



Fountain Court Roberttown Transport Assessment

Jan 2017

**Project
1197**

Paragon Highways

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Quality Management

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1 INTRODUCTION

- 1.1.1 Paragon Highway Consultants has been appointed to prepare this Transport Assessment relating to the proposal to provide a commercial development of a mix of A1 and A3 uses at the Fountain Court site off Huddersfield Road, Roberttown. Appendix A shows the site location in relation to the regional and local highway network.
- 1.1.2 The site benefits from a previous planning approval to provide a convenience store (A1 use) and B1(c) light industrial uses at the site (planning reference 2012/91320) approved in April 2013. Whilst the convenience store is operational, the B1(c) element has only been partially built (2 units). It is proposed to change the use of these units to provide A1 and A3 use classes, and as part of the development provide additional car parking, cycle parking, and improvements to the access junction with Huddersfield Road.
- 1.1.3 Drainage, suitable lighting for the proposed use and hard surfacing/ parking areas will be provided as part of the works. Turning areas within the site are proposed to allow vehicles likely to visit the site to enter and leave in a forward gear.
- 1.1.4 Following scoping discussions with the Council's Highways Officers this Transport Assessment considers such matters as access, sustainability, car parking and servicing and presents the proposals in relation to current guidance and data. The traffic impact associated with the development proposals is also presented.

2 EXISTING CONDITIONS

2.1 Site Description

- 2.1.1 The site has the benefit of an extant planning permission for a convenience store, and B1 (c) light industrial uses (planning reference 2012/91320) approved in April 2013. Since permission was granted a new access has been created along with car parking areas, unit 1 (convenience store) and 2 of the B1(c) light industrial use units, although the light industrial units are not used at present. There is also permission for additional B1(c) light industrial units along the north side of the site, however these have not been constructed as yet.



Photograph 1 – Application Site

- 2.1.2 As part of the original proposals, a new site access was created in the form of a priority junction complete with giveway markings. A right turn lane arrangement with a pedestrian refuge island located to the southwest of the right turn lane, and line marking improvements were also provided on Huddersfield Road up to the signalised junction to the southwest of the site access. The site access contains visibility splays of 2.4m x 120m in both directions which is appropriate for a 40mph speed limit.



Photograph 2 – Existing Access

- 2.1.3 The site is situated within Roberttown around 1.5km southwest of Liversedge and 4.3km west of Dewsbury Town Centre.

2.2 Local Highway Network

- 2.2.1 The site has a frontage on to Huddersfield Road which is an A classified (A62), two way road running from Huddersfield to Leeds in a generally north easterly direction. Approximately 1.5 miles to the south west, the A62 joins the A644 Huddersfield Road at a signal controlled junction. Approximately 1 mile to the north east of the site, the A62 junctions with both the A649 Halifax Road/Wakefield Road and the A638 Bradford Road.
- 2.2.2 Approximately 200 metres to the south west of the site the A62 meets the Child Lane/Sunny Bank Road signalised junction, which provides 'green man' crossing facilities for pedestrians to cross the A62.
- 2.2.3 Huddersfield Road is a wide single carriageway (approx 9.4m in the vicinity of the site) with footways ranging between 2-2.5m wide, and has street lighting to an acceptable standard. It is subject to a 40 mph speed limit. In addition to the site access, Huddersfield Road provides direct access to residential properties; there is also a cul-de-sac on the opposite side of the road (Rydal Grove) that serves around a dozen residential properties.



Photograph 3 – Huddersfield Road

2.2.4 There are no Traffic Regulation Orders restricting on-street parking or waiting in this area.

2.2.5 The site is located within easy reach of the bus services available on Child Lane located within walking distance of the site access junction off Huddersfield Road. Further details of the bus services available from the local fare stages are shown in Section 2.4 below.

2.3 Traffic Surveys

2.3.1 To determine traffic volumes at the site access junction with the A62 Huddersfield Road a classified traffic survey was carried out on the 17th January 2017 between 0730 – 0930 hours and 16:30 – 18:30 hours, the date of the survey was agreed with Kirklees Council's Highways Officers (from 3rd week in January 2017). From this survey the busiest peak hours were identified as being 07:45 to 08:45 and 17:15 to 18:15. A copy of the survey can be found at Appendix B.

- 2.3.2 The survey revealed that the A62 Huddersfield Road was subject to an am peak hour two way flow of 1891 vehicles, and 1761 two way vehicle flows during the pm peak hour. The survey also revealed that the site access junction was subject to 69 two way vehicle movements during the am peak hour and 94 two way vehicle movements during the pm peak hour, which are associated with the existing partial use of the site as a convenience store.

2.4 Road Traffic Accidents

- 2.4.1 The personal injury accident records for the five year period (between 2011 and 2016) have been obtained from Crashmap.co.uk, and included a 200m length of Huddersfield Road (100m at either side of the site access junction). The accident search area is included at Appendix C.
- 2.4.2 Whilst there are no collisions at the site access, there are two collisions that occurred within the search area, the first in 2012 and the second in 2015. Both collisions were classified as slight.
- 2.4.3 The first collision occurred at the Rydal Grove/ Huddersfield Road junction during October 2012 and involved a vehicle emerging from the junction turning right into Huddersfield Road into the path of an oncoming motorcycle. This incident occurred during the daylight hours and fine weather conditions.
- 2.4.4 The second collision occurred on Huddersfield Road around 100m southwest of the site access junction during December 2015 and involved a car passing another vehicle on its offside and colliding with a cyclist. This incident occurred during daylight hours and fine weather conditions.
- 2.4.5 The injury accident record in the vicinity of the site does not indicate a road safety problem or any trends of any significance which would warrant treatment or be a cause for concern as a result of the slight change in peak hour flows as a result of the development proposals.

2.5 Transport Sustainability

- 2.5.1 The National Planning Policy Framework (NPPF) was published on 27th March 2012. This document superseded a number of national Planning Policy Statements and Guidance Notes (PPS's and PPG's). The national transport policy relating to transport and development that was formerly set out in PPG 13 'Transport' is now replaced by Section 4 of the NPPF.
- 2.5.2 However the guidance within PPG 13 is still useful as a reference and the relevant policies within the Council's UDP still apply.
- 2.5.3 The catchment areas for the preferred maximum walking distances are shown on the plan at Appendix D.
- 2.5.4 PPG 13: Transport stated that 'walking is the most important mode of travel at the local level and offers the greatest potential to replace short car trips, particularly under 2km'. The 2km walk catchment area plan is included at Appendix D. This demonstrates that there is a high density of residential and service centre areas within walking distance of the site.
- 2.5.5 Footways and street lighting are provided to both sides of Huddersfield Road. Formal signal controlled pedestrian crossing facilities are provided on Leeds Road within the operation of the signals at the junction with Child Lane and Sunny Bank Road. Tactile paved crossing points are provided on the other arms of this junction.
- 2.5.6 With regards to cycling, PPG 13: Transport stated that "Cycling also has the potential to substitute for short car trips, particularly those under 5 km and to form part of a longer journey by public transport". The plan at Appendix D also shows the 5km cycle catchment area from the site. This demonstrates that there is a high density of residential and service centre areas within cycling distance of the site.

- 2.5.7 The A62 has the benefit of good cycling infrastructure between the site and Huddersfield / Mirfield. Just beyond the Child Lane/Sunny Bank Road junction a marked/signed cycle lane commences on the carriageway, after around half a mile the cycle lane ends, but cyclists are signed to use the footway which is a shared pedestrian/cycle space. This continues down to the Stocks Bank Road junction, where a shared bus/cycle lane commences and runs all the way down to the junction with the signalised A644 Huddersfield Road, which also has signed cycle lanes on the carriageway.
- 2.5.8 The cycle lane on the A644 detailed in 2.5.7 continues towards Mirfield, where it links in to the Calder Valley Greenway off Wood Lane. This cycle route is also part of the National Cycle Network (Route 66). This link to the Calder Valley Greenway is around 2 miles from the site.
- 2.5.9 The site is well located in terms of access to public transport for staff and visitors. There are bus stops located on Child Lane and Sunny Bank Road, with the 253/221/223 services providing access to Leeds and Huddersfield; these stops are located within 250m of the site. The southbound stop on Sunny Bank Road has the benefit of a shelter and timetable case.
- 2.5.10 There are Stops on Huddersfield Road and Lumb Lane which access the 229 service providing an alternative, regular service between Leeds and Huddersfield; these stops are approximately 500m from the site. The northbound stop on Huddersfield Road has the benefit of a shelter and timetable case. Table 1 below details the bus services available and their frequencies.

Service No	From – To	Frequency Mon – Sat	Late evenings and Sundays
221	Leeds – White Rose Centre – Morley – Batley – Heckmondwike - Mirfield	60 mins	No service
223	Leeds – White Rose Centre – Morley – Batley – Heckmondwike - Mirfield	In frequent	60 mins
229	Leeds – Gildersome – Birstall – Batley – Heckmondwike – Hartshead - Huddersfield	30 mins	60 mins
253	Dewsbury – Mirfield – Cleckheaton – East Bierley - Bradford	60 mins	60 mins

Table 1: Bus Services

- 2.5.11 As can be identified from the above table there are bus services every 30 minutes to Huddersfield Town Centre, Leeds, Batley, and Heckmondwike. There are also 2 additional services per hour to destinations such as Dewsbury, Bradford, Cleckheaton, and Leeds.
- 2.5.12 The nearest rail stations are at Mirfield, Dewsbury and Brighouse, which are approximately 3, 4 and 4.5 miles respectively from the site. Huddersfield Rail station is just over 5 miles away. Regular services run through these stations along the Huddersfield and Caldervale lines and service larger towns and cities such as Leeds, Manchester, Liverpool, Bradford, Huddersfield, Wakefield, Rochdale, Burnley and Blackpool. These other main line stations open up travel throughout the UK.
- 2.5.13 The above information identifies that the site is located in a sustainable location with a number of alternatives, other than the private car, for travel to the site for staff and visitors.

3 THE DEVELOPMENT PROPOSALS

3.1 Proposed Development

3.1.1 The proposals are to change the intended use of the 2 newly constructed B1(c) light industrial units at the site (planning reference 2012/91320), to provide 297sqm A1 use and 300sqm of A3 use. Additional parking areas are proposed on the north side of the site, which will replace the 2 B1 (c) light industrial units yet to be constructed as part of the previous planning permission. The proposed development is shown at Appendix E.

3.1.2 Drainage, lighting and hard surfacing will be provided as part of the works with all parking and turning spaces within the site being completed to allow all vehicles likely to enter the site to leave in a forward gear.

3.2 Vehicular Access

3.2.1 It is intended to use the existing access arrangements off Huddersfield Road to access the site, which will be improved as part of the works. The existing access is around 6m in width, which is narrow for vehicles turning into the site if another vehicle is waiting to turn right out of the access junction. It is therefore proposed to widen the site access junction so that an additional lane for vehicles turning left out of the junction can be provided. The proposed junction will allow for a 3.5m wide entry lane, with two 3m wide exit lanes. Footways will return into the site initially as per the current situation.

3.2.2 The site access junction will contain suitable visibility splays onto Huddersfield Road and the junction meets or exceeds Kirklees Council's geometry requirements.

3.2.3 The information available on the Crashmap database for the period 2011 – 2016 inclusive identifies that there have been no recorded injury accidents at the existing junction.

3.2.4 The improved access is therefore considered to be more than suitable to serve the proposed development.

3.3 Parking Provision

- 3.3.1 Using Kirklees Council's car parking standards, the existing use as a 372sqm convenience store and the proposed A1 use would require 1 space per 12sqm for customers and 1 per 100sqm for staff, equating to a provision of 55 spaces for customers and 6 spaces for staff. The proposed 300sqm of A3 use requires 1 space per 4sqm for customers and 1 space per 3 staff (based on 50% public floor area and that the site is located close to public transport facilities). Based on these standards the A3 use would require 37 spaces for customers and 2 parking spaces for staff. Therefore, the total required number of car parking spaces at the site is 92 spaces for customers, and 8 spaces for staff.
- 3.3.2 The proposed car park generally accords with the Council's car parking requirements with 89 parking spaces provided for customers and 11 spaces for staff. Whilst the proposed customer parking provides a shortfall of only 3 parking spaces, it over provides car parking for staff. Therefore, the level of parking proposed is considered appropriate for the size of development.
- 3.3.3 In terms of cycle parking, there is an overall requirement for 10 cycle parking spaces at the site. The proposals offer a total of 22 cycle parking spaces, which should encourage further use of cycling to and from the site.

3.4 Traffic Impact

- 3.4.1 The development proposals are to provide 297sqm of A1 use, and 300sqm of A3 use in addition to the established 372sqm convenience store use at the site. The TRICS database has been interrogated to obtain the peak time trip rates for the development of A1 and A3 uses. The results are shown below and the TRICs data is shown in Appendix F.

	Morning Peak			Evening Peak		
	ARRIVE	DEPART	TOTAL	ARRIVE	DEPART	TOTAL
A1	4.755	4.594	9.349	5.583	5.599	11.182
SUB TOTAL	14	13	27	16	16	32
A3	12.036	10.532	22.568	15.246	14.188	29.434
SUB TOTAL	36	31	67	45	42	87
TOTAL	50	44	94	61	58	119

Table 2: TRICS Data (A1 & A3 Use Class)

- 3.4.2 The above table shows that the proposed development could generate between 94 and 119 vehicle movements per hour during the peak periods. It should be noted that based on the Transport Assessment prepared by HY Consulting, the B1 units would have generated around 16 traffic movements during each of the peak hours. Therefore, the proposals would provide a net increase of 78 and 103 movements during the am and pm peak hours respectively when compared to the extant permission at the site. However, given the sites sustainable merits, within the Roberttown area close to good quality bus services, the actual flows are likely to be less than the figures calculated above. For a robust assessment no deductions for pass – by/ diverted traffic for retail use have been made which could offset the impact.

Traffic Survey

- 3.4.3 A traffic survey was carried out at the A62 Huddersfield Road/ Site Access on the 17th January 2017 between 0730 – 0930 hours and 16:30 – 18:30 hours. From this survey the busiest peak hours were identified as being 07:45 to 08:45 and 17:15 to 18:15.

Traffic Growth

- 3.4.4 During scoping discussions with Highways Officers at Kirklees Council a junction capacity assessment is required at the access, and it is considered that a future design year of 2022 would provide a robust assessment. The TEMPRO database for the local area has been interrogated and traffic growth factors of 1.0846 and 1.0865 for the AM and PM peaks respectively have been used. The table below summarises these calculations:

	Year	Growth Factor	A62 Two Way
AM Peak	2017	X	1891
	2022	1.0846	2050
PM Peak	2017	X	1761
	2022	1.0865	1913

Table 3: Design Year Flows

Traffic Distribution

3.4.5 The existing turning proportions have been used to determine the distribution of traffic associated with the development using the A62 Huddersfield Road/ Site Access junction during each of the network peak periods. Details of existing and proposed traffic flows are shown at Appendix G.

3.4.6 Therefore, using the existing turning proportions, the predicted traffic flows have been assigned to the existing junction and are identified in the table below for the AM / PM peak periods for future year 2022.

	A62 South	Site Access	A62 North
A62 South	X	73 / 75	1133 / 934
Site Access	16 / 54	X	63 / 48
A62 North	917 / 979	11 / 36	X

Table 4: Predicted A62/ Site Access Traffic Flows (2022)

Junction Assessment

3.4.7 The PICADY assessment has been undertaken for the future year 2022 AM and PM peak scenarios. The table below summarises the capacity analyses which can be found at Appendix H.

	AM Peak		PM PEAK	
	Max RFC	Max Queue	Max RFC	Max Queue
Site Access onto the A62 Huddersfield Road	0.15	0.2	0.40	0.70
A62 Huddersfield Road Right into Site Access	0.03	0.0	0.10	0.10

Table 5: PICADY Results – A62 Huddersfield Road/ Site Access

3.4.8 The results in the table above demonstrate that the A62 Huddersfield Road/ Site Access junction will operate within the normal requirements for the Ratio of Flow to Capacity (RFC value less than 0.85) in the future design year of 2022 in all flow scenarios, as a result of the proposed access improvements.

Traffic Impact Summary

3.4.9 The development will be accessed via an improved access arrangement off Huddersfield Road. The junction will contain suitable geometry to allow simultaneous two way traffic flows within the mouth of the junction and will contain suitable visibility appropriate for 40mph speed limit roads in accordance with the visibility requirements within Design Manual for Roads and Bridges as per the current situation. It is therefore considered that the proposed access will provide a safe arrangement and will not cause any delays to through traffic, given the junction improvements.

3.4.10 The relatively good injury accident record in the vicinity of the site for such a busy class 1 highway does not indicate a road safety problem or any trends of any significance which would warrant treatment or be a cause for concern as a result of slight change in peak hour flows as a result of the development proposals. It should be noted that there are no reported injury accidents at the site access junction with Huddersfield Road.

- 3.4.11 Given the slight increase in traffic onto the strategic highway network (A62) as a result of the proposals then no further analysis of any other off site junctions is considered to be justified.
- 3.4.12 It is considered that the anticipated increase in the level of traffic generated by the proposed development would not be discernible from the daily fluctuations in flows that could be expected on the strategic highway network. Therefore the level of traffic generated by the proposals can be accommodated and will have no material impact on the safe operation of the local highway and will not significantly add to any congestion at the peak times on the local network.

4 TRANSPORT POLICY

- 4.1.1 When considering transport policy compliance for planning applications, the main thrust of local, regional and national policy is that new development should be conveniently accessible by a range of sustainable transport modes, including public transport, cycling and walking. This policy therefore sets out the framework for this Transport Assessment and the project's compliance with the policy objectives. Further details of the relevant policy documents are set out below.

National Planning Policy Framework – Promoting Sustainable Transport

- 4.1.2 The National Planning Policy Framework (NPPF) was published on 27th March 2012. This document superseded a number of national Planning Policy Statements and Guidance Notes (PPS's and PPG's). The national transport policy relating to transport and development that was formerly set out in PPG 13 'Transport' is now replaced by Section 4 of the NPPF.

- 4.1.3 Paragraph 35 of the NPPF states that "developments should be located and designed where practical to:

- accommodate the efficient delivery of goods and supplies;
- give priority to pedestrian and cycle movements, and have access to high quality public transport facilities;
- create safe and secure layouts which minimise conflicts between traffic and cyclists or pedestrians, avoiding street clutter and where appropriate establishing home zones;
- incorporate facilities for charging plug-in and other ultra-low emission vehicles;
- and
- consider the needs of people with disabilities by all modes of transport.

Local Transport Plan

- 4.1.4 The current Local Transport Plan is the third West Yorkshire Local Transport Plan (LTP3) which covers the period 2011 to 2026. The key objectives of the LTP3 include:

- *To improve access to jobs, education and other key services for everyone;*

- *To reduce delays to the movement of people and goods;*
- *To improve safety for all highway users;*
- *To limit transport emissions of air pollutants, greenhouse gases and noise;*
- *To improve the condition of the transport infrastructure.*

4.1.5 The LTP sets out the walking and cycling strategy for West Yorkshire to encourage more people to use these modes of travel to help reduce the dependency on private cars. With regards to cycling provision within development proposals, the WYCS seeks to 'ensure that new development proposals are located and designed to be cycle friendly and adopt guidelines for cycle parking standards. With regards to walking, the LTP seeks to improve the local environment to make walking more attractive by enhancing safety, security and environmental quality.

4.1.6 The LTP also sets out a bus strategy West Yorkshire and seeks to increase patronage for all categories of bus passenger and modal shift towards the bus and away from the car.

Kirklees UDP

4.1.7 Local transport policy is set out in the Kirklees Unitary Development Plan (UDP). Chapter 8: Transport specifically relates to transport and new developments. Relevant policy includes:

- Policy T1 states: *"Priority will be given to:*
 - *Satisfying the needs of all sections of the community through an effectively integrated transport system with emphasis on improving public transport and encouraging a modal shift away from travel by private car;*
 - *Co-ordinating land use change with transport provision so as to minimise the need to travel and locating new development where it can best be served by public transport and where it minimises the need for expansion of the highway network."*
- Policies T16 and T17 identify the need to consider pedestrian and cycling access to new developments.

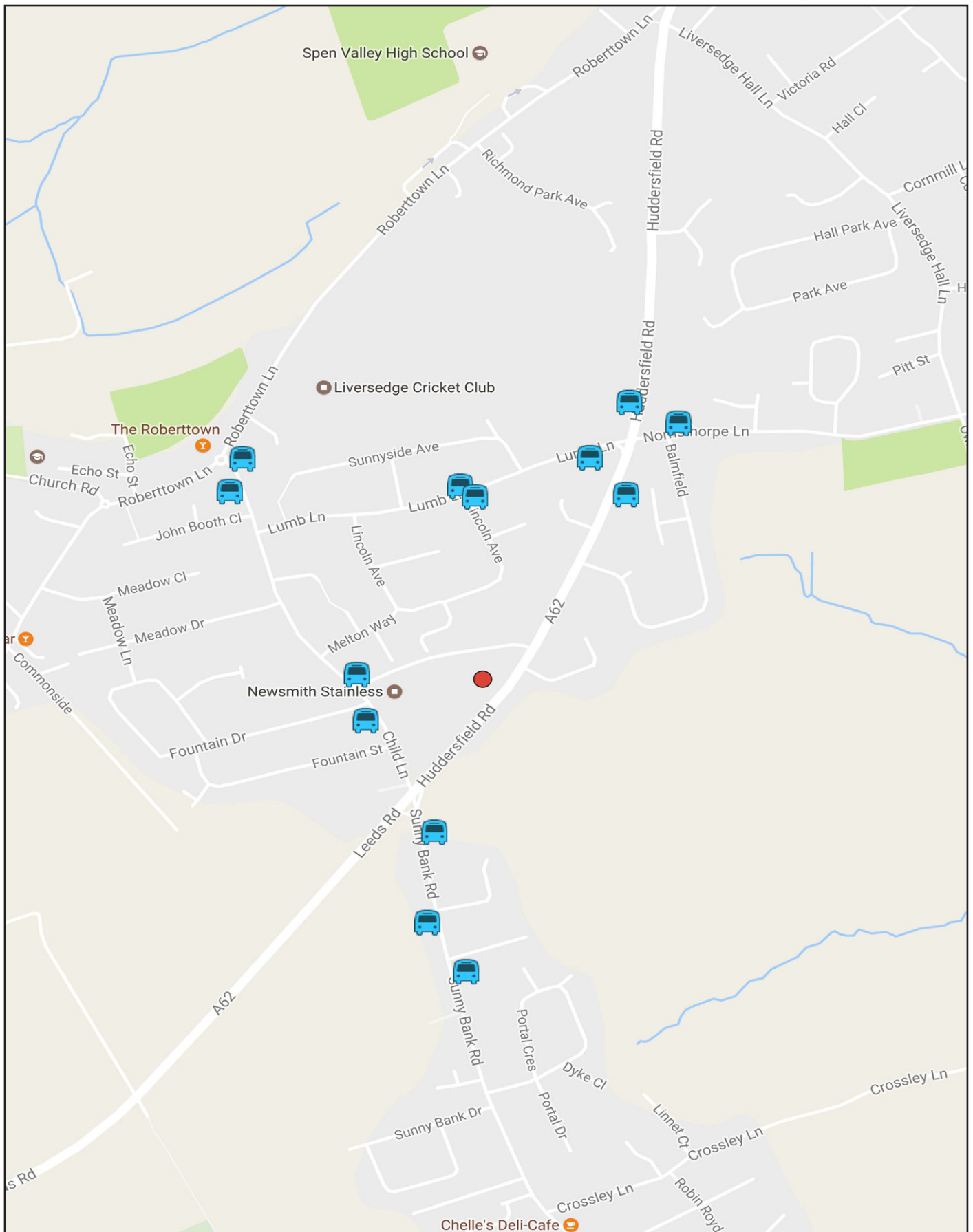
4.1.8 The location of the development in a sustainable position close to good bus routes and providing jobs and services for the local community generally meets the requirements of the Local and National Policy.

5 CONCLUSIONS

- 5.1.1 This report presents the proposals to change the intended use of the 2 newly constructed B1(c) light industrial units at the site (planning reference 2012/91320), to provide 297sqm A1 use and 300sqm of A3 use.
- 5.1.2 The report assessed the traffic generations, highway safety and access proposals and considers the sustainable elements of the scheme.
- 5.1.3 The A62 Huddersfield Road/ Site Access junction has been assessed for the future year 2022 using the PICADY capacity analysis program. The analysis showed that the junction will operate within normal requirements for the Ratio of Flow to Capacity (RFC value less than 0.85) in the future design year of 2022 in all flow scenarios.
- 5.1.4 The report concludes that the anticipated increase in the level of traffic generated by the proposed development would not be discernible from the daily fluctuations in flows that could be expected on the strategic highway network. Therefore, the level of traffic generated by the proposals can be accommodated and will have no material impact on the safe operation of the local highway and will not significantly add to any congestion at the peak times on the local network.
- 5.1.5 It is therefore concluded that the development is considered acceptable, and that there are no highway safety, capacity or efficiency reasons why planning consent for the proposed development should not be granted.

Appendix A

Location plan



 SITE LOCATION

 BUS STOP LOCATION



UNIT 2, THE OFFICE CAMPUS,
PARAGON BUSINESS PARK, RED HALL COURT,
WAKEFIELD WF1 2UY

Appendix B

Traffic Surveys



A	A62 South
B	Site Access
C	A62 North

Location	Fountain Court, Roberttown
Date	17/01/2017

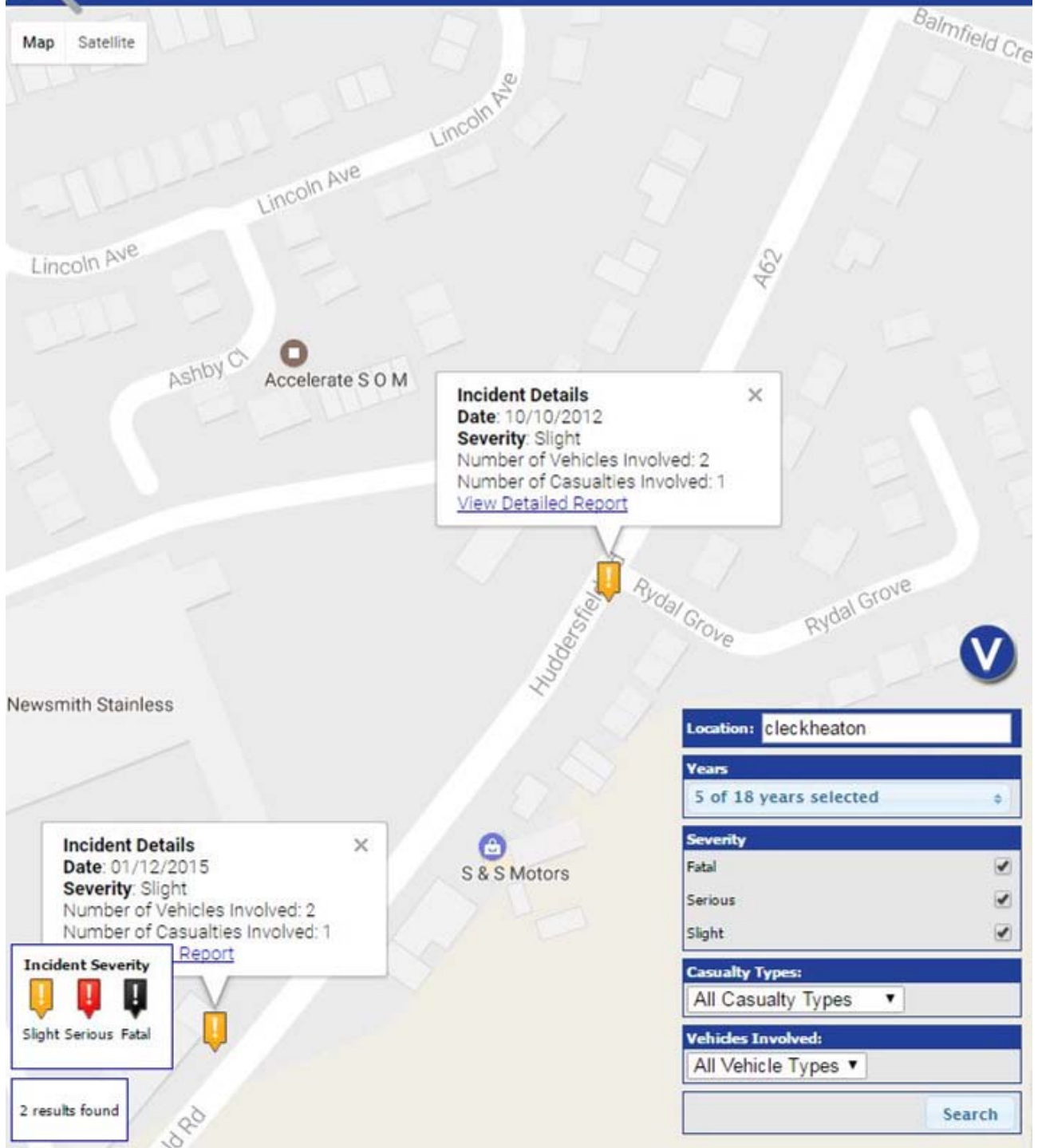
Time Start	A - B			A - C			B - A			B - C			C - A			C - B		
	Car	LGV	HGV	Car	LGV	HGV	Car	LGV	HGV	Car	LGV	HGV	Car	LGV	HGV	Car	LGV	HGV
7:30 - 7:45	2	1		195	1	2	2			2	1		119	3	2	1	1	
7:45 - 8:00	5	3		248	1	4	2			2	3		188	1	4	1	1	
8:00 - 8:15	15			281	1	3	2	3		15			224		4	1	1	
8:15 - 8:30	3			247	1	5				3			209	3	2			
8:30 - 8:45	4			250	3	1				5			203	3	5			
8:45 - 9:00	6		1	180	3	4				4		1	112	4	3	3		
9:00 - 9:15	7			168	2	4	3			5			124	2	2	1		
9:15 - 9:30	3			179	4	3	3			7			136	8	4	8		
Total	45	4	1	1748	16	26	12	3	0	43	4	1	1315	24	26	15	3	0

Time Start	A - B			A - C			B - A			B - C			C - A			C - B		
	Car	LGV	HGV	Car	LGV	HGV	Car	LGV	HGV	Car	LGV	HGV	Car	LGV	HGV	Car	LGV	HGV
16:30 - 16:45	3	1		123	1	2	3			3			170	3	2	4		
16:45 - 17:00	3			150	2	3	3			4			203	1	3	3		
17:00 - 17:15	10			140	2	2	5	2		7			176	1	3	4	1	
17:15 - 17:30	8			204	2	2	5			4			232	2	2	3		
17:30 - 17:45	8			207	1	3	4			4	1		237	1	3	3	1	
17:45 - 18:00	7	1		218	1	2	7			3	2		228	1	5	3	1	
18:00 - 18:15	5			217	1	2	4			3			187	1	2	3		
18:15 - 18:30	3	1		155	2	2	4			2	1		120	2	4	3		
Total	47	3	0	1414	12	18	35	2	0	30	4	0	1553	12	24	26	3	0

Appendix C

Road Traffic Accidents

Map Satellite





crashmap.co.uk

Crash Date: Wednesday, October 10, 2012 **Time of Crash:** 8:40:00 AM **Crash Reference:** 2012130437536

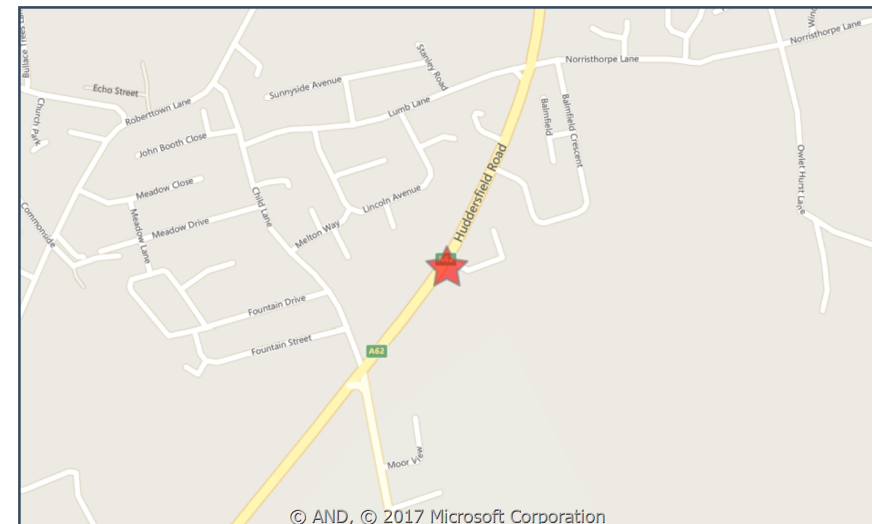
Highest Injury Severity: Slight
Highway Authority: Kirklees
Local Authority: Kirklees
Weather Description: Fine without high winds
Road Surface Description: Dry
Speed Limit: 30
Light Conditions: Daylight: regardless of presence of streetlights
Carriageway Hazards: None
Junction Detail: T or staggered junction
Junction Pedestrian Crossing: No physical crossing facility within 50 metres
Road Type: Single carriageway
Junction Control: Give way or uncontrolled

Road Number: A62

Number of Casualties: 1

Number of Vehicles: 2

OS Grid Reference: 420060 422390



For more information about the data please visit: www.crashmap.co.uk/home/aboutthedata and www.crashmap.co.uk/home/definitions



Vehicles involved

Vehicle Ref	Vehicle Type	Vehicle Age	Driver Gender	Driver Age Band	Vehicle Manoeuvre	First Point of Impact	Journey Purpose	Hit Object - On Carriageway	Hit Object - Off Carriageway
1	Car (excluding private hire)		7 Female	26 - 35	Vehicle is in the act of turning right	Back	Other	None	None
2	Motorcycle over 50cc and up to 125cc		8 Male	16 - 20	Vehicle proceeding normally along the carriageway, not on a bend	Front	Other	None	None

Casualties

Vehicle Ref	Casualty Ref	Injury Severity	Casualty Class	Gender	Age Band	Pedestrian Location	Pedestrian Movement
2	1	Slight	Driver or rider	Male	16 - 20	Unknown or other	Unknown or other

Accident Description:

Accident description text currently unavailable for this highway authority / police force

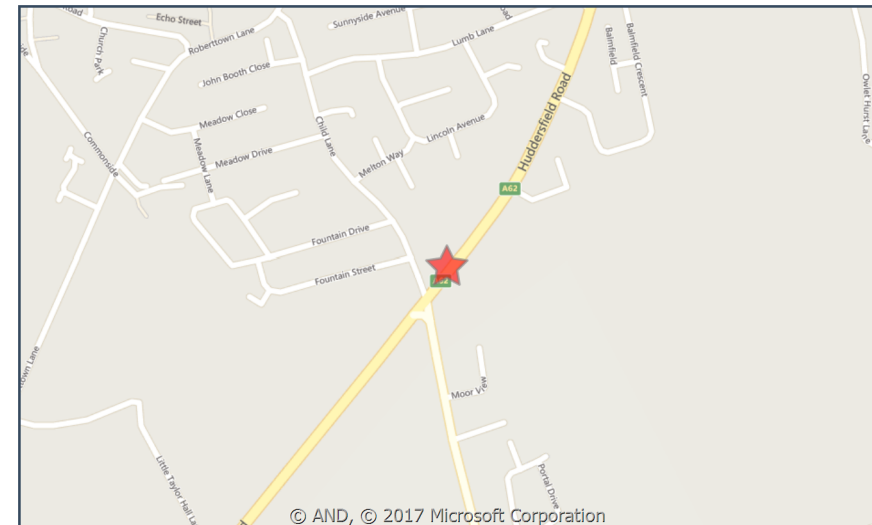
For more information about the data please visit: www.crashmap.co.uk/home/aboutthedata and www.crashmap.co.uk/home/definitions



crashmap.co.uk

Crash Date: Tuesday, December 01, 2015 **Time of Crash:** 11:00:00 AM **Crash Reference:** 2015132C11188

Highest Injury Severity:	Slight	Road Number:	A62	Number of Casualties:	1
Highway Authority:	Kirklees	Number of Vehicles:	2	OS Grid Reference:	419964 422279
Local Authority:	Kirklees				
Weather Description:	Fine without high winds				
Road Surface Description:	Dry				
Speed Limit:	40				
Light Conditions:	Daylight: regardless of presence of streetlights				
Carriageway Hazards:	None				
Junction Detail:	Not at or within 20 metres of junction				
Junction Pedestrian Crossing:	No physical crossing facility within 50 metres				
Road Type:	Single carriageway				
Junction Control:	Not Applicable				



For more information about the data please visit: www.crashmap.co.uk/home/aboutthedata and www.crashmap.co.uk/home/definitions



Vehicles involved

Vehicle Ref	Vehicle Type	Vehicle Age	Driver Gender	Driver Age Band	Vehicle Maneuvre	First Point of Impact	Journey Purpose	Hit Object - On Carriageway	Hit Object - Off Carriageway
1	Car (excluding private hire)	-1	Unknown	Unknown	Vehicle is passing another moving vehicle on its offside	Nearside	Other	None	None
2	Pedal cycle	-1	Male	46 - 55	Vehicle proceeding normally along the carriageway, not on a bend	Offside	Other	None	None

Casualties

Vehicle Ref	Casualty Ref	Injury Severity	Casualty Class	Gender	Age Band	Pedestrian Location	Pedestrian Movement
2	1	Slight	Driver or rider	Male	46 - 55	Unknown or other	Unknown or other

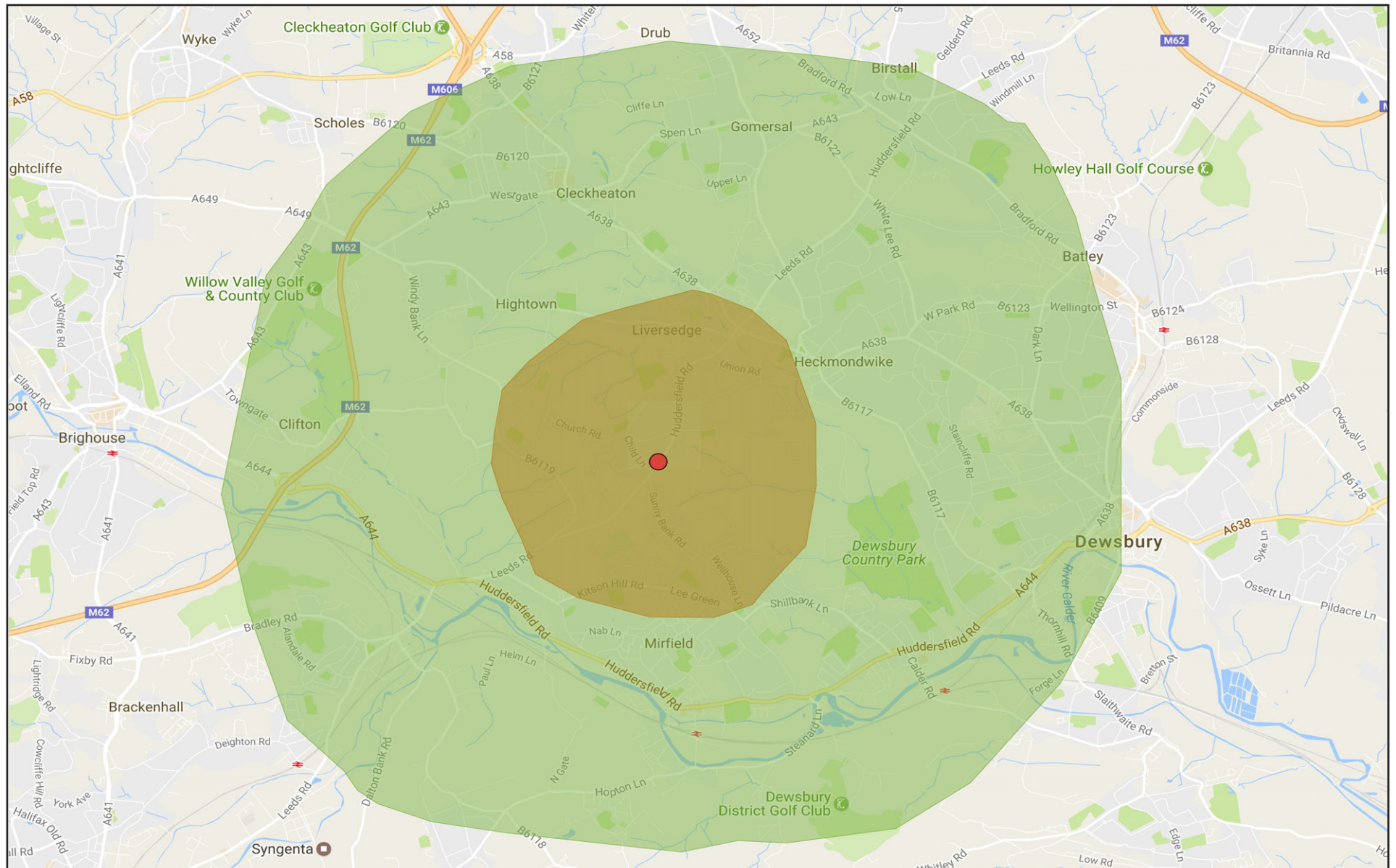
Accident Description:

Accident description text currently unavailable for this highway authority / police force

For more information about the data please visit: www.crashmap.co.uk/home/aboutthedata and www.crashmap.co.uk/home/definitions

Appendix D

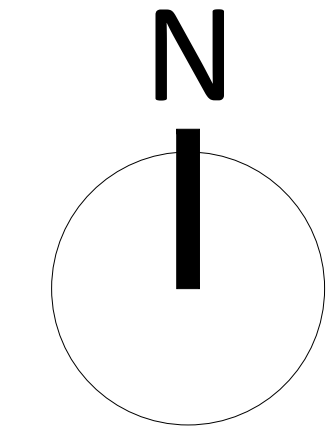
Pedestrian & Cycle Catchment



- 5km CYCLE CATCHMENT
- 2km WALKING CATCHMENT
- SITE LOCATION

Appendix E

Proposed Development



Key	
Tree Schedule	
	Existing trees
	Existing trees to be removed or repositioned
	Sorbus aucuparia (Rowan)
	Quercus robur 'Fastigiata' (Fastigate Oak)
	Tilia cordata (Small-leaved Lime)
	Betula pendula (Silver Birch)
	Fagus sylvatica 'Dawyck' (Fastigate Beech)
	Amelanchier canadensis (Snowy Mesplis)

Revisions:

No.	Comment	Date	By
A	Additional car parking space proposed	11-16	MW(J)
B	Introduced a 3.5m wide ingress lane and 3m wide exit lanes	12-16	MW(J)
C	Unit 2, 3a and 3b external bollards, ramp information added	12-16	MW(J)
D	Tree schedule added	01-17	MW(J)

Drawing Status:

☐ Preliminary ☒ Planning Permission ☐ Building Regulation ☐ Tender ☐ Construction

MWA

Martin Walsh Architectural

architecture ■ planning ■ engineering

Firth Buildings, 99-103 Leeds Road, Dewsbury, WF12 7BU

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w www.martinwalsh.co.uk

Job Title

Proposed Mixed Use Development (Phase 2) at Fountain Court, Huddersfield Road, Roberttown, Liversedge WF15 7QQ

Drawing Title

Proposed Site Layout

Client

Wharfedale Properties Limited

Drawn	Checked	Date	Scale	Sheet Size	Drawing No.	Rev.
NH		08/16	1:250	A1	10/K16/5991/03d	

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Appendix F

TRICS Data

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 01 - RETAIL

Category : I - SHOPPING CENTRE - LOCAL SHOPS

VEHICLES

Selected regions and areas:

02	SOUTH EAST	
	EX ESSEX	1 days
	HC HAMPSHIRE	1 days
03	SOUTH WEST	
	GS GLOUCESTERSHIRE	1 days
	SG SOUTH GLOUCESTERSHIRE	1 days
05	EAST MIDLANDS	
	DS DERBYSHIRE	1 days
	NR NORTHAMPTONSHIRE	1 days
06	WEST MIDLANDS	
	SH SHROPSHIRE	1 days
	WM WEST MIDLANDS	2 days
	WO WORCESTERSHIRE	1 days
07	YORKSHIRE & NORTH LINCOLNSHIRE	
	NY NORTH YORKSHIRE	1 days
08	NORTH WEST	
	CH CHESHIRE	1 days
	MS MERSEYSIDE	1 days
09	NORTH	
	TW TYNE & WEAR	1 days
10	WALES	
	CF CARDIFF	1 days

Filtering Stage 2 selection:

Parameter: Gross floor area
Range: 210 to 1890 (units: sqm)

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/02 to 26/04/10

Selected survey days:

Monday	2 days
Tuesday	4 days
Wednesday	3 days
Thursday	2 days
Friday	4 days

Selected survey types:

Manual count	15 days
Directional ATC Count	0 days

Selected Locations:

Suburban Area (PPS6 Out of Centre)	4
Edge of Town	3
Neighbourhood Centre (PPS6 Local Centre)	8

Selected Location Sub Categories:

Commercial Zone	1
Residential Zone	13
No Sub Category	1

LIST OF SITES relevant to selection parameters

1	CF-01-I-01	LOCAL SHOPS, CARDIFF	CARDIFF
	MICHAELSTON ROAD		
	CARDIFF		
	Edge of Town		
	No Sub Category		
	Total Gross floor area:	500 sqm	
2	CH-01-I-01	LOCAL SHOPS, CHESTER	CESHIRE
	CHRISTLETON ROAD		
	CHESTER		
	Neighbourhood Centre (PPS6 Local Centre)		
	Residential Zone		
	Total Gross floor area:	210 sqm	
3	DS-01-I-01	LOCAL SHOPS, DRONFIELD	DERBYSHIRE
	STONELOW ROAD		
	HOLMESDALE		
	DRONFIELD		
	Neighbourhood Centre (PPS6 Local Centre)		
	Residential Zone		
	Total Gross floor area:	1130 sqm	
4	EX-01-I-01	LOCAL SHOPS, LOUGHTON	ESSEX
	PYRLES LANE		
	LOUGHTON		
	Neighbourhood Centre (PPS6 Local Centre)		
	Residential Zone		
	Total Gross floor area:	650 sqm	
5	GS-01-I-01	LOCAL SHOPS, CHELTENHAM	GLOUCESTERSHIRE
	SALISBURY AVENUE		
	WARDEN HILL		
	CHELTENHAM		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Gross floor area:	525 sqm	
6	HC-01-I-02	LOCAL SHOPS, WINCHESTER	HAMPSHIRE
	OLIVER'S BATTERY ROAD S.		
	OLIVERS BATTERY		
	WINCHESTER		
	Neighbourhood Centre (PPS6 Local Centre)		
	Residential Zone		
	Total Gross floor area:	1605 sqm	
7	MS-01-I-01	LOCAL SHOPS, LIVERPOOL	MERSEYSIDE
	HUNTS CROSS AVENUE		
	LIVERPOOL		
	Neighbourhood Centre (PPS6 Local Centre)		
	Residential Zone		
	Total Gross floor area:	1890 sqm	
8	NR-01-I-01	LOCAL SHOPS, CORBY	NORTHAMPTONSHIRE
	OCCUPATION ROAD		
	CORBY		
	Neighbourhood Centre (PPS6 Local Centre)		
	Residential Zone		
	Total Gross floor area:	755 sqm	
9	NY-01-I-01	LOCAL SHOPS, SCARBOROUGH	NORTH YORKSHIRE
	NEWLANDS PARK DRIVE		
	SCARBOROUGH		
	Neighbourhood Centre (PPS6 Local Centre)		
	Residential Zone		
	Total Gross floor area:	1200 sqm	

LIST OF SITES relevant to selection parameters (Cont.)

10	SG-01-I-01	LOCAL SHOPS, BRISTOL	SOUTH GLOUCESTERSHIRE
	BURLEY GROVE		
	KINGSWOOD		
	BRISTOL		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Gross floor area:	240 sqm	
11	SH-01-I-01	LOCAL SHOPS, TELFORD	SHROPSHIRE
	WREKIN DRIVE		
	DONNINGTON		
	TELFORD		
	Edge of Town		
	Residential Zone		
	Total Gross floor area:	820 sqm	
12	TW-01-I-01	LOCAL SHOPS, NORTH SHIELDS	TYNE & WEAR
	FARRINGDON ROAD		
	MARDEN		
	NORTH SHIELDS		
	Neighbourhood Centre (PPS6 Local Centre)		
	Residential Zone		
	Total Gross floor area:	850 sqm	
13	WM-01-I-01	LOCAL SHOPS, COVENTRY	WEST MIDLANDS
	HOLYHEAD ROAD		
	COVENTRY		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Gross floor area:	1550 sqm	
14	WM-01-I-02	LOCAL SHOPS, SOLIHULL	WEST MIDLANDS
	MARSHALL LAKE ROAD		
	SHIRLEY		
	SOLIHULL		
	Edge of Town		
	Commercial Zone		
	Total Gross floor area:	515 sqm	
15	WO-01-I-01	LOCAL SHOPS, WORCESTER	WORCESTERSHIRE
	AMBLESIDE DRIVE		
	WARNDON		
	WORCESTER		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Gross floor area:	599 sqm	

TRIP RATE for Land Use 01 - RETAIL/I - SHOPPING CENTRE - LOCAL SHOPS
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	0	0	0.000	0	0	0.000	0	0	0.000
01:00 - 02:00	0	0	0.000	0	0	0.000	0	0	0.000
02:00 - 03:00	0	0	0.000	0	0	0.000	0	0	0.000
03:00 - 04:00	0	0	0.000	0	0	0.000	0	0	0.000
04:00 - 05:00	0	0	0.000	0	0	0.000	0	0	0.000
05:00 - 06:00	0	0	0.000	0	0	0.000	0	0	0.000
06:00 - 07:00	0	0	0.000	0	0	0.000	0	0	0.000
07:00 - 08:00	15	869	3.536	15	869	3.275	15	869	6.811
08:00 - 09:00	15	869	4.755	15	869	4.594	15	869	9.349
09:00 - 10:00	15	869	5.039	15	869	4.671	15	869	9.710
10:00 - 11:00	15	869	4.977	15	869	4.908	15	869	9.885
11:00 - 12:00	15	869	4.931	15	869	4.763	15	869	9.694
12:00 - 13:00	15	869	5.875	15	869	5.829	15	869	11.704
13:00 - 14:00	15	869	5.330	15	869	5.461	15	869	10.791
14:00 - 15:00	15	869	4.977	15	869	5.069	15	869	10.046
15:00 - 16:00	15	869	5.299	15	869	5.384	15	869	10.683
16:00 - 17:00	15	869	5.507	15	869	5.606	15	869	11.113
17:00 - 18:00	15	869	5.583	15	869	5.599	15	869	11.182
18:00 - 19:00	15	869	4.970	15	869	4.993	15	869	9.963
19:00 - 20:00	14	889	3.256	14	889	3.497	14	889	6.753
20:00 - 21:00	10	862	1.938	10	862	2.205	10	862	4.143
21:00 - 22:00	2	673	1.636	2	673	1.784	2	673	3.420
22:00 - 23:00	0	0	0.000	0	0	0.000	0	0	0.000
23:00 - 24:00	0	0	0.000	0	0	0.000	0	0	0.000
Total Rates:			67.609			67.638			135.247

Parameter summary

Trip rate parameter range selected: 210 - 1890 (units: sqm)
 Survey date date range: 01/01/02 - 26/04/10
 Number of weekdays (Monday-Friday): 15
 Number of Saturdays: 0
 Number of Sundays: 0
 Surveys manually removed from selection: 0

TRIP RATE for Land Use 01 - RETAIL/I - SHOPPING CENTRE - LOCAL SHOPS
OGVS
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00	0	0	0.000	0	0	0.000	0	0	0.000
01:00 - 02:00	0	0	0.000	0	0	0.000	0	0	0.000
02:00 - 03:00	0	0	0.000	0	0	0.000	0	0	0.000
03:00 - 04:00	0	0	0.000	0	0	0.000	0	0	0.000
04:00 - 05:00	0	0	0.000	0	0	0.000	0	0	0.000
05:00 - 06:00	0	0	0.000	0	0	0.000	0	0	0.000
06:00 - 07:00	0	0	0.000	0	0	0.000	0	0	0.000
07:00 - 08:00	15	869	0.123	15	869	0.084	15	869	0.207
08:00 - 09:00	15	869	0.100	15	869	0.107	15	869	0.207
09:00 - 10:00	15	869	0.077	15	869	0.100	15	869	0.177
10:00 - 11:00	15	869	0.107	15	869	0.107	15	869	0.214
11:00 - 12:00	15	869	0.061	15	869	0.054	15	869	0.115
12:00 - 13:00	15	869	0.115	15	869	0.084	15	869	0.199
13:00 - 14:00	15	869	0.038	15	869	0.061	15	869	0.099
14:00 - 15:00	15	869	0.031	15	869	0.031	15	869	0.062
15:00 - 16:00	15	869	0.031	15	869	0.038	15	869	0.069
16:00 - 17:00	15	869	0.046	15	869	0.038	15	869	0.084
17:00 - 18:00	15	869	0.023	15	869	0.046	15	869	0.069
18:00 - 19:00	15	869	0.038	15	869	0.023	15	869	0.061
19:00 - 20:00	14	889	0.016	14	889	0.008	14	889	0.024
20:00 - 21:00	10	862	0.000	10	862	0.000	10	862	0.000
21:00 - 22:00	2	673	0.000	2	673	0.000	2	673	0.000
22:00 - 23:00	0	0	0.000	0	0	0.000	0	0	0.000
23:00 - 24:00	0	0	0.000	0	0	0.000	0	0	0.000
Total Rates:			0.806				0.781	1.587	

Parameter summary

Trip rate parameter range selected: 210 - 1890 (units: sqm)
Survey date date range: 01/01/02 - 26/04/10
Number of weekdays (Monday-Friday): 15
Number of Saturdays: 0
Number of Sundays: 0
Surveys manually removed from selection: 0

TRIP RATE for Land Use 01 - RETAIL/I - SHOPPING CENTRE - LOCAL SHOPS

PSVS

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00	0	0	0.000	0	0	0.000	0	0	0.000
01:00 - 02:00	0	0	0.000	0	0	0.000	0	0	0.000
02:00 - 03:00	0	0	0.000	0	0	0.000	0	0	0.000
03:00 - 04:00	0	0	0.000	0	0	0.000	0	0	0.000
04:00 - 05:00	0	0	0.000	0	0	0.000	0	0	0.000
05:00 - 06:00	0	0	0.000	0	0	0.000	0	0	0.000
06:00 - 07:00	0	0	0.000	0	0	0.000	0	0	0.000
07:00 - 08:00	15	869	0.023	15	869	0.023	15	869	0.046
08:00 - 09:00	15	869	0.008	15	869	0.000	15	869	0.008
09:00 - 10:00	15	869	0.000	15	869	0.000	15	869	0.000
10:00 - 11:00	15	869	0.015	15	869	0.015	15	869	0.030
11:00 - 12:00	15	869	0.000	15	869	0.000	15	869	0.000
12:00 - 13:00	15	869	0.015	15	869	0.008	15	869	0.023
13:00 - 14:00	15	869	0.000	15	869	0.015	15	869	0.015
14:00 - 15:00	15	869	0.000	15	869	0.000	15	869	0.000
15:00 - 16:00	15	869	0.023	15	869	0.023	15	869	0.046
16:00 - 17:00	15	869	0.000	15	869	0.000	15	869	0.000
17:00 - 18:00	15	869	0.000	15	869	0.000	15	869	0.000
18:00 - 19:00	15	869	0.000	15	869	0.000	15	869	0.000
19:00 - 20:00	14	889	0.000	14	889	0.000	14	889	0.000
20:00 - 21:00	10	862	0.000	10	862	0.000	10	862	0.000
21:00 - 22:00	2	673	0.000	2	673	0.000	2	673	0.000
22:00 - 23:00	0	0	0.000	0	0	0.000	0	0	0.000
23:00 - 24:00	0	0	0.000	0	0	0.000	0	0	0.000
Total Rates:			0.084			0.084			0.168

Parameter summary

Trip rate parameter range selected: 210 - 1890 (units: sqm)
 Survey date date range: 01/01/02 - 26/04/10
 Number of weekdays (Monday-Friday): 15
 Number of Saturdays: 0
 Number of Sundays: 0
 Surveys manually removed from selection: 0

CYCLISTS

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00	0	0	0.000	0	0	0.000	0	0	0.000
01:00 - 02:00	0	0	0.000	0	0	0.000	0	0	0.000
02:00 - 03:00	0	0	0.000	0	0	0.000	0	0	0.000
03:00 - 04:00	0	0	0.000	0	0	0.000	0	0	0.000
04:00 - 05:00	0	0	0.000	0	0	0.000	0	0	0.000
05:00 - 06:00	0	0	0.000	0	0	0.000	0	0	0.000
06:00 - 07:00	0	0	0.000	0	0	0.000	0	0	0.000
07:00 - 08:00	15	869	0.199	15	869	0.176	15	869	0.375
08:00 - 09:00	15	869	0.153	15	869	0.115	15	869	0.268
09:00 - 10:00	15	869	0.107	15	869	0.100	15	869	0.207
10:00 - 11:00	15	869	0.092	15	869	0.069	15	869	0.161
11:00 - 12:00	15	869	0.092	15	869	0.107	15	869	0.199
12:00 - 13:00	15	869	0.069	15	869	0.069	15	869	0.138
13:00 - 14:00	15	869	0.100	15	869	0.100	15	869	0.200
14:00 - 15:00	15	869	0.115	15	869	0.107	15	869	0.222
15:00 - 16:00	15	869	0.146	15	869	0.138	15	869	0.284
16:00 - 17:00	15	869	0.307	15	869	0.245	15	869	0.552
17:00 - 18:00	15	869	0.138	15	869	0.169	15	869	0.307
18:00 - 19:00	15	869	0.161	15	869	0.199	15	869	0.360
19:00 - 20:00	14	889	0.048	14	889	0.064	14	889	0.112
20:00 - 21:00	10	862	0.012	10	862	0.023	10	862	0.035
21:00 - 22:00	2	673	0.000	2	673	0.000	2	673	0.000
22:00 - 23:00	0	0	0.000	0	0	0.000	0	0	0.000
23:00 - 24:00	0	0	0.000	0	0	0.000	0	0	0.000
Total Rates:			1.739			1.681			3.420

Parameter summary

Trip rate parameter range selected:

210 - 1890 (units: sqm)

Survey date date range:

01/01/02 - 26/04/10

Number of weekdays (Monday-Friday):

15

Number of Saturdays:

0

Number of Sundays:

0

Surveys manually removed from selection:

0

TRIP RATE CALCULATION SELECTION PARAMETERS:

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

Selected regions and areas:

02	SOUTH EAST	
	HC HAMPSHIRE	1 days
03	SOUTH WEST	
	DC DORSET	1 days
05	EAST MIDLANDS	
	NR NORTHAMPTONSHIRE	1 days
06	WEST MIDLANDS	
	WM WEST MIDLANDS	1 days
07	YORKSHIRE & NORTH LINCOLNSHIRE	
	SY SOUTH YORKSHIRE	1 days

Filtering Stage 2 selection:

Parameter: Gross floor area
Range: 220 to 498 (units: sqm)

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/02 to 25/11/08

Selected survey days:

Tuesday	2 days
Thursday	3 days

Selected survey types:

Manual count	5 days
Directional ATC Count	0 days

Selected Locations:

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

Selected Location Sub Categories:

Industrial Zone	1
Commercial Zone	1
Out of Town	1
No Sub Category	2

LIST OF SITES relevant to selection parameters

1	DC-06-D-01	MCDONALDS, CHRISTCHURCH	DORSET
	SOMERFORD ROAD		
	SOMERFORD		
	CHRISTCHURCH		
	Neighbourhood Centre (PPS6 Local Centre)		
	Industrial Zone		
	Total Gross floor area:	498 sqm	
2	HC-06-D-01	MCDONALDS, NEAR ROMSEY	HAMPSHIRE
	ROMSEY ROAD		
	OWER		
	NEAR ROMSEY		
	Free Standing (PPS6 Out of Town)		
	Out of Town		
	Total Gross floor area:	279 sqm	
3	NR-06-D-01	MCDONALDS, NORTHAMPTON	NORTHAMPTONSHIRE
	MARQUEE DRIVE		
	NORTHAMPTON		
	Edge of Town		
	Commercial Zone		
	Total Gross floor area:	220 sqm	
4	SY-06-D-01	KFC, BARNSELEY	SOUTH YORKSHIRE
	WAKEFIELD ROAD		
	BARNSELEY		
	Suburban Area (PPS6 Out of Centre)		
	No Sub Category		
	Total Gross floor area:	360 sqm	
5	WM-06-D-01	BURGER KING, BIRMINGHAM	WEST MIDLANDS
	KINGSBURY ROAD		
	ERDINGTON		
	BIRMINGHAM		
	Suburban Area (PPS6 Out of Centre)		
	No Sub Category		
	Total Gross floor area:	250 sqm	

TRIP RATE for Land Use 06 - HOTEL, FOOD & DRINK/D - FAST FOOD - DRIVE THROUGH
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	0	0	0.000	0	0	0.000	0	0	0.000
01:00 - 02:00	0	0	0.000	0	0	0.000	0	0	0.000
02:00 - 03:00	0	0	0.000	0	0	0.000	0	0	0.000
03:00 - 04:00	0	0	0.000	0	0	0.000	0	0	0.000
04:00 - 05:00	0	0	0.000	0	0	0.000	0	0	0.000
05:00 - 06:00	0	0	0.000	0	0	0.000	0	0	0.000
06:00 - 07:00	0	0	0.000	0	0	0.000	0	0	0.000
07:00 - 08:00	3	332	7.021	3	332	6.219	3	332	13.240
08:00 - 09:00	3	332	12.036	3	332	10.532	3	332	22.568
09:00 - 10:00	4	312	10.746	4	312	10.425	4	312	21.171
10:00 - 11:00	4	312	10.104	4	312	10.104	4	312	20.208
11:00 - 12:00	5	321	8.650	5	321	6.970	5	321	15.620
12:00 - 13:00	5	321	18.295	5	321	16.677	5	321	34.972
13:00 - 14:00	5	321	15.744	5	321	16.428	5	321	32.172
14:00 - 15:00	5	321	7.592	5	321	10.330	5	321	17.922
15:00 - 16:00	5	321	11.823	5	321	8.836	5	321	20.659
16:00 - 17:00	5	321	12.757	5	321	12.134	5	321	24.891
17:00 - 18:00	5	321	15.246	5	321	14.188	5	321	29.434
18:00 - 19:00	5	321	16.615	5	321	18.108	5	321	34.723
19:00 - 20:00	4	332	12.801	4	332	14.985	4	332	27.786
20:00 - 21:00	4	332	10.693	4	332	11.596	4	332	22.289
21:00 - 22:00	4	332	5.798	4	332	6.702	4	332	12.500
22:00 - 23:00	2	290	3.793	2	290	4.310	2	290	8.103
23:00 - 24:00	0	0	0.000	0	0	0.000	0	0	0.000
Total Rates:			179.714			178.544			358.258

Parameter summary

Trip rate parameter range selected: 220 - 498 (units: sqm)
 Survey date date range: 01/01/02 - 25/11/08
 Number of weekdays (Monday-Friday): 5
 Number of Saturdays: 0
 Number of Sundays: 0
 Surveys manually removed from selection: 0

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

Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00	0	0	0.000	0	0	0.000	0	0	0.000
01:00 - 02:00	0	0	0.000	0	0	0.000	0	0	0.000
02:00 - 03:00	0	0	0.000	0	0	0.000	0	0	0.000
03:00 - 04:00	0	0	0.000	0	0	0.000	0	0	0.000
04:00 - 05:00	0	0	0.000	0	0	0.000	0	0	0.000
05:00 - 06:00	0	0	0.000	0	0	0.000	0	0	0.000
06:00 - 07:00	0	0	0.000	0	0	0.000	0	0	0.000
07:00 - 08:00	3	332	0.000	3	332	0.000	3	332	0.000
08:00 - 09:00	3	332	0.000	3	332	0.000	3	332	0.000
09:00 - 10:00	4	312	0.080	4	312	0.080	4	312	0.160
10:00 - 11:00	4	312	0.000	4	312	0.000	4	312	0.000
11:00 - 12:00	5	321	0.062	5	321	0.000	5	321	0.062
12:00 - 13:00	5	321	0.249	5	321	0.249	5	321	0.498
13:00 - 14:00	5	321	0.187	5	321	0.124	5	321	0.311
14:00 - 15:00	5	321	0.000	5	321	0.124	5	321	0.124
15:00 - 16:00	5	321	0.124	5	321	0.124	5	321	0.248
16:00 - 17:00	5	321	0.187	5	321	0.124	5	321	0.311
17:00 - 18:00	5	321	0.000	5	321	0.062	5	321	0.062
18:00 - 19:00	5	321	0.000	5	321	0.000	5	321	0.000
19:00 - 20:00	4	332	0.000	4	332	0.000	4	332	0.000
20:00 - 21:00	4	332	0.000	4	332	0.000	4	332	0.000
21:00 - 22:00	4	332	0.000	4	332	0.000	4	332	0.000
22:00 - 23:00	2	290	0.000	2	290	0.000	2	290	0.000
23:00 - 24:00	0	0	0.000	0	0	0.000	0	0	0.000
Total Rates:			0.889			0.887			1.776

Parameter summary

Trip rate parameter range selected: 220 - 498 (units: sqm)
Survey date date range: 01/01/02 - 25/11/08
Number of weekdays (Monday-Friday): 5
Number of Saturdays: 0
Number of Sundays: 0
Surveys manually removed from selection: 0

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

Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00	0	0	0.000	0	0	0.000	0	0	0.000
01:00 - 02:00	0	0	0.000	0	0	0.000	0	0	0.000
02:00 - 03:00	0	0	0.000	0	0	0.000	0	0	0.000
03:00 - 04:00	0	0	0.000	0	0	0.000	0	0	0.000
04:00 - 05:00	0	0	0.000	0	0	0.000	0	0	0.000
05:00 - 06:00	0	0	0.000	0	0	0.000	0	0	0.000
06:00 - 07:00	0	0	0.000	0	0	0.000	0	0	0.000
07:00 - 08:00	3	332	0.000	3	332	0.000	3	332	0.000
08:00 - 09:00	3	332	0.000	3	332	0.000	3	332	0.000
09:00 - 10:00	4	312	0.000	4	312	0.000	4	312	0.000
10:00 - 11:00	4	312	0.000	4	312	0.000	4	312	0.000
11:00 - 12:00	5	321	0.062	5	321	0.062	5	321	0.124
12:00 - 13:00	5	321	0.000	5	321	0.000	5	321	0.000
13:00 - 14:00	5	321	0.000	5	321	0.000	5	321	0.000
14:00 - 15:00	5	321	0.062	5	321	0.062	5	321	0.124
15:00 - 16:00	5	321	0.062	5	321	0.062	5	321	0.124
16:00 - 17:00	5	321	0.000	5	321	0.000	5	321	0.000
17:00 - 18:00	5	321	0.062	5	321	0.062	5	321	0.124
18:00 - 19:00	5	321	0.000	5	321	0.000	5	321	0.000
19:00 - 20:00	4	332	0.000	4	332	0.000	4	332	0.000
20:00 - 21:00	4	332	0.000	4	332	0.000	4	332	0.000
21:00 - 22:00	4	332	0.000	4	332	0.000	4	332	0.000
22:00 - 23:00	2	290	0.000	2	290	0.000	2	290	0.000
23:00 - 24:00	0	0	0.000	0	0	0.000	0	0	0.000
Total Rates:			0.248				0.248	0.496	

Parameter summary

Trip rate parameter range selected:	220 - 498 (units: sqm)
Survey date date range:	01/01/02 - 25/11/08
Number of weekdays (Monday-Friday):	5
Number of Saturdays:	0
Number of Sundays:	0
Surveys manually removed from selection:	0

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

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

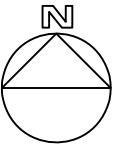
Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00	0	0	0.000	0	0	0.000	0	0	0.000
01:00 - 02:00	0	0	0.000	0	0	0.000	0	0	0.000
02:00 - 03:00	0	0	0.000	0	0	0.000	0	0	0.000
03:00 - 04:00	0	0	0.000	0	0	0.000	0	0	0.000
04:00 - 05:00	0	0	0.000	0	0	0.000	0	0	0.000
05:00 - 06:00	0	0	0.000	0	0	0.000	0	0	0.000
06:00 - 07:00	0	0	0.000	0	0	0.000	0	0	0.000
07:00 - 08:00	3	332	0.100	3	332	0.100	3	332	0.200
08:00 - 09:00	3	332	0.502	3	332	0.401	3	332	0.903
09:00 - 10:00	4	312	0.080	4	312	0.080	4	312	0.160
10:00 - 11:00	4	312	0.000	4	312	0.000	4	312	0.000
11:00 - 12:00	5	321	0.000	5	321	0.062	5	321	0.062
12:00 - 13:00	5	321	0.062	5	321	0.062	5	321	0.124
13:00 - 14:00	5	321	0.062	5	321	0.062	5	321	0.124
14:00 - 15:00	5	321	0.000	5	321	0.000	5	321	0.000
15:00 - 16:00	5	321	0.124	5	321	0.062	5	321	0.186
16:00 - 17:00	5	321	0.187	5	321	0.187	5	321	0.374
17:00 - 18:00	5	321	0.498	5	321	0.436	5	321	0.934
18:00 - 19:00	5	321	0.311	5	321	0.249	5	321	0.560
19:00 - 20:00	4	332	0.000	4	332	0.075	4	332	0.075
20:00 - 21:00	4	332	0.075	4	332	0.151	4	332	0.226
21:00 - 22:00	4	332	0.075	4	332	0.075	4	332	0.150
22:00 - 23:00	2	290	0.000	2	290	0.000	2	290	0.000
23:00 - 24:00	0	0	0.000	0	0	0.000	0	0	0.000
Total Rates:			2.076				2.002	4.078	

Parameter summary

Trip rate parameter range selected: 220 - 498 (units: sqm)
Survey date date range: 01/01/02 - 25/11/08
Number of weekdays (Monday-Friday): 5
Number of Saturdays: 0
Number of Sundays: 0
Surveys manually removed from selection: 0

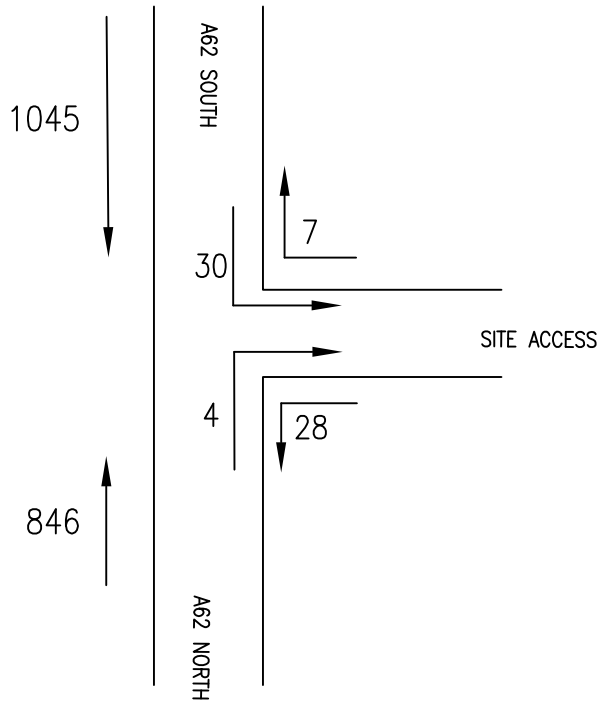
Appendix G

Traffic Flows

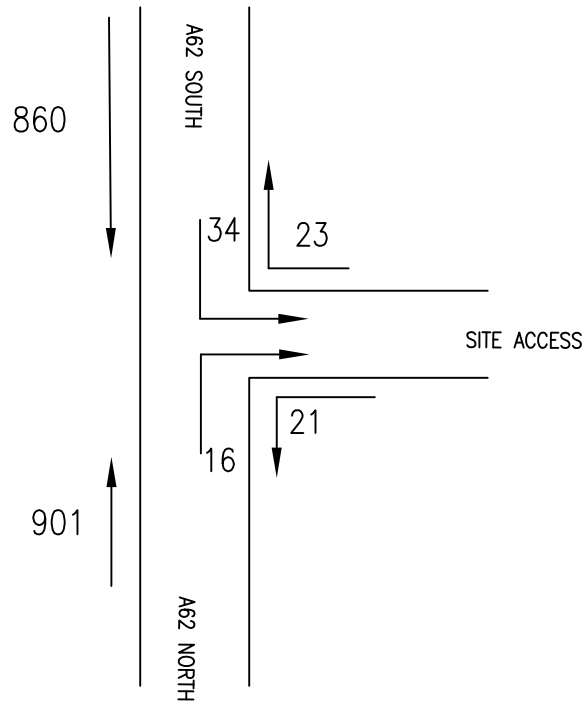


EXISTING FLOWS

AM PEAK

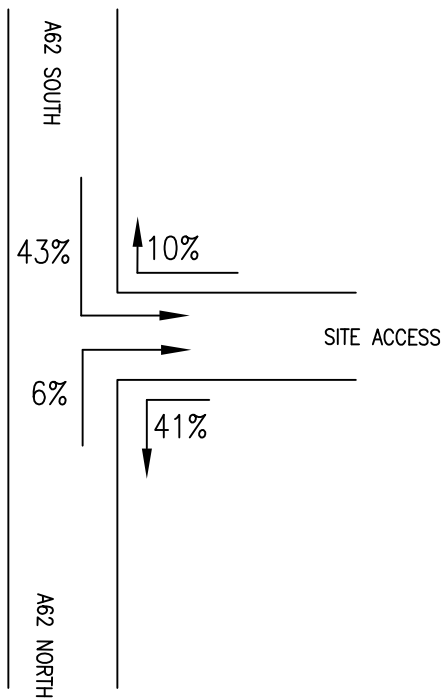


PM PEAK

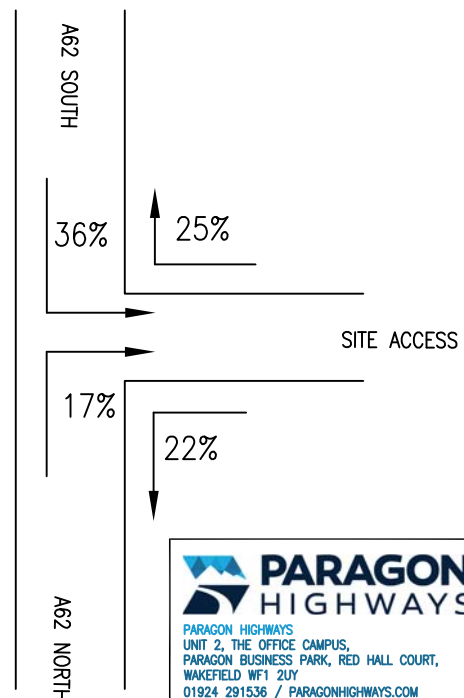


EXISTING % FLOWS

AM PEAK



PM PEAK

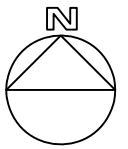


 PARAGON HIGHWAYS PARAGON HIGHWAYS UNIT 2, THE OFFICE CAMPUS, PARAGON BUSINESS PARK, RED HALL COURT, WAKEFIELD WF1 2UY 01924 291536 / PARAGONHIGHWAYS.COM	JOB 1197	DWG 01	REV
	SCALE: DATE:	1:250 JAN 2017	©A4

GENERAL NOTES:

- EXISTING TRAFFIC VOLUMES TAKEN FROM CLASSIFIED JUNCTION SURVEY DATED 17th JANUARY 2017

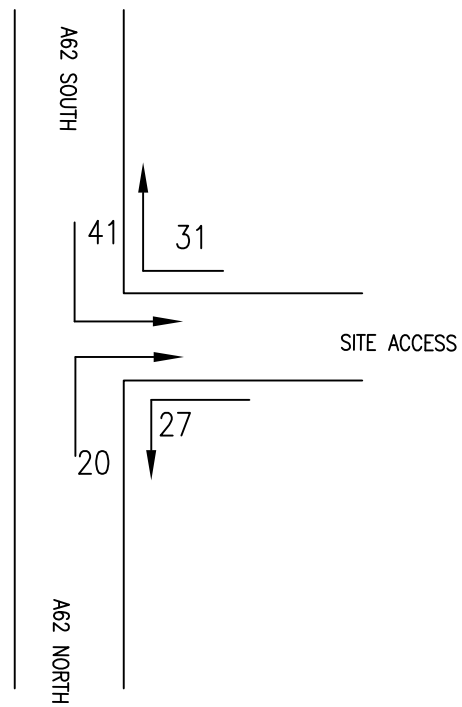
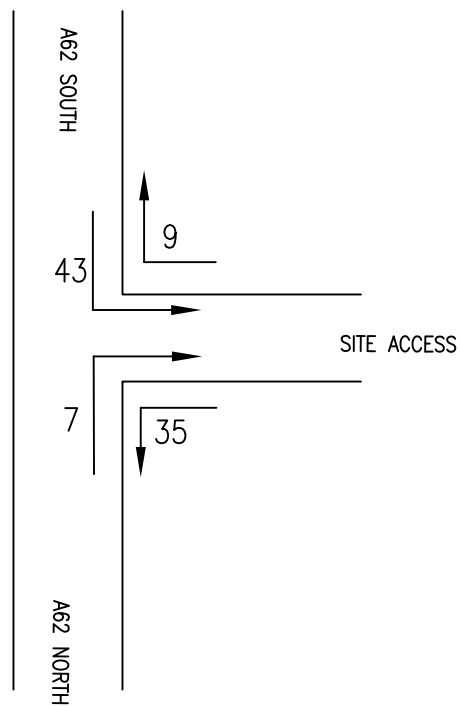
FOUNTAIN COURT, ROBERTTOWN
EXISTING TRAFFIC FLOWS



PROPOSED FLOWS
(DEVELOPMENT TRAFFIC)

AM PEAK

PM PEAK



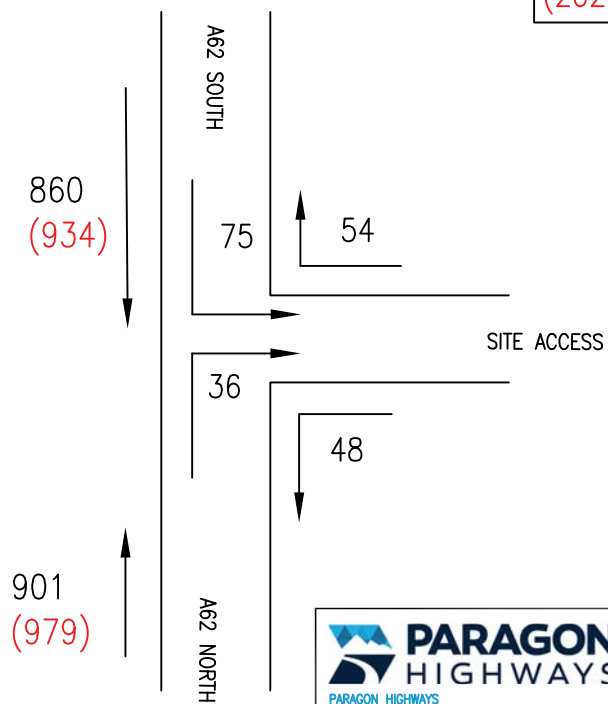
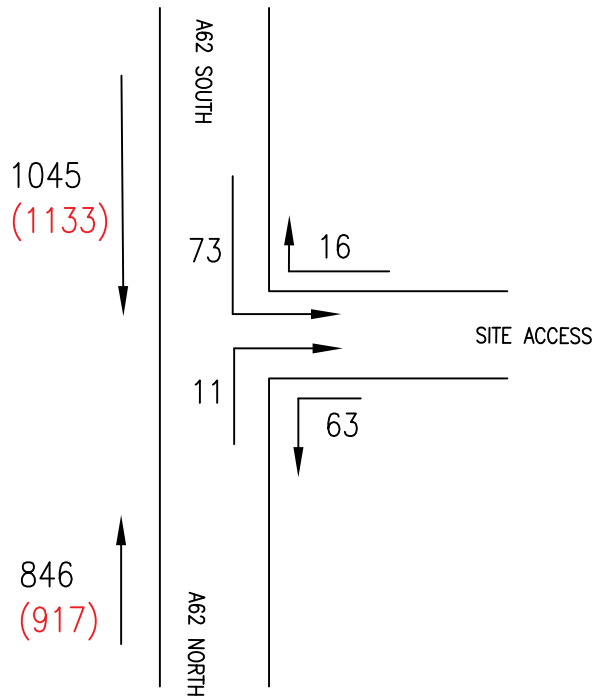
PROPOSED FLOWS
(DEVELOPMENT AND EXISTING TRAFFIC COMBINED)

AM PEAK

PM PEAK

KEY

2017
(2022)



PARAGON HIGHWAYS		JOB	DWG	REV
PARAGON HIGHWAYS UNIT 2, THE OFFICE CAMPUS, PARAGON BUSINESS PARK, RED HALL COURT, WAKEFIELD WF1 2UY 01924 291536 / PARAGONHIGHWAYS.COM		1197	02	
SCALE:		1:250 @A4		
DATE:		JAN 2017		

GENERAL NOTES:

- EXISTING TRAFFIC VOLUMES TAKEN FROM CLASSIFIED JUNCTION SURVEY DATED 17th JANUARY 2017

FOUNTAIN COURT, ROBERTTOWN
PROPOSED TRAFFIC FLOWS

Appendix H

PICADY Output

Junctions 9				
PICADY 9 - Priority Intersection Module				
Version: 9.0.1.4646 [] © Copyright TRL Limited, 2017				
For sales and distribution information, program advice and maintenance, contact TRL: Tel: +44 (0)1344 770758 email: software@trl.co.uk Web: http://www.trlsoftware.co.uk				
The users of this computer program for the solution of an engineering problem are in no way relieved of their responsibility for the correctness of the solution				

Filename: Scenario 4 with junction improvement A3 and A1.j9
Path: \\PAH-SERVER\Paragon\Projects\Fountain Works, Roberttown
Report generation date: 26/01/2017 15:28:32

»2022, AM
 »2022, PM

Summary of junction performance

	AM				PM			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
2022								
Stream B-C	0.2	13.04	0.19	B	0.2	11.71	0.14	B
Stream B-A	0.2	38.69	0.15	E	0.7	44.85	0.40	E
Stream C-B	0.0	11.25	0.03	B	0.1	10.65	0.10	B

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

File summary

File Description

Title	A3 A1 Use Final Scheme
Location	Fountain Court Roberttown
Site number	1197
Date	26/01/2017
Version	Final Scheme
Status	
Identifier	
Client	MWA
Jobnumber	1197
Enumerator	LEIGH-PAHLEIGH
Description	PICADY for A3 A1 use with site access alteration

Units

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

Analysis Options

Calculate Queue Percentiles	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
		0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2022	AM	ONE HOUR	08:00	09:30	15
D2	2022	PM	ONE HOUR	17:00	18:30	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

2022, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	0.71	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	untitled		Major
B	untitled		Minor
C	untitled		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Width for right turn (m)	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C	9.20		✓	2.60	90.0		-

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

Minor Arm Geometry

Arm	Minor arm type	Lane Width (Left) (m)	Lane Width (Right) (m)	Visibility to left (m)	Visibility to right (m)
B	Two lanes	3.42	3.00	44	40

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	512	0.080	0.203	0.128	0.290
1	B-C	676	0.089	0.226	-	-
1	C-B	653	0.218	0.218	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

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

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2022	AM	ONE HOUR	08:00	09:30	15

Default vehicle mix	Vehicle mix source	PCU Factor for a HV (PCU)
✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	1206	100.000
B		✓	79	100.000
C		✓	928	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
		A	B	C
	From A	0	73	1133
	From B	16	0	63
	From C	917	11	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A	B	C
	From A	10	10	10
	From B	10	10	10
	From C	10	10	10

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
B-C	0.19	13.04	0.2	B
B-A	0.15	38.69	0.2	E
C-A				
C-B	0.03	11.25	0.0	B
A-B				
A-C				

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	47	473	0.100	47	0.1	9.281	A
B-A	12	244	0.049	12	0.1	17.055	C
C-A	690			690			
C-B	8	456	0.018	8	0.0	8.852	A
A-B	55			55			
A-C	853			853			

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	57	432	0.131	56	0.2	10.530	B
B-A	14	192	0.075	14	0.1	22.289	C
C-A	824			824			
C-B	10	417	0.024	10	0.0	9.724	A
A-B	66			66			
A-C	1019			1019			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	69	373	0.186	69	0.2	13.000	B
B-A	18	120	0.147	17	0.2	38.422	E
C-A	1010			1010			
C-B	12	364	0.033	12	0.0	11.250	B
A-B	80			80			
A-C	1247			1247			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	69	373	0.186	69	0.2	13.041	B
B-A	18	120	0.147	18	0.2	38.687	E
C-A	1010			1010			
C-B	12	364	0.033	12	0.0	11.252	B
A-B	80			80			
A-C	1247			1247			

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	57	432	0.131	57	0.2	10.566	B
B-A	14	192	0.075	15	0.1	22.414	C
C-A	824			824			
C-B	10	417	0.024	10	0.0	9.728	A
A-B	66			66			
A-C	1019			1019			

09:15 - 09:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	47	473	0.100	48	0.1	9.314	A
B-A	12	244	0.049	12	0.1	17.110	C
C-A	690			690			
C-B	8	456	0.018	8	0.0	8.857	A
A-B	55			55			
A-C	853			853			

2022, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	1.58	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D2	2022	PM	ONE HOUR	17:00	18:30	15

Default vehicle mix	Vehicle mix source	PCU Factor for a HV (PCU)
✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	1009	100.000
B		✓	102	100.000
C		✓	1015	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
		A	B	C
From	A	0	75	934
	B	54	0	48
	C	979	36	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A	B	C
From	A	10	10	10
	B	10	10	10
	C	10	10	10

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
B-C	0.14	11.71	0.2	B
B-A	0.40	44.85	0.7	E
C-A				
C-B	0.10	10.65	0.1	B
A-B				
A-C				

Main Results for each time segment

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	36	493	0.073	36	0.1	8.657	A
B-A	41	263	0.155	40	0.2	17.716	C
C-A	737			737			
C-B	27	488	0.056	27	0.1	8.586	A
A-B	56			56			
A-C	703			703			

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	43	453	0.095	43	0.1	9.651	A
B-A	49	214	0.227	48	0.3	23.764	C
C-A	880			880			
C-B	32	456	0.071	32	0.1	9.353	A
A-B	67			67			
A-C	840			840			

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	53	392	0.135	53	0.2	11.659	B
B-A	59	147	0.403	58	0.7	43.546	E
C-A	1078			1078			
C-B	40	411	0.096	40	0.1	10.648	B
A-B	83			83			
A-C	1028			1028			

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	53	391	0.135	53	0.2	11.712	B
B-A	59	147	0.403	59	0.7	44.848	E
C-A	1078			1078			
C-B	40	411	0.096	40	0.1	10.655	B
A-B	83			83			
A-C	1028			1028			

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	43	452	0.095	43	0.1	9.694	A
B-A	49	214	0.227	50	0.3	24.337	C
C-A	880			880			
C-B	32	456	0.071	32	0.1	9.361	A
A-B	67			67			
A-C	840			840			

18:15 - 18:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	36	492	0.073	36	0.1	8.686	A
B-A	41	263	0.155	41	0.2	17.929	C
C-A	737			737			
C-B	27	488	0.056	27	0.1	8.599	A
A-B	56			56			
A-C	703			703			