Proposed Retail Development
Huddersfield Road. Mirfield
Supplementary Information 2

1. Introduction

1.1 This note provides further additional information in response to the Highways Department's consultation response on the current planning application and should be ready in conjunction with the original Transportation Assessment and the Supplementary Information Pack issued in January 2020.

2. HGV's Using The Maltings

2.1 The proposed access arrangements include a pedestrian refuge island on Huddersfield Road to the east of the site access approximately mid-way between the access and the junction of The Maltings with Huddersfield Road.

2.2 As The Maltings is a residential cul-de-sac the likely HGV use will be from Refuse Collection vehicles or Furniture Delivery / Removal vehicles. The Highway Authority have advised that it is a policy of the authority to use the largest size of refuse vehicles when its fleet is updated, these being 11.85m long. This size of vehicle will be considerably larger than any delivery vehicle.

2.3 The Huddersfield Road / The Maltings junction has therefore been tested using the swept path for an 11.85m Refuse vehicle. As can be seen on drawing No.190203/05 such a vehicle will be able to access The Maltings with the proposed refuge island.

3. Access Arrangements

3.1 The proposed access arrangements have been amended as follows:

i. The carriageway markings which indicate the taper from the existing two-lane carriageway to the two-lane plus right turn lane section on the eastern side of the access has been amended to make the change in alignment less abrupt. The taper will still be at the required 1 in 20 to comply with the standard for Trunk Roads (CD 123).

ii No Waiting at Any Time Restrictions are proposed from the relocated change in Speed Limit position to the west of the site access to the eastern boundary of the site frontage.

3.2 The proposed arrangements are shown on Drawing No.190203/03 Rev A.

3.3 For completeness, swept path plots of the foodstore delivery vehicle using the access are shown on Drawing No.190203/04 Rev A. The plots have not changed as a result of the changes to the access but now include the latest proposed background image.

4. Saturday Assessment.

4.1 The previous Supplementary Information Pack demonstrated that whilst the proposed development may generate slightly more traffic than in the weekday pm peak period, traffic surveys at the Huddersfield Road / Station Road junction in 2013 showed that the Huddersfield Road traffic was significantly less at the busiest time on a Saturday than in the weekday pm peak period. The Highway Authority have requested that this be verified using up to date traffic data.

4.2 The 2013 traffic survey showed that the busiest time on a Saturday was the 12.00 – 13.00. The previous Supplementary Information Pack showed that the proposed development would generate its greatest Saturday traffic flow in the 12.00 – 13.00 period if used for a Discount Food use, or in the 13.00 – 14.00 period if used by a general foodstore operator. The 12.00 – 14.00 period was therefore surveyed.

4.3 The Huddersfield Road junctions with Stocks Bank Road; Doctor Lane; and Station Road / Queen Street were also surveyed. The recorded flows are shown in Figures SI2.1.

4.4 The site access was previously assessed in the weekday evening peak period using AADT data for 2018 from a nearby DoT site. To provide consistency Huddersfield Road adjacent to the development site and its junctions with Stocks Bank Road; Doctor Lane; and Station Road / Queen Street was also surveyed in the 16.00 – 18.00 period. The busiest 60 minute period was found to be 16.30 – 17.30. The results in this period are also shown in Figure SI2.1.

4.5 Previous assessments have used a design year of 2024 being 5 years post the planning application date. To provide a further factor of safety a design year of 2025 has been used in the supplementary assessment. The observed 2020 traffic flows, increased to expected 2025 levels (8.25% Saturday / 7.76% Weekday PM peak hour) are shown in Figure SI2.2.

4.6 The previous Supplementary Information Pack demonstrated that on a Saturday, a Discount Foodstore would be expected to generate 98 arrivals / 112 departures in the 12.00 – 13.00 period on a Saturday. A general foodstore would be expected to generate 112 arrivals / 102 departures in the 13.00 – 14.00 period on a Saturday. It also demonstrated that in the week, the worst case development type (a general foodstore) would be expected to generate 88 arrivals / 87 departures in the 16.30 – 17.30 period.

4.7 The above total entering and exiting flows would consist of traffic that was passing the site in any event as part of an existing non-shopping trip (pass-by trips), vehicles which transfer from trips being made to other foodstores in the area (diverted trips), and in some circumstances true new trips (i.e. trips which would not have been made were it not for the proposed development.

4.8 The pass-by trips have been assumed to be the typical 30% widely used in transportation assessments and in previous calculations for this site.

4.9 The supporting Retail Assessment quantifies the existing stores from where the diverted trips are expected to switch from. This has a classification for "other" unidentified stores. Whilst these are still diverted trips, this category (11% of the proposed development's traffic) has been treated as new trips in the following assessment.

4.10 The Retail Assessment then splits the diverted trips between the existing stores in the area. In some cases the effect would be less than 1% of the proposed store's trips.

4.11 To get figures that would equate to at least 1 vehicle trip the trips from the stores which would have only minimal effect have been distributed between the stores where the effects would be more than 1%.

4.12 This leads to the following trip types

Trip Type	% of Development Trips	
Pass-by		30%
New		11%
Diverted Transferring From:		
Morrison's. Heckmondwike	22.9% out of 59%	13.5%
Lidl. Heckmondwike	5.7% out of 59%	3.4%
Co-op. Mirfield	1.7% out of 59%	1.0%
Local Shops. Mirfield	1.1% out of 59%	0.6%
Lidl. Mirfield	57.1% out of 59%	33.7%
Aldi. Huddersfield	11.4% out of 59%	6.8%
Total		100.0%

4.13 Taking the above total traffic flows from para 4.6, the various trip types would be:

Trip Types	Saturday				Weekday	
	12.00 – 13.00		13.00 – 14.00		16.30 – 17.30	
	Arr.	Dep.	Arr.	Dep.	Arr.	Dep.
Pass-by	29	34	34	31	26	26
New	11	12	12	11	10	10
Diverted Transferring From						
Morrison's. Heckmondwike	13	15	15	14	12	12
Lidl. Heckmondwike	3	4	4	3	3	3
Co-op. Mirfield	1	1	1	1	1	1
Local Shops. Mirfield	1	1	1	1	1	1
Lidl. Mirfield	33	37	37	34	29	28
Aldi. Huddersfield	7	8	8	7	6	6
Total	98	112	112	102	88	88

4.14 The Pass-by trips would divert from the traffic passing the site in proportion to the base flows. This gives the effects shown in Figure SI2.3.

4.15 The trips being treated as "new" trips (albeit they will be transferred trips but from unspecified existing stores) can be assumed to arrive from the surrounding area. Allowing for token flows using Stocks Bank Road and Doctor Lane, the effects would be as shown in Figure SI2.4 (as the total flows would be around 5 to 6 vehicles different assumptions would not lead to any materially different conclusions.

4.16 To define a distribution pattern for the Transferred trips a competing sites gravity model has been used which not only accounts for the population in the catchment area and journey distances/times to the development, but the relative size of the proposed development compared to competing sites and the journey distances / times to those sites.

4.17 As this is a retail scheme the populations have been expressed in numbers of car owning households. The sizes of the competing sites has been based on the turnover of the sites from the retail assessment. Journey distances / times have been derived from the RAC route planner which proposes the most efficient journey in terms of class of road, distance and fuel usage. For the catchment area Medium Super Output Areas at the lowest level in the National Census have been used to give the greatest accuracy.

4.18 The Catchment Area from the Retail Assessment is shown in Figure SI2.5. The input to the model and the distribution pattern after adjusting the retail factor parameters so that the diversions match the retail assessment (patterns based on travel distance proved to give the closest match), based on be zones adopted are shown in Table SI2.1

4.19 The routes from each zone to the proposed store site (within the study area) are shown in Figure SI2.6. The routes to the existing store which pass through the study area are shown in Figure SI2.7.

4.20 The split of trips from Table SI2.1 and the total trips to the proposed store and existing stores from para 4.13 above gives the flows on each route and the total flows per route shown in Table SI2.2 (OSA = routes Outside the Study Area).

4.21 Combining the route flows the effect of the transferred trip to the proposed development are shown in Figure SI2.8. The effects of the transferred trips to the existing stores are shown in Figure SI2.9. The total effects of the development (Pass-by Trips from Figure SI2.3 plus New trips from Figure SI2.4 plus Transferred trips to development from Figure SI2.8 minus Transferred trips to Existing stores from Figure SI2.9) are shown in Figure SI2.10.

4.22 Design traffic flows for 2025 with the development re shown in Figure SI2.11.

4.23 The proposed access has been assessed under the Saturday flows for the worst case hour for the worst case use (12.00 – 13.00 for a Discount Foodstore Use, 13.00 – 14.00 for a

general foodstore use). The results are reproduced in Appendix A and summarised below. For completeness the weekday pm peak period has also been assessed, As can be seen the access would operate with considerable reserve capacity and no queuing issues.

Time	Saturdays				Weekdays	
	12.00 – 13.00		13.00 – 14.00		16.30 – 17.30	
Movement	RFC*	Q	RFC	Q	RFC	Q
Rt Turn Into Access	9%	0.1 veh.	10%	0.1 veh.	9%	0.1 veh.
Lt Turn Out Of Access	11%	0.1 veh.	10%	0.1 veh.	9%	0.1 veh.
Rt Turn Into Access	19%	0.2 veh.	17%	0.2 veh.	19%	0.2 veh,

*RFC = Flow to Capacity Ratio.

5. Remote Effects

5.1 The net effects of the proposed development remote from the site access can be seen in Figure SI2.10.

i. Huddersfield Road / Stocks Bank Road

5.2 The effects of the development would be an increase in turning movements of 36 vehicles in the Saturday 12.00 – 13.00 period; 31 vehicles in the Saturday 13.00 – 14.00 period; and 28 vehicles in the weekday pm peak period.

5.3 The operation of the junction with and without the development at 2025 traffic levels is reproduced in Appendix B and summarised below. As can be seen the junction would operate with no material changes due to the development with considerable reserve capacity and no queuing issues.

Time	Saturdays				Weekdays	
	12.00 – 13.00		13.00 – 14.00		16.30 – 17.30	
Movement	RFC*	Q	RFC	Q	RFC	Q
Rt Turn Into Stocks Bank Road						
Without Development	22%	0.3 veh.	15%	0.2 veh.	38%	0.6 veh.
With Development	25%	0.3 veh.	18%	0.2 veh.	41%	0.7 veh.
Lt/Rt Turn Out Of Stocks Bank Road						
Without Development	18%	0.2 veh.	12%	0.1 veh.	24%	0.3 veh.
With Development	18%	0.2 veh.	14%	0.2 veh.	25%	0.3 veh.

ii. Huddersfield Road / Doctor Lane

5.4 The effects of the development would be an increase in turning movements of 39 vehicles in the Saturday 12.00 – 13.00 period; 36 vehicles in the Saturday 13.00 – 14.00 period; and 28 vehicles in the weekday pm peak period but with a reduction in traffic turning right into Doctor Lane of 8 to 9 vehicles per hour.

5.5 The operation of the junction with and without the development at 2025 traffic levels is reproduced in Appendix C and summarised below. As can be seen the junction would operate with no material overall change and an actual improvement in the right turn into Doctor Lane reserve capacity due to the development. with considerable reserve capacity and no queuing issues.

Time	Saturdays				Weekdays	
	12.00 – 13.00		13.00 – 14.00		16.30 – 17.30	
Movement	RFC*	Q	RFC	Q	RFC	Q
Rt Turn Into Stocks Bank Road						
Without Development	33%	0.5 veh.	29%	0.4 veh.	40%	0.7 veh.
With Development	32%	0.5 veh.	28%	0.4 veh.	38%	0.6 veh.
Lt Turn Out Of Stocks Bank Road						
Without Development	46%	0.9 veh.	50%	1.0 veh.	65%	1.8 veh.
With Development	46%	0.8 veh.	50%	1.0 veh.	67%	2.0 veh.
Rt Turn Out Of Stocks Bank Road						
Without Development	15%	0.2 veh.	15%	0.2 veh.	20%	0.2 veh.
With Development	19%	0.2 veh.	22%	0.3 veh.	34%	0.5 veh.

*RFC = Flow to Capacity Ratio.

iii. Huddersfield Road / Station Road / Queen Street

5.6 As one of the effects of the development will be to draw some of the development's trade from the existing Lidl store, as can be seen from Figure SI2.10, the effects of the development would be an overall reduction in turning movements of 45 vehicles in the Saturday 12.00 – 13.00 period; a reduction of 47 vehicles in the Saturday 13.00 – 14.00 period; and a reduction of 42 vehicles in the weekday pm peak period.

5.7 The operation of the junction with and without the development at 2025 traffic levels has been assessed using the Linsig program. The results are reproduced in Appendix D and summarised below. For this summary overall reserve capacities have calculated for a common cycle time of 100 seconds and assuming the pedestrian green man facility is called every cycle (to give a worse case)..As can be seen, with a reduction in traffic resulting from the development, the junction would operate with in improvement in reserve capacity in each scenario.

Time	Saturdays		Weekdays
	12.00 – 13.00	13.00 – 14.00	16.30 – 17.30
Movement	PRC*	PRC	PRC
Overall Junction Reserve Capacity			
Without Development	43.8%	47.6%	15.4%
With Development	47.8%	53.5%	18.0%

*PRC = Practical Reserve Capacity.

6. Road Safety Audit

6.1 The alterations to the highway which will result from the development occur at the proposed site access onto Huddersfield Road.

6.2 The works involved require no Departures from the standards applicable to Trunk Roads to be accepted (Huddersfield Road is not a Trunk Road) and comply with guidance in the Manual for Streets (original and 2nd issue).

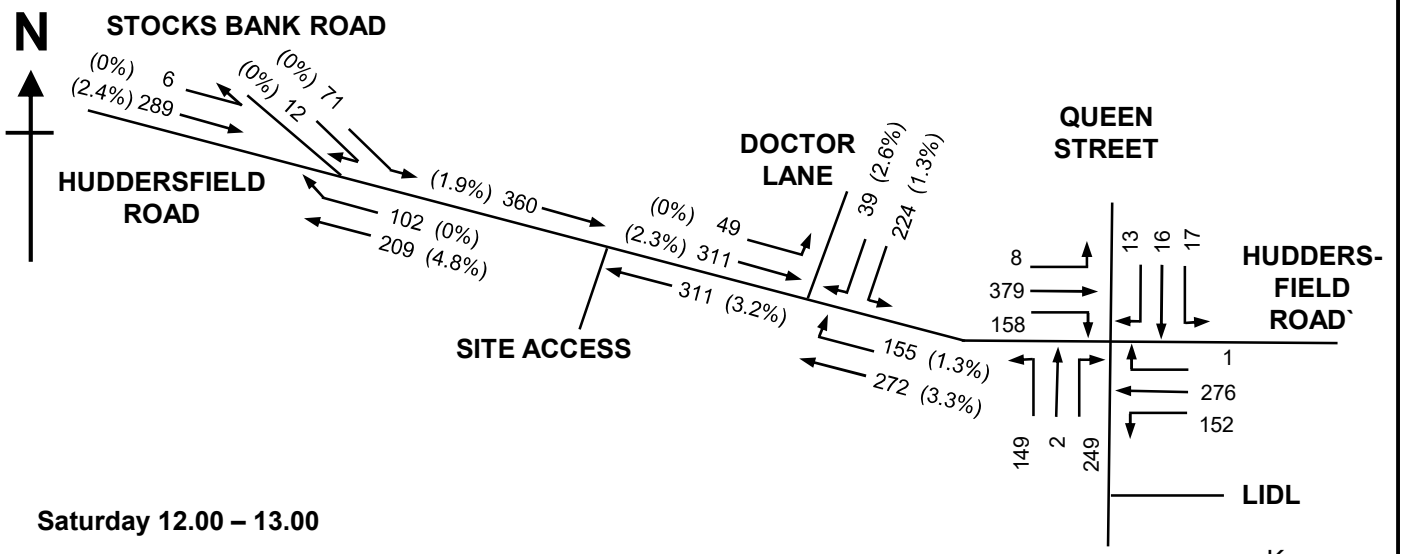
6.3 The highway authority has requested that the works be the subject of an independent Road Safety Audit.

6.4 An audit has been undertaken by TMS Road Safety Audits with auditors accredited with competency to undertake audits on Highways England's Trunk and Motorway network.

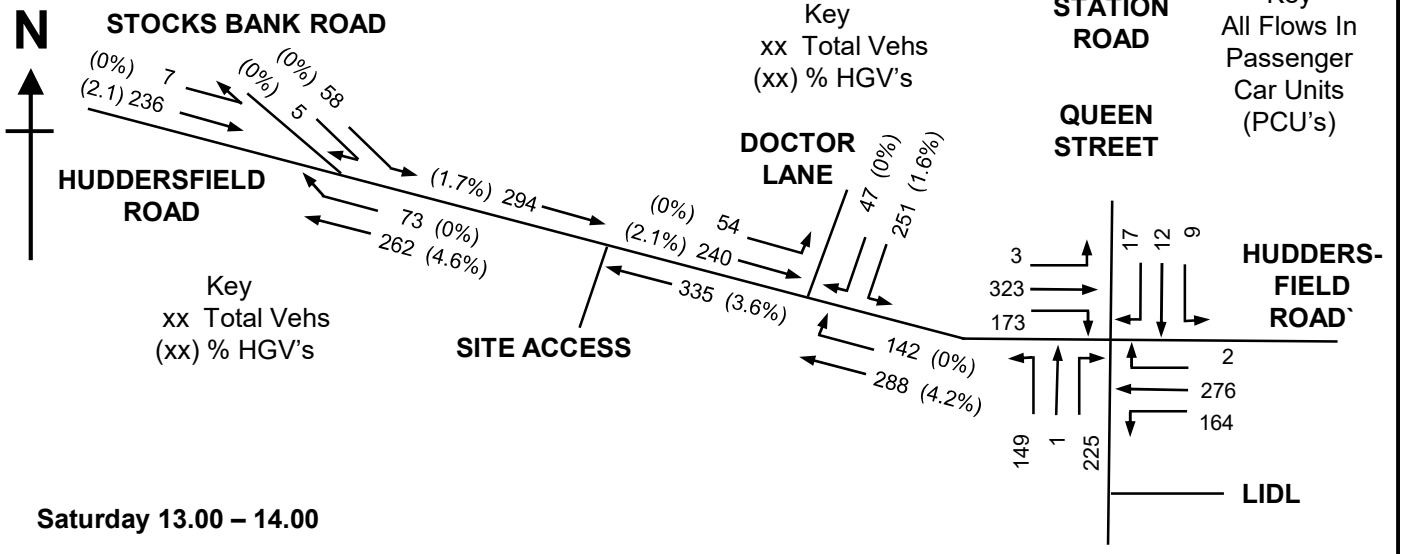
6.5 The Audit is reproduced in Appendix E.

6.6 As no safety issues were identified, there is no need for a Designer's response on suggested / recommended amendments.

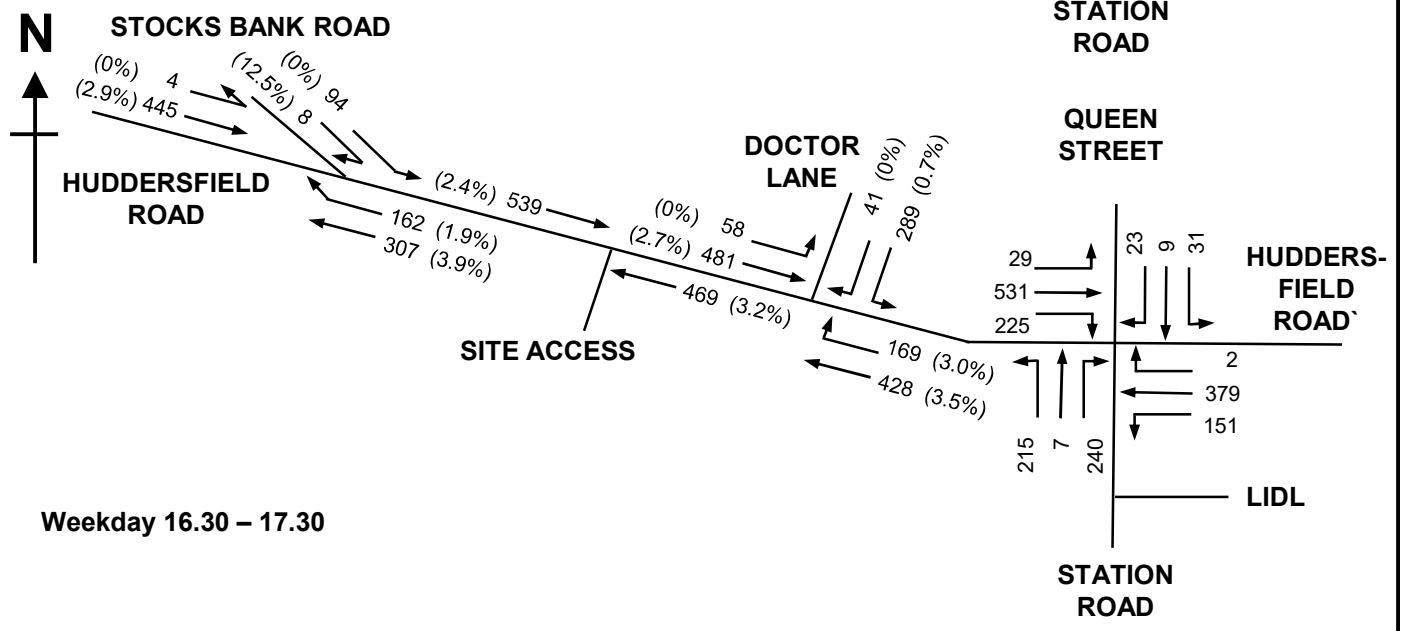
Figures



Saturday 12.00 – 13.00



Saturday 13.00 – 14.00

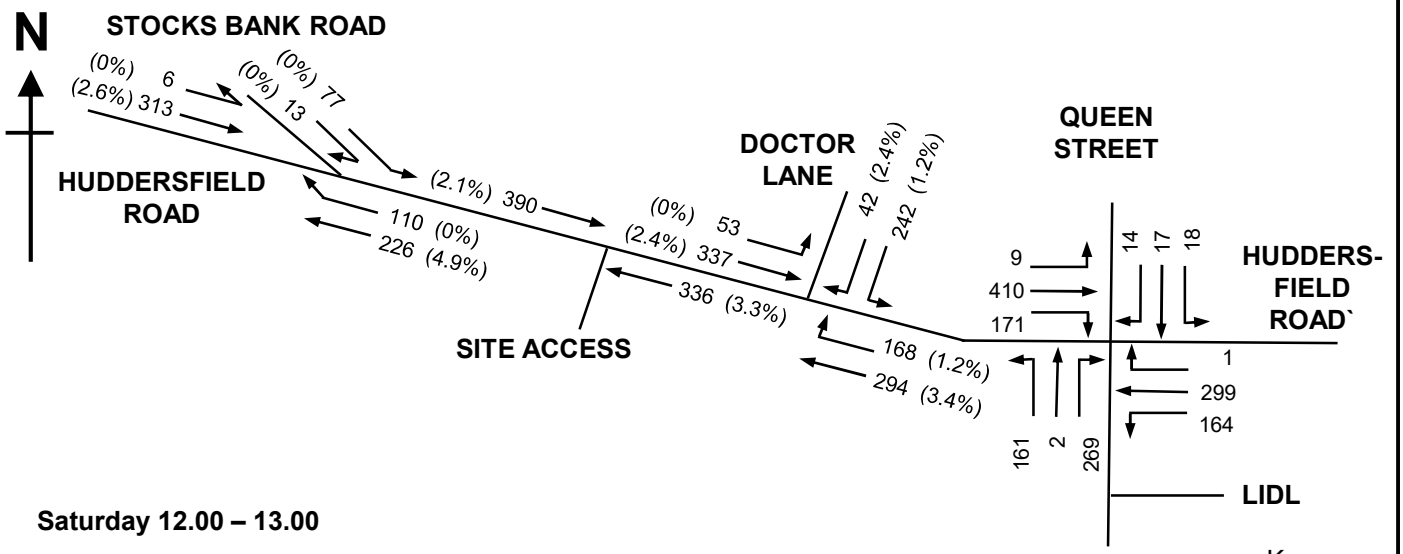


Weekday 16.30 – 17.30

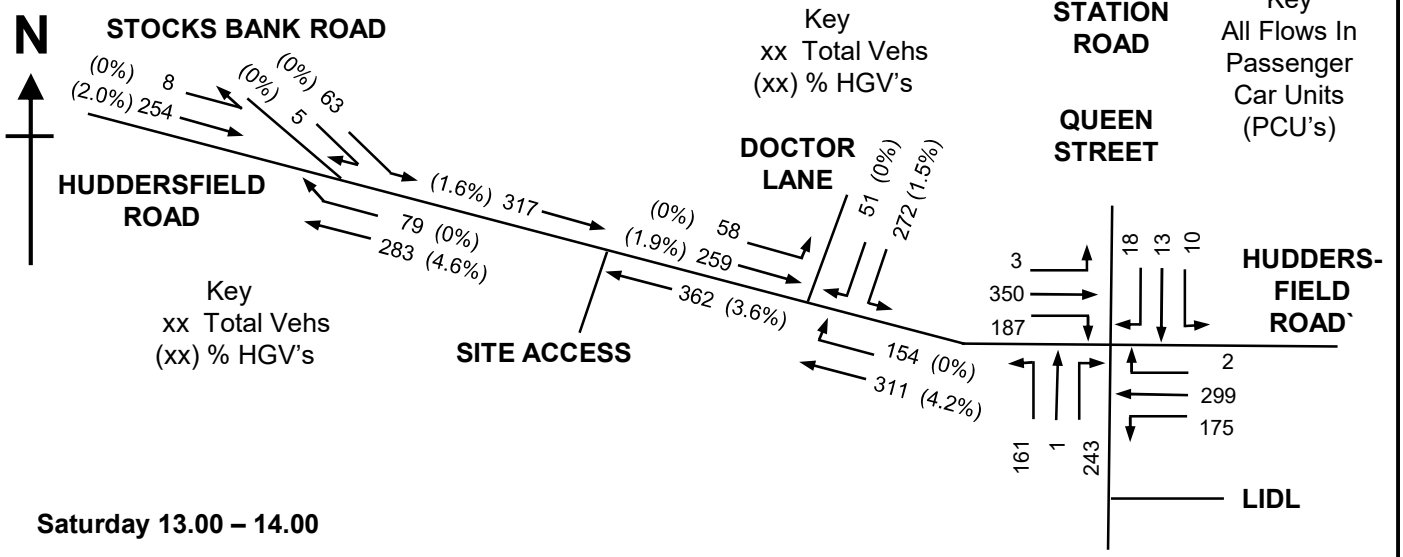
Turner Lowe Associates
22 Guest Road. Manchester. M25 3DL
Tel: 0161 798 7898 Fax: 0161 798 6642
E-mail: turnerlowe@btinternet.com

Job Title	Proposed Development Huddersfield Road. Mirfield
Drawing Title	Base Traffic Flows 2020

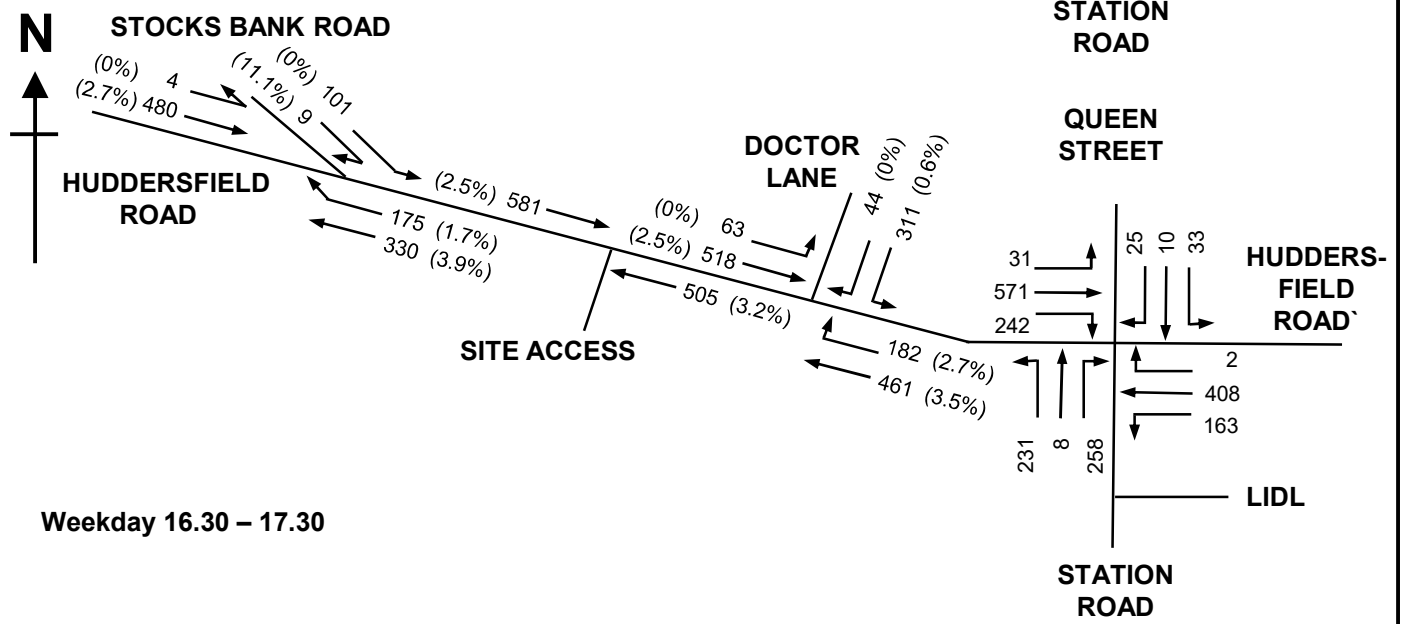
Client	Scale	N.T.S.	Date	Feb 2020	Doc Sheet No.
Morbaine	Drawn By	J.L.	Checked		Approved
	Job No.	190203	Drg. No.	Figure SI2.1	Rev.



Saturday 12.00 – 13.00



Saturday 13.00 – 14.00



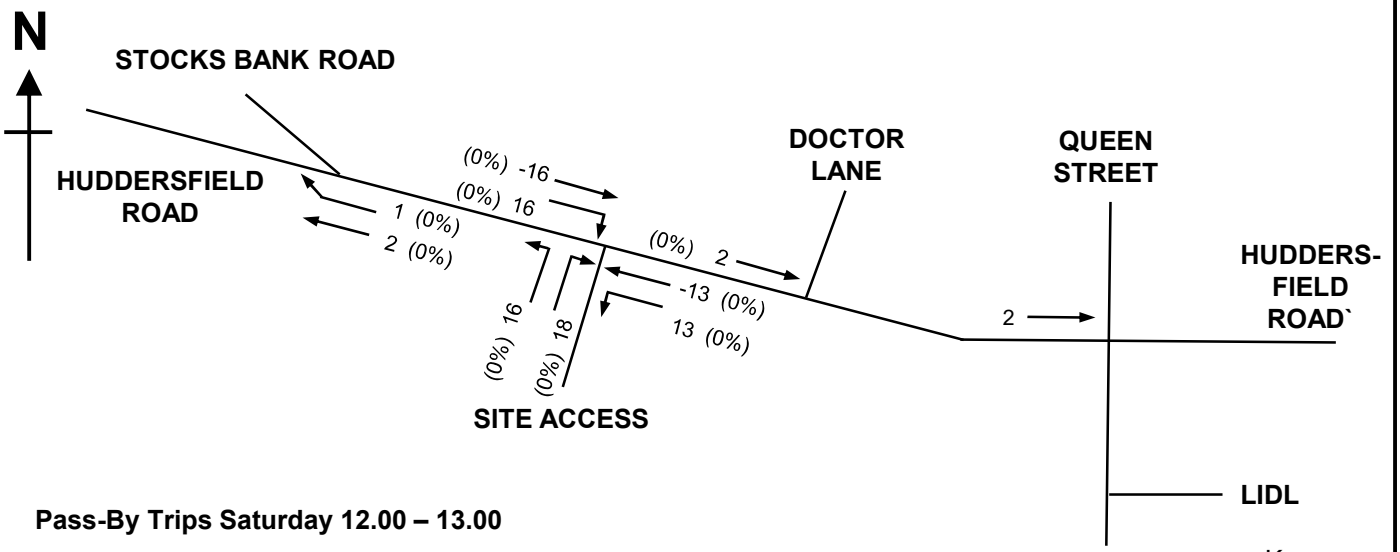
Weekday 16.30 – 17.30

Turner Lowe Associates
22 Guest Road. Manchester. M25 3DL
Tel: 0161 798 7898 Fax: 0161 798 6642
E-mail: turnerlowe@btinternet.com

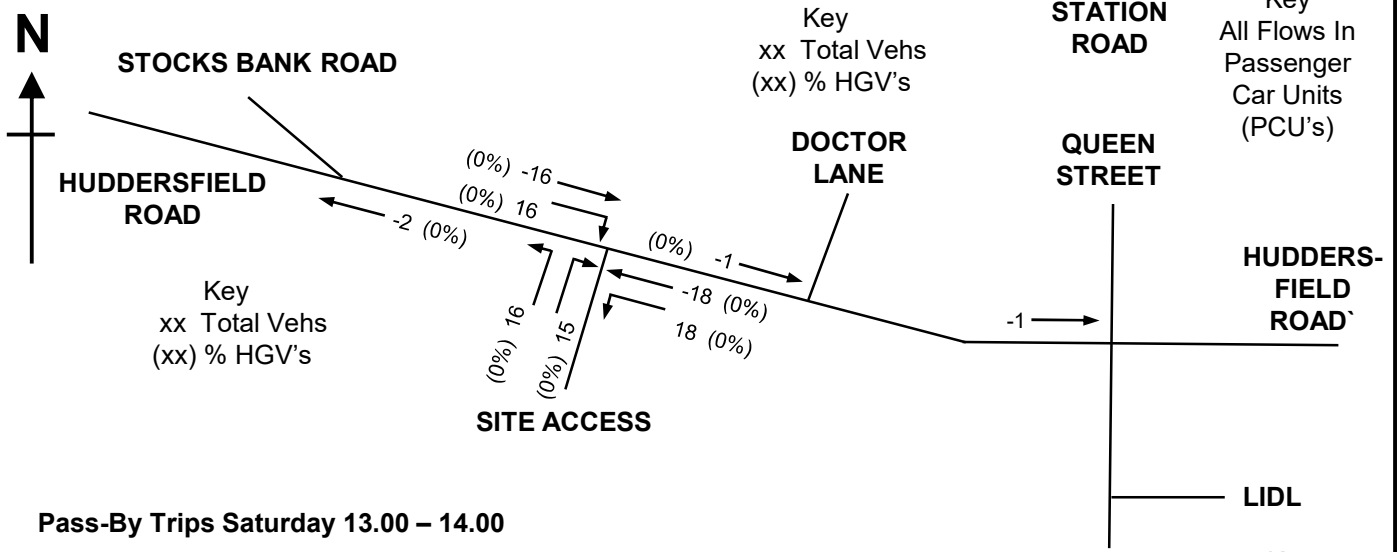
Job Title	Proposed Development Huddersfield Road. Mirfield
Drawing Title	Base Traffic Flows 2025

Client		Scale	N.T.S.	Date	Feb 2020
Morbaine		Drawn By	J.L.	Checked	
		Job No.	190203	Drg. No.	Figure SI2.2

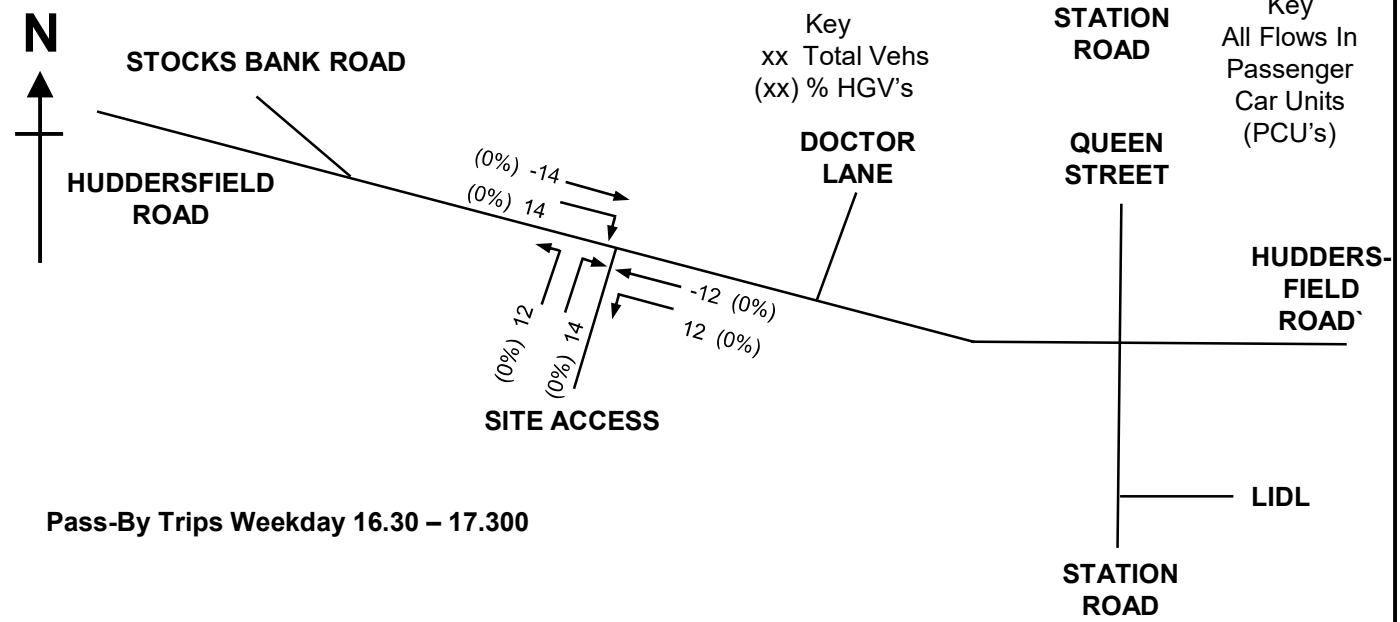
Doc Sheet No. | Approved | Rev.



Pass-By Trips Saturday 12.00 – 13.00



Pass-By Trips Saturday 13.00 – 14.00

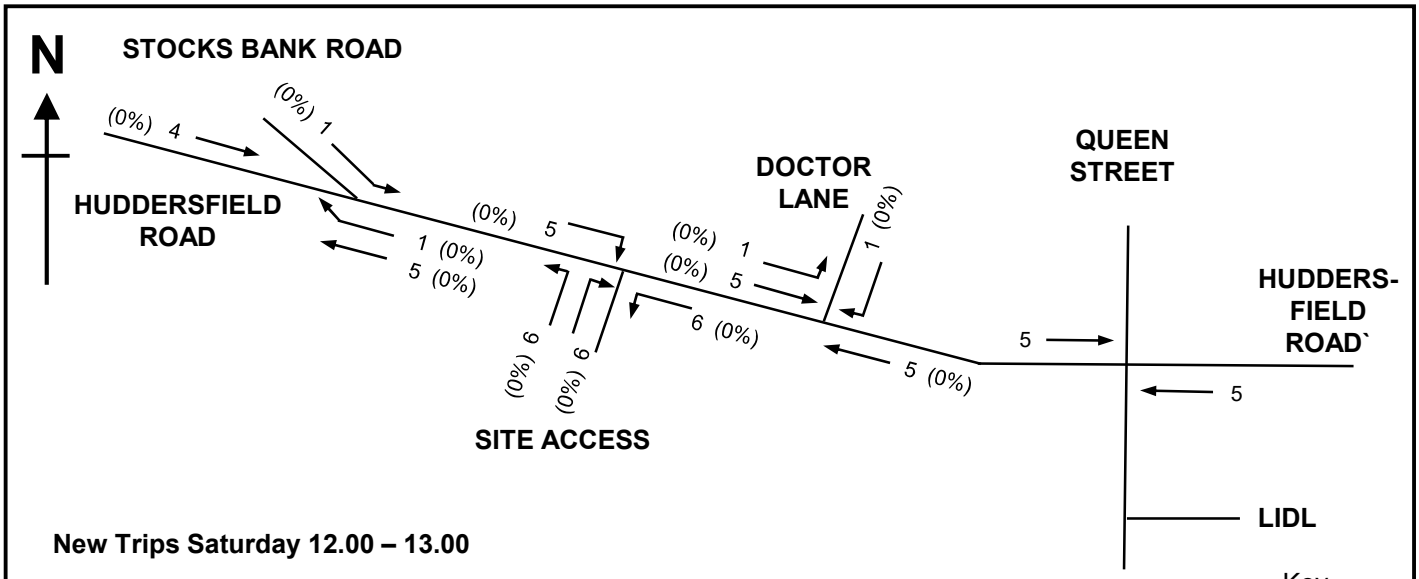


Pass-By Trips Weekday 16.30 – 17.300

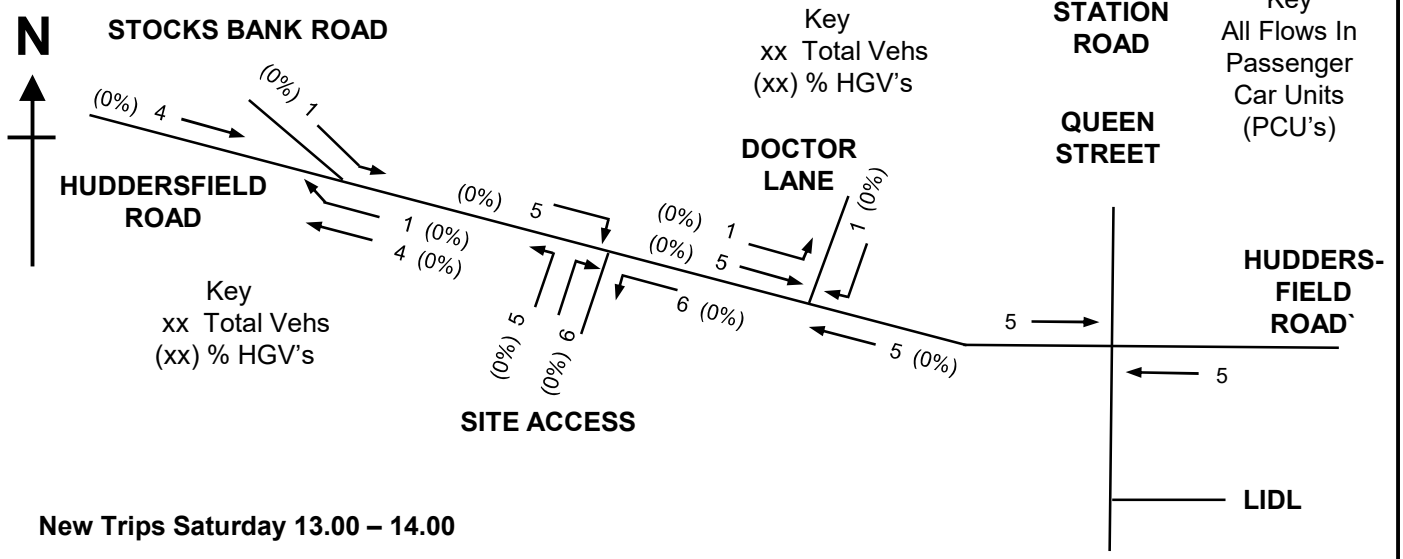
Turner Lowe Associates
22 Guest Road. Manchester. M25 3DL
Tel: 0161 798 7898 Fax: 0161 798 6642
E-mail: turnerlowe@btinternet.com

Job Title	Proposed Development Huddersfield Road. Mirfield
Drawing Title	Pass-By Trips to Development

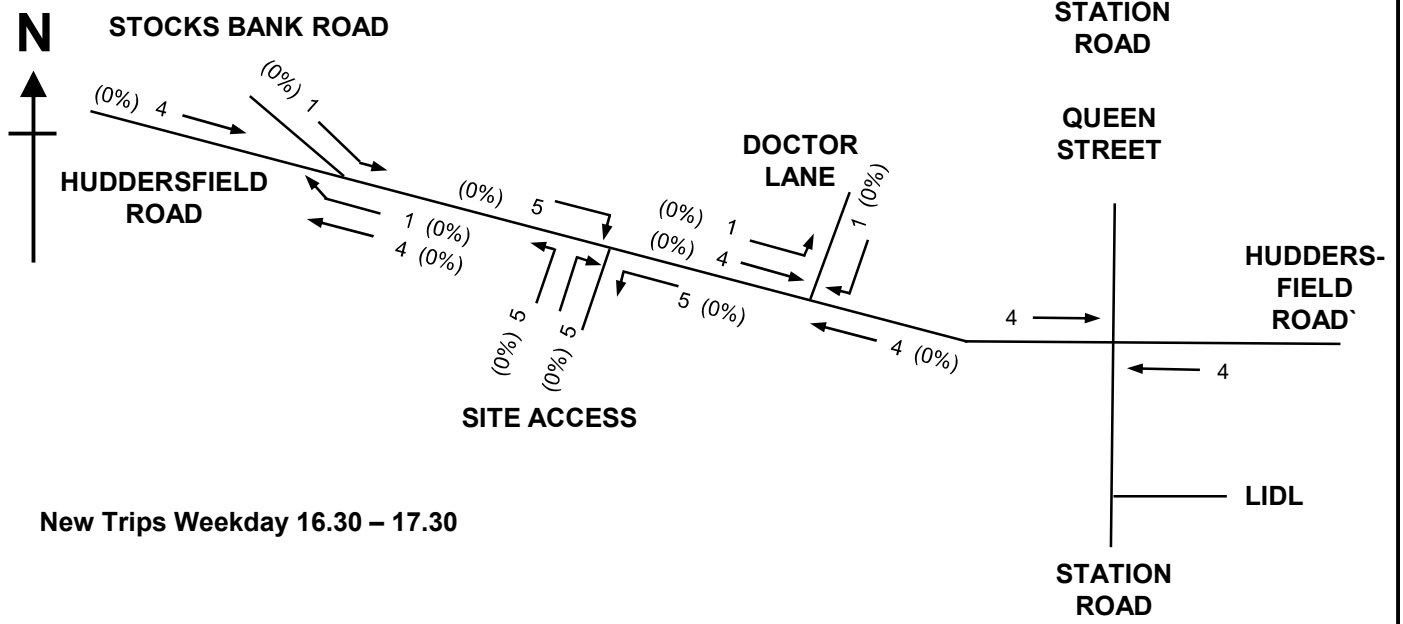
Client	Scale	Date	Doc Sheet No.
Morbaine	N.T.S.	Feb 2020	
	Drawn By J.L.	Checked	Approved
	Job No. 190203	Drg. No. Figure SI2.3	Rev.



New Trips Saturday 12.00 – 13.00



New Trips Saturday 13.00 – 14.00

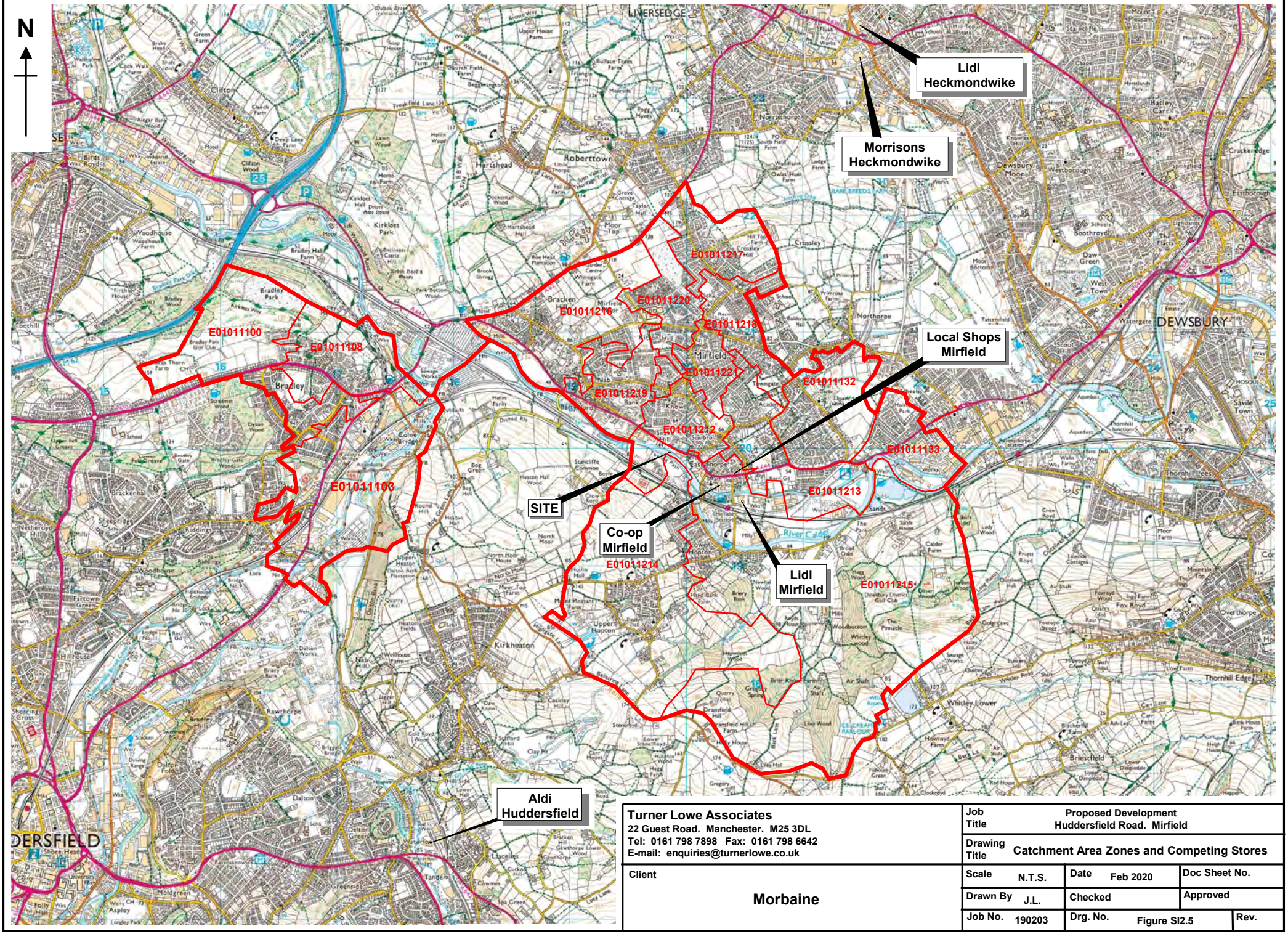


New Trips Weekday 16.30 – 17.30

Turner Lowe Associates
22 Guest Road. Manchester. M25 3DL
Tel: 0161 798 7898 Fax: 0161 798 6642
E-mail: turnerlowe@btinternet.com

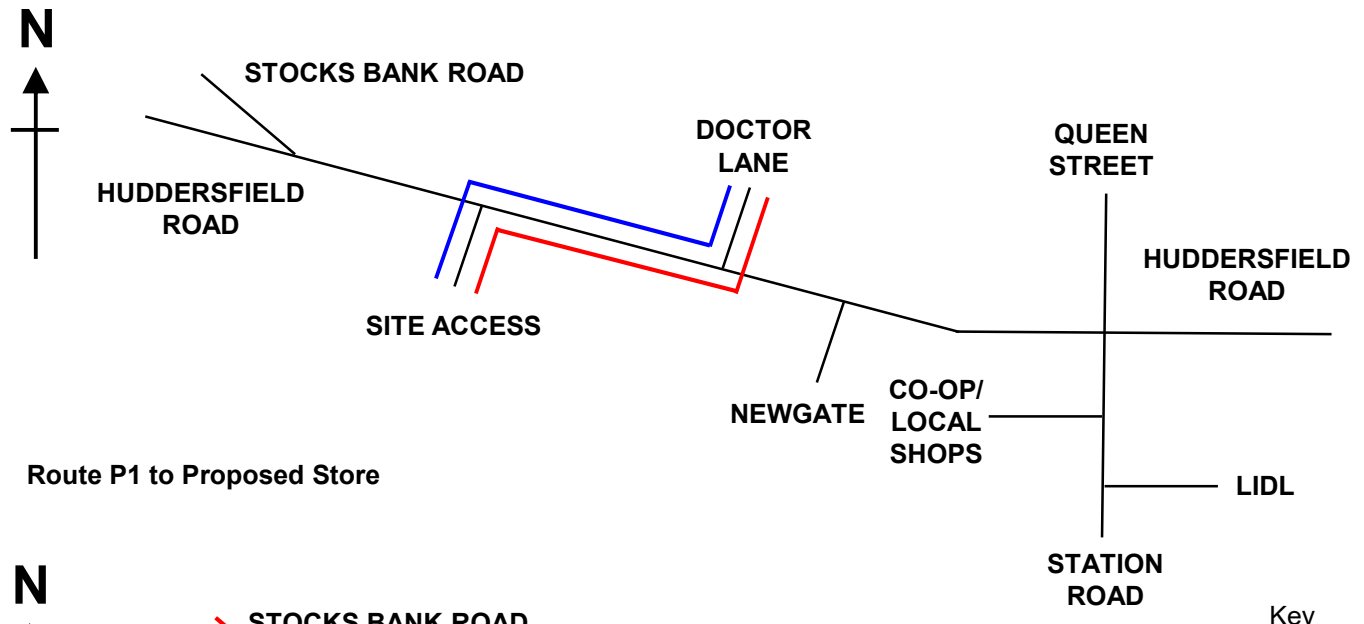
Job Title	Proposed Development Huddersfield Road. Mirfield
Drawing Title	New Trips To Development

Client	Scale	Date	Doc Sheet No.
Morbaine	N.T.S.	Feb 2020	
	Drawn By J.L.	Checked	Approved
	Job No. 190203	Drg. No. Figure SI2.4	Rev.

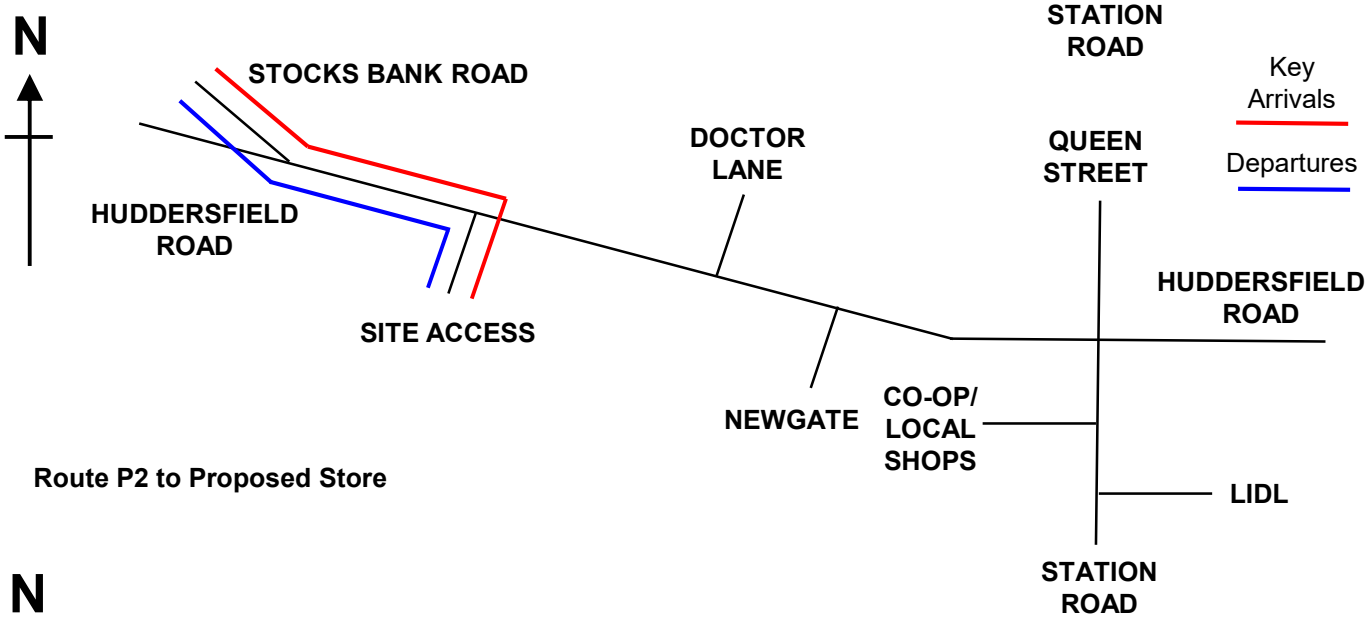


Turner Lowe Associates
22 Guest Road. Manchester. M25 3DL
Tel: 0161 798 7898 Fax: 0161 798 6642
E-mail: enquiries@turnerlowe.co.uk

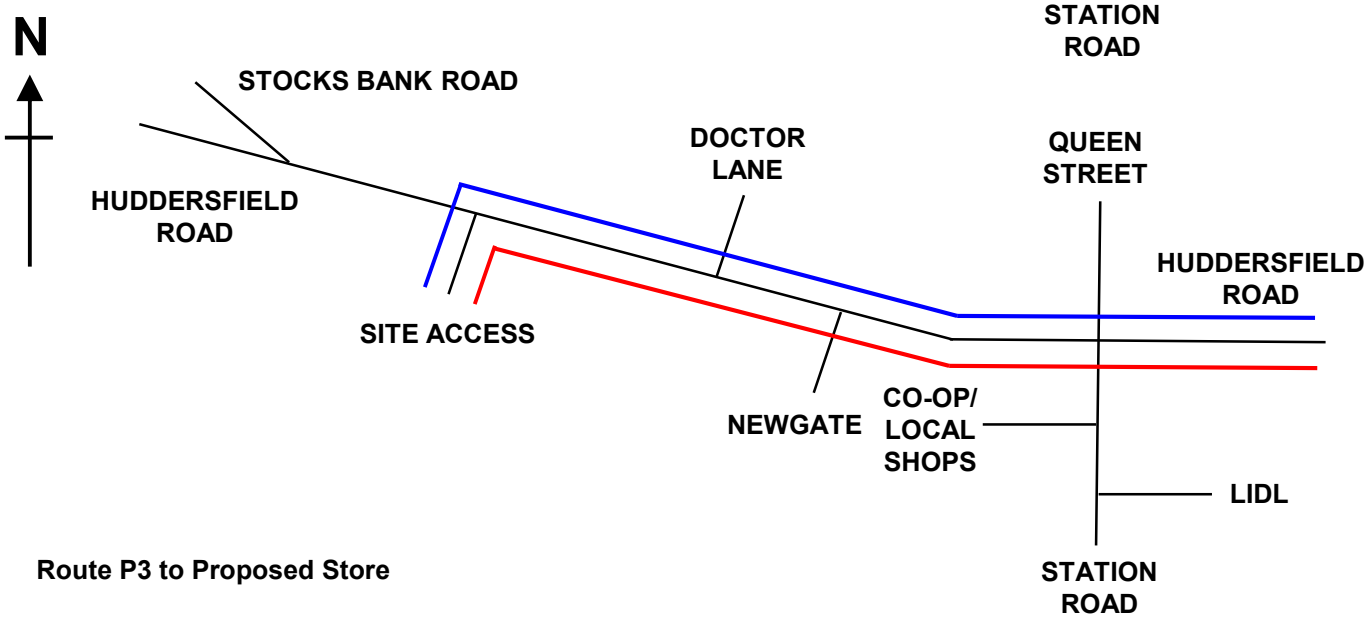
Job Title	Proposed Development Huddersfield Road. Mirfield
Drawing Title	Catchment Area Zones and Competing Stores
Client	Morbaine
Scale	N.T.S.
Date	Feb 2020
Doc Sheet No.	
Drawn By	J.L.
Checked	
Approved	
Job No.	190203
Drg. No.	Figure SI2.5
Rev.	



Route P1 to Proposed Store



Route P2 to Proposed Store



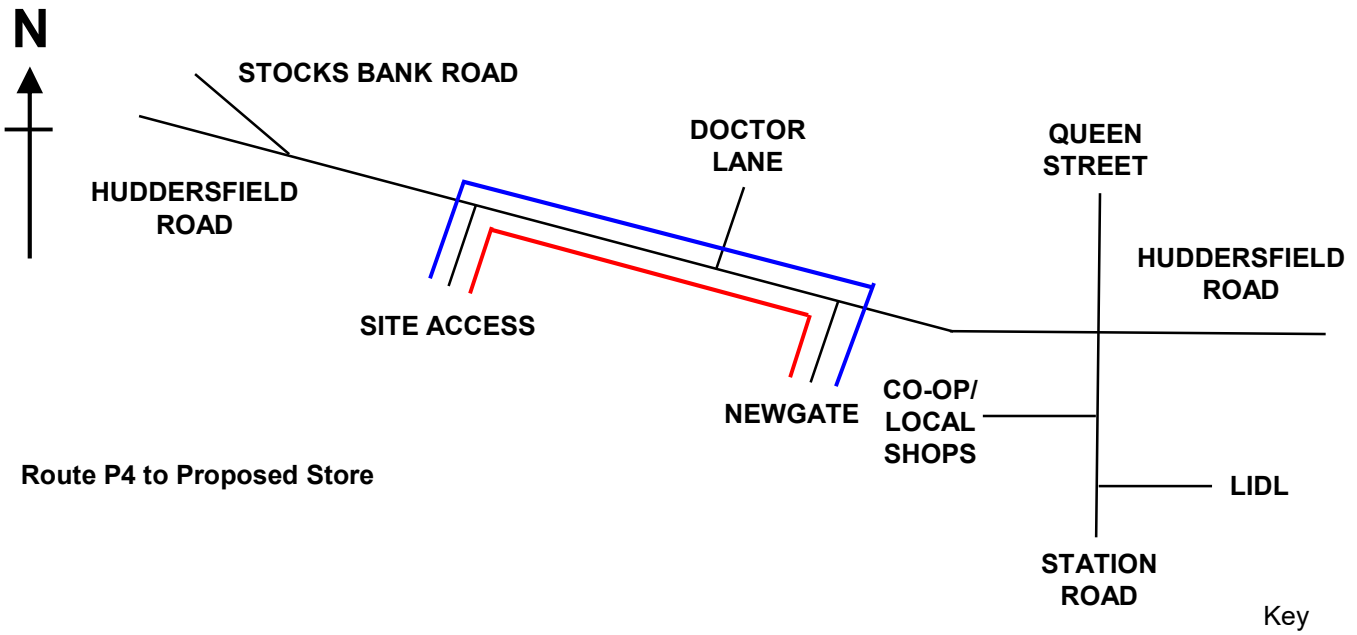
Route P3 to Proposed Store

Turner Lowe Associates
22 Guest Road. Manchester. M25 3DL
Tel: 0161 798 7898 Fax: 0161 798 6642
E-mail: turnerlowe@btinternet.com

Job Title	Proposed Development Huddersfield Road. Mirfield
Drawing Title	Routes to Proposed Store

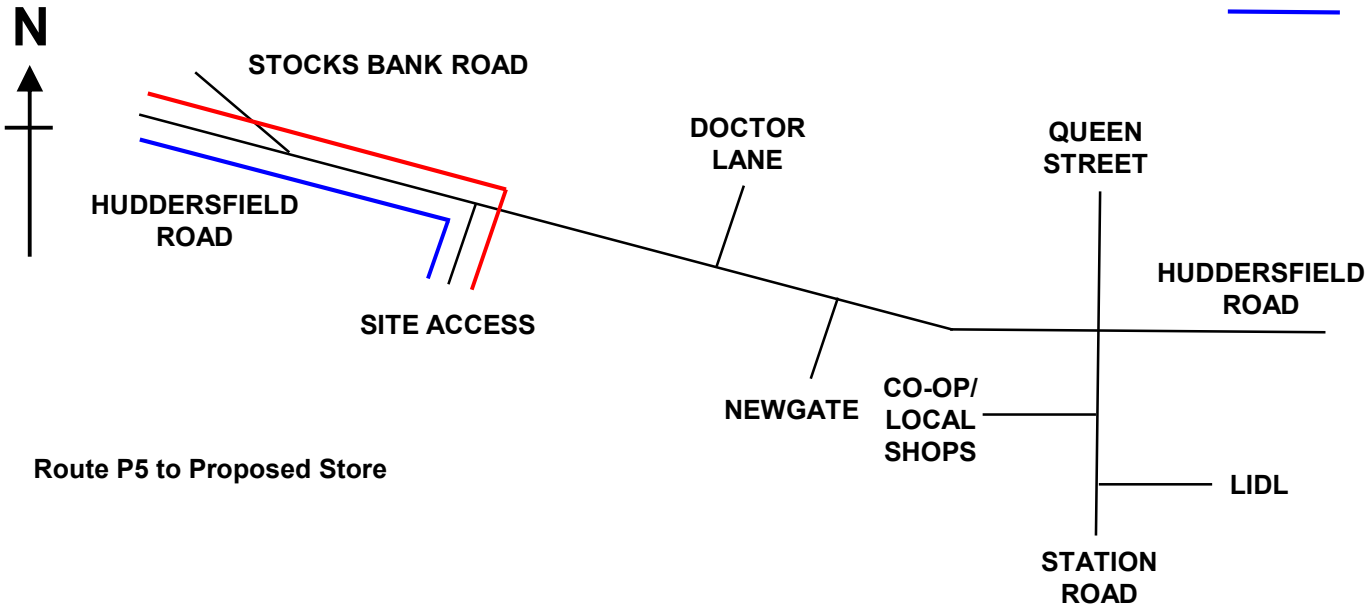
Client: **Morbaine**

Scale	N.T.S.	Date	Feb 2020	Doc Sheet No.	
Drawn By	J.L.	Checked		Approved	
Job No.	190203	Drg. No.	Figure SI2.6 Sheet 1	Rev.	



Route P4 to Proposed Store

Key
Arrivals
Departures



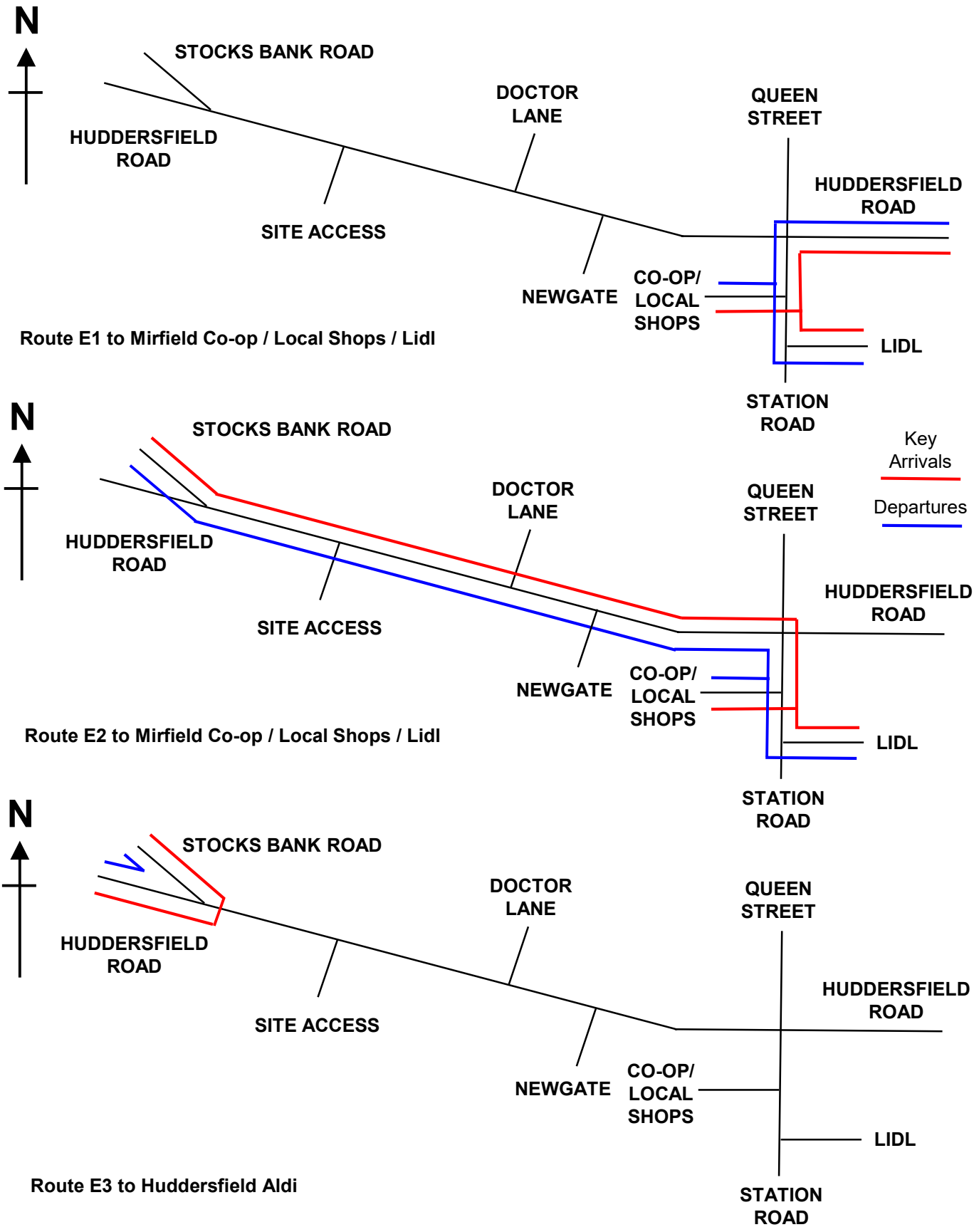
Route P5 to Proposed Store

Turner Lowe Associates
22 Guest Road. Manchester. M25 3DL
Tel: 0161 798 7898 Fax: 0161 798 6642
E-mail: turnerlowe@btinternet.com

Job Title	Proposed Development Huddersfield Road. Mirfield
Drawing Title	Routes to Proposed Store

Client: **Morbaine**

Scale	N.T.S.	Date	Feb 2020	Doc Sheet No.	
Drawn By	J.L.	Checked		Approved	
Job No.	190203	Drg. No.	Figure SI2.6 Sheet 2	Rev.	

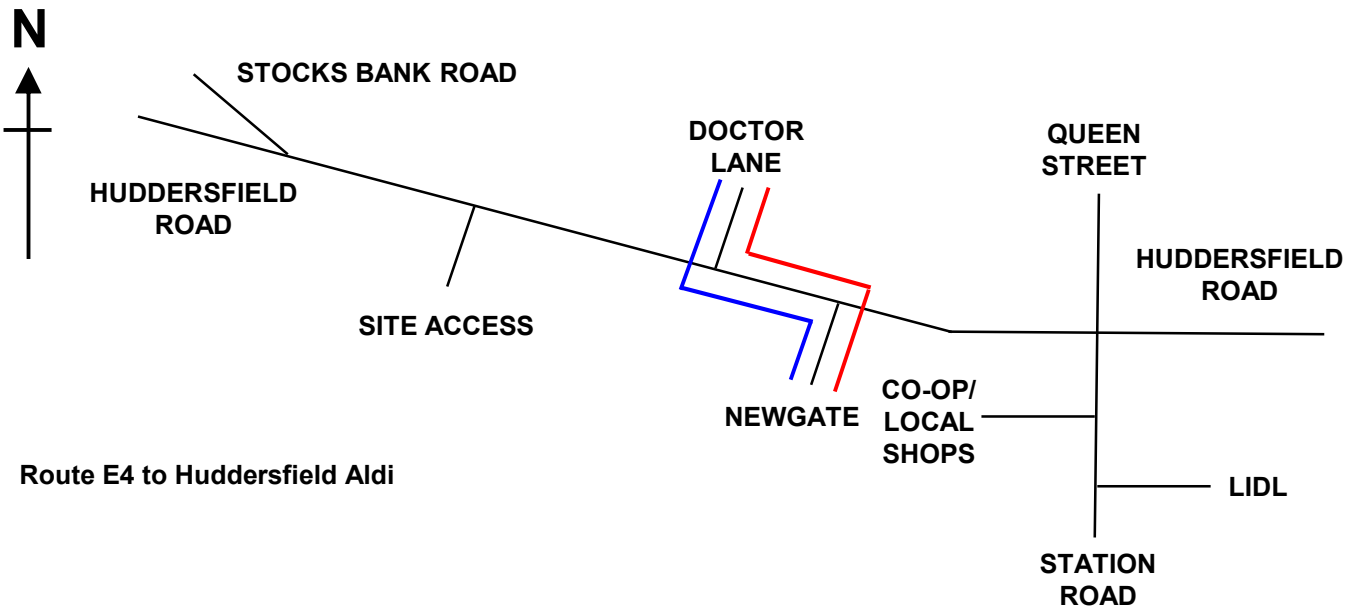


Turner Lowe Associates
22 Guest Road. Manchester. M25 3DL
Tel: 0161 798 7898 Fax: 0161 798 6642
E-mail: turnerlowe@btinternet.com

Job Title	Proposed Development Huddersfield Road. Mirfield
Drawing Title	Routes to Existing Stores

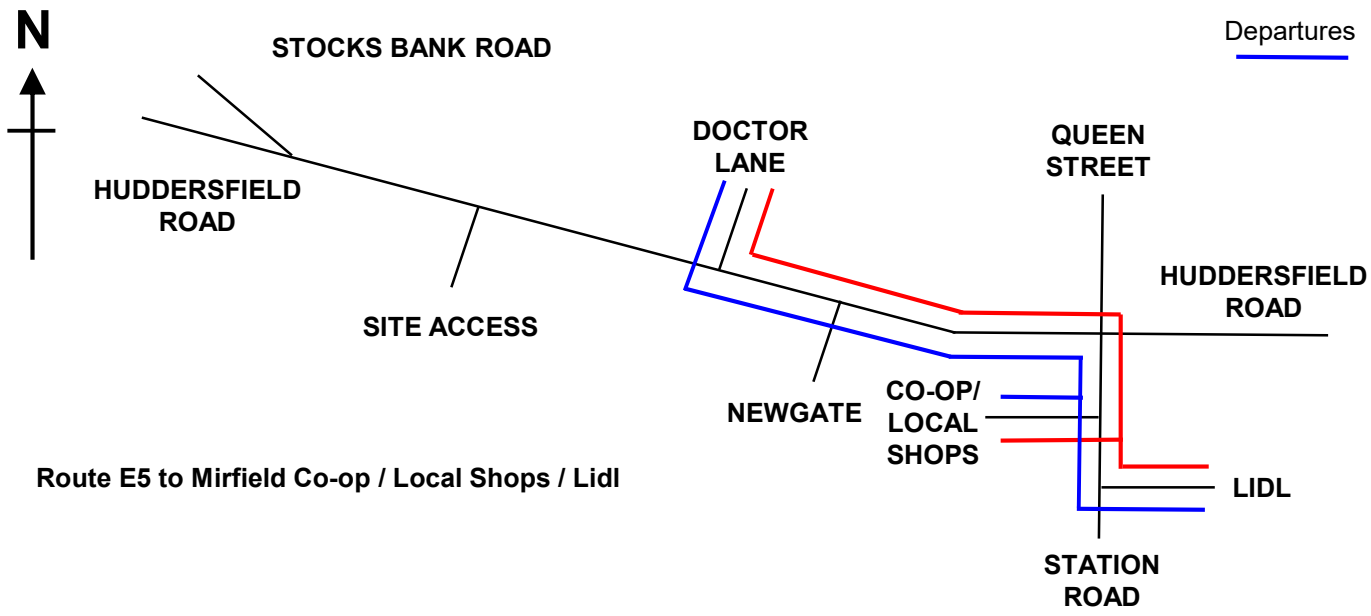
Client: **Morbaine**

Scale	N.T.S.	Date	Feb 2020	Doc Sheet No.	
Drawn By	J.L.	Checked		Approved	
Job No.	190203	Drg. No.	Figure SI2.7 Sheet 1	Rev.	



Route E4 to Huddersfield Aldi

Key
Arrivals
Departures



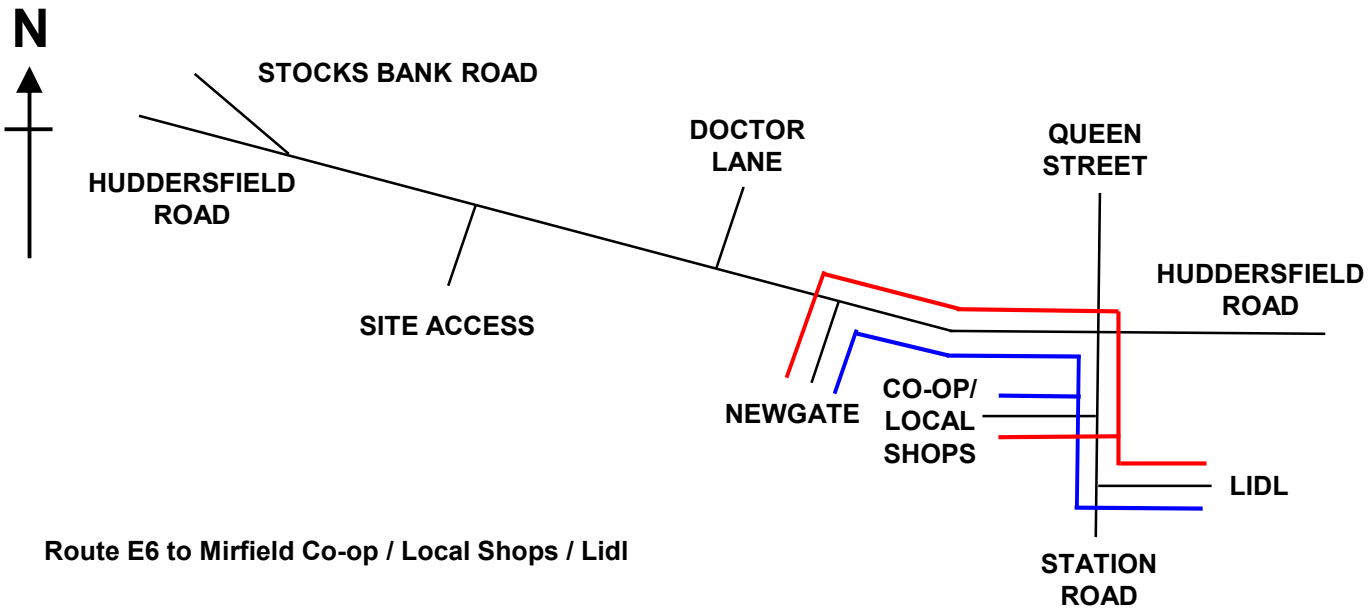
Route E5 to Mirfield Co-op / Local Shops / Lidl

Turner Lowe Associates
22 Guest Road. Manchester. M25 3DL
Tel: 0161 798 7898 Fax: 0161 798 6642
E-mail: turnerlowe@btinternet.com

Job Title	Proposed Development Huddersfield Road. Mirfield
Drawing Title	Routes to Existing Stores

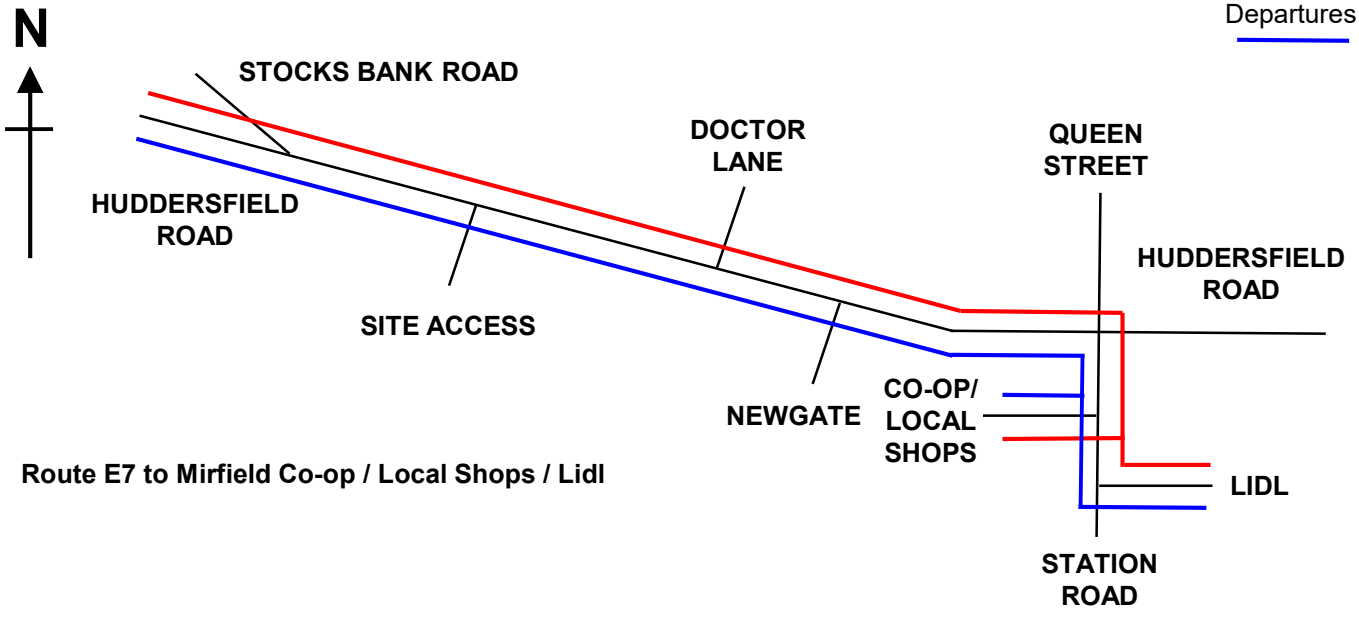
Client: **Morbaine**

Scale	N.T.S.	Date	Feb 2020	Doc Sheet No.	
Drawn By	J.L.	Checked		Approved	
Job No.	190203	Drg. No.	Figure SI2.7 Sheet 2	Rev.	



Route E6 to Mirfield Co-op / Local Shops / Lidl

Key
Arrivals
Departures



Route E7 to Mirfield Co-op / Local Shops / Lidl

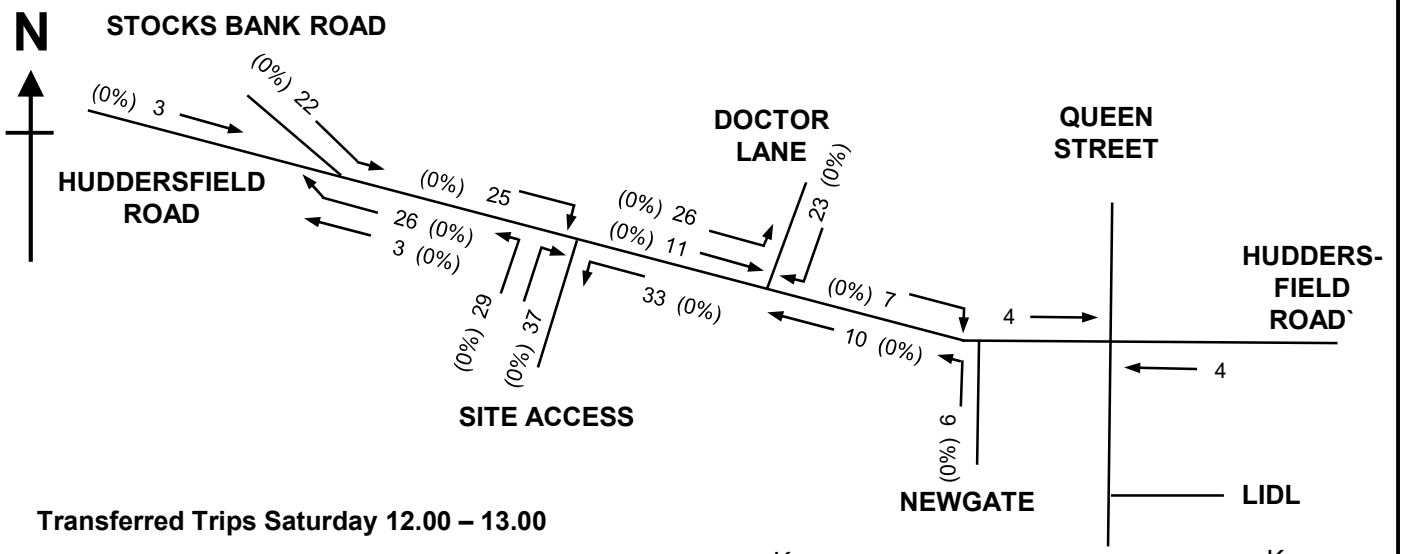
Route E3 to Huddersfield Aldi

Turner Lowe Associates
22 Guest Road. Manchester. M25 3DL
Tel: 0161 798 7898 Fax: 0161 798 6642
E-mail: turnerlowe@btinternet.com

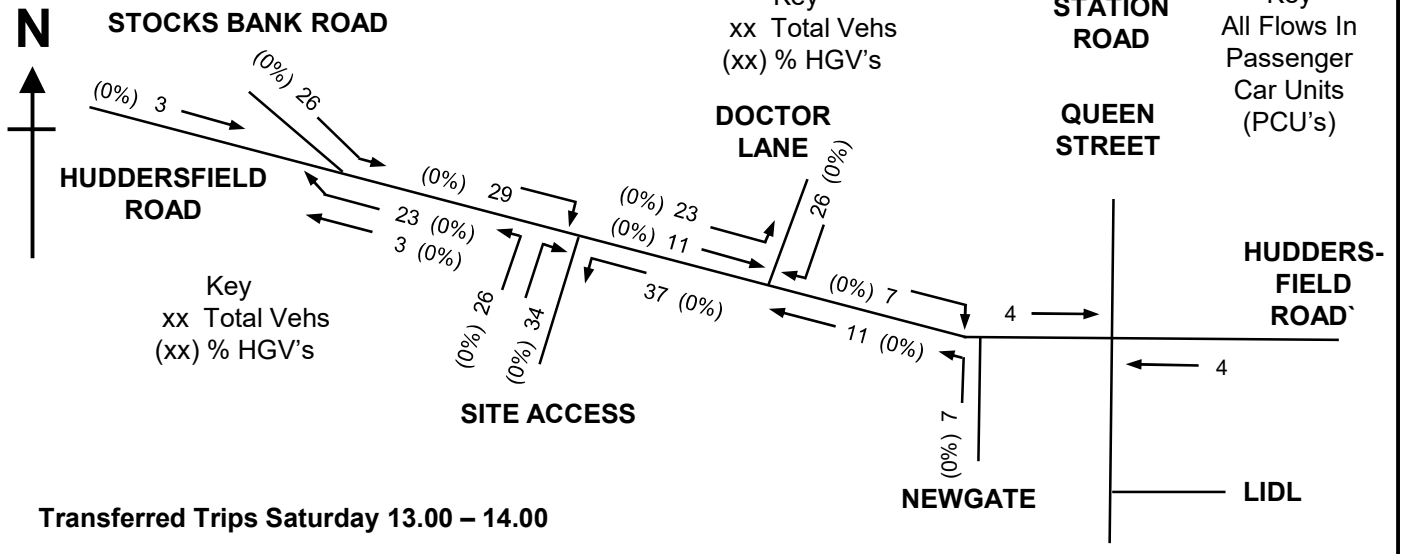
Job Title	Proposed Development Huddersfield Road. Mirfield
Drawing Title	Routes to Existing Stores

Client: **Morbaine**

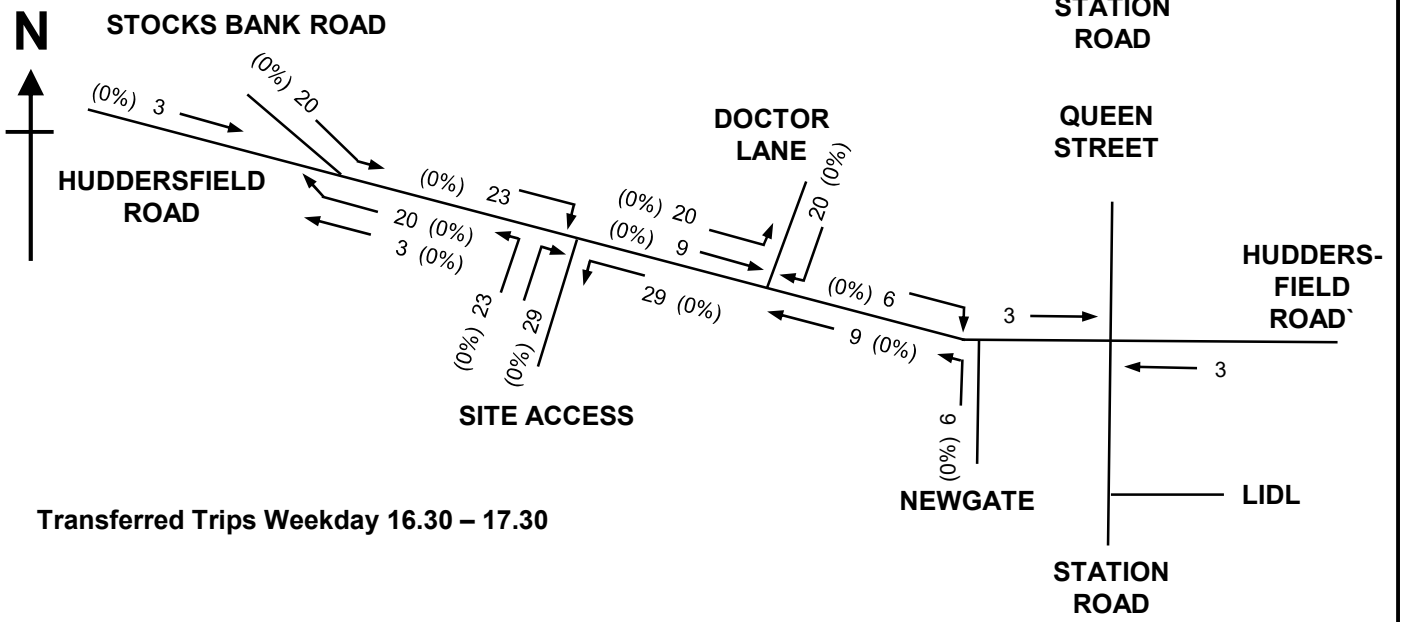
Scale	N.T.S.	Date	Feb 2020	Doc Sheet No.	
Drawn By	J.L.	Checked		Approved	
Job No.	190203	Drg. No.	Figure SI2.7 Sheet 3	Rev.	



Transferred Trips Saturday 12.00 – 13.00



Transferred Trips Saturday 13.00 – 14.00

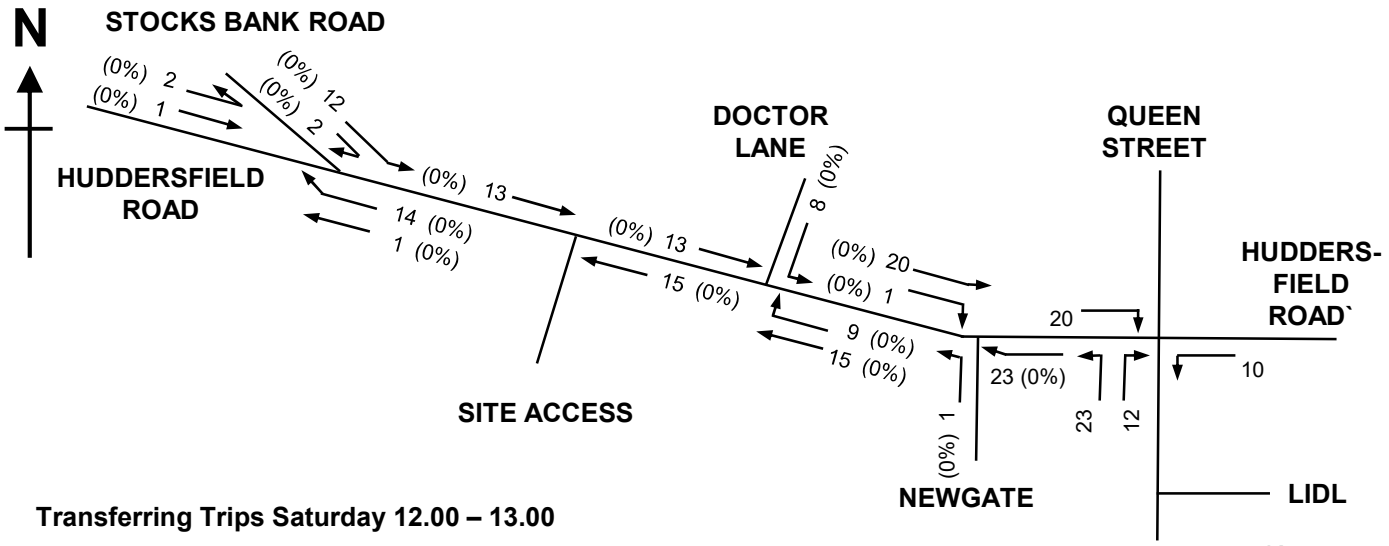


Transferred Trips Weekday 16.30 – 17.30

Turner Lowe Associates
22 Guest Road. Manchester. M25 3DL
Tel: 0161 798 7898 Fax: 0161 798 6642
E-mail: turnerlowe@btinternet.com

Job Title	Proposed Development Huddersfield Road. Mirfield
Drawing Title	Transferred Trips To Development

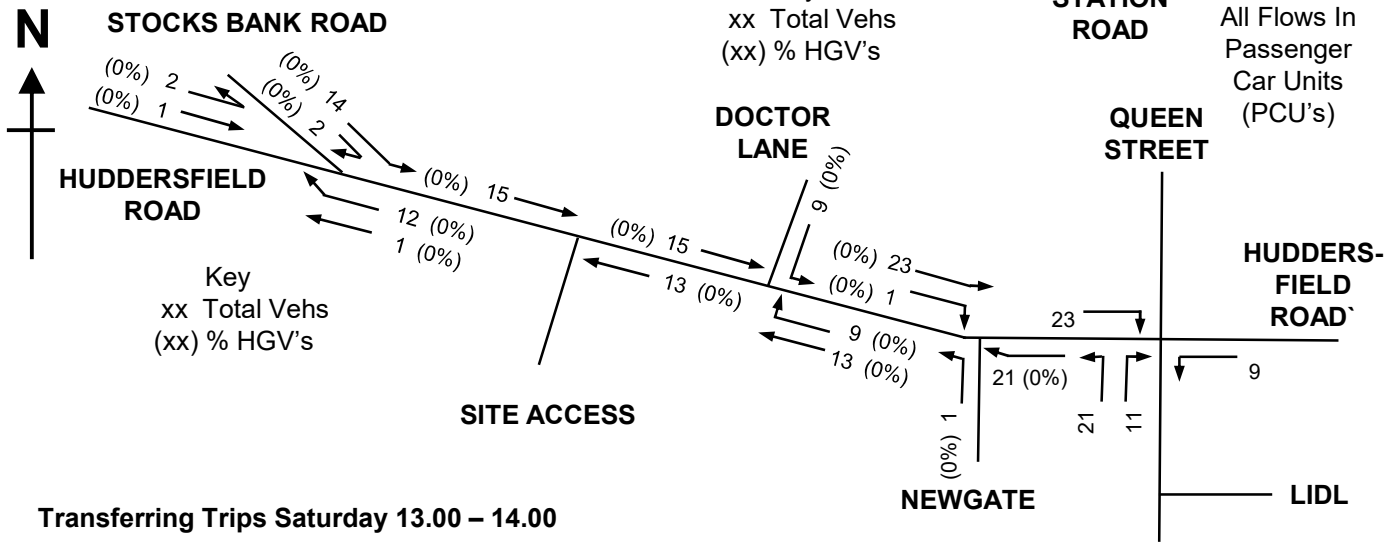
Client	Scale	Date	Doc Sheet No.
Morbaine	N.T.S.	Feb 2020	
	Drawn By J.L.	Checked	Approved
	Job No. 190203	Drg. No. Figure SI2.8	Rev.



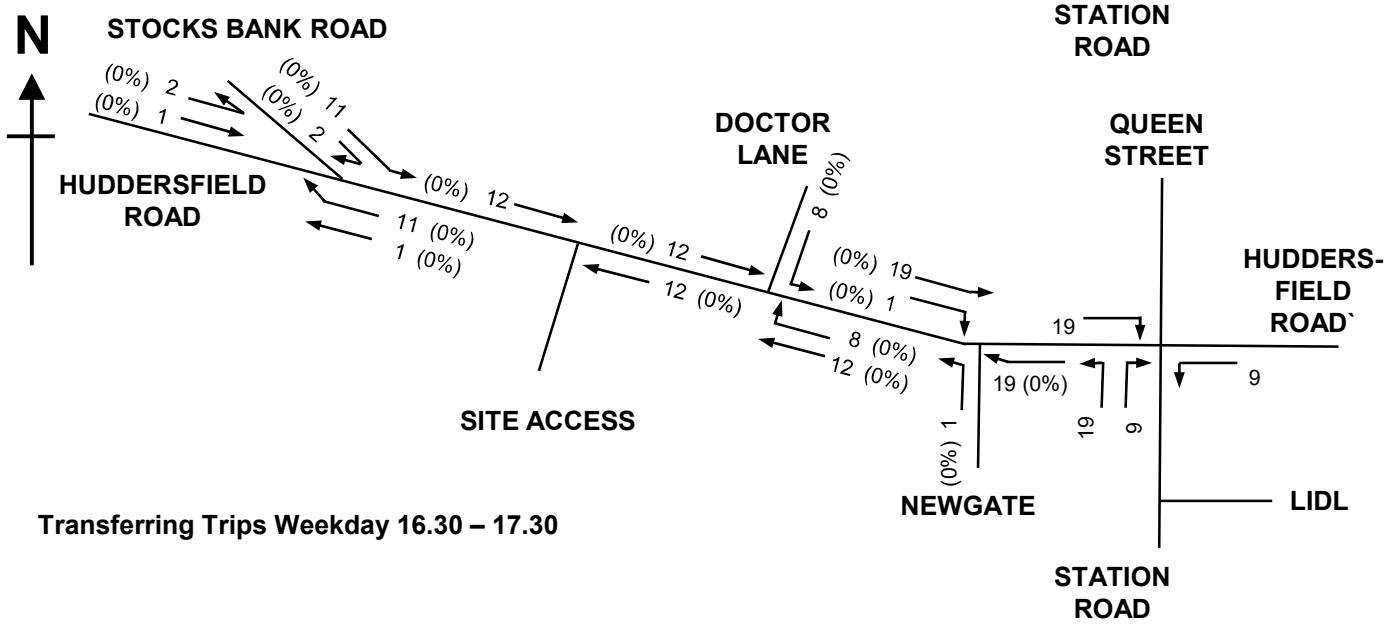
Transferring Trips Saturday 12.00 – 13.00

Key
xx Total Vehs
(xx) % HGV's

Key
All Flows In Passenger Car Units (PCU's)



Transferring Trips Saturday 13.00 – 14.00



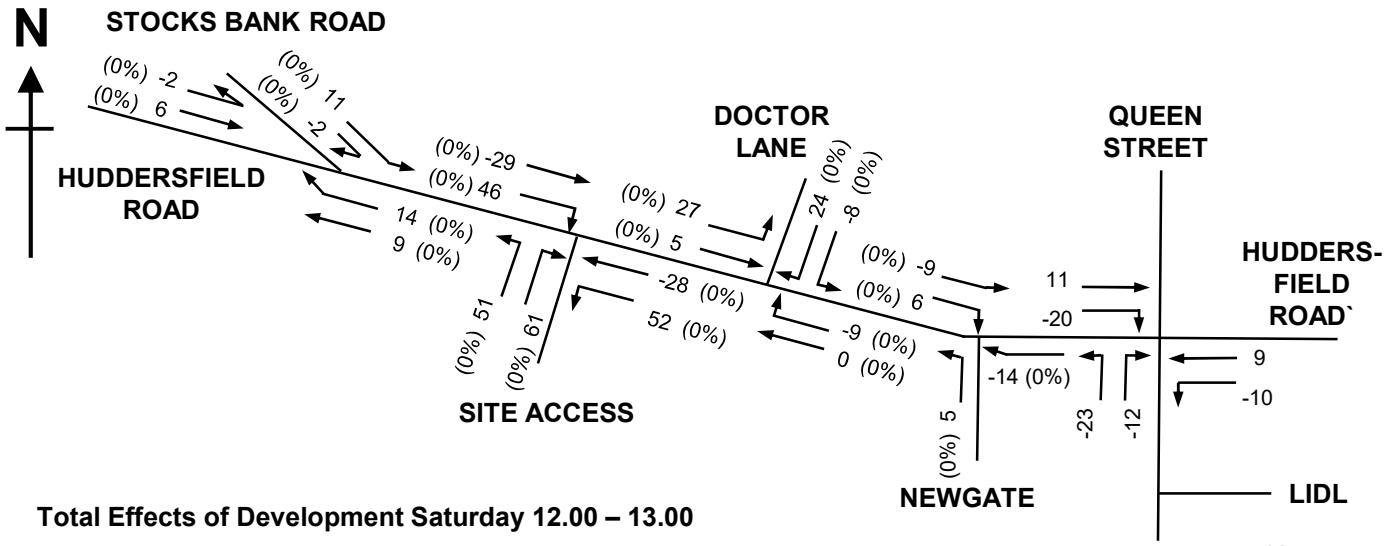
Transferring Trips Weekday 16.30 – 17.30

Turner Lowe Associates
22 Guest Road. Manchester. M25 3DL
Tel: 0161 798 7898 Fax: 0161 798 6642
E-mail: turnerlowe@btinternet.com

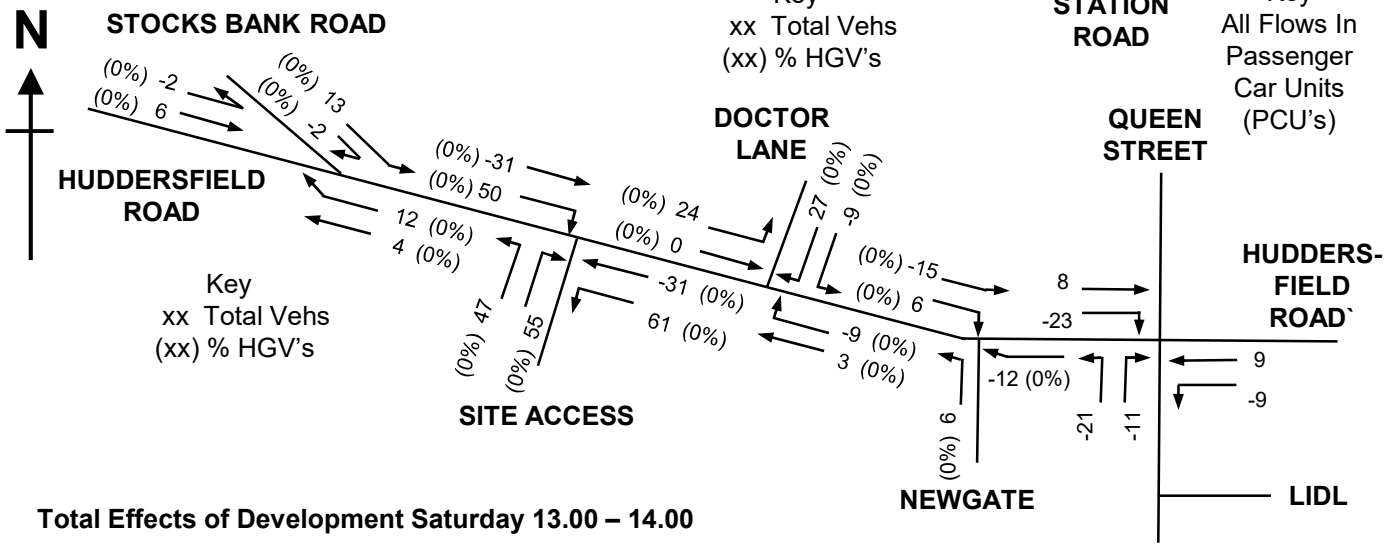
Job Title	Proposed Development Huddersfield Road. Mirfield
Drawing Title	Transferring Trips To Development

Client: **Morbaine**

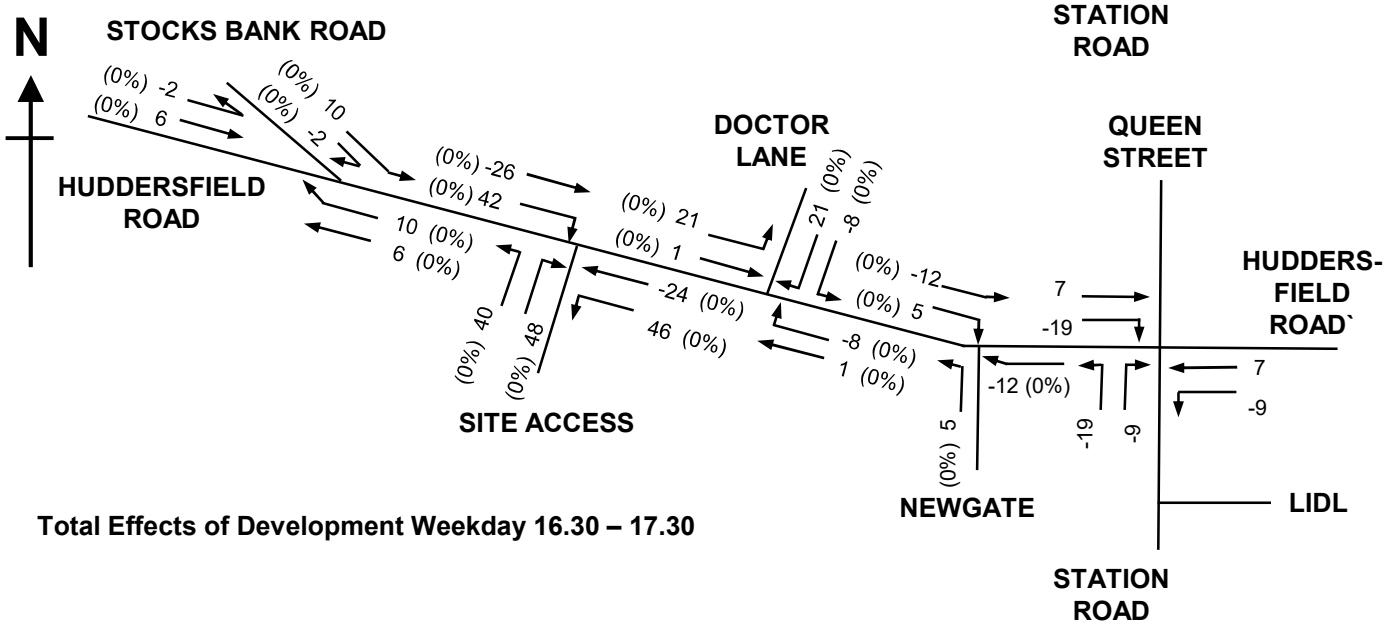
Scale	N.T.S.	Date	Feb 2020	Doc Sheet No.	
Drawn By	J.L.	Checked		Approved	
Job No.	190203	Drg. No.	Figure SI2.9		Rev.



Total Effects of Development Saturday 12.00 – 13.00



Total Effects of Development Saturday 13.00 – 14.00

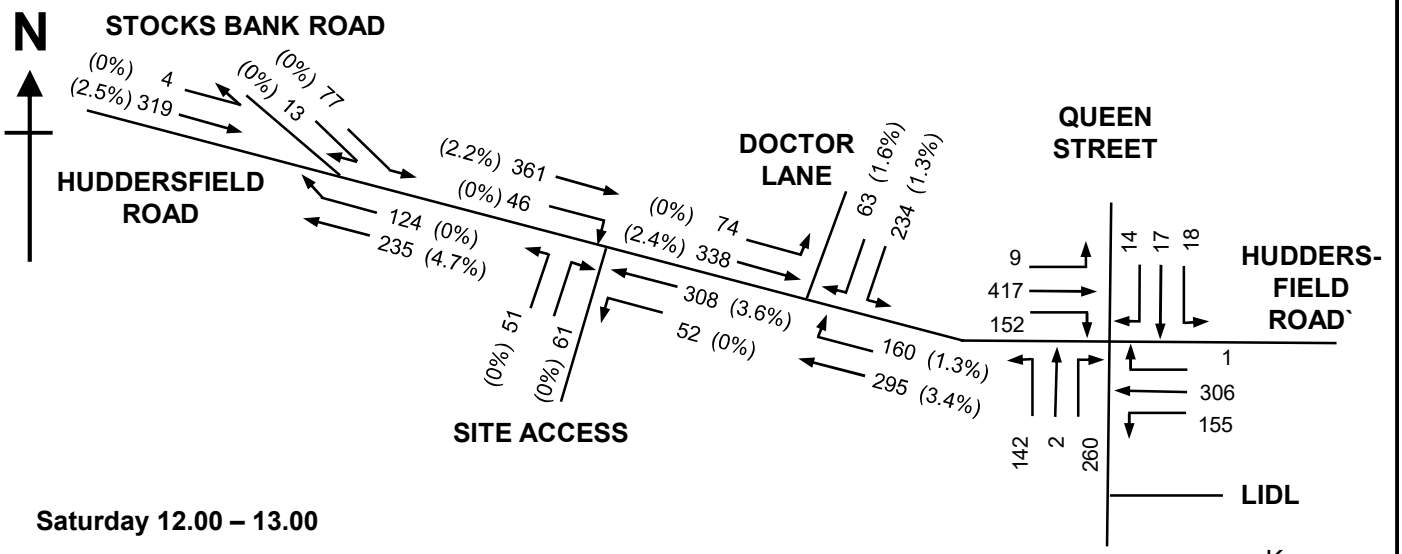


Total Effects of Development Weekday 16.30 – 17.30

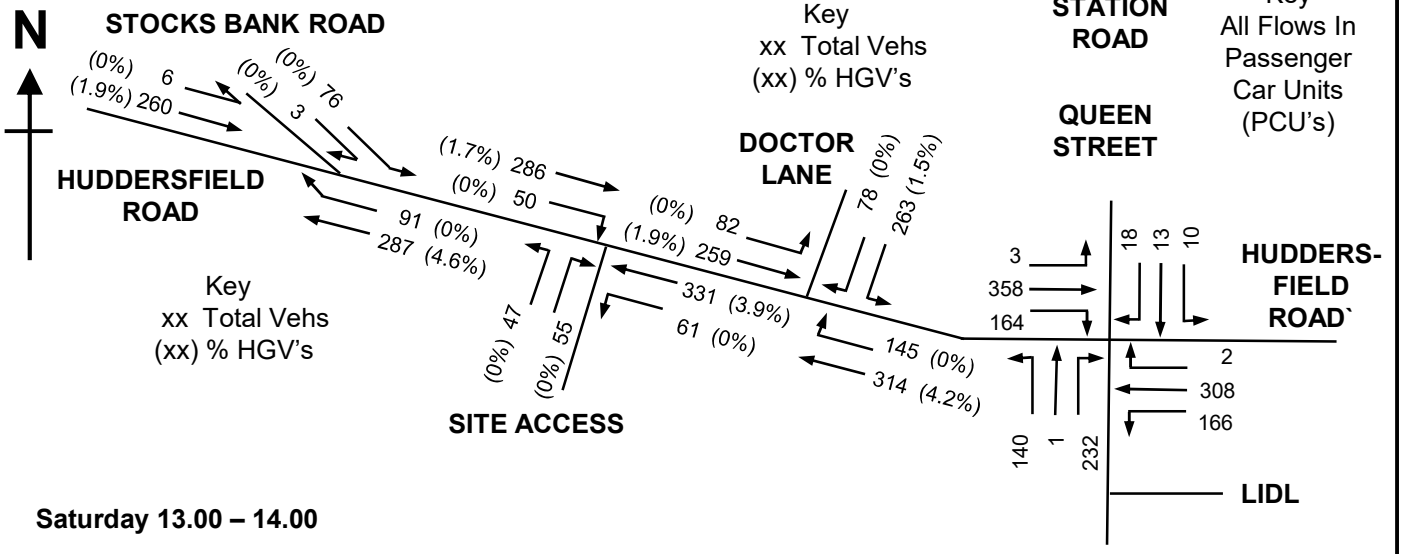
Turner Lowe Associates
22 Guest Road. Manchester. M25 3DL
Tel: 0161 798 7898 Fax: 0161 798 6642
E-mail: turnerlowe@btinternet.com

Job Title	Proposed Development Huddersfield Road. Mirfield
Drawing Title	Total Effects of Development

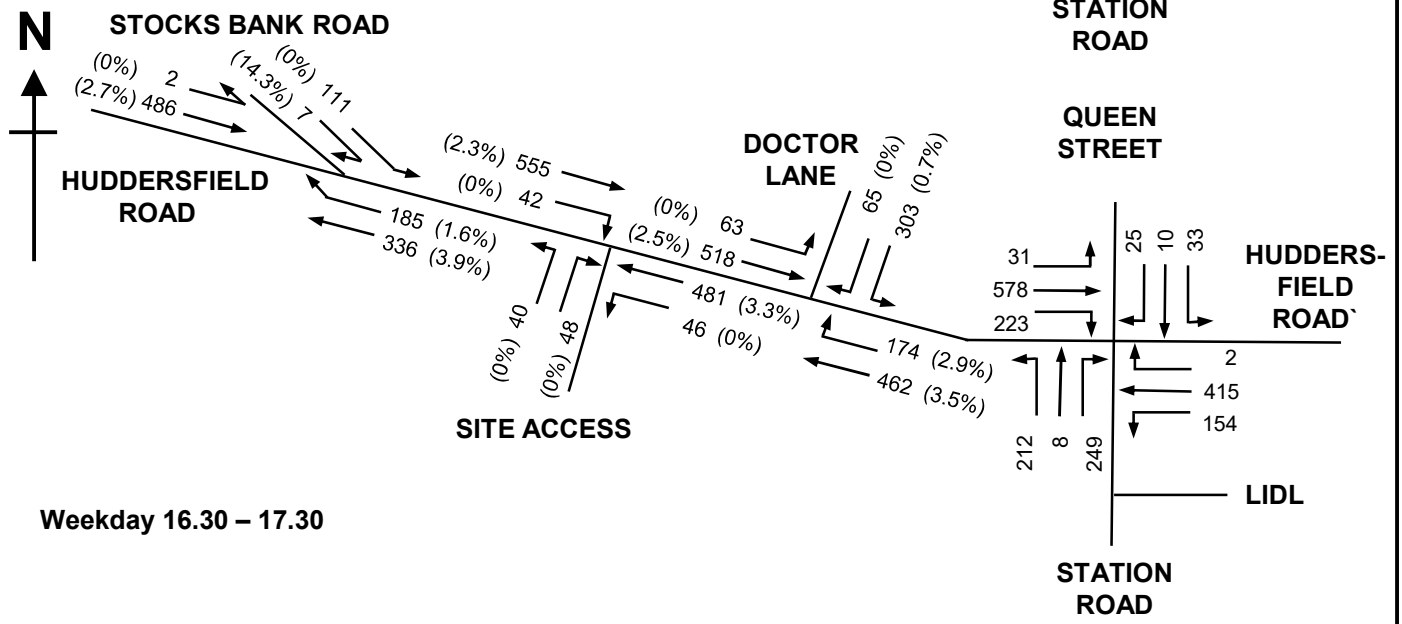
Client	Scale	N.T.S.	Date	Feb 2020	Doc Sheet No.	
Morbaine	Drawn By	J.L.	Checked		Approved	
	Job No.	190203	Drg. No.	Figure SI2.10		Rev.



Saturday 12.00 – 13.00



Saturday 13.00 – 14.00



Weekday 16.30 – 17.30

Turner Lowe Associates
22 Guest Road. Manchester. M25 3DL
Tel: 0161 798 7898 Fax: 0161 798 6642
E-mail: turnerlowe@btinternet.com

Job Title	Proposed Development Huddersfield Road. Mirfield
Drawing Title	Design Traffic Flows 2025

Client	Scale	N.T.S.	Date	Feb 2020	Doc Sheet No.	
Morbaine	Drawn By	J.L.	Checked		Approved	
	Job No.	190203	Drg. No.	Figure SI2.11		Rev.

Tables

Table SI2.1

Turner Lowe Associates

Job Name: Huddersfield Road. Mirfield

Competing Sites Gravity Model

Input and Distribution Patterns

Detraction Power n in $\frac{A}{d^n}$ or $\frac{P}{t^n}$ 1

Area or Population Factor: Car Owning Households
Units: Households

Size Factor: Retail Turnover
Units: £m/annum

Catchment Area Details / Proposed Site Details

Huddersfield Road, Mirfield — Size 12.00 £m/annum; Retail Factor 1.00

Zone No.	Wards	Area or Pop^n	% Within Catchment	% Within Zone	Deterrent Factor (Distance) Km Arrivals	Deterrent Factor (Distance) Km Departs	Deterrent Factor (Time) Min Arrivals	Deterrent Factor (Time) Min Departs	Time Factor	Dist^n Pattern (Distance) %	Dist^n Pattern (Time) %
1	E01011100	403	100.00	100.00	4.35	4.35	8.00	8.00	1.00	1.53	1.42
2	E01011103	359	100.00	100.00	4.29	4.29	8.00	8.00	1.00	1.37	1.23
3	E01011108	535	100.00	100.00	4.38	4.38	8.00	8.00	1.00	2.01	1.88
4	E01011132	514	100.00	100.00	1.72	1.72	4.00	4.00	1.00	6.81	4.35
5	E01011133	284	100.00	100.00	2.87	2.87	6.00	6.00	1.00	1.56	1.14
6	E01011212	506	100.00	100.00	0.78	0.78	2.00	2.00	1.00	17.05	10.59
7	E01011213	577	100.00	100.00	1.64	1.64	4.00	4.00	1.00	5.02	3.40
8	E01011214	578	100.00	100.00	2.34	2.34	5.00	5.00	1.00	4.02	2.93
9	E01011215	738	100.00	100.00	1.70	1.70	4.00	4.00	1.00	7.12	4.37
10	E01011216	517	100.00	100.00	1.58	1.58	3.00	3.00	1.00	8.18	7.05
11	E01011217	612	100.00	100.00	2.71	2.71	6.00	6.00	1.00	3.50	2.58
12	E01011218	550	100.00	100.00	2.54	2.54	5.00	5.00	1.00	3.88	3.17
13	E01011219	567	100.00	100.00	0.76	0.76	1.00	1.00	1.00	26.89	44.86
14	E01011220	420	100.00	100.00	2.21	2.21	4.00	4.00	1.00	3.43	3.82
15	E01011221	600	100.00	100.00	1.63	1.63	3.00	3.00	1.00	7.63	7.20
										0.00	0.00
										0.00	0.00
										0.00	0.00
										0.00	0.00
										0.00	0.00
										0.00	0.00
										0.00	0.00
										0.00	0.00
										0.00	0.00
										0.00	0.00
										0.00	0.00
										0.00	0.00
										0.00	0.00
										0.00	0.00
										0.00	0.00
										0.00	0.00
										0.00	0.00
										0.00	0.00
										0.00	0.00
										0.00	0.00
	Totals	7760								100.00	100.00

Existing Site Details

Morrisons. Union Street, Heckmondwike — Size 69.98 £m/annum; Retail Factor 0.57

Zone No.	Wards	Deterrent Factor (Distance) Km Arrivals	Deterrent Factor (Distance) Km Departs	Deterrent Factor (Time) Min Arrivals	Deterrent Factor (Time) Min Departs	Time Factor	Dist^n Pattern (Distance) %	Dist^n Pattern (Time) %
1	E01011100	7.33	7.33	15.00	15.00	1.00	0.52	0.45
2	E01011103	7.10	7.10	14.00	14.00	1.00	0.47	0.41
3	E01011108	7.36	7.36	15.00	15.00	1.00	0.68	0.60
4	E01011132	5.32	5.32	11.00	11.00	1.00	1.87	1.17
5	E01011133	5.22	5.22	11.00	11.00	1.00	0.47	0.31
6	E01011212	5.28	5.28	12.00	12.00	1.00	2.56	1.71
7	E01011213	5.63	5.63	12.00	12.00	1.00	0.71	0.55
8	E01011214	8.35	8.35	17.00	17.00	1.00	0.63	0.45
9	E01011215	7.12	7.12	15.00	15.00	1.00	0.97	0.57
10	E01011216	4.97	4.97	10.00	10.00	1.00	2.48	1.99
11	E01011217	3.63	3.63	8.00	8.00	1.00	1.40	1.02
12	E01011218	4.09	4.09	9.00	9.00	1.00	1.52	1.07
13	E01011219	5.86	5.86	12.00	12.00	1.00	5.49	9.23
14	E01011220	4.41	4.41	10.00	10.00	1.00	1.09	1.24
15	E01011221	4.90	4.90	10.00	10.00	1.00	1.91	1.73
							0.00	0.00
							0.00	0.00
							0.00	0.00
							0.00	0.00
							0.00	0.00
							0.00	0.00
							0.00	0.00
							0.00	0.00
							0.00	0.00
							0.00	0.00
							0.00	0.00
							0.00	0.00
							0.00	0.00
							0.00	0.00
							0.00	0.00
							0.00	0.00
							0.00	0.00
							0.00	0.00
							0.00	0.00
							0.00	0.00
	Totals						22.77	22.48

Lidl. Northgate, Heckmondwike — Size 4.53 £m/annum; Retail Factor 2.12

Zone No.	Wards	Deterrent Factor (Distance) Km Arrivals	Deterrent Factor (Distance) Km Departs	Deterrent Factor (Time) Min Arrivals	Deterrent Factor (Time) Min Departs	Time Factor	Dist^n Pattern (Distance) %	Dist^n Pattern (Time) %
1	E01011100	7.33	7.33	15.00	15.00	1.00	0.12	0.11
2	E01011103	7.10	7.10	14.00	14.00	1.00	0.11	0.10
3	E01011108	7.36	7.36	15.00	15.00	1.00	0.16	0.14
4	E01011132	5.32	5.32	11.00	11.00	1.00	0.45	0.28
5	E01011133	5.22	5.22	11.00	11.00	1.00	0.11	0.07
6	E01011212	5.28	5.28	12.00	12.00	1.00	0.62	0.41
7	E01011213	5.63	5.63	12.00	12.00	1.00	0.17	0.13
8	E01011214	8.35	8.35	17.00	17.00	1.00	0.15	0.11
9	E01011215	7.12	7.12	15.00	15.00	1.00	0.23	0.14
10	E01011216	4.97	4.97	10.00	10.00	1.00	0.60	0.48
11	E01011217	3.63	3.63	8.00	8.00	1.00	0.34	0.24
12	E01011218	4.09	4.09	9.00	9.00	1.00	0.37	0.26
13	E01011219	5.86	5.86	12.00	12.00	1.00	1.32	2.22
14	E01011220	4.41	4.41	10.00	10.00	1.00	0.26	0.30
15	E01011221	4.90	4.90	10.00	10.00	1.00	0.46	0.42
							0.00	0.00
							0.00	0.00
							0.00	0.00
							0.00	0.00
							0.00	0.00
							0.00	0.00
							0.00	0.00
							0.00	0.00
							0.00	0.00
							0.00	0.00
							0.00	0.00
							0.00	0.00
							0.00	0.00
							0.00	0.00
							0.00	0.00
							0.00	0.00
							0.00	0.00
							0.00	0.00
							0.00	0.00
							0.00	0.00
	Totals						5.48	5.41

Co-op, Mirfield — Size 3.2 £m/annum; Retail Factor 0.27

Zone No.	Wards	Deterrent Factor (Distance) Km Arrivals	Deterrent Factor (Distance) Km Departs	Deterrent Factor (Time) Min Arrivals	Deterrent Factor (Time) Min Departs	Time Factor	Dist^n Pattern (Distance) %	Dist^n Pattern (Time) %
1	E01011100	5.01	5.01	9.00	9.00	1.00	0.02	0.02
2	E01011103	4.94	4.94	9.00	9.00	1.00	0.01	0.01
3	E01011108	5.04	5.04	9.00	9.00	1.00	0.02	0.02
4	E01011132	1.92	1.92	4.00	4.00	1.00	0.11	0.07
5	E01011133	2.22	2.22	4.00	4.00	1.00	0.02	0.02
6	E01011212	0.77	0.77	2.00	2.00	1.00	0.38	0.22
7	E01011213	0.75	0.75	2.00	2.00	1.00	0.12	0.07
8	E01011214	1.52	1.52	3.00	3.00	1.00	0.08	0.06
9	E01011215	1.00	1.00	2.00	2.00	1.00	0.15	0.09
10	E01011216	2.23	2.23	4.00	4.00	1.00	0.12	0.11
11	E01011217	2.64	2.64	6.00	6.00	1.00	0.04	0.03
12	E01011218	2.97	2.97	5.00	5.00	1.00	0.05	0.04
13	E01011219	1.41	1.41	3.00	3.00	1.00	0.49	0.80
14	E01011220	2.05	2.05	5.00	5.00	1.00	0.05	0.05
15	E01011221	1.56	1.56	3.00	3.00	1.00	0.13	0.12
							0.00	0.00
							0.00	0.00
							0.00	0.00
							0.00	0.00
							0.00	0.00
							0.00	0.00
							0.00	0.00
							0.00	0.00
							0.00	0.00
							0.00	0.00
							0.00	0.00
							0.00	0.00
							0.00	0.00
							0.00	0.00
							0.00	0.00
							0.00	0.00
							0.00	0.00
							0.00	0.00
							0.00	0.00
							0.00	0.00
	Totals						1.79	1.74

Local Shops, Mirfield — Size 4.18 £m/annum; Retail Factor 0.12

Zone No.	Wards	Deterrent Factor (Distance) Km Arrivals	Deterrent Factor (Distance) Km Departs	Deterrent Factor (Time) Min Arrivals	Deterrent Factor (Time) Min Departs	Time Factor	Dist^n Pattern (Distance) %	Dist^n Pattern (Time) %
1	E01011100	5.01	5.01	9.00	9.00	1.00	0.01	0.01
2	E01011103	4.94	4.94	9.00	9.00	1.00	0.01	0.01
3	E01011108	5.04	5.04	9.00	9.00	1.00	0.01	0.01
4	E01011132	1.92	1.92	4.00	4.00	1.00	0.07	0.04
5	E01011133	2.22	2.22	4.00	4.00	1.00	0.01	0.01
6	E01011212	0.77	0.77	2.00	2.00	1.00	0.22	0.13
7	E01011213	0.75	0.75	2.00	2.00	1.00	0.07	0.04
8	E01011214	1.52	1.52	3.00	3.00	1.00	0.04	0.03
9	E01011215	1.00	1.00	2.00	2.00	1.00	0.09	0.05
10	E01011216	2.23	2.23	4.00	4.00	1.00	0.07	0.06
11	E01011217	2.64	2.64	6.00	6.00	1.00	0.02	0.02
12	E01011218	2.97	2.97	5.00	5.00	1.00	0.03	0.02
13	E01011219	1.41	1.41	3.00	3.00	1.00	0.29	0.46
14	E01011220	2.05	2.05	5.00	5.00	1.00	0.03	0.03
15	E01011221	1.56	1.56	3.00	3.00	1.00	0.08	0.07
							0.00	0.00
							0.00	0.00
							0.00	0.00
							0.00	0.00
							0.00	0.00
							0.00	0.00
							0.00	0.00
							0.00	0.00
							0.00	0.00
							0.00	0.00
							0.00	0.00
							0.00	0.00
							0.00	0.00
							0.00	0.00
							0.00	0.00
							0.00	0.00
							0.00	0.00
							0.00	0.00
							0.00	0.00
							0.00	0.00
	Totals						1.04	1.01

Lidl. Station Road, Mirfield — Size 12.97 £m/annum; Retail Factor 2.18

Zone No.	Wards	Deterrent Factor (Distance) Km Arrivals	Deterrent Factor (Distance) Km Departs	Deterrent Factor (Time) Min Arrivals	Deterrent Factor (Time) Min Departs	Time Factor	Dist^n Pattern (Distance) %	Dist^n Pattern (Time) %
1	E01011100	5.03	5.03	9.00	9.00	1.00	0.54	0.53
2	E01011103	4.96	4.96	9.00	9.00	1.00	0.48	0.45
3	E01011108	5.06	5.06	9.00	9.00	1.00	0.70	0.71
4	E01011132	1.94	1.94	4.00	4.00	1.00	3.63	2.29
5	E01011133	2.24	2.24	4.00	4.00	1.00	0.77	0.60
6	E01011212	0.79	0.79	2.00	2.00	1.00	12.14	7.27
7	E01011213	0.77	0.77	2.00	2.00	1.00	3.68	2.34
8	E01011214	1.50	1.50	3.00	3.00	1.00	2.50	1.82
9	E01011215	0.98	0.98	2.00	2.00	1.00	4.99	3.01
10	E01011216	2.25	2.25	4.00	4.00	1.00	3.88	3.52
11	E01011217	2.66	2.66	6.00	6.00	1.00	1.35	0.96
12	E01011218	2.99	2.99	5.00	5.00	1.00	1.47	1.37
13	E01011219	1.43	1.43	3.00	3.00	1.00	15.95	26.17
14	E01011220	2.07	2.07	5.00	5.00	1.00	1.65	1.75
15	E01011221	1.58	1.58	3.00	3.00	1.00	4.20	4.08
							0.00	0.00
							0.00	0.00
							0.00	0.00
							0.00	0.00
							0.00	0.00
							0.00	0.00
							0.00	0.00
							0.00	0.00
							0.00	0.00
							0.00	0.00
							0.00	0.00
							0.00	0.00
							0.00	0.00
							0.00	0.00
							0.00	0.00
							0.00	0.00
							0.00	0.00
							0.00	0.00
							0.00	0.00
							0.00	0.00
	Totals						57.94	56.86

Catchment Area Details / Existing Site Details

Aldi. Gallagher Retail Park, Huddersfield — Size 12.44 £m/annum; Retail Factor 1.73

Zone No.	Wards	Area or Pop^n	% Within Catchment	% Within Zone	Deterrent Factor (Distance) Km Arrivals	Deterrent Factor (Distance) Km Departs	Deterrent Factor (Time) Min Arrivals	Deterrent Factor (Time) Min Departs	Time Factor	Dist^n Pattern (Distance) %	Dist^n Pattern (Time) %
1	E01011100	403	100.00	100.00	6.38	6.38	12.00	12.00	1.00	0.32	0.30
2	E01011103	359	100.00	100.00	6.32	6.32	12.00	12.00	1.00	0.29	0.26
3	E01011108	535	100.00	100.00	6.41	6.41	12.00	12.00	1.00	0.42	0.40
4	E01011132	514	100.00	100.00	7.80	7.80	14.00	14.00	1.00	0.69	0.50
5	E01011133	284	100.00	100.00	7.78	7.78	14.00	14.00	1.00	0.17	0.13
6	E01011212	506	100.00	100.00	6.45	6.45	13.00	13.00	1.00	1.13	0.85
7	E01011213	577	100.00	100.00	7.64	7.64	13.00	13.00	1.00	0.28	0.27
8	E01011214	578	100.00	100.00	4.72	4.72	9.00	9.00	1.00	0.61	0.46
9	E01011215	738	100.00	100.00	5.34	5.34	9.00	9.00	1.00	0.70	0.51
10	E01011216	517	100.00	100.00	6.46	6.46	12.00	12.00	1.00	1.03	0.89
11	E01011217	612	100.00	100.00	7.66	7.66	14.00	14.00	1.00	0.36	0.31
12	E01011218	550	100.00	100.00	7.51	7.51	13.00	13.00	1.00	0.45	0.40
13	E01011219	567	100.00	100.00	5.18	5.18	10.00	10.00	1.00	3.35	5.98
14	E01011220	420	100.00	100.00	7.73	7.73	15.00	15.00	1.00	0.34	0.45
15	E01011221	600	100.00	100.00	5.96	5.96	12.00	12.00	1.00	0.85	0.78
										0.00	0.00
										0.00	0.00
										0.00	0.00
										0.00	0.00
										0.00	0.00
										0.00	0.00
										0.00	0.00
										0.00	0.00
										0.00	0.00
										0.00	0.00
										0.00	0.00
										0.00	0.00
										0.00	0.00
										0.00	0.00
										0.00	0.00
										0.00	0.00
										0.00	0.00
										0.00	0.00
										0.00	0.00
										0.00	0.00
	Totals	7760								10.97	12.49

Site 7 — Size £m/annum; Retail Factor 1.00
Site 8 — Size £m/annum; Retail Factor 1.00
Site 9 — Size £m/annum; Retail Factor 1.00
Site 10 — Size £m/annum; Retail Factor 1.00
(Deterrent Factor (Distance) Km Arrivals/Departs, Deterrent Factor (Time) Min Arrivals/Departs and Time Factor columns blank for Sites 7–10)

Zone No.	Wards	Site 7 Dist^n Pattern (Distance) %	Site 7 Dist^n Pattern (Time) %	Site 8 Dist^n Pattern (Distance) %	Site 8 Dist^n Pattern (Time) %	Site 9 Dist^n Pattern (Distance) %	Site 9 Dist^n Pattern (Time) %	Site 10 Dist^n Pattern (Distance) %	Site 10 Dist^n Pattern (Time) %	All Existing Sites Dist^n Pattern (Distance) %	All Existing Sites Dist^n Pattern (Time) %
1	E01011100	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	100.00
2	E01011103	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	100.00
3	E01011108	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	100.00
4	E01011132	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	100.00
5	E01011133	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	100.00
6	E01011212	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	100.00
7	E01011213	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	100.00
8	E01011214	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	100.00
9	E01011215	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	100.00
10	E01011216	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	100.00
11	E01011217	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	100.00
12	E01011218	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	100.00
13	E01011219	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	100.00
14	E01011220	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	100.00
15	E01011221	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	100.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Totals	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	100.00

22 Guest Road. Manchester. M25 3DL. Tel. 0161 798 7898. Email. enquiries@turnerlowe.co.uk

Table SI2.2

Competing Sites Gravity Model

Job Name: Huddersfield Road. Mirfield
Time: Saturday 12.00 - 13.00

Proposed Site		Huddersfield Road						Mirfield								Total Arrivals	58.00	Huddersfield Road						Mirfield								Total Departures	66.00
Route		P1		P2		P3		P4		P5		P6		P7		P8		P1		P2		P3		P4		P5		P6		P7		P8	
Zone No.	Zones	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow
1	E01011100									100.00	0.89															100.00	1.01						
2	E01011103									100.00	0.80															100.00	0.90						
3	E01011108									100.00	1.17															100.00	1.33						
4	E01011132	100.00	3.95															100.00	4.50														
5	E01011133					100.00	0.91															100.00	1.03										
6	E01011212	100.00	9.89															100.00	11.25														
7	E01011213					100.00	2.91															100.00	3.32										
8	E01011214							100.00	2.33															100.00	2.65								
9	E01011215							100.00	4.13															100.00	4.70								
10	E01011216			100.00	4.75															100.00	5.40												
11	E01011217	100.00	2.03															100.00	2.31														
12	E01011218	100.00	2.25															100.00	2.56														
13	E01011219			100.00	15.60															100.00	17.75												
14	E01011220			100.00	1.99															100.00	2.26												
15	E01011221	100.00	4.42															100.00	5.03														
	Route Totals		22.54		22.33				6.46		2.85								25.65		25.41		4.35		7.35		3.24						
	Site Total	54.18																66.00															

Existing Sites

All Trips to Morrisons. Union Street. Heckmondwike Outside Study Area
All Trips to Lidl. Northgate. Heckmondwike Outside Study Area

Existing Site		Co-op						Mirfield								Total Arrivals	58.00	Co-op						Mirfield								Total Departures	66.00
Route		E1		E2		E3		E4		E5		E6		E7		E8		E1		E2		E3		E4		E5		E6		E7		E8	
Zone No.	Zones	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow
1	E01011100													100.00	0.01															100.00	0.01		
2	E01011103													100.00	0.01															100.00	0.01		
3	E01011108													100.00	0.01															100.00	0.01		
4	E01011132	100.00	0.07															100.00	0.07														
5	E01011133	100.00	0.01															100.00	0.02														
6	E01011212									100.00	0.22															100.00	0.25						
7	E01011213	100.00	0.07															100.00	0.08														
8	E01011214	OSA																OSA															
9	E01011215	OSA																OSA															
10	E01011216			100.00	0.07															100.00	0.08												
11	E01011217	100.00	0.02															100.00	0.03														
12	E01011218	100.00	0.03															100.00	0.03														
13	E01011219			100.00	0.29															100.00	0.33												
14	E01011220	100.00	0.03															100.00	0.03														
15	E01011221	100.00	0.08															100.00	0.09														
	Route Totals		0.30		0.36						0.22				0.03				0.34		0.41						0.25				0.03		
	Site Total	0.91																1.03															

Existing Site		Local Shops						Mirfield								Total Arrivals	58.00	Local Shops						Mirfield								Total Departures	66.00
Route		E1		E2		E3		E4		E5		E6		E7		E8		E1		E2		E3		E4		E5		E6		E7		E8	
Zone No.	Zones	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow
1	E01011100													100.00	0.01															100.00	0.01		
2	E01011103													100.00	0.00															100.00	0.01		
3	E01011108													100.00	0.01															100.00	0.01		
4	E01011132	100.00	0.04															100.00	0.04														
5	E01011133	100.00	0.01															100.00	0.01														
6	E01011212									100.00	0.13															100.00	0.15						
7	E01011213	100.00	0.04															100.00	0.04														
8	E01011214	OSA																OSA															
9	E01011215	OSA																OSA															
10	E01011216			100.00	0.04															100.00	0.05												
11	E01011217	100.00	0.01															100.00	0.02														
12	E01011218	100.00	0.02															100.00	0.02														
13	E01011219			100.00	0.17															100.00	0.19												
14	E01011220	100.00	0.02															100.00	0.02														
15	E01011221	100.00	0.04															100.00	0.05														
	Route Totals		0.17		0.21						0.13				0.02				0.20		0.24						0.15				0.02		
	Site Total	0.53																0.60															

Existing Site		Lidl. Station Road						Mirfield								Total Arrivals	58.00	Lidl. Station Road						Mirfield								Total Departures	66.00
Route		E1		E2		E3		E4		E5		E6		E7		E8		E1		E2		E3		E4		E5		E6		E7		E8	
Zone No.	Zones	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow
1	E01011100													100.00	0.31															100.00	0.35		
2	E01011103													100.00	0.28															100.00	0.32		
3	E01011108													100.00	0.41															100.00	0.46		
4	E01011132	100.00	2.11															100.00	2.40														
5	E01011133	100.00	0.45															100.00	0.51														
6	E01011212									100.00	7.04															100.00	8.01						
7	E01011213	100.00	2.13															100.00	2.43														
8	E01011214	OSA																OSA															
9	E01011215	OSA																OSA															
10	E01011216			100.00	2.25															100.00	2.56												
11	E01011217	100.00	0.78															100.00	0.89														
12	E01011218	100.00	0.85															100.00	0.97														
13	E01011219			100.00	9.25															100.00	10.52												
14	E01011220	100.00	0.96															100.00	1.09														
15	E01011221	100.00	2.44															100.00	2.77														
	Route Totals		9.72		11.50						7.04				1.00				11.06		13.09						8.01				1.13		
	Site Total	29.26																33.29															

Existing Site		Aldi. Gallagher Retail Park						Huddersfield								Total Arrivals	58.00	Aldi. Gallagher Retail Park						Huddersfield								Total Departures	66.00
Route		E1		E2		E3		E4		E5		E6		E7		E8		E1		E2		E3		E4		E5		E6		E7		E8	
Zone No.	Zones	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow
1	E01011100	OSA																OSA															
2	E01011103	OSA																OSA															
3	E01011108	OSA																OSA															
4	E01011132	OSA																OSA															
5	E01011133	OSA																OSA															
6	E01011212							100.00	0.66															100.00	0.75								
7	E01011213	OSA																OSA															
8	E01011214	OSA																OSA															
9	E01011215	OSA																OSA															
10	E01011216	OSA																OSA															
11	E01011217	OSA																OSA															
12	E01011218	OSA																OSA															
13	E01011219					100.00	1.94															100.00	2.21										
14	E01011220	OSA																OSA															
15	E01011221							100.00	0.49															100.00	0.56								
	Route Totals						1.94		1.15														2.21		1.31								
	Site Total	3.09																3.52															
	Combined Route Totals	10.20		12.07		1.94		1.15		7.39				1.04				11.60		13.73		2.21		1.31		8.41				1.19			

Time: Saturday 13.00 - 14.00

Proposed Site		Huddersfield Road						Mirfield								Total Arrivals	66.00	Huddersfield Road						Mirfield								Total Departures	60.00
Route		P1		P2		P3		P4		P5		P6		P7		P8		P1		P2		P3		P4		P5		P6		P7		P8	
Zone No.	Zones	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow
1	E01011100									100.00	1.01															100.00	0.92						
2	E01011103									100.00	0.90															100.00	0.82						
3	E01011108									100.00	1.33															100.00	1.21						
4	E01011132	100.00	4.50															100.00	4.09														
5	E01011133					100.00	1.03															100.00	0.94										
6	E01011212	100.00	11.25															100.00	10.23														
7	E01011213					100.00	3.32															100.00	3.01										
8	E01011214							100.00	2.65															100.00	2.41								
9	E01011215							100.00	4.70															100.00	4.27								
10	E01011216			100.00	5.40															100.00	4.91												
11	E01011217	100.00	2.31															100.00	2.10														
12	E01011218	100.00	2.56															100.00	2.33														
13	E01011219			100.00	17.75															100.00	16.13												
14	E01011220			100.00	2.26															100.00	2.06												
15	E01011221	100.00	5.03															100.00	4.58														
	Route Totals		25.65		25.41				7.35		3.24								23.32		23.10				6.68		2.94						
	Site Total	61.65																56.05															

Proposed Site		Co-op						Mirfield								Total Arrivals	66.00	Co-op						Mirfield								Total Departures	60.00
Route		E1		E2		E3		E4		E5		E6		E7		E8		E1		E2		E3		E4		E5		E6		E7		E8	
Zone No.	Zones	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow
1	E01011100													100.00	0.01															100.00	0.01		
2	E01011103													100.00	0.01															100.00	0.01		
3	E01011108													100.00	0.01															100.00	0.01		
4	E01011132	100.00	0.07															100.00	0.07														
5	E01011133	100.00	0.02															100.00	0.01														
6	E01011212									100.00	0.25															100.00	0.23						
7	E01011213	100.00	0.08															100.00	0.07														
8	E01011214	OSA																OSA															
9	E01011215	OSA																OSA															
10	E01011216			100.00	0.08															100.00	0.07												
11	E01011217	100.00	0.03															100.00	0.02														
12	E01011218	100.00	0.03															100.00	0.03														
13	E01011219			100.00	0.33															100.00	0.30												
14	E01011220	100.00	0.03															100.00	0.03														
15	E01011221	100.00	0.09															100.00	0.08														
	Route Totals		0.34		0.41						0.25				0.03				0.31		0.37						0.23				0.03		
	Site Total	1.03																0.94															

Existing Site		Zones 2-4						Trade Draw on								Total Arrivals	66.00	Zones 2-4						Trade Draw on								Total Departures	60.00
Route		E1		E2		E3		E4		E5		E6		E7		E8		E1		E2		E3		E4		E5		E6		E7		E8	
Zone No.	Zones	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow
1	E01011100													100.00	0.01															100.00	0.01		
2	E01011103													100.00	0.01															100.00	0.01		
3	E01011108													100.00	0.01															100.00	0.01		
4	E01011132	100.00	0.04															100.00	0.04														
5	E01011133	100.00	0.01															100.00	0.01														
6	E01011212									100.00	0.15															100.00	0.13						
7	E01011213	100.00	0.04															100.00	0.04														
8	E01011214	OSA																OSA															
9	E01011215	OSA																OSA															
10	E01011216			100.00	0.05															100.00	0.04												
11	E01011217	100.00	0.02															100.00	0.01														
12	E01011218	100.00	0.02															100.00	0.02														
13	E01011219			100.00	0.19															100.00	0.17												
14	E01011220	100.00	0.02															100.00	0.02														
15	E01011221	100.00	0.05															100.00	0.05														
	Route Totals		0.20		0.24						0.15				0.02				0.18		0.21						0.13				0.02		
	Site Total	0.60																0.55															

Existing Site		Lidl. Station Road						Mirfield								Total Arrivals	66.00	Lidl. Station Road						Mirfield								Total Departures	60.00
Route		E1		E2		E3		E4		E5		E6		E7		E8		E1		E2		E3		E4		E5		E6		E7		E8	
Zone No.	Zones	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow
1	E01011100													100.00	0.35															100.00	0.32		
2	E01011103													100.00	0.32															100.00	0.29		
3	E01011108													100.00	0.46															100.00	0.42		
4	E01011132	100.00	2.40															100.00	2.18														
5	E01011133	100.00	0.51															100.00	0.46														
6	E01011212									100.00	8.01															100.00	7.28						
7	E01011213	100.00	2.43															100.00	2.21														
8	E01011214	OSA																OSA															
9	E01011215	OSA																OSA															
10	E01011216			100.00	2.56															100.00	2.33												
11	E01011217	100.00	0.89															100.00	0.81														
12	E01011218	100.00	0.97															100.00	0.88														
13	E01011219			100.00	10.52															100.00	9.57												
14	E01011220	100.00	1.09															100.00	0.99														
15	E01011221	100.00																100.00	2.52														
	Route Totals		8.29		13.09						8.01				1.13				10.06		11.90						7.28				1.03		
	Site Total	30.52																30.27															

Existing Site		Aldi. Gallagher Retail Park						Huddersfield								Total Arrivals	58.00	Aldi. Gallagher Retail Park						Huddersfield								Total Departures	60.00
Route		E1		E2		E3		E4		E5		E6		E7		E8		E1		E2		E3		E4		E5		E6		E7		E8	
Zone No.	Zones	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow
1	E01011100	OSA																OSA															
2	E01011103	OSA																OSA															
3	E01011108	OSA																OSA														#REF!	
4	E01011132	OSA																OSA														#REF!	
5	E01011133	OSA								#REF!								OSA														#REF!	
6	E01011212							100.00	0.66															100.00	0.68							#REF!	
7	E01011213	OSA																OSA														#REF!	
8	E01011214	OSA																OSA														#REF!	
9	E01011215	OSA																OSA															
10	E01011216	OSA																OSA															
11	E01011217	OSA																OSA															
12	E01011218	OSA																OSA															
13	E01011219					100.00	1.94															100.00	2.01										
14	E01011220	OSA																OSA															
15	E01011221							100.00	0.49															100.00	0.51								
	Route Totals						1.94		1.15														2.01		1.19								
	Site Total	3.09																3.20															
	Combined Route Totals	8.83		13.73		1.94		1.15		8.41				1.19				10.55		12.48		2.01		1.19		7.64				1.08			

Time: Weekday 16.30 - 17.30

Proposed Site		Huddersfield Road						Mirfield								Total Arrivals	52.00	Huddersfield Road						Mirfield								Total Departures	52.00
Route		P1		P2		P3		P4		P5		P6		P7		P8		P1		P2		P3		P4		P5		P6		P7		P8	
Zone No.	Zones	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow
1	E01011100									100.00	0.79															100.00	0.79						
2	E01011103									100.00	0.71															100.00	0.71						
3	E01011108									100.00	1.04															100.00	1.04						
4	E01011132	100.00	3.54															100.00	3.54														
5	E01011133					100.00	0.81															100.00	0.81										
6	E01011212	100.00	8.86															100.00	8.86														
7	E01011213					100.00	2.61															100.00	2.61										
8	E01011214							100.00	2.09															100.00	2.09								
9	E01011215							100.00	3.70															100.00	3.70								
10	E01011216			100.00	4.25															100.00	4.25												
11	E01011217	100.00	1.82															100.00	1.82														
12	E01011218	100.00	2.02															100.00	2.02														
13	E01011219			100.00	13.98															100.00	13.98												
14	E01011220			100.00	1.78															100.00	1.78												
15	E01011221	100.00	3.97															100.00	3.97														
	Route Totals		20.21		20.02				5.79		2.55								20.21		20.02				5.79		2.55						
0.08	Site Total	48.57																48.57															

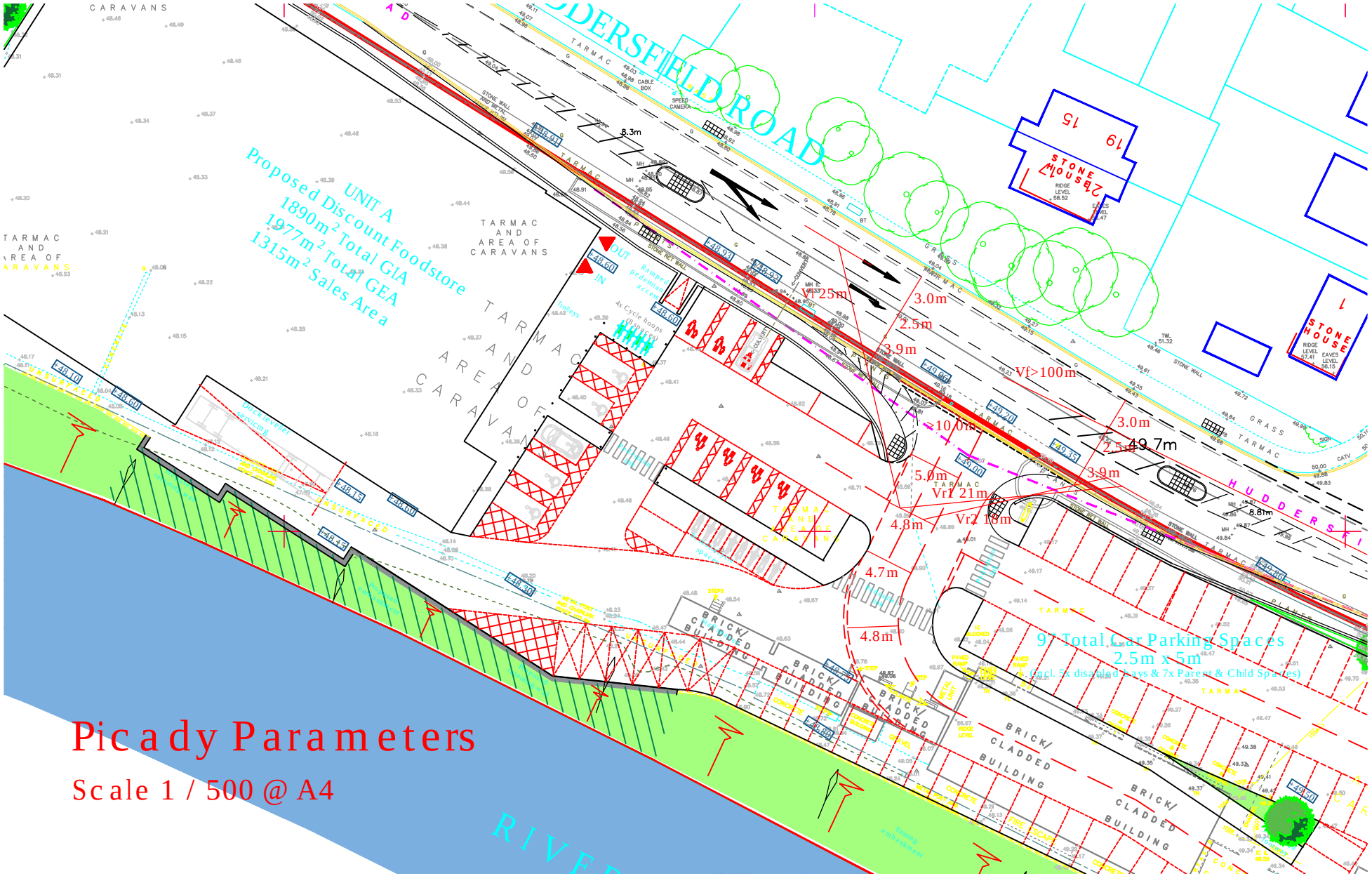
Proposed Site		Co-op						Mirfield								Total Arrivals	52.00	Co-op						Mirfield								Total Departures	52.00
Route		E1		E2		E3		E4		E5		E6		E7		E8		E1		E2		E3		E4		E5		E6		E7		E8	
Zone No.	Zones	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow
1	E01011100													100.00	0.01															100.00	0.01		
2	E01011103													100.00	0.01															100.00	0.01		
3	E01011108													100.00	0.01															100.00	0.01		
4	E01011132	100.00	0.06															100.00	0.06														
5	E01011133	100.00	0.01															100.00	0.01														
6	E01011212									100.00	0.20															100.00	0.20						
7	E01011213	100.00	0.06															100.00	0.06														
8	E01011214	OSA																OSA															
9	E01011215	OSA																OSA															
10	E01011216			100.00	0.06															100.00	0.06												
11	E01011217	100.00	0.02															100.00	0.02														
12	E01011218	100.00	0.02															100.00	0.02														
13	E01011219			100.00	0.26															100.00	0.26												
14	E01011220	100.00	0.03															100.00	0.03														
15	E01011221	100.00	0.07															100.00	0.07														
	Route Totals		0.27		0.32						0.20				0.03				0.27		0.32						0.20				0.03		
	Site Total	0.81																0.81															

Existing Site																Total Arrivals	52.00															Total Departures	52.00
Route		E1		E2		E3		E4		E5		E6		E7		E8		E1		E2		E3		E4		E5		E6		E7		E8	
Zone No.	Zones	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow
1	E01011100													100.00	0.00															100.00	0.00		
2	E01011103													100.00	0.00															100.00	0.00		
3	E01011108													100.00	0.01															100.00	0.01		
4	E01011132	100.00	0.03															100.00	0.03														
5	E01011133	100.00	0.01															100.00	0.01														
6	E01011212									100.00	0.11															100.00	0.11						
7	E01011213	100.00	0.03															100.00	0.03														
8	E01011214	OSA																OSA															
9	E01011215	OSA																OSA															
10	E01011216			100.00	0.04															100.00	0.04												
11	E01011217	100.00	0.01															100.00	0.01														
12	E01011218	100.00	0.01															100.00	0.01														
13	E01011219			100.00	0.15															100.00	0.15												
14	E01011220	100.00	0.02															100.00	0.02														
15	E01011221	100.00	0.04															100.00	0.04														
	Route Totals		0.16		0.19						0.11				0.02				0.16		0.19						0.11				0.02		
	Site Total	0.47																0.47															

Existing Site		Lidl. Station Road						Mirfield								Total Arrivals	52.00	Lidl. Station Road						Mirfield								Total Departures	52.00
Route		E1		E2		E3		E4		E5		E6		E7		E8		E1		E2		E3		E4		E5		E6		E7		E8	
Zone No.	Zones	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow
1	E01011100													100.00	0.28															100.00	0.28		
2	E01011103													100.00	0.25															100.00	0.25		
3	E01011108													100.00	0.37															100.00	0.37		
4	E01011132	100.00	1.89															100.00	1.89														
5	E01011133	100.00	0.40															100.00	0.40														
6	E01011212									100.00	6.31															100.00	6.31						
7	E01011213	100.00	1.91															100.00	1.91														
8	E01011214	OSA																OSA															
9	E01011215	OSA																OSA															
10	E01011216			100.00	2.02															100.00	2.02												
11	E01011217	100.00	0.70															100.00	0.70														
12	E01011218	100.00	0.77															100.00	0.77														
13	E01011219			100.00	8.29															100.00	8.29												
14	E01011220	100.00	0.86															100.00	0.86														
15	E01011221	100.00	2.19															100.00	2.19														
	Route Totals		8.72		10.31						6.31				0.89				8.72		10.31						6.31				0.89		
	Site Total	26.23																26.23															

Existing Site		Aldi. Gallagher Retail Park						Huddersfield								Total Arrivals	52.00	Aldi. Gallagher Retail Park						Huddersfield								Total Departures	52.00
Route		E1		E2		E3		E4		E5		E6		E7		E8		E1		E2		E3		E4		E5		E6		E7		E8	
Zone No.	Zones	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow	% Use	Flow
1	E01011100	OSA																OSA															
2	E01011103	OSA																OSA															
3	E01011108	OSA																OSA															
4	E01011132	OSA																OSA															
5	E01011133	OSA																OSA															
6	E01011212							100.00	0.59															100.00	0.59								
7	E01011213	OSA																OSA															
8	E01011214	OSA																OSA															
9	E01011215	OSA																OSA															
10	E01011216	OSA																OSA															
11	E01011217	OSA																OSA															
12	E01011218	OSA																OSA															
13	E01011219					100.00	1.74															100.00	1.74										
14	E01011220	OSA																OSA															
15	E01011221							100.00	0.44															100.00	0.44								
	Route Totals						1.74		1.03														1.74		1.03								
	Site Total	2.77																2.77															
	Combined Route Totals	9.14		10.82		1.74		1.03		6.62				0.94				9.14		10.82		1.74		1.03		6.62				0.94			

Appendix A
Assessment of Site Access



Picady Parameters

Scale 1 / 500 @ A4

Junctions 9

PICADY 9 - Priority Intersection Module

Filename: Site Access Picady.j9
Path: E:\Mirfield
Report generation date: 01/03/2020 10:19:17

Summary of junction performance

	Saturday 12.00 - 13.00			Saturday 13.00 -14.00			Weekday PM Peak Hour		
	Queue (Veh)	Delay (s)	RFC	Queue (Veh)	Delay (s)	RFC	Queue (Veh)	Delay (s)	RFC
	2025								
Stream B-C	0.1	7.98	0.11	0.1	7.96	0.10	0.1	8.56	0.09
Stream B-A	0.2	12.97	0.19	0.2	12.54	0.17	0.2	16.35	0.19
Stream C-AB	0.1	7.16	0.09	0.1	7.36	0.10	0.1	7.81	0.09

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	Huddersfield Road / Site Access
Location	Huddersfield Road. Mirfield
Date	28/02/2020
Client	Morbaine
Job Number	190203
Enumerator	TurnerLowe
Description	

Units

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

Analysis Options

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
5.75				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)	Run automatically
D1	2025	Saturday 12.00 - 13.00	ONE HOUR	11:45	13:15	15	✓
D2	2025	Saturday 13.00 - 14.00	ONE HOUR	12:45	14:15	15	✓
D3	2025	Weekday PM Peak Hour	ONE HOUR	16:15	17:45	15	✓

Analysis Set Details

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

2025, Saturday 12.00 - 13.00

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Huddersfield Road / Site Access	T-Junction	Two-way		1.70	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	Huddersfield Road (east)		Major
B	Site Access		Minor
C	Huddersfield Road (west)		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	6.90		✓	2.50	100.0	✓	6.00

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	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate flare length	Flare length (PCU)	Visibility to left (m)	Visibility to right (m)
B	One lane plus flare	10.00	5.00	4.80	4.70	4.70		5.00	25	20

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (Veh/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	500	0.087	0.221	0.139	0.316
1	B-C	620	0.091	0.231	-	-
1	C-B	653	0.243	0.243	-	-

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2025	Saturday 12.00 - 13.00	ONE HOUR	11:45	13:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	360	100.000
B		ONE HOUR	✓	112	100.000
C		ONE HOUR	✓	407	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	52	308
	B	61	0	51
	C	361	46	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	4
	B	0	0	0
	C	2	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-C	0.11	7.98	0.1	A	47	70
B-A	0.19	12.97	0.2	B	56	84
C-AB	0.09	7.16	0.1	A	42	63
C-A					331	497
A-B					48	72
A-C					283	424

Main Results for each time segment

11:45 - 12:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	38	10	545	0.070	38	0.0	0.1	7.099	A
B-A	46	11	394	0.117	45	0.0	0.1	10.320	B
C-AB	35	9	585	0.059	34	0.0	0.1	6.539	A
C-A	272	68			272				
A-B	39	10			39				
A-C	232	58			232				

12:00 - 12:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	46	11	529	0.087	46	0.1	0.1	7.447	A
B-A	55	14	373	0.147	55	0.1	0.2	11.298	B
C-AB	41	10	571	0.072	41	0.1	0.1	6.790	A
C-A	325	81			325				
A-B	47	12			47				
A-C	277	69			277				

12:15 - 12:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	56	14	507	0.111	56	0.1	0.1	7.974	A
B-A	67	17	345	0.195	67	0.2	0.2	12.947	B
C-AB	51	13	553	0.092	51	0.1	0.1	7.161	A
C-A	397	99			397				
A-B	57	14			57				
A-C	339	85			339				

12:30 - 12:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	56	14	507	0.111	56	0.1	0.1	7.980	A
B-A	67	17	345	0.195	67	0.2	0.2	12.971	B
C-AB	51	13	553	0.092	51	0.1	0.1	7.161	A
C-A	397	99			397				
A-B	57	14			57				
A-C	339	85			339				

12:45 - 13:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	46	11	529	0.087	46	0.1	0.1	7.459	A
B-A	55	14	373	0.147	55	0.2	0.2	11.327	B
C-AB	41	10	571	0.072	41	0.1	0.1	6.795	A
C-A	325	81			325				
A-B	47	12			47				
A-C	277	69			277				

13:00 - 13:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	38	10	544	0.071	38	0.1	0.1	7.120	A
B-A	46	11	394	0.117	46	0.2	0.1	10.357	B
C-AB	35	9	585	0.059	35	0.1	0.1	6.546	A
C-A	272	68			272				
A-B	39	10			39				
A-C	232	58			232				

2025, Saturday 13.00 -14.00

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Huddersfield Road / Site Access	T-Junction	Two-way		1.69	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)	Run automatically
D2	2025	Saturday 13.00 - 14.00	ONE HOUR	12:45	14:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	392	100.000
B		ONE HOUR	✓	102	100.000
C		ONE HOUR	✓	336	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	61	331
	B	55	0	47
	C	286	50	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	4
	B	0	0	0
	C	2	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-C	0.10	7.96	0.1	A	43	65
B-A	0.17	12.54	0.2	B	50	76
C-AB	0.10	7.36	0.1	A	46	69
C-A					262	394
A-B					56	84
A-C					304	456

Main Results for each time segment

12:45 - 13:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	35	9	543	0.065	35	0.0	0.1	7.088	A
B-A	41	10	395	0.105	41	0.0	0.1	10.143	B
C-AB	38	9	578	0.065	37	0.0	0.1	6.650	A
C-A	215	54			215				
A-B	46	11			46				
A-C	249	62			249				

13:00 - 13:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	42	11	527	0.080	42	0.1	0.1	7.430	A
B-A	49	12	375	0.132	49	0.1	0.1	11.037	B
C-AB	45	11	564	0.080	45	0.1	0.1	6.933	A
C-A	257	64			257				
A-B	55	14			55				
A-C	298	74			298				

13:15 - 13:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	52	13	504	0.103	52	0.1	0.1	7.949	A
B-A	61	15	348	0.174	60	0.1	0.2	12.522	B
C-AB	55	14	544	0.101	55	0.1	0.1	7.355	A
C-A	315	79			315				
A-B	67	17			67				
A-C	364	91			364				

13:30 - 13:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	52	13	504	0.103	52	0.1	0.1	7.956	A
B-A	61	15	348	0.174	61	0.2	0.2	12.541	B
C-AB	55	14	544	0.101	55	0.1	0.1	7.358	A
C-A	315	79			315				
A-B	67	17			67				
A-C	364	91			364				

13:45 - 14:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	42	11	526	0.080	42	0.1	0.1	7.437	A
B-A	49	12	375	0.132	50	0.2	0.2	11.061	B
C-AB	45	11	564	0.080	45	0.1	0.1	6.936	A
C-A	257	64			257				
A-B	55	14			55				
A-C	298	74			298				

14:00 - 14:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	35	9	542	0.065	35	0.1	0.1	7.104	A
B-A	41	10	395	0.105	42	0.2	0.1	10.175	B
C-AB	38	9	578	0.065	38	0.1	0.1	6.657	A
C-A	215	54			215				
A-B	46	11			46				
A-C	249	62			249				

2025, Weekday PM Peak Hour

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Huddersfield Road / Site Access	T-Junction	Two-way		1.17	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)	Run automatically
D3	2025	Weekday PM Peak Hour	ONE HOUR	16:15	17:45	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	527	100.000
B		ONE HOUR	✓	88	100.000
C		ONE HOUR	✓	597	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	46	481
	B	48	0	40
	C	555	42	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	3
	B	0	0	0
	C	2	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-C	0.09	8.56	0.1	A	37	55
B-A	0.19	16.35	0.2	C	44	66
C-AB	0.09	7.81	0.1	A	39	58
C-A					509	764
A-B					42	63
A-C					441	662

Main Results for each time segment

16:15 - 16:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	30	8	517	0.058	30	0.0	0.1	7.393	A
B-A	36	9	345	0.105	36	0.0	0.1	11.630	B
C-AB	32	8	553	0.057	31	0.0	0.1	6.895	A
C-A	418	104			418				
A-B	35	9			35				
A-C	362	91			362				

16:30 - 16:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	36	9	495	0.073	36	0.1	0.1	7.837	A
B-A	43	11	315	0.137	43	0.1	0.2	13.242	B
C-AB	38	9	534	0.071	38	0.1	0.1	7.254	A
C-A	499	125			499				
A-B	41	10			41				
A-C	432	108			432				

16:45 - 17:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	44	11	465	0.095	44	0.1	0.1	8.549	A
B-A	53	13	273	0.194	53	0.2	0.2	16.306	C
C-AB	46	12	507	0.091	46	0.1	0.1	7.804	A
C-A	611	153			611				
A-B	51	13			51				
A-C	530	132			530				

17:00 - 17:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	44	11	465	0.095	44	0.1	0.1	8.558	A
B-A	53	13	273	0.194	53	0.2	0.2	16.346	C
C-AB	46	12	507	0.091	46	0.1	0.1	7.807	A
C-A	611	153			611				
A-B	51	13			51				
A-C	530	132			530				

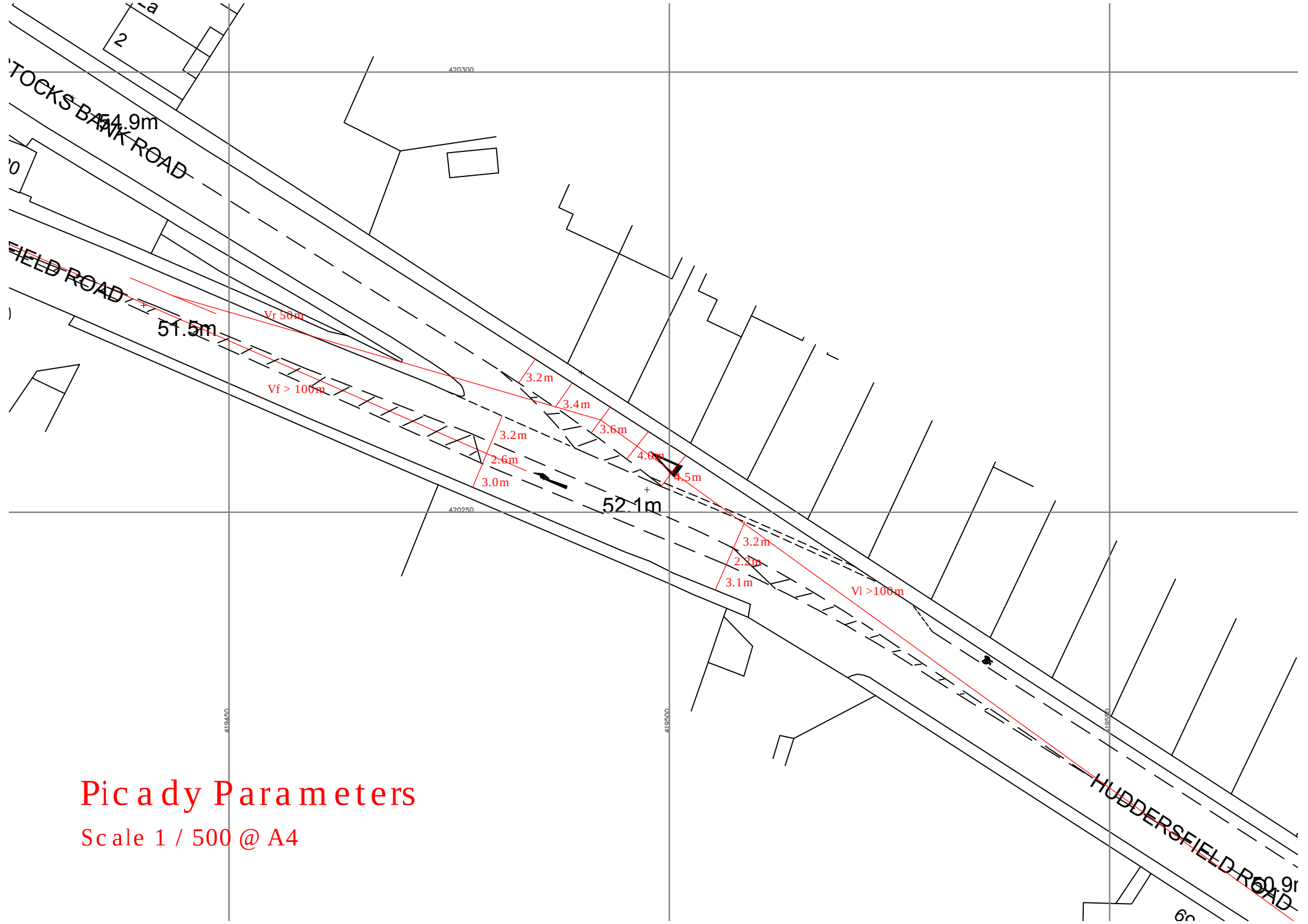
17:15 - 17:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	36	9	495	0.073	36	0.1	0.1	7.851	A
B-A	43	11	315	0.137	43	0.2	0.2	13.283	B
C-AB	38	9	534	0.071	38	0.1	0.1	7.259	A
C-A	499	125			499				
A-B	41	10			41				
A-C	432	108			432				

17:30 - 17:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	30	8	516	0.058	30	0.1	0.1	7.413	A
B-A	36	9	345	0.105	36	0.2	0.1	11.674	B
C-AB	32	8	553	0.057	32	0.1	0.1	6.902	A
C-A	418	104			418				
A-B	35	9			35				
A-C	362	91			362				

Appendix B
Assessment of Huddersfield Road / Stocks Bank Road Junction



Picady Parameters

Scale 1 / 500 @ A4

Junctions 9

PICADY 9 - Priority Intersection Module

Version: 9.5.0.6896

For sales and distribution information, program advice and maintenance, contact TRL:
+44 (0)1344 379777 software@trl.co.uk www.trlsoftware.co.uk

Filename: Stocks Bank Road Picady.j9
Path: E:\Mirfield
Report generation date: 01/03/2020 10:58:58

Summary of junction performance

	Saturday 12.00 - 13.00			Saturday 13.00 - 14.00			Weekday PM Peak Hour		
	Queue (Veh)	Delay (s)	RFC	Queue (Veh)	Delay (s)	RFC	Queue (Veh)	Delay (s)	RFC
	2025 Base								
Stream B-AC	0.2	7.76	0.18	0.1	6.82	0.12	0.3	9.23	0.24
Stream C-AB	0.3	8.27	0.22	0.2	7.41	0.15	0.6	11.58	0.38
	2025 With Dev								
Stream B-AC	0.2	7.82	0.18	0.2	6.86	0.14	0.3	9.27	0.25
Stream C-AB	0.3	8.59	0.25	0.2	7.63	0.18	0.7	12.01	0.41

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	Huddersfield Road / Stocks Bank Road
Location	Huddersfield Road. Mirfield
Date	28/02/2020
Client	Morbaine
Job Number	190203
Enumerator	TurnerLowe
Description	

Units

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

Analysis Options

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
5.75				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)	Run automatically
D1	2025 Base	Saturday 12.00 - 13.00	ONE HOUR	11:45	13:15	15	✓
D2	2025 Base	Saturday 13.00 - 14.00	ONE HOUR	12:45	14:15	15	✓
D3	2025 Base	Weekday PM Peak Hour	ONE HOUR	16:15	17:45	15	✓
D4	2025 With Dev	Saturday 12.00 - 13.00	ONE HOUR	11:45	13:15	15	✓
D5	2025 With Dev	Saturday 13.00 - 14.00	ONE HOUR	12:45	14:15	15	✓
D6	2025 With Dev	Weekday PM Peak Hour	ONE HOUR	16:15	17:45	15	✓

Analysis Set Details

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

2025 Base, Saturday 12.00 - 13.00

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Huddersfield Road / Site Access	T-Junction	Two-way		2.10	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	Huddersfield Road (west)		Major
B	Stocks Banks Road		Minor
C	Huddersfield Road (east)		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	6.20		✓	2.40	100.0	✓	5.00

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

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Visibility to left (m)	Visibility to right (m)
B	One lane	3.74	100	50

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (Veh/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	575	0.104	0.262	0.165	0.375
1	B-C	704	0.107	0.270	-	-
1	C-B	646	0.248	0.248	-	-

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)	Run automatically
D1	2025 Base	Saturday 12.00 - 13.00	ONE HOUR	11:45	13:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	319	100.000
B		ONE HOUR	✓	90	100.000
C		ONE HOUR	✓	336	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	6	313
	B	13	0	77
	C	226	110	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	3
	B	0	0	0
	C	5	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-AC	0.18	7.76	0.2	A	83	124
C-AB	0.22	8.27	0.3	A	101	151
C-A					207	311
A-B					6	8
A-C					287	431

Main Results for each time segment

11:45 - 12:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	68	17	602	0.113	67	0.0	0.1	6.728	A
C-AB	83	21	585	0.142	82	0.0	0.2	7.157	A
C-A	170	43			170				
A-B	5	1			5				
A-C	236	59			236				

12:00 - 12:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	81	20	586	0.138	81	0.1	0.2	7.127	A
C-AB	99	25	573	0.173	99	0.2	0.2	7.593	A
C-A	203	51			203				
A-B	5	1			5				
A-C	281	70			281				

12:15 - 12:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	99	25	563	0.176	99	0.2	0.2	7.752	A
C-AB	121	30	556	0.218	121	0.2	0.3	8.260	A
C-A	249	62			249				
A-B	7	2			7				
A-C	345	86			345				

12:30 - 12:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	99	25	563	0.176	99	0.2	0.2	7.759	A
C-AB	121	30	556	0.218	121	0.3	0.3	8.269	A
C-A	249	62			249				
A-B	7	2			7				
A-C	345	86			345				

12:45 - 13:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	81	20	586	0.138	81	0.2	0.2	7.139	A
C-AB	99	25	573	0.173	99	0.3	0.2	7.608	A
C-A	203	51			203				
A-B	5	1			5				
A-C	281	70			281				

13:00 - 13:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	68	17	602	0.113	68	0.2	0.1	6.746	A
C-AB	83	21	585	0.142	83	0.2	0.2	7.179	A
C-A	170	43			170				
A-B	5	1			5				
A-C	236	59			236				

2025 Base, Saturday 13.00 - 14.00

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Huddersfield Road / Site Access	T-Junction	Two-way		1.48	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)	Run automatically
D2	2025 Base	Saturday 13.00 - 14.00	ONE HOUR	12:45	14:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	262	100.000
B		ONE HOUR	✓	68	100.000
C		ONE HOUR	✓	362	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	8	254
	B	5	0	63
	C	283	79	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	2
	B	0	0	0
	C	5	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-AC	0.12	6.82	0.1	A	62	94
C-AB	0.15	7.41	0.2	A	72	109
C-A					260	390
A-B					7	11
A-C					233	350

Main Results for each time segment

12:45 - 13:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	51	13	632	0.081	51	0.0	0.1	6.191	A
C-AB	59	15	596	0.100	59	0.0	0.1	6.701	A
C-A	213	53			213				
A-B	6	2			6				
A-C	191	48			191				

13:00 - 13:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	61	15	620	0.099	61	0.1	0.1	6.442	A
C-AB	71	18	586	0.121	71	0.1	0.1	6.985	A
C-A	254	64			254				
A-B	7	2			7				
A-C	228	57			228				

13:15 - 13:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	75	19	603	0.124	75	0.1	0.1	6.813	A
C-AB	87	22	573	0.152	87	0.1	0.2	7.407	A
C-A	312	78			312				
A-B	9	2			9				
A-C	280	70			280				

13:30 - 13:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	75	19	603	0.124	75	0.1	0.1	6.816	A
C-AB	87	22	573	0.152	87	0.2	0.2	7.410	A
C-A	312	78			312				
A-B	9	2			9				
A-C	280	70			280				

13:45 - 14:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	61	15	620	0.099	61	0.1	0.1	6.448	A
C-AB	71	18	586	0.121	71	0.2	0.1	6.992	A
C-A	254	64			254				
A-B	7	2			7				
A-C	228	57			228				

14:00 - 14:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	51	13	632	0.081	51	0.1	0.1	6.200	A
C-AB	59	15	596	0.100	60	0.1	0.1	6.714	A
C-A	213	53			213				
A-B	6	2			6				
A-C	191	48			191				

2025 Base, Weekday PM Peak Hour

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Huddersfield Road / Site Access	T-Junction	Two-way		2.74	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)	Run automatically
D3	2025 Base	Weekday PM Peak Hour	ONE HOUR	16:15	17:45	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	484	100.000
B		ONE HOUR	✓	110	100.000
C		ONE HOUR	✓	505	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	4	480
	B	9	0	101
	C	330	175	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	3
	B	11	0	0
	C	4	2	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-AC	0.24	9.23	0.3	A	101	151
C-AB	0.38	11.58	0.6	B	161	242
C-A					302	453
A-B					4	6
A-C					440	661

Main Results for each time segment

16:15 - 16:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	83	21	569	0.146	82	0.0	0.2	7.388	A
C-AB	132	33	544	0.242	131	0.0	0.3	8.685	A
C-A	248	62			248				
A-B	3	0.75			3				
A-C	361	90			361				

16:30 - 16:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	99	25	545	0.181	99	0.2	0.2	8.063	A
C-AB	158	39	527	0.299	157	0.3	0.4	9.731	A
C-A	296	74			296				
A-B	4	0.90			4				
A-C	432	108			432				

16:45 - 17:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	121	30	511	0.237	121	0.2	0.3	9.215	A
C-AB	194	48	505	0.384	193	0.4	0.6	11.526	B
C-A	362	91			362				
A-B	4	1			4				
A-C	528	132			528				

17:00 - 17:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	121	30	511	0.237	121	0.3	0.3	9.233	A
C-AB	194	48	505	0.384	194	0.6	0.6	11.581	B
C-A	362	91			362				
A-B	4	1			4				
A-C	528	132			528				

17:15 - 17:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	99	25	545	0.181	99	0.3	0.2	8.084	A
C-AB	158	39	527	0.299	158	0.6	0.4	9.792	A
C-A	296	74			296				
A-B	4	0.90			4				
A-C	432	108			432				

17:30 - 17:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	83	21	569	0.146	83	0.2	0.2	7.419	A
C-AB	132	33	544	0.242	132	0.4	0.3	8.757	A
C-A	248	62			248				
A-B	3	0.75			3				
A-C	361	90			361				

2025 With Dev, Saturday 12.00 - 13.00

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Huddersfield Road / Site Access	T-Junction	Two-way		2.24	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)	Run automatically
D4	2025 With Dev	Saturday 12.00 - 13.00	ONE HOUR	11:45	13:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	323	100.000
B		ONE HOUR	✓	90	100.000
C		ONE HOUR	✓	359	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	4	319
	B	13	0	77
	C	235	124	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	3
	B	0	0	0
	C	5	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-AC	0.18	7.82	0.2	A	83	124
C-AB	0.25	8.59	0.3	A	114	171
C-A					216	323
A-B					4	6
A-C					293	439

Main Results for each time segment

11:45 - 12:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	68	17	600	0.113	67	0.0	0.1	6.758	A
C-AB	93	23	584	0.160	93	0.0	0.2	7.318	A
C-A	177	44			177				
A-B	3	0.75			3				
A-C	240	60			240				

12:00 - 12:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	81	20	583	0.139	81	0.1	0.2	7.169	A
C-AB	111	28	572	0.195	111	0.2	0.2	7.812	A
C-A	211	53			211				
A-B	4	0.90			4				
A-C	287	72			287				

12:15 - 12:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	99	25	559	0.177	99	0.2	0.2	7.816	A
C-AB	137	34	555	0.246	136	0.2	0.3	8.579	A
C-A	259	65			259				
A-B	4	1			4				
A-C	351	88			351				

12:30 - 12:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	99	25	559	0.177	99	0.2	0.2	7.823	A
C-AB	137	34	555	0.246	137	0.3	0.3	8.593	A
C-A	259	65			259				
A-B	4	1			4				
A-C	351	88			351				

12:45 - 13:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	81	20	583	0.139	81	0.2	0.2	7.178	A
C-AB	111	28	572	0.195	112	0.3	0.2	7.829	A
C-A	211	53			211				
A-B	4	0.90			4				
A-C	287	72			287				

13:00 - 13:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	68	17	599	0.113	68	0.2	0.1	6.774	A
C-AB	93	23	584	0.160	94	0.2	0.2	7.347	A
C-A	177	44			177				
A-B	3	0.75			3				
A-C	240	60			240				

2025 With Dev, Saturday 13.00 - 14.00

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Huddersfield Road / Site Access	T-Junction	Two-way		1.67	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)	Run automatically
D5	2025 With Dev	Saturday 13.00 - 14.00	ONE HOUR	12:45	14:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	266	100.000
B		ONE HOUR	✓	79	100.000
C		ONE HOUR	✓	378	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	6	260
	B	3	0	76
	C	287	91	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	2
	B	0	0	0
	C	5	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-AC	0.14	6.86	0.2	A	72	109
C-AB	0.18	7.63	0.2	A	84	125
C-A					263	395
A-B					6	8
A-C					239	358

Main Results for each time segment

12:45 - 13:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	59	15	639	0.093	59	0.0	0.1	6.198	A
C-AB	69	17	595	0.115	68	0.0	0.1	6.825	A
C-A	216	54			216				
A-B	5	1			5				
A-C	196	49			196				

13:00 - 13:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	71	18	628	0.113	71	0.1	0.1	6.463	A
C-AB	82	20	585	0.140	82	0.1	0.2	7.147	A
C-A	258	65			258				
A-B	5	1			5				
A-C	234	58			234				

13:15 - 13:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	87	22	612	0.142	87	0.1	0.2	6.855	A
C-AB	100	25	572	0.175	100	0.2	0.2	7.628	A
C-A	316	79			316				
A-B	7	2			7				
A-C	286	72			286				

13:30 - 13:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	87	22	612	0.142	87	0.2	0.2	6.858	A
C-AB	100	25	572	0.175	100	0.2	0.2	7.634	A
C-A	316	79			316				
A-B	7	2			7				
A-C	286	72			286				

13:45 - 14:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	71	18	628	0.113	71	0.2	0.1	6.469	A
C-AB	82	20	585	0.140	82	0.2	0.2	7.158	A
C-A	258	65			258				
A-B	5	1			5				
A-C	234	58			234				

14:00 - 14:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	59	15	639	0.093	60	0.1	0.1	6.208	A
C-AB	69	17	595	0.115	69	0.2	0.1	6.839	A
C-A	216	54			216				
A-B	5	1			5				
A-C	196	49			196				

2025 With Dev, Weekday PM Peak Hour

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Huddersfield Road / Site Access	T-Junction	Two-way		2.91	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)	Run automatically
D6	2025 With Dev	Weekday PM Peak Hour	ONE HOUR	16:15	17:45	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	488	100.000
B		ONE HOUR	✓	118	100.000
C		ONE HOUR	✓	521	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	2	486
	B	7	0	111
	C	336	185	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	3
	B	14	0	0
	C	4	2	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-AC	0.25	9.27	0.3	A	108	162
C-AB	0.41	12.01	0.7	B	170	256
C-A					308	461
A-B					2	3
A-C					446	669

Main Results for each time segment

16:15 - 16:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	89	22	574	0.155	88	0.0	0.2	7.391	A
C-AB	139	35	544	0.256	138	0.0	0.3	8.845	A
C-A	253	63			253				
A-B	2	0.38			2				
A-C	366	91			366				

16:30 - 16:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	106	27	551	0.192	106	0.2	0.2	8.076	A
C-AB	167	42	527	0.316	166	0.3	0.5	9.976	A
C-A	302	75			302				
A-B	2	0.45			2				
A-C	437	109			437				

16:45 - 17:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	130	32	518	0.251	130	0.2	0.3	9.250	A
C-AB	205	51	505	0.407	205	0.5	0.7	11.942	B
C-A	368	92			368				
A-B	2	0.55			2				
A-C	535	134			535				

17:00 - 17:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	130	32	518	0.251	130	0.3	0.3	9.270	A
C-AB	205	51	505	0.407	205	0.7	0.7	12.007	B
C-A	368	92			368				
A-B	2	0.55			2				
A-C	535	134			535				

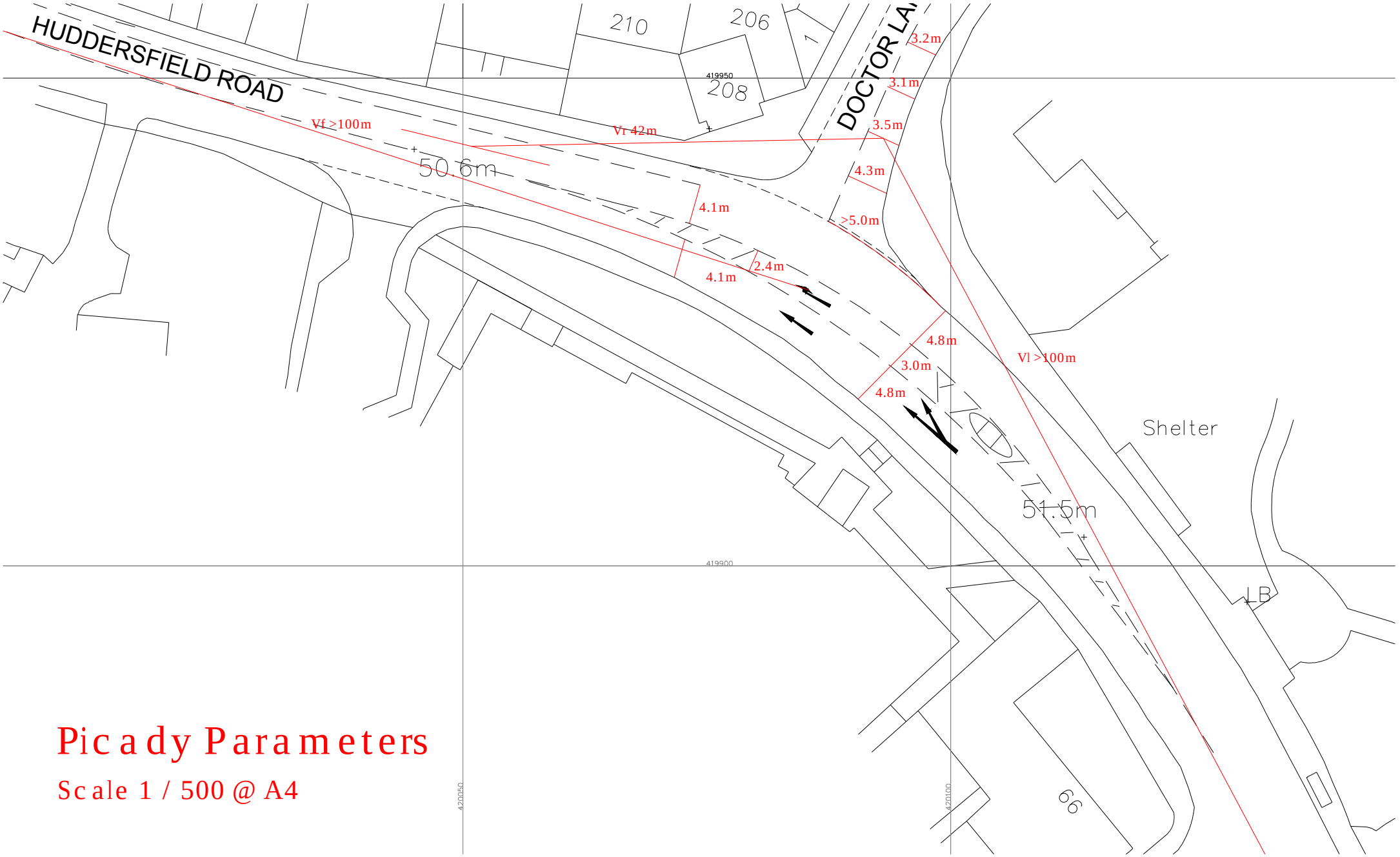
17:15 - 17:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	106	27	551	0.192	106	0.3	0.2	8.099	A
C-AB	167	42	527	0.316	167	0.7	0.5	10.049	B
C-A	302	75			302				
A-B	2	0.45			2				
A-C	437	109			437				

17:30 - 17:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	89	22	574	0.155	89	0.2	0.2	7.423	A
C-AB	139	35	544	0.256	140	0.5	0.3	8.926	A
C-A	253	63			253				
A-B	2	0.38			2				
A-C	366	91			366				

Appendix C
Assessment of Huddersfield Road / Doctor Lane Junction



Picady Parameters

Scale 1 / 500 @ A4

Junctions 9

PICADY 9 - Priority Intersection Module

Version: 9.5.0.6896

Filename: Doctor Lane Picady.j9
Path: E:\Mirfield
Report generation date: 01/03/2020 11:49:36

Summary of junction performance

	Saturday 12.00 - 13.00			Saturday 13.00 - 14.00			Weekday PM Peak Hour		
	Queue (Veh)	Delay (s)	RFC	Queue (Veh)	Delay (s)	RFC	Queue (Veh)	Delay (s)	RFC
	2025 Base								
Stream B-C	0.9	11.69	0.46	1.0	12.20	0.50	1.8	19.57	0.65
Stream B-A	0.2	14.11	0.15	0.2	10.93	0.15	0.2	18.84	0.20
Stream C-AB	0.5	9.38	0.33	0.4	8.52	0.29	0.7	11.08	0.40
	2025 With Dev								
Stream B-C	0.8	11.73	0.46	1.0	12.59	0.50	2.0	21.88	0.67
Stream B-A	0.2	11.97	0.19	0.3	11.95	0.22	0.5	25.92	0.34
Stream C-AB	0.5	9.33	0.32	0.4	8.45	0.28	0.6	10.87	0.38

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	Huddersfield Road / Doctor Lane
Location	Huddersfield Road. Mirfield
Date	28/02/2020
Client	Morbaine
Job Number	190203
Enumerator	TurnerLowe
Description	

Units

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

Analysis Options

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
5.75				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)	Run automatically
D1	2025 Base	Saturday 12.00 - 13.00	ONE HOUR	11:45	13:15	15	✓
D2	2025 Base	Saturday 13.00 - 14.00	ONE HOUR	12:45	14:15	15	✓
D3	2025 Base	Weekday PM Peak Hour	ONE HOUR	16:15	17:45	15	✓
D4	2025 With Dev	Saturday 12.00 - 13.00	ONE HOUR	11:45	13:15	15	✓
D5	2025 With Dev	Saturday 13.00 - 14.00	ONE HOUR	12:45	14:15	15	✓
D6	2025 With Dev	Weekday PM Peak Hour	ONE HOUR	16:15	17:45	15	✓

Analysis Set Details

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

2025 Base, Saturday 12.00 - 13.00

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Huddersfield Road / Doctor Lane	T-Junction	Two-way		4.46	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	Huddersfield Road (west)		Major
B	Doctor Lane		Minor
C	Huddersfield Road (east)		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	8.90		✓	2.70	100.0	✓	3.00

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	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate flare length	Flare length (PCU)	Visibility to left (m)	Visibility to right (m)
B	One lane plus flare	10.00	4.30	3.50	3.20	3.10		1.00	100	42

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (Veh/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	637	0.101	0.256	0.161	0.366
1	B-C	704	0.094	0.238	-	-
1	C-B	666	0.226	0.226	-	-

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)	Run automatically
D1	2025 Base	Saturday 12.00 - 13.00	ONE HOUR	11:45	13:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	390	100.000
B		ONE HOUR	✓	284	100.000
C		ONE HOUR	✓	462	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	53	337
	B	42	0	242
	C	294	168	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	2
	B	24	0	1
	C	3	1	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-C	0.46	11.69	0.9	B	222	333
B-A	0.15	14.11	0.2	B	39	58
C-AB	0.33	9.38	0.5	A	156	234
C-A					268	402
A-B					49	73
A-C					309	464

Main Results for each time segment

11:45 - 12:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	182	46	617	0.295	181	0.0	0.4	8.224	A
B-A	32	8	380	0.083	31	0.0	0.1	10.300	B
C-AB	127	32	594	0.214	126	0.0	0.3	7.675	A
C-A	221	55			221				
A-B	40	10			40				
A-C	254	63			254				

12:00 - 12:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	218	54	600	0.363	217	0.4	0.6	9.392	A
B-A	38	9	349	0.108	38	0.1	0.1	11.548	B
C-AB	152	38	583	0.261	152	0.3	0.4	8.336	A
C-A	263	66			263				
A-B	48	12			48				
A-C	303	76			303				

12:15 - 12:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	266	67	575	0.464	265	0.6	0.8	11.597	B
B-A	46	12	302	0.153	46	0.1	0.2	14.053	B
C-AB	189	47	573	0.330	188	0.4	0.5	9.354	A
C-A	320	80			320				
A-B	58	15			58				
A-C	371	93			371				

12:30 - 12:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	266	67	574	0.464	266	0.8	0.9	11.686	B
B-A	46	12	301	0.153	46	0.2	0.2	14.108	B
C-AB	189	47	573	0.330	189	0.5	0.5	9.381	A
C-A	320	80			320				
A-B	58	15			58				
A-C	371	93			371				

12:45 - 13:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	218	54	599	0.363	219	0.9	0.6	9.481	A
B-A	38	9	348	0.108	38	0.2	0.1	11.604	B
C-AB	152	38	584	0.261	153	0.5	0.4	8.372	A
C-A	263	66			263				
A-B	48	12			48				
A-C	303	76			303				

13:00 - 13:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	182	46	616	0.296	183	0.6	0.4	8.316	A
B-A	32	8	380	0.083	32	0.1	0.1	10.350	B
C-AB	127	32	594	0.214	127	0.4	0.3	7.722	A
C-A	221	55			221				
A-B	40	10			40				
A-C	254	63			254				

2025 Base, Saturday 13.00 - 14.00

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Huddersfield Road / Doctor Lane	T-Junction	Two-way		4.66	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)	Run automatically
D2	2025 Base	Saturday 13.00 - 14.00	ONE HOUR	12:45	14:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	317	100.000
B		ONE HOUR	✓	323	100.000
C		ONE HOUR	✓	465	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	58	259
	B	51	0	272
	C	311	154	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	2
	B	0	0	2
	C	4	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-C	0.50	12.20	1.0	B	250	374
B-A	0.15	10.93	0.2	B	47	70
C-AB	0.29	8.52	0.4	A	142	214
C-A					284	426
A-B					53	80
A-C					238	356

Main Results for each time segment

12:45 - 13:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	205	51	629	0.325	203	0.0	0.5	8.408	A
B-A	38	10	485	0.079	38	0.0	0.1	8.056	A
C-AB	116	29	613	0.190	115	0.0	0.2	7.217	A
C-A	234	58			234				
A-B	44	11			44				
A-C	195	49			195				

13:00 - 13:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	245	61	615	0.397	244	0.5	0.6	9.674	A
B-A	46	11	446	0.103	46	0.1	0.1	8.989	A
C-AB	139	35	604	0.230	139	0.2	0.3	7.731	A
C-A	279	70			279				
A-B	52	13			52				
A-C	233	58			233				

13:15 - 13:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	299	75	595	0.504	298	0.6	1.0	12.089	B
B-A	56	14	386	0.145	56	0.1	0.2	10.890	B
C-AB	172	43	594	0.289	172	0.3	0.4	8.501	A
C-A	340	85			340				
A-B	64	16			64				
A-C	285	71			285				

13:30 - 13:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	299	75	594	0.504	299	1.0	1.0	12.200	B
B-A	56	14	385	0.146	56	0.2	0.2	10.931	B
C-AB	172	43	595	0.289	172	0.4	0.4	8.517	A
C-A	340	85			340				
A-B	64	16			64				
A-C	285	71			285				

13:45 - 14:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	245	61	615	0.398	246	1.0	0.7	9.784	A
B-A	46	11	445	0.103	46	0.2	0.1	9.024	A
C-AB	139	35	605	0.230	140	0.4	0.3	7.754	A
C-A	279	70			279				
A-B	52	13			52				
A-C	233	58			233				

14:00 - 14:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	205	51	629	0.326	206	0.7	0.5	8.516	A
B-A	38	10	484	0.079	39	0.1	0.1	8.092	A
C-AB	116	29	613	0.190	117	0.3	0.2	7.251	A
C-A	234	58			234				
A-B	44	11			44				
A-C	195	49			195				

2025 Base, Weekday PM Peak Hour

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Huddersfield Road / Doctor Lane	T-Junction	Two-way		5.64	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)	Run automatically
D3	2025 Base	Weekday PM Peak Hour	ONE HOUR	16:15	17:45	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	581	100.000
B		ONE HOUR	✓	355	100.000
C		ONE HOUR	✓	643	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	63	518
	B	44	0	311
	C	461	182	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	3
	B	0	0	1
	C	4	3	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-C	0.65	19.57	1.8	C	285	428
B-A	0.20	18.84	0.2	C	40	61
C-AB	0.40	11.08	0.7	B	173	260
C-A					417	625
A-B					58	87
A-C					475	713

Main Results for each time segment

16:15 - 16:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	234	59	587	0.399	232	0.0	0.7	10.047	B
B-A	33	8	397	0.083	33	0.0	0.1	9.882	A
C-AB	139	35	556	0.249	137	0.0	0.3	8.560	A
C-A	346	86			346				
A-B	47	12			47				
A-C	390	97			390				

16:30 - 16:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	280	70	563	0.497	278	0.7	1.0	12.588	B
B-A	40	10	336	0.118	39	0.1	0.1	12.125	B
C-AB	168	42	545	0.308	167	0.3	0.4	9.522	A
C-A	410	103			410				
A-B	57	14			57				
A-C	466	116			466				

16:45 - 17:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	342	86	526	0.651	339	1.0	1.8	18.934	C
B-A	48	12	242	0.200	48	0.1	0.2	18.508	C
C-AB	214	53	539	0.397	213	0.4	0.7	11.012	B
C-A	494	124			494				
A-B	69	17			69				
A-C	570	143			570				

17:00 - 17:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	342	86	526	0.651	342	1.8	1.8	19.567	C
B-A	48	12	240	0.202	48	0.2	0.2	18.835	C
C-AB	214	53	539	0.397	214	0.7	0.7	11.075	B
C-A	494	124			494				
A-B	69	17			69				
A-C	570	143			570				

17:15 - 17:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	280	70	563	0.497	283	1.8	1.0	13.007	B
B-A	40	10	334	0.119	40	0.2	0.1	12.285	B
C-AB	168	42	545	0.308	169	0.7	0.5	9.598	A
C-A	410	103			410				
A-B	57	14			57				
A-C	466	116			466				

17:30 - 17:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	234	59	587	0.399	235	1.0	0.7	10.281	B
B-A	33	8	395	0.084	33	0.1	0.1	9.962	A
C-AB	139	35	557	0.249	139	0.5	0.3	8.635	A
C-A	346	86			346				
A-B	47	12			47				
A-C	390	97			390				

2025 With Dev, Saturday 12.00 - 13.00

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Huddersfield Road / Doctor Lane	T-Junction	Two-way		4.27	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)	Run automatically
D4	2025 With Dev	Saturday 12.00 - 13.00	ONE HOUR	11:45	13:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	412	100.000
B		ONE HOUR	✓	297	100.000
C		ONE HOUR	✓	455	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	74	338
	B	63	0	234
	C	295	160	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	2
	B	2	0	1
	C	3	1	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-C	0.46	11.73	0.8	B	215	322
B-A	0.19	11.97	0.2	B	58	87
C-AB	0.32	9.33	0.5	A	148	223
C-A					269	404
A-B					68	102
A-C					310	465

Main Results for each time segment

11:45 - 12:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	176	44	611	0.288	175	0.0	0.4	8.220	A
B-A	47	12	465	0.102	47	0.0	0.1	8.597	A
C-AB	121	30	589	0.205	120	0.0	0.3	7.654	A
C-A	222	55			222				
A-B	56	14			56				
A-C	254	64			254				

12:00 - 12:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	210	53	592	0.355	210	0.4	0.5	9.392	A
B-A	57	14	428	0.132	56	0.1	0.2	9.695	A
C-AB	145	36	578	0.251	145	0.3	0.3	8.300	A
C-A	264	66			264				
A-B	67	17			67				
A-C	304	76			304				

12:15 - 12:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	258	64	565	0.456	257	0.5	0.8	11.640	B
B-A	69	17	371	0.187	69	0.2	0.2	11.920	B
C-AB	180	45	566	0.318	179	0.3	0.5	9.303	A
C-A	321	80			321				
A-B	81	20			81				
A-C	372	93			372				

12:30 - 12:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	258	64	564	0.456	258	0.8	0.8	11.728	B
B-A	69	17	370	0.187	69	0.2	0.2	11.969	B
C-AB	180	45	566	0.318	180	0.5	0.5	9.329	A
C-A	321	80			321				
A-B	81	20			81				
A-C	372	93			372				

12:45 - 13:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	210	53	592	0.355	211	0.8	0.6	9.482	A
B-A	57	14	427	0.133	57	0.2	0.2	9.738	A
C-AB	145	36	578	0.251	145	0.5	0.3	8.334	A
C-A	264	66			264				
A-B	67	17			67				
A-C	304	76			304				

13:00 - 13:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	176	44	611	0.288	177	0.6	0.4	8.307	A
B-A	47	12	464	0.102	48	0.2	0.1	8.639	A
C-AB	121	30	589	0.205	121	0.3	0.3	7.697	A
C-A	222	55			222				
A-B	56	14			56				
A-C	254	64			254				

2025 With Dev, Saturday 13.00 - 14.00

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Huddersfield Road / Doctor Lane	T-Junction	Two-way		4.75	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)	Run automatically
D5	2025 With Dev	Saturday 13.00 - 14.00	ONE HOUR	12:45	14:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	341	100.000
B		ONE HOUR	✓	341	100.000
C		ONE HOUR	✓	459	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	82	259
	B	78	0	263
	C	314	145	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	2
	B	0	0	2
	C	4	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-C	0.50	12.59	1.0	B	241	362
B-A	0.22	11.95	0.3	B	72	107
C-AB	0.28	8.45	0.4	A	134	201
C-A					287	431
A-B					75	113
A-C					238	356

Main Results for each time segment

12:45 - 13:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	198	50	620	0.320	196	0.0	0.5	8.467	A
B-A	59	15	486	0.121	58	0.0	0.1	8.409	A
C-AB	109	27	609	0.180	109	0.0	0.2	7.184	A
C-A	236	59			236				
A-B	62	15			62				
A-C	195	49			195				

13:00 - 13:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	236	59	602	0.392	236	0.5	0.6	9.798	A
B-A	70	18	448	0.157	70	0.1	0.2	9.524	A
C-AB	131	33	599	0.219	131	0.2	0.3	7.683	A
C-A	282	70			282				
A-B	74	18			74				
A-C	233	58			233				

13:15 - 13:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	290	72	576	0.503	288	0.6	1.0	12.457	B
B-A	86	21	388	0.221	85	0.2	0.3	11.883	B
C-AB	162	40	587	0.275	161	0.3	0.4	8.437	A
C-A	344	86			344				
A-B	90	23			90				
A-C	285	71			285				

13:30 - 13:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	290	72	575	0.503	290	1.0	1.0	12.586	B
B-A	86	21	387	0.222	86	0.3	0.3	11.948	B
C-AB	162	40	588	0.275	162	0.4	0.4	8.452	A
C-A	344	86			344				
A-B	90	23			90				
A-C	285	71			285				

13:45 - 14:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	236	59	602	0.393	238	1.0	0.7	9.920	A
B-A	70	18	447	0.157	70	0.3	0.2	9.578	A
C-AB	131	33	599	0.219	131	0.4	0.3	7.705	A
C-A	282	70			282				
A-B	74	18			74				
A-C	233	58			233				

14:00 - 14:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	198	50	619	0.320	199	0.7	0.5	8.575	A
B-A	59	15	485	0.121	59	0.2	0.1	8.458	A
C-AB	109	27	609	0.180	110	0.3	0.2	7.216	A
C-A	236	59			236				
A-B	62	15			62				
A-C	195	49			195				

2025 With Dev, Weekday PM Peak Hour

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Huddersfield Road / Doctor Lane	T-Junction	Two-way		6.51	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)	Run automatically
D6	2025 With Dev	Weekday PM Peak Hour	ONE HOUR	16:15	17:45	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	581	100.000
B		ONE HOUR	✓	368	100.000
C		ONE HOUR	✓	636	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	63	518
	B	65	0	303
	C	462	174	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	3
	B	14	0	1
	C	4	3	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-C	0.67	21.88	2.0	C	278	417
B-A	0.34	25.92	0.5	D	60	89
C-AB	0.38	10.87	0.6	B	165	248
C-A					419	628
A-B					58	87
A-C					475	713

Main Results for each time segment

16:15 - 16:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	228	57	576	0.396	226	0.0	0.6	10.187	B
B-A	49	12	350	0.140	48	0.0	0.2	11.918	B
C-AB	132	33	555	0.238	131	0.0	0.3	8.471	A
C-A	347	87			347				
A-B	47	12			47				
A-C	390	97			390				

16:30 - 16:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	272	68	547	0.498	271	0.6	1.0	12.980	B
B-A	58	15	297	0.197	58	0.2	0.2	15.061	C
C-AB	160	40	542	0.295	159	0.3	0.4	9.395	A
C-A	412	103			412				
A-B	57	14			57				
A-C	466	116			466				

16:45 - 17:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	334	83	498	0.669	330	1.0	1.9	20.892	C
B-A	72	18	213	0.336	71	0.2	0.5	25.115	D
C-AB	203	51	534	0.380	202	0.4	0.6	10.818	B
C-A	497	124			497				
A-B	69	17			69				
A-C	570	143			570				

17:00 - 17:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	334	83	497	0.671	333	1.9	2.0	21.876	C
B-A	72	18	210	0.340	71	0.5	0.5	25.924	D
C-AB	203	51	534	0.380	203	0.6	0.6	10.872	B
C-A	497	124			497				
A-B	69	17			69				
A-C	570	143			570				

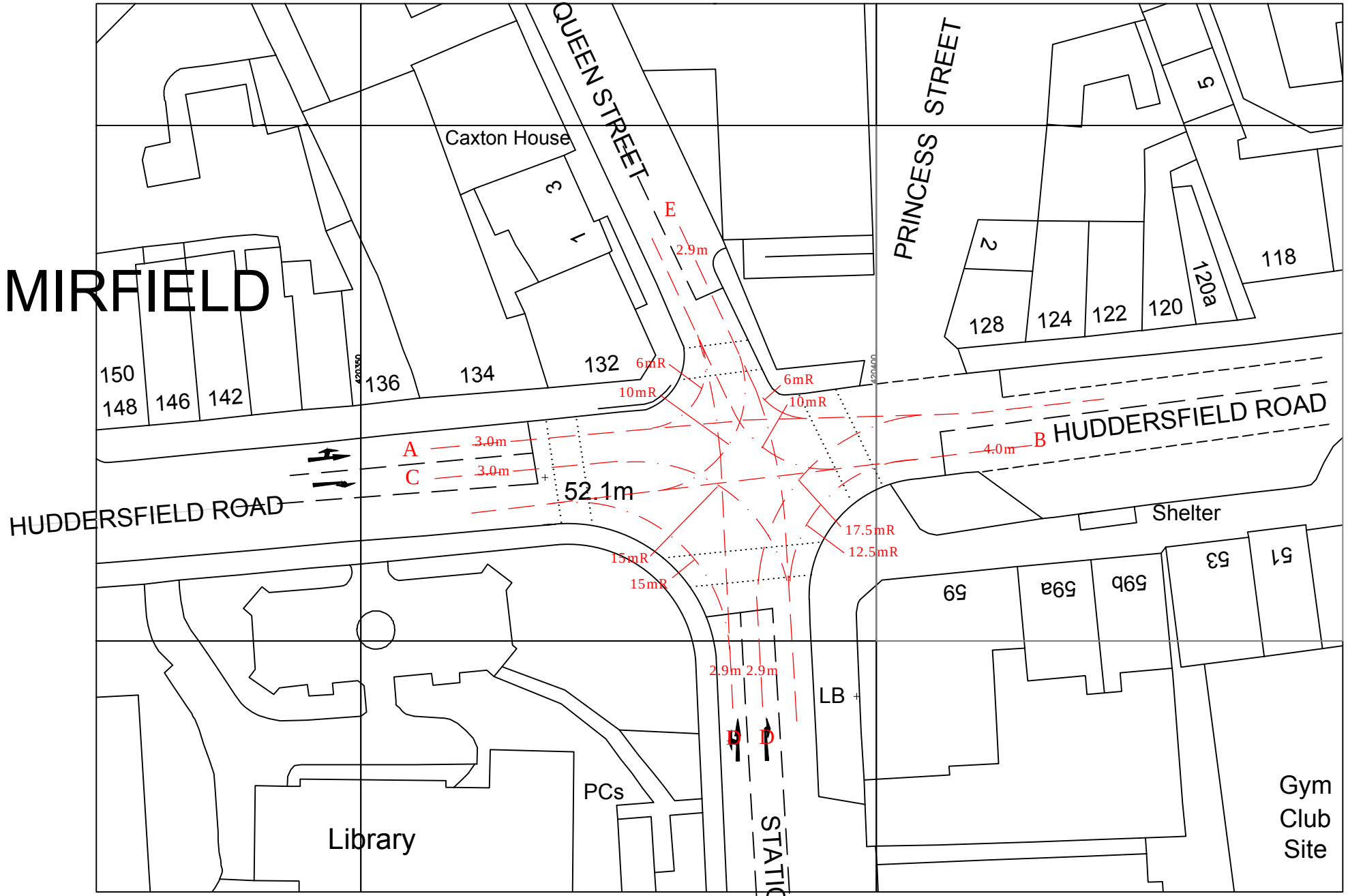
17:15 - 17:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	272	68	546	0.499	276	2.0	1.0	13.523	B
B-A	58	15	294	0.199	59	0.5	0.3	15.395	C
C-AB	160	40	542	0.295	161	0.6	0.4	9.460	A
C-A	412	103			412				
A-B	57	14			57				
A-C	466	116			466				

17:30 - 17:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	228	57	576	0.396	230	1.0	0.7	10.441	B
B-A	49	12	348	0.141	49	0.3	0.2	12.065	B
C-AB	132	33	555	0.238	133	0.4	0.3	8.539	A
C-A	347	87			347				
A-B	47	12			47				
A-C	390	97			390				

Appendix D
Assessment of Huddersfield Road / Station Road / Queen Street Junction

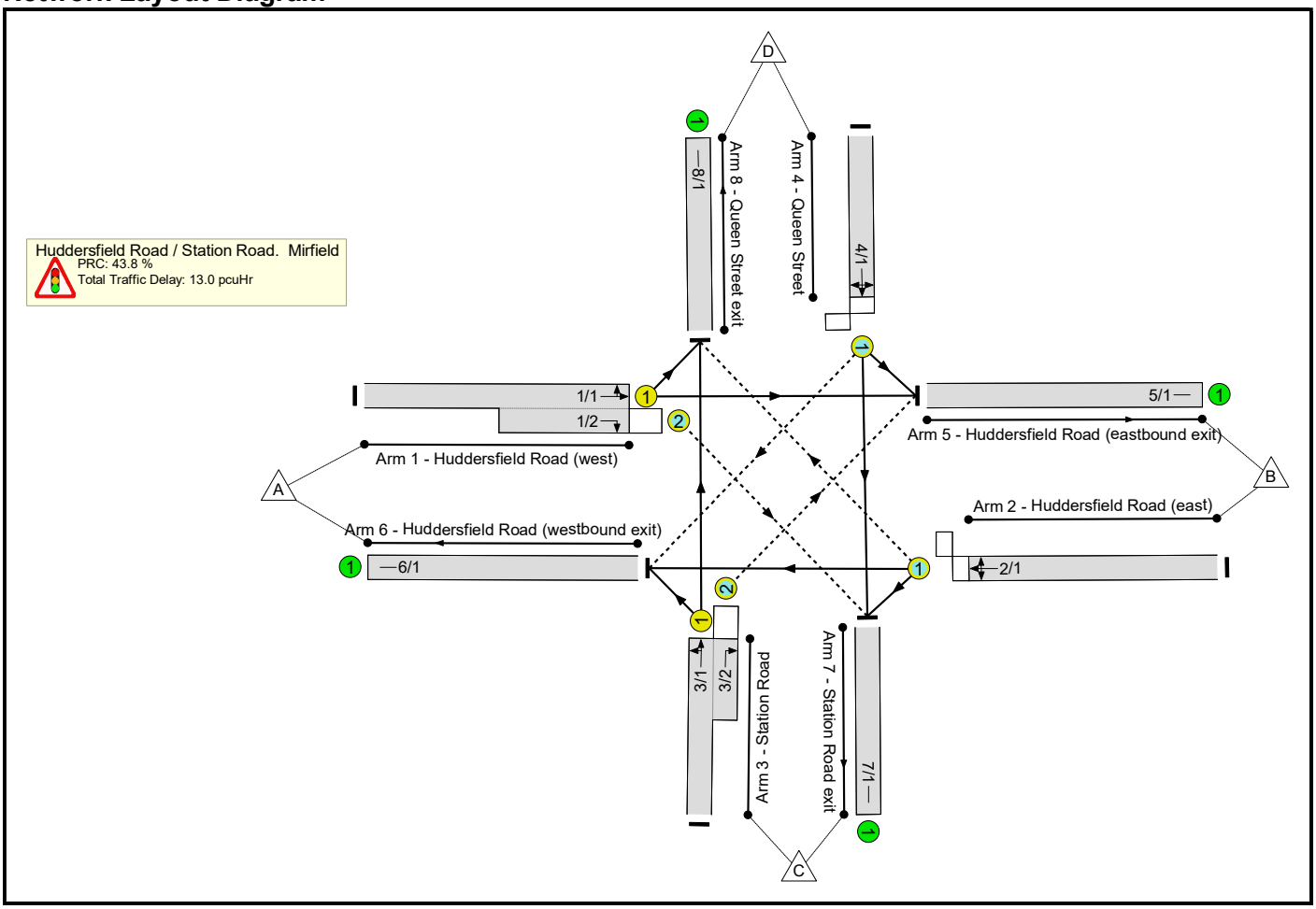


Linsig Parameters

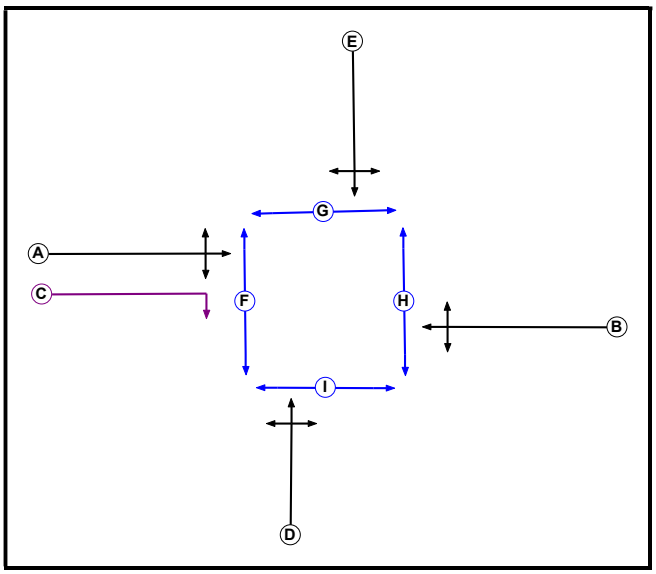
Scale 1 / 500 @ A4

Project:	**Huddersfield Road. Mirfield**
Title:	**Huddersfield Road / Station Road / Queen Street**
File name:	Mirfield 2025.lsg
Author:	J Lowe
Company:	Turner Lowe Associates
Client:	Morbaine
Notes:	

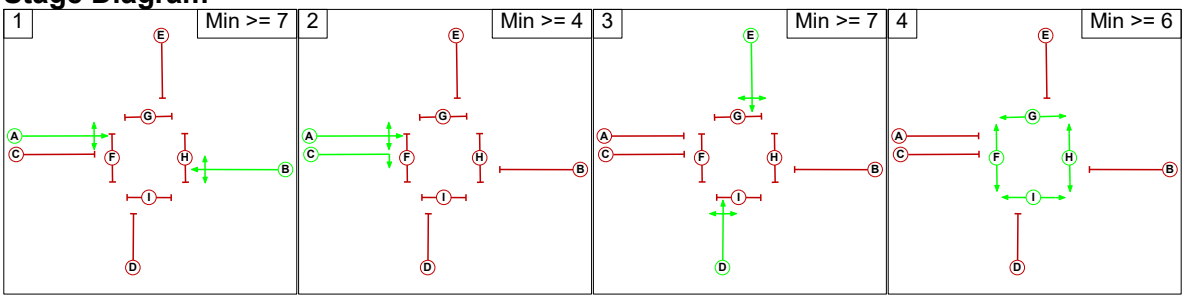
Network Layout Diagram



Phase Diagram



Stage Diagram



Phase Input Data

Phase Name	Phase Type	Assoc. Phase	Street Min	Cont Min
A	Traffic		7	7
B	Traffic		7	7
C	Ind. Arrow	A	4	4
D	Traffic		7	7
E	Traffic		7	7
F	Pedestrian		6	6
G	Pedestrian		6	6
H	Pedestrian		6	6
I	Pedestrian		6	6

Phase Intergreens Matrix

		Starting Phase								
		A	B	C	D	E	F	G	H	I
Terminating Phase	A		-	-	5	5	5	5	5	5
	B	-		3	5	5	5	5	5	5
	C	-	-		5	5	5	5	5	5
	D	5	5	5		-	5	5	5	5
	E	5	5	5	-		5	5	5	5
	F	8	8	8	8	8		-	-	-
	G	8	8	8	8	8	-		-	-
	H	8	8	8	8	8	-	-		-
	I	8	8	8	8	8	-	-	-	

Phase Delays

Term. Stage	Start Stage	Phase	Type	Value	Cont value
There are no Phase Delays defined					

Prohibited Stage Change

	To Stage				
		1	2	3	4
From Stage	1		3	5	5
	2	2		5	5
	3	5	5		5
	4	8	8	8	

Phases in Stage

Stage No.	Phases in Stage
1	A B
2	A C
3	D E
4	F G H I

Give-Way Lane Input Data

Junction: Huddersfield Road / Station Road. Mirfield											
Lane	**Movement**	**Max Flow when Giving Way (PCU/Hr)**	**Min Flow when Giving Way (PCU/Hr)**	**Opposing Lane**	**Opp. Lane Coeff.**	**Opp. Mvmnts.**	**Right Turn Storage (PCU)**	**Non-Blocking Storage (PCU)**	**RTF**	**Right Turn Move up (s)**	**Max Turns in Intergreen (PCU)**
1/2 (Huddersfield Road (west))	7/1 (Right)	1439	0	2/1	1.09	To 6/1 (Ahead) To 7/1 (Left)	2.00	-	0.50	2	2.00
2/1 (Huddersfield Road (east))	8/1 (Right)	1439	0	1/1	1.09	All	2.00	1.00	0.50	2	2.00
3/2 (Station Road)	5/1 (Right)	1439	0	4/1	1.09	To 5/1 (Left) To 7/1 (Ahead)	2.00	-	0.50	2	2.00
4/1 (Queen Street)	6/1 (Right)	1439	0	3/1	1.09	All	2.00	1.00	0.50	2	2.00

Lane Input Data

Junction: Huddersfield Road / Station Road. Mirfield												
Lane	**Lane Type**	**Phases**	**Start Disp.**	**End Disp.**	**Physical Length (PCU)**	**Sat Flow Type**	**Def User Saturation Flow (PCU/Hr)**	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Turns**	**Turning Radius (m)**
1/1 (Huddersfield Road (west))	U	A	2	3	60.0	Geom	-	3.00	0.00	Y	Arm 5 Ahead	Inf
											Arm 8 Left	6.00
1/2 (Huddersfield Road (west))	O	A C	2	3	8.0	Geom	-	3.00	0.00	N	Arm 7 Right	15.00
2/1 (Huddersfield Road (east))	O	B	2	3	60.0	Geom	-	4.00	0.00	Y	Arm 6 Ahead	Inf
											Arm 7 Left	12.50
											Arm 8 Right	10.00
3/1 (Station Road)	U	D	2	3	60.0	Geom	-	2.90	0.00	Y	Arm 6 Left	15.00
											Arm 8 Ahead	Inf
3/2 (Station Road)	O	D	2	3	5.0	Geom	-	2.90	0.00	N	Arm 5 Right	17.50
4/1 (Queen Street)	O	E	2	3	60.0	Geom	-	2.90	0.00	Y	Arm 5 Left	6.00
											Arm 6 Right	Inf
											Arm 7 Ahead	10.00
5/1 (Huddersfield Road (eastbound exit))	U		2	3	60.0	Inf	-	-	-	-	-	-
6/1 (Huddersfield Road (westbound exit))	U		2	3	60.0	Inf	-	-	-	-	-	-
7/1 (Station Road exit)	U		2	3	60.0	Inf	-	-	-	-	-	-
8/1 (Queen Street exit)	U		2	3	60.0	Inf	-	-	-	-	-	-

Lane Saturation Flows

Scenario 1: 'Scenario 1' (FG1: 'Sat 12.00 - 13.00 Base', Plan 1: 'Network Control Plan 1')

Junction: Huddersfield Road / Station Road. Mirfield

Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (Huddersfield Road (west))	3.00	0.00	Y	Arm 5 Ahead	Inf	97.9 %	1905	1905
				Arm 8 Left	6.00	2.1 %		
1/2 (Huddersfield Road (west))	3.00	0.00	N	Arm 7 Right	15.00	100.0 %	1868	1868
2/1 (Huddersfield Road (east))	4.00	0.00	Y	Arm 6 Ahead	Inf	64.4 %	1932	1932
				Arm 7 Left	12.50	35.3 %		
				Arm 8 Right	10.00	0.2 %		
3/1 (Station Road)	2.90	0.00	Y	Arm 6 Left	15.00	98.8 %	1734	1734
				Arm 8 Ahead	Inf	1.2 %		
3/2 (Station Road)	2.90	0.00	N	Arm 5 Right	17.50	100.0 %	1884	1884
4/1 (Queen Street)	2.90	0.00	Y	Arm 5 Left	6.00	36.7 %	1665	1665
				Arm 6 Right	Inf	28.6 %		
				Arm 7 Ahead	10.00	34.7 %		
5/1 (Huddersfield Road (eastbound exit) Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (Huddersfield Road (westbound exit) Lane 1)	Infinite Saturation Flow						Inf	Inf
7/1 (Station Road exit Lane 1)	Infinite Saturation Flow						Inf	Inf
8/1 (Queen Street exit Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 2: 'Scenario 2' (FG2: 'Sat 12.00 - 13.00 With Dev', Plan 1: 'Network Control Plan 1')

Junction: Huddersfield Road / Station Road. Mirfield								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (Huddersfield Road (west))	3.00	0.00	Y	Arm 5 Ahead	Inf	97.9 %	1905	1905
				Arm 8 Left	6.00	2.1 %		
1/2 (Huddersfield Road (west))	3.00	0.00	N	Arm 7 Right	15.00	100.0 %	1868	1868
2/1 (Huddersfield Road (east))	4.00	0.00	Y	Arm 6 Ahead	Inf	66.2 %	1936	1936
				Arm 7 Left	12.50	33.5 %		
				Arm 8 Right	10.00	0.2 %		
3/1 (Station Road)	2.90	0.00	Y	Arm 6 Left	15.00	98.6 %	1734	1734
				Arm 8 Ahead	Inf	1.4 %		
3/2 (Station Road)	2.90	0.00	N	Arm 5 Right	17.50	100.0 %	1884	1884
4/1 (Queen Street)	2.90	0.00	Y	Arm 5 Left	6.00	36.7 %	1665	1665
				Arm 6 Right	Inf	28.6 %		
				Arm 7 Ahead	10.00	34.7 %		
5/1 (Huddersfield Road (eastbound exit) Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (Huddersfield Road (westbound exit) Lane 1)	Infinite Saturation Flow						Inf	Inf
7/1 (Station Road exit Lane 1)	Infinite Saturation Flow						Inf	Inf
8/1 (Queen Street exit Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 3: 'Scenario 3' (FG3: 'Sat 13.00 - 14.00 Base', Plan 1: 'Network Control Plan 1')

Junction: Huddersfield Road / Station Road. Mirfield								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (Huddersfield Road (west))	3.00	0.00	Y	Arm 5 Ahead	Inf	99.2 %	1911	1911
				Arm 8 Left	6.00	0.8 %		
1/2 (Huddersfield Road (west))	3.00	0.00	N	Arm 7 Right	15.00	100.0 %	1868	1868
2/1 (Huddersfield Road (east))	4.00	0.00	Y	Arm 6 Ahead	Inf	62.8 %	1929	1929
				Arm 7 Left	12.50	36.8 %		
				Arm 8 Right	10.00	0.4 %		
3/1 (Station Road)	2.90	0.00	Y	Arm 6 Left	15.00	99.4 %	1733	1733
				Arm 8 Ahead	Inf	0.6 %		
3/2 (Station Road)	2.90	0.00	N	Arm 5 Right	17.50	100.0 %	1884	1884
4/1 (Queen Street)	2.90	0.00	Y	Arm 5 Left	6.00	24.4 %	1718	1718
				Arm 6 Right	Inf	43.9 %		
				Arm 7 Ahead	10.00	31.7 %		
5/1 (Huddersfield Road (eastbound exit) Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (Huddersfield Road (westbound exit) Lane 1)	Infinite Saturation Flow						Inf	Inf
7/1 (Station Road exit Lane 1)	Infinite Saturation Flow						Inf	Inf
8/1 (Queen Street exit Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 4: 'Scenario 4' (FG4: 'Sat 13.00 - 14.00 With Dev', Plan 1: 'Network Control Plan 1')

Junction: Huddersfield Road / Station Road. Mirfield								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (Huddersfield Road (west))	3.00	0.00	Y	Arm 5 Ahead	Inf	99.2 %	1911	1911
				Arm 8 Left	6.00	0.8 %		
1/2 (Huddersfield Road (west))	3.00	0.00	N	Arm 7 Right	15.00	100.0 %	1868	1868
2/1 (Huddersfield Road (east))	4.00	0.00	Y	Arm 6 Ahead	Inf	64.7 %	1933	1933
				Arm 7 Left	12.50	34.9 %		
				Arm 8 Right	10.00	0.4 %		
3/1 (Station Road)	2.90	0.00	Y	Arm 6 Left	15.00	100.0 %	1732	1732
				Arm 8 Ahead	Inf	0.0 %		
3/2 (Station Road)	2.90	0.00	N	Arm 5 Right	17.50	100.0 %	1884	1884
4/1 (Queen Street)	2.90	0.00	Y	Arm 5 Left	6.00	24.4 %	1718	1718
				Arm 6 Right	Inf	43.9 %		
				Arm 7 Ahead	10.00	31.7 %		
5/1 (Huddersfield Road (eastbound exit) Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (Huddersfield Road (westbound exit) Lane 1)	Infinite Saturation Flow						Inf	Inf
7/1 (Station Road exit Lane 1)	Infinite Saturation Flow						Inf	Inf
8/1 (Queen Street exit Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 5: 'Scenario 5' (FG5: 'Weekday 16.39 - 17.30 Base', Plan 1: 'Network Control Plan 1')

Junction: Huddersfield Road / Station Road. Mirfield								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (Huddersfield Road (west))	3.00	0.00	Y	Arm 5 Ahead	Inf	94.9 %	1891	1891
				Arm 8 Left	6.00	5.1 %		
1/2 (Huddersfield Road (west))	3.00	0.00	N	Arm 7 Right	15.00	100.0 %	1868	1868
2/1 (Huddersfield Road (east))	4.00	0.00	Y	Arm 6 Ahead	Inf	71.2 %	1948	1948
				Arm 7 Left	12.50	28.4 %		
				Arm 8 Right	10.00	0.3 %		
3/1 (Station Road)	2.90	0.00	Y	Arm 6 Left	15.00	96.7 %	1737	1737
				Arm 8 Ahead	Inf	3.3 %		
3/2 (Station Road)	2.90	0.00	N	Arm 5 Right	17.50	100.0 %	1884	1884
4/1 (Queen Street)	2.90	0.00	Y	Arm 5 Left	6.00	48.5 %	1666	1666
				Arm 6 Right	Inf	36.8 %		
				Arm 7 Ahead	10.00	14.7 %		
5/1 (Huddersfield Road (eastbound exit) Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (Huddersfield Road (westbound exit) Lane 1)	Infinite Saturation Flow						Inf	Inf
7/1 (Station Road exit Lane 1)	Infinite Saturation Flow						Inf	Inf
8/1 (Queen Street exit Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 6: 'Scenario 6' (FG6: 'Weekday 16.30 - 17.30 With Dev', Plan 1: 'Network Control Plan 1')

Junction: Huddersfield Road / Station Road. Mirfield								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (Huddersfield Road (west))	3.00	0.00	Y	Arm 5 Ahead	Inf	94.9 %	1891	1891
				Arm 8 Left	6.00	5.1 %		
1/2 (Huddersfield Road (west))	3.00	0.00	N	Arm 7 Right	15.00	100.0 %	1868	1868
2/1 (Huddersfield Road (east))	4.00	0.00	Y	Arm 6 Ahead	Inf	72.7 %	1951	1951
				Arm 7 Left	12.50	27.0 %		
				Arm 8 Right	10.00	0.4 %		
3/1 (Station Road)	2.90	0.00	Y	Arm 6 Left	15.00	96.4 %	1738	1738
				Arm 8 Ahead	Inf	3.6 %		
3/2 (Station Road)	2.90	0.00	N	Arm 5 Right	17.50	100.0 %	1884	1884
4/1 (Queen Street)	2.90	0.00	Y	Arm 5 Left	6.00	48.5 %	1666	1666
				Arm 6 Right	Inf	36.8 %		
				Arm 7 Ahead	10.00	14.7 %		
5/1 (Huddersfield Road (eastbound exit) Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (Huddersfield Road (westbound exit) Lane 1)	Infinite Saturation Flow						Inf	Inf
7/1 (Station Road exit Lane 1)	Infinite Saturation Flow						Inf	Inf
8/1 (Queen Street exit Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 1: 'Scenario 1' (FG1: 'Sat 12.00 - 13.00 Base', Plan 1: 'Network Control Plan 1')

Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
1: 'Sat 12.00 - 13.00 Base'	12:00	13:00	01:00	

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	410	171	9	590
	B	299	0	164	1	464
	C	161	269	0	2	432
	D	14	18	17	0	49
	Tot.	474	697	352	12	1535

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Start Green (s)	End Green (s)	Arrow Green (s)	Bonus Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Max Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Arriving (pcu)	Leaving (pcu)
Network	-	-	**N/A**	-	-		-	-	-	-	-	-	-	-	-	-	**62.6%**	-	-
Huddersfield Road / Station Road. Mirfield	-	-	**N/A**	-	-		-	-	-	-	-	-	-	-	-	-	**62.6%**	-	-
1/1+1/2	Huddersfield Road (west) Ahead Right Left	U+O	N/A	N/A	A	C	1	45	8	53	4	-	590	1905:1868	1905	705+288	59.4 : 59.4%	590	590
2/1	Huddersfield Road (east) Ahead Left Right	O	N/A	N/A	B		1	38	8	46	-	-	464	1932	1932	753	61.6%	464	464
3/1+3/2	Station Road Right Left Ahead	U+O	N/A	N/A	D		1	31	58	89	-	-	432	1734:1884	1734	261+430	62.6 : 62.6%	432	432
4/1	Queen Street Left Right Ahead	O	N/A	N/A	E		1	31	58	89	-	-	49	1665	1665	512	9.6%	49	49
5/1	Huddersfield Road (eastbound exit)	U	N/A	N/A	-		-	-	-	-	-	-	697	Inf	Inf	Inf	0.0%	697	697
6/1	Huddersfield Road (westbound exit)	U	N/A	N/A	-		-	-	-	-	-	-	474	Inf	Inf	Inf	0.0%	474	474
7/1	Station Road exit	U	N/A	N/A	-		-	-	-	-	-	-	352	Inf	Inf	Inf	0.0%	352	352
8/1	Queen Street exit	U	N/A	N/A	-		-	-	-	-	-	-	12	Inf	Inf	Inf	0.0%	12	12

Item	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Uniform Stops (stops)	Av. Uniform Stops Per PCU (stops/pcu)	Back of Uniform Q At End of Red(pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)	De-sliver Threshold (pcu)	Average Excess Queue (pcu)	Weighted Deg Sat (%)	Weighted Total Delay (pcuHr)	Ignoring Random Delay ?
Network	**443**	**9**	**4**	**9.8**	**2.4**	**0.7**	**13.0**	**-**	**1938.2**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**62.6%**	**16.5**	**-**
Huddersfield Road / Station Road. Mirfield	**443**	**9**	**4**	**9.8**	**2.4**	**0.7**	**13.0**	**-**	**1938.2**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**62.6%**	**16.5**	**-**
1/1+1/2	159	9	3	3.1	0.7	0.5	4.4 (2.7+1.7)	26.6 (23.1:35.1)	581.5	1.0	6.1	8.0	0.7	8.8	-	0.00	59.4 : 59.4%	5.4	-
2/1	1	0	0	3.2	0.8	0.0	4.0	30.7	685.6	1.5	7.6	10.3	0.8	11.1	-	0.00	61.6%	5.2	-
3/1+3/2	269	0	0	3.2	0.8	0.2	4.3 (1.5+2.8)	35.5 (33.0:37.0)	625.8	1.4	4.9	6.7	0.8	7.5	-	0.00	62.6 : 62.6%	5.4	-
4/1	14	0	0	0.3	0.1	0.0	0.4	28.9	45.3	0.9	0.9	1.0	0.1	1.0	-	0.00	9.6%	0.5	-
5/1	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	-	0.00	0.0%	0.0	-
6/1	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	-	0.00	0.0%	0.0	-
7/1	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	-	0.00	0.0%	0.0	-
8/1	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	-	0.00	0.0%	0.0	-

C1

PRC for Signalled Lanes (%): 43.8 Total Delay for Signalled Lanes (pcuHr): 12.96 Cycle Time (s): 100

PRC Over All Lanes (%): 43.8 Total Delay Over All Lanes(pcuHr): 12.96

Scenario 2: 'Scenario 2' (FG2: 'Sat 12.00 - 13.00 With Dev', Plan 1: 'Network Control Plan 1')

Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
2: 'Sat 12.00 - 13.00 With Dev'	12:00	13:00	01:00	

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	417	152	9	578
	B	306	0	155	1	462
	C	142	260	0	2	404
	D	14	18	17	0	49
	Tot.	462	695	324	12	1493

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Start Green (s)	End Green (s)	Arrow Green (s)	Bonus Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Max Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Arriving (pcu)	Leaving (pcu)
Network	-	-	N/A	-	-		-	-	-	-	-	-	-	-	-	-	60.9%	-	-
Huddersfield Road / Station Road. Mirfield	-	-	N/A	-	-		-	-	-	-	-	-	-	-	-	-	60.9%	-	-
1/1+1/2	Huddersfield Road (west) Ahead Right Left	U+O	N/A	N/A	A	C	1	46	8	54	4	-	578	1905:1868	1905	735+262	58.0 : 58.0%	578	578
2/1	Huddersfield Road (east) Ahead Left Right	O	N/A	N/A	B		1	39	8	47	-	-	462	1936	1936	774	59.7%	462	462
3/1+3/2	Station Road Right Left Ahead	U+O	N/A	N/A	D		1	30	59	89	-	-	404	1734:1884	1734	236+427	60.9 : 60.9%	404	404
4/1	Queen Street Left Right Ahead	O	N/A	N/A	E		1	30	59	89	-	-	49	1665	1665	503	9.7%	49	49
5/1	Huddersfield Road (eastbound exit)	U	N/A	N/A	-		-	-	-	-	-	-	695	Inf	Inf	Inf	0.0%	695	695
6/1	Huddersfield Road (westbound exit)	U	N/A	N/A	-		-	-	-	-	-	-	462	Inf	Inf	Inf	0.0%	462	462
7/1	Station Road exit	U	N/A	N/A	-		-	-	-	-	-	-	324	Inf	Inf	Inf	0.0%	324	324
8/1	Queen Street exit	U	N/A	N/A	-		-	-	-	-	-	-	12	Inf	Inf	Inf	0.0%	12	12

Item	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Uniform Stops (stops)	Av. Uniform Stops Per PCU (stops/pcu)	Back of Uniform Q At End of Red(pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)	De-sliver Threshold (pcu)	Average Excess Queue (pcu)	Weighted Deg Sat (%)	Weighted Total Delay (pcuHr)	Ignoring Random Delay ?
Network	416	8	3	9.3	2.3	0.7	12.3	-	1851.1	-	-	-	-	-	-	-	60.9%	15.6	-
Huddersfield Road / Station Road. Mirfield	416	8	3	9.3	2.3	0.7	12.3	-	1851.1	-	-	-	-	-	-	-	60.9%	15.6	-
1/1+1/2	141	8	3	2.9	0.7	0.5	4.0 (2.6+1.4)	25.1 (22.4:32.8)	542.6	0.9	6.0	8.2	0.7	8.8	-	0.00	58.0 : 58.0%	5.0	-
2/1	1	0	0	3.0	0.7	0.0	3.8	29.4	672.5	1.5	7.4	10.0	0.7	10.7	-	0.00	59.7%	5.0	-
3/1+3/2	260	0	0	3.1	0.8	0.2	4.0 (1.3+2.7)	36.1 (33.3:37.6)	590.2	1.5	4.8	6.3	0.8	7.1	-	0.00	60.9 : 60.9%	5.1	-
4/1	14	0	0	0.3	0.1	0.0	0.4	29.6	45.8	0.9	0.9	1.0	0.1	1.0	-	0.00	9.7%	0.5	-
5/1	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	-	0.00	0.0%	0.0	-
6/1	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	-	0.00	0.0%	0.0	-
7/1	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	-	0.00	0.0%	0.0	-
8/1	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	-	0.00	0.0%	0.0	-

C1 PRC for Signalled Lanes (%): 47.8 Total Delay for Signalled Lanes (pcuHr): 12.26 Cycle Time (s): 100

PRC Over All Lanes (%): 47.8 Total Delay Over All Lanes(pcuHr): 12.26

Scenario 3: 'Scenario 3' (FG3: 'Sat 13.00 - 14.00 Base', Plan 1: 'Network Control Plan 1')

Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
3: 'Sat 13.00 - 14.00 Base'	13:00	14:00	01:00	

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	350	187	3	540
	B	299	0	175	2	476
	C	161	243	0	1	405
	D	18	10	13	0	41
	Tot.	478	603	375	6	1462

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Start Green (s)	End Green (s)	Arrow Green (s)	Bonus Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Max Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Arriving (pcu)	Leaving (pcu)
Network	-	-	**N/A**	-	-		-	-	-	-	-	-	-	-	-	-	**61.0%**	-	-
Huddersfield Road / Station Road. Mirfield	-	-	**N/A**	-	-		-	-	-	-	-	-	-	-	-	-	**61.0%**	-	-
1/1+1/2	Huddersfield Road (west) Ahead Right Left	U+O	N/A	N/A	A	C	1	47	8	55	4	-	540	1911:1868	1911	697+368	50.6 : 50.8%	540	540
2/1	Huddersfield Road (east) Ahead Left Right	O	N/A	N/A	B		1	40	8	48	-	-	476	1929	1929	791	60.2%	476	476
3/1+3/2	Station Road Right Left Ahead	U+O	N/A	N/A	D		1	29	60	89	-	-	405	1733:1884	1733	266+398	61.0 : 61.0%	405	405
4/1	Queen Street Left Right Ahead	O	N/A	N/A	E		1	29	60	89	-	-	41	1718	1718	444	9.2%	41	41
5/1	Huddersfield Road (eastbound exit)	U	N/A	N/A	-		-	-	-	-	-	-	603	Inf	Inf	Inf	0.0%	603	603
6/1	Huddersfield Road (westbound exit)	U	N/A	N/A	-		-	-	-	-	-	-	478	Inf	Inf	Inf	0.0%	478	478
7/1	Station Road exit	U	N/A	N/A	-		-	-	-	-	-	-	375	Inf	Inf	Inf	0.0%	375	375
8/1	Queen Street exit	U	N/A	N/A	-		-	-	-	-	-	-	6	Inf	Inf	Inf	0.0%	6	6

Item	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Uniform Stops (stops)	Av. Uniform Stops Per PCU (stops/pcu)	Back of Uniform Q At End of Red(pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)	De-sliver Threshold (pcu)	Average Excess Queue (pcu)	Weighted Deg Sat (%)	Weighted Total Delay (pcuHr)	Ignoring Random Delay ?
Network	**437**	**9**	**4**	**9.1**	**2.1**	**0.7**	**11.9**	**-**	**1863.7**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**61.0%**	**15.3**	**-**
Huddersfield Road / Station Road. Mirfield	**437**	**9**	**4**	**9.1**	**2.1**	**0.7**	**11.9**	**-**	**1863.7**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**61.0%**	**15.3**	**-**
1/1+1/2	174	9	4	2.6	0.5	0.5	3.7 (2.0+1.7)	24.6 (20.0:33.2)	540.3	1.0	4.9	6.2	0.5	6.7	-	0.00	50.6 : 50.8%	4.7	-
2/1	2	0	0	3.1	0.8	0.0	3.8	28.8	719.4	1.5	7.5	10.3	0.8	11.1	-	0.00	60.2%	5.1	-
3/1+3/2	243	0	0	3.1	0.8	0.1	4.1 (1.5+2.5)	36.1 (34.1:37.4)	560.6	1.4	4.6	5.8	0.8	6.6	-	0.00	61.0 : 61.0%	5.1	-
4/1	18	0	0	0.3	0.1	0.0	0.4	31.8	43.4	1.1	0.8	0.8	0.1	0.9	-	0.00	9.2%	0.4	-
5/1	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	-	0.00	0.0%	0.0	-
6/1	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	-	0.00	0.0%	0.0	-
7/1	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	-	0.00	0.0%	0.0	-
8/1	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	-	0.00	0.0%	0.0	-

C1 PRC for Signalled Lanes (%): 47.6 Total Delay for Signalled Lanes (pcuHr): 11.92 Cycle Time (s): 100

PRC Over All Lanes (%): 47.6 Total Delay Over All Lanes(pcuHr): 11.92

Scenario 4: 'Scenario 4' (FG4: 'Sat 13.00 - 14.00 With Dev', Plan 1: 'Network Control Plan 1')

Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
4: 'Sat 13.00 - 14.00 With Dev'	13:00	14:00	01:00	

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	358	164	3	525
	B	308	0	166	2	476
	C	140	232	1	0	373
	D	18	10	13	0	41
	Tot.	466	600	344	5	1415

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Start Green (s)	End Green (s)	Arrow Green (s)	Bonus Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Max Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Arriving (pcu)	Leaving (pcu)
Network	-	-	**N/A**	-	-		-	-	-	-	-	-	-	-	-	-	**58.6%**	-	-
Huddersfield Road / Station Road. Mirfield	-	-	**N/A**	-	-		-	-	-	-	-	-	-	-	-	-	**58.6%**	-	-
1/1+1/2	Huddersfield Road (west) Ahead Right Left	U+O	N/A	N/A	A	C	1	48	8	56	4	-	525	1911:1868	1911	732+332	49.3 : 49.3%	525	525
2/1	Huddersfield Road (east) Ahead Left Right	O	N/A	N/A	B		1	41	8	49	-	-	476	1933	1933	812	58.6%	476	476
3/1+3/2	Station Road Right Left Ahead	U+O	N/A	N/A	D		1	28	61	89	-	-	372	1732:1884	1732	239+396	58.6 : 58.6%	372	372
4/1	Queen Street Left Right Ahead	O	N/A	N/A	E		1	28	61	89	-	-	41	1718	1718	444	9.2%	41	41
5/1	Huddersfield Road (eastbound exit)	U	N/A	N/A	-		-	-	-	-	-	-	600	Inf	Inf	Inf	0.0%	600	600
6/1	Huddersfield Road (westbound exit)	U	N/A	N/A	-		-	-	-	-	-	-	466	Inf	Inf	Inf	0.0%	466	466
7/1	Station Road exit	U	N/A	N/A	-		-	-	-	-	-	-	343	Inf	Inf	Inf	0.0%	343	343
8/1	Queen Street exit	U	N/A	N/A	-		-	-	-	-	-	-	5	Inf	Inf	Inf	0.0%	5	5

Item	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Uniform Stops (stops)	Av. Uniform Stops Per PCU (stops/pcu)	Back of Uniform Q At End of Red(pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)	De-sliver Threshold (pcu)	Average Excess Queue (pcu)	Weighted Deg Sat (%)	Weighted Total Delay (pcuHr)	Ignoring Random Delay ?
Network	**404**	**8**	**3**	**8.6**	**1.9**	**0.7**	**11.2**	**-**	**1723.5**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**58.6%**	**14.3**	**-**
Huddersfield Road / Station Road. Mirfield	**404**	**8**	**3**	**8.6**	**1.9**	**0.7**	**11.2**	**-**	**1723.5**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**58.6%**	**14.3**	**-**
1/1+1/2	153	8	3	2.4	0.5	0.5	3.4 (1.9+1.4)	23.0 (19.4:31.0)	491.1	0.9	4.9	6.2	0.5	6.7	-	0.00	49.3 : 49.3%	4.3	-
2/1	2	0	0	3.0	0.7	0.0	3.7	27.7	676.0	1.4	7.4	10.0	0.7	10.8	-	0.00	58.6%	4.9	-
3/1+3/2	232	0	0	2.9	0.7	0.1	3.8 (1.3+2.4)	36.6 (34.3:37.9)	512.4	1.4	4.4	5.4	0.7	6.1	-	0.00	58.6 : 58.6%	4.7	-
4/1	18	0	0	0.3	0.1	0.0	0.4	32.3	44.0	1.1	0.8	0.8	0.1	0.9	-	0.00	9.2%	0.4	-
5/1	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	-	0.00	0.0%	0.0	-
6/1	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	-	0.00	0.0%	0.0	-
7/1	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	-	0.00	0.0%	0.0	-
8/1	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	-	0.00	0.0%	0.0	-

C1 PRC for Signalled Lanes (%): 53.5 Total Delay for Signalled Lanes (pcuHr): 11.16 Cycle Time (s): 100

PRC Over All Lanes (%): 53.5 Total Delay Over All Lanes(pcuHr): 11.16

Scenario 5: 'Scenario 5' (FG5: 'Weekday 16.39 - 17.30 Base', Plan 1: 'Network Control Plan 1')

Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
5: 'Weekday 16.39 - 17.30 Base'	16:30	17:30	01:00	

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	571	242	31	844
	B	408	0	163	2	573
	C	231	258	0	8	497
	D	25	33	10	0	68
	Tot.	664	862	415	41	1982

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Start Green (s)	End Green (s)	Arrow Green (s)	Bonus Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Max Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Arriving (pcu)	Leaving (pcu)
Network	-	-	**N/A**	-	-		-	-	-	-	-	-	-	-	-	-	**78.0%**	-	-
Huddersfield Road / Station Road. Mirfield	-	-	**N/A**	-	-		-	-	-	-	-	-	-	-	-	-	**78.0%**	-	-
1/1+1/2	Huddersfield Road (west) Ahead Right Left	U+O	N/A	N/A	A	C	1	50	8	58	4	-	844	1891:1868	1891	772+310	78.0 : 78.0%	844	844
2/1	Huddersfield Road (east) Ahead Left Right	O	N/A	N/A	B		1	43	8	51	-	-	573	1948	1948	857	66.9%	573	573
3/1+3/2	Station Road Right Left Ahead	U+O	N/A	N/A	D		1	26	63	89	-	-	497	1737:1884	1737	315+340	75.9 : 75.9%	497	497
4/1	Queen Street Left Right Ahead	O	N/A	N/A	E		1	26	63	89	-	-	68	1666	1666	364	18.7%	68	68
5/1	Huddersfield Road (eastbound exit)	U	N/A	N/A	-		-	-	-	-	-	-	862	Inf	Inf	Inf	0.0%	862	862
6/1	Huddersfield Road (westbound exit)	U	N/A	N/A	-		-	-	-	-	-	-	664	Inf	Inf	Inf	0.0%	664	664
7/1	Station Road exit	U	N/A	N/A	-		-	-	-	-	-	-	415	Inf	Inf	Inf	0.0%	415	415
8/1	Queen Street exit	U	N/A	N/A	-		-	-	-	-	-	-	41	Inf	Inf	Inf	0.0%	41	41

Item	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Uniform Stops (stops)	Av. Uniform Stops Per PCU (stops/pcu)	Back of Uniform Q At End of Red(pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)	De-sliver Threshold (pcu)	Average Excess Queue (pcu)	Weighted Deg Sat (%)	Weighted Total Delay (pcuHr)	Ignoring Random Delay ?
Network	**457**	**64**	**5**	**13.0**	**4.4**	**1.0**	**18.4**	**-**	**2655.6**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**78.0%**	**23.3**	**-**
Huddersfield Road / Station Road. Mirfield	**457**	**64**	**5**	**13.0**	**4.4**	**1.0**	**18.4**	**-**	**2655.6**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**78.0%**	**23.3**	**-**
1/1+1/2	173	64	5	4.6	1.7	0.8	7.1 (4.3+2.8)	30.1 (25.5:41.6)	996.2	1.2	7.9	14.8	1.7	16.6	-	0.00	78.0 : 78.0%	8.9	-
2/1	2	0	0	3.5	1.0	0.0	4.5	28.6	860.0	1.5	8.6	12.6	1.0	13.6	-	0.00	66.9%	6.1	-
3/1+3/2	258	0	0	4.4	1.5	0.2	6.1 (2.8+3.3)	44.2 (42.4:45.9)	725.5	1.5	5.2	7.5	1.5	9.1	-	0.00	75.9 : 75.9%	7.4	-
4/1	25	0	0	0.5	0.1	0.1	0.7	36.8	73.9	1.1	1.3	1.4	0.1	1.6	-	0.00	18.7%	0.8	-
5/1	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	-	0.00	0.0%	0.0	-
6/1	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	-	0.00	0.0%	0.0	-
7/1	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	-	0.00	0.0%	0.0	-
8/1	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	-	0.00	0.0%	0.0	-

C1 PRC for Signalled Lanes (%): 15.4 Total Delay for Signalled Lanes (pcuHr): 18.40 Cycle Time (s): 100

PRC Over All Lanes (%): 15.4 Total Delay Over All Lanes(pcuHr): 18.40

Scenario 6: 'Scenario 6' (FG6: 'Weekday 16.30 - 17.30 With Dev', Plan 1: 'Network Control Plan 1')

Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
6: 'Weekday 16.30 - 17.30 With Dev'	16:30	17:30	01:00	

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	578	223	31	832
	B	415	0	154	2	571
	C	212	249	0	8	469
	D	25	33	10	0	68
	Tot.	652	860	387	41	1940

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Start Green (s)	End Green (s)	Arrow Green (s)	Bonus Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Max Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Arriving (pcu)	Leaving (pcu)
Network	-	-	**N/A**	-	-		-	-	-	-	-	-	-	-	-	-	**76.3%**	-	-
Huddersfield Road / Station Road. Mirfield	-	-	**N/A**	-	-		-	-	-	-	-	-	-	-	-	-	**76.3%**	-	-
1/1+1/2	Huddersfield Road (west) Ahead Right Left	U+O	N/A	N/A	A	C	1	51	8	59	4	-	832	1891:1868	1891	798+292	76.3 : 76.3%	832	832
2/1	Huddersfield Road (east) Ahead Left Right	O	N/A	N/A	B		1	44	8	52	-	-	571	1951	1951	878	65.0%	571	571
3/1+3/2	Station Road Right Left Ahead	U+O	N/A	N/A	D		1	25	64	89	-	-	469	1738:1884	1738	295+334	74.6 : 74.6%	469	469
4/1	Queen Street Left Right Ahead	O	N/A	N/A	E		1	25	64	89	-	-	68	1666	1666	350	19.4%	68	68
5/1	Huddersfield Road (eastbound exit)	U	N/A	N/A	-		-	-	-	-	-	-	860	Inf	Inf	Inf	0.0%	860	860
6/1	Huddersfield Road (westbound exit)	U	N/A	N/A	-		-	-	-	-	-	-	652	Inf	Inf	Inf	0.0%	652	652
7/1	Station Road exit	U	N/A	N/A	-		-	-	-	-	-	-	387	Inf	Inf	Inf	0.0%	387	387
8/1	Queen Street exit	U	N/A	N/A	-		-	-	-	-	-	-	41	Inf	Inf	Inf	0.0%	41	41

Item	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Uniform Stops (stops)	Av. Uniform Stops Per PCU (stops/pcu)	Back of Uniform Q At End of Red(pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)	De-sliver Threshold (pcu)	Average Excess Queue (pcu)	Weighted Deg Sat (%)	Weighted Total Delay (pcuHr)	Ignoring Random Delay ?
Network	**460**	**34**	**5**	**12.3**	**4.1**	**1.0**	**17.4**	**-**	**2520.0**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**76.3%**	**22.0**	**-**
Huddersfield Road / Station Road. Mirfield	**460**	**34**	**5**	**12.3**	**4.1**	**1.0**	**17.4**	**-**	**2520.0**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**76.3%**	**22.0**	**-**
1/1+1/2	184	34	4	4.2	1.6	0.7	6.5 (4.1+2.4)	28.1 (24.2:38.9)	924.6	1.1	7.8	14.4	1.6	16.0	-	0.00	76.3 : 76.3%	8.2	-
2/1	2	0	0	3.4	0.9	0.0	4.3	27.3	833.9	1.5	8.4	12.2	0.9	13.1	-	0.00	65.0%	5.9	-
3/1+3/2	249	0	0	4.2	1.4	0.2	5.8 (2.6+3.2)	44.7 (42.7:46.5)	687.3	1.5	5.0	7.0	1.4	8.5	-	0.00	74.6 : 74.6%	7.1	-
4/1	25	0	0	0.5	0.1	0.0	0.7	37.5	74.3	1.1	1.4	1.5	0.1	1.6	-	0.00	19.4%	0.8	-
5/1	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	-	0.00	0.0%	0.0	-
6/1	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	-	0.00	0.0%	0.0	-
7/1	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	-	0.00	0.0%	0.0	-
8/1	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	-	0.00	0.0%	0.0	-

C1

PRC for Signalled Lanes (%): 18.0
PRC Over All Lanes (%): 18.0

Total Delay for Signalled Lanes (pcuHr): 17.35
Total Delay Over All Lanes(pcuHr): 17.35

Cycle Time (s): 100

Appendix E
Road Safety Audit

safer roads for everyone

Huddersfield Road, Mirfield, West Yorkshire

Road Safety Audit Stage 1

on behalf of Turner Lowe Associates

TMS reference no: **15545**

Date: **28th February 2020**

THE CHARTERED INSTITUTION OF HIGHWAYS & TRANSPORTATION

INSTITUTE OF HIGHWAY ENGINEERS

QMS ISO 9001 REGISTERED

Unit 1b, Sovereign Court 2,
University of Warwick Science Park,
Sir William Lyons Road, Coventry CV4 7EZ

Tel: +44 (0)24 7669 0900
Fax: +44 (0)24 7669 0274
Email: info@tmsconsultancy.co.uk
Web: www.tmsconsultancy.co.uk

Huddersfield Road, Mirfield, West Yorkshire

Road Safety Audit Stage 1

1. Introduction

1.1 This report describes a Stage 1 Road Safety Audit carried out on proposed highway works in Huddersfield Road, Mirfield, West Yorkshire, on behalf of Turner Lowe Associates. The audit was carried out on 28th February 2020 in the offices of TMS Consultancy.

1.2 The audit team members were as follows:

Audit Team Leader

Mark Steventon - LLM, EngTech, MSoRSA
Highways England Approved RSA Certificate of Competency
Principal Engineer, TMS Consultancy

Audit Team Member

Richard Marriott – CertEd, MCIHT, MSoRSA,
Road Safety Engineer, TMS Consultancy

1.3 The audit comprised an examination of the documents listed in **Appendix A**. The Road Safety Audit was undertaken in accordance with the brief provided by John Lowe of Turner Lowe Associates.

1.4 The site was visited by the Audit Team at 11.15am on Thursday 27th February 2020. The weather was fine. Traffic flows were moderate. Pedestrian and cycle flows were light.

1.5 The terms of reference of the Road Safety Audit are as described in DMRB Standard GG 119. The team has examined and reported only on the road safety implications of the scheme as presented and has not examined or verified the compliance of the design to any other criteria.

1.6 All of the problems described in this report are considered by the audit team to require action in order to improve the safety of the scheme and minimise collision occurrence.

1.7 A scheme drawing is included in **Appendix B**, where the locations of specific problems are referenced. A location plan of the scheme is also included in **Appendix B.**

1.8 The scheme consists of a new priority T-junction in Huddersfield Road, with right turn lane and pedestrian crossing refuge islands, to serve a proposed new discount food store and adjacent 97-space car park.

1.9 **Road Safety Audit Response Report**

Following the completion of the road safety audit, the design team should prepare a road safety audit response report in collaboration with the Overseeing Organisation.

The response report should incorporate the following:

- **Decision Log** spreadsheet, where each Problem and Recommendation in the Safety Audit report is reiterated
- In the Decision Log, a response should be provided by the Design Team and Overseeing Organisation for each problem raised in the RSA report, together with an agreed action

Further information is provided in **GG 119 Sections 4.11 to 4.19** and **Appendix F** (where a road safety audit response report template is available).

The response report should be produced and finalised within *one month* of the issue of the RSA report. A copy of the response report should be issued to the Safety Audit Team for information.

2. Items resulting from this Stage 1 Audit

No road safety problems were identified at this stage by the Audit Team.

3. Audit Team Statement

We certify that the terms of reference of the road safety audit are as described in DMRB Standard GG 119.

Audit Team Leader

Mark Steventon - LLM, EngTech, MSoRSA
Highways England Approved RSA Certificate of Competency
Principal Engineer, TMS Consultancy

Signed 

Date 28th February 2020

Audit Team Member

Richard Marriott – CertEd, MCIHT, MSoRSA,
Road Safety Engineer, TMS Consultancy

Signed 

Date 28th February 2020

TMS Consultancy
Unit 1b, Sovereign Court 2,
University of Warwick Science Park
Sir William Lyons Road
Coventry,
CV4 7EZ

☎ + 44 (0)24 7669 0900
✉ info@tmsconsultancy.co.uk
www.tmsconsultancy.co.uk

Appendix A

Documents Examined:

- Drawing No. 190203/03/A
- Drawing No. 190302/04
- Drawing No. 190203/05

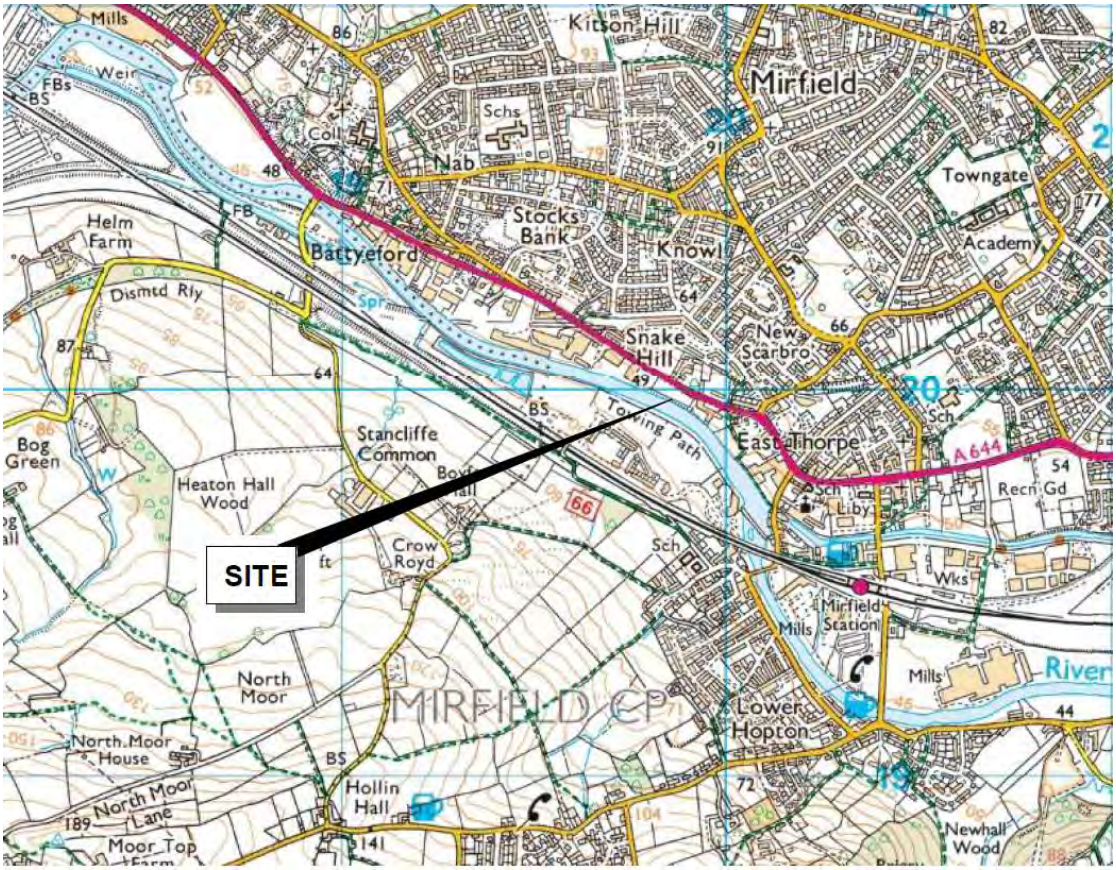
Other Information Provided:

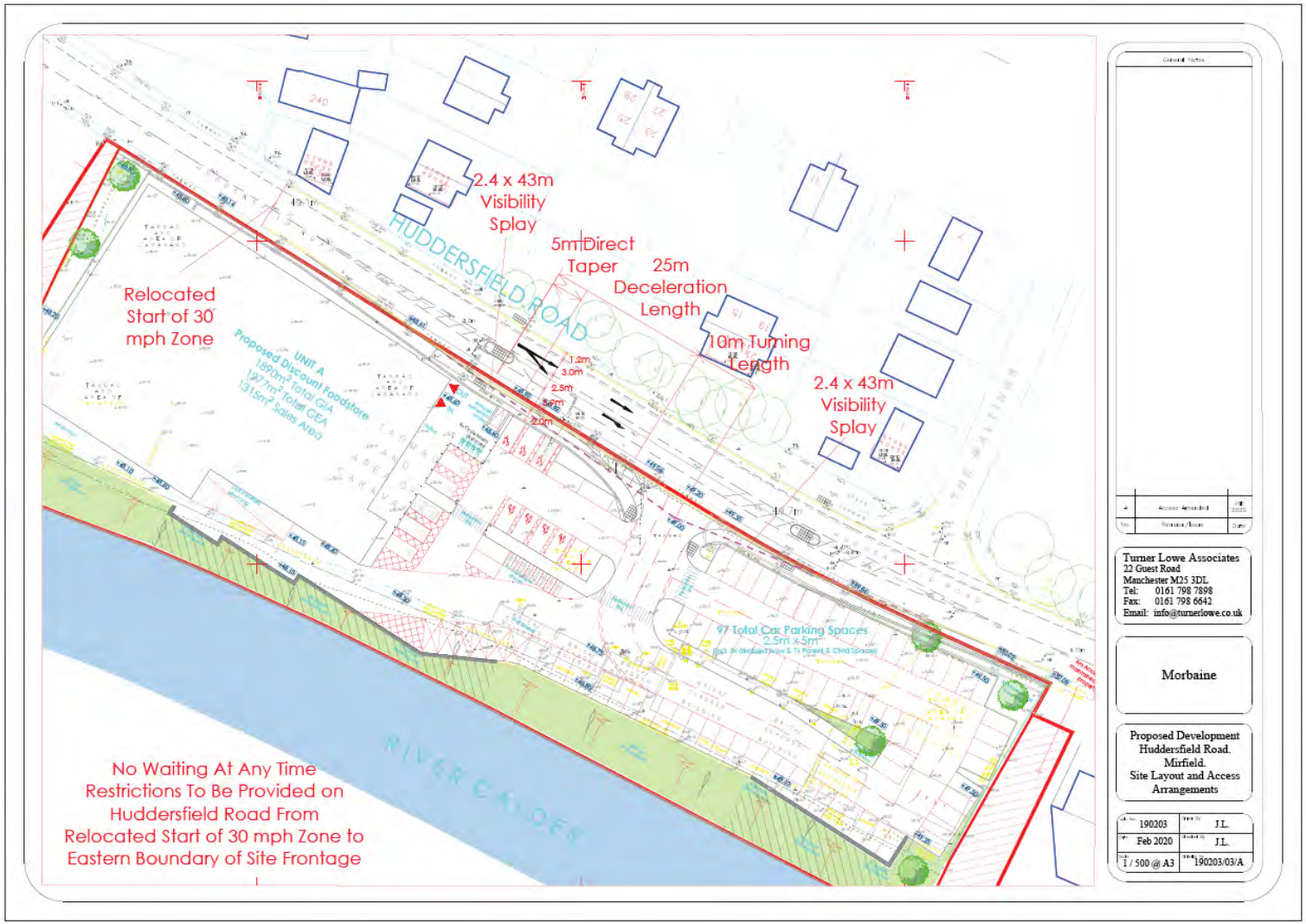
- Site location map
- RSA brief & notes
- Traffic flow data
- Accident data

Appendix B

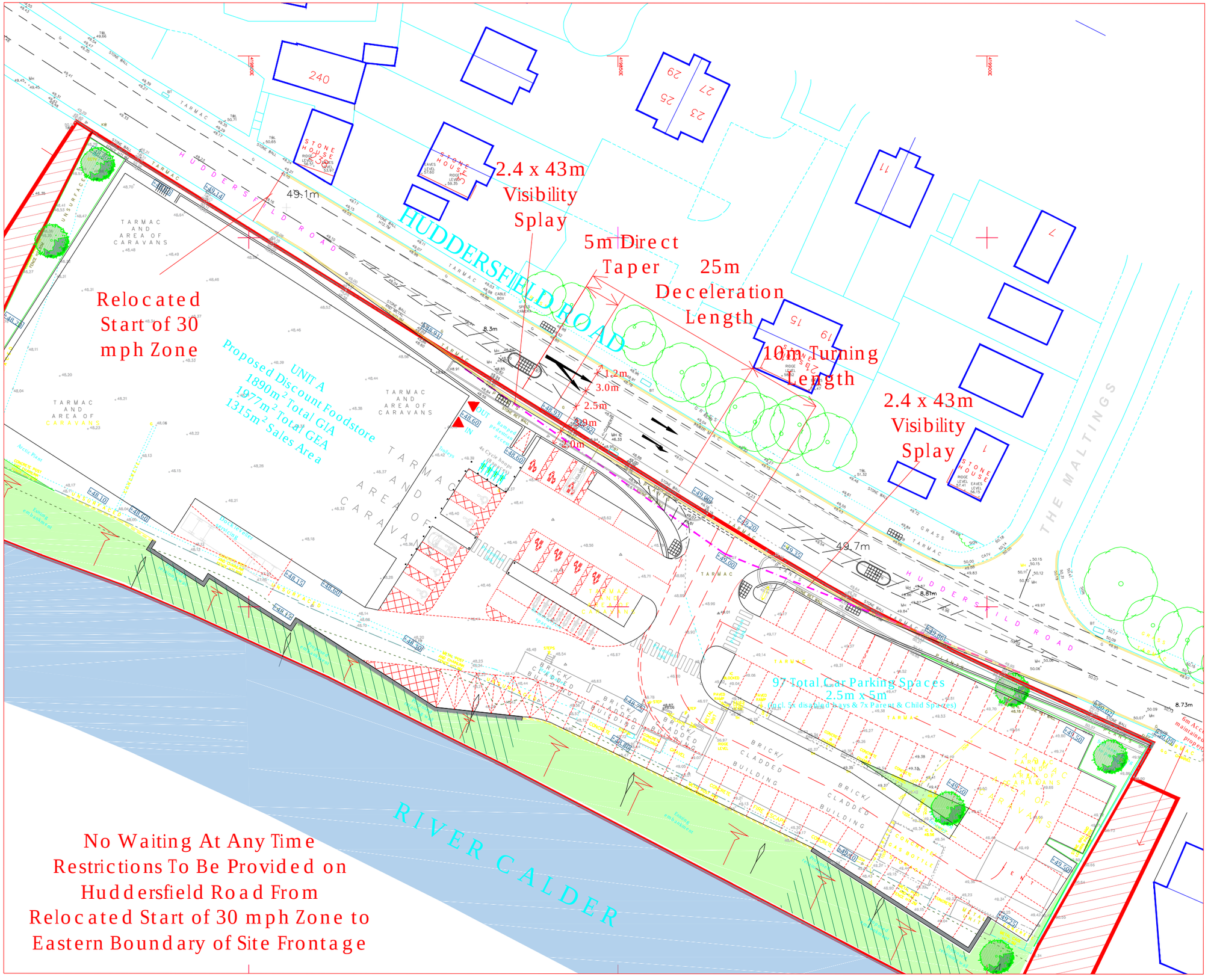
Please refer to the following page for a plan illustrating the locations of the problems identified as part of this audit (location numbers refer to paragraph numbers in the report).

The location of the scheme is shown below:




2.4 x 43m
Visibility
Splay
5m Direct
Taper
25m
Deceleration
Length
10m Turning
Length
2.4 x 43m
Visibility
Splay
Relocated
Start of 30
mph Zone
HUDDERSFIELD ROAD
RIVER CALDER
97 Total Car Parking Spaces
2.5m x 5m
No Waiting At Any Time
Restrictions To Be Provided on
Huddersfield Road From
Relocated Start of 30 mph Zone to
Eastern Boundary of Site Frontage
Turner Lowe Associates
22 Guest Road
Manchester M25 3DL
Tel: 0161 798 7898
Fax: 0161 798 6642
Email: info@turnerlowe.co.uk
Morbaine
Proposed Development
Huddersfield Road.
Mirfield.
Site Layout and Access
Arrangements
190203
J.L.
Feb 2020
J.L.
1 / 500 @ A3
190203/03/A

Drawings



General Notes

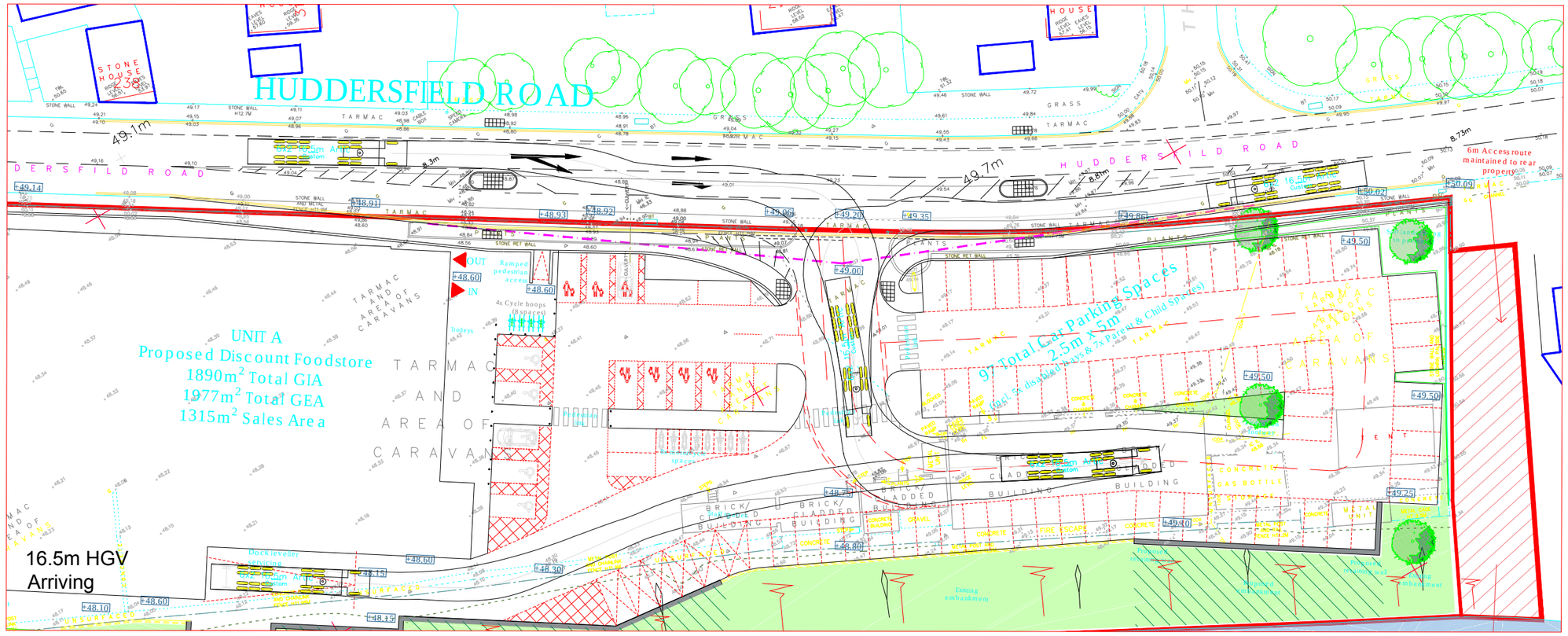
No.	Revision/Issue	Date
A	Access Amended	Jan 2020

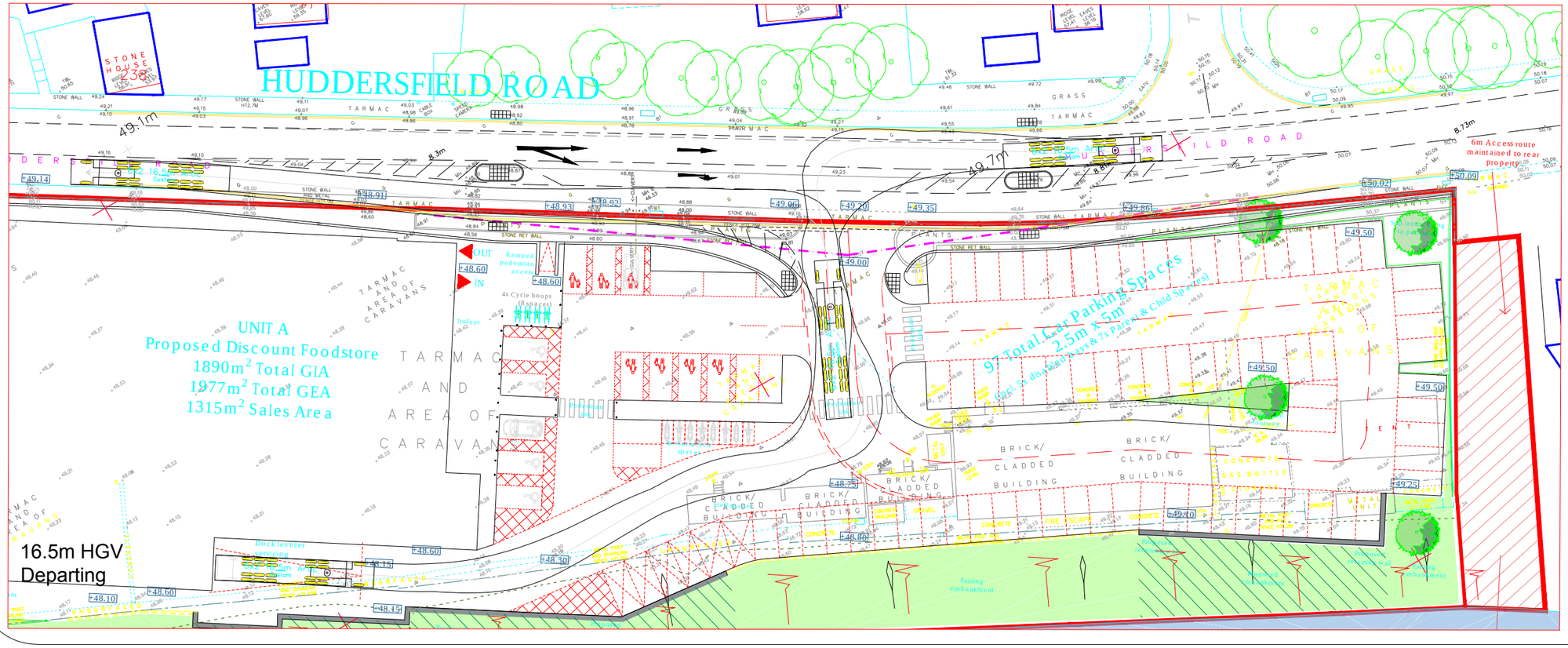
Turner Lowe Associates
22 Guest Road
Manchester M25 3DL
Tel: 0161 798 7898
Fax: 0161 798 6642
Email: info@turnerlowe.co.uk

Morbaine

Proposed Development
Huddersfield Road.
Mirfield.
Site Layout and Access Arrangements

Job No: 190203	Drawn By: J.L.
Date: Feb 2020	Checked By: J.L.
Scale: 1 / 500 @ A3	Drawing No: 190203/03/A





General Notes

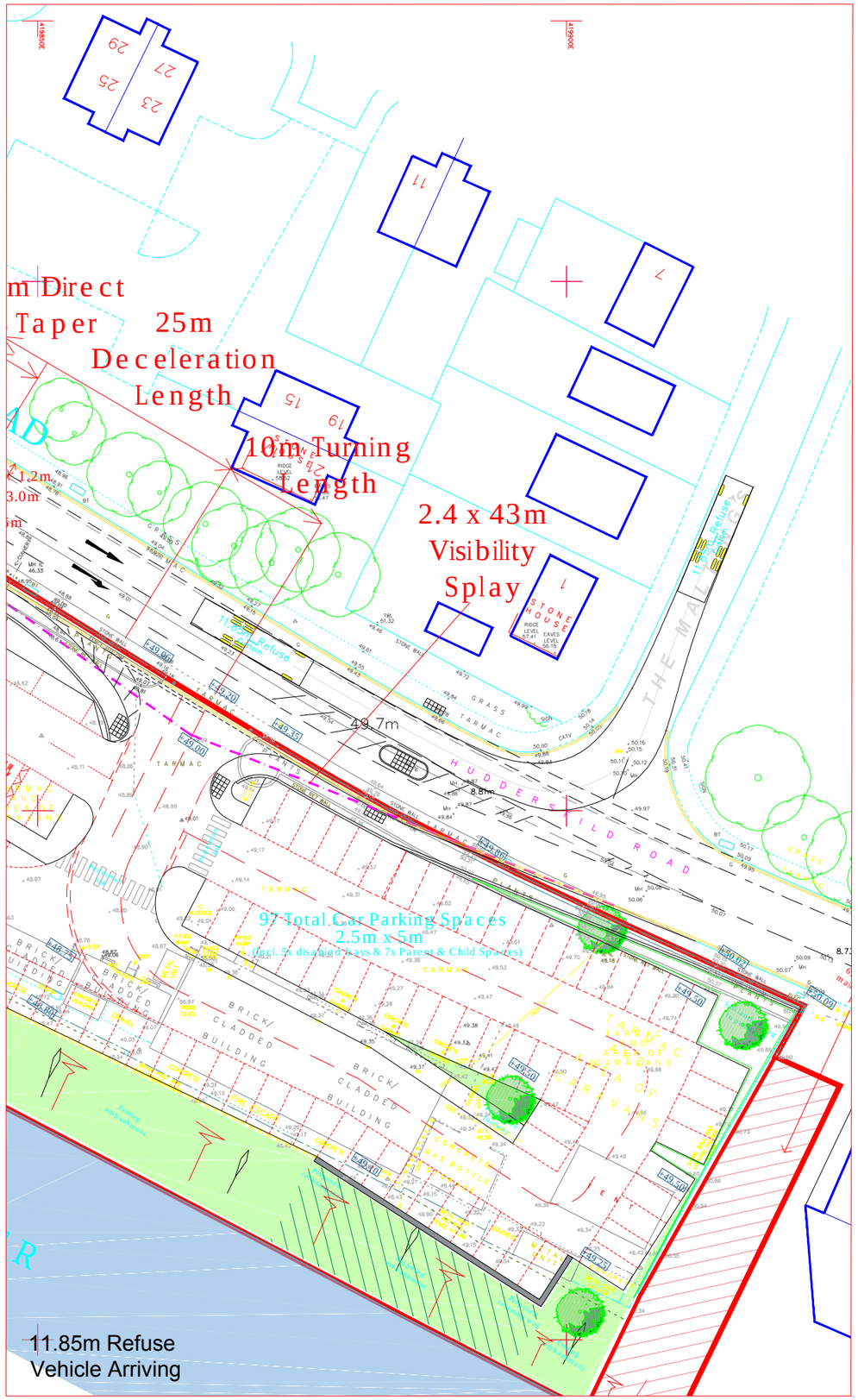
No.	Revision/Issue	Date
A	Access Amended	Feb 2020

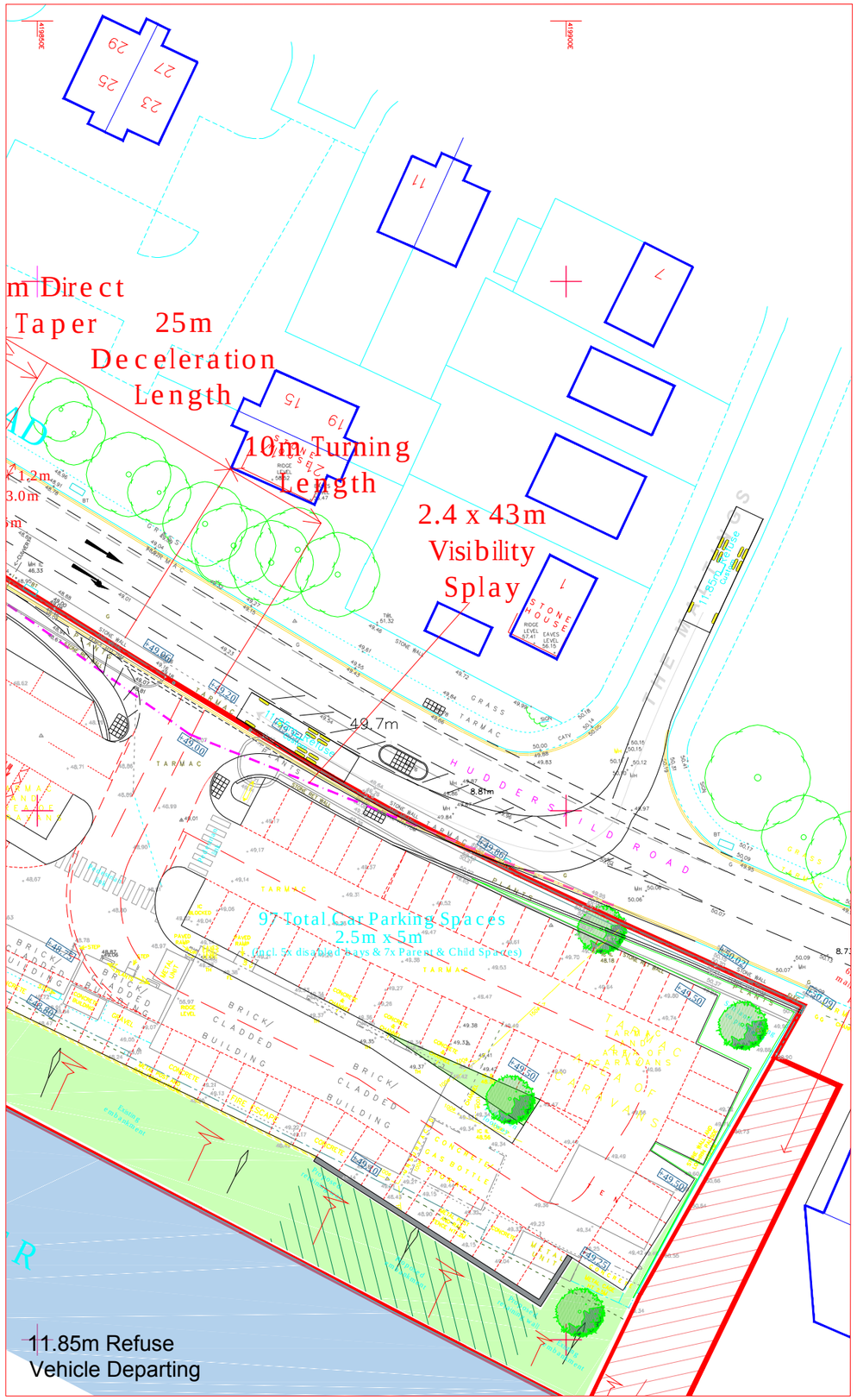
Turner Lowe Associates
22 Guest Road
Manchester M25 3DL
Tel: 0161 798 7898
Fax: 0161 798 6642
Email: info@turnerlowe.co.uk

Morbaine

Proposed Development
Huddersfield Road.
Mirfield.
Service Vehicle
Manoeuvres

Job No: 190302	Drawn By: J.L.
Date: Feb 2020	Checked By: J.L.
Scale: 1 / 500 @ A3	Drawing No: 190302 / 04 / A





General Notes

No.	Revision/Issue	Date

Turner Lowe Associates
22 Guest Road
Manchester M25 3DL
Tel: 0161 798 7898
Fax: 0161 798 6642
Email: info@turnerlowe.co.uk

Morbaine

Proposed Development
Huddersfield Road.
Mirfield.
The Maltings. Refuse
Vehicle Manoeuvres

Job No: 190203	Drawn By: J.L.
Date: Feb 2020	Checked By: J.L.
Scale: 1 / 500 @ A3	Drawing No: 190203/05