southbound Bus Stop	Shripney Road	280
Supermarket (Sainsbury's)	Shripney Road	300
Railway Station	Station Road	1800
Bognor Regis High Street	High Street	200

2.10 **Table 2.2** illustrates that there are a number of local amenities located within 'acceptable' and 'preferred maximum' walking distance of the site. Specifically, local bus stops are located on Shripney Road and a food supermarket (Sainsbury's) is located on the other side of Shripney Road, directly opposite the site.

2.11 **Figure 2** illustrates an 800m walk catchment from the site. In addition, there is a reasonable density of residential development within 2 kilometres of the Arun Retail Park which presents a realistic opportunity for pedestrians (employees and customers) to access the site on foot.

2.12 Pedestrian infrastructure in the immediate vicinity of the site is good with footways and pedestrian crossings being located on expected desire lines.

Cycling

2.13 Guidance on cycling can be found in 'Cycle Friendly Infrastructure' guidelines published by the Institution of Highways and Transportation. This guidance highlights previous research by the DfT that three quarters of all journeys are less than 5 miles (8km) of which 60% are by car. The guidelines highlight that there is a 'Substantial potential for substituting cycling for driving' for distances up to 5 miles.

2.14 Much of Bognor Regis is within 5 miles distance of the site; therefore, there is scope for the uptake of this sustainable mode by people working and shopping at the site; a five mile Cycle Isochrone Plan is included at **Figure 3**.

- 2.15 Specifically the existing footways / cycleways along the A29 are of good quality and allow cyclists to be segregated from faster moving traffic. The footways / cycleways are of varying width but typically are approximately 5m wide.

Public Transport

- 2.16 This section explores the opportunities to travel to and from the site by public transport.

Bus Access

- 2.17 Northbound and southbound bus stops are provided on both sides of the A29 Shripney Road in close proximity of the site. **Picture 2** illustrates the southbound bus stop on Shripney Road opposite the site. The bus stop benefits from a shelter and timetable information.



Picture 2: Southbound Bus Stop on Shripney Road (opposite Arun Retail Park / Unit D2)

- 2.18 **Table 2.3** provides a summary of the bus services accessible from the site and the associated frequencies.

Table 2.3: Bus Services Accessible from the Site			
Service No	Route	Frequency (minutes, one-way)	
		Mon to Sat	Sunday
Star 1	Bersted – Bognor Regis – Felpham – Elmer	10 mins	No Service
61	Bognor Regis – Aldwick	6 / day	No Service
62	Nyetimber – Bognor Regis	7 / day	No Service
65	Littlehampton: Shripney Sainsbury's Circular	4 / day	No Service
66	Bognor Regis – Yapton (Circular)	7 / day	No Service
T2	Bognor Regis Tesco – Bognor Regis	2 / day (Tue / Thurs only)	No Service
T11	Bognor Regis Tesco – Elmer – Yapton	1 / day (Tue / Thurs only)	No Service
T12	Bognor Regis Tesco – Bersted – Bognor Regis	2 / day (Tue / Thurs only)	No Service
T13	Bognor Regis Tesco – Pagham – Rose Green	2 / day (Mon only)	No Service

2.19 **Table 2.3** illustrates that the local bus services are relatively frequent and provide access around Bognor Regis and the surrounding towns and villages.

National Rail Services

2.20 Bognor Regis railway station is located in the town centre approximately 1.8km to the south west of the site on Station Road, a 17 minute walk. The station and train services are operated by Southern Rail.

2.21 To the east destinations include Barnham, Worthing and Shoreham-by-sea. To the north destinations include Arundel, Pulborough and Horsham. There is an hourly service to London Victoria as well as a regular connecting service to Barnham for services to Brighton.

3 OBJECTIVES AND TARGETS

3.1 This section sets out the overarching objectives for the Travel Plan, as well as Action Targets for the short and medium term.

- a) **Objectives** are the high-level aims of the Travel Plan. They help to give the Travel Plan direction and provide a clear focus.
- b) **Targets** are the goals by which progress will be assessed.

Objectives

3.2 The Travel Plan's overriding objective is:

To engage with and encourage employees to use more sustainable ways of travelling to / from Arun Retail Park through more effective promotion of active modes. This will minimise the impact of the development on the surrounding highway network.

3.3 The sub-objectives are:

- a) Sub-objective 1: To increase employee awareness of the advantages and availability of sustainable / active modes of transport;
- b) Sub-objective 2: To promote the health and fitness benefits of active travel to all users;
- c) Sub-objective 3: To introduce a package of physical and management measures that will facilitate employee travel by sustainable modes; and therefore,
- d) Sub-objective 4: To reduce unnecessary use of the car for the journey to and from the site by employees and customers.

Targets

3.4 Targets are essential for the success of the travel plan. The key Action Targets are set out below:

- a) A Travel Plan Co-ordinator (TPC) will be appointed at least 1 month prior to the Unit being occupied;
- b) New employees will be provided with a Welcome Pack, detailing the Measures set out in this document; and

- c) A sustainable transport noticeboard will be provided and located in a prominent location. The noticeboard will be periodically updated so that it details up-to-date information.

3.5 Given the size of the development, it is more constructive to set Action type Targets for Measures aimed at promoting sustainable transport to employees and customers of the retail unit, rather than a mode split Aim Target.

4 TRAVEL PLAN STRATEGY

Travel Plan Management

- 4.1 A Travel Plan Co-ordinator (TPC) will be appointed at least one month prior to the Unit being occupied. The contact details of the TPC will be provided to West Sussex County Council, if requested.
- 4.2 The TPC will be responsible for overseeing the management, development, implementation and review of this Travel Plan. The TPC will be fully funded by the retail occupier.
- 4.3 The primary responsibilities of this role include:
- a) The implementation of measures as set out in the Travel Plan (including reviewing the employee welcome packs and noticeboards every 6 months).
 - b) Promoting the objectives and benefits of the Travel Plan; and
 - c) Acting as the point of contact for information with employees.
- 4.4 Regular updating of this Travel Plan document is part of the responsibility of the nominated person.

Marketing Strategy

- 4.5 Each employee will be provided with a Welcome Pack during their induction session. The Welcome Pack will include a summarised version of the Travel Plan along with information on public transport, the local walking and cycling network, and contact details for taxi operators.
- 4.6 Employees will as a consequence be made aware of the Travel Plan, including the purpose and objectives of the Travel Plan, along with specific measures such as the cycle parking.

5 MEASURES AND INITIATIVES

Introduction

- 5.1 This section of the Travel Plan outlines the specific physical and management measures to be implemented as part of the Travel Plan. The implementation of the listed measures, which include awareness initiatives and infrastructure provision, is the core of the Travel Plan.

Walking

- 5.2 There are a number of inherent advantages that will encourage staff to walk to work. In summary, these are:

- A significant number of people live within walking distance.
- There is a good network of footways in the local area.
- There are good pedestrian routes to other neighbouring facilities.

- 5.3 Noticeboards will be erected showing the most direct routes to the Store. Whilst this will benefit existing staff members, it will primarily assist new employees when they start.

- 5.4 The Travel Plan Co-ordinator will identify, through discussion with staff, problems with external pedestrian routes and will liaise with the local planning and highway authority to encourage maintenance of all pedestrian routes to a high standard and discuss with the local planning authority any further improvements to pedestrian routes and linkages. For example, they will seek to identify any particular safety hazards, poorly lit areas, etc.

Green Travel

- 5.5 Employees will be informed on the environmental benefits of green travel – www.travelfootprint.org.

Cycling

- 5.6 It is proposed to provide 16 covered Sheffield style cycle stands located close to the entrance of the Units and 15 covered Sheffield style cycle stands in the service yard for staff. This is a provision of 62 cycle parking spaces.
- 5.7 Employees will be provided with information and advice concerning cycle routes within the Welcome Pack.

- 5.8 The TPC will explore with local bicycle retailers the possibility of providing discounts on cycling equipment to employees of the Unit.
- 5.9 Other employee specific cycle promotions will include the following:
- a) Promotion of the health benefits of cycling; and
 - b) Cycle routes and other cycling information provided on notice boards, and in the Welcome Pack etc.

Public Transport

- 5.10 There are a number of bus services that operate in the vicinity, as detailed at Section 2. The Travel Plan Co-ordinator will encourage staff living along bus routes to use the bus. They will liaise with staff that use public transport to keep abreast of their opinion of the services they use. Any concerns will be discussed with the local authority and operators in an effort to resolve any issues.
- 5.11 General information on public transport services and taxi services will be available, located on noticeboards within the buildings in staff areas.

Car Sharing

- 5.12 Employees come from a wide range of home destinations and, as such, the car is often the only viable option to reach work. However, it is not necessary that each and every one of these employees bring their own car each day. The Travel Plan Co-ordinator will investigate interest in setting up a car-share database.
- 5.13 The Travel Plan Co-ordinator could use a number of software packages available or websites such as www.liftshare.com which enables users to set up their own scheme or link to existing schemes in the vicinity.
- 5.14 The Travel Plan Co-ordinator will advise staff of the costs associated with running a car and advise them of the various opportunities for car sharing, encouraging them to car share whenever possible given that doing so only once a week could reduce car travel and demand for parking by at least 10%.

Personalised Travel Planning

- 5.15 The TPC will offer a personalised Travel Planning service for all employees, if requested. The TPC will be able to draw on advice from journey planning websites such as Transport Direct www.transportdirect.org.uk.

Measures to encourage Customers

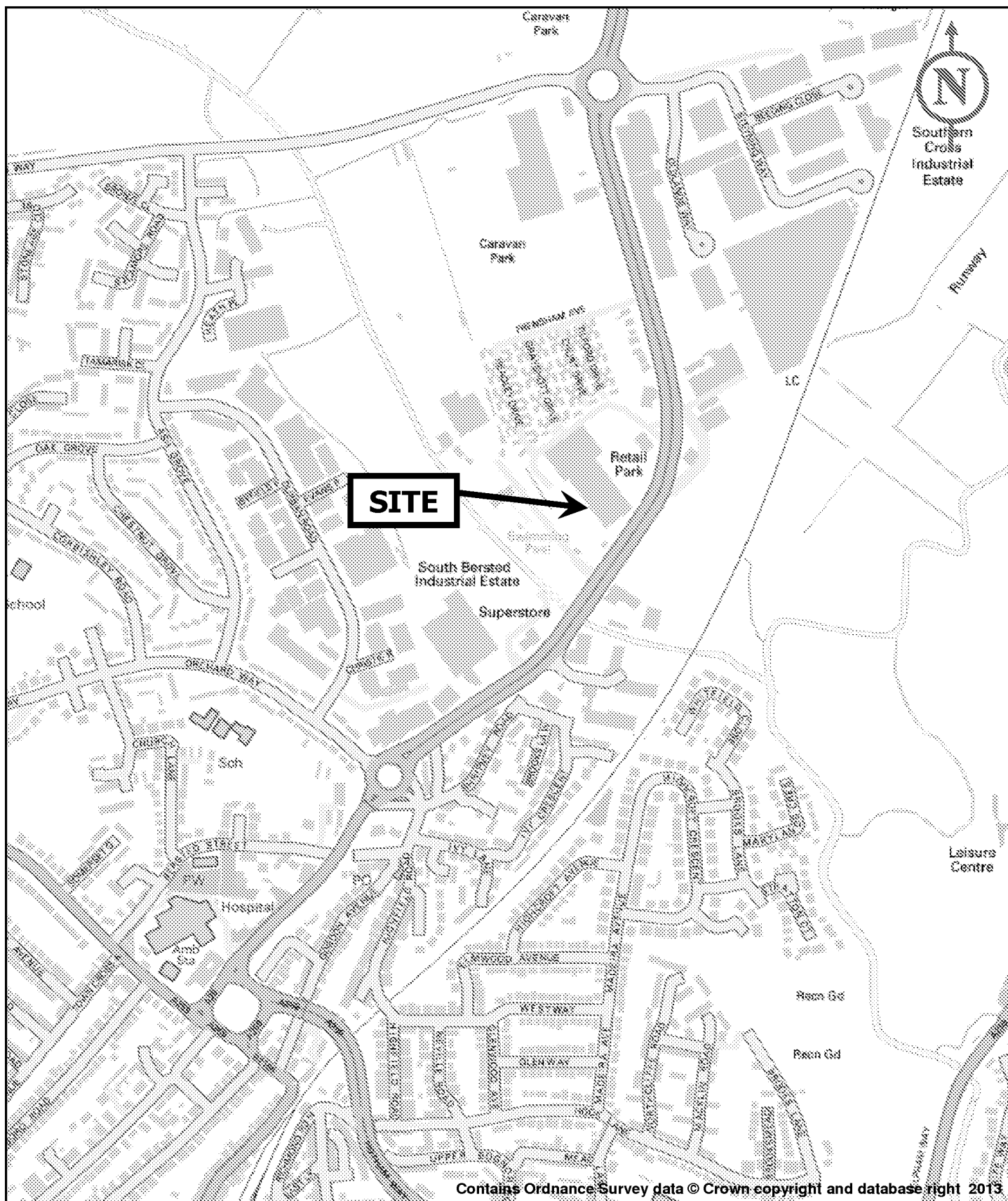
- 5.16 The Occupier does not have any control of how customers travel to the Store. However, it is possible to educate and inform customers of the benefits and opportunities of travelling by sustainable modes.
- 5.17 In this regard, information on opportunities for walking, cycling and public transport will be displayed on noticeboards at appropriate locations. Furthermore, information on initiatives promoted by the Council will also be advertised.

6 REVIEW AND ACTION PLAN

- 6.1 Due to the size of the development no travel plan monitoring surveys are required. However it is important that this Travel Plan is continuously reviewed and revised to ensure it remains relevant to the retail unit.
- 6.2 The following will be monitored by the TPC on a regular basis:
- The level of usage and condition of the cycle stands;
 - The detail and information provided on the noticeboards and in the welcome packs;
 - The number of employees utilising the personalised travel planning measure.
- 6.3 A Travel Plan Review will occur each year over the lifetime of the Plan (5 years) that will ensure the Travel Plan remains up-to-date. The Review will include updates to the Welcome Pack and Noticeboard to ensure their content remains relevant.
- 6.4 **Table 6.1** sets out the Action Plan for the implementation of the various measures associated with the Travel Plan along with who is responsible and how funding will be secured.

Table 6.1: Travel Plan Action Plan				
Action	Target	Funding	Measure	Responsibility
Appointment of Travel Plan Co-ordinator	To be appointed prior to occupation of unit	Occupier	Appointment of Travel Plan Co-ordinator	Occupier
Provision of Cycle Parking	Before occupation	Developer	Before occupation	Developer
Erection of Travel Noticeboards	Before occupation	Occupier	Prior to occupation of unit	Travel Plan Co-ordinator
Production of Welcome Pack	Before occupation	Occupier	Completed Travel Pack	Travel Plan Co-ordinator
Promote Active Modes	On-going with emphasis on summer months	Occupier	On-going	Travel Plan Co-ordinator

Figures



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TITLE:
Site Location Plan

PROJECT:
Arun Retail Park

CLIENT:
BBC Pension Trust Ltd



ttp consulting

transport planning specialists

131-151 Great Titchfield Street
London W1W 5BB
Tel: 020 3008 8940

www.ttp-consulting.co.uk

Registered in England: 7441800

DRAWN: M.T	CHECKED: P.C.	DATE: 120913	SCALE: NTS
---------------	------------------	-----------------	---------------

DRAWING REFERENCE:
Figure 1

REVISION:
.



Contains Ordnance Survey data © Crown copyright and database right 2013

TITLE:

Approximate 800m Walk Isochrone Plan

PROJECT:

Arun Retail Park

CLIENT:

BBC Pension Trust Ltd



ttp consulting

transport planning specialists

131-151 Great Titchfield Street

London W1W 5BB

Tel: 020 3008 8940

www.ttp-consulting.co.uk

Registered in England: 7441800

DRAWN:

M.T

CHECKED:

P.C.

DATE:

130913

SCALE:

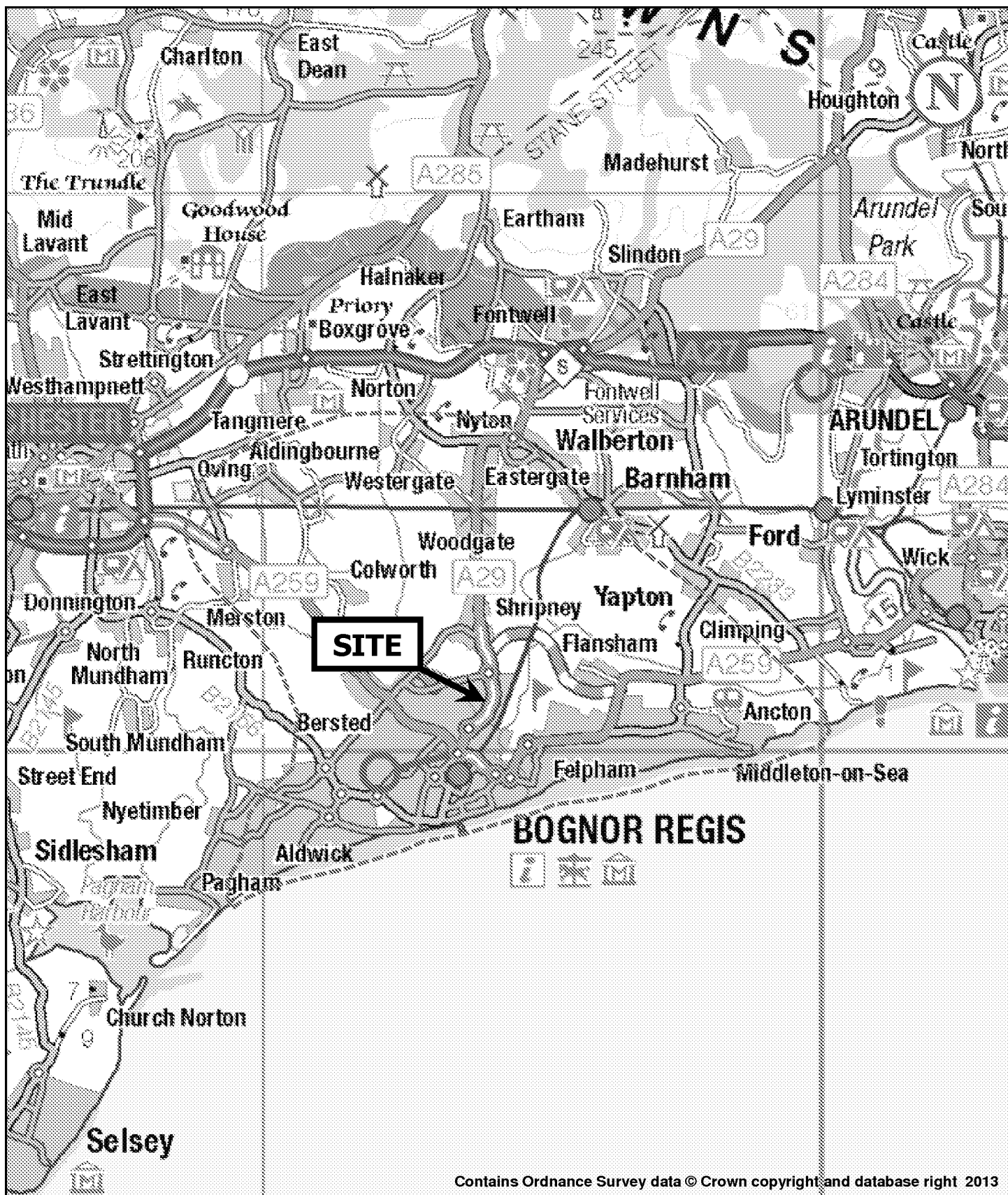
NTS

DRAWING REFERENCE:

Figure 2

REVISION:

1



TITLE:

Approximate Five Mile Cycle Isochrone Plan

PROJECT:

Arun Retail Park

CLIENT:

BBC Pension Trust Ltd



ttp consulting

transport planning specialists

131-151 Great Titchfield Street

London W1W 5BB

Tel: 020 3008 8940

www.ttp-consulting.co.uk

Registered in England: 7441800

DRAWN:

M.T

CHECKED:

P.C.

DATE:

130913

SCALE:

NTS

DRAWING REFERENCE:

Figure 3

REVISION:

.

APPENDIX C

TRICS Output - Existing

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 15 - VEHICLE SERVICES
Category : B - MOTORIST CENTRE (FAST FIT)
VEHICLES

Selected regions and areas:

02	SOUTH EAST	
	BD BEDFORDSHIRE	1 days
	HC HAMPSHIRE	2 days
	WS WEST SUSSEX	1 days
03	SOUTH WEST	
	DC DORSET	2 days
	DV DEVON	1 days
04	EAST ANGLIA	
	CA CAMBRIDGESHIRE	1 days
05	EAST MIDLANDS	
	NR NORTHAMPTONSHIRE	1 days
06	WEST MIDLANDS	
	SH SHROPSHIRE	1 days
	WM WEST MIDLANDS	2 days
07	YORKSHIRE & NORTH LINCOLNSHIRE	
	NO NORTH LINCOLNSHIRE	1 days
	NY NORTH YORKSHIRE	4 days
08	NORTH WEST	
	GM GREATER MANCHESTER	2 days
	LC LANCASHIRE	1 days
09	NORTH	
	NB NORTHUMBERLAND	1 days
	TW TYNE & WEAR	3 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: 150 to 1042 (units: sqm)
 Range Selected by User: 150 to 1042 (units: sqm)

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/92 to 20/12/12

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	5 days
Tuesday	2 days
Wednesday	8 days
Thursday	4 days
Friday	5 days

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

Selected survey types:

Manual count	23 days
Directional ATC Count	1 days

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

Selected Locations:

Edge of Town Centre	7
Suburban Area (PPS6 Out of Centre)	11
Edge of Town	4
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:

Industrial Zone	4
Commercial Zone	2
Development Zone	1
Residential Zone	4
Retail Zone	1
Built-Up Zone	7
High Street	1
No Sub Category	4

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	3 days
B2	21 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®.

Filtering Stage 3 selection (Cont.):

Population within 1 mile:

5,001 to 10,000	5 days
15,001 to 20,000	5 days
20,001 to 25,000	7 days
25,001 to 50,000	6 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:

5,001 to 25,000	2 days
50,001 to 75,000	2 days
75,001 to 100,000	3 days
100,001 to 125,000	2 days
125,001 to 250,000	6 days
250,001 to 500,000	5 days
500,001 or More	4 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	13 days
1.1 to 1.5	11 days

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

Travel Plan:

Not Known	4 days
No	20 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	BD-15-B-01	HI-Q		BEDFORDSHIRE
	HIGH STREET SOUTH			
	DUNSTABLE			
	Edge of Town Centre			
	High Street			
	Total Gross floor area:	525 sqm		
	Survey date: MONDAY	05/07/04		Survey Type: MANUAL
2	CA-15-B-01	NATIONAL TYRE		CAMBRIDGESHIRE
	NEWMARKET ROAD			
	CAMBRIDGE			
	Edge of Town Centre			
	Built-Up Zone			
	Total Gross floor area:	325 sqm		
	Survey date: FRIDAY	05/11/04		Survey Type: MANUAL
3	DC-15-B-01	KWIKFIT		DORSET
	A3060 CASTLE LANE WEST			
	MOORDOWN			
	BOURNEMOUTH			
	Edge of Town			
	Residential Zone			
	Total Gross floor area:	449 sqm		
	Survey date: WEDNESDAY	03/09/97		Survey Type: MANUAL
4	DC-15-B-02	ATS EUROMASTER		DORSET
	FERNSIDE ROAD			
	POOLE			
	Suburban Area (PPS6 Out of Centre)			
	No Sub Category			
	Total Gross floor area:	895 sqm		
	Survey date: WEDNESDAY	16/07/08		Survey Type: MANUAL
5	DV-15-B-01	KWIKFIT		DEVON
	ALEXANDRA ROAD			
	MUTLEY			
	PLYMOUTH			
	Suburban Area (PPS6 Out of Centre)			
	Residential Zone			
	Total Gross floor area:	900 sqm		
	Survey date: WEDNESDAY	07/10/09		Survey Type: MANUAL
6	GM-15-B-01	KWIKFIT		GREATER MANCHESTER
	CROSS STREET			
	SALE			
	Suburban Area (PPS6 Out of Centre)			
	Built-Up Zone			
	Total Gross floor area:	775 sqm		
	Survey date: MONDAY	24/05/04		Survey Type: MANUAL
7	GM-15-B-02	HI-Q		GREATER MANCHESTER
	ASHTON OLD ROAD			
	OPENSHAW			
	MANCHESTER			
	Suburban Area (PPS6 Out of Centre)			
	Industrial Zone			
	Total Gross floor area:	710 sqm		
	Survey date: FRIDAY	08/10/04		Survey Type: MANUAL
8	HC-15-B-01	NATIONAL TYRES		HAMPSHIRE
	ST CROSS STREET			
	WINCHESTER			
	Edge of Town Centre			
	Built-Up Zone			
	Total Gross floor area:	315 sqm		
	Survey date: FRIDAY	07/10/05		Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

9	HC-15-B-02	NATIONWIDE AUTO	HAMPSHIRE
	FRATTON ROAD		
	FRATTON		
	PORTSMOUTH		
	Neighbourhood Centre (PPS6 Local Centre)		
	No Sub Category		
	Total Gross floor area:	300 sqm	
	Survey date: TUESDAY	18/10/05	Survey Type: MANUAL
10	LC-15-B-01	ATS EUROMASTER	LANCASHIRE
	PENDLE STREET		
	BLACKBURN		
	Suburban Area (PPS6 Out of Centre)		
	No Sub Category		
	Total Gross floor area:	630 sqm	
	Survey date: WEDNESDAY	23/06/04	Survey Type: MANUAL
11	NB-15-B-01	TYRES AND BATTERY	NORTHUMBERLAND
	STATION ROAD		
	LOWER PRUDHOE		
	NEAR NEWCASTLE		
	Edge of Town		
	Industrial Zone		
	Total Gross floor area:	150 sqm	
	Survey date: MONDAY	23/05/05	Survey Type: MANUAL
12	NO-15-B-01	KWIK FIT	NORTH LINCOLNSHIRE
	BRUMBY WOOD LANE		
	SCUNTHORPE		
	Edge of Town Centre		
	Residential Zone		
	Total Gross floor area:	850 sqm	
	Survey date: THURSDAY	20/12/12	Survey Type: MANUAL
13	NR-15-B-01	NATIONAL TYRES	NORTHAMPTONSHIRE
	OXFORD STREET		
	WELLINGBOROUGH		
	Neighbourhood Centre (PPS6 Local Centre)		
	Built-Up Zone		
	Total Gross floor area:	336 sqm	
	Survey date: WEDNESDAY	26/09/12	Survey Type: MANUAL
14	NY-15-B-01	ATS EUROMASTER	NORTH YORKSHIRE
	LAYERTHORPE ROAD		
	LAYERTHORPE		
	YORK		
	Suburban Area (PPS6 Out of Centre)		
	Commercial Zone		
	Total Gross floor area:	1042 sqm	
	Survey date: THURSDAY	21/04/05	Survey Type: MANUAL
15	NY-15-B-02	ATS EUROMASTER	NORTH YORKSHIRE
	STATION ROAD		
	TADCASTER		
	Suburban Area (PPS6 Out of Centre)		
	Industrial Zone		
	Total Gross floor area:	436 sqm	
	Survey date: TUESDAY	10/05/05	Survey Type: MANUAL
16	NY-15-B-03	HI-Q	NORTH YORKSHIRE
	CHARLTON STREET		
	YORK		
	Edge of Town		
	Industrial Zone		
	Total Gross floor area:	620 sqm	
	Survey date: MONDAY	09/05/05	Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

17	NY-15-B-04	KWIK FIT	NORTH YORKSHIRE
	LONG STREET		
	THIRSK		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Gross floor area:	363 sqm	
	Survey date: MONDAY	17/10/11	Survey Type: MANUAL
18	SH-15-B-01	KWIK FIT	SHROPSHIRE
	CASTLE FOREGATE		
	SHREWSBURY		
	Edge of Town Centre		
	Commercial Zone		
	Total Gross floor area:	500 sqm	
	Survey date: THURSDAY	11/06/09	Survey Type: MANUAL
19	TW-15-B-01	NATIONAL TYRES	TYNE & WEAR
	BATH LANE		
	NEWCASTLE		
	Edge of Town Centre		
	Built-Up Zone		
	Total Gross floor area:	300 sqm	
	Survey date: THURSDAY	28/04/05	Survey Type: MANUAL
20	TW-15-B-02	KWIK FIT	TYNE & WEAR
	SUNDERLAND ROAD		
	GATESHEAD		
	Suburban Area (PPS6 Out of Centre)		
	No Sub Category		
	Total Gross floor area:	377 sqm	
	Survey date: WEDNESDAY	22/06/05	Survey Type: MANUAL
21	TW-15-B-03	GREAT NTH TYRES	TYNE & WEAR
	EAST STREET		
	GATESHEAD		
	Edge of Town Centre		
	Development Zone		
	Total Gross floor area:	380 sqm	
	Survey date: WEDNESDAY	22/06/05	Survey Type: MANUAL
22	WM-15-B-02	WHEEL WORKS	WEST MIDLANDS
	MOSELEY ROAD		
	BALSALL HEATH		
	BIRMINGHAM		
	Suburban Area (PPS6 Out of Centre)		
	Built-Up Zone		
	Total Gross floor area:	550 sqm	
	Survey date: FRIDAY	23/11/01	Survey Type: MANUAL
23	WM-15-B-03	KWIK FIT	WEST MIDLANDS
	MOSELEY ROAD		
	BALSALL HEATH		
	BIRMINGHAM		
	Suburban Area (PPS6 Out of Centre)		
	Built-Up Zone		
	Total Gross floor area:	600 sqm	
	Survey date: WEDNESDAY	08/02/06	Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

24	WS-15-B-01	KWIK FIT	WEST SUSSEX
	SHRIPNEY ROAD		
	ARUN RETAIL PARK		
	BOGNOR REGIS		
	Edge of Town		
	Retail Zone		
	Total Gross floor area:	697 sqm	
	Survey date: FRIDAY	02/10/92	Survey Type: DIRECTIONAL ATC COUNT

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 15 - VEHICLE SERVICES/B - MOTORIST CENTRE (FAST FIT)

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	1	697	0.000	1	697	0.000	1	697	0.000
01:00 - 02:00	1	697	0.143	1	697	0.143	1	697	0.286
02:00 - 03:00	1	697	0.000	1	697	0.000	1	697	0.000
03:00 - 04:00	1	697	0.000	1	697	0.000	1	697	0.000
04:00 - 05:00	1	697	0.000	1	697	0.000	1	697	0.000
05:00 - 06:00	1	697	0.000	1	697	0.000	1	697	0.000
06:00 - 07:00	1	697	0.000	1	697	0.143	1	697	0.143
07:00 - 08:00	12	502	0.481	12	502	0.133	12	502	0.614
08:00 - 09:00	24	543	1.290	24	543	0.591	24	543	1.881
09:00 - 10:00	24	543	1.305	24	543	1.044	24	543	2.349
10:00 - 11:00	24	543	1.228	24	543	1.121	24	543	2.349
11:00 - 12:00	24	543	1.182	24	543	1.190	24	543	2.372
12:00 - 13:00	24	543	1.228	24	543	1.182	24	543	2.410
13:00 - 14:00	24	543	1.228	24	543	1.274	24	543	2.502
14:00 - 15:00	24	543	1.167	24	543	1.321	24	543	2.488
15:00 - 16:00	24	543	1.175	24	543	1.236	24	543	2.411
16:00 - 17:00	24	543	1.236	24	543	1.405	24	543	2.641
17:00 - 18:00	24	543	0.553	24	543	1.106	24	543	1.659
18:00 - 19:00	15	555	0.144	15	555	0.504	15	555	0.648
19:00 - 20:00	1	697	0.000	1	697	0.000	1	697	0.000
20:00 - 21:00	1	697	0.000	1	697	0.000	1	697	0.000
21:00 - 22:00	1	697	0.000	1	697	0.287	1	697	0.287
22:00 - 23:00	1	697	0.000	1	697	0.000	1	697	0.000
23:00 - 24:00	1	697	0.000	1	697	0.000	1	697	0.000
Total Rates:			12.360			12.680			25.040

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: 150 - 1042 (units: sqm)
 Survey date range: 01/01/92 - 20/12/12
 Number of weekdays (Monday-Friday): 27
 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 CALCULATION SELECTION PARAMETERS:

Land Use : 15 - VEHICLE SERVICES
Category : B - MOTORIST CENTRE (FAST FIT)

VEHICLES

Selected regions and areas:

02 SOUTH EAST
WS WEST SUSSEX 1 days
06 WEST MIDLANDS
WM WEST MIDLANDS 2 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: 550 to 697 (units: sqm)
Range Selected by User: 150 to 1042 (units: sqm)

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/92 to 20/12/12

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

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

Selected survey types:

Manual count 2 days
Directional ATC Count 1 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:

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

Retail Zone 1
Built-Up Zone 2

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

Filtering Stage 3 selection:

Use Class:

B2 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 1 mile:

5,001 to 10,000 2 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:

75,001 to 100,000 1 days
125,001 to 250,000 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 3 days

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

Travel Plan:

Not Known 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.

LIST OF SITES relevant to selection parameters

1	WM-15-B-01	KWIKFIT	WEST MIDLANDS
	MOSELEY ROAD		
	BALSALL HEATH		
	BIRMINGHAM		
	Suburban Area (PPS6 Out of Centre)		
	Built-Up Zone		
	Total Gross floor area:	600 sqm	
	Survey date: SATURDAY	10/11/01	Survey Type: MANUAL
2	WM-15-B-02	WHEEL WORKS	WEST MIDLANDS
	MOSELEY ROAD		
	BALSALL HEATH		
	BIRMINGHAM		
	Suburban Area (PPS6 Out of Centre)		
	Built-Up Zone		
	Total Gross floor area:	550 sqm	
	Survey date: SATURDAY	24/11/01	Survey Type: MANUAL
3	WS-15-B-01	KWIKFIT	WEST SUSSEX
	SHRIPNEY ROAD		
	ARUN RETAIL PARK		
	BOGNOR REGIS		
	Edge of Town		
	Retail Zone		
	Total Gross floor area:	697 sqm	
	Survey date: SATURDAY	03/10/92	Survey Type: DIRECTIONAL ATC COUNT

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 15 - VEHICLE SERVICES/B - MOTORIST CENTRE (FAST FIT)

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	1	697	0.000	1	697	0.000	1	697	0.000
01:00 - 02:00	1	697	0.000	1	697	0.000	1	697	0.000
02:00 - 03:00	1	697	0.000	1	697	0.000	1	697	0.000
03:00 - 04:00	1	697	0.000	1	697	0.000	1	697	0.000
04:00 - 05:00	1	697	0.000	1	697	0.000	1	697	0.000
05:00 - 06:00	1	697	0.000	1	697	0.000	1	697	0.000
06:00 - 07:00	1	697	0.000	1	697	0.000	1	697	0.000
07:00 - 08:00	2	649	0.154	2	649	0.077	2	649	0.231
08:00 - 09:00	3	616	0.758	3	616	0.325	3	616	1.083
09:00 - 10:00	3	616	1.408	3	616	1.191	3	616	2.599
10:00 - 11:00	3	616	1.841	3	616	1.624	3	616	3.465
11:00 - 12:00	3	616	2.978	3	616	2.382	3	616	5.360
12:00 - 13:00	3	616	2.003	3	616	2.328	3	616	4.331
13:00 - 14:00	3	616	1.733	3	616	1.895	3	616	3.628
14:00 - 15:00	2	649	1.928	2	649	1.928	2	649	3.856
15:00 - 16:00	2	649	1.850	2	649	2.082	2	649	3.932
16:00 - 17:00	2	649	1.234	2	649	2.467	2	649	3.701
17:00 - 18:00	2	649	0.308	2	649	0.925	2	649	1.233
18:00 - 19:00	1	697	0.000	1	697	0.000	1	697	0.000
19:00 - 20:00	1	697	0.000	1	697	0.000	1	697	0.000
20:00 - 21:00	1	697	0.143	1	697	0.000	1	697	0.143
21:00 - 22:00	1	697	0.000	1	697	0.143	1	697	0.143
22:00 - 23:00	1	697	0.000	1	697	0.000	1	697	0.000
23:00 - 24:00	1	697	0.000	1	697	0.000	1	697	0.000
Total Rates:			16.338						33.705

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: $\text{COUNT/TRP} \times \text{FACT}$. Trip rates are then rounded to 3 decimal places.

Parameter summary

Trip rate parameter range selected: 550 - 697 (units: sqm)
 Survey date range: 01/01/92 - 20/12/12
 Number of weekdays (Monday-Friday): 0
 Number of Saturdays: 3
 Number of Sundays: 0
 Surveys manually removed from selection: 0

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

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 01 - RETAIL
Category : G - OTHER INDIVIDUAL NON-FOOD SUPERSTORE

VEHICLES

Selected regions and areas:

06 WEST MIDLANDS	
HE	HEREFORDSHIRE 1 days
07 YORKSHIRE & NORTH LINCOLNSHIRE	
NY	NORTH YORKSHIRE 1 days
SY	SOUTH YORKSHIRE 1 days
09 NORTH	
CB	CUMBRIA 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: 714 to 3500 (units: sqm)
Range Selected by User: 290 to 5000 (units: sqm)

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/05 to 17/10/11

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	2 days
Wednesday	1 days
Friday	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 undertaken using machines.

Selected Locations:

Edge of Town Centre	1
Suburban Area (PPS6 Out of Centre)	1
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:

Retail Zone	2
Built-Up Zone	1
No Sub Category	1

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

Filtering Stage 3 selection:

Use Class:

A1 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 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:

50,001 to 75,000 1 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 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.

Petrol filling station:

Included in the survey count 0 days
Excluded from count or no filling station 4 days

This data displays the number of surveys within the selected set that include petrol filling station activity, and the number of surveys that do not.

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.

LIST OF SITES relevant to selection parameters

1	CB-01-G-02	STAPLES	CUMBRIA
	JAMES STREET		
	CARLISLE		
	Edge of Town Centre		
	Built-Up Zone		
	Total Gross floor area:	2500 sqm	
	Survey date: FRIDAY	05/02/10	Survey Type: MANUAL
2	HE-01-G-01	PETS AT HOME	HEREFORDSHIRE
	COMMERCIAL ROAD		
	HEREFORD		
	Suburban Area (PPS6 Out of Centre)		
	No Sub Category		
	Total Gross floor area:	714 sqm	
	Survey date: MONDAY	17/10/11	Survey Type: MANUAL
3	NY-01-G-03	DUNELM MILL	NORTH YORKSHIRE
	STIRLING ROAD		
	CLIFTON MOOR		
	YORK		
	Edge of Town		
	Retail Zone		
	Total Gross floor area:	3500 sqm	
	Survey date: WEDNESDAY	16/09/09	Survey Type: MANUAL
4	SY-01-G-01	DUNELM MILL	SOUTH YORKSHIRE
	WOMBWELL LANE		
	BARNESLEY RETAIL PARK		
	BARNESLEY		
	Edge of Town		
	Retail Zone		
	Total Gross floor area:	3127 sqm	
	Survey date: MONDAY	21/06/10	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 01 - RETAIL/G - OTHER INDIVIDUAL NON-FOOD SUPERSTORE

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									
07:00 - 08:00	2	1607	0.093	2	1607	0.000	2	1607	0.093
08:00 - 09:00	4	2460	0.366	4	2460	0.193	4	2460	0.559
09:00 - 10:00	4	2460	1.788	4	2460	1.138	4	2460	2.926
10:00 - 11:00	4	2460	2.286	4	2460	1.941	4	2460	4.227
11:00 - 12:00	4	2460	2.581	4	2460	2.388	4	2460	4.969
12:00 - 13:00	4	2460	2.266	4	2460	2.327	4	2460	4.593
13:00 - 14:00	4	2460	2.601	4	2460	2.449	4	2460	5.050
14:00 - 15:00	4	2460	2.317	4	2460	2.408	4	2460	4.725
15:00 - 16:00	4	2460	1.849	4	2460	2.175	4	2460	4.024
16:00 - 17:00	4	2460	1.362	4	2460	1.555	4	2460	2.917
17:00 - 18:00	4	2460	1.402	4	2460	1.473	4	2460	2.875
18:00 - 19:00	4	2460	0.528	4	2460	0.762	4	2460	1.290
19:00 - 20:00	4	2460	0.152	4	2460	0.437	4	2460	0.589
20:00 - 21:00	3	2114	0.000	3	2114	0.095	3	2114	0.095
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			19.591			19.341			38.932

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: $\text{COUNT} / \text{TRP} * \text{FACT}$. Trip rates are then rounded to 3 decimal places.

Parameter summary

Trip rate parameter range selected:	714 - 3500 (units: sqm)
Survey date range:	01/01/05 - 17/10/11
Number of weekdays (Monday-Friday):	4
Number of Saturdays:	0
Number of Sundays:	0
Surveys manually removed from selection:	0

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

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 01 - RETAIL
 Category : G - OTHER INDIVIDUAL NON-FOOD SUPERSTORE

VEHICLESSelected regions and areas:

02	SOUTH EAST	
	EX ESSEX	1 days
06	WEST MIDLANDS	
	WO WORCESTERSHIRE	1 days
07	YORKSHIRE & NORTH LINCOLNSHIRE	
	NY NORTH YORKSHIRE	2 days
08	NORTH WEST	
	GM GREATER MANCHESTER	1 days
09	NORTH	
	TV TEES VALLEY	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: 1000 to 5000 (units: sqm)
 Range Selected by User: 290 to 5000 (units: sqm)

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/05 to 17/10/11

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 6 days

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

Selected survey types:

Manual count 6 days
 Directional ATC Count 0 days

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

Selected Locations:

Edge of Town Centre	2
Suburban Area (PPS6 Out of Centre)	1
Edge of Town	2
Free Standing (PPS6 Out of Town)	1

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

Selected Location Sub Categories:

Commercial Zone	1
Retail Zone	2
Built-Up 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.

Filtering Stage 3 selection:

Use Class:

A1 6 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:

1,000 or Less	1 days
5,001 to 10,000	2 days
10,001 to 15,000	1 days
15,001 to 20,000	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:

100,001 to 125,000	2 days
125,001 to 250,000	2 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	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.

Petrol filling station:

Included in the survey count	1 days
Excluded from count or no filling station	5 days

This data displays the number of surveys within the selected set that include petrol filling station activity, and the number of surveys that do not.

Travel Plan:

No 6 days

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

LIST OF SITES relevant to selection parameters

1	EX-01-G-01	MFI	ESSEX
	LONDON ROAD		
	LEXDEN		
	COLCHESTER		
	Edge of Town		
	No Sub Category		
	Total Gross floor area:	1000 sqm	
	Survey date: SATURDAY	19/07/08	Survey Type: MANUAL
2	GM-01-G-04	DECATHLON	GREATER MANCHESTER
	GEORGES ROAD		
	HEATON NORRIS		
	STOCKPORT		
	Suburban Area (PPS6 Out of Centre)		
	No Sub Category		
	Total Gross floor area:	5000 sqm	
	Survey date: SATURDAY	21/11/09	Survey Type: MANUAL
3	NY-01-G-01	ALLIED CARPETS	NORTH YORKSHIRE
	LAYERTHORPE ROAD		
	LAYERTHORPE		
	YORK		
	Edge of Town Centre		
	Commercial Zone		
	Total Gross floor area:	2300 sqm	
	Survey date: SATURDAY	21/05/05	Survey Type: MANUAL
4	NY-01-G-02	CURRY'S	NORTH YORKSHIRE
	HURRICANE WAY		
	CLIFTON MOOR		
	YORK		
	Edge of Town		
	Retail Zone		
	Total Gross floor area:	3030 sqm	
	Survey date: SATURDAY	19/09/09	Survey Type: MANUAL
5	TV-01-G-01	GO OUTDOORS	TEES VALLEY
	ASCOT DRIVE		
	PORTRACK		
	STOCKTON-ON-TEES		
	Free Standing (PPS6 Out of Town)		
	Retail Zone		
	Total Gross floor area:	4181 sqm	
	Survey date: SATURDAY	18/06/11	Survey Type: MANUAL
6	WO-01-G-01	PC WORLD	WORCESTERSHIRE
	TYBRIDGE STREET		
	WORCESTER		
	Edge of Town Centre		
	Built-Up Zone		
	Total Gross floor area:	2000 sqm	
	Survey date: SATURDAY	20/06/09	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 01 - RETAIL/G - OTHER INDIVIDUAL NON-FOOD SUPERSTORE

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									
07:00 - 08:00	2	1650	0.000	2	1650	0.000	2	1650	0.000
08:00 - 09:00	6	2919	0.308	6	2919	0.046	6	2919	0.354
09:00 - 10:00	6	2919	1.348	6	2919	0.731	6	2919	2.079
10:00 - 11:00	6	2919	2.256	6	2919	1.782	6	2919	4.038
11:00 - 12:00	6	2919	2.998	6	2919	2.456	6	2919	5.454
12:00 - 13:00	6	2919	3.261	6	2919	3.061	6	2919	6.322
13:00 - 14:00	6	2919	2.884	6	2919	2.884	6	2919	5.768
14:00 - 15:00	6	2919	3.763	6	2919	3.523	6	2919	7.286
15:00 - 16:00	6	2919	3.078	6	2919	3.381	6	2919	6.459
16:00 - 17:00	6	2919	2.376	6	2919	2.758	6	2919	5.134
17:00 - 18:00	6	2919	1.182	6	2919	2.284	6	2919	3.466
18:00 - 19:00	6	2919	0.223	6	2919	0.765	6	2919	0.988
19:00 - 20:00	5	3042	0.000	5	3042	0.026	5	3042	0.026
20:00 - 21:00	3	2010	0.000	3	2010	0.000	3	2010	0.000
21:00 - 22:00	1	1000	0.000	1	1000	0.000	1	1000	0.000
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			23.677			23.697			47.374

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: 1000 - 5000 (units: sqm)
 Survey date range: 01/01/05 - 17/10/11
 Number of weekdays (Monday-Friday): 0
 Number of Saturdays: 6
 Number of Sundays: 0
 Surveys manually removed from selection: 0

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

APPENDIX D

TRICS Output - Proposed

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 01 - RETAIL
 Category : G - OTHER INDIVIDUAL NON-FOOD SUPERSTORE

VEHICLESSelected regions and areas:

06 WEST MIDLANDS	
HE	HEREFORDSHIRE 1 days
07 YORKSHIRE & NORTH LINCOLNSHIRE	
NY	NORTH YORKSHIRE 1 days
SY	SOUTH YORKSHIRE 1 days
09 NORTH	
CB	CUMBRIA 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: 714 to 3500 (units: sqm)
 Range Selected by User: 290 to 5000 (units: sqm)

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/05 to 17/10/11

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	2 days
Wednesday	1 days
Friday	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 undertaken using machines.

Selected Locations:

Edge of Town Centre	1
Suburban Area (PPS6 Out of Centre)	1
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:

Retail Zone	2
Built-Up Zone	1
No Sub Category	1

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

Filtering Stage 3 selection:

Use Class:

A1 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 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:

50,001 to 75,000 1 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 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.

Petrol filling station:

Included in the survey count 0 days
Excluded from count or no filling station 4 days

This data displays the number of surveys within the selected set that include petrol filling station activity, and the number of surveys that do not.

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.

LIST OF SITES relevant to selection parameters

1	CB-01-G-02	STAPLES	CUMBRIA
	JAMES STREET		
	CARLISLE		
	Edge of Town Centre		
	Built-Up Zone		
	Total Gross floor area:	2500 sqm	
	Survey date: FRIDAY	05/02/10	Survey Type: MANUAL
2	HE-01-G-01	PETS AT HOME	HEREFORDSHIRE
	COMMERCIAL ROAD		
	HEREFORD		
	Suburban Area (PPS6 Out of Centre)		
	No Sub Category		
	Total Gross floor area:	714 sqm	
	Survey date: MONDAY	17/10/11	Survey Type: MANUAL
3	NY-01-G-03	DUNELM MILL	NORTH YORKSHIRE
	STIRLING ROAD		
	CLIFTON MOOR		
	YORK		
	Edge of Town		
	Retail Zone		
	Total Gross floor area:	3500 sqm	
	Survey date: WEDNESDAY	16/09/09	Survey Type: MANUAL
4	SY-01-G-01	DUNELM MILL	SOUTH YORKSHIRE
	WOMBWELL LANE		
	BARNLEY RETAIL PARK		
	BARNLEY		
	Edge of Town		
	Retail Zone		
	Total Gross floor area:	3127 sqm	
	Survey date: MONDAY	21/06/10	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 01 - RETAIL/G - OTHER INDIVIDUAL NON-FOOD SUPERSTORE

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									
07:00 - 08:00	2	1607	0.093	2	1607	0.000	2	1607	0.093
08:00 - 09:00	4	2460	0.366	4	2460	0.193	4	2460	0.559
09:00 - 10:00	4	2460	1.788	4	2460	1.138	4	2460	2.926
10:00 - 11:00	4	2460	2.286	4	2460	1.941	4	2460	4.227
11:00 - 12:00	4	2460	2.581	4	2460	2.388	4	2460	4.969
12:00 - 13:00	4	2460	2.266	4	2460	2.327	4	2460	4.593
13:00 - 14:00	4	2460	2.601	4	2460	2.449	4	2460	5.050
14:00 - 15:00	4	2460	2.317	4	2460	2.408	4	2460	4.725
15:00 - 16:00	4	2460	1.849	4	2460	2.175	4	2460	4.024
16:00 - 17:00	4	2460	1.362	4	2460	1.555	4	2460	2.917
17:00 - 18:00	4	2460	1.402	4	2460	1.473	4	2460	2.875
18:00 - 19:00	4	2460	0.528	4	2460	0.762	4	2460	1.290
19:00 - 20:00	4	2460	0.152	4	2460	0.437	4	2460	0.589
20:00 - 21:00	3	2114	0.000	3	2114	0.095	3	2114	0.095
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			19.591			19.341			38.932

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:	714 - 3500 (units: sqm)
Survey date range:	01/01/05 - 17/10/11
Number of weekdays (Monday-Friday):	4
Number of Saturdays:	0
Number of Sundays:	0
Surveys manually removed from selection:	0

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

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 01 - RETAIL
 Category : G - OTHER INDIVIDUAL NON-FOOD SUPERSTORE

VEHICLESSelected regions and areas:

02	SOUTH EAST	
	EX ESSEX	1 days
06	WEST MIDLANDS	
	WO WORCESTERSHIRE	1 days
07	YORKSHIRE & NORTH LINCOLNSHIRE	
	NY NORTH YORKSHIRE	2 days
08	NORTH WEST	
	GM GREATER MANCHESTER	1 days
09	NORTH	
	TV TEES VALLEY	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: 1000 to 5000 (units: sqm)
 Range Selected by User: 290 to 5000 (units: sqm)

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/05 to 17/10/11

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 6 days

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

Selected survey types:

Manual count 6 days
 Directional ATC Count 0 days

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

Selected Locations:

Edge of Town Centre 2
 Suburban Area (PPS6 Out of Centre) 1
 Edge of Town 2
 Free Standing (PPS6 Out of Town) 1

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

Selected Location Sub Categories:

Commercial Zone 1
 Retail Zone 2
 Built-Up 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.

Filtering Stage 3 selection:

Use Class:

A1 6 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:

1,000 or Less	1 days
5,001 to 10,000	2 days
10,001 to 15,000	1 days
15,001 to 20,000	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:

100,001 to 125,000	2 days
125,001 to 250,000	2 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	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.

Petrol filling station:

Included in the survey count	1 days
Excluded from count or no filling station	5 days

This data displays the number of surveys within the selected set that include petrol filling station activity, and the number of surveys that do not.

Travel Plan:

No 6 days

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

LIST OF SITES relevant to selection parameters

1	EX-01-G-01	MFI	ESSEX
	LONDON ROAD		
	LEXDEN		
	COLCHESTER		
	Edge of Town		
	No Sub Category		
	Total Gross floor area:	1000 sqm	
	Survey date: SATURDAY	19/07/08	Survey Type: MANUAL
2	GM-01-G-04	DECATHLON	GREATER MANCHESTER
	GEORGES ROAD		
	HEATON NORRIS		
	STOCKPORT		
	Suburban Area (PPS6 Out of Centre)		
	No Sub Category		
	Total Gross floor area:	5000 sqm	
	Survey date: SATURDAY	21/11/09	Survey Type: MANUAL
3	NY-01-G-01	ALLIED CARPETS	NORTH YORKSHIRE
	LAYERTHORPE ROAD		
	LAYERTHORPE		
	YORK		
	Edge of Town Centre		
	Commercial Zone		
	Total Gross floor area:	2300 sqm	
	Survey date: SATURDAY	21/05/05	Survey Type: MANUAL
4	NY-01-G-02	CURRY'S	NORTH YORKSHIRE
	HURRICANE WAY		
	CLIFTON MOOR		
	YORK		
	Edge of Town		
	Retail Zone		
	Total Gross floor area:	3030 sqm	
	Survey date: SATURDAY	19/09/09	Survey Type: MANUAL
5	TV-01-G-01	GO OUTDOORS	TEES VALLEY
	ASCOT DRIVE		
	PORTRACK		
	STOCKTON-ON-TEES		
	Free Standing (PPS6 Out of Town)		
	Retail Zone		
	Total Gross floor area:	4181 sqm	
	Survey date: SATURDAY	18/06/11	Survey Type: MANUAL
6	WO-01-G-01	PC WORLD	WORCESTERSHIRE
	TYBRIDGE STREET		
	WORCESTER		
	Edge of Town Centre		
	Built-Up Zone		
	Total Gross floor area:	2000 sqm	
	Survey date: SATURDAY	20/06/09	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 01 - RETAIL/G - OTHER INDIVIDUAL NON-FOOD SUPERSTORE

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									
07:00 - 08:00	2	1650	0.000	2	1650	0.000	2	1650	0.000
08:00 - 09:00	6	2919	0.308	6	2919	0.046	6	2919	0.354
09:00 - 10:00	6	2919	1.348	6	2919	0.731	6	2919	2.079
10:00 - 11:00	6	2919	2.256	6	2919	1.782	6	2919	4.038
11:00 - 12:00	6	2919	2.998	6	2919	2.456	6	2919	5.454
12:00 - 13:00	6	2919	3.261	6	2919	3.061	6	2919	6.322
13:00 - 14:00	6	2919	2.884	6	2919	2.884	6	2919	5.768
14:00 - 15:00	6	2919	3.763	6	2919	3.523	6	2919	7.286
15:00 - 16:00	6	2919	3.078	6	2919	3.381	6	2919	6.459
16:00 - 17:00	6	2919	2.376	6	2919	2.758	6	2919	5.134
17:00 - 18:00	6	2919	1.182	6	2919	2.284	6	2919	3.466
18:00 - 19:00	6	2919	0.223	6	2919	0.765	6	2919	0.988
19:00 - 20:00	5	3042	0.000	5	3042	0.026	5	3042	0.026
20:00 - 21:00	3	2010	0.000	3	2010	0.000	3	2010	0.000
21:00 - 22:00	1	1000	0.000	1	1000	0.000	1	1000	0.000
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			23.677			23.697			47.374

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: 1000 - 5000 (units: sqm)
 Survey date range: 01/01/05 - 17/10/11
 Number of weekdays (Monday-Friday): 0
 Number of Saturdays: 6
 Number of Sundays: 0
 Surveys manually removed from selection: 0

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

LIST OF SITES relevant to selection parameters

1	GM-01-A-25	MARKS AND SPENCER	GREATER MANCHESTER
	WASHWAY ROAD		
	SALE		
	Edge of Town Centre		
	Built-Up Zone		
	Total Gross floor area:	1825 sqm	
	Survey date: SATURDAY	22/05/04	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 01 - RETAIL/A - FOOD SUPERSTORE

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	1825	0.438	1	1825	0.110	1	1825	0.548
07:00 - 08:00	1	1825	0.164	1	1825	0.055	1	1825	0.219
08:00 - 09:00	1	1825	2.301	1	1825	1.096	1	1825	3.397
09:00 - 10:00	1	1825	4.219	1	1825	3.397	1	1825	7.616
10:00 - 11:00	1	1825	4.712	1	1825	4.055	1	1825	8.767
11:00 - 12:00	1	1825	5.479	1	1825	5.041	1	1825	10.520
12:00 - 13:00	1	1825	5.973	1	1825	5.753	1	1825	11.726
13:00 - 14:00	1	1825	6.356	1	1825	6.630	1	1825	12.986
14:00 - 15:00	1	1825	5.205	1	1825	5.973	1	1825	11.178
15:00 - 16:00	1	1825	4.986	1	1825	2.740	1	1825	7.726
16:00 - 17:00	1	1825	4.548	1	1825	4.932	1	1825	9.480
17:00 - 18:00	1	1825	4.384	1	1825	4.767	1	1825	9.151
18:00 - 19:00	1	1825	2.137	1	1825	3.014	1	1825	5.151
19:00 - 20:00	1	1825	0.055	1	1825	0.438	1	1825	0.493
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			50.957			48.001			98.958

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:	1825 - 1825 (units: sqm)
Survey date range:	01/01/03 - 05/02/10
Number of weekdays (Monday-Friday):	0
Number of Saturdays:	1
Number of Sundays:	0
Surveys manually removed from selection:	0

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

APPENDIX E

Parking Beat Survey

K&M Traffic Surveys

DATE : WEDNESDAY 11TH & SATURDAY 14TH SEPTEMBER 2013

LOCATION : ARUN RETAIL PARK, BOGNOR REGIS, WEST SUSSEX

WEDNESDAY 11TH SEPTEMBER 2013								
	KWIK FIT PARKING AREA		RETAIL PARK AREA		BURGER KING		ARUN RETAIL PARK TOTAL	
	PARKED	EMPTY BAYS	PARKED	EMPTY BAYS	PARKED	EMPTY BAYS	PARKED	EMPTY BAYS
12:00	2	11	112	144	5	14	119	169
12:30	2	11	110	146	4	15	116	172
13:00	2	11	111	145	5	14	118	170
13:30	5	8	100	156	4	15	109	179
14:00	4	9	109	147	5	14	118	170
14:30	3	10	109	147	5	14	117	171
15:00	2	11	105	151	5	14	112	176
15:30	3	10	101	155	3	16	107	181
16:00	4	9	108	148	6	13	118	170
16:30	3	10	88	168	3	16	94	194
17:00	5	8	89	167	3	16	97	191
17:30	3	10	78	178	1	18	82	206
18:00	3	10	66	190	5	14	74	214
18:30	0	13	61	195	6	13	67	221
19:00	0	13	47	209	2	17	49	239
19:30	0	13	36	220	5	14	41	247
20:00	0	13	30	226	3	16	33	255

SATURDAY 14TH SEPTEMBER 2013								
	KWIK FIT PARKING AREA		RETAIL PARK AREA		BURGER KING		ARUN RETAIL PARK TOTAL	
	PARKED	EMPTY BAYS	PARKED	EMPTY BAYS	PARKED	EMPTY BAYS	PARKED	EMPTY BAYS
10:00	2	11	70	186	1	18	73	215
10:30	3	10	80	176	2	17	85	203
11:00	2	11	81	175	2	17	85	203
11:30	7	6	96	160	4	15	107	181
12:00	6	7	91	165	8	11	105	183
12:30	5	8	101	155	10	9	116	172
13:00	8	5	119	137	12	7	139	149
13:30	5	8	116	140	12	7	133	155
14:00	4	9	107	149	8	11	119	169
14:30	3	10	104	152	8	11	115	173
15:00	6	7	106	150	11	8	123	165
15:30	5	8	100	156	6	13	111	177
16:00	3	10	85	171	5	14	93	195

REGULAR	11	240	17	268
DISABLED	0	15	2	17
MOT BAY	2	0	0	2
VAN HIRE	0	1	0	1
TOTAL	13	256	19	288

TOTAL MARKED BAYS IN ARUN RETAIL PARK

Arun Retail Park : Kwik-Fit, Comet(Vacant), Carpet Right, Pets at Home, B&Q, Pizza Hut and Burger King

APPENDIX F

Access Junction Traffic Count

I&M TRAFFIC SURVEYS

DATE : THURSDAY 28TH NOVEMBER 2013

LOCATION : A29 / ARUN RETAIL PARK, BOGNOR REGIS, WEST SUSSEX

ARUN DISTRICT COUNCIL 03/714/PL

ARUN RETAIL PARK OUT LEFT TO A29 SHRIPNEY RD NORTH							ARUN RETAIL PARK LEFT TURN IN FROM A29 SHRIPNEY RD S							A29 SHRIPNEY ROAD STRAIGHT AHEAD NORTHBOUND							CYCLE PATH S/BOUND	
CAR	HGV	BUS	MCY	PCY	TOT		CAR	HGV	BUS	MCY	PCY	TOT		CAR	HGV	BUS	MCY	PCY	TOT		PCYCLES	
1600-1615	40				40		32	1				33		147	3	1	3	3	157		2	1600
1615-1630	18				18		24					24		165	1		1	1	168		0	1615
1630-1645	24				24		31					31		155	6	1			162		0	1630
1645-1700	31				31		19					19		140	3			1	144		2	1645
1700-1715	23	1			24		23					23		198	3		2	1	204		0	1700
1715-1730	20				20		29			1		30		169	2		1	1	173		0	1715
1730-1745	33			1	34		24					24		160	1		1	1	163		1	1730
1745-1800	21				21		26					26		128	1		2		131		0	1745
1800-1815	32				32		26					26		143	1	1		1	146		0	1800
1815-1830	23				23		30					30		119	1		1		121		0	1815
1830-1845	30				30		33					33		150			1	1	152		0	1830
1845-1900	31				31		16	1				17		111				1	112		1	1845
1600-1900	326	1	0	1	0	328	313	2	0	1	0	316		1785	22	3	12	11	1833		6	1900
1600-1700	113	0	0	0	0	113	106	1	0	0	0	107		607	13	2	4	5	631		4	
1615-1715	96	1	0	0	0	97	97	0	0	0	0	97		658	13	1	3	3	678		2	
1630-1730	98	1	0	0	0	99	102	0	0	1	0	103		662	14	1	3	3	683		2	
1645-1745	107	1	0	1	0	109	95	0	0	1	0	96		667	9	0	4	4	684		3	
1700-1800	97	1	0	1	0	99	102	0	0	1	0	103		655	7	0	6	3	671		1	
1715-1815	106	0	0	1	0	107	105	0	0	1	0	106		600	5	1	4	3	613		1	
1730-1830	109	0	0	1	0	110	106	0	0	0	0	106		550	4	1	4	2	561		1	
1745-1845	106	0	0	0	0	106	115	0	0	0	0	115		540	3	1	4	2	550		0	
1800-1900	116	0	0	0	0	116	105	1	0	0	0	106		523	2	1	2	3	531		1	

M&M TRAFFIC SURVEYS

DATE : SATURDAY 1ST DECEMBER 2013

LOCATION : A29 / ARUN RETAIL PARK, BOGNOR REGIS, WEST SUSSEX

	ARUN RETAIL PARK OUT LEFT TO A29 SHRIPNEY RD NORTH						ARUN RETAIL PARK LEFT TURN IN FROM A29 SHRIPNEY RD S						A29 SHRIPNEY ROAD STRAIGHT AHEAD NORTHBOUND						CYCLE PATH S/BOUND	
	CAR	HGV	BUS	MCY	PCY	TOT	CAR	HGV	BUS	MCY	PCY	TOT	CAR	HGV	BUS	MCY	PCY	TOT	PCYCLES	
1200-1215	54					54	72					72	209	1			2	212	2	1200
1215-1230	82					82	71					71	210				1	211	3	1215
1230-1245	57					57	61				1	62	216	1		1	1	219	2	1230
1245-1300	57					57	64					64	218				3	221	0	1245
1300-1315	60					60	78					78	207			2		209	3	1300
1315-1330	66					66	70			2	1	73	212			1		213	0	1315
1330-1345	62	1		1		64	84	1				85	206	1		1	1	209	0	1330
1345-1400	84					84	68					68	196	3		1		200	0	1345
1400-1415	64					64	46			1		47	194	3		3	3	203	0	1400
1415-1430	59				1	60	67					67	191			4		195	0	1415
1430-1445	71					71	71					71	167	2	1			170	1	1430
1445-1500	62			1		63	77					77	141	1		4	1	147	0	1445
1500-1515	72				2	74	67					67	203			4		207	1	1500
1515-1530	62					62	72					72	130	1	1		1	133	0	1515
1530-1545	99					99	66					66	175				3	178	1	1530
1545-1600	55				1	56	48				2	50	176			2		178	3	1545
1200-1600	1066	1	0	2	4	1073	1082	1	0	3	4	1090	3051	13	2	25	14	3105	16	1600
1200-1300	250	0	0	0	0	250	268	0	0	0	1	269	853	2	0	3	5	863	7	
1215-1315	256	0	0	0	0	256	274	0	0	0	1	275	851	1	0	3	5	860	8	
1230-1330	240	0	0	0	0	240	273	0	0	2	2	277	853	1	0	4	4	862	5	
1245-1345	245	1	0	1	0	247	296	1	0	2	1	300	843	1	0	4	4	852	3	
1300-1400	272	1	0	1	0	274	300	1	0	2	1	304	821	4	0	5	1	831	3	
1315-1415	276	1	0	1	0	278	268	1	0	3	1	273	808	7	0	6	4	825	0	
1330-1430	269	1	0	1	1	272	265	1	0	1	0	267	787	7	0	9	4	807	0	
1345-1445	278	0	0	0	1	279	252	0	0	1	0	253	748	8	1	8	3	768	1	
1400-1500	256	0	0	1	1	258	261	0	0	1	0	262	693	6	1	11	4	715	1	
1415-1515	264	0	0	1	3	268	282	0	0	0	0	282	702	3	1	12	1	719	2	
1430-1515	267	0	0	1	2	270	287	0	0	0	0	287	641	4	2	8	2	657	2	
1445-1545	295	0	0	1	2	298	282	0	0	0	0	282	649	2	1	8	5	665	2	
1500-1600	288	0	0	0	3	291	253	0	0	0	2	255	684	1	1	6	4	696	5	

APPENDIX G

PICADY Output - Baseline

PICADY		
GUI Version: 5.1 AE Analysis Program Release: 5.0 (MAY 2010)		
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Run Analysis

Parameter	Values
File Run	\\T..\\Modelling\\Access Junction - weekday pm peak.vpi
Date Run	09 December 2013
Time Run	17:31:01
Driving Side	Drive On The Left

Arm Names and Flow Scaling Factors

Arm	Arm Name	Flow Scaling Factor (%)
Arm A	A29 (Northbound)	100
Arm B	Retail Park Access	100
Arm C	A29 (Southbound)	100

Stream Labelling Convention

Stream A-B contains traffic going from A to B etc.

Run Information

Parameter	Values
Run Title	Arun Retail Park
Location	Bognor Regis
Date	09 December 2013
Enumerator	Mark Turner
Job Number	2013-1568
Status	Preliminary
Client	BBC Pension Trust
Description	-

Geometric Data

Geometric Parameters

Parameter	Minor Arm B
Major Road Carriageway Width (m)	16.75
Major Road Kerbed Central Reserve Width (m)	4.61
Major Road Right Turning Lane Width (m)	3.50
Minor Road First Lane Width (m)	5.00
Minor Road Visibility To Right (m)	70
Minor Road Visibility To Left (m)	50
Major Road Right Turn Visibility (m)	85
Major Road Right Turn Blocks Traffic	No

Slope and Intercept Values

Stream	Intercept for Stream	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	699.574	0.061	0.155	0.098	0.222
B-C	801.761	0.065	0.165	-	-
C-B	711.359	0.147	0.147	-	-

Note: Streams may be combined in which case capacity will be adjusted
These values do not allow for any site-specific corrections

Demand Data

Modelling Periods

Parameter	Period	Duration (min)	Segment Length (min)
First Modelling Period	16:45-18:15	90	15

ODTAB Turning Counts

Demand Set: Arun Retail Park - Baseline

Modelling Period: 16:45-18:15

From/To	Arm A	Arm B	Arm C
Arm A	0.0	19.0	143.0
Arm B	0.0	0.0	31.0
Arm C	0.0	0.0	0.0

ODTAB Synthesised Flows

Demand Set: Arun Retail Park - Baseline

Modelling Period: 16:45-18:15

Arm	Rising Time	Rising Flow (veh/min)	Peak Time	Peak Flow (veh/min)	Falling Time	Falling Flow (veh/min)
Arm A	17:00	2.025	17:30	3.038	18:00	2.025
Arm B	17:00	0.387	17:30	0.581	18:00	0.387
Arm C	17:00	0.000	17:30	0.000	18:00	0.000

Heavy Vehicles Percentages

Demand Set: Arun Retail Park - Baseline

Modelling Period: 16:45-18:15

From/To	Arm A	Arm B	Arm C
Arm A	-	10.0	10.0
Arm B	10.0	-	10.0
Arm C	10.0	10.0	-

Default proportions of heavy vehicles are used

Queues & Delays

Demand Set: Sum of Demand Sets for Modelling Period: 16:45 - 18:15

Modelling Period: 16:45-18:15

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/ segment)	Delay (veh.min/ segment)	Mean Arriving Vehicle Delay (min)
16:45- 17:00	B-AC	0.39	11.84	0.033	-	0.00	0.03	-	0.5	0.09
	C-A	0.00	-	-	-	-	-	-	-	-
	C-B	0.00	10.48	0.000	-	0.00	0.00	-	0.0	0.00
	A-B	0.24	-	-	-	-	-	-	-	-
	A-C	1.79	-	-	-	-	-	-	-	-
Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/ segment)	Delay (veh.min/ segment)	Mean Arriving Vehicle Delay (min)
17:00- 17:15	B-AC	0.46	11.77	0.039	-	0.03	0.04	-	0.6	0.09
	C-A	0.00	-	-	-	-	-	-	-	-
	C-B	0.00	10.42	0.000	-	0.00	0.00	-	0.0	0.00
	A-B	0.28	-	-	-	-	-	-	-	-
	A-C	2.14	-	-	-	-	-	-	-	-
Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/ segment)	Delay (veh.min/ segment)	Mean Arriving Vehicle Delay (min)
17:15- 17:30	B-AC	0.57	11.69	0.049	-	0.04	0.05	-	0.8	0.09
	C-A	0.00	-	-	-	-	-	-	-	-
	C-B	0.00	10.34	0.000	-	0.00	0.00	-	0.0	0.00
	A-B	0.35	-	-	-	-	-	-	-	-
	A-C	2.62	-	-	-	-	-	-	-	-
Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/ segment)	Delay (veh.min/ segment)	Mean Arriving Vehicle Delay (min)
17:30- 17:45	B-AC	0.57	11.69	0.049	-	0.05	0.05	-	0.8	0.09
	C-A	0.00	-	-	-	-	-	-	-	-
	C-B	0.00	10.34	0.000	-	0.00	0.00	-	0.0	0.00
	A-B	0.35	-	-	-	-	-	-	-	-
	A-C	2.62	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/ segment)	Delay (veh.min/ segment)	Mean Arriving Vehicle Delay (min)
17:45- 18:00	B-AC	0.46	11.77	0.039	-	0.05	0.04	-	0.6	0.09
	C-A	0.00	-	-	-	-	-	-	-	-
	C-B	0.00	10.42	0.000	-	0.00	0.00	-	0.0	0.00
	A-B	0.28	-	-	-	-	-	-	-	-
	A-C	2.14	-	-	-	-	-	-	-	-
Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/ segment)	Delay (veh.min/ segment)	Mean Arriving Vehicle Delay (min)
18:00- 18:15	B-AC	0.39	11.84	0.033	-	0.04	0.03	-	0.5	0.09
	C-A	0.00	-	-	-	-	-	-	-	-
	C-B	0.00	10.48	0.000	-	0.00	0.00	-	0.0	0.00
	A-B	0.24	-	-	-	-	-	-	-	-
	A-C	1.79	-	-	-	-	-	-	-	-

Entry capacities marked with an '(X)' are dominated by a pedestrian crossing in that time segment.

In time segments marked with a '(B)', traffic leaving the junction may block back from a crossing so impairing normal operation of the junction.

Delays marked with '###' could not be calculated.

Errors and Warnings

Parameter	Values
Warning	No Errors Or Warnings

PICADY 5 Run Successful

PICADY		
GUI Version: 5.1 AE Analysis Program Release: 5.0 (MAY 2010)		
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Run Analysis

Parameter	Values
File Run	\\TTPCSEVER\Projects\2013\1568 - Arun Retail Park\Modelling\Access Junction.vpi
Date Run	09 December 2013
Time Run	14:49:24
Driving Side	Drive On The Left

Arm Names and Flow Scaling Factors

Arm	Arm Name	Flow Scaling Factor (%)
Arm A	A29 (Northbound)	100
Arm B	Retail Park Access	100
Arm C	A29 (Southbound)	100

Stream Labelling Convention

Stream A-B contains traffic going from A to B etc.

Geometric Data

Geometric Parameters

Parameter	Minor Arm B
Major Road Carriageway Width (m)	16.75
Major Road Kerbed Central Reserve Width (m)	4.61
Major Road Right Turning Lane Width (m)	3.50
Minor Road First Lane Width (m)	5.00
Minor Road Visibility To Right (m)	70
Minor Road Visibility To Left (m)	50
Major Road Right Turn Visibility (m)	85
Major Road Right Turn Blocks Traffic	No

Slope and Intercept Values

Stream	Intercept for Stream	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	699.574	0.061	0.155	0.098	0.222
B-C	801.761	0.065	0.165	-	-
C-B	711.359	0.147	0.147	-	-

Note: Streams may be combined in which case capacity will be adjusted
These values do not allow for any site-specific corrections

Demand Data

Modelling Periods

Parameter	Period	Duration (min)	Segment Length (min)
First Modelling Period	12:45-14:15	90	15

ODTAB Turning Counts

Demand Set: Arun Retail Park - Baseline

Modelling Period: 12:45-14:15

From/To	Arm A	Arm B	Arm C
Arm A	0.0	64.0	218.0
Arm B	0.0	0.0	57.0
Arm C	0.0	0.0	0.0

ODTAB Synthesised Flows

Demand Set: Arun Retail Park - Baseline

Modelling Period: 12:45-14:15

Arm	Rising Time	Rising Flow (veh/min)	Peak Time	Peak Flow (veh/min)	Falling Time	Falling Flow (veh/min)
Arm A	13:00	3.525	13:30	5.288	14:00	3.525
Arm B	13:00	0.712	13:30	1.069	14:00	0.712
Arm C	13:00	0.000	13:30	0.000	14:00	0.000

Heavy Vehicles Percentages

Demand Set: Arun Retail Park - Baseline

Modelling Period: 12:45-14:15

From/To	Arm A	Arm B	Arm C
Arm A	-	10.0	10.0
Arm B	10.0	-	10.0
Arm C	10.0	10.0	-

Default proportions of heavy vehicles are used

Run Information

Parameter	Values
Run Title	Arun Retail Park
Location	Bognor Regis
Date	09 December 2013
Enumerator	Mark Turner
Job Number	2013-1568
Status	Preliminary
Client	BBC Pension Trust
Description	-

Queues & Delays

Demand Set: Sum of Demand Sets for Modelling Period: 12:45 - 14:15

Modelling Period: 12:45-14:15

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
12:45-13:00	B-AC	0.72	11.64	0.061	-	0.00	0.07	-	0.9	0.09
	C-A	0.00	-	-	-	-	-	-	-	-
	C-B	0.00	10.26	0.000	-	0.00	0.00	-	0.0	0.00
	A-B	0.80	-	-	-	-	-	-	-	-
	A-C	2.74	-	-	-	-	-	-	-	-
Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
13:00-13:15	B-AC	0.85	11.55	0.074	-	0.07	0.08	-	1.2	0.09
	C-A	0.00	-	-	-	-	-	-	-	-
	C-B	0.00	10.16	0.000	-	0.00	0.00	-	0.0	0.00
	A-B	0.96	-	-	-	-	-	-	-	-
	A-C	3.27	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/ segment)	Delay (veh.min/ segment)	Mean Arriving Vehicle Delay (min)
13:15- 13:30	B-AC	1.05	11.41	0.092	-	0.08	0.10	-	1.5	0.10
	C-A	0.00	-	-	-	-	-	-	-	-
	C-B	0.00	10.02	0.000	-	0.00	0.00	-	0.0	0.00
	A-B	1.17	-	-	-	-	-	-	-	-
	A-C	4.00	-	-	-	-	-	-	-	-
Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/ segment)	Delay (veh.min/ segment)	Mean Arriving Vehicle Delay (min)
13:30- 13:45	B-AC	1.05	11.41	0.092	-	0.10	0.10	-	1.5	0.10
	C-A	0.00	-	-	-	-	-	-	-	-
	C-B	0.00	10.02	0.000	-	0.00	0.00	-	0.0	0.00
	A-B	1.17	-	-	-	-	-	-	-	-
	A-C	4.00	-	-	-	-	-	-	-	-
Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/ segment)	Delay (veh.min/ segment)	Mean Arriving Vehicle Delay (min)
13:45- 14:00	B-AC	0.85	11.55	0.074	-	0.10	0.08	-	1.2	0.09
	C-A	0.00	-	-	-	-	-	-	-	-
	C-B	0.00	10.16	0.000	-	0.00	0.00	-	0.0	0.00
	A-B	0.96	-	-	-	-	-	-	-	-
	A-C	3.27	-	-	-	-	-	-	-	-
Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/ segment)	Delay (veh.min/ segment)	Mean Arriving Vehicle Delay (min)
14:00- 14:15	B-AC	0.72	11.64	0.061	-	0.08	0.07	-	1.0	0.09
	C-A	0.00	-	-	-	-	-	-	-	-
	C-B	0.00	10.26	0.000	-	0.00	0.00	-	0.0	0.00
	A-B	0.80	-	-	-	-	-	-	-	-
	A-C	2.74	-	-	-	-	-	-	-	-

Entry capacities marked with an '(X)' are dominated by a pedestrian crossing in that time segment.

In time segments marked with a '(B)', traffic leaving the junction may block back from a crossing so impairing normal operation of the junction.

Delays marked with '###' could not be calculated.

Overall Queues & Delays

Queueing Delay Information Over Whole Period

Demand Set: Sum of Demand Sets for Modelling Period: 12:45 - 14:15

Modelling Period: 12:45-14:15

Stream	Total Demand (veh)	Total Demand (veh/h)	Queueing Delay (min)	Queueing Delay (min/veh)	Inclusive Delay (min)	Inclusive Delay (min/veh)
B-AC	78.5	52.3	7.3	0.1	7.3	0.1
C-A	0.0	0.0	-	-	-	-
C-B	0.0	0.0	0.0	0.0	0.0	0.0
A-B	88.1	58.7	-	-	-	-
A-C	300.1	200.0	-	-	-	-
All	466.6	311.1	7.3	0.0	7.3	0.0

Delay is that occurring only within the time period.

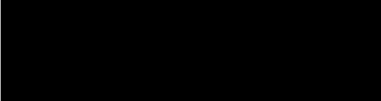
Inclusive delay includes delay suffered by vehicles which are still queuing after the end of the time period.

These will only be significantly different if there is a large queue remaining at the end of the time period.

PICADY 5 Run Successful

APPENDIX H

PICADY Output – Baseline + Development

PICADY		
GUI Version: 5.1 AE Analysis Program Release: 5.0 (MAY 2010)		
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Run Analysis

Parameter	Values
File Run	\\T..\\Modelling\\Access Junction - weekday pm peak.vpi
Date Run	09 December 2013
Time Run	17:32:26
Driving Side	Drive On The Left

Arm Names and Flow Scaling Factors

Arm	Arm Name	Flow Scaling Factor (%)
Arm A	A29 (Northbound)	100
Arm B	Retail Park Access	100
Arm C	A29 (Southbound)	100

Stream Labelling Convention

Stream A-B contains traffic going from A to B etc.

Run Information

Parameter	Values
Run Title	Arun Retail Park
Location	Bognor Regis
Date	09 December 2013
Enumerator	Mark Turner
Job Number	2013-1568
Status	Preliminary
Client	BBC Pension Trust
Description	-

Geometric Data

Geometric Parameters

Parameter	Minor Arm B
Major Road Carriageway Width (m)	16.75
Major Road Kerbed Central Reserve Width (m)	4.61
Major Road Right Turning Lane Width (m)	3.50
Minor Road First Lane Width (m)	5.00
Minor Road Visibility To Right (m)	70
Minor Road Visibility To Left (m)	50
Major Road Right Turn Visibility (m)	85
Major Road Right Turn Blocks Traffic	No

Slope and Intercept Values

Stream	Intercept for Stream	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	699.574	0.061	0.155	0.098	0.222
B-C	801.761	0.065	0.165	-	-
C-B	711.359	0.147	0.147	-	-

Note: Streams may be combined in which case capacity will be adjusted
These values do not allow for any site-specific corrections

Demand Data

Modelling Periods

Parameter	Period	Duration (min)	Segment Length (min)
First Modelling Period	16:45-18:15	90	15

ODTAB Turning Counts

Demand Set: Arun Retail Park - Development

Modelling Period: 16:45-18:15

From/To	Arm A	Arm B	Arm C
Arm A	0.0	35.0	143.0
Arm B	0.0	0.0	48.0
Arm C	0.0	0.0	0.0

ODTAB Synthesised Flows

Demand Set: Arun Retail Park - Development

Modelling Period: 16:45-18:15

Arm	Rising Time	Rising Flow (veh/min)	Peak Time	Peak Flow (veh/min)	Falling Time	Falling Flow (veh/min)
Arm A	17:00	2.225	17:30	3.337	18:00	2.225
Arm B	17:00	0.600	17:30	0.900	18:00	0.600
Arm C	17:00	0.000	17:30	0.000	18:00	0.000

Heavy Vehicles Percentages

Demand Set: Arun Retail Park - Development

Modelling Period: 16:45-18:15

From/To	Arm A	Arm B	Arm C
Arm A	-	10.0	10.0
Arm B	10.0	-	10.0
Arm C	10.0	10.0	-

Default proportions of heavy vehicles are used

Queues & Delays

Demand Set: Sum of Demand Sets for Modelling Period: 16:45 - 18:15

Modelling Period: 16:45-18:15

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/ segment)	Delay (veh.min/ segment)	Mean Arriving Vehicle Delay (min)
16:45- 17:00	B-AC	0.60	11.82	0.051	-	0.00	0.05	-	0.8	0.09
	C-A	0.00	-	-	-	-	-	-	-	-
	C-B	0.00	10.45	0.000	-	0.00	0.00	-	0.0	0.00
	A-B	0.44	-	-	-	-	-	-	-	-
	A-C	1.79	-	-	-	-	-	-	-	-
Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/ segment)	Delay (veh.min/ segment)	Mean Arriving Vehicle Delay (min)
17:00- 17:15	B-AC	0.72	11.76	0.061	-	0.05	0.06	-	1.0	0.09
	C-A	0.00	-	-	-	-	-	-	-	-
	C-B	0.00	10.39	0.000	-	0.00	0.00	-	0.0	0.00
	A-B	0.52	-	-	-	-	-	-	-	-
	A-C	2.14	-	-	-	-	-	-	-	-
Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/ segment)	Delay (veh.min/ segment)	Mean Arriving Vehicle Delay (min)
17:15- 17:30	B-AC	0.88	11.67	0.075	-	0.06	0.08	-	1.2	0.09
	C-A	0.00	-	-	-	-	-	-	-	-
	C-B	0.00	10.30	0.000	-	0.00	0.00	-	0.0	0.00
	A-B	0.64	-	-	-	-	-	-	-	-
	A-C	2.62	-	-	-	-	-	-	-	-
Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/ segment)	Delay (veh.min/ segment)	Mean Arriving Vehicle Delay (min)
17:30- 17:45	B-AC	0.88	11.67	0.075	-	0.08	0.08	-	1.2	0.09
	C-A	0.00	-	-	-	-	-	-	-	-
	C-B	0.00	10.30	0.000	-	0.00	0.00	-	0.0	0.00
	A-B	0.64	-	-	-	-	-	-	-	-
	A-C	2.62	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/ segment)	Delay (veh.min/ segment)	Mean Arriving Vehicle Delay (min)
17:45- 18:00	B-AC	0.72	11.76	0.061	-	0.08	0.07	-	1.0	0.09
	C-A	0.00	-	-	-	-	-	-	-	-
	C-B	0.00	10.39	0.000	-	0.00	0.00	-	0.0	0.00
	A-B	0.52	-	-	-	-	-	-	-	-
	A-C	2.14	-	-	-	-	-	-	-	-
Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/ segment)	Delay (veh.min/ segment)	Mean Arriving Vehicle Delay (min)
18:00- 18:15	B-AC	0.60	11.82	0.051	-	0.07	0.05	-	0.8	0.09
	C-A	0.00	-	-	-	-	-	-	-	-
	C-B	0.00	10.45	0.000	-	0.00	0.00	-	0.0	0.00
	A-B	0.44	-	-	-	-	-	-	-	-
	A-C	1.79	-	-	-	-	-	-	-	-

Entry capacities marked with an '(X)' are dominated by a pedestrian crossing in that time segment.

In time segments marked with a '(B)', traffic leaving the junction may block back from a crossing so impairing normal operation of the junction.

Delays marked with '###' could not be calculated.

Errors and Warnings

Parameter	Values
Warning	No Errors Or Warnings

PICADY 5 Run Successful

PICADY		
GUI Version: 5.1 AE Analysis Program Release: 5.0 (MAY 2010)		
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TRL Limited Crowthorne House Nine Mile Ride Wokingham, Berks. RG40 3GA, UK		
The user of this computer program for the solution of an engineering problem is in no way relieved of their responsibility for the correctness of the solution		

Run Analysis

Parameter	Values
File Run	\\TTPCSERVER\Projects\2013\1568 - Arun Retail Park\Modelling\Access Junction.vpi
Date Run	09 December 2013
Time Run	17:24:39
Driving Side	Drive On The Left

Arm Names and Flow Scaling Factors

Arm	Arm Name	Flow Scaling Factor (%)
Arm A	A29 (Northbound)	100
Arm B	Retail Park Access	100
Arm C	A29 (Southbound)	100

Stream Labelling Convention

Stream A-B contains traffic going from A to B etc.

Run Information

Parameter	Values
Run Title	Arun Retail Park
Location	Bognor Regis
Date	09 December 2013
Enumerator	Mark Turner
Job Number	2013-1568
Status	Preliminary
Client	BBC Pension Trust
Description	-

Geometric Data

Geometric Parameters

Parameter	Minor Arm B
Major Road Carriageway Width (m)	16.75
Major Road Kerbed Central Reserve Width (m)	4.61
Major Road Right Turning Lane Width (m)	3.50
Minor Road First Lane Width (m)	5.00
Minor Road Visibility To Right (m)	70
Minor Road Visibility To Left (m)	50
Major Road Right Turn Visibility (m)	85
Major Road Right Turn Blocks Traffic	No

Slope and Intercept Values

Stream	Intercept for Stream	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	699.574	0.061	0.155	0.098	0.222
B-C	801.761	0.065	0.165	-	-
C-B	711.359	0.147	0.147	-	-

Note: Streams may be combined in which case capacity will be adjusted
These values do not allow for any site-specific corrections

Demand Data

Modelling Periods

Parameter	Period	Duration (min)	Segment Length (min)
First Modelling Period	12:45-14:15	90	15

ODTAB Turning Counts

Demand Set: Arun Retail Park - Development

Modelling Period: 12:45-14:15

From/To	Arm A	Arm B	Arm C
Arm A	0.0	98.0	218.0
Arm B	0.0	0.0	92.0
Arm C	0.0	0.0	0.0

ODTAB Synthesised Flows

Demand Set: Arun Retail Park - Development

Modelling Period: 12:45-14:15

Arm	Rising Time	Rising Flow (veh/min)	Peak Time	Peak Flow (veh/min)	Falling Time	Falling Flow (veh/min)
Arm A	13:00	3.950	13:30	5.925	14:00	3.950
Arm B	13:00	1.150	13:30	1.725	14:00	1.150
Arm C	13:00	0.000	13:30	0.000	14:00	0.000

Heavy Vehicles Percentages

Demand Set: Arun Retail Park - Development

Modelling Period: 12:45-14:15

From/To	Arm A	Arm B	Arm C
Arm A	-	10.0	10.0
Arm B	10.0	-	10.0
Arm C	10.0	10.0	-

Default proportions of heavy vehicles are used

Queues & Delays

Demand Set: Sum of Demand Sets for Modelling Period: 12:45 - 14:15

Modelling Period: 12:45-14:15

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/ segment)	Delay (veh.min/ segment)	Mean Arriving Vehicle Delay (min)
12:45- 13:00	B-AC	1.15	11.62	0.099	-	0.00	0.11	-	1.6	0.10
	C-A	0.00	-	-	-	-	-	-	-	-
	C-B	0.00	10.20	0.000	-	0.00	0.00	-	0.0	0.00
	A-B	1.23	-	-	-	-	-	-	-	-
	A-C	2.74	-	-	-	-	-	-	-	-
Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/ segment)	Delay (veh.min/ segment)	Mean Arriving Vehicle Delay (min)
13:00- 13:15	B-AC	1.38	11.51	0.120	-	0.11	0.14	-	2.0	0.10
	C-A	0.00	-	-	-	-	-	-	-	-
	C-B	0.00	10.08	0.000	-	0.00	0.00	-	0.0	0.00
	A-B	1.47	-	-	-	-	-	-	-	-
	A-C	3.27	-	-	-	-	-	-	-	-
Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/ segment)	Delay (veh.min/ segment)	Mean Arriving Vehicle Delay (min)
13:15- 13:30	B-AC	1.69	11.37	0.148	-	0.14	0.17	-	2.5	0.10
	C-A	0.00	-	-	-	-	-	-	-	-
	C-B	0.00	9.93	0.000	-	0.00	0.00	-	0.0	0.00
	A-B	1.80	-	-	-	-	-	-	-	-
	A-C	4.00	-	-	-	-	-	-	-	-
Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/ segment)	Delay (veh.min/ segment)	Mean Arriving Vehicle Delay (min)
13:30- 13:45	B-AC	1.69	11.37	0.148	-	0.17	0.17	-	2.6	0.10
	C-A	0.00	-	-	-	-	-	-	-	-
	C-B	0.00	9.93	0.000	-	0.00	0.00	-	0.0	0.00
	A-B	1.80	-	-	-	-	-	-	-	-
	A-C	4.00	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/ segment)	Delay (veh.min/ segment)	Mean Arriving Vehicle Delay (min)
13:45- 14:00	B-AC	1.38	11.51	0.120	-	0.17	0.14	-	2.1	0.10
	C-A	0.00	-	-	-	-	-	-	-	-
	C-B	0.00	10.08	0.000	-	0.00	0.00	-	0.0	0.00
	A-B	1.47	-	-	-	-	-	-	-	-
	A-C	3.27	-	-	-	-	-	-	-	-
Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/ segment)	Delay (veh.min/ segment)	Mean Arriving Vehicle Delay (min)
14:00- 14:15	B-AC	1.15	11.62	0.099	-	0.14	0.11	-	1.7	0.10
	C-A	0.00	-	-	-	-	-	-	-	-
	C-B	0.00	10.20	0.000	-	0.00	0.00	-	0.0	0.00
	A-B	1.23	-	-	-	-	-	-	-	-
	A-C	2.74	-	-	-	-	-	-	-	-

Entry capacities marked with an '(X)' are dominated by a pedestrian crossing in that time segment.

In time segments marked with a '(B)', traffic leaving the junction may block back from a crossing so impairing normal operation of the junction.

Delays marked with '###' could not be calculated.

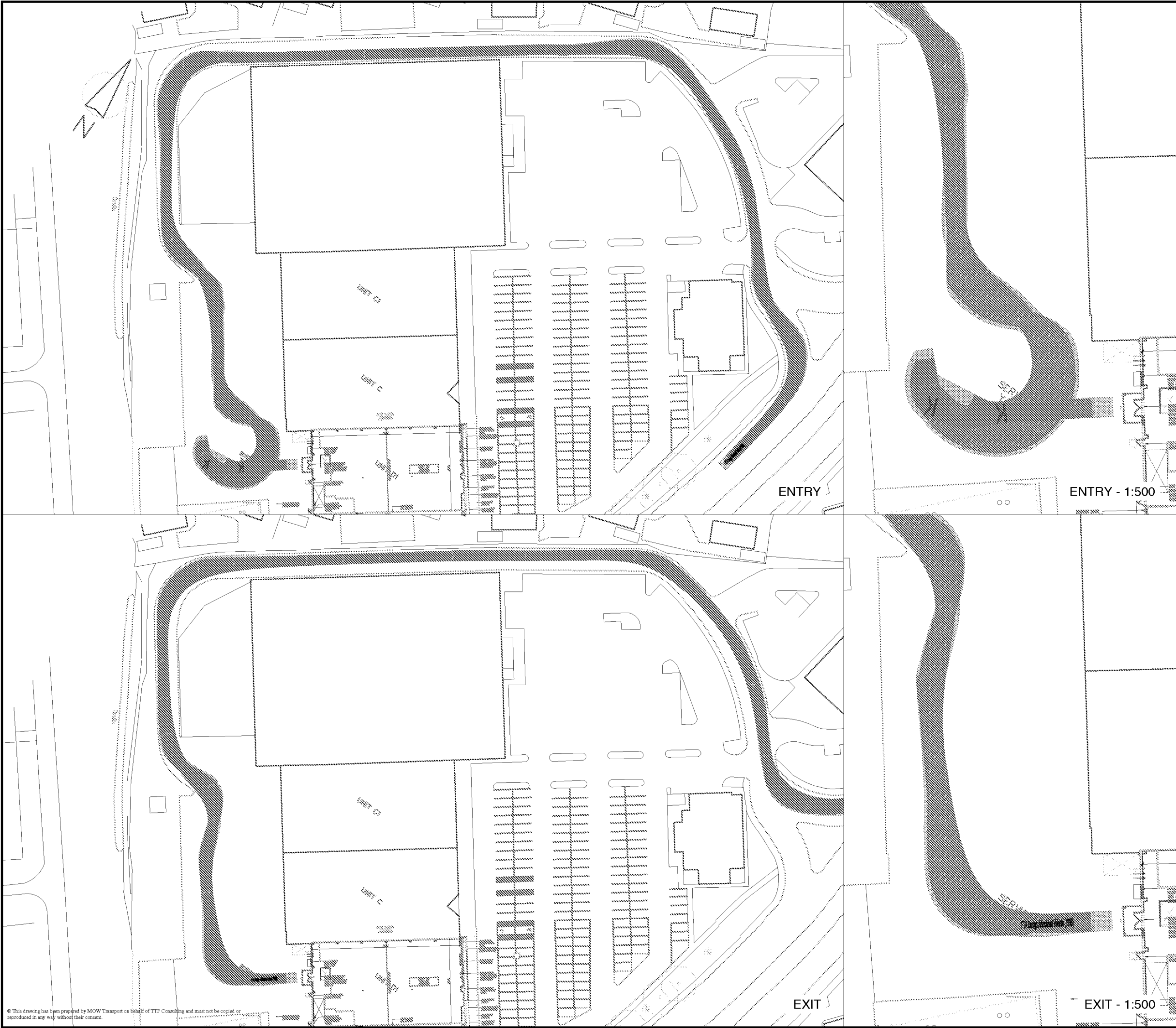
Errors and Warnings

Parameter	Values
Warning	No Errors Or Warnings

PICADY 5 Run Successful

APPENDIX I

Swept Path Analysis



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Rev	Details	Drawn	Checked	Date
1				

Overall Length	16.500m
Overall Width	2.500m
Overall Body Height	3.632m
Min Body Ground Clearance	0.396m
Max Track Width	2.500m
Lock to Lock Time	6.00 sec
Kerb to Kerb Turning Radius	6.870m

Notes:

1. This is not a construction drawing and is intended for illustrative purposes only.

Client

BBC Pension Trust

Project

Arun Retail Park, Bognor Regis

Drawing Title

Swept Path Analysis Using a 16.5m Articulated Vehicle

Scale

1:1000

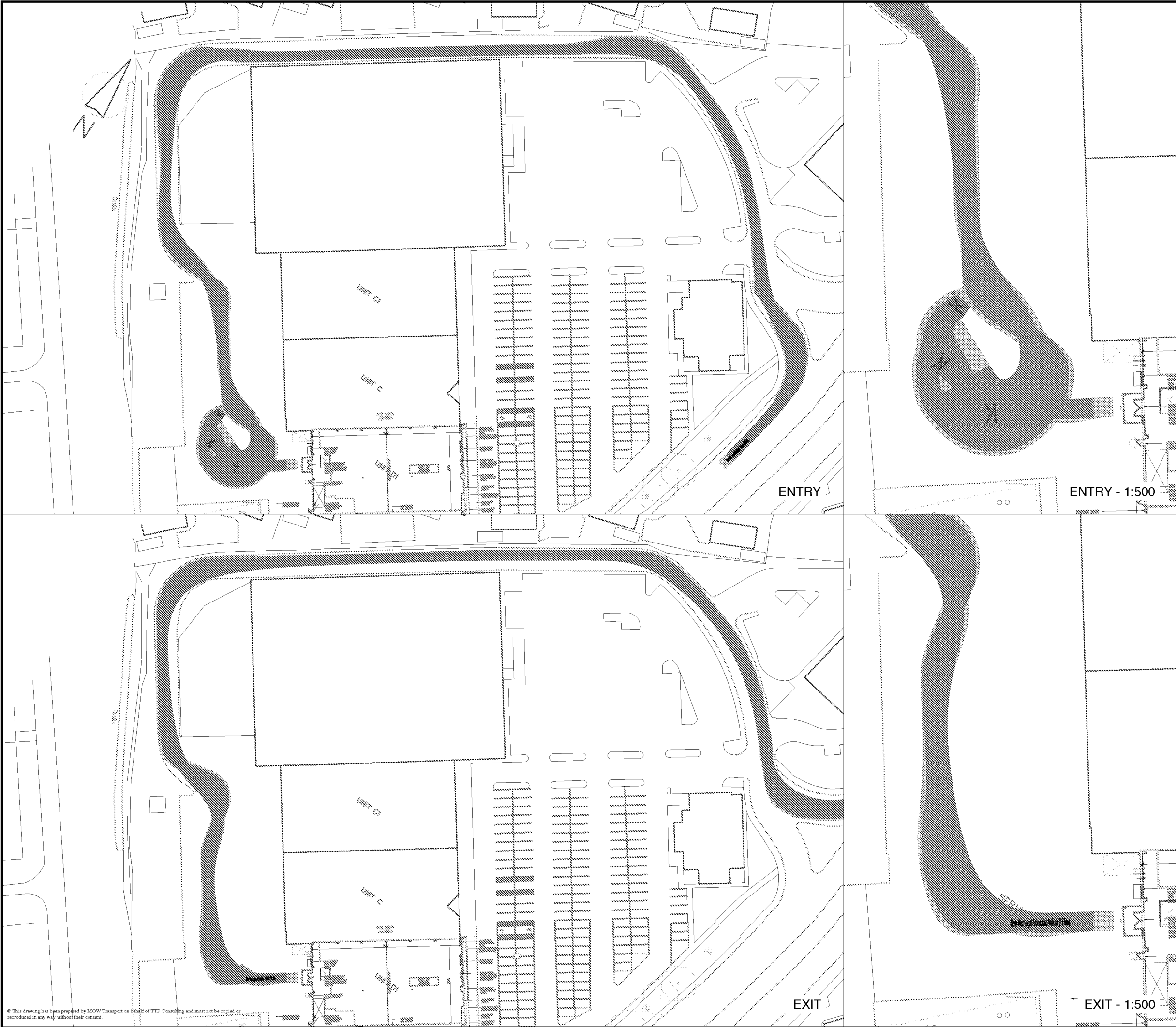
Drawn	MW	06.12.13
Checked	MT	06.12.13



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transport planning specialists

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London
W1W 6QQ
Tel. No. 020 3008 8940

Drawing Number	2013-1568-AT-102	Rev	.
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Rev	Details	Drawn	Checked	Date
1				

New Max Legal Articulated Vehicle (18.5m)

Overall Length	18.500m
Overall Width	2.500m
Overall Body Height	3.632m
Min Body Ground Clearance	0.396m
Max Track Width	2.500m
Lock to Lock Time	6.00s
Kerb to Kerb Turning Radius	6.870m

Notes:

1. This is not a construction drawing and is intended for illustrative purposes only.

Client

BBC Pension Trust

Project

Arun Retail Park, Bognor Regis

Drawing Title

Swept Path Analysis Using a
18.5m Articulated Vehicle

Scale

1:1000

Drawn	MW	06.12.13
Checked	MT	06.12.13

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London
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Drawing Number	2013-1568-AT-101	Rev	.
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