Orion Homes Ltd

A62 Leeds Road, Heckmondwike, Kirklees, West Yorkshire WF16 9DB

Transport Statement

sanderson associates
consulting engineers

Control Sheet

CLIENT: Orion Homes Ltd

PROJECT TITLE: A62 Leeds Road, Heckmondwike, Kirklees, West Yorkshire WF16 9DB

REPORT TITLE: Transport Statement

PROJECT REFERENCE: 164033

DOCUMENT NUMBER: 001

ISSUE NUMBER: 02

DATE: March 2026

Issue & Approval Schedule

Issue 01	Name	Signature	Date
Prepared by	I Ladbrooke	A signed copy is available on request	15.05.2025
Checked by	S Burkinshaw		15.05.2025
Approved by	S Burkinshaw		15.05.2025

Issue Record

Issue	Date	Status	Description	Name	
02	06/03/2026	Final	Amendments to suit latest proposals	Prepared	A Armitage
				Checked	I Ladbrooke
				Approved	I Ladbrooke
03				Prepared	
				Checked	
				Approved	

Acknowledgements

Site Location Plan uses Google Maps Imagery ©2024 Maxar Technologies, Map data ©2024.

Kirklees Residential Site Allocation HS115 has been obtained from Kirklees Council with extracts © Crown Copyright and database right 2024. Ordnance Survey AC0000851069.

Google My Maps has been used to create figures for illustrative purposes only.

OpenRouteService has been utilised to generate indicative walking and cycling isochrones.

Cycle route information is shown on OpenCycleMap for illustrative purposes only.

Public transport information has been obtained from West Yorkshire Metro at https://www.wymetro.com/

Kirklees Councils public rights of way (PRoW) have been obtained from Kirklees online resource. {Kirklees Council © Crown Copyright and database right 2024. Ordnance Survey AC0000851069]

Traffic data has been obtained from the Department for Transport Road Traffic Statistics manual traffic count point on the A62 reference 16586.

Stopping Sight Distance is based on guidance contained within Manual for Streets 2007 and Manual for Streets 2 2010.

Personal injury collision data has been reviewed from the online resource CrashMap Pro database.

Development plans and development details have been provided by Orion Homes.

References to Kirklees Highway Design Guide SPD November 2019.

Vehicle swept path assessment has been undertaken using Autodesk Vehicle Tracking.

References to 'The Planning for Walking Guidance' (2015), published by CIHT.

References to IHT publication 'Providing for Journeys on Foot' (2000)

References to CIHT 'Planning for Cycling' (2014).

The TRICS database has been used to predict multimodal traffic generations for the development.

TEMPro v8.1 has been used to determine local growth factor used in the report, adjusted against NRTP 2022 Core scenario from the Department for Transport's National Traffic Model Dataset using the Kirklees 009 MSOA.

Junctions 10 modelling software has been used to undertaken a junction capacity assessment of the proposed site access onto the A62 Leeds Road

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1. Introduction

1.1 Sanderson Associates Consulting Engineers have been appointed by Orion Homes Ltd to prepare a Transport Statement in support of a planning application for residential development on land off A62 Leeds Road, Heckmondwike, Kirklees, West Yorkshire WF16 9DB.

1.2 The site is allocated for residential development within Kirklees Local Plan Allocations and Designations adopted 27 February 2019. The site reference is HS115; Stubley Farm, Leeds Road, Heckmondwike. The allocation has an indicative capacity for 46 dwellings. The allocation identifies that a Transport Statement report is required to support the development of the site.

1.3 The development proposes residential use with 49 dwellings on the application site which is similar in scale to the residential allocation. All-purpose access is proposed from a new access onto the A62 Leeds Road.

1.4 This Transport Statement is submitted in support of the planning application for the proposed residential development and considers the transport implications from the proposals. In accordance with the Planning Practice Guidance 'Transport evidence bases in plan making and decision taking' this Transport Statement addresses the key transport issues including:

- → the local highway network
- → the access arrangements to the proposed development
- → the proposed development and its operational characteristics
- → the impact of the development on the local highway network in terms of highway safety
- → accessibility of the site in relation to sustainable transport and local facilities

1.5 A Travel Plan has been developed for the development which sets out the strategies and initiatives that will be adopted in order to encourage the use of sustainable modes of travel associated with the development. The Transport Statement should be considered in conjunction with the Travel Plan.

1.6 In February 2025 the latest National Planning Policy Framework (NPPF) was published, which sets out the Government's planning policies for England and how these are expected to be applied. NPPF paragraph 116 states:

'Development should only be prevented or refused on highways grounds if there would be an unacceptable impact on highway safety, or the residual cumulative impacts on the road network, following mitigation, would be severe, taking into account all reasonable future scenarios.'

2. Existing Situation

2.1 Site Location

2.1.1 The site is located off the A62 Leeds Road approximately 1km north of Heckmondwike town centre and 2km south of Birstall. The site area is approximately 1.33 Hectares. The site location is shown at **Figure 1**.

Figure 1 – Site Location Plan [Google Maps Imagery ©2024 Maxar Technologies, Map data ©2024]

2.1.2 The site boundaries are:

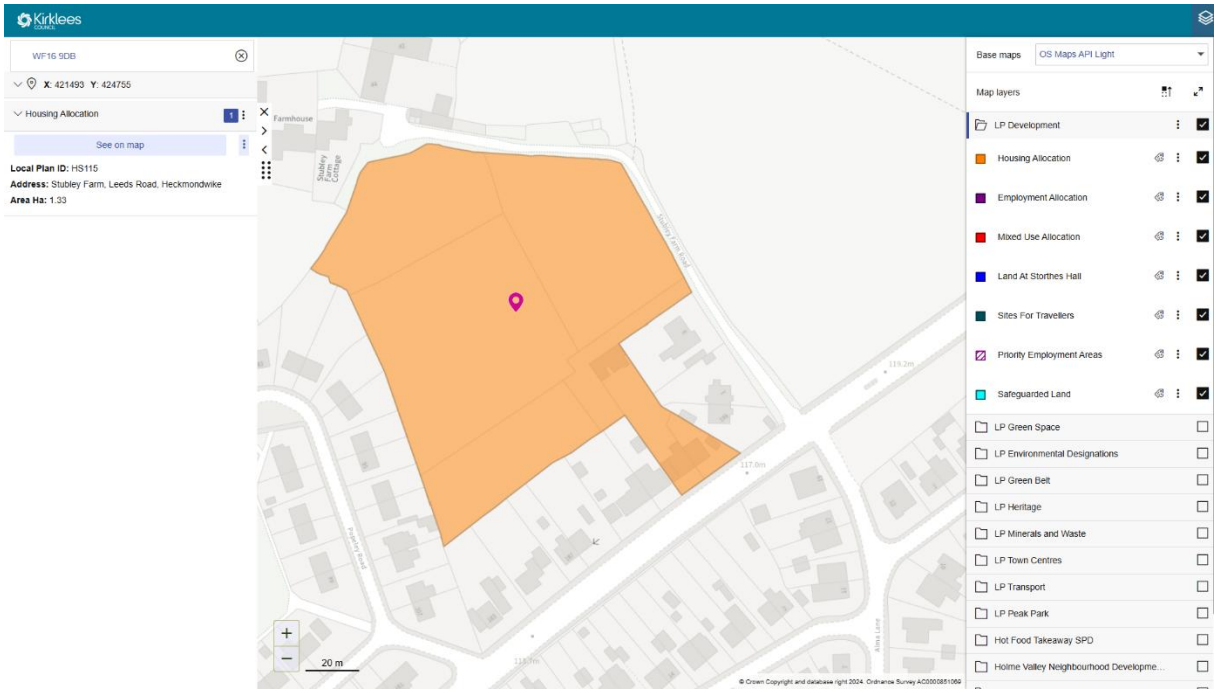
- → North: Stubley Farm Road and Stubley Farm
- → South: The rear of residential properties fronting the A62 and the A62
- → East: Stubley Farm Road and properties fronting Stubley Farm Road
- → West: The rear of residential properties fronting Popeley Road

2.1.3 The site fronts the A62 Leeds Road for approximately 27m.

2.2 Kirklees Local Plan Allocations and Designations February 2019

2.2.1 The site is allocated for residential development within Kirklees Local Plan Allocations and Designations adopted 27 February 2019. The site reference is HS115; Stubley Farm, Leeds Road, Heckmondwike. The allocation has an indicative capacity for 46 dwellings. The location of the site allocation is shown at **Figure 2**.

Figure 2 – Kirklees Residential Site Allocation HS115{Kirklees Council © Crown Copyright and database right 2024. Ordnance Survey AC0000851069]



2.2.2 Details of the allocation are shown at **Figure 3**.

Figure 3 – Details of Kirklees Residential Site Allocation HS115

Site HS115

Local Plan ID	HS115
Site address	Stubley Farm, Leeds Road, Heckmondwike
Ownership	Private
Gross site area (Ha)	1.33
Net site area (Ha)	1.33
Constraints	• Site is close to listed buildings • Part/all of the site is within a High Risk Coal Referral Area • Within the outer zone of a hazardous material facility • Site is close to a listed building
Allocation	Housing
Indicative capacity	46 dwellings
Reports required	• Contamination report (Phase 1) • Flood Risk Assessment • Heritage Impact Assessment • Coal Mining Risk Assessment • Transport Statement
Other site specific considerations	N/A

2.3 Local Highway Network

2.3.1 The A62 Leeds Road is a transpennine route between Manchester City Centre and Leeds City Centre via Huddersfield.

2.3.2 In the vicinity of the site the A62 is subject to a 30mph speed limit and street lighting is provided. Approximately 50m northeast of the site frontage to speed limit changes to 40mph at a gateway feature which includes an illuminated pedestrian refuge traffic island, signage and lining.

2.3.3 At the site frontage the carriageway width is approximately 9.5m wide and includes 2.5m wide central white line hatching which separates northbound and southbound traffic lanes.

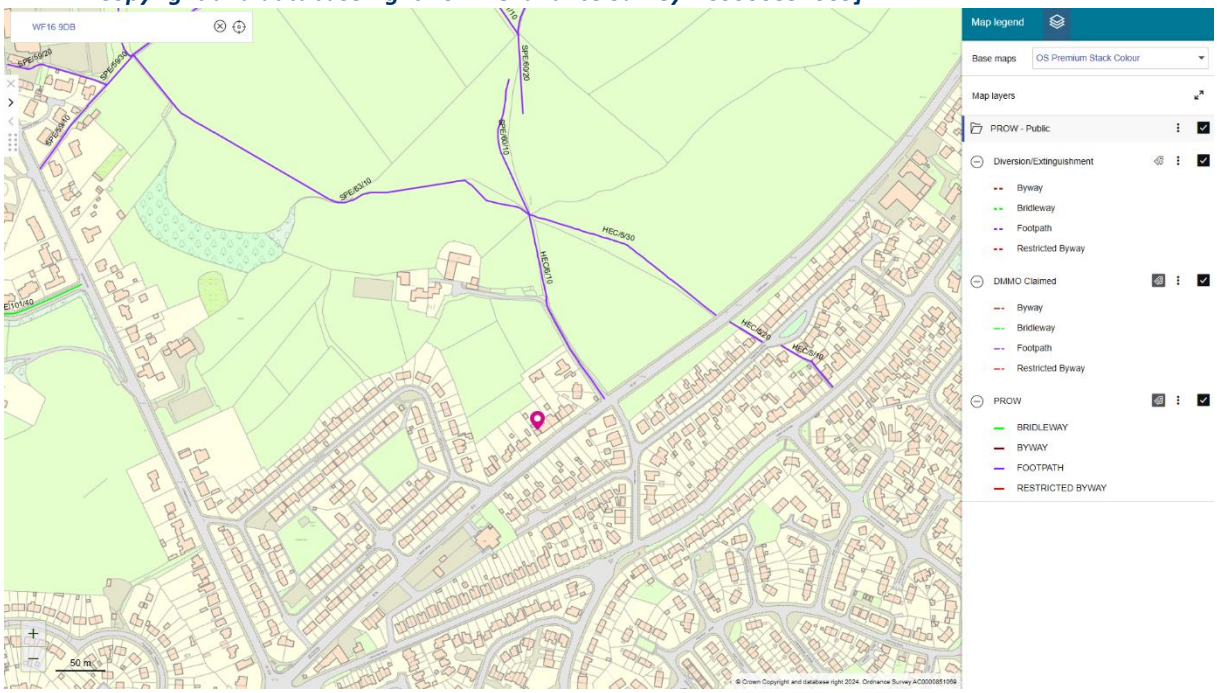
2.3.4 Immediately north of the site frontage the central hatch lining forms a ghost island right turn lane to Alma Lane.

2.3.5 Pedestrian footways are provided on both sides of the carriageway and measure approximately 2.4m on the north side (site side). There are informal pedestrian crossings on the A62 including pedestrian refuge islands approximately 50m to the north and 120m to the south of the site frontage.

2.4 Public Rights of Way

2.4.1 An extract from Kirklees Councils public rights of way (PRoW) map online resource is shown at **Figure 4** and indicates that there are no public rights of way within the site. Public footpath reference HEC/6/10 is shown to the east of the site following Stubley Farm Road.

Figure 4 – Extract from Kirklees Council Public Rights of Way Map [Kirklees Council © Crown Copyright and database right 2024. Ordnance Survey AC0000851069]



2.5 *Traffic Data*

2.5.1 The Department for Transport Road Traffic Statistics shows that there is a manual traffic count point on the A62 reference 16586 located approximately 400m northeast of the site frontage. The count station sets out the Annual Average Daily Flow (AADF) on the A62 past the site frontage for a 1.9km length from the junction with the A651 to the south west of the site to the A652 junction to the north east of the site. AADF traffic data is available between 2000 and 2023. Details of the Count station is contained at **Appendix A**. The latest AADF estimates 13,256 vehicles on the A62 past the site frontage in 2023, with a summary at **Figure 5**.

Figure 5 – AADF A62 Leeds Road 2023 [Transport Road Traffic Statistics]

Year	Count method	Pedal cycles	Two wheeled motor vehicles	Cars and taxis	Buses and coaches	Light goods vehicles	Heavy goods vehicles	All motor vehicles
2023	Estimated using previous year's AADF on this link	24	79	10858	16	1814	489	13256

2.5.2 The latest manual count data is from 23.06.2021. The peak hour flow on the A62 past the site is summarised at **Table 1**.

Table 1 – 2021 Traffic Data A62 [DfT Count Point Reference 16586]

Direction	Time Period	Total All Motor Vehicles	All HGV (inclusive in all motor vehicles)
Northbound	07.00-08.00	568	14 (2.5%)
	08.00-09.00	560	18 (3.2%)
	09.00-10.00	485	30 (6.2%)
	16.00-17.00	553	12 (2.2%)
	17.00-18.00	534	10 (1.9%)
	18.00-19.00	422	4 (0.9%)
Southbound	07.00-08.00	397	19 (4.8%)
	08.00-09.00	426	27 (6.3%)
	09.00-10.00	388	39 (10.1%)
	16.00-17.00	540	17 (3.1%)
	17.00-18.00	561	9 (1.6%)
	18.00-19.00	441	5 (1.1%
Two Way Flow	07.00-08.00	965	33 (3.4%)
	08.00-09.00	**986**	**45 (4.6%)**
	09.00-10.00	873	69 (7.9%)
	16.00-17.00	1093	24 (2.2%)
	17.00-18.00	**1095**	**19 (1.7%)**
	18.00-19.00	863	9 (1.0%)

2.5.3 The network peak hours are AM 08.00-09.00 and PM 17.00-18.00.

2.6 Personal Injury Road Traffic Collision Data

2.6.1 Personal injury collision data has been reviewed from the online resource CrashMap Pro. The accident data for the most recent 5-year period 2019-2023 has been investigated on the local highway network surrounding the site with a summary at **Figure 6**.

Figure 6 – Personal Injury Road Traffic Incident Study Area [Source: CrashMap Pro]

2.6.2 The investigation shows that there have not been any personal injury incidents within the 5-year search period at the development site frontage on the A62 or within 250m in either direction. No incidents are recorded at the adjacent A62/Alma Lane junction.

2.6.3 There have been 2 slight severity incidents on the A62 to the southwest of the site and a further two severe incidents at the 6-Lanes End junction. Details of the incident's reports are contained at **Appendix B**. The analysis of the incident reports has not identified any significant trends.

3. Development Proposals

3.1 Overview

3.1.1 The development proposals comprise 49 no. 2/3/4 bed residential properties with access from A62 Leeds Road.

3.1.2 The development site layout plan is included at **Appendix C**.

3.2 Pedestrian Access

3.2.1 Pedestrian access to the site is proposed from the A62 with 2.0m wide footways provided on both sides of the access road and connecting to the existing pedestrian network on the A62. A dropped kerb pedestrian crossing with tactile paving will be provided at the junction bell mouth.

3.2.2 Within the site there will be a combination of traditional 2.0m footways and shared surfaces.

3.3 Cyclist Access

3.3.1 Cyclist access to the site is proposed from the A62 via the new all-purpose access road.

3.4 Vehicle Access

3.4.1 Vehicular access to the site will be created from a new all-purpose access junction onto the A62. To facilitate the access, two existing residential properties will be demolished to create the 27m site frontage. This will remove two private drive vehicle crossovers to be replaced by a standard junction arrangement.

3.4.2 The access road will be 5.5m wide with 2.0m footways on both sides and 6.0m kerbed junction radii. A dropped kerb pedestrian crossing with tactile paving will be provided at the junction bell mouth.

3.4.3 Access visibility at a minor road distance of 2.4m exceeds 43m in both directions and is appropriate for the speed limit on the A62 past the site.

3.4.4 There is a street lighting column on the site frontage that would need to be relocated as part of the access proposals.

3.4.5 The existing white line central hatch road markings on the A62 can be adapted to form a right turn pocket for the site access by removing a section of the central ladder markings. This will not affect the exiting right turn provision to Alma Lane. The right turn pocket will facilitate right turn vehicles on the A62 without blocking the southbound mainline flow.

3.4.6 The proposed site access arrangement is shown on the plan at **Appendix D**.

3.5 Cycle Parking

3.5.1 Kirklees Highway Design Guide SPD November 2019 recommends that one cycle space is provided per dwelling. Cycle parking for each dwelling is proposed within the curtilage of each unit.

3.6 Vehicle Parking

3.6.1 Kirklees Highway Design Guide SPD November 2019. Kirklees Council has not set local parking standards for residential development. However, as an initial point of reference for residential developments, it is considered that new:

- → 2 to 3 bedroom dwellings provide a minimum of two off-street car parking spaces.
- → 4+ bedroom dwellings provide three off-street spaces.

3.6.2 The development proposes 2 off street car parking spaces for 2 and 3 bed units and 3 off street spaces for 4 bed units. The parking provision is in accordance with Kirklees SPD.

3.6.3 In addition to residents parking, a total of 13 visitor parking spaces are proposed.

3.7 Servicing

3.7.1 The largest vehicle that could be expected at the site on a regular basis is a refuse collection vehicle. The site layout has been assessed using the Kirklees Council 11.85m long design refuse vehicle, with details contained at **Appendix E**. The assessment demonstrates that the refuse vehicle can access and egress the site in forward gear with adequate turning provision within the site.

3.7.2 The site can accommodate the access and turning requirements from emergency vehicles and from home delivery vehicles.

3.8 Construction Phase

3.8.1 The construction phase of the development is transient and will not have a lasting impact on highway conditions. Planning conditions are anticipated that will restrict and limit the impact of construction related traffic on the site and public highway.

4. Accessibility by Sustainable Modes

4.1 Overview

4.1.1 This section of the report considers the accessibility of the development by active travel modes (walking and cycling) and public transport in order to review the opportunities that will exist for residents and visitors to travel to the site sustainably.

4.2 Accessibility on Foot

4.2.1 The Planning for Walking Guidance (2015), published by CIHT highlights that "*Across Britain about 80 per cent of journeys shorter than 1 mile are made wholly on foot – something that has changed little in 30 years. For journeys that are 1 to 2 miles long, 26 per cent are made on foot (NTS, 2012).*"

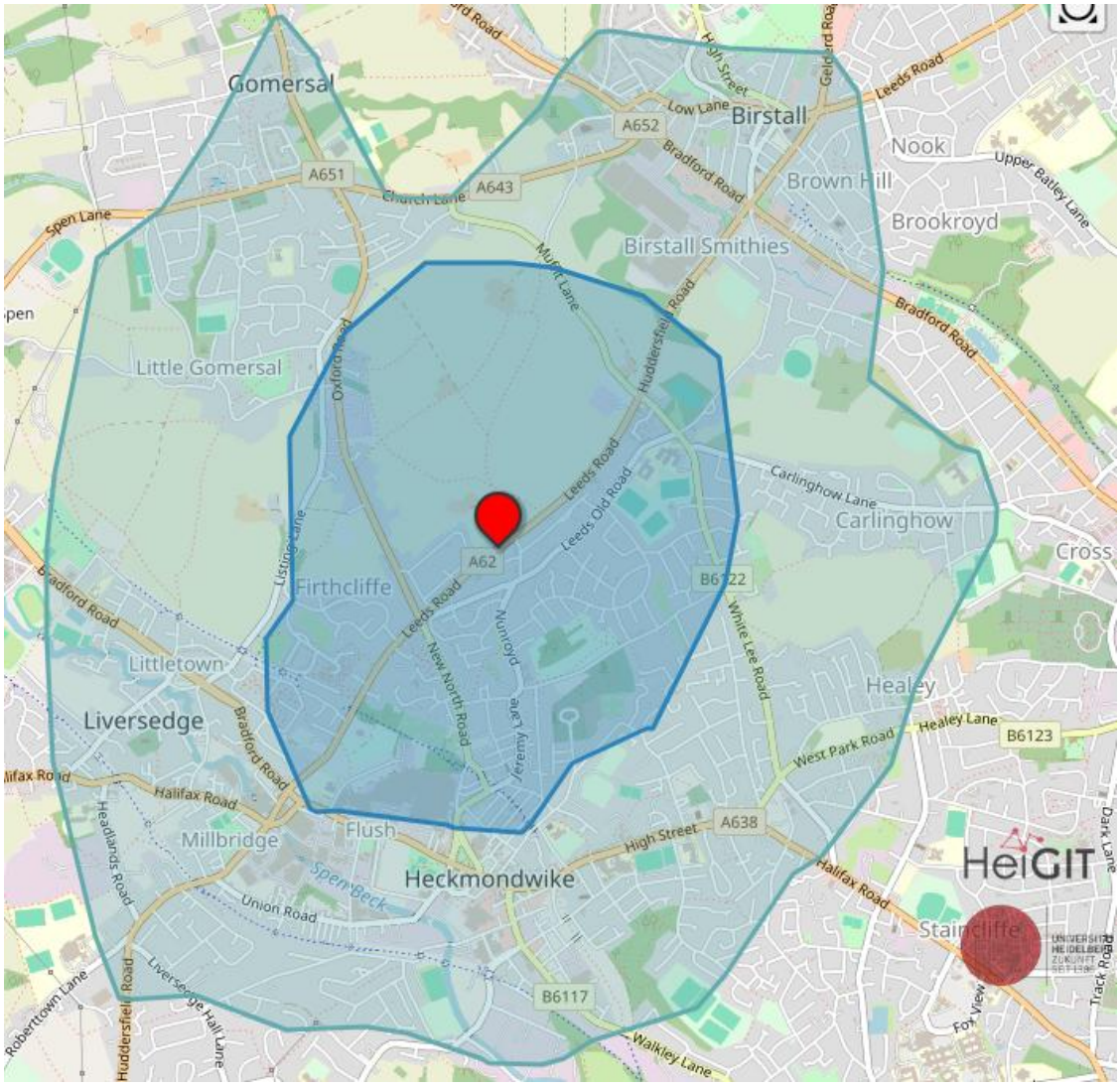
4.2.2 CIHT notes that people will be willing to walk further to reflect a greater perceived quality or importance of a service or amenity, for example rail services. The report does not provide a definitive view on distances, however, the report makes reference to the IHT publication "Providing for Journeys on Foot," (2000) which suggests a maximum walking distance for commuting, school and sightseeing as 2000m (25-minute walk).

4.2.3 Manual for Streets offers the following guidance in Section 4.4 "The walkable neighbourhood".

'Walkable neighbourhoods are typically characterised by having a range of facilities within 10 minutes (up to about 800m) walking distance of residential areas which residents may access comfortably on foot. However, this is not an upper limit and PPG13 states that walking offers the greatest potential to replace short car trips, particularly those under 2 km. MfS encourages a reduction in the need to travel by car through the creation of mixed-use neighbourhoods with interconnected street patterns, where daily needs are within walking distance of most residents.'

4.2.4 **Figure 7** identifies the 1000m and 2000m walking isochrones from the site. It is provided as an indication of where destinations lie and the general extent to which the local area can be accessed on foot.

Figure 7 – Indicative Walking Isochrones [OpenRouteServices]



4.2.5 The following amenities and facilities are located within a 1000m (12.5 minute) walking distance of the site:

- → Hamond House Day Nursery (130m, 1 minutes)
- → Bus Stops (370m, 4 minutes)
- → Heckmondwike Premier Convenience Store (500m, 6 minutes)
- → Brighton Street Social Club (750m, 10 minutes)
- → Spen Valley Ringway (750m, 10 minutes)
- → CO-OP Academy Smithies Moor Secondary School (750m, 10 minutes)
- → White Lee Off Licence and Groceries (850m, 10 minutes)
- → New North Play Area (850m, 10 minutes)
- → Fairfield School – 3-19 Complex Needs (950m, 12 minutes)
- → Cook Lane Doctors Surgery (1000m, 12.5 minutes)
- → A variety of cafes, takeaways, restaurants and public houses.
- → A variety of services, hair and beauty, veterinary practices.

4.2.6 The following amenities and facilities are located within a 2000m (25 minute) walking distance of the site:

- → Birstall Victoria ARLFC Juniors and Open Age Football (1200m, 15 minutes)
- → Algernon Firth Park (1300m, 16 minutes)
- → Heckmondwike Town Centre (1400m, 17.5 minutes)
- → Morrisons Supermarket (1400m, 17.5 minutes)
- → Well Pharmacy (1400m, 17.5 minutes)
- → Heckmondwike Sports Club and Heckmondwike Bowling Club (1500m, 18.5 minutes)
- → BUPA Dental Care (1500m, 18.5 minutes)
- → Brian Jackson College Heckmondwike Learning Centre (1700m, 21 minutes)
- → Tesco Express Birstall (1800m, 22.5 minutes)
- → Birstall Library and Community Centre (1800m 22.5 minutes)
- → Birstall Primary Academy (1800m 22.5 minutes)
- → Heckmondwike Primary School (1800m, 22.5 minutes)
- → Birstall Market Place – Variety of shops, restaurants, bars, cafes (1900m, 24 minutes)
- → Birstall Post Office (1900m, 24 minutes)
- → Heckmondwike Grammar School (1900m, 24 minutes)
- → A variety of Places of Worship are also within 2000m walking distance

4.2.7 In addition to these amenities, Birstall Centre, and Heckmondwike Town Centre, offer a range of employment opportunities including retailers, offices, manufacturers and a wide variety of services.

4.2.8 Birstall Retail Park is approximately 3.5km from the site, and features retail, leisure and hospitality businesses. The adjacent industrial park features manufacturing, logistics and retail businesses.

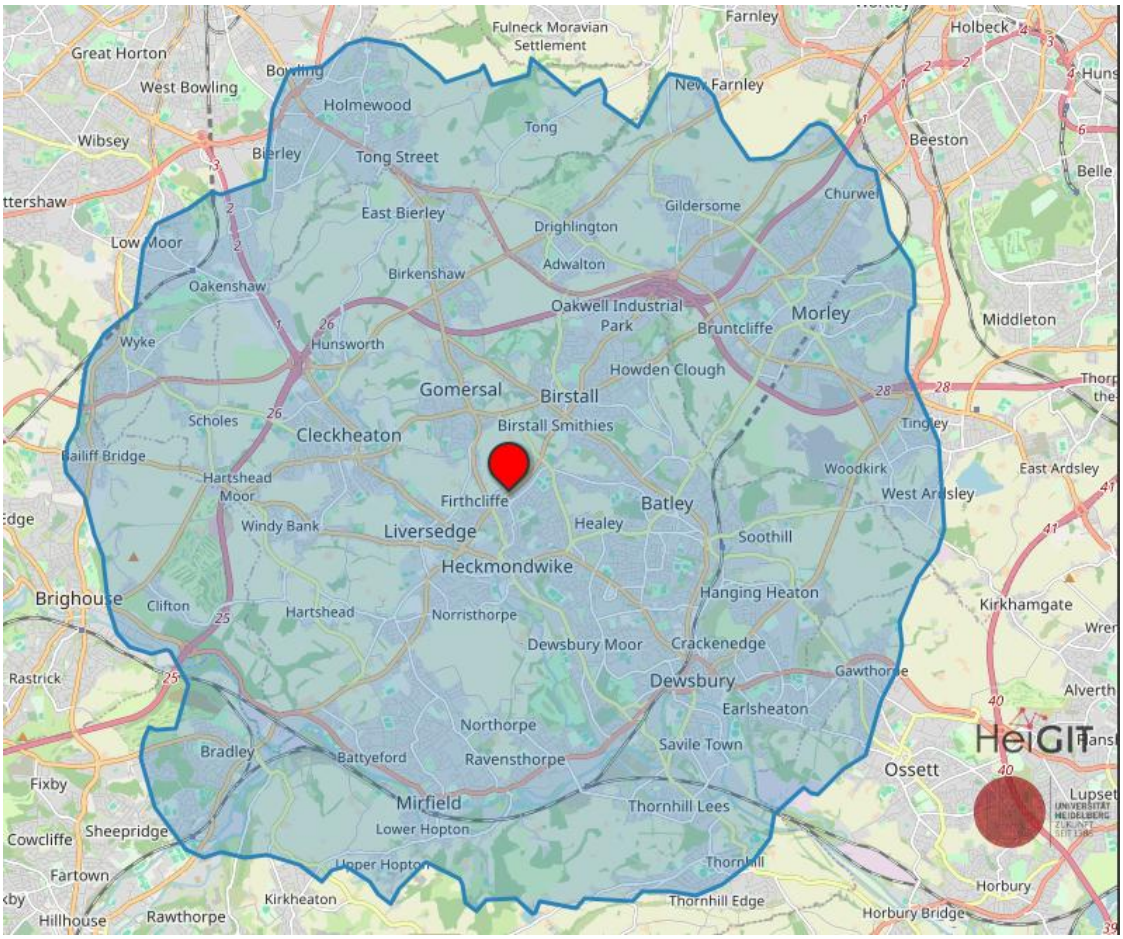
4.3 Accessibility by Cycle

4.3.1 Like walking, cycling has an important part to play in reducing congestion, improving accessibility and reducing pollution. Cycling may also allow people without cars to reach destinations that they may otherwise be unable to reach. CIHT's Planning for Cycling (2014) states that:

"The majority of cycling trips are for short distances, with 80% being less than five miles and with 40% being less than two miles. However, the majority of trips by all modes are also short distances (67% are less than five miles, and 38% are less than two miles); therefore, the bicycle is a potential mode for many of these trips. Electric bicycles extend the range that can be cycled comfortably, and combined cycle-rail or cycle-bus journeys offer an alternative to car travel for many longer trips."

4.3.2 **Figure 8** indicates destinations that lie within an 8km cycling isochrone of the site. It is provided as an indication of where destinations lie and the general extent to which the site is accessible by cycle.

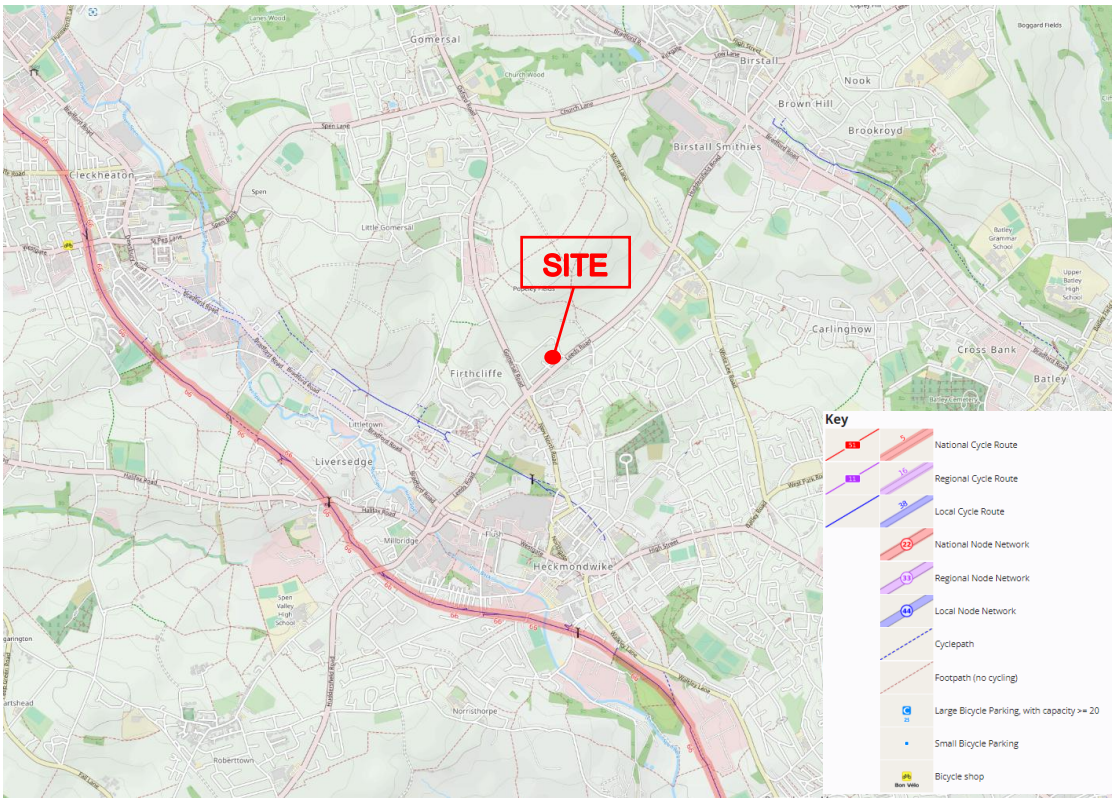
Figure 8 – 8km Cycling Isochrone [OpenRouteService]



4.3.3 **Figure 8** shows much of the local area is accessible by cycle including Heckmondwike, Birstall, Batley, Mirfield, Dewsbury, Morley, Cleckheaton and Gomersal.

4.3.4 An extract from the Open Cycle Map is shown at **Figure 9** which identifies the local cycle infrastructure within the vicinity of the site.

Figure 9 – Cycle Infrastructure [OpenCycleMap]



4.3.5 As shown in **Figure 9** The Spen Valley Greenway runs in close proximity to the site. The Spen Valley Greenway is a Local Cycle Route which connects to the Spen Valley Greenway National Cycle Route 66, providing a traffic free route between Bradford and Dewsbury, and connecting to the wider National Cycle Route.

4.4 Accessibility by Bus

4.4.1 The closest bus stops to the site are located on Old Leeds Road (both directions) and are within 370m walking distance measured from a central point within the site and using the informal crossing on the A62 to the north of the site. Details of bus services at these stops is summarised at **Table 2**.

Table 2 – Summary of Bus Services [West Yorkshire Metro]

Service	Route	Service Frequency Mon to Sat Daytime (mins)	Service Frequency Evenings and Sundays (mins)
229	Leeds-Wortley-Birstall-Heckmondwike-Deighton-Huddersfield	15	30 (Sunday) 60 (Evenings)
271	Batley-Carlinghow-Heckmondwike	60	120 (Sunday)
AL6	Hunsworth-St John Fisher Academy (Dewsbury)	School Service	

4.4.2 There are 5 services per hour, peak daytime frequency within 400m (5 minute) walk of the site with services to transport nodes in Leeds and Huddersfield and to town centres including Heckmondwike, Birstall and Batley.

4.4.3 The AL6 is a school service which serves St John Fisher Catholic High School in Dewsbury, travelling between Hunsworth and St. John Fisher High School and passes the site at the Leeds Old Road / Little Green Lane stop.

4.5 Accessibility by Rail

4.5.1 The closest railway station is in Batley approximately 3.5km to the east of the site. The Station is on the Huddersfield Line between Huddersfield and Leeds. The station operates a two hourly weekday service between these nodes. The station is accessible by a 15-minute cycle journey from the site or a 30-minute combined walk and bus journey using service 271.

4.5.2 Dewsbury railway station is a little further away at 4.0km to the southeast of the site. The Station is on the Huddersfield Line between Huddersfield and Leeds. The station operates a 30-minute weekly service between these nodes. The station is accessible by a 20-minute cycle journey from the site or a 30/40-minute combined bus journey.

4.6 Accessibility Summary

4.6.1 The site is accessible by active travel and public transport. The sites' location between the centre of Heckmondwike and Birstall means that many amenities which residents are likely to use are within walking and cycling distance of the site. There are bus stops with frequent services within acceptable walking distance of the site to public transport nodes in Leeds and Huddersfield. The closest train stations are within cycling and public transport distance of the site. Therefore, residents and visitors will have opportunities to utilise sustainable travel which will reduce the reliance on car trips.

5. Multimodal Traffic Generations

5.1 Development Multimodal Trips

5.1.1 The TRICS database has been interrogated to predict modal generations for the proposed residential use. The TRICS selection criteria has been closely refined to match the development proposals and summarised:

- → Houses Privately Owned (Multimodal TRICS)
- → Range 25-75 Dwellings (Average TRICS 48 Dwellings)
- → Parking Spaces per Dwelling Range: Selected: 2 to 3
- → Bedrooms per Dwelling Range: Selected: 2 to 4
- → Weekday Surveys 01/01/2016 to 27/03/2024 (20 TRICS Survey Days Available)
- → Edge of Town Centre, Suburban Area and Edge of Town Sites Only
- → Greater London and Ireland Sites Excluded

5.1.2 The TRICS multimodal data is included at **Appendix F** and summarised at **Table 3** for the development comprising 49 dwellings for the network peak hour periods and the core 12-hour daily period.

Table 3 – Residential Multimodal Trip Generation from 49 Dwellings [TRICS]

Time Period / Mode of Travel	Total Traffic Flows		
	Trip Rate	Percentage	Trips from 49 Dwellings
08.00-09.00			
Pedestrian	0.233	21%	11
Cycle	0.014	1%	1
Public Transport	0.058	5%	3
Vehicle Occupants	0.813	73%	40
Total People	1.118	100%	55
17.00-18.00			
Pedestrian	0.116	12%	6
Cycle	0.015	2%	1
Public Transport	0.034	3%	2
Vehicle Occupants	0.823	83%	40
Total People	0.988	100%	49
Daily 07.00-19.00			
Pedestrian	1.354	16%	66
Cycle	0.138	2%	7
Public Transport	0.320	4%	16
Vehicle Occupants	6.818	79%	334
Total People	8.633	100%	423

5.1.3 The TRICS data shows that 27% of trips in the AM peak hour (08.00-09.00) could be expected to be by sustainable travel modes (walking, cycling and public transport), with 17% in the PM peak hour (17.00-18.00) and 22% daily (07.00-19.00hrs).

5.1.4 From the vehicle occupancy trips a summary of single and multi-vehicle occupants is shown at **Table 4**.

Table 4 – Residential Vehicle Occupancy Trip Generations from 49 Dwellings [TRICS]

Time Period / Mode of Travel	Total Traffic Flows		
	Trip Rate	Percentage	Trips from 49 Dwellings
08.00-09.00			
Total Vehicle Occupants	0.813	73%	40
Single Vehicle Occupants		34%	19
Multi Vehicle Occupants		39%	21
17.00-18.00			
Vehicle Occupants	0.823	83%	40
Single Vehicle Occupants		44%	21
Multi Vehicle Occupants		39%	19
Daily 07.00-19.00			
Vehicle Occupants	6.818	79%	334
Single Vehicle Occupants		44%	187
Multi Vehicle Occupants		35%	147

5.2 Development Vehicle Trips

5.2.1 The TRICS data at **Appendix F** has been used to estimate the vehicle trips from the development, which are summarised at **Table 5** for the development comprising 49 dwellings for the network peak hour periods and the 12-hour daily period.

Table 5 – Vehicle Trip Rates and Generations from 49 Dwellings [TRICS]

Time Period	Trip Rates per Dwelling		Total Trips from 49 Dwellings		
	Arrivals	Departures	Arrivals	Departures	Total
AM Peak 08.00-09.00	0.173	0.399	8	20	28
PM Peak 17.00-18.00	0.406	0.204	20	10	30
12 Hour 07.00-19.00	2.570	2.631	126	129	255

6. Transport Impact Assessment

6.1 Pedestrians

6.1.1 The development is predicted to generate approximately 11 pedestrian trips in the AM peak hour period. This equates to on average approximately 1 pedestrian every 5.5 minutes.

6.1.2 The development is predicted to generate approximately 6 pedestrian trips in the PM peak hour period. This equates to on average approximately 1 pedestrian every 10 minutes.

6.1.3 The pedestrian peak hour generations are unlikely to be perceivable on the A62. The quality pedestrian provision on the A62, including informal crossings, will be able to accommodate the predicted pedestrian generations and provides attractive pedestrian infrastructure to encourage walking as a modal choice.

6.2 Cyclists

6.2.1 The development is predicted to generate approximately 1 cyclist trip in the AM and PM peak hour periods with 7 cyclist trips daily. The cyclist generations are extremely modest and are unlikely to have a material impact on the highway network.

6.3 Public Transport

6.3.1 The development is predicted to generate approximately 3 public transport trips in the AM peak hour period. This equates to on average approximately 1 public transport trip every 20 minutes.

6.3.2 The development is predicted to generate approximately 2 public transport trips in the PM peak hour period. This equates to on average approximately 1 public transport trip every 30 minutes.

6.3.3 The Transport Statement has demonstrated that there are 5 bus services per hour peak daytime frequency within 400m (5 minute) walk of the site with services to transport nodes in Leeds and Huddersfield and to town centres including Heckmondwike, Birstall and Batley. The development impact is less than 1 additional passenger when averaged against available peak hour services. The development public transport impact is negligible.

6.4 Vehicles

6.4.1 The TRICS data shows that the development peak vehicle generation in the AM peak hour (08.00-09.00) is 8 vehicle arrivals and 20 vehicle departures. This equates to approximately 1 arrival every 7.5 minutes and 1 departure every 3 minutes.

6.4.2 The TRICS data shows that the development peak vehicle generation in the PM peak hour (17.00-18.00) is 20 vehicle arrivals and 10 vehicle departures. This equates to approximately 1 arrival every 3 minutes and 1 departure every 6 minutes.

6.4.3 To assess the impact of the proposed development priority junction site access on the A62, a detailed junction capacity assessment has been undertaken using the PICADTY function in Junctions 10. The model for priority junctions returns results in RFC (Ratio of Flow to Capacity) and mean maximum queues (MMQ) in each 15-minute time segment. A Ratio to Flow Capacity (RFC) value of below 0.85, is the typically accepted threshold of practical reserve capacity for priority junctions. RFC values between 0.85 and 1.00 represent the junction reaching absolute capacity at an RFC of 1.00 (100%); RFC values in excess of 1.00 demonstrate that the junction has exceeded absolute capacity and at this stage the vehicle queues and delays delay becomes exponential and may not be representative of how the junction operates.

6.4.4 The 2021 peak hour traffic data for the A62 set out earlier at **Table 1** has been growthed to the 2025 application year and with a 5-year design horizon at 2030 using the latest version of TEMPro (v8.1), adjusted against NRTP 2022 Core scenario from the Department for Transport's National Traffic Model Dataset using the Kirklees 009 MSOA. The growth factors are shown at **Table 6**. The 2025 and 2030 A62 growthed traffic flows are shown at **Table 7**.

Table 6 – TEMPro Local Growth Factors [TEMPro (v8.1)]

Time Period	Weekday AM	Weekday PM
2021-2025	1.0129	1.0135
2021-2030	1.0628	1.0639

Table 7 – 2025 and 2026 A62 Growthed Traffic Flows

Direction & Year	Time Period	Total All Motor Vehicles	All HGV (inclusive in all motor vehicles)
Northbound 2025	08.00-09.00	567	18 (3.2%)
	17.00-18.00	541	10 (1.9%)
Southbound 2025	08.00-09.00	431	27 (6.3%)
	17.00-18.00	569	9 (1.6%)
Northbound 2030	08.00-09.00	595	19 (3.2%)
	17.00-18.00	568	11 (1.9%)
Southbound 2030	08.00-09.00	453	29 (6.3%)
	17.00-18.00	597	10 (1.6%)

6.4.5 The development peak hour traffic generations have been assigned onto the A62 based on the existing directional flow proportions which are approximately 60% northbound and 40% southbound in the AM peak hour and approximately 50% northbound and 50% southbound in the PM peak hour.

6.4.6 The junction capacity assessment results are shown in **Table 8** and a copy of the output file is attached at **Appendix G**.

Table 8 – A62 / Site Access Junction Capacity Summary Results

	AM				PM			
	Set ID	Queue (Veh)	Delay (s)	RFC	Set ID	Queue (Veh)	Delay (s)	RFC
	A62 Leeds Road, Heckmondwike - 2025 Base + Dev							
Stream B-AC	D9	0.1	10.73	0.06	D10	0.0	11.38	0.03
Stream C-B		0.0	6.51	0.01		0.0	6.58	0.02
	A62 Leeds Road, Heckmondwike - 2030 Base + Dev							
Stream B-AC	D11	0.1	11.04	0.06	D12	0.0	11.77	0.03
Stream C-B		0.0	6.61	0.01		0.0	6.69	0.02

6.4.7 The capacity assessment identifies that the maximum RFC in all scenarios is 0.06 which is well below the 0.85 RFC threshold and demonstrates that the site access can accommodate the predicted traffic generations.

7. Summary and Conclusions

7.1 Sanderson Associates Consulting Engineers have been appointed by Orion Homes Ltd to prepare a Transport Statement in support of a planning application for residential development on land off A62 Leeds Road, Heckmondwike, Kirklees, West Yorkshire WF16 9DB.

7.2 The site is allocated for residential development within Kirklees Local Plan Allocations and Designations adopted 27 February 2019. The site reference is HS115; Stubley Farm, Leeds Road, Heckmondwike. The allocation has an indicative capacity for 46 dwellings. The allocation identifies that a Transport Statement report is required to support the development of the site.

7.3 The development proposes residential use with 49 dwellings on the application site which is similar to the scale of the residential allocation. All-purpose access is proposed from a new access onto the A62 Leeds Road.

7.4 A Travel Plan has been developed for the development which sets out the strategies and initiatives that will be adopted in order to encourage the use of sustainable modes of travel associated with the development. The Transport Statement should be considered in conjunction with the Travel Plan.

7.5 The site is accessible by active travel and public transport. The sites' location between the centre of Heckmondwike and Birstall means that many amenities which residents are likely to use are within walking and cycling distance of the site. There are bus stops with frequent services within acceptable walking distance of the site to public transport nodes in Leeds and Huddersfield. The closest train stations are within cycling and public transport distance of the site. Therefore, residents and visitors will have opportunities to utilise sustainable travel which will reduce the reliance on car trips.

7.6 Pedestrian access to the site is proposed from the A62 with 2.0m wide footways provided on both sides of the access road and connecting to the existing pedestrian network on the A62. A dropped kerb pedestrian crossing with tactile paving will be provided at the junction bell mouth. The predicted development pedestrian peak hour generations are low and unlikely to be perceivable on the A62. The quality pedestrian provision on the A62, including informal crossings, will be able to accommodate the predicted pedestrian generations and provides attractive pedestrian infrastructure to encourage walking as a modal choice.

7.7 Cyclist access to the site is proposed from the A62 via the new all-purpose access road. Cycle parking for each dwelling is proposed within the curtilage of each unit in accordance with Kirklees Highway Design Guide SPD. The predicted development cyclist generations are extremely modest and are unlikely to have a material impact on the highway network.

7.8 The public transport assessment has demonstrated that there are 5 bus services per hour peak daytime frequency within 400m (5 minute) walk of the site with services to transport nodes in Leeds and Huddersfield and to town centres including Heckmondwike, Birstall and Batley. The development impact is less than 1 additional passenger when averaged against available peak hour services. The development public transport impact is negligible.

7.9 Vehicular access to the site will be created from a new all-purpose access junction onto the A62. To facilitate the access, two existing residential properties will be demolished. This will remove two private drive vehicle crossovers to be replaced by a standard junction arrangement. Access visibility at a minor road distance of 2.4m exceeds 43m in both directions and is appropriate for the speed limit on the A62 past the site. The existing white line central hatch road markings on theA62 can be adapted to form a right turn pocket for the site access by removing a section of the central ladder markings. This will not affect the exiting right turn provision to Alma Lane. The right turn pocket will facilitate right turn vehicles on the A62 without blocking the southbound mainline flow.

7.10 The development peak vehicle generation in the AM peak hour (08.00-09.00) is 9 vehicle arrivals and 20 vehicle departures. This equates to approximately 1 arrival every 6.5 minutes and 1 departure every 3 minutes. The development peak vehicle generation in the PM peak hour (17.00-18.00) is 21 vehicle arrivals and 10 vehicle departures. This equates to approximately 1 arrival every 3 minutes and 1 departure every 6 minutes. To assess the impact of the proposed development priority junction site access on the A62, a detailed junction capacity assessment has been undertaken. The capacity assessment demonstrates that the site access can easily accommodate the predicted traffic generations.

7.11 The development proposes 2 off street car parking spaces for 2 and 3 bed units and 3 off street spaces for 4 bed units. The parking provision is in accordance with Kirklees SPD. In addition to residents parking, a total of 9 visitor parking spaces are proposed.

7.12 The development site can accommodate the access/egress and turning requirements for the Kirklees Council 18.5m long design refuse vehicle and also for emergency vehicles and home delivery vehicles.

7.13 Personal injury collision data has been reviewed for the local highway network. The investigation shows that there have not been any personal injury incidents within the 5-year search period at the development site frontage on the A62 or within 250m in either direction. No incidents are recorded at the adjacent A62/Alma Lane junction. The investigation has not identified any material highway safety problem with the local highway network. The proposed site access with a standard junction arrangement, adequate junction visibility and sufficient junction capacity to easily accommodate the predicted traffic generations, is unlikely to adversely affect the highway safety record.

7.14 The Transport Statement process has identified that the development site is allocated for residential use. It has been demonstrated that the development will not have an unacceptable impact on highway safety and that the residual cumulative impacts of the development on the road network would not be severe, taking into account all reasonable future scenarios. Therefore, in accordance with the National Planning Policy Framework, the development planning application should be supported by the Local Authority on transport grounds.

Appendix A

DfT Traffic Data

Menu

Road traffic statistics

Manual count points

Site number: 16586

Site details

Region	Yorkshire and The Humber
Local authority	Kirklees
Road name	A62
Road classification	'A' road
Managed by	Local authority
Road type	Major
Start junction	A651
End junction	A652
Link length	1.90km (1.18 miles)
Easting, northing	421900, 425000
Latitude, longitude	53.72095300, -1.66960450

Location

Annual Average daily flow

Year	Count method	Pedal cycles	Two wheeled motor vehicles	Cars and taxis	Buses and coaches	Light goods vehicles	Heavy goods vehicles	All motor vehicles
2023	Estimated using previous year's AADF on this link	24	79	10858	16	1814	489	13256
2022	Estimated using previous year's AADF on this link	24	80	10657	16	1784	497	13035
2021	Manual count	27	74	9978	15	1646	481	12193
2020	Estimated using previous year's AADF on this link	26	50	9293	22	2122	240	11727
2019	Estimated using previous year's AADF on this link	22	67	12235	35	2404	273	15015
2018	Estimated using previous year's AADF on this link	20	72	12083	35	2425	272	14888

Year	Count method	Pedal cycles	Two wheeled motor vehicles	Cars and taxis	Buses and coaches	Light goods vehicles	Heavy goods vehicles	All motor vehicles
2017	Estimated using previous year's AADF on this link	18	73	12218	39	2381	270	14980
2016	Estimated using previous year's AADF on this link	19	72	12309	41	2261	268	14951
2015	Estimated using previous year's AADF on this link	21	74	12119	45	2070	267	14575
2014	Estimated using previous year's AADF on this link	22	83	11884	41	1974	275	14258
2013	Manual count	23	87	11570	43	1846	277	13824
2012	Estimated using previous year's AADF on this link	36	92	10877	30	2256	280	13536
2011	Estimated using previous year's AADF on this link	38	96	11049	28	2230	280	13683
2010	Estimated using previous year's AADF on this link	35	114	11083	30	1998	267	13492
2009	Estimated using previous year's AADF on this link	35	120	11149	26	1871	264	13430
2008	Estimated using previous year's AADF on this link	35	107	10909	26	1843	284	13169
2007	Estimated using previous year's AADF on this link	30	111	11153	29	1805	287	13385
2006	Estimated using previous year's AADF on this link	50	117	11335	33	1714	311	13510
2005	Manual count	32	134	11555	35	1689	343	13756
2004	Estimated using previous year's AADF on this link	31	212	10641	49	2138	452	13492
2003	Estimated using previous year's AADF on this link	39	323	10504	59	1942	386	13214
2002	Manual count	43	227	10908	61	1788	393	13377
2001	Estimated using previous year's AADF on this link	33	106	11441	43	1671	567	13828
2000	Estimated using previous year's AADF on this link	34	101	11807	41	1660	601	14210

Download data

Data disclaimer

Traffic figures at the regional and national level are robust, and are reported as National Statistics. However, DfT's traffic estimates for individual road links and small areas are less robust, as they are not always based on up-to-date counts made at these locations. Where other more up-to-date sources of traffic data are available (e.g. from local highways authorities), this may provide a more accurate estimate of traffic at these locations.

It is the responsibility of the user to decide which data are most appropriate for their purpose, and if DfT road link level traffic estimates are used, to make a note of the limitations in any published material.

Quality flags in data downloads

DfT's road link level traffic estimates are calculated using a variety of methods, with some methods likely to produce more accurate estimates than others.

The data tables available to download here contain a column - **estimation_method** – showing the method used to estimate traffic for each location and year. Figures having an estimation method of "Counted" are likely to be more accurate than those marked as "Estimated", and the latter should be used with caution.

Data	Description	Records	Download
Site details	Manual count point site 16586 details.	1	JSON | CSV
Average annual daily flow	Number of vehicles that travel past the count point (in both directions) on an average day of the year.	24	JSON | CSV
Average annual daily flow by direction	Number of vehicles that travel past the count point on an average day of the year, by direction of travel.	48	JSON | CSV
Raw counts	Vehicle counts recorded at this count point.	96	JSON | CSV

Appendix B

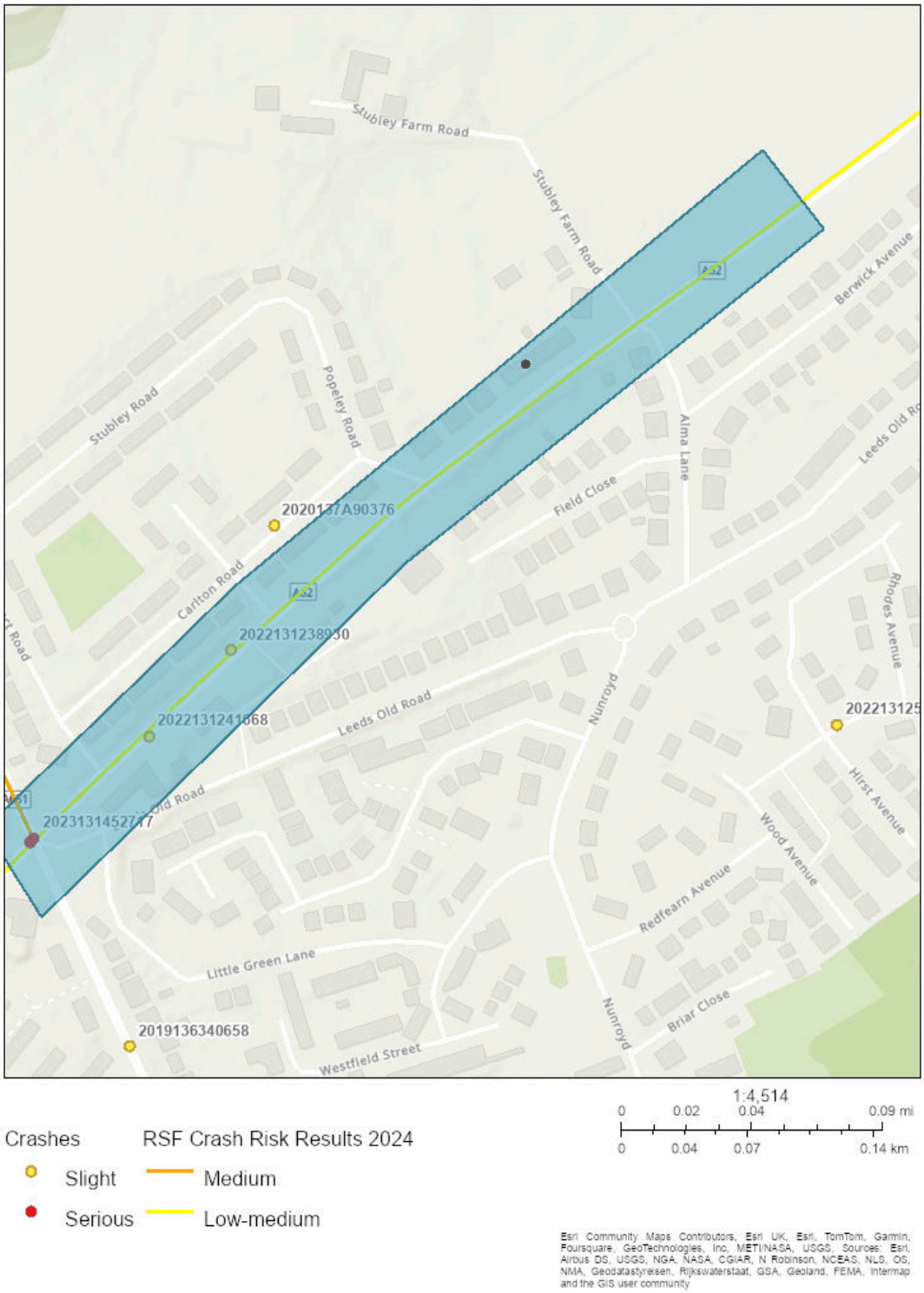
Personal Injury Road Traffic Incident Data

Crash Report

Area of Interest (AOI) Information

Area : 31,400.5 m²

Dec 11 2024 11:56:47 Greenwich Mean Time



Summary

Name	Count	Area(m²)	Length(m)
Crashes	4	N/A	N/A

Crashes

#	Carriageway_Hazards	Severity	Officer_Attended	Accident_DateTime	Year
1	None	Serious	Police officer attended crash scene	May 12, 2023	2023
2	None	Slight	No officer attended crash scene	November 11, 2022	2022
3	Other object in carriageway	Slight	Police officer attended crash scene	November 5, 2022	2022
4	None	Serious	Police officer attended crash scene	January 18, 2022	2022

#	Number_of_vehicles	Number_of_casualties	Easting	Northing	Highway_Authority
1	2	1	421266	424423	Kirklees
2	2	2	421330	424480	Kirklees
3	1	1	421375	424528	Kirklees
4	2	1	421264	424421	Kirklees

#	Road_Number	Weather_conditions	Road_Type	Road_surface	Speed_Limit
1	A651	Fine without high winds	Single carriageway	Dry	30
2	A62	Fine without high winds	Unknown	Dry	30
3	A62	Raining without high winds	Single carriageway	Wet or Damp	30
4	A62	Other	Single carriageway	Frost or Ice	30

#	Light_conditions	Junction_detail	Pedestrian_Crossing	Involved_pedalcycle	Involved_Motorcycle
1	Daylight: regardless of presence of streetlights	Other junction	No physical crossing facility within 50 metres	0	0
2	Daylight: regardless of presence of streetlights	Not at or within 20 metres of junction	Central refuge - no other controls	0	0
3	Daylight: regardless of presence of streetlights	T or staggered junction	No physical crossing facility within 50 metres	0	0
4	Darkness: street lights present and lit	Crossroads	No physical crossing facility within 50 metres	0	1

#	Pedestrian_casualty	Child_casualty	Pedal_cycleuser_casualty	Motorcycle_user_casualty	Involved_car
1	0	0	0	0	1
2	0	0	0	0	1
3	0	0	0	0	1
4	0	0	0	1	1

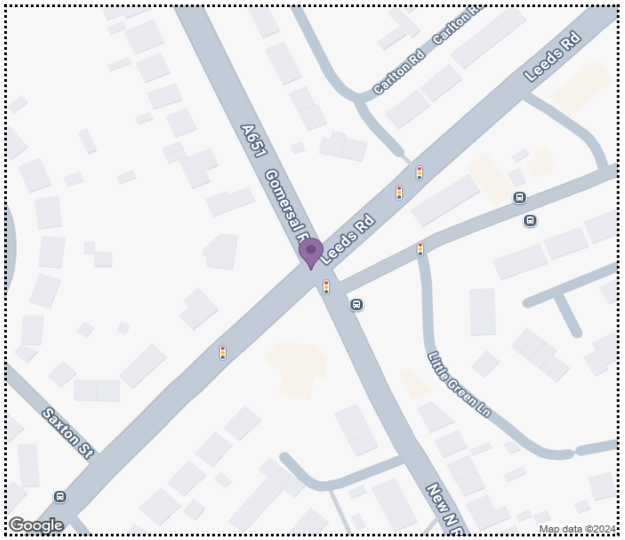
#	Involved_goodsvehicle	Involved_Bus	Involved_young_driver	Local_Authority_District	Junction_control
1	0	0	0	Kirklees	Auto traffic signal
2	1	0	0	Kirklees	Unknown
3	0	0	0	Kirklees	Give way or uncontrolled
4	0	0	0	Kirklees	Auto traffic signal

#	Is_Provisional	Is_Amended	Web_Link	Count
1	N	No	https://www.crashmap.co.uk/reports/proreportservice?reportId=2023131452717	1
2	N	No	https://www.crashmap.co.uk/reports/proreportservice?reportId=2022131241668	1
3	N	No	https://www.crashmap.co.uk/reports/proreportservice?reportId=2022131238930	1
4	N	No	https://www.crashmap.co.uk/reports/proreportservice?reportId=2022131134884	1

crashmap.co.uk

Validated Data

Crash Date:	Tuesday, January 18, 2022	**Time of Crash:**	06:01:00	**Crash Reference:**	2022131134884
Highest Injury Severity:	Serious	**Road Number:**	A62	**Casualties:**	1
Highway Authority:	Kirklees			**Vehicles:**	2
Local Authority:	Kirklees			**OS Grid Reference:**	421264 424421
Weather Description:	Other				
Road Surface Description:	Frost or Ice				
Speed Limit:	30				
Light Conditions:	Darkness: street lights present and lit				
Carriageway Hazards:	None				
Junction Detail:	Crossroads				
Junction Pedestrian Crossing:	No physical crossing facility within 50 metres				
Road Type:	Single carriageway				
Junction Control:	Auto traffic signal				



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Crash Date: Tuesday, January 18, 2022 **Time of Crash:** 06:01:00 **Crash Reference:** 2022131134884

Vehicles Involved

Vehicle Ref	Vehicle Type	Vehicle Age	Driver Gender	Driver Age Band	Vehicle Maneouvre	First Point of Impact	Journey Purpose	Hit Object - On Carriageway	Hit Object - Off Carriageway
1	Car (excluding private hire)	5	Female	36 - 45	Vehicle is in the act of turning right	Front	Journey as part of work	None	None
2	Motorcycle over 500cc	15	Male	46 - 55	Vehicle proceeding normally along the carriageway, not on a bend	Front	Journey as part of work	None	None

Casualties

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

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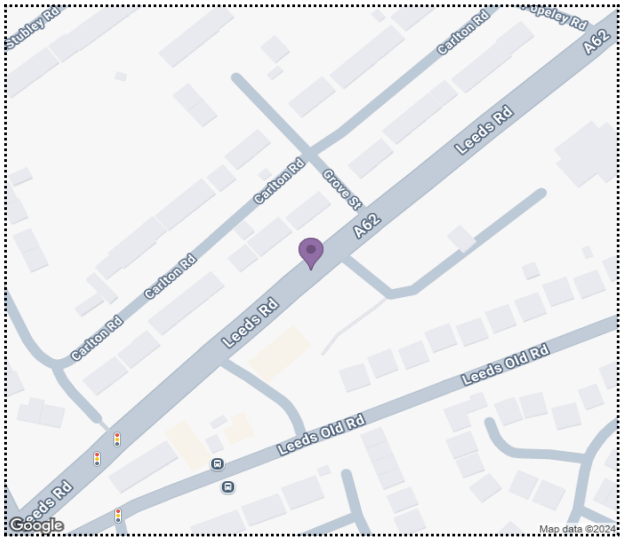
Validated Data

Crash Date:	Saturday, November 5, 2022	**Time of Crash:**	14:00:00	**Crash Reference:**	2022131238930
Highest Injury Severity:	Slight	**Road Number:**	A62	**Casualties:**	1
Highway Authority:	Kirklees			**Vehicles:**	1
Local Authority:	Kirklees			**OS Grid Reference:**	421375 424528
Weather Description:	Raining without high winds				
Road Surface Description:	Wet or Damp				
Speed Limit:	30				
Light Conditions:	Daylight: regardless of presence of streetlights				
Carriageway Hazards:	Other object in carriageway				
Junction Detail:	T or staggered junction				
Junction Pedestrian Crossing:	No physical crossing facility within 50 metres				
Road Type:	Single carriageway				
Junction Control:	Give way or uncontrolled				



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Crash Date: Saturday, November 5, 2022 **Time of Crash:** 14:00:00 **Crash Reference:** 2022131238930

Vehicles Involved

Vehicle Ref	Vehicle Type	Vehicle Age	Driver Gender	Driver Age Band	Vehicle Maneouvre	First Point of Impact	Journey Purpose	Hit Object - On Carriageway	Hit Object - Off Carriageway
1	Car (excluding private hire)	10	Female	26 - 35	Vehicle proceeding normally along the carriageway, not on a bend	Front	Unknown	Other object	None

Casualties

Vehicle Ref	Casualty Ref	Injury Severity	Casualty Class	Gender	Age Band	Pedestrian Location	Pedestrian Movement
1	1	Slight	Driver or rider	Female	26 - 35	Unknown or other	Unknown or other

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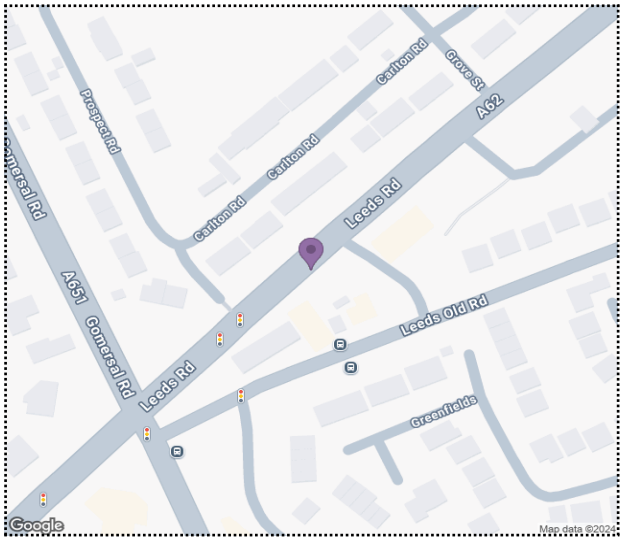
Validated Data

Crash Date:	Friday, November 11, 2022	**Time of Crash:**	16:00:00	**Crash Reference:**	2022131241668
Highest Injury Severity:	Slight	**Road Number:**	A62	**Casualties:**	2
Highway Authority:	Kirklees			**Vehicles:**	2
Local Authority:	Kirklees			**OS Grid Reference:**	421330 424480
Weather Description:	Fine without high winds				
Road Surface Description:	Dry				
Speed Limit:	30				
Light Conditions:	Daylight: regardless of presence of streetlights				
Carriageway Hazards:	None				
Junction Detail:	Not at or within 20 metres of junction				
Junction Pedestrian Crossing:	Central refuge - no other controls				
Road Type:	Unknown				
Junction Control:	Not Applicable				



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Crash Date: Friday, November 11, 2022 **Time of Crash:** 16:00:00 **Crash Reference:** 2022131241668

Vehicles Involved

Vehicle Ref	Vehicle Type	Vehicle Age	Driver Gender	Driver Age Band	Vehicle Maneouvre	First Point of Impact	Journey Purpose	Hit Object - On Carriageway	Hit Object - Off Carriageway
1	Van or goods vehicle 3.5 tonnes mgw and under	11	Unknown	Unknown	Unknown	Unknown (2005 onwards)	Unknown	Unknown	Unknown
2	Car (excluding private hire)	5	Female	36 - 45	Vehicle is slowing down or stopping	Back	Other	None	None

Casualties

Vehicle Ref	Casualty Ref	Injury Severity	Casualty Class	Gender	Age Band	Pedestrian Location	Pedestrian Movement
2	1	Slight	Driver or rider	Female	36 - 45	Unknown or other	Unknown or other
2	2	Slight	Vehicle or pillion passenger	Male	26 - 35	Unknown or other	Unknown or other

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

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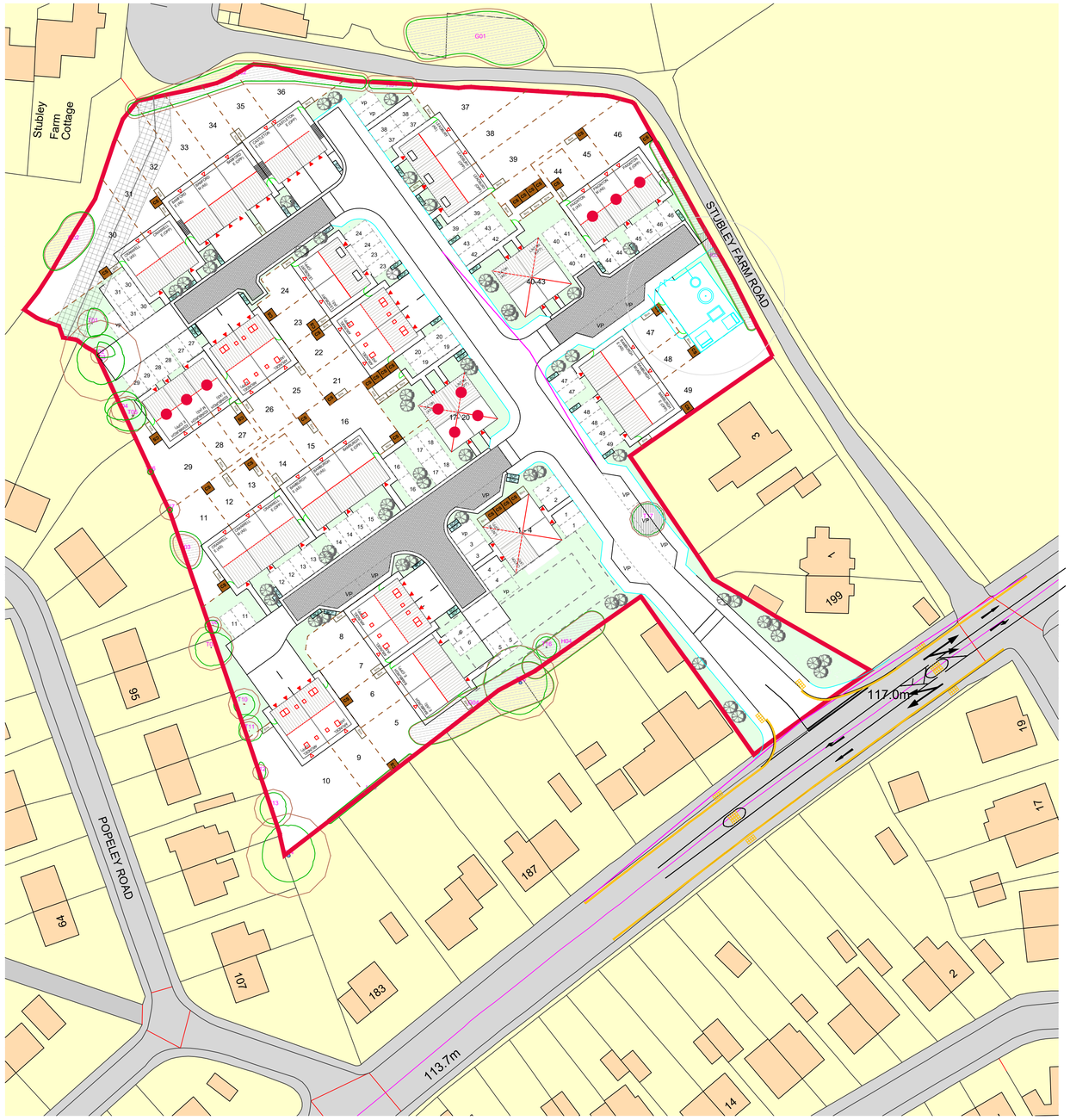
Appendix C

Development Site Layout Plan



SCHEDULE OF ACCOMMODATION

PROJECT: Leeds Road, Heckmondwike

DWG REF: Site Layout - 2403-02-001D

Name	No	Beds	Storey	Type	Parking	Sq ft	Total Sq Ft	% Mix
Linton	8	2	3	Quarter	Space	700	5,600	16
Cranwell	5	3	2	Semi/ Mews	Space	972	4,860	10
Bamburgh	8	3	2	Semi/Mews	Space	1046	8,368	16
Castleton	2	3	3	Semi	Integral	1103	2,206	4
Leadbury	5	3	2.5	Semi	Space	1196	5,980	10
Arundel	8	4	3	Semi	Integral	1388	11,104	16
Barnford	3	3	3	Semi/Mews	Integral	1185	3,555	6
PRIVATE TOTAL	**39**						**41,673**	**80**
Linton	4	2	3	Quarter	Space	700	2,800	8
Edinburgh	3	2	2	Mews	Space	781	2,343	6
Paignton	3	3	2	Mews	Space	912	2,736	6
AFH TOTAL	**10**						**7,879**	**20**
SITE TOTAL	**49**						**49,552**	**100**

	Ac.	Ha.
Area	3.27	1.33
Sq.Ft/Acre	**15,154**	
Dwelling/H	**37**	

KEY:

- INDICATES AFFORDABLE HOUSING UNIT
- INDICATES CYCLE STORE
- INDICATES BIN STORE
- BIN COLLECTION POINTS
- INDICATES PLOT PARKING DEMARCATION
- INDICATES VISITOR PARKING
- INDICATES INDICATIVE TREE PLANTING

N

Revision notes:

Rev:	Date:	Notes:	By:
-	29.04.2025	FIRST ISSUE	CC
A	29.07.2025	SPLIT LEVELS INTRODUCED TO PLOTS 30-34. LINTON FOUR BLOCK PLOT NUMBER INDICATED ON BLOCK.	CC
B	13.01.26	REDESIGN FOLLOWING HIGHWAYS AND PLANNING COMMENTS	CD
C	22.01.26	AMENDED TO SHOW LARGER GARDENS	CD
D	04.02.26	RE DRAWN	CD

Revision notes:

Rev:	Date:	Notes:	
E	10.02.26	BIN COLLECTION POINTS ADDED	CD
F	20.02.26	AMENDED FOLLOWING COMMENT FROM PLANNER	CD
G	26.02.26	PLOTS 11 TO 13 AND 44 TO 46 SWAPPED	CD

Revision notes:

Rev:	Date:	Notes:
..	..	..

Date: 29.04.2025

Project: Leeds Road, Heckmondwike

Scale @ A1: 1:500

Drawing Number: 2403-02-001

Revision: G

Drawn By: CC

Drawing Title: SITE PLAN

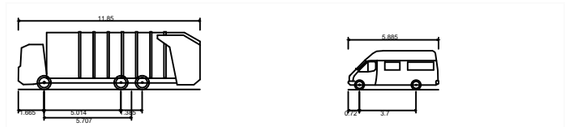
OrionHomes
SO GOOD TO COME HOME TO
Unit 5, Benton Office Park, Bennett Avenue,
Horbury, Wakefield, WF4 5RA, Tel: 01924 831030

Appendix D

Site Access Arrangements

- Sanderson Associates Consulting Engineers ("the consultant"), has not checked or verified, and shall have no liability whatsoever for any inaccuracies which may be attributable to any data, reports, base plan(s) and drawings provided by the client, or purchased by the consultant on the client's behalf, that may have been utilised within this drawing.
- The consultant shall not be liable for the use by any person of any document for any purpose other than that for which the same were provided by the consultant.
- No liability whatsoever is accepted by the consultant for any error or omissions.

- The consultant accepts no liability for any vehicle specification errors within the vehicle track software used and / or it's vehicle libraries.



Copy Of Phoenix 2 Duo Recycler (P2-15W with Elite 6x4 chassis)		4.6t Light Van	
Overall Length	11.850m	Overall Length	5.885m
Overall Width	2.530m	Overall Width	2.000m
Overall Body Height	3.756m	Overall Body Height	2.526m
Min Body Ground Clearance	0.309m	Min Body Ground Clearance	0.299m
Track Width	2.530m	Track Width	1.765m
Lock to lock time	4.00s	Lock to lock time	4.00s
Wall to Wall Turning Radius	11.035m	Kerb to Kerb Turning Radius	6.000m

Rev	Amendment	Drawn	Date	Checked
A	Layout updated	AA	Mar'26	IEL

sanderson associates consulting engineers
Highways | Traffic | Transportation | Water
T 01924 844080 mail@sandersonassociates.co.uk
www.sandersonassociates.co.uk

Project Name

A62 Leeds Road
Heckmondwike

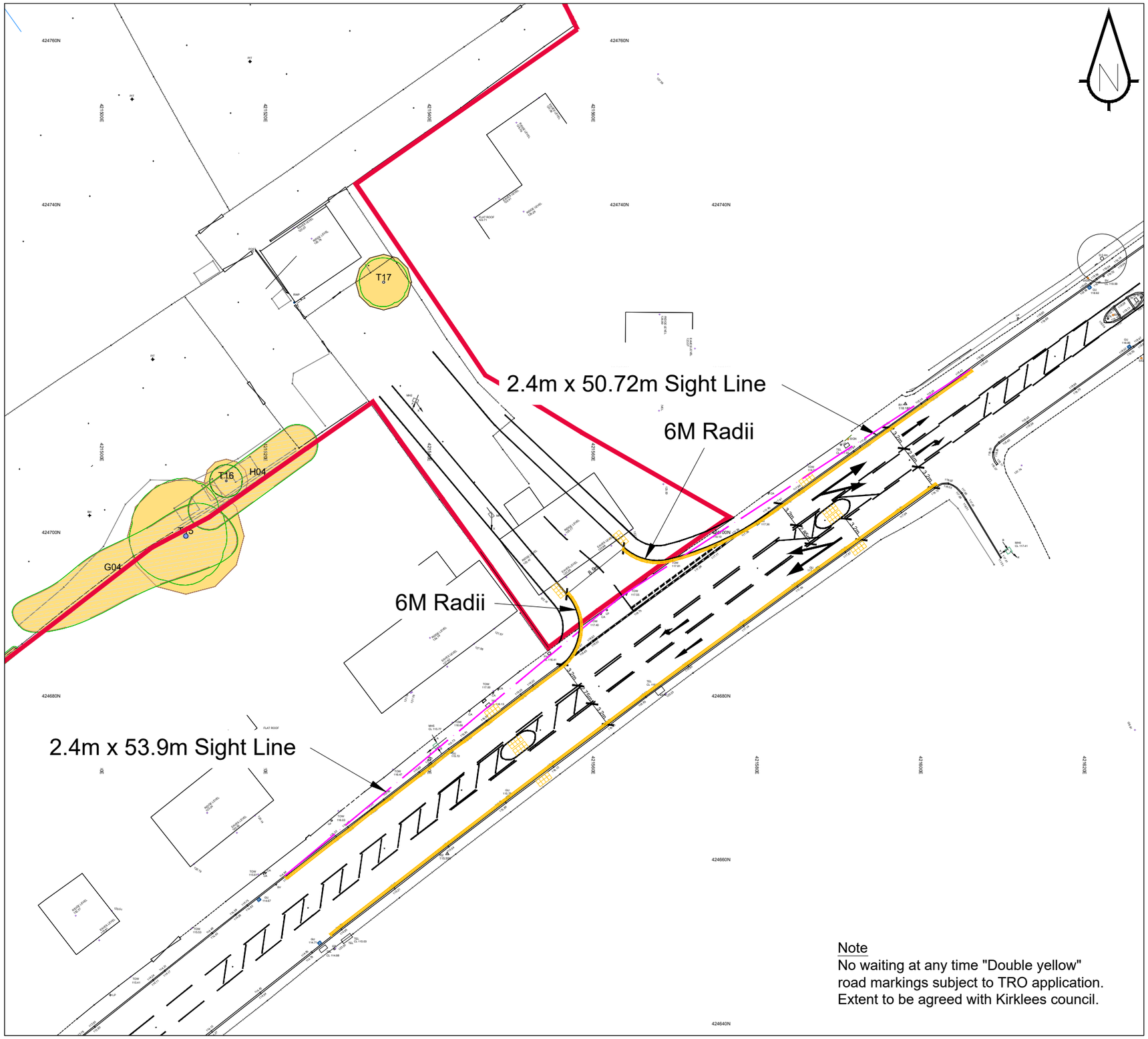
Drawing Title

Swept Path

Scale 1:500		Drawn By	SB
Drawing Size	A3	Checked By	IEL
Date	May 2025	Approved By	IEL

	Drawing Number	Rev
	164033-002	A

FILE REF:



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- The consultant accepts no liability for any vehicle specification errors within the vehicle track software used and / or it's vehicle libraries.
- The locations of utilities apparatus, if shown, is reproduced from plans supplied to the consultant, although care has been taken when duplicating this information. These locations are approximate only and no guarantee can be given for their accuracy. It is the client's or it's appointed agent/contractors responsibility to verify the exact locations on site by hand dug trial holes or other appropriate means prior to mechanical excavation.
- Service connections are not shown but their presence should be anticipated.
- Reference to any third party equipment shown on this drawing was only relevant at the time the drawing was prepared.
- It is the client's responsibility to ensure that any equipment ordered meets the design.

Rev	Amendment	Drawn	Date	Checked
D	Additional information added follow comments from Kirklees	SB	Jan 25	IEL
C	Sight line amended following ATC results	DW	Nov 25	SB
B	Access amended following comments from Kirklees	SB	Oct 25	LH
A	Access amended following meeting with Kirklees	SB	Sept 25	LH

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Highways | Traffic | Transportation | Water
T 01924 844080 mail@sandersonassociates.co.uk
www.sandersonassociates.co.uk

Project Name

A62 Leeds Road
Heckmondwike

Drawing Title

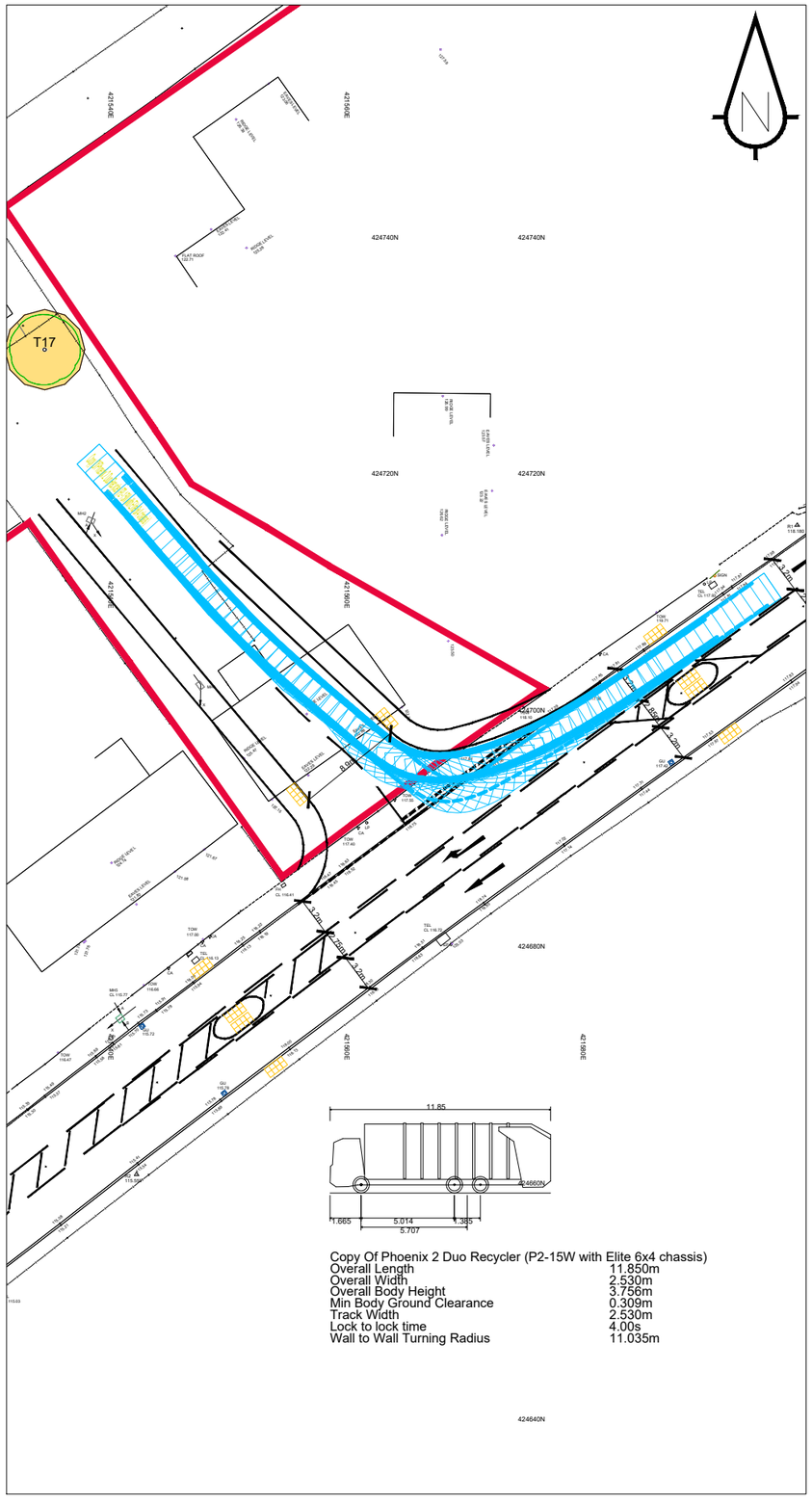
Access Arrangements

Scale 1:500		Drawn By SB	
Drawing Size A3		Checked By IEL	
Date May 2025		Approved By IEL	
	Drawing Number 164003-001		Rev D

FILE REF:

Appendix E

Vehicle Tracking Assessment



Copy Of Phoenix 2 Duo Recycler (P2-15W with Elite 6x4 chassis)

Overall Length	11.850m
Overall Width	2.530m
Overall Body Height	3.756m
Min Body Ground Clearance	0.309m
Track Width	2.530m
Lock to lock time	4.00s
Wall to Wall Turning Radius	11.035m

- Sanderson Associates Consulting Engineers ("the consultant"), has not checked or verified, and shall have no liability whatsoever for any inaccuracies which may be attributable to any data, reports, base plan(s) and drawings provided by the client, or purchased by the consultant on the client's behalf, that may have been utilised within this drawing.
- The consultant shall not be liable for the use by any person of any document for any purpose other than that for which the same were provided by the consultant.
- No liability whatsoever is accepted by the consultant for any error or omissions.

- The consultant accepts no liability for any vehicle specification errors within the vehicle track software used and / or it's vehicle libraries.
- The locations of utilities apparatus, if shown, is reproduced from plans supplied to the consultant, although care has been taken when duplicating this information. These locations are approximate only and no guarantee can be given for their accuracy. It is the client's or it's appointed agent/contractors responsibility to verify the exact locations on site by hand dug trial holes or other appropriate means prior to mechanical excavation.
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- Reference to any third party equipment shown on this drawing was only relevant at the time the drawing was prepared.
- It is the client's responsibility to ensure that any equipment ordered meets the design.

Rev	Amendment	Drawn	Date	Checked
A	Access amended following comments from Kirklees	SB	Oct 25	LH

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Highways | Traffic | Transportation | Water
T 01924 844080 mail@sandersonassociates.co.uk
www.sandersonassociates.co.uk

Project Name

A62 Leeds Road
Heckmondwike

Drawing Title

Access Arrangements
Vehicle Swept Paths

Scale	1:500	Drawn By	SB
Drawing Size	A3	Checked By	LH
Date	May 2025	Approved By	LH

Drawing Number	Rev
164003-003	A

FILE REF:

Appendix F

TRICS Data – Multimodal Residential

Sanderson Associates (Consulting Engineers) Ltd Jubilee Way Wakefield Licence No: 109307

Calculation Reference: AUDIT-109307-241204-1249

TRIP RATE CALCULATION SELECTION PARAMETERS:

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

Selected regions and areas:

02	SOUTH EAST		
	HC	HAMPSHIRE	7 days
	KC	KENT	1 days
	SC	SURREY	1 days
03	SOUTH WEST		
	DC	DORSET	2 days
04	EAST ANGLIA		
	NF	NORFOLK	4 days
	SF	SUFFOLK	1 days
05	EAST MIDLANDS		
	NT	NOTTINGHAMSHIRE	1 days
06	WEST MIDLANDS		
	WK	WARWICKSHIRE	1 days
09	NORTH		
	FU	WESTMORLAND & FURNESS	1 days
11	SCOTLAND		
	HI	HIGHLAND	1 days

Primary Filtering selection:

Parameter: No of Dwellings
Actual Range: 26 to 75 (units:)
Range Selected by User: 25 to 75 (units:)

Parking Spaces Range: All Surveys Included

Parking Spaces per Dwelling Range: Selected: 2 to 3 Actual: 0.83 to 6.26

Bedrooms per Dwelling Range: Selected: 2 to 4 Actual: 1.60 to 4.50

Percentage of dwellings privately owned: All Surveys Included

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/16 to 27/03/24

Selected survey days:

Monday	1 days
Tuesday	6 days
Wednesday	5 days
Thursday	4 days
Friday	4 days

Selected survey types:

Manual count	20 days
Directional ATC Count	0 days

Selected Locations:

Edge of Town Centre	2
Suburban Area (PPS6 Out of Centre)	4
Edge of Town	14

Selected Location Sub Categories:

Residential Zone	18
No Sub Category	2

Inclusion of Servicing Vehicles Counts:

Servicing vehicles Included	9 days - Selected
Servicing vehicles Excluded	14 days - Selected

Secondary Filtering selection:

Use Class:

C3	20 days

Population within 500m Range:
All Surveys Included

Population within 1 mile:

1,001 to 5,000	2 days
5,001 to 10,000	6 days
10,001 to 15,000	5 days
15,001 to 20,000	4 days
20,001 to 25,000	2 days
25,001 to 50,000	1 days

Population within 5 miles:

5,001 to 25,000	2 days
25,001 to 50,000	5 days
50,001 to 75,000	3 days
75,001 to 100,000	2 days
125,001 to 250,000	6 days
250,001 to 500,000	2 days

Car ownership within 5 miles:

0.6 to 1.0	3 days
1.1 to 1.5	16 days
1.6 to 2.0	1 days

Secondary Filtering selection (Cont.):

Travel Plan:

Yes	13 days
No	7 days

PTAL Rating:

No PTAL Present	20 days

LIST OF SITES relevant to selection parameters

1 DC-03-A-09 MIXED HOUSES DORSET
A350
SHAFTESBURY

Edge of Town
No Sub Category
Total No of Dwellings: 50
Survey date: FRIDAY *19/11/21* *Survey Type: MANUAL*

2 DC-03-A-10 MIXED HOUSES DORSET
ADDISON CLOSE
GILLINGHAM

Edge of Town
Residential Zone
Total No of Dwellings: 26
Survey date: WEDNESDAY *09/11/22* *Survey Type: MANUAL*

3 FU-03-A-02 DETACHED/TERRACED HOUSING WESTMORLAND & FURNESS
MACADAM WAY
PENRITH

Edge of Town Centre
Residential Zone
Total No of Dwellings: 50
Survey date: TUESDAY *21/06/16* *Survey Type: MANUAL*

4 HC-03-A-21 TERRACED & SEMI-DETACHED HAMPSHIRE
PRIESTLEY ROAD
BASINGSTOKE
HOUNDMILLS
Edge of Town
Residential Zone
Total No of Dwellings: 39
Survey date: TUESDAY *13/11/18* *Survey Type: MANUAL*

5 HC-03-A-22 MIXED HOUSES HAMPSHIRE
BOW LAKE GARDENS
NEAR EASTLEIGH
BISHOPSTOKE
Edge of Town
Residential Zone
Total No of Dwellings: 40
Survey date: WEDNESDAY *31/10/18* *Survey Type: MANUAL*

6 HC-03-A-23 HOUSES & FLATS HAMPSHIRE
CANADA WAY
LIPHOOK

Suburban Area (PPS6 Out of Centre)
Residential Zone
Total No of Dwellings: 62
Survey date: TUESDAY *19/11/19* *Survey Type: MANUAL*

7 HC-03-A-27 MIXED HOUSES HAMPSHIRE
DAIRY ROAD
ANDOVER

Edge of Town
Residential Zone
Total No of Dwellings: 73
Survey date: TUESDAY *16/11/21* *Survey Type: MANUAL*

8 HC-03-A-30 TERRACED HOUSES HAMPSHIRE
MEUDON AVENUE
FARNBOROUGH

Edge of Town Centre
Residential Zone
Total No of Dwellings: 31
Survey date: FRIDAY *14/10/22* *Survey Type: MANUAL*

LIST OF SITES relevant to selection parameters (Cont.)

9 HC-03-A-31 MIXED HOUSES & FLATS HAMPSHIRE
KILN ROAD
LIPHOOK

Edge of Town
Residential Zone
Total No of Dwellings: 44
Survey date: FRIDAY *07/10/22* *Survey Type: MANUAL*

10 HC-03-A-37 MIXED HOUSES HAMPSHIRE
REDFIELDS LANE
FLEET
CHURCH CROOKHAM
Edge of Town
Residential Zone
Total No of Dwellings: 50
Survey date: WEDNESDAY *27/03/24* *Survey Type: MANUAL*

11 HI-03-A-14 SEMI-DETACHED & TERRACED HIGHLAND
KING BRUDE ROAD
INVERNESS
SCORGUIE
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total No of Dwellings: 40
Survey date: WEDNESDAY *23/03/16* *Survey Type: MANUAL*

12 KC-03-A-03 MIXED HOUSES & FLATS KENT
HYTHE ROAD
ASHFORD
WILLESBOROUGH
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total No of Dwellings: 51
Survey date: THURSDAY *14/07/16* *Survey Type: MANUAL*

13 NF-03-A-05 MIXED HOUSES NORFOLK
HEATH DRIVE
HOLT

Edge of Town
Residential Zone
Total No of Dwellings: 40
Survey date: THURSDAY *19/09/19* *Survey Type: MANUAL*

14 NF-03-A-25 MIXED HOUSES & FLATS NORFOLK
WOODFARM LANE
GORLESTON-ON-SEA

Edge of Town
Residential Zone
Total No of Dwellings: 55
Survey date: TUESDAY *21/09/21* *Survey Type: MANUAL*

15 NF-03-A-36 MIXED HOUSES NORFOLK
LONDON ROAD
WYMONDHAM

Edge of Town
No Sub Category
Total No of Dwellings: 75
Survey date: THURSDAY *29/09/22* *Survey Type: MANUAL*

16 NF-03-A-37 MIXED HOUSES NORFOLK
GREENFIELDS ROAD
DEREHAM

Edge of Town
Residential Zone
Total No of Dwellings: 44
Survey date: TUESDAY *27/09/22* *Survey Type: MANUAL*

LIST OF SITES relevant to selection parameters (Cont.)

17	NT-03-A-08 WIGHAY ROAD HUCKNALL	DETACHED HOUSES		NOTTINGHAMSHIRE
	Edge of Town Residential Zone Total No of Dwellings:		36	
	Survey date: MONDAY		*18/10/21*	*Survey Type: MANUAL*
18	SC-03-A-07 FOLLY HILL FARNHAM	MIXED HOUSES		SURREY
	Edge of Town Residential Zone Total No of Dwellings:		41	
	Survey date: WEDNESDAY		*11/05/22*	*Survey Type: MANUAL*
19	SF-03-A-07 FOXHALL ROAD IPSWICH	MIXED HOUSES		SUFFOLK
	Suburban Area (PPS6 Out of Centre) Residential Zone Total No of Dwellings:		73	
	Survey date: THURSDAY		*09/05/19*	*Survey Type: MANUAL*
20	WK-03-A-04 DALEHOUSE LANE KENILWORTH	DETACHED HOUSES		WARWICKSHIRE
	Edge of Town Residential Zone Total No of Dwellings:		49	
	Survey date: FRIDAY		*27/09/19*	*Survey Type: MANUAL*

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
MULTI-MODAL TOTAL VEHICLES
Calculation factor: 1 DWELLS
Estimated TRIP rate value per 46 DWELLS shown in shaded columns
BOLD print indicates peak (busiest) period
Total People to Total Vehicles ratio (all time periods and directions): 1.66

	ARRIVALS				DEPARTURES				TOTALS			
Time Range	No. Days	Ave. DWELLS	Trip Rate	Estimated Trip Rate	No. Days	Ave. DWELLS	Trip Rate	Estimated Trip Rate	No. Days	Ave. DWELLS	Trip Rate	Estimated 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	20	48	0.085	3.893	20	48	0.325	14.954	20	48	0.410	18.847
08:00 - 09:00	20	48	0.173	7.975	20	48	0.399	18.372	20	48	0.572	26.347
09:00 - 10:00	20	48	0.160	7.358	20	48	0.203	9.352	20	48	0.363	16.710
10:00 - 11:00	20	48	0.140	6.456	20	48	0.193	8.877	20	48	0.333	15.333
11:00 - 12:00	20	48	0.154	7.073	20	48	0.171	7.880	20	48	0.325	14.953
12:00 - 13:00	20	48	0.197	9.067	20	48	0.197	9.067	20	48	0.394	18.134
13:00 - 14:00	20	48	0.185	8.497	20	48	0.182	8.355	20	48	0.367	16.852
14:00 - 15:00	20	48	0.180	8.260	20	48	0.203	9.352	20	48	0.383	17.612
15:00 - 16:00	20	48	0.299	13.767	20	48	0.198	9.115	20	48	0.497	22.882
16:00 - 17:00	20	48	0.309	14.194	20	48	0.180	8.260	20	48	0.489	22.454
17:00 - 18:00	20	48	0.406	18.656	20	48	0.204	9.399	20	48	0.610	28.055
18:00 - 19:00	20	48	0.282	12.960	20	48	0.176	8.118	20	48	0.458	21.078
19:00 - 20:00												
20:00 - 21:00												
21:00 - 22:00												
22:00 - 23:00												
23:00 - 24:00												
Total Rates:			2.570	118.156			2.631	121.101			5.201	239.257

Parameter summary

Trip rate parameter range selected:	26 - 75 (units:)
Survey date date range:	01/01/16 - 27/03/24
Number of weekdays (Monday-Friday):	20
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	3
Surveys manually removed from selection:	0

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
MULTI-MODAL CYCLISTS
Calculation factor: 1 DWELLS
Estimated TRIP rate value per 46 DWELLS shown in shaded columns
BOLD print indicates peak (busiest) period

	ARRIVALS				DEPARTURES				TOTALS			
Time Range	No. Days	Ave. DWELLS	Trip Rate	Estimated Trip Rate	No. Days	Ave. DWELLS	Trip Rate	Estimated Trip Rate	No. Days	Ave. DWELLS	Trip Rate	Estimated 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	20	48	0.004	0.190	20	48	0.014	0.665	20	48	0.018	0.855
08:00 - 09:00	20	48	0.005	0.237	20	48	0.009	0.427	20	48	0.014	0.664
09:00 - 10:00	20	48	0.006	0.285	20	48	0.007	0.332	20	48	0.013	0.617
10:00 - 11:00	20	48	0.006	0.285	20	48	0.007	0.332	20	48	0.013	0.617
11:00 - 12:00	20	48	0.003	0.142	20	48	0.001	0.047	20	48	0.004	0.189
12:00 - 13:00	20	48	0.003	0.142	20	48	0.002	0.095	20	48	0.005	0.237
13:00 - 14:00	20	48	0.004	0.190	20	48	0.002	0.095	20	48	0.006	0.285
14:00 - 15:00	20	48	0.003	0.142	20	48	0.002	0.095	20	48	0.005	0.237
15:00 - 16:00	20	48	0.010	0.475	20	48	0.011	0.522	20	48	0.021	0.997
16:00 - 17:00	20	48	0.011	0.522	20	48	0.003	0.142	20	48	0.014	0.664
17:00 - 18:00	20	48	0.008	0.380	20	48	0.007	0.332	20	48	0.015	0.712
18:00 - 19:00	20	48	0.004	0.190	20	48	0.006	0.285	20	48	0.010	0.475
19:00 - 20:00												
20:00 - 21:00												
21:00 - 22:00												
22:00 - 23:00												
23:00 - 24:00												
Total Rates:			0.067	3.180			0.071	3.369			0.138	6.549

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
MULTI-MODAL VEHICLE OCCUPANTS
Calculation factor: 1 DWELLS
Estimated TRIP rate value per 46 DWELLS shown in shaded columns
BOLD print indicates peak (busiest) period

	ARRIVALS				DEPARTURES				TOTALS			
Time Range	No. Days	Ave. DWELLS	Trip Rate	Estimated Trip Rate	No. Days	Ave. DWELLS	Trip Rate	Estimated Trip Rate	No. Days	Ave. DWELLS	Trip Rate	Estimated 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	20	48	0.095	4.367	20	48	0.421	19.368	20	48	0.516	23.735
08:00 - 09:00	20	48	0.198	9.115	20	48	0.615	28.293	20	48	0.813	37.408
09:00 - 10:00	20	48	0.194	8.925	20	48	0.250	11.488	20	48	0.444	20.413
10:00 - 11:00	20	48	0.161	7.406	20	48	0.246	11.298	20	48	0.407	18.704
11:00 - 12:00	20	48	0.178	8.165	20	48	0.206	9.494	20	48	0.384	17.659
12:00 - 13:00	20	48	0.248	11.393	20	48	0.253	11.631	20	48	0.501	23.024
13:00 - 14:00	20	48	0.228	10.491	20	48	0.233	10.729	20	48	0.461	21.220
14:00 - 15:00	20	48	0.211	9.684	20	48	0.261	12.010	20	48	0.472	21.694
15:00 - 16:00	20	48	0.450	20.698	20	48	0.248	11.393	20	48	0.698	32.091
16:00 - 17:00	20	48	0.446	20.508	20	48	0.248	11.393	20	48	0.694	31.901
17:00 - 18:00	20	48	0.545	25.065	20	48	0.278	12.770	20	48	0.823	37.835
18:00 - 19:00	20	48	0.367	16.900	20	48	0.238	10.966	20	48	0.605	27.866
19:00 - 20:00												
20:00 - 21:00												
21:00 - 22:00												
22:00 - 23:00												
23:00 - 24:00												
Total Rates:			3.321	152.717			3.497	160.833			6.818	313.550

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
MULTI-MODAL PEDESTRIANS
Calculation factor: 1 DWELLS
Estimated TRIP rate value per 46 DWELLS shown in shaded columns
BOLD print indicates peak (busiest) period

	ARRIVALS				DEPARTURES				TOTALS			
Time Range	No. Days	Ave. DWELLS	Trip Rate	Estimated Trip Rate	No. Days	Ave. DWELLS	Trip Rate	Estimated Trip Rate	No. Days	Ave. DWELLS	Trip Rate	Estimated 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	20	48	0.029	1.329	20	48	0.052	2.374	20	48	0.081	3.703
08:00 - 09:00	20	48	0.049	2.231	20	48	0.184	8.450	20	48	0.233	10.681
09:00 - 10:00	20	48	0.066	3.038	20	48	0.052	2.374	20	48	0.118	5.412
10:00 - 11:00	20	48	0.029	1.329	20	48	0.050	2.279	20	48	0.079	3.608
11:00 - 12:00	20	48	0.042	1.946	20	48	0.035	1.614	20	48	0.077	3.560
12:00 - 13:00	20	48	0.036	1.662	20	48	0.035	1.614	20	48	0.071	3.276
13:00 - 14:00	20	48	0.040	1.851	20	48	0.031	1.424	20	48	0.071	3.275
14:00 - 15:00	20	48	0.052	2.374	20	48	0.039	1.804	20	48	0.091	4.178
15:00 - 16:00	20	48	0.134	6.171	20	48	0.057	2.611	20	48	0.191	8.782
16:00 - 17:00	20	48	0.072	3.323	20	48	0.046	2.136	20	48	0.118	5.459
17:00 - 18:00	20	48	0.054	2.469	20	48	0.062	2.848	20	48	0.116	5.317
18:00 - 19:00	20	48	0.066	3.038	20	48	0.042	1.946	20	48	0.108	4.984
19:00 - 20:00												
20:00 - 21:00												
21:00 - 22:00												
22:00 - 23:00												
23:00 - 24:00												
Total Rates:			0.669	30.761			0.685	31.474			1.354	62.235

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
MULTI-MODAL PUBLIC TRANSPORT USERS
Calculation factor: 1 DWELLS
Estimated TRIP rate value per 46 DWELLS shown in shaded columns
BOLD print indicates peak (busiest) period

	ARRIVALS				DEPARTURES				TOTALS			
Time Range	No. Days	Ave. DWELLS	Trip Rate	Estimated Trip Rate	No. Days	Ave. DWELLS	Trip Rate	Estimated Trip Rate	No. Days	Ave. DWELLS	Trip Rate	Estimated 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	20	48	0.000	0.000	20	48	0.035	1.614	20	48	0.035	1.614
08:00 - 09:00	20	48	0.001	0.047	20	48	0.057	2.611	20	48	0.058	2.658
09:00 - 10:00	20	48	0.009	0.427	20	48	0.021	0.949	20	48	0.030	1.376
10:00 - 11:00	20	48	0.006	0.285	20	48	0.013	0.617	20	48	0.019	0.902
11:00 - 12:00	20	48	0.008	0.380	20	48	0.005	0.237	20	48	0.013	0.617
12:00 - 13:00	20	48	0.010	0.475	20	48	0.008	0.380	20	48	0.018	0.855
13:00 - 14:00	20	48	0.003	0.142	20	48	0.003	0.142	20	48	0.006	0.284
14:00 - 15:00	20	48	0.008	0.380	20	48	0.005	0.237	20	48	0.013	0.617
15:00 - 16:00	20	48	0.028	1.282	20	48	0.011	0.522	20	48	0.039	1.804
16:00 - 17:00	20	48	0.027	1.234	20	48	0.001	0.047	20	48	0.028	1.281
17:00 - 18:00	20	48	0.032	1.472	20	48	0.002	0.095	20	48	0.034	1.567
18:00 - 19:00	20	48	0.025	1.139	20	48	0.002	0.095	20	48	0.027	1.234
19:00 - 20:00												
20:00 - 21:00												
21:00 - 22:00												
22:00 - 23:00												
23:00 - 24:00												
Total Rates:			0.157	7.263			0.163	7.546			0.320	14.809

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
MULTI-MODAL TOTAL PEOPLE
Calculation factor: 1 DWELLS
Estimated TRIP rate value per 46 DWELLS shown in shaded columns
BOLD print indicates peak (busiest) period
Total People to Total Vehicles ratio (all time periods and directions): 1.66

	ARRIVALS				DEPARTURES				TOTALS			
Time Range	No. Days	Ave. DWELLS	Trip Rate	Estimated Trip Rate	No. Days	Ave. DWELLS	Trip Rate	Estimated Trip Rate	No. Days	Ave. DWELLS	Trip Rate	Estimated 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	20	48	0.128	5.886	20	48	0.522	24.021	20	48	0.650	29.907
08:00 - 09:00	20	48	0.253	11.631	20	48	0.865	39.781	20	48	1.118	51.412
09:00 - 10:00	20	48	0.276	12.675	20	48	0.329	15.143	20	48	0.605	27.818
10:00 - 11:00	20	48	0.202	9.304	20	48	0.316	14.526	20	48	0.518	23.830
11:00 - 12:00	20	48	0.231	10.634	20	48	0.248	11.393	20	48	0.479	22.027
12:00 - 13:00	20	48	0.297	13.672	20	48	0.298	13.719	20	48	0.595	27.391
13:00 - 14:00	20	48	0.276	12.675	20	48	0.269	12.390	20	48	0.545	25.065
14:00 - 15:00	20	48	0.273	12.580	20	48	0.308	14.147	20	48	0.581	26.727
15:00 - 16:00	20	48	0.622	28.625	20	48	0.327	15.049	20	48	0.949	43.674
16:00 - 17:00	20	48	0.556	25.587	20	48	0.298	13.719	20	48	0.854	39.306
17:00 - 18:00	20	48	0.639	29.385	20	48	0.349	16.045	20	48	0.988	45.430
18:00 - 19:00	20	48	0.462	21.267	20	48	0.289	13.292	20	48	0.751	34.559
19:00 - 20:00												
20:00 - 21:00												
21:00 - 22:00												
22:00 - 23:00												
23:00 - 24:00												
Total Rates:			4.215	193.921			4.418	203.225			8.633	397.146

Appendix G

A62/Site Access Junction Modelling Output

Junctions 10

PICADY 10 - Priority Intersection Module

Version: 10.1.1.1905

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

Filename: A62 Leeds Road - Site Access.j10
Path: V:\164000\164033F_Leeds_ Road_Heckmondwike\07 Design and Analysis\04 Traffic and Transportation\Traffic Programmes\Junctions
Report generation date: 15/05/2025 14:00:13

»A62 Leeds Road, Heckmondwike - 2025 Base + Dev, AM
»A62 Leeds Road, Heckmondwike - 2025 Base + Dev, PM
»A62 Leeds Road, Heckmondwike - 2030 Base + Dev, AM
»A62 Leeds Road, Heckmondwike - 2030 Base + Dev, PM

Summary of junction performance

	AM				PM			
	Set ID	Queue (Veh)	Delay (s)	RFC	Set ID	Queue (Veh)	Delay (s)	RFC
	A62 Leeds Road, Heckmondwike - 2025 Base + Dev							
Stream B-AC	D9	0.1	10.73	0.06	D10	0.0	11.38	0.03
Stream C-B		0.0	6.51	0.01		0.0	6.58	0.02
	A62 Leeds Road, Heckmondwike - 2030 Base + Dev							
Stream B-AC	D11	0.1	11.04	0.06	D12	0.0	11.77	0.03
Stream C-B		0.0	6.61	0.01		0.0	6.69	0.02

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	A62 Leeds Road, Heckmondwike
Location	
Site number	
Date	13/05/2025
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	FAIRHURST\SandersonAssocsiates
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	Show lane queues in feet / metres	Show all PICADY stream intercepts	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)	Use simulation for HCM roundabouts	Use iterations for HCM roundabouts
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	Relationship type	Relationship
D1	2021 Base	AM	ONE HOUR	07:45	09:15	15			
D2	2021 Base	PM	ONE HOUR	16:45	18:15	15			
D3	2025 Base	AM	ONE HOUR	07:45	09:15	15		Simple	D1*1.0129
D4	2025 Base	PM	ONE HOUR	16:45	18:15	15		Simple	D2*1.0135
D5	Dev	AM	ONE HOUR	07:45	09:15	15			
D6	Dev	PM	ONE HOUR	16:45	18:15	15			
D7	2030 Base	AM	ONE HOUR	07:45	09:15	15		Simple	D1*1.0628
D8	2030 Base	PM	ONE HOUR	16:45	18:15	15		Simple	D2*1.0639
D9	2025 Base + Dev	AM	ONE HOUR	07:45	09:15	15	✓	Simple	D3+D5
D10	2025 Base + Dev	PM	ONE HOUR	16:45	18:15	15	✓	Simple	D4+D6
D11	2030 Base + Dev	AM	ONE HOUR	07:45	09:15	15	✓	Simple	D7+D5
D12	2030 Base + Dev	PM	ONE HOUR	16:45	18:15	15	✓	Simple	D8+D6

Analysis Set Details

ID	Name	Include in report	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	A62 Leeds Road, Heckmondwike	✓	100.000	100.000

A62 Leeds Road, Heckmondwike - 2025 Base + Dev, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Set Relationship	D9 - 2025 Base + Dev, AM	Demand Set relationships are chained. This may slow down the file.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		0.22	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	0.22	A

Arms

Arms

Arm	Name	Description	Arm type
A	A62 Leeds Road (west)		Major
B	Site Access		Minor
C	Leeds Road (east)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right-turn storage	Width for right-turn storage (m)	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C	7.00		✓	2.40	250.0		-

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

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Visibility to left (m)	Visibility to right (m)
B	One lane	2.75	0	0

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (Veh/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	466	0.081	0.205	0.129	0.293
B-C	608	0.089	0.225	-	-
C-B	734	0.272	0.272	-	-

The slopes and intercepts shown above include custom intercept adjustments only.

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	Relationship type	Relationship
D9	2025 Base + Dev	AM	ONE HOUR	07:45	09:15	15	✓	Simple	D3+D5

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	572	100.000
B		ONE HOUR	✓	20	100.000
C		ONE HOUR	✓	435	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	5	567
	B	8	0	12
	C	431	4	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

		To		
		A	B	C
From	A	0	0	3
	B	0	0	0
	C	6	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	0.06	10.73	0.1	B	18	28
C-A					396	594
C-B	0.01	6.51	0.0	A	4	6
A-B					5	7
A-C					520	781

Main Results for each time segment

07:45 - 08:00

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	15	4	418	0.036	15	0.0	0.0	8.930	A
C-A	325	81			325				
C-B	3	0.75	613	0.005	3	0.0	0.0	5.897	A
A-B	4	0.94			4				
A-C	427	107			427				

08:00 - 08:15

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	18	4	393	0.046	18	0.0	0.0	9.599	A
C-A	388	97			388				
C-B	4	0.90	590	0.006	4	0.0	0.0	6.139	A
A-B	4	1			4				
A-C	510	127			510				

08:15 - 08:30

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	22	6	358	0.062	22	0.0	0.1	10.724	B
C-A	475	119			475				
C-B	4	1	557	0.008	4	0.0	0.0	6.508	A
A-B	6	1			6				
A-C	625	156			625				

08:30 - 08:45

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	22	6	358	0.062	22	0.1	0.1	10.728	B
C-A	475	119			475				
C-B	4	1	557	0.008	4	0.0	0.0	6.508	A
A-B	6	1			6				
A-C	625	156			625				

08:45 - 09:00

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	18	4	393	0.046	18	0.1	0.0	9.605	A
C-A	388	97			388				
C-B	4	0.90	590	0.006	4	0.0	0.0	6.141	A
A-B	4	1			4				
A-C	510	127			510				

09:00 - 09:15

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	15	4	418	0.036	15	0.0	0.0	8.939	A
C-A	325	81			325				
C-B	3	0.75	613	0.005	3	0.0	0.0	5.897	A
A-B	4	0.94			4				
A-C	427	107			427				

A62 Leeds Road, Heckmondwike - 2025 Base + Dev, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Set Relationship	D9 - 2025 Base + Dev, AM	Demand Set relationships are chained. This may slow down the file.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		0.15	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	0.15	A

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	Relationship type	Relationship
D10	2025 Base + Dev	PM	ONE HOUR	16:45	18:15	15	✓	Simple	D4+D6

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	580	100.000
B		ONE HOUR	✓	10	100.000
C		ONE HOUR	✓	551	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	11	569
	B	5	0	5
	C	541	10	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

		To		
		A	B	C
From	A	0	0	2
	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-AC	0.03	11.38	0.0	B	9	14
C-A					497	745
C-B	0.02	6.58	0.0	A	9	14
A-B					10	15
A-C					522	783

Main Results for each time segment

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	8	2	393	0.019	7	0.0	0.0	9.327	A
C-A	407	102			407				
C-B	8	2	614	0.012	7	0.0	0.0	5.937	A
A-B	8	2			8				
A-C	428	107			428				

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	9	2	366	0.025	9	0.0	0.0	10.084	B
C-A	487	122			487				
C-B	9	2	590	0.015	9	0.0	0.0	6.191	A
A-B	10	2			10				
A-C	511	128			511				

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	11	3	327	0.034	11	0.0	0.0	11.380	B
C-A	596	149			596				
C-B	11	3	558	0.020	11	0.0	0.0	6.580	A
A-B	12	3			12				
A-C	626	157			626				

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	11	3	327	0.034	11	0.0	0.0	11.382	B
C-A	596	149			596				
C-B	11	3	558	0.020	11	0.0	0.0	6.580	A
A-B	12	3			12				
A-C	626	157			626				

17:45 - 18:00

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	9	2	366	0.025	9	0.0	0.0	10.088	B
C-A	487	122			487				
C-B	9	2	590	0.015	9	0.0	0.0	6.194	A
A-B	10	2			10				
A-C	511	128			511				

18:00 - 18:15

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	8	2	393	0.019	8	0.0	0.0	9.335	A
C-A	407	102			407				
C-B	8	2	614	0.012	8	0.0	0.0	5.940	A
A-B	8	2			8				
A-C	428	107			428				

A62 Leeds Road, Heckmondwike - 2030 Base + Dev, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Set Relationship	D9 - 2025 Base + Dev, AM	Demand Set relationships are chained. This may slow down the file.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		0.22	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	0.22	A

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	Relationship type	Relationship
D11	2030 Base + Dev	AM	ONE HOUR	07:45	09:15	15	✓	Simple	D7+D5

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	600	100.000
B		ONE HOUR	✓	20	100.000
C		ONE HOUR	✓	457	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	5	595
	B	8	0	12
	C	453	4	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

		To		
		A	B	C
From	A	0	0	3
	B	0	0	0
	C	6	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	0.06	11.04	0.1	B	18	28
C-A					415	623
C-B	0.01	6.61	0.0	A	4	6
A-B					5	7
A-C					546	819

Main Results for each time segment

07:45 - 08:00

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	15	4	412	0.037	15	0.0	0.0	9.071	A
C-A	341	85			341				
C-B	3	0.75	608	0.005	3	0.0	0.0	5.954	A
A-B	4	0.94			4				
A-C	448	112			448				

08:00 - 08:15

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	18	4	385	0.047	18	0.0	0.0	9.798	A
C-A	407	102			407				
C-B	4	0.90	583	0.006	4	0.0	0.0	6.213	A
A-B	4	1			4				
A-C	535	134			535				

08:15 - 08:30

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	22	6	348	0.063	22	0.0	0.1	11.040	B
C-A	498	125			498				
C-B	4	1	549	0.008	4	0.0	0.0	6.611	A
A-B	6	1			6				
A-C	655	164			655				

08:30 - 08:45

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	22	6	348	0.063	22	0.1	0.1	11.044	B
C-A	498	125			498				
C-B	4	1	549	0.008	4	0.0	0.0	6.611	A
A-B	6	1			6				
A-C	655	164			655				

08:45 - 09:00

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	18	4	385	0.047	18	0.1	0.0	9.806	A
C-A	407	102			407				
C-B	4	0.90	583	0.006	4	0.0	0.0	6.216	A
A-B	4	1			4				
A-C	535	134			535				

09:00 - 09:15

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	15	4	412	0.037	15	0.0	0.0	9.080	A
C-A	341	85			341				
C-B	3	0.75	608	0.005	3	0.0	0.0	5.954	A
A-B	4	0.94			4				
A-C	448	112			448				

A62 Leeds Road, Heckmondwike - 2030 Base + Dev, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Set Relationship	D9 - 2025 Base + Dev, AM	Demand Set relationships are chained. This may slow down the file.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		0.15	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	0.15	A

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	Relationship type	Relationship
D12	2030 Base + Dev	PM	ONE HOUR	16:45	18:15	15	✓	Simple	D8+D6

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	608	100.000
B		ONE HOUR	✓	10	100.000
C		ONE HOUR	✓	578	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	11	597
	B	5	0	5
	C	568	10	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

		To		
		A	B	C
From	A	0	0	2
	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-AC	0.03	11.77	0.0	B	9	14
C-A					521	782
C-B	0.02	6.69	0.0	A	9	14
A-B					10	15
A-C					548	822

Main Results for each time segment

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	8	2	386	0.019	7	0.0	0.0	9.495	A
C-A	428	107			428				
C-B	8	2	608	0.012	7	0.0	0.0	5.995	A
A-B	8	2			8				
A-C	449	112			449				

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	9	2	358	0.025	9	0.0	0.0	10.324	B
C-A	511	128			511				
C-B	9	2	583	0.015	9	0.0	0.0	6.267	A
A-B	10	2			10				
A-C	537	134			537				

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	11	3	317	0.035	11	0.0	0.0	11.772	B
C-A	626	156			626				
C-B	11	3	549	0.020	11	0.0	0.0	6.686	A
A-B	12	3			12				
A-C	657	164			657				

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	11	3	317	0.035	11	0.0	0.0	11.774	B
C-A	626	156			626				
C-B	11	3	549	0.020	11	0.0	0.0	6.686	A
A-B	12	3			12				
A-C	657	164			657				

17:45 - 18:00

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	9	2	358	0.025	9	0.0	0.0	10.329	B
C-A	511	128			511				
C-B	9	2	583	0.015	9	0.0	0.0	6.270	A
A-B	10	2			10				
A-C	537	134			537				

18:00 - 18:15

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	8	2	386	0.019	8	0.0	0.0	9.503	A
C-A	428	107			428				
C-B	8	2	608	0.012	8	0.0	0.0	5.998	A
A-B	8	2			8				
A-C	449	112			449				

sanderson associates consulting engineers

FAIRHURST

Sanderson House, Jubilee Way, Grange Moor,
Huddersfield, WF4 4TD

01924 844080

mail@sandersonassociates.co.uk

www.sandersonassociates.co.uk

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