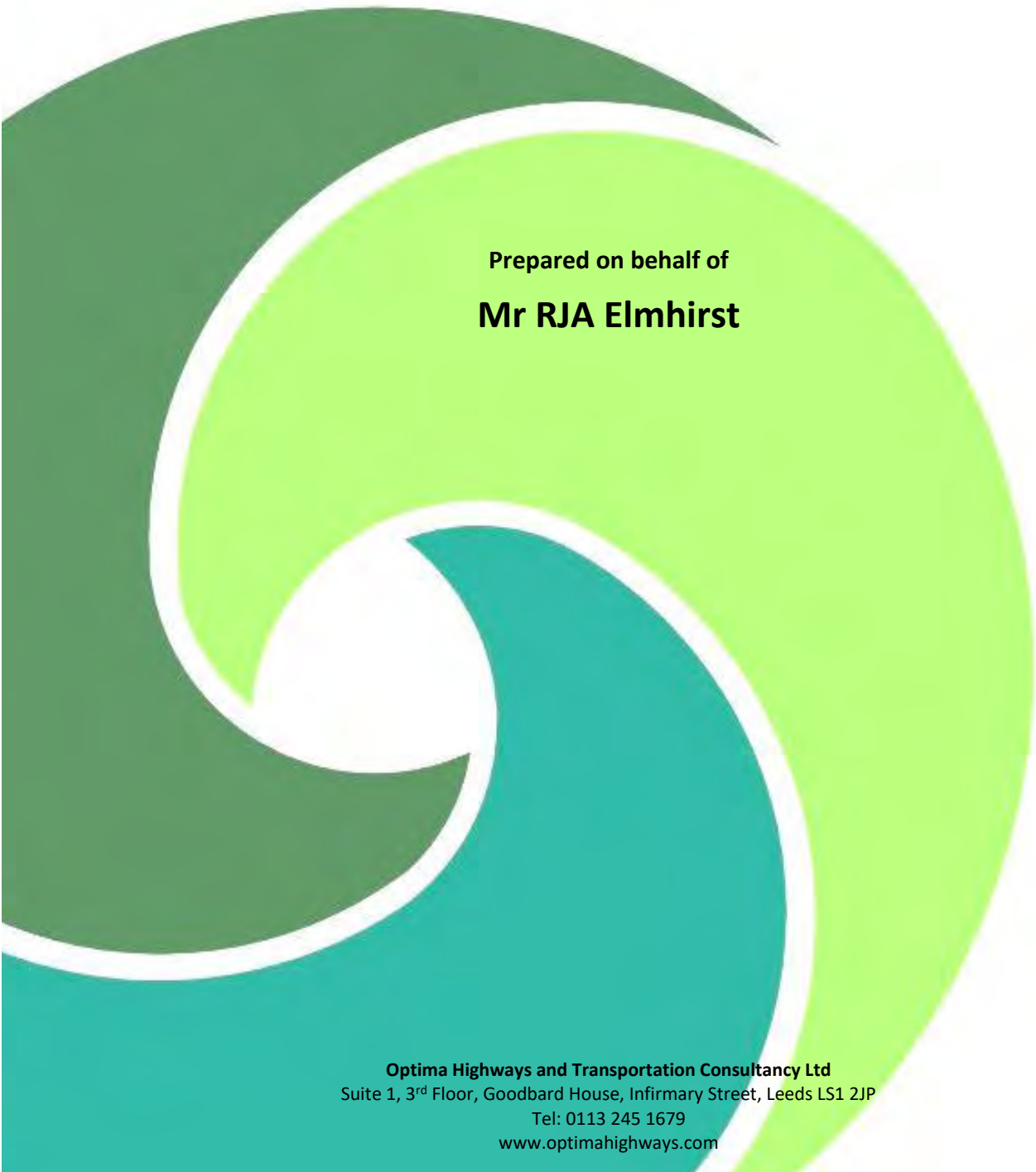


Halifax Road, Thurgoland Proposed Residential Development Transport Statement

January 2018 (Initial Issue)



**Prepared on behalf of
Mr RJA Elmhirst**

Quality Management

Halifax Road, Thurgoland - Transport Statement Project No: 17121				
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Checked by	R Murphy			
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Authorised by	R Murphy			
Signature				

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Content page

1. Introduction	1
2. Existing Site Conditions.....	2
3. Development Proposals and Access Strategy.....	7
4. Traffic Generation and Impact.....	8
5. Summary and Conclusions.....	10

IMAGES

Image 1.1 Indicative Site Layout.....	1
Image 2.1 Site Location Plan	2
Image 2.2 Extract of BC Public Right of Way Map.....	3
Image 2.3 Extract of BC Cycle Map.....	4
Image 2.4 Extract of Travel South Yorkshire Bus Route Plan	4

TABLES

Table 2.1 Existing Bus Services – Halifax Road	5
Table 2.2 Existing Bus Services – Smithy Hill.....	5
Table 2.3 Summary of Traffic Surveys	6
Table 4.1 Proposed Site Access/Halifax Road AM and PM Design	9

FIGURES

Figure 1 Strategic Site Location Plan	
Figure 2 Local Site Location Plan	
Figure 3 Halifax Road Existing Highway Layout	
Figure 4 AM Peak Hour Count	
Figure 5 PM Peak Hour Count	
Figure 6 AM Peak Hour Residential Distribution	
Figure 7 PM Peak Hour Residential Distribution	
Figure 7 AM Peak Hour Residential Trips	
Figure 8 PM Peak Hour Residential Trips	
Figure 9 AM Peak Hour Design Flows	
Figure 10 PM Peak Hour Design Flows	

APPENDICES

Appendix A Site Layout Plan	
Appendix B Site Access Arrangements - Optima Drawing 17121/GA/01	
Appendix C Capacity Modelling Outputs	
Appendix D TRICS Data	



1.1.2 An indicative Site layout is shown on Image 1.1 and attached in Appendix A.

1.1.1.5 This report sets out the transport issues relating to the proposed development and identifies if any measures are required to accommodate the anticipated transport impacts of the scheme. The TS considers the sustainability of the Site, reviewing the provision and quality of facilities and connections to and from the surrounding areas. It covers a variety of topics and the document structure is as follows:

- Chapter 2 – describes the Site and the existing transport conditions;
- Chapter 3 – defines the development proposals including the access strategy;
- Chapter 4 – calculates the predicted development trip generations and describes the overall impact of the development; and
- Chapter 5 – summarises and concludes the report.

2. Existing Site Conditions

2.1.1 This chapter describes the Site and considers the existing conditions on the surrounding highway network for a range of transport modes. It includes a review of traffic survey information and accident data.

2.2 EXISTING SITE

2.2.1 The development Site is situated to the north of Halifax Road, in the village of Thurgoland which is located some 9km south west of Barnsley and 6km south east of Penistone. The Site in relation to the strategic and local transport system is shown on Figures 1 and 2 respectively. Image 2.1 illustrates the indicative Site location.

Image 2.1 Site Location Plan



2.2.2 Halifax Road forms the southern boundary of the Site with existing properties lying to the western and northern boundaries with agricultural fields to the east.

2.3 EXISTING LOCAL HIGHWAY NETWORK

2.3.1 The A629 Halifax Road which provides a 90m long frontage to the southern boundary of the Site, is a lit single carriageway road connecting Huddersfield to the north and to Sheffield to the south. Halifax Road is an adopted road with a 30 mph speed limit and a carriageway width of 6m. The existing layout of Halifax Road is shown on Figure 3.

2.3.2 The two-way recorded peak hour flows east of the cross roads (taken from a turning count at the signalised crossroad) were:

- AM Peak (07:30 to 08:30) - 994 vehicles; and
- PM Peak (17:00 to 18:00) - 897 vehicles.



2.4 EXISTING FOOTWAY/CYCLE INFRASTRUCTURE

2.4.1 In proximity to the Site, Halifax Road is lit and has footways to both sides. The footway on the northern flank is adjacent to the carriageway and terminates at the eastern extent of the proposed Site and is 1.7m in width.

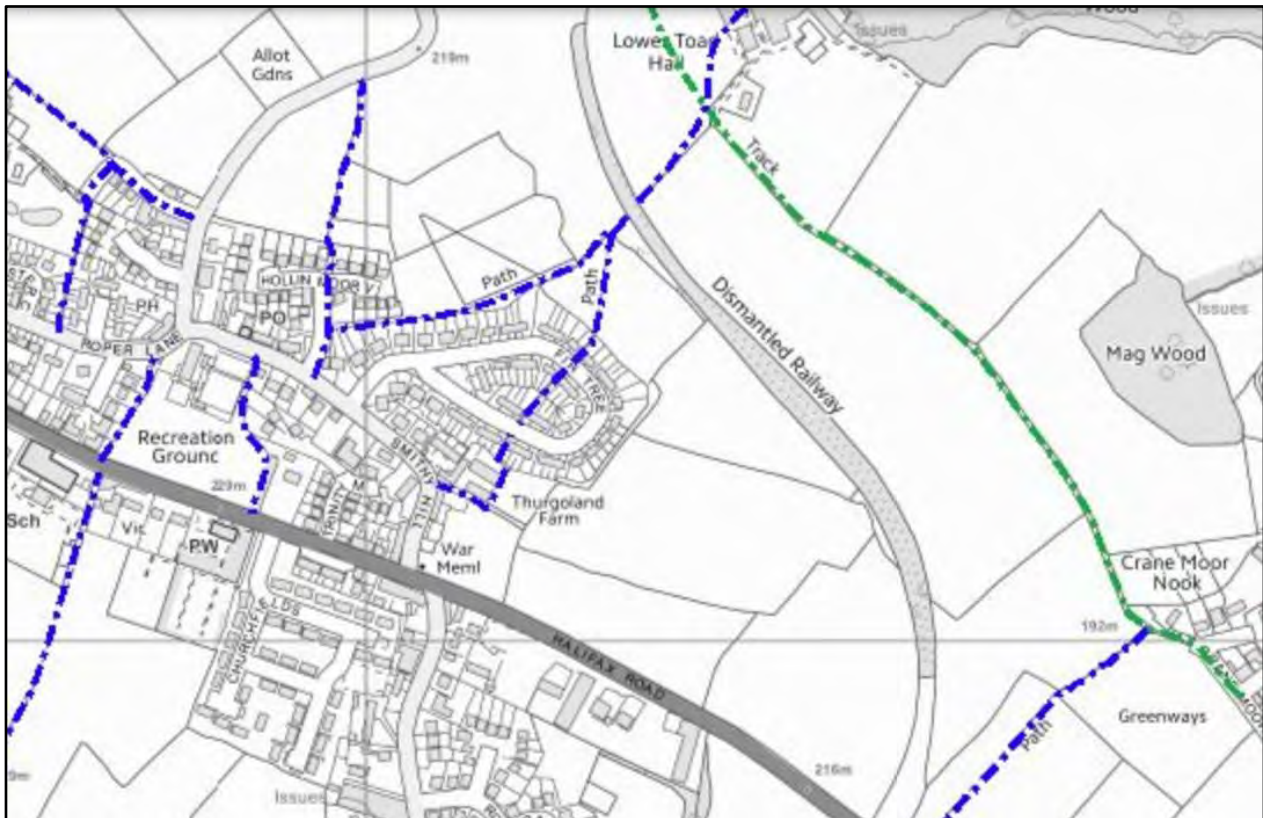
2.4.2 A water pump monument is located within the existing verge at the point where the footway terminates.

2.4.3 A 1.7m footway is provided on the southern flank of Halifax Road opposite the Site.

2.4.4 Uncontrolled dropped crossings with tactile paving are provided across each arm of the Halifax Road/Smithy Hill signalised crossroads.

2.4.5 Image 2.2 shows an extract of the Barnsley Council Public Rights of Way Map which highlights the footpath (blue) and bridleway (green) routes in the locality. There are numerous Public Rights of Way running adjacent to the Site, with PROW route 18 running through the north western corner of the Site.

Image 2.2 Extract of BC Public Right of Way Map

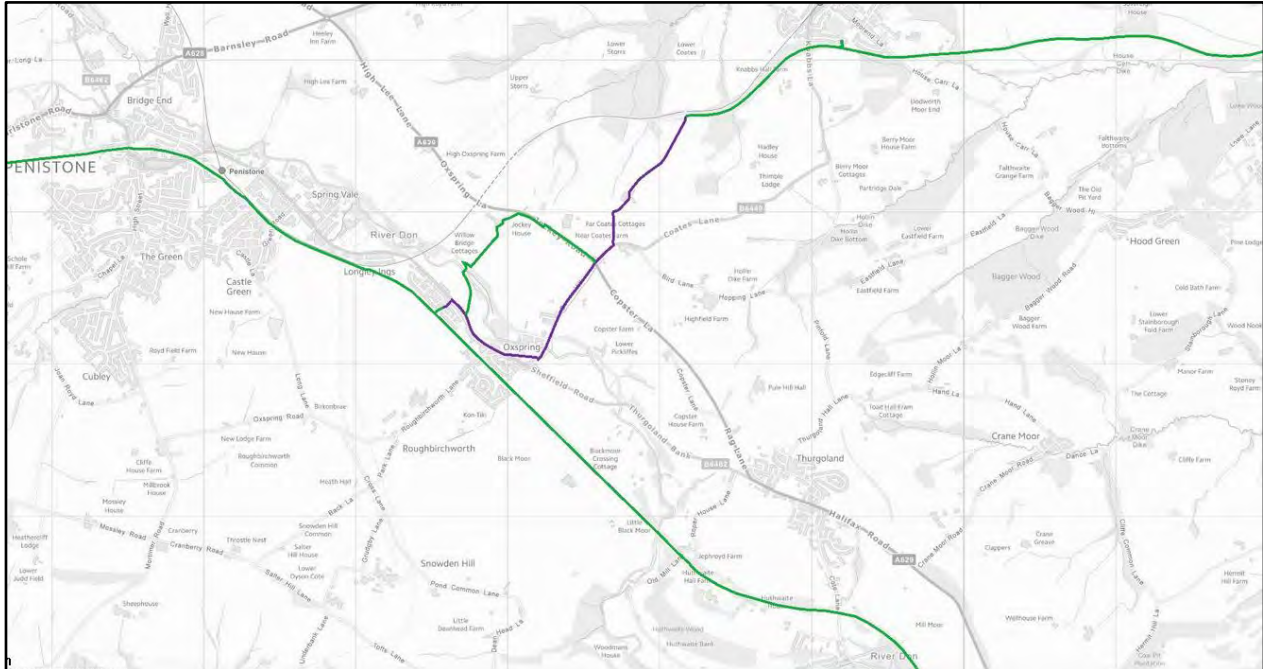


2.4.6 An acceptable and comfortable distance for general cycling trips is considered to be up to 5 kilometres as referred to in Local Transport Note 2/08 (published by the DfT). However, the same guidance also refers to commuting cycle trips of up to 8km.



2.4.7 Image 2.3 is an extract of the Barnsley Council Cycle Map and shows that National Cycle Route (NCR) 627 is located approximately 750m south of the Site and connects Penistone to Sheffield and beyond. NCR 627 close to the Site is an off carriageway route along a former railway line.

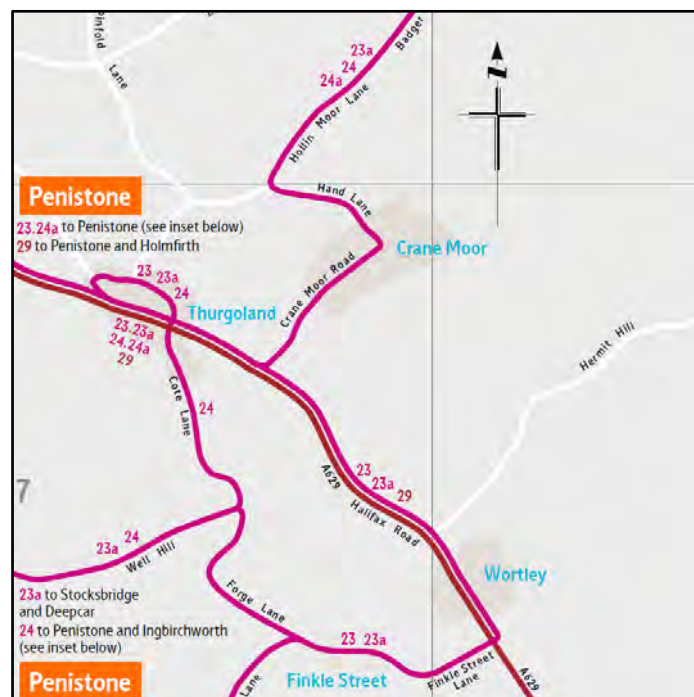
Image 2.3 Extract of BC Cycle Map



2.5 EXISTING BUS SERVICES/FACILITIES

2.5.1 There are numerous bus services which route through Thurgoland as shown in Image 2.4.

Image 2.4 Extract of Travel South Yorkshire Bus Route Plan



2.5.2 The frequencies of bus services are summarised in Tables 2.1 and 2.2. The nearest bus stop is located on Smithy Hill on the western frontage. Further stops are located on Halifax Road and Cote Lane within 150m of the Site.

2.5.3 Both bus stops on Halifax Road are provided with a shelter and timetable information, whilst the southbound stop on Smithy Lane and the northbound stop on Cote Lane are provided with a shelter and timetable information.

Table 2.1 Existing Bus Services – Halifax Road

Service Number	Route	Frequency		
		Mon-Fri	Sat	Sun
Bus Stops (References – 37055400 & 37051042)				
24/24a	Barnsley – Thurgoland - Penistone	120 mins	120 mins	120 mins
24/24a	Penistone – Thurgoland - Barnsley	120 mins	120 mins	120 mins
29	Sheffield - Ecclesfield – Thurgoland – Penistone - Holmfirth	120 mins	120 mins	120 mins
29	Holmfirth – Penistone – Thurgoland – Ecclesfield - Sheffield	120 mins	120 mins	120 mins

*Additional school services also use this stop

Table 2.2 Existing Bus Services – Smithy Hill

Service Number	Route	Frequency		
		Mon-Fri	Sat	Sun
Bus Stops (References – 37055400 & 37051042)				
23	Millhouse Green – Penistone – Thurgoland - Stocksbridge	3 per day	4 per day	No service
23	Stocksbridge – Thurgoland – Penistone – Millhouse Green	3 per day	4 per day	No Service

2.5.4 The Site is well located in relation to bus services due to its proximity to the bus stops on Smithy Hill, Cote Lane and Halifax Road with regular services provided to Penistone, Barnsley and Sheffield.

2.6 EXISTING RAIL SERVICES/FACILITIES

2.6.1 Penistone Railway Station is approximately 8km to the north west of the development Site and can be accessed by bus services 23, 24, 24a and 29. Penistone Station provides hourly connections to Sheffield and Huddersfield.

2.7 EXISTING LOCAL FACILITIES

2.7.1 Thurgoland Church of England Primary School and Preschool are located on Halifax Road some 150m to the west of the Site and can be accessed within a 5 minute walk of the Site.

2.7.2 A Post Office, GP Practice (Thurgoland Surgery) Village Hall, play area and sports area are located off Roper Lane within a 5 minute walk west of the Site. The Village Store including petrol filling station is located 100m south east of the Site



2.7.3 The nearest Secondary Schools are within Stocksbridge and Penistone and both are accessible from the existing bus services.

2.8 EXISTING TRAFFIC SURVEYS

2.8.1 Traffic surveys have been undertaken in the vicinity of the Site on Wednesday 29th November 2017 by an independent surveyor, a summary of the surveys is provided in Table 2.3.

Table 2.3 Summary of Traffic Surveys

Location	Type	Date Undertaken	Assessment Periods
Smithy Hill/Halifax Road Signals	Fully Classified Manual Turning Count	Wednesday 29 th November 2017	07:30-09:30 & 16:30-18:30

2.8.2 The surveyed peak hour flows on the local highway network are shown on the following diagrams:

- Figure 4 AM Peak Hour (07:30-08:30); and
- Figure 5 PM Peak Hour (17:00-18:00).



3. Development Proposals and Access Strategy

3.1 DEVELOPMENT PROPOSALS

3.1.1 The development proposals, which are shown on the Architects plan drawing contained in Appendix A, comprise up to 25 dwellings, associated access, parking, landscaping and infrastructure.

3.2 ACCESS STRATEGY

Vehicular Access

3.2.1 A single point of vehicular access is proposed from a simple priority junction off Halifax Road which is the most appropriate access solution for this safeguarded land. The existing carriageway of Halifax Road is some 6m in width. The Halifax Road Site Access Arrangements are shown on the drawing in Appendix B.

3.2.2 The access road within the Site is proposed to be 5.5m in width with 2.0m footways to either side. Kerbed radii of 6m are proposed to be provided from Halifax Road.

3.2.3 The Site Access drawing at Appendix B demonstrates that the visibility requirements specified in MfS for a 30mph road can be provided in both directions i.e. 2.4m x 43m (including bonnet length adjustment).

3.2.4 The proposed access solution conforms to prevailing local and national guidance and will operate safely and efficiently in the design scenario.

Pedestrian/Cycle Access

3.2.5 The Masterplan contained in Appendix A shows several access points into the proposed development by foot. Two are provided at the points of where the existing PRow enters the development Site and a further two are provided to the south west of the development Site.

3.2.6 The development proposals is likely to require a diversion to the existing PRow which routes through northern part of the Site however this will be reviewed as the detail of the layout is developed. The diversion of the public right of way will be secured via a separate application following outline planning approval.



4. Traffic Generation and Impact

4.1 TRAFFIC GENERATION AND DISTRIBUTION

4.1.1 In order to predict the traffic generated by the proposed development to ensure that the proposed access will operate in a safe and efficient manner reference has been made to the industry standard TRICS database.

4.1.2 Survey sites within the database have been chosen using the following parameters:

- Land use: 03 Residential A Houses Privately Owned;
- Calculation options: Vehicular trip rates selected;
- Regions: South East, Scottish, Irish and Welsh sites excluded;
- Trip Rate Parameters: Number of dwellings;
- Parameter range: between 6 and 100 selected;
- Date range: 1st January 2009 to 10th May 2017;
- Days included: Monday to Friday; and
- Location Type: Suburban, Edge of Town, Neighbourhood Centre.

4.1.3 The TRICS output is contained at Appendix D with the resulting weekday peak hour vehicular trip rates shown in Table 4.1.

Table 4.1 Proposed Vehicular Trip Rates

Time Period	TRICS Residential Vehicular Trip Rates		
	Arrivals	Departures	Total
AM Peak 08:00-09:00	0.160	0.391	0.551
PM Peak 17:00-18:00	0.327	0.156	0.483

4.1.4 By multiplying the trip rates in Table 4.1 by the proposed number of dwellings results in the predicted traffic generations shown in Table 4.2 below.

Table 4.2 Proposed Vehicular Trip Rates

Time Period	Proposed Traffic Generations		
	Arrivals	Departures	Total
AM Peak 08:00-09:00	4	10	14
PM Peak 17:00-18:00	8	4	12

4.1.5 The proposed trips will be distributed by the existing movements on Halifax Road as shown in Figures 6 and 7 for the AM and PM peaks respectively. The trip generations shown above are then distributed east/west based on the existing peak hour movements. The distributions are shown on Figures 7 and 8 for the AM and PM peaks respectively.

4.1.6 Adding the trip generations in Figures 7 and 8 to the existing traffic flows shown in Figures 4 and 5 provide the future design traffic flows shown in Figures 9 and 10.



4.1.7 The volume of new trips that the proposed development would generate will not have a material impact on the operation of the local highway network and certainly cannot be considered as being 'severe' which is the test applied in the NPPF.

4.1.8 Notwithstanding the above and in order to ensure that the proposed access doesn't materially impact on the operation of the adjacent signals an assessment of the capacity of the Site access junction will be completed.

4.2 OPERATIONAL ASSESSMENT OF SITE ACCESS

4.2.1 As described in Chapter 3 the vehicle means of access to the development Site is proposed from a new priority junction on Halifax Road. The PICADY function within the Junctions 9 software has been used to assess the operation of this junction in the design scenario. Morning and evening peak hour models have been produced based on the proposed junction geometry which is shown on the drawing in Appendix B.

4.2.2 The results of the assessments are summarised in Table 4.3 which gives the maximum RFC for each turning movement as well as the maximum predicted queue length in passenger car units (PCUs). The Junctions 9 outputs are contained in Appendix C.

Table 4.3 Proposed Site Access/Halifax Road AM and PM Design

Movement	AM		PM	
	RFC	Queue	RFC	Queue
Site Access	0.03	0.0	0.00	0.0
Halifax Road	0.01	0.0	0.01	0.0

4.2.3 The results in Table 4.3 demonstrate that the proposed Halifax Road Site access junction is predicted to operate well within capacity in both the AM and PM peak periods in the design year scenario. All movements operate with significant spare capacity with no predicted queuing.



5. Summary and Conclusions

5.1.1 This report has addressed the highways and transportation issues raised by the proposed development for up to 25 dwellings at a site located to the south of Halifax Road, Thurgoland.

5.1.2 The report has identified what measures will be taken to deal with the anticipated impacts of the scheme proposals and has defined what improvements and initiatives will be implemented to improve accessibility to the Site by all modes of travel.

5.1.3 The Site is 1.04 hectares (gross) in size and is allocated for future development within the local plan.

5.1.4 A simple priority junction is proposed from Halifax Road some 65m east of the signalised junction with Smithy Hill.

5.1.5 Pedestrian/cycle accessibility for existing as well as new trips will be further enhanced and improved by the following measures:

- Several boundary connections with the existing highway network and PRoW network to facilitate trips in all directions from (and through) the Site; and
- Numerous internal links and pedestrian routes.

5.1.6 The location of the Site along with the implementation of the above measures results in the achievement of the following accessibility criteria:

- Thurgoland Preschool is located within some 400m of the Site and can be reached within a 5 minute walk;
- Thurgoland C of E Primary School is situated within some 400m of the Site and can be reached within a 5 minute walk;
- Penistone Grammar School can be accessed within a 17 minute bus journey on the number 410 bus service;
- A GP Surgery, Post Office, Village Store, Village Hall and other local facilities are situated within a 400m walk of the Site and can be reached within an approximate 5 minute journey time; and
- Barnsley Town Centre can be accessed within a 28 minute journey time on bus route 23a from the Site.

5.1.7 Capacity analysis at the Site access priority junction has shown that the junction will operate well within capacity with no queuing, whilst visibility standards as set out within Manual for Streets can be achieved.

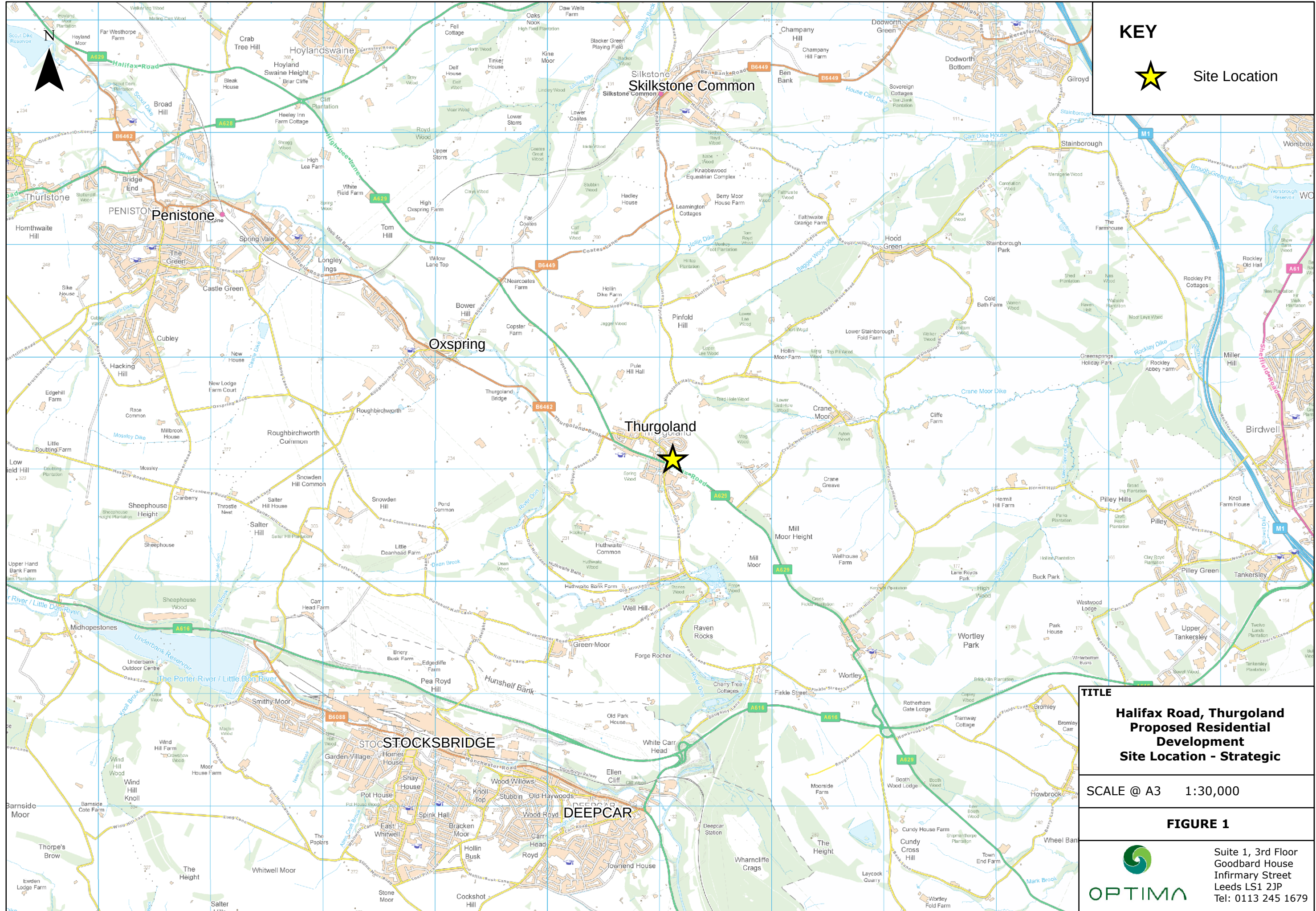
5.1.8 From the extensive work undertaken it is concluded that there are no reasons on highways or transport grounds why the development Site should not be granted planning permission for residential purposes.



Figures



Path: O:\Halifax Road, Thurgoland\DRAWINGS\GIS\ARCEDITOR\Figure 1 - Site Location Strategic.mxd



KEY

 Site Location

TITLE

Halifax Road, Thurgoland
Proposed Residential
Development
Site Location - Strategic

SCALE @ A3 1:30,000

FIGURE 1

 Suite 1, 3rd Floor
Goodbard House
Infirmay Street
Leeds LS1 2JP
Tel: 0113 245 1679



Path: O:\Halifax Road, Thurgoland\DRAWINGS\GIS\ARCEditor\Figure 2 Site Local.mxd

KEY

Indicative Site Boundary

TITLE

Halifax Road, Thurgoland
Proposed Residential
Development
Site Location - Local

SCALE @ A3 1:4,000

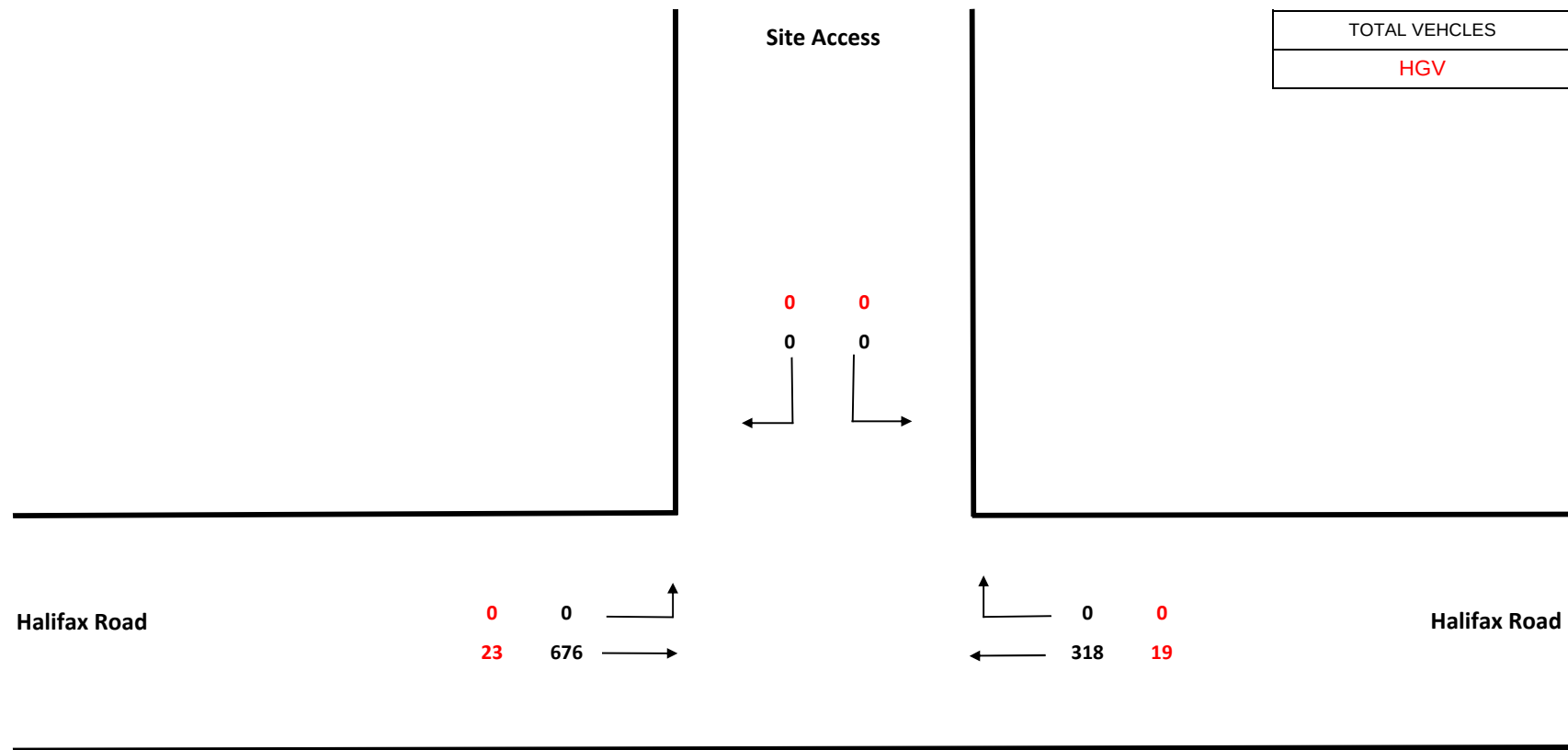
FIGURE 2

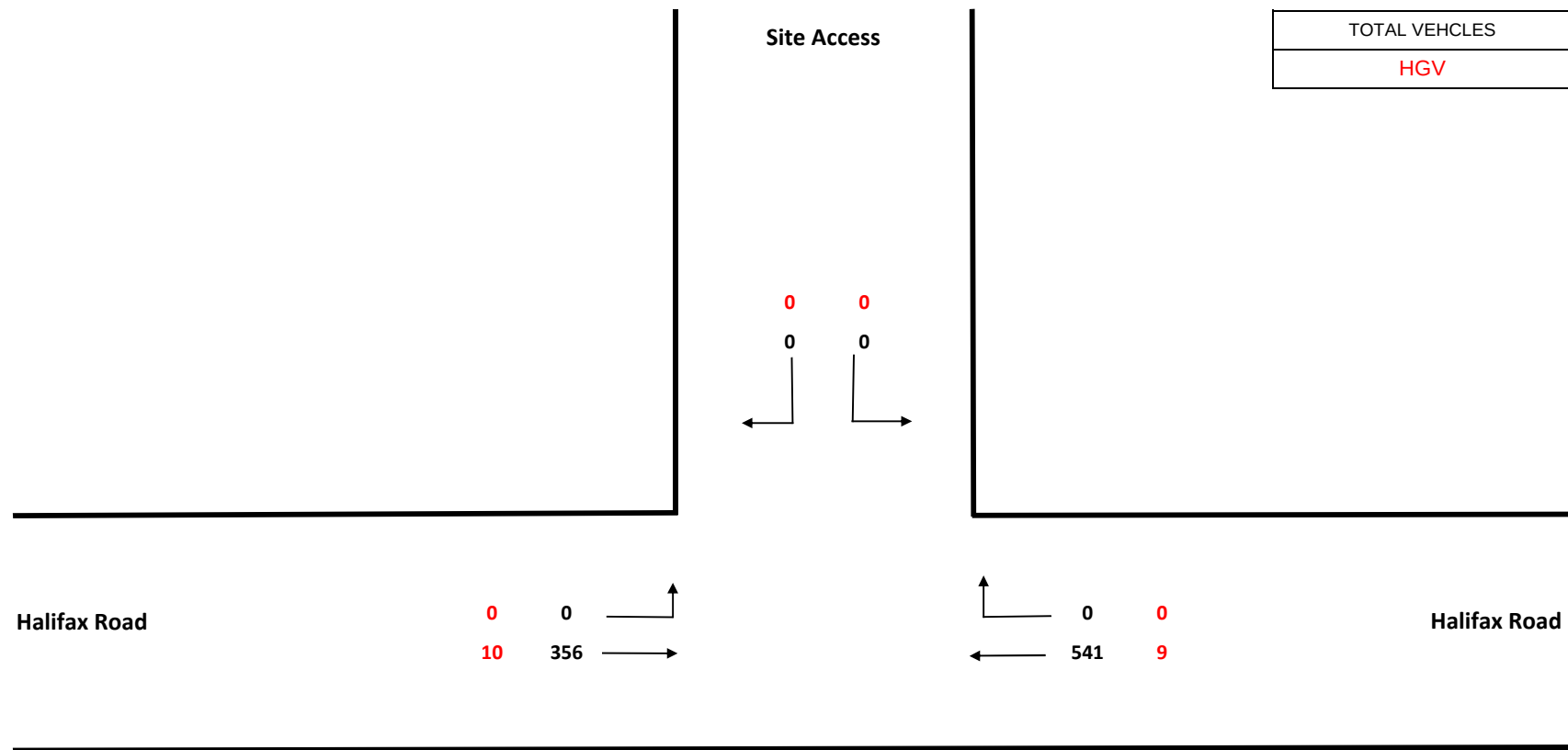


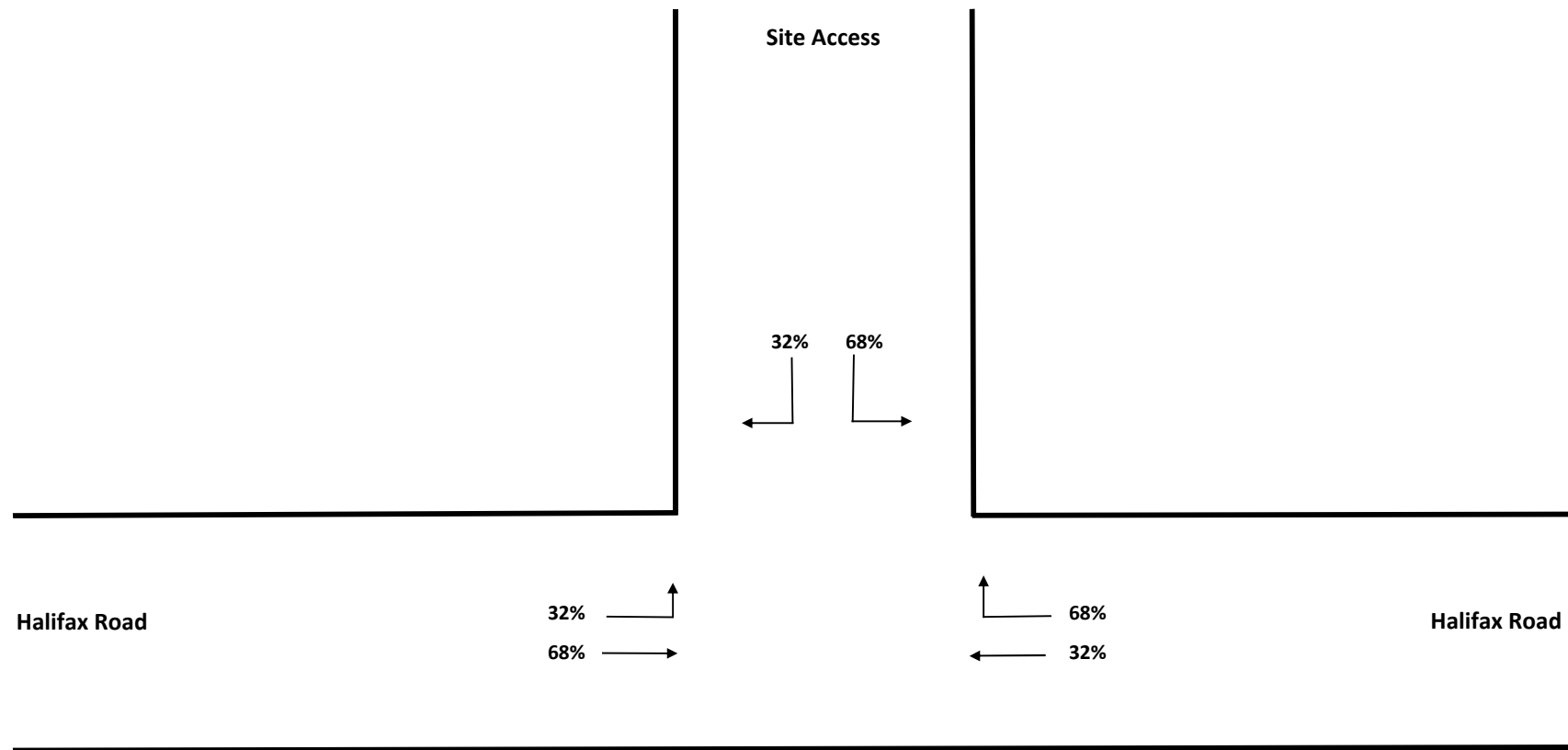
Suite 1, 3rd Floor
Goodbard House
Infirmary Street
Leeds LS1 2JP
Tel: 0113 245 1679

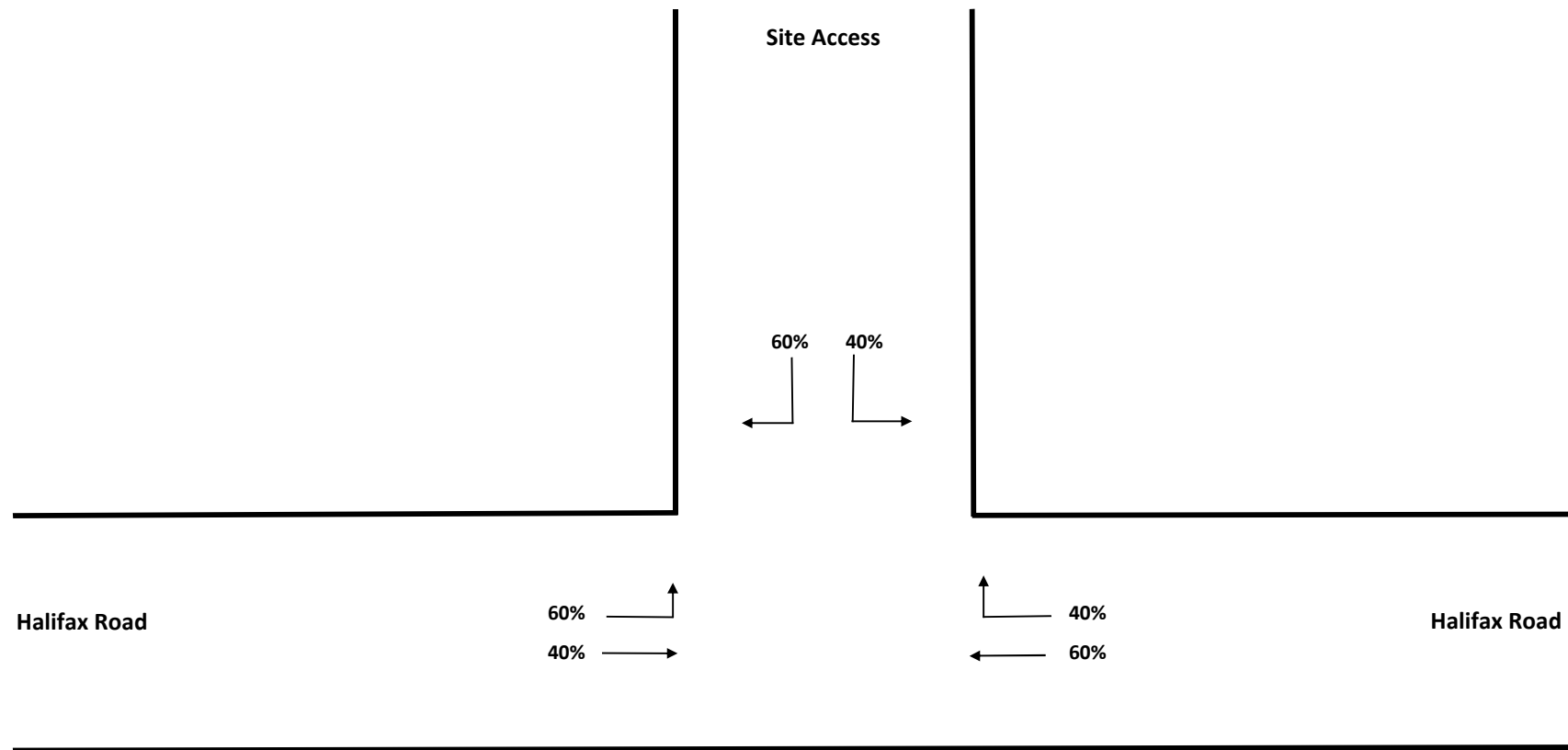


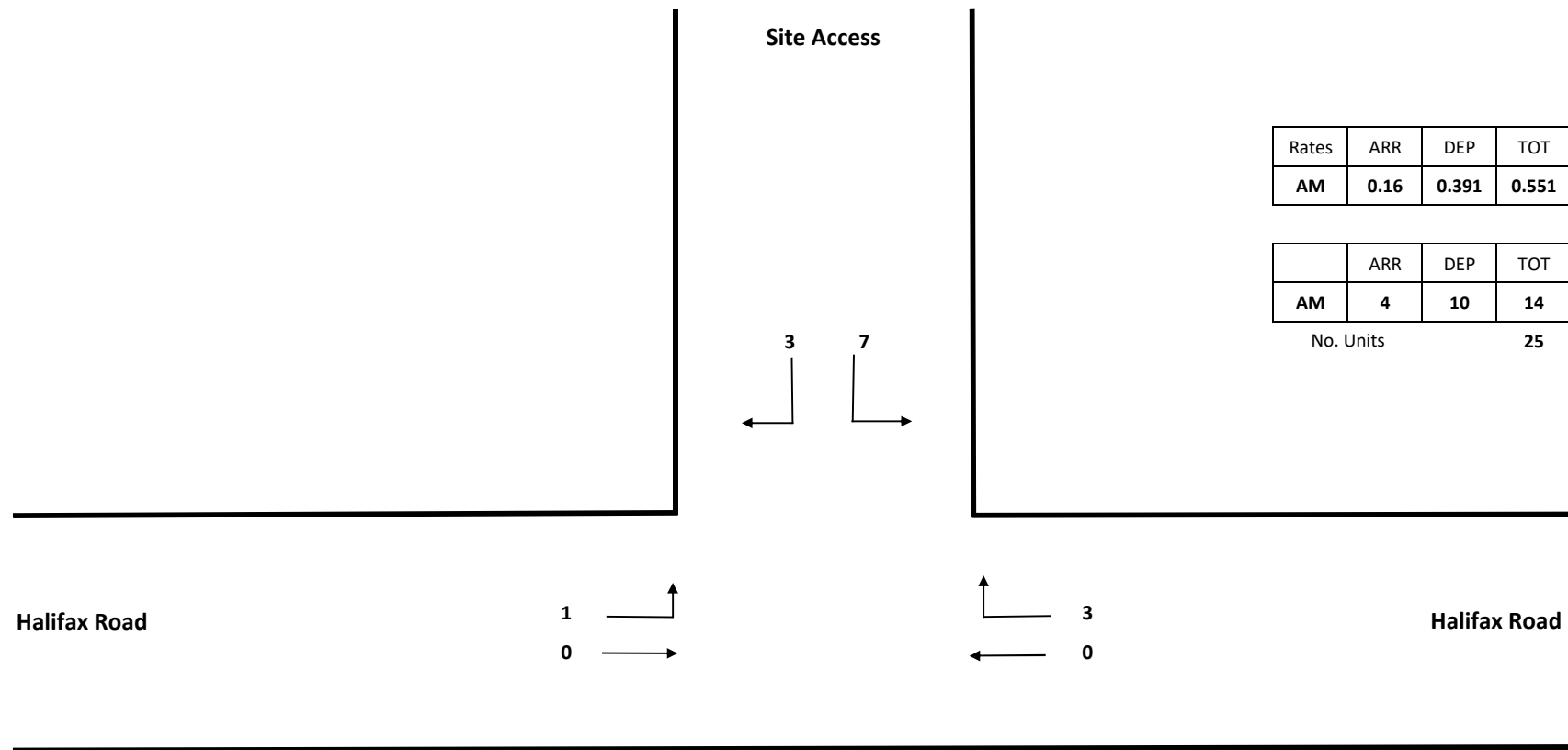
TITLE	EXISTING HIGHWAY LAYOUT HALIFAX ROAD, THURGOLAND
REF	FIGURE 3
SCALE	1:500 @A3
 Intelligent Highways Solutions Atlas House, 31 King Street, Leeds, LS1 2HL	

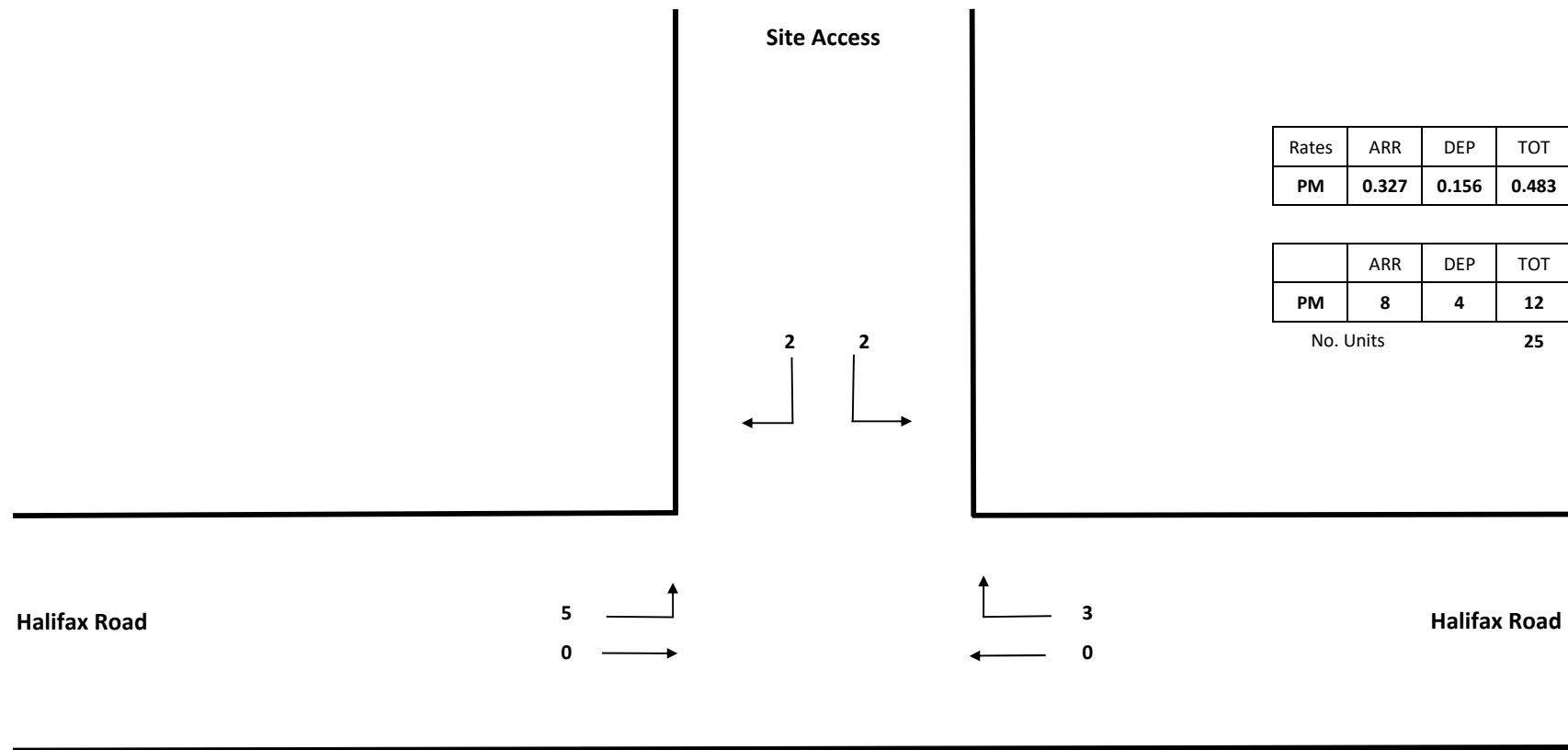


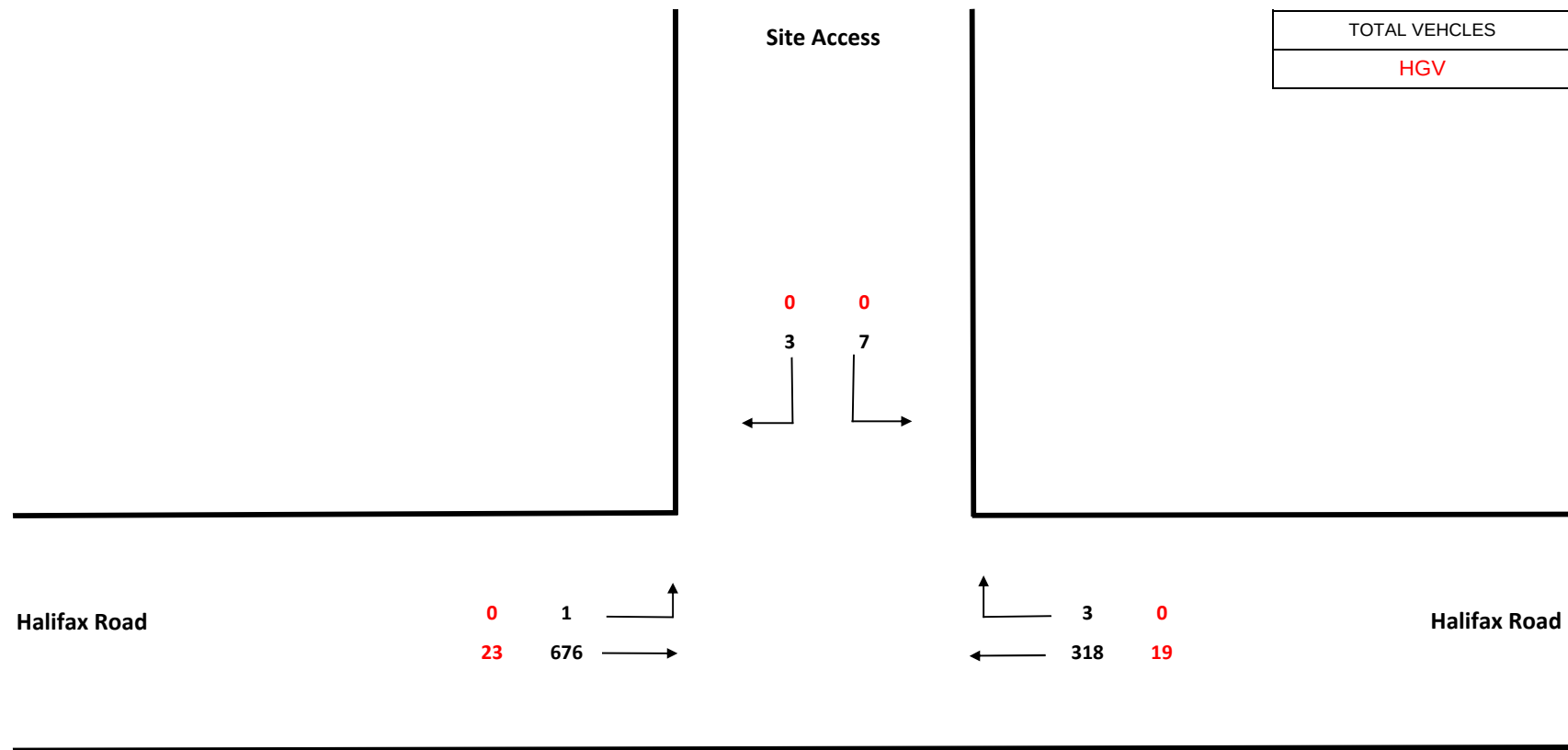




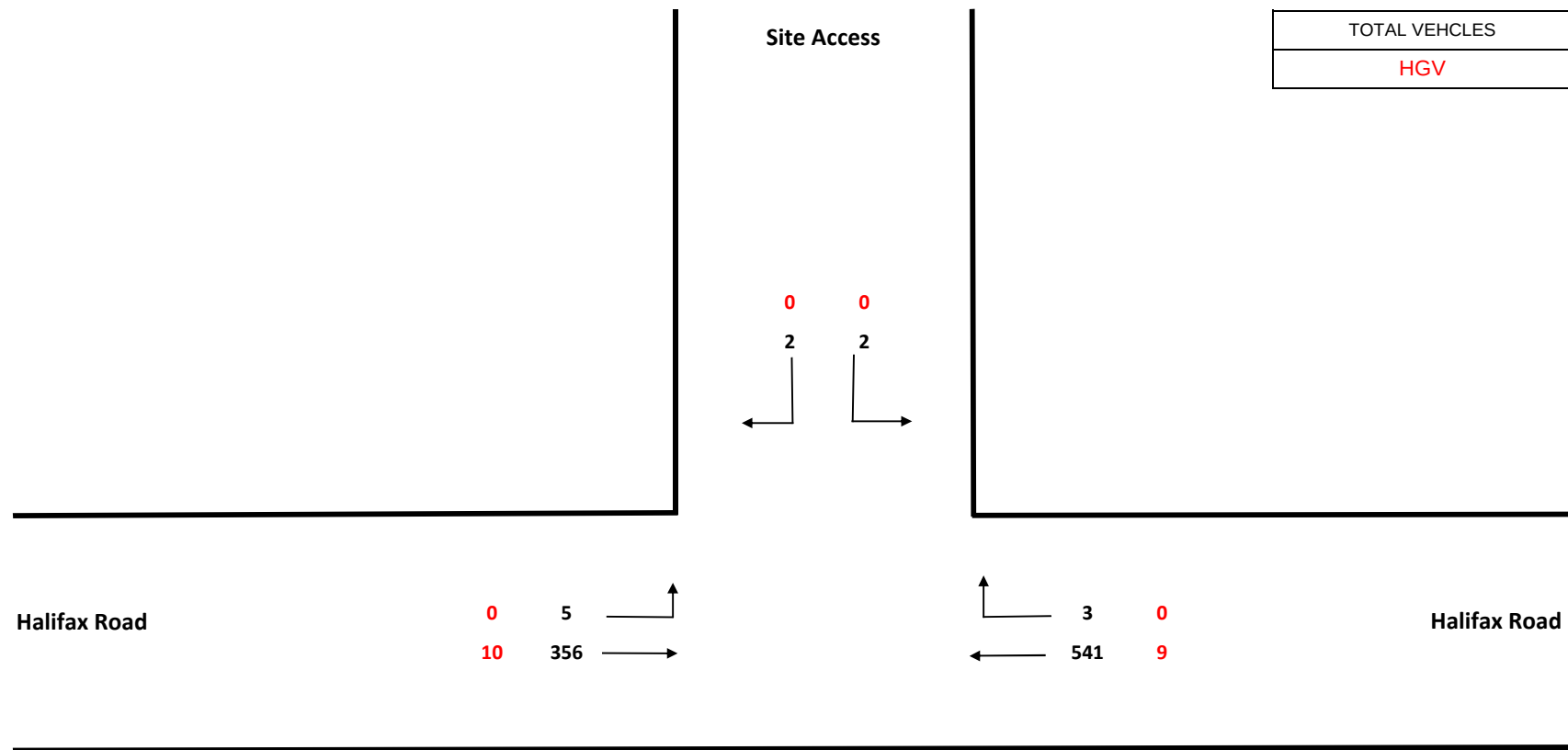








TOTAL VEHICLES	0
HGV	0



Appendices



Appendix A Site Layout Plan



DEVELOPMENT SUMMARY

INDICATIVE NETT AREA:
1.73 ACRES / 0.70 HECTARES

INDICATIVE GROSS AREA:
2.56 ACRES / 1.04 HECTARES

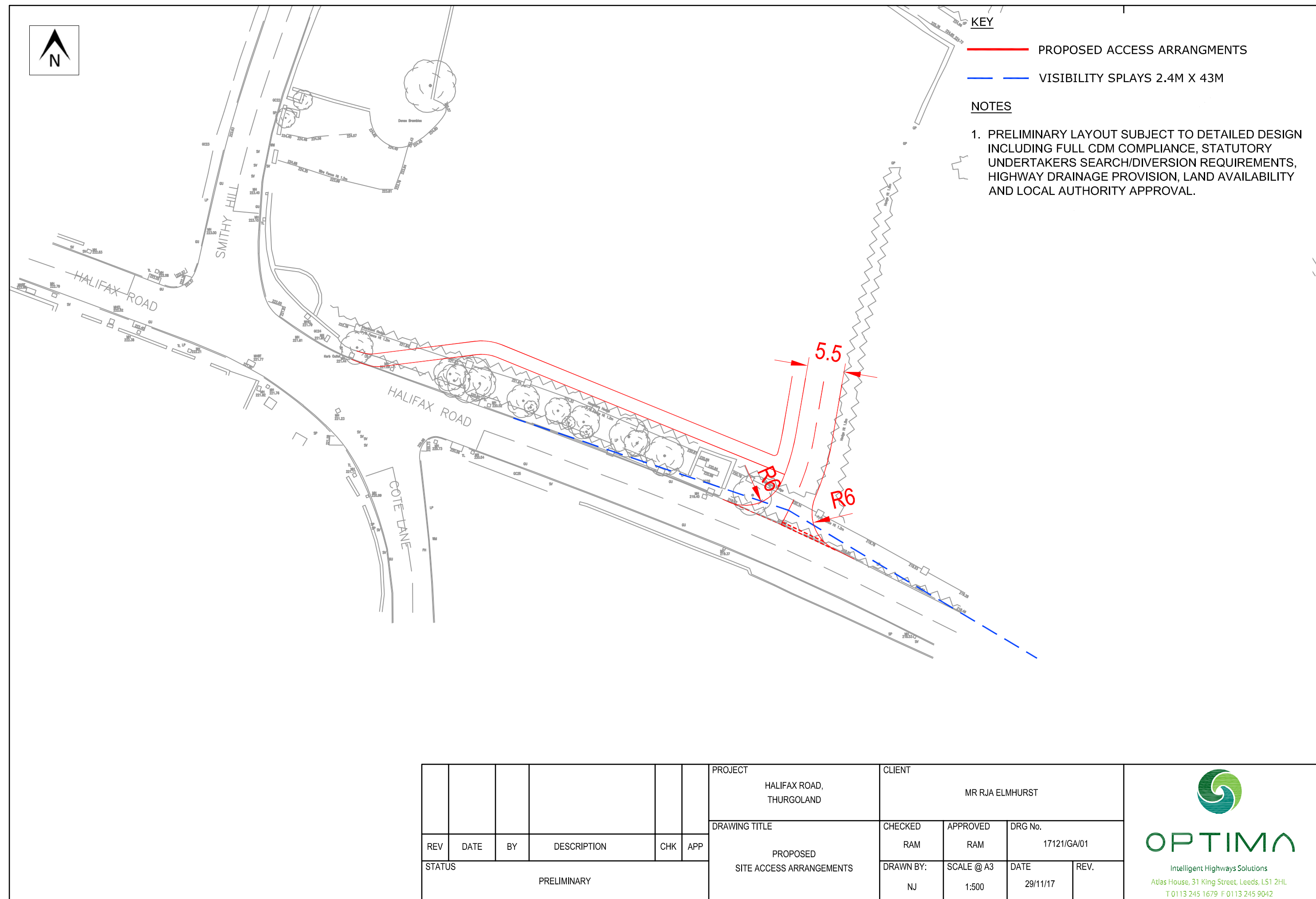
DWELLINGS ACHIEVABLE @ 30 -35 DPH:
21 - 25 DWELLINGS

INDICATIVE POS AREA:
0.49 ACRES / 0.20 HECTARES



Appendix B Site Access Arrangements - Optima Drawing 17121/GA/01





						PROJECT HALIFAX ROAD, THURGOLAND	CLIENT MR RJA ELMHURST				<div></div> <div>OPTIMA</div> <div>Intelligent Highways Solutions</div> <div>Atlas House, 31 King Street, Leeds, LS1 2HL</div> <div>T 0113 245 1679 F 0113 245 9042</div>
REV	DATE	BY	DESCRIPTION	CHK	APP	DRAWING TITLE PROPOSED SITE ACCESS ARRANGEMENTS	CHECKED RAM	APPROVED RAM	DRG No. 17121/GA/01		
STATUS PRELIMINARY							DRAWN BY: NJ	SCALE @ A3 1:500	DATE 29/11/17	REV.	

Appendix C Capacity Modelling Outputs



Junctions 9
PICADY 9 - Priority Intersection Module
Version: 9.0.2.5947 © Copyright TRL Limited, 2017
For sales and distribution information, program advice and maintenance, contact TRL: +44 (0)1344 770558 software@trl.co.uk www.trlsoftware.co.uk
The users of this computer program for the solution of an engineering problem are in no way relieved of their responsibility for the correctness of the solution

Filename: Site Access.j9

Path: O:\Halifax Road, Thurgoland\ANALYSIS\CAPACITY\Priority Junctions

Report generation date: 14/12/2017 12:19:02

«Design, AM

- »Junction Network
- »Arms
- »Traffic Demand
- »Origin-Destination Data
- »Vehicle Mix
- »Results

Summary of junction performance

	AM				PM			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
	Design							
Stream B-AC	0.0	9.17	0.03	A	0.0	0.00	0.00	A
Stream C-AB	0.0	5.18	0.01	A	0.0	4.20	0.01	A

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

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

File summary

File Description

Title	Site Access
Location	Halifax Road- Thurgoland
Site number	
Date	14/12/2017
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	NJ
Description	

Units

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

Analysis Options

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

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	Design	AM	ONE HOUR	07:15	08:45	15

Design, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	0.11	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	Halifax Road (West)		Major
B	Site Access		Minor
C	Halifax Road (East)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C - Halifax Road (East)	6.21			130.0	✓	0.00

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 - Site Access	One lane	3.68	18	36

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	535	0.097	0.244	0.154	0.349
1	B-C	691	0.105	0.265	-	-
1	C-B	649	0.249	0.249	-	-

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

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Halifax Road (West)		✓	700	100.000
B - Site Access		✓	10	100.000
C - Halifax Road (East)		✓	340	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
		A - Halifax Road (West)	B - Site Access	C - Halifax Road (East)
From	A - Halifax Road (West)	0	1	699
	B - Site Access	3	0	7
	C - Halifax Road (East)	337	3	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A - Halifax Road (West)	B - Site Access	C - Halifax Road (East)
From	A - Halifax Road (West)	0	0	0
	B - Site Access	0	0	0
	C - Halifax Road (East)	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.03	9.17	0.0	A
C-AB	0.01	5.18	0.0	A
C-A				
A-B				
A-C				

Main Results for each time segment

07:15 - 07:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-AC	8	479	0.016	7	0.0	7.636	A
C-AB	4	699	0.005	4	0.0	5.178	A
C-A	252			252			
A-B	0.75			0.75			
A-C	526			526			

07:30 - 07:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-AC	9	448	0.020	9	0.0	8.205	A
C-AB	5	712	0.007	5	0.0	5.085	A
C-A	301			301			
A-B	0.90			0.90			
A-C	628			628			

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-AC	11	404	0.027	11	0.0	9.166	A
C-AB	7	734	0.009	7	0.0	4.949	A
C-A	368			368			
A-B	1			1			
A-C	770			770			

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-AC	11	404	0.027	11	0.0	9.166	A
C-AB	7	734	0.009	7	0.0	4.949	A
C-A	368			368			
A-B	1			1			
A-C	770			770			

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-AC	9	448	0.020	9	0.0	8.206	A
C-AB	5	712	0.007	5	0.0	5.085	A
C-A	301			301			
A-B	0.90			0.90			
A-C	628			628			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-AC	8	479	0.016	8	0.0	7.636	A
C-AB	4	699	0.005	4	0.0	5.179	A
C-A	252			252			
A-B	0.75			0.75			
A-C	526			526			

Junctions 9				
PICADY 9 - Priority Intersection Module				
Version: 9.0.2.5947 © Copyright TRL Limited, 2017				
For sales and distribution information, program advice and maintenance, contact TRL: +44 (0)1344 770558 software@trl.co.uk www.trlsoftware.co.uk				
The users of this computer program for the solution of an engineering problem are in no way relieved of their responsibility for the correctness of the solution				

Filename: Site Access.j9

Path: O:\Halifax Road, Thurgoland\ANALYSIS\CAPACITY\Priority Junctions

Report generation date: 14/12/2017 12:20:25

«Design, PM

- »Junction Network
- »Arms
- »Traffic Demand
- »Origin-Destination Data
- »Vehicle Mix
- »Results

Summary of junction performance

	AM				PM			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
	Design							
Stream B-AC	0.0	9.17	0.03	A	0.0	0.00	0.00	A
Stream C-AB	0.0	5.18	0.01	A	0.0	4.20	0.01	A

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

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

File summary

File Description

Title	Site Access
Location	Halifax Road- Thurgoland
Site number	
Date	14/12/2017
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	NJ
Description	

Units

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

Analysis Options

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

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D2	Design	PM	ONE HOUR	16:45	18:15	15

Design, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	0.03	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	Halifax Road (West)		Major
B	Site Access		Minor
C	Halifax Road (East)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C - Halifax Road (East)	6.21			130.0	✓	0.00

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 - Site Access	One lane	3.68	18	36

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	535	0.097	0.244	0.154	0.349
1	B-C	691	0.105	0.265	-	-
1	C-B	649	0.249	0.249	-	-

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

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Halifax Road (West)		✓	371	100.000
B - Site Access		✓	4	100.000
C - Halifax Road (East)		✓	553	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
		A - Halifax Road (West)	B - Site Access	C - Halifax Road (East)
From	A - Halifax Road (West)	0	5	366
	B - Site Access	2	0	2
	C - Halifax Road (East)	550	3	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A - Halifax Road (West)	B - Site Access	C - Halifax Road (East)
From	A - Halifax Road (West)	0	0	0
	B - Site Access	0	0	0
	C - Halifax Road (East)	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.00	0.00	0.0	A
C-AB	0.01	4.20	0.0	A
C-A				
A-B				
A-C				

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-AC	0	488	0.000	0	0.0	0.000	A
C-AB	4	860	0.005	4	0.0	4.205	A
C-A	412			412			
A-B	4			4			
A-C	276			276			

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-AC	0	464	0.000	0	0.0	0.000	A
C-AB	6	905	0.007	6	0.0	4.003	A
C-A	491			491			
A-B	4			4			
A-C	329			329			

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-AC	0	431	0.000	0	0.0	0.000	A
C-AB	9	969	0.009	9	0.0	3.749	A
C-A	600			600			
A-B	6			6			
A-C	403			403			

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-AC	0	431	0.000	0	0.0	0.000	A
C-AB	9	969	0.009	9	0.0	3.749	A
C-A	600			600			
A-B	6			6			
A-C	403			403			

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-AC	0	464	0.000	0	0.0	0.000	A
C-AB	6	905	0.007	6	0.0	4.003	A
C-A	491			491			
A-B	4			4			
A-C	329			329			

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-AC	0	488	0.000	0	0.0	0.000	A
C-AB	4	860	0.005	4	0.0	4.205	A
C-A	412			412			
A-B	4			4			
A-C	276			276			

Appendix D TRICS Data



Calculation Reference: AUDIT-750701-171214-1217

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 03 - RESIDENTIAL
 Category : A - HOUSES PRIVATELY OWNED
 VEHICLES

Selected regions and areas:

04	EAST ANGLIA	
	NF NORFOLK	1 days
	SF SUFFOLK	1 days
06	WEST MIDLANDS	
	SH SHROPSHIRE	3 days
	WK WARWICKSHIRE	1 days
07	YORKSHIRE & NORTH LINCOLNSHIRE	
	NY NORTH YORKSHIRE	3 days
	WY WEST YORKSHIRE	1 days
08	NORTH WEST	
	CH CHESHIRE	1 days
	GM GREATER MANCHESTER	2 days
09	NORTH	
	CB CUMBRIA	1 days
	TW TYNE & WEAR	1 days

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

Secondary Filtering selection:

This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.

Parameter: Number of dwellings
 Actual Range: 10 to 82 (units:)
 Range Selected by User: 6 to 100 (units:)

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/09 to 10/05/17

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

Selected survey days:

Monday	2 days
Tuesday	2 days
Wednesday	5 days
Thursday	3 days
Friday	3 days

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

Selected survey types:

Manual count	15 days
Directional ATC Count	0 days

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

Selected Locations:

Edge of Town	12
Neighbourhood Centre (PPS6 Local Centre)	3

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

Selected Location Sub Categories:

Residential Zone	10
Village	1
No Sub Category	4

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

Secondary Filtering selection:

Use Class:

C3

15 days

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

Population within 1 mile:

1,001 to 5,000	2 days
5,001 to 10,000	5 days
10,001 to 15,000	5 days
15,001 to 20,000	1 days
25,001 to 50,000	1 days
50,001 to 100,000	1 days

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

Population within 5 miles:

5,001 to 25,000	2 days
25,001 to 50,000	4 days
50,001 to 75,000	1 days
75,001 to 100,000	4 days
125,001 to 250,000	1 days
250,001 to 500,000	1 days
500,001 or More	2 days

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

Car ownership within 5 miles:

0.6 to 1.0	6 days
1.1 to 1.5	9 days

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

Travel Plan:

No

15 days

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

PTAL Rating:

No PTAL Present

15 days

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

LIST OF SITES relevant to selection parameters

1	CB-03-A-04	SEMI DETACHED		CUMBRIA
	MOORCLOSE ROAD			
	SALTERBACK			
	WORKINGTON			
	Edge of Town			
	No Sub Category			
	Total Number of dwellings:	82		
	Survey date: FRIDAY	24/04/09	Survey Type: MANUAL	
2	CH-03-A-09	TERRACED HOUSES		CHESHIRE
	GREYSTOKE ROAD			
	HURDSFIELD			
	MACCLESFIELD			
	Edge of Town			
	Residential Zone			
	Total Number of dwellings:	24		
	Survey date: MONDAY	24/11/14	Survey Type: MANUAL	
3	GM-03-A-10	DETACHED / SEMI		GREATER MANCHESTER
	BUTT HILL DRIVE			
	PRESTWICH			
	MANCHESTER			
	Edge of Town			
	Residential Zone			
	Total Number of dwellings:	29		
	Survey date: WEDNESDAY	12/10/11	Survey Type: MANUAL	
4	GM-03-A-11	TERRACED & SEMI-DETACHED		GREATER MANCHESTER
	RUSHFORD STREET			
	LEVENSHULME			
	MANCHESTER			
	Neighbourhood Centre (PPS6 Local Centre)			
	Residential Zone			
	Total Number of dwellings:	37		
	Survey date: MONDAY	26/09/16	Survey Type: MANUAL	
5	NF-03-A-03	DETACHED HOUSES		NORFOLK
	HALING WAY			
	THETFORD			
	Edge of Town			
	Residential Zone			
	Total Number of dwellings:	10		
	Survey date: WEDNESDAY	16/09/15	Survey Type: MANUAL	
6	NY-03-A-07	DETACHED & SEMI DET.		NORTH YORKSHIRE
	CRAVEN WAY			
	BOROUGHBRIDGE			
	Edge of Town			
	No Sub Category			
	Total Number of dwellings:	23		
	Survey date: TUESDAY	18/10/11	Survey Type: MANUAL	
7	NY-03-A-10	HOUSES AND FLATS		NORTH YORKSHIRE
	BOROUGHBRIDGE ROAD			
	RIPON			
	Edge of Town			
	No Sub Category			
	Total Number of dwellings:	71		
	Survey date: TUESDAY	17/09/13	Survey Type: MANUAL	
8	NY-03-A-11	PRIVATE HOUSING		NORTH YORKSHIRE
	HORSEFAIR			
	BOROUGHBRIDGE			
	Edge of Town			
	Residential Zone			
	Total Number of dwellings:	23		
	Survey date: WEDNESDAY	18/09/13	Survey Type: MANUAL	
9	SF-03-A-05	DETACHED HOUSES		SUFFOLK
	VALE LANE			
	BURY ST EDMUNDS			
	Edge of Town			
	Residential Zone			
	Total Number of dwellings:	18		
	Survey date: WEDNESDAY	09/09/15	Survey Type: MANUAL	

LIST OF SITES relevant to selection parameters (Cont.)

10	SH-03-A-03 SOMERBY DRIVE BICTON HEATH SHREWSBURY Edge of Town No Sub Category Total Number of dwellings: Survey date: FRIDAY	DETACHED 10 26/06/09	SHROPSHIRE	Survey Type: MANUAL
11	SH-03-A-05 SANDCROFT SUTTON HILL TELFORD Edge of Town Residential Zone Total Number of dwellings: Survey date: THURSDAY	SEMI-DETACHED / TERRACED 54 24/10/13	SHROPSHIRE	Survey Type: MANUAL
12	SH-03-A-06 ELLESMERE ROAD SHREWSBURY Edge of Town Residential Zone Total Number of dwellings: Survey date: THURSDAY	BUNGALOWS 16 22/05/14	SHROPSHIRE	Survey Type: MANUAL
13	TW-03-A-03 STATION ROAD BACKWORTH NEAR NEWCASTLE Neighbourhood Centre (PPS6 Local Centre) Village Total Number of dwellings: Survey date: FRIDAY	MIXED HOUSES 33 13/11/15	TYNE & WEAR	Survey Type: MANUAL
14	WK-03-A-02 NARBERTH WAY POTTERS GREEN COVENTRY Edge of Town Residential Zone Total Number of dwellings: Survey date: THURSDAY	BUNGALOWS 17 17/10/13	WARWICKSHIRE	Survey Type: MANUAL
15	WY-03-A-01 SPRING VALLEY CRESCENT BRAMLEY LEEDS Neighbourhood Centre (PPS6 Local Centre) Residential Zone Total Number of dwellings: Survey date: WEDNESDAY	MIXED HOUSING 46 21/09/16	WEST YORKSHIRE	Survey Type: MANUAL

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

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
VEHICLES

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	15	33	0.093	15	33	0.217	15	33	0.310
08:00 - 09:00	15	33	0.160	15	33	0.391	15	33	0.551
09:00 - 10:00	15	33	0.140	15	33	0.170	15	33	0.310
10:00 - 11:00	15	33	0.158	15	33	0.154	15	33	0.312
11:00 - 12:00	15	33	0.172	15	33	0.185	15	33	0.357
12:00 - 13:00	15	33	0.148	15	33	0.158	15	33	0.306
13:00 - 14:00	15	33	0.160	15	33	0.178	15	33	0.338
14:00 - 15:00	15	33	0.183	15	33	0.156	15	33	0.339
15:00 - 16:00	15	33	0.241	15	33	0.219	15	33	0.460
16:00 - 17:00	15	33	0.302	15	33	0.166	15	33	0.468
17:00 - 18:00	15	33	0.327	15	33	0.156	15	33	0.483
18:00 - 19:00	15	33	0.245	15	33	0.146	15	33	0.391
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			2.329			2.296			4.625

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

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

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Parameter summary

Trip rate parameter range selected:	10 - 82 (units:)
Survey date range:	01/01/09 - 10/05/17
Number of weekdays (Monday-Friday):	15
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	0

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