Croft Street, Birkenshaw

Transport Statement

January 2025

Project number 2318

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Quality Management

	First Issue	Revision 1	Revision 2	Revision 3
Remarks	Final Report	A	B	C
Date	June 2024	June 2024	January 2025	February 2025
Prepared by	JJH	JJH	CH	LJO
Checked by	PAH	PAH	LJO	AH

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Contents

Appendices

Figures

1.0 Introduction

1.1 Paragon Highway Consultants have been appointed to prepare this Transport Statement relating to a proposed residential development on land off Croft Street, Birkenshaw, in the Borough of Kirklees.

1.2 The site location can be found below at Figure 1.

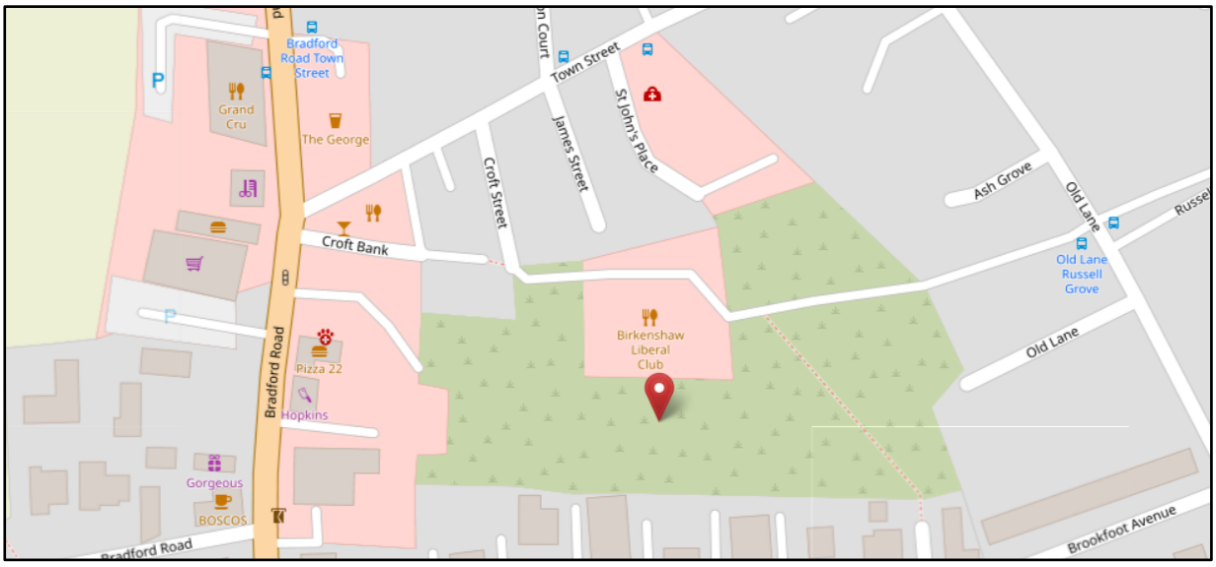


Figure 1 Site location

1.3 The site is located on the western side of Old Lane and follows the line of Croft Street (part), an unmade highway. The site is within the administrative boundary of the Kirklees Council. Presently the site is vacant land and is bound by Birkenshaw Liberal Club to the north, Old Lane to the east, and residential properties to the south and west.

1.4 The development proposals comprise of the construction of 21no. residential properties in a mix of detached and semi-detached styles with associated off street and visitor parking and amenity space. All properties will be served via a new formal access via Old Lane to the east of the site. The internal access road will directly serve the majority of the site, along with shared driveways. Birkenshaw Liberal Club will also be served from the internal access road in addition to its current arrangement from the north.

1.5 A footpath link will also be provided from the site to Allen Croft, located to the south of the site. This will provide a link to the club from this part of

Birkenshaw, and also convenient links to Bradford Road by potential residents of the development.

1.6 This Transport Statement demonstrates that:

- The site aligns with relevant national and local transport policies
- The site is readily accessible via public transport and pedestrian routes
- The highway network does not suffer from any defects that could contribute to an excessively high accident frequency
- Efficient and suitable access to the site can be established from Old Lane; and
- The trip generation from the proposed dwellings will not result in a significant residual impact on the local transport networks.

1.7 The purpose of this Transport Statement is to bolster the application. Following this introduction, the Transport Statement is organised into the following sections:

- 2.0 Existing Situation examines the current site utilisation, evaluates its accessibility through various transportation modes, and reviews the local road safety records.
- 3.0 Development Proposals outlines the proposed development and provides information pertaining to the site's proposed access routes.
- 4.0 Transport Policy provides a summary of the relevant Transport Planning Policies associated with this application.
- 5.0 Traffic Impact conducts an analysis of the potential influence of the development on local traffic patterns.
- 6.0 Conclusion contains a summary of the primary findings and conclusions drawn from the report.

2.0 Existing Situation

Site Description

2.1 Presently the site is vacant land and is bound by Birkenshaw Liberal Club to the north, Old Lane to the east, and residential properties to the south and west.

2.2 A birds-eye view of the site as existing can be found within Figure 2 below.

Figure 2 Birds-eye view of site

2.3 There is currently no formal access to the proposed development site.

Local Highway Network

2.4 The site will be accessed via an upgraded access point generally following the line of Croft Street. This upgraded arrangement will form a simple priority junction with Old Lane which is a two-way single carriageway. Old Lane is a local access road with a carriageway width that varies between 6.2m – 6.5m throughout, with continuous footways to both sides. Old Lane offers direct access to a number of residential properties along its length, together with numerous side road junctions. Old Lane forms a slightly offset crossroads junction with Station Lane and Mill Lane to the north, and a crossroads junction with the A58 Whitehall Road and Birkenshaw Lane to the south. It is approximately 0.6km in length.

Figure 3 Old Lane northbound

2.5 Old Lane is subject to a 30mph speed limit. The horizontal and vertical alignment of the highway together with the on-street parking helps to keep traffic speeds along this part of the route below the speed limit. A speed survey undertaken in May 2024 that determined that the 85th percentile wet weather speeds are 24mph northbound and 27mph southbound. The speed survey information can be found at Appendix C.

2.6 There are no traffic regulation orders in and around the proposed site access, restricting car parking and waiting and it is lit to side road standards. There are KEEP CLEAR markings on the opposite side of Old Lane to Croft Street maintaining access to 2no private access roads.

2.7 At the junction of Old Lane with the A58 there is a traffic regulation order with a weight restriction for vehicles over 7.5 tonnes approximately half a mile from the aforementioned junction.

2.8 Old Lane is a bus route and is generally lightly trafficked. However, there is a noticeable increase in traffic movements during the peak times.

2.9 Croft Street currently forms a through access onto Town Street located to the north of the site. Croft Street also forms a route to Birkenshaw Liberal Club and its car park. Due to the width of the route from Town Street this is primarily used as a route for pedestrian access or for those with small motor vehicles. The junction with Town Street is in the form of a vehicular footway crossing with a channel block to the rear, with a generally unmade road

surface thereafter. Croft Street varies in width along its length between 4.0 – 4.5 metres in width.

2.10 The existing Birkenshaw Liberal Club will be accessed and serviced via the proposed improved access arrangements off Old Lane. The turning head within the proposed development will be designed to tie into the existing levels of the club forecourt which is currently used to service the club.

Active Travel (Walking and Cycling)

2.11 Access for pedestrians to the nearby local fare stages will initially be via the section of shared surface street then along the traditional estate road. Pedestrian dropped footway crossing points will be provided for the change in road priorities.

2.12 Facilities for pedestrians and cyclists within the vicinity of the development site include footways to both sides of Old Lane, providing safe access to the local fare stages.

2.13 The footpath link from the site to Allen Croft will provide a link to the Public Rights of Way (PRoW) network situated to the south – namely SPE/12/40, SPE/12/30 and SPE/12/20 which provide connections to Bradford Road in the west and the A58 in the south.

2.14 At the junction of the development site with Old Lane, the western footway measures 1.79 metres in width and the eastern footway measures 1.2 metres in width.

2.15 Pedestrian and cyclist isochrones are illustrated within Figures 4 and 5 respectively. Both isochrones are formulated on a maximum travel duration of 20 minutes.

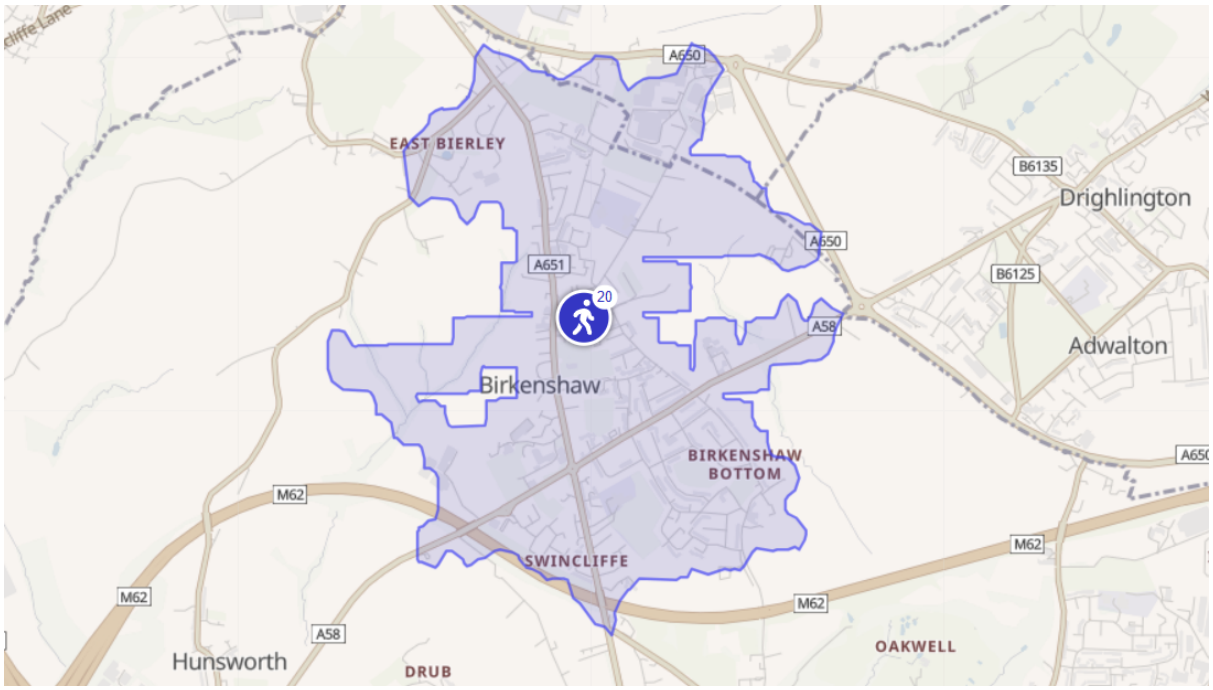


Figure 4 Pedestrian isochrone

2.16 Figure 4 demonstrates that the predominant areas of Birkenshaw, Birkenshaw Bottom, Swincliffe and a large part of East Bierley are accessible within a 20-minute walking radius from the proposed development site. The bus routes on both Old Lane and Bradford Road can be accessed using both Croft Street and the PRoW network mentioned above.

2.17 The local amenities on Bradford Road include a supermarket, several takeaways and a restaurant; all of which can be accessed via the PROW network with a safe means of crossing the major road being available via a pedestrian push button crossing situated close to the supermarket.

2.18 Figure 5 below highlights that residents of the development can reach an expansive catchment of the surrounding area for both employment (namely Inmoor Road commercial park, numerous commercial/industrial sites along Tong Street and the Junction 27 retail park) and leisure purposes within a 20-minute cycling timeframe. Additionally, the locales such as Gomersal, Birstall, Batley, Cleckheaton, Liversedge, Heckmondwike, Drighlington, Gildersome, New Farnley, East Bierley, Oakenshaw, Bierley, Holmewood, Bowling and Laisterdyke are also within reach.

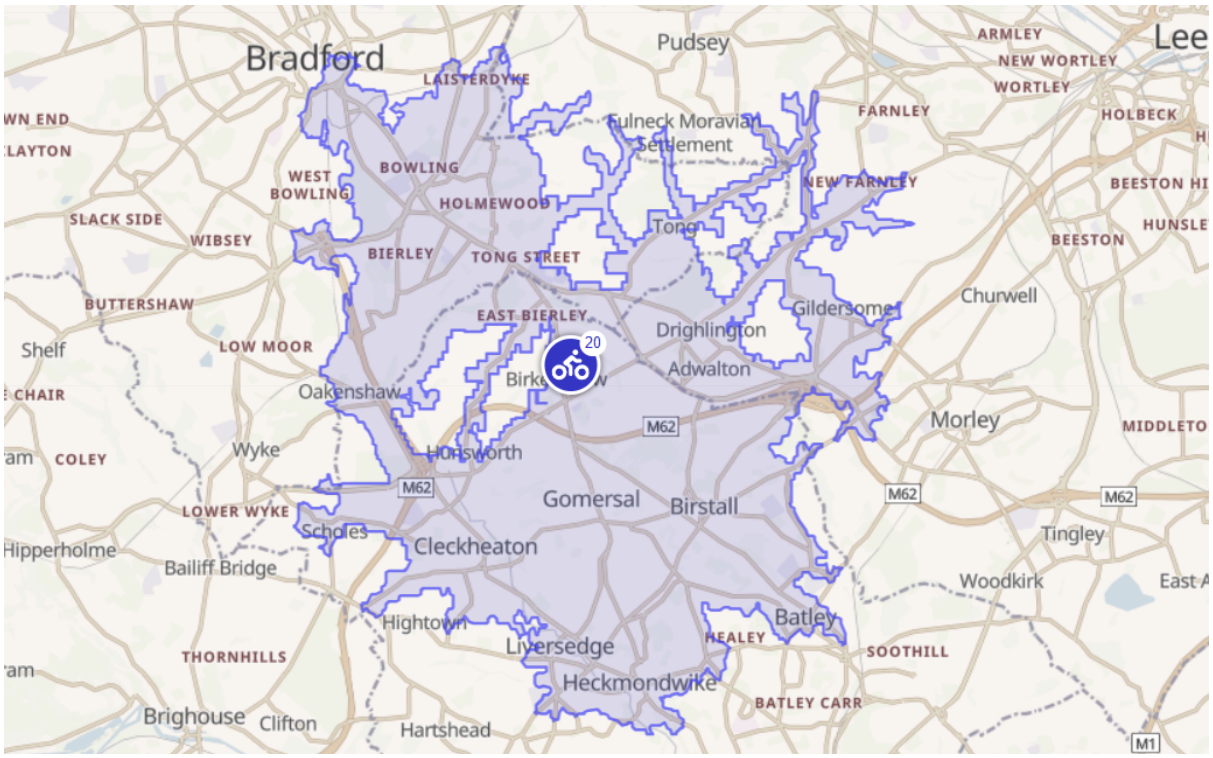


Figure 5 Cycling isochrone

Public Transport

2.19 The application site is conveniently situated with regards to public transport. The nearest fare stages are located on Town Street, Old Lane and Bradford Road.

2.20 A summary of the services available from this local fare stage is provided below at Figure 6. The table includes information on service routes, frequencies and the provider offering the service.

Number	Route	Typical Frequency			Provider
		Mon – Fri	Sat	Sun	
283	Bradford – East Bierley – Birkenshaw Bar – Birstall – Batley – Baltley Car - Dewsbury	30 mins	30 mins	60 mins	Arriva Yorkshire
283A	Bradford – East Bierley – Birkenshaw Bar – Batley – Baltley Car - Dewsbury	60 mins eves only	60 mins eves only	60 mins eves only	Arriva Yorkshire
259	Brighouse – Clifton – Hartshead – Scholes – Cleckheaton – Hunsworth – East Bierley	60 mins	60 mins	N/A	TLC Travel
263	Dewsbury – Mirfield – Robertown – Cleckheaton – East Bierley - Bradford	1 per day (not eves)	1 per day (not eves)	N/A	TLC Travel

Figure 6 Bus services

2.21 The services depicted in Figure 6 can streamline potential commuting and leisure travel. They provide frequent access to the central bus stations at Brighouse, Bradford, Dewsbury and Cleckheaton. Additionally, links are available to nearby locales such as Clifton, Scholes, East Bierley, Mirfield, Roberttown and Birstall.

2.22 Bradford Interchange is located within a 20-minute cycling distance from the proposed development with train services operating on the following lines – York, Leeds and Colne to Preston and Blackpool; Halifax to Hull and Leeds to York; Leeds to Manchester Victoria via Bradford Interchange; and Chester to Leeds. Bradford Interchange has the benefit of 8 cycle storage stands which are covered by CCTV.

Road Traffic Accidents

2.23 The personal injury accident data for the last 5 years up until December 2023 within the vicinity of the site have been obtained from the Collision Plot website. This data encompasses any incidents that may have occurred along Old Lane to the east and Bradford Road to the west. Figure 7 below provides a map showing where any incidents may have occurred and the severity of each incident (green = slight; blue = serious; red = fatal.)

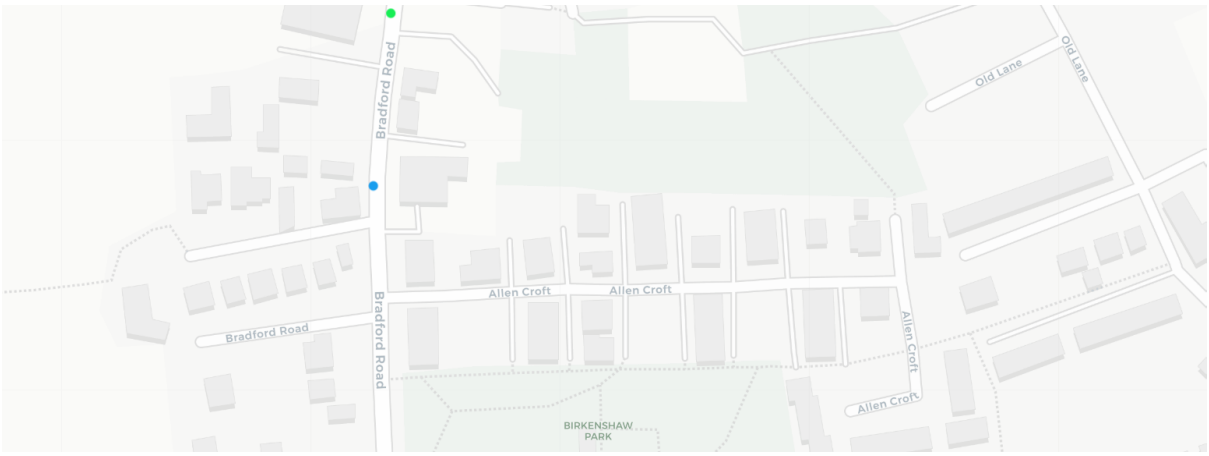


Figure 7 Collision Plot search area

2.24 Within the study area there has been a single accident along Bradford Road to the west. The table at Figure 8 provides further details regarding the results of the Collision Plot search. The accident data can be viewed in full at Appendix B.

Reference	Severity	Date / Time	Description
2021131083816	Serious	04/09/2021 09:58	Vehicle 1 (a car) and vehicle 2 (a car) were proceeding normally along the carriageway when they impacted at the front. The driver of vehicle 1 received serious injuries and the driver of vehicle 2 received slight injuries.

Figure 8 Injury accident data summary

2.25 An analysis of the collision in Figure 1 suggests that driver error or driver recklessness is to blame and cannot be attributed to the road layout. The accident does not indicate a road safety problem or any trends of significance which would warrant treatment or be a cause for concern due to a slight change in flows as a result of the development proposals.

3.0 Development Proposals

Proposed Development

3.1 The development proposals comprise of the construction of 21 residential dwellings on land to the south of Croft Street in Birkenshaw, Bradford. The development proposals can be viewed in full at Appendix A.

Access and Parking Provision

3.2 The proposals include the provision of dedicated residents' off-street parking for up to 2 cars for the two and three bed dwellings and parking for 3 cars for the four-bed dwellings. Additionally, some of the plots will also have the benefit of detached or integral garaging facilities. There is also visitor parking provision for up to 5 vehicles.

3.3 Currently the private access off Old Lane (Croft Street) provides access to Birkenshaw Liberal Club. The proposals include the improvement of the existing access, and this will be built generally to adoptable standards.

3.4 Old Lane has a speed limit of 30mph. However, a speed survey undertaken in May 2024 determined that the 85th percentile wet weather speeds are 24mph northbound and 27mph southbound. Given the recorded traffic speeds the stopping sight distance (SSD) requirements within Manual for Streets are considered appropriate, meeting the scope within the document. The speed survey results can be found at Appendix C.

3.5 Using SSD values, the speed readings would require a 'Y' distance of 30.0m to the north and 25.0 to the south of the access with the end of the splay line located 1m into the carriageway. This follows the requirements of Manual for Streets 2 that confirms that a more accurate assessment of visibility splay is made by measuring the nearside edge of the wheel track. With regards to the 'X' distance, 2.4m is considered appropriate.

3.6 The proposed junction arrangement located off Old Lane to serve the site will take the form of a simple priority junction with give way road markings. 2.0m wide footways are proposed to both sides of the access road which tie into the existing footways on Old Lane. Pedestrian dropped footway crossings will be constructed at the proposed junction. It is also proposed to fund a Traffic Regulation Order to prevent waiting within the junction area and details of this will be agreed with Kirklees Council's Highways Officers. In addition, to assist turning movements to and from the proposed junction, it is considered necessary to relocate the bus stop located opposite the junction. The new bus stop location shall be agreed with the Kirklees Council's Highways Officers and West Yorkshire PTE.

3.7 The proposed internal access road will take the form of a traditional estate road with a continuous carriageway width of 5.5m throughout. The internal road will provide subsequent access to proposed shared driveways located centrally to the south and far southwest side of the site.

3.8 The Birkenshaw Liberal Club car park will also take access from the proposed internal road via the western turning head. This route will also be taken by service vehicles associated with the club. This will provide added benefit to all users of Croft Street to the north of the site, providing a much improved alternative vehicular access to the club.

3.9 The internal road layout, in terms of horizontal and vertical alignment, will generally comply with the Local Authority's design guide requirements for estate roads and will be laid out to adoptable standards.

3.10 The proposals include 5 visitor parking bays, which meets the current Councils guidance of 1 space per 4 dwellings.

3.11 All properties within the site will have a minimum of 2 off-street parking spaces per dwelling, inclusive of garaging where applicable.

3.12 Each property will benefit from an electric vehicle charging point. This will be located in a practical location to allow easy connection with the resident's vehicle.

Pedestrian and Cycle Provision

3.13 It is envisaged that both pedestrians and cyclists will gain access to the proposed site via the improved access located off Old Lane to the east. The local footway network leading to the fare stages are to a good standard; however, on-footway parking is noticeable, particularly along Old Lane. There is a push button pedestrian crossing facility on Bradford Road, allowing safe access across the busy route to allow pedestrians to access the facilities / fare stages on the western side of the major road.

3.14 The proposals also include a footpath linking the proposed internal road with Allen Croft to the south, which provides convenient links with Bradford Road and also the wider PROW network including footpath SPE/12/40, SPE/12/30 and SPE/12/20.

3.15 In addition, the proposals shall incorporate the inclusion of secure cycle storage facilities. The cycle storage facilities will be in the garages (where provided) or within a shed situated within the rear garden of the properties. These facilities can only promote cycling as a means of transport to and from the site. This approach ensures that the facilities are appropriately integrated into the site design and meet any specific requirements or guidelines set out by the LPA.

Servicing

3.16 In terms of servicing, the proposals allow for a Kirklees Council refuse vehicle to enter and exit the development site in a forward gear via the internal turning head provided at the head of the cul-de-sac. Vehicle swept paths for a Kirklees specification refuse vehicle utilising the turning head can be found at Appendix A.

3.17 The existing Birkenshaw Liberal Club will be serviced via the proposed development. The proposed turning head within the site will be designed to tie into the existing levels of the club access.

4.0 Transport Policy

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

National Policy

National Planning Policy Framework

4.2 The National Planning Policy Framework (NPPF) was first published by the Ministry of Housing, Communities and Local Government in March 2012 and was updated most recently by the Department for Levelling Up, Housing & Communities in December 2024.

4.3 The NPPF sets out the Government's planning policies for England and how these are expected to be applied. It provides a framework within which locally prepared plans can provide sufficient housing and other development in a sustainable manner.

4.4 Paragraph 109 of Chapter 9 of the NPPF suggests that transport issues should be considered from the earliest stages of plan-making and development proposals, using a vision-led approach to identify transport solutions that deliver well-designed, sustainable and popular places. This should involve:

- Making transport considerations an important part of early engagement with communities
- Ensuring patterns of movement, streets, parking and other transport considerations are integral to the design of schemes, and contribute to making high quality places
- Understanding and address the potential impacts of development on transport networks

- Realising opportunities from existing or proposed transport infrastructure, and changing transport technology and usage – for example, in relation to the scale, location or density of development that can be accommodated

- Identifying and pursing opportunities to promote walking, cycling and public transport use

- Identifying, assessing and taking into account the environmental impacts of traffic and transport infrastructure – including appropriate opportunities for avoiding and mitigating any adverse effects, and for net environmental gains.

4.5 Paragraph 115 of Chapter 9 of the NPPF states that in assessing sites that may be allocated for development in plans, or specific applications for development, it should be ensured that:

- Sustainable transport modes are prioritised, taking into account of the vision for the site, the type of development and its location

- Safe and suitable access to the site can be achieved for all users

- The design of streets, parking areas and other transport elements and the content of associated standards reflects the current national guidance, including the National Design Guide and the National Model Design Code

- Any significant impacts from the development on the transport network (in terms of capacity and congestion) or on highway safety, can be cost-effectively mitigated to an acceptable degree

4.6 Paragraphs 116 and 117 of Chapter 9 of the NPPF states that 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 would be severe. Within this context, applications for development should:

- Give priority first to pedestrian and cycle movements, both within the scheme and with neighbouring areas; and second – so far as possible –

to facilitating access to high quality public transport, with layouts that maximise the catchment area for bus or other public transport services, and appropriate facilities that encourage public transport use

- Address the needs of people with disabilities and reduced mobility in relation to all modes of transport

- Create places that are safe, secure and attractive – which minimise the scope for conflicts between pedestrians, cyclists and vehicles, avoid unnecessary street clutter, and respond to local character and design standards

- Allow for the efficient delivery of goods, and access by service and emergency vehicles

- Be designed to enable charging of plug-in and other ultra-low emission vehicles in safe, accessible and convenient locations

4.7 The development aligns with the NPPF by addressing transport considerations from the earliest stages of planning. It ensures that any potential impacts on the transport network are addressed, and opportunities from promoting sustainable transport modes, such as walking, cycling and public transport, are identified and pursued.

Leeds City Region Transport Strategy

4.8 The Transport Strategy was adopted by the West Yorkshire Combined Authority on 3rd August 2017 and replaces the Local Transport Plan. The Transport Strategy includes the period up to 2040. The following objectives are identified in the overall vision for the Transport Strategy:

- Economy – create a more reliable, less congested, better connected transport network, increasing business productivity and access to wider labour markets

- Environment – have a positive impact on our built and natural environment and increase resilience against climate change

- People and Place – put people first to create a strong sense of place, increasing access in a safe, inclusive way and encouraging walking and cycling for health and other benefits

Kirklees Local Plan

4.9 The Kirklees Local Plan was adopted in February 2019 to set out the policies and strategy for the Kirklees Council administrative area and covers the period between 2013 and 2031.

4.10 Section 10 of the Kirklees Local Plan contains policies related to Transport which include:

- Policy LP20 Sustainable Travel – New development will be located in accordance with the spatial development strategy to ensure the need to travel is reduced and that essential travel needs can be met by forms of sustainable travel other than the private car. The Council will support modes of transport such as walking, cycling and public transport.

- Policy LP21 Highways and Access – Proposals shall demonstrate that they can accommodate sustainable modes of transport and be accessed effectively and safely by all users. New development will normally be permitted where safe and suitable access to the site can be achieved for all people and where the residual cumulative impact of development is not severe; and

- Policy LP22 Parking – Provision of private non-residential parking in town centres will not be permitted unless it can be demonstrated that it is required for operational reasons.

4.11 The location of the development is in a reasonably sustainable area and close to good bus routes. Therefore, the proposals generally meet the requirements of both Local and National policy.

5.0 Traffic Impact

Existing Traffic

5.1 The traffic impact of the development has been assessed on a site-specific basis. The current site is undeveloped and therefore does not generate any traffic movements in its own right. However, access is currently gained to the club via Croft Street.

Proposed Traffic

5.2 The proposed development is for the construction of 21 residential properties in a mix of detached and semi-detached style with associated parking and amenity space.

5.3 The table below provides the peak hour trip rates (morning 8am – 9am and evening 5pm – 6pm) for 21 detached or semi-detached type dwellings. The relevant TRICS output can be found at Appendix D.

21 residential dwellings – privately owned	AM Peak			PM Peak		
	Arrive	Depart	Total	Arrive	Depart	Total
Trip Rate	0.208	0.415	0.623	0.367	0.233	0.600
Traffic Generations	4.368	8.715	13.083	7.707	4.893	12.600

Figure 9 Proposed trip rate and traffic generations

5.4 As can be seen from Figure 9, the proposed development is likely to generate around 12 or 13 trips during the network peak hours. This is based upon a robust trip rate derived from private home ownership.

5.5 Based on the full trip rates mentioned above, it is considered that no assessments of local junctions are considered necessary as the number of trips predicted are below the required threshold.

6.0 Conclusion

6.1 This Transport Statement presents the existing characteristics and infrastructure in the surrounding area of the proposed development. The development proposals are then presented. The traffic impact of the development is assessed together with highway safety and access proposals within the existing situation.

6.2 The development proposals comprise of the construction of 21 residential dwellings on land to the south of Croft Street, Birkenshaw in Bradford, together with significant improvements to the access known as Croft Street.

6.3 The site is situated within a reasonably sustainable location, given its proximity to local bus stops and bus / railway interchange in Bradford, along with good quality pedestrian and cycle provision. The site will generally conform to current Government directives for ensuring developments are located in a sustainable area.

6.4 It is considered that the anticipated level of traffic generated by the proposed development would not be discernible from the daily fluctuations in flows that could be expected on the local highway network. The level of traffic generated by the proposals can easily be accommodated and, as such, will not significantly add to any congestion at the peak times on the local highway network.

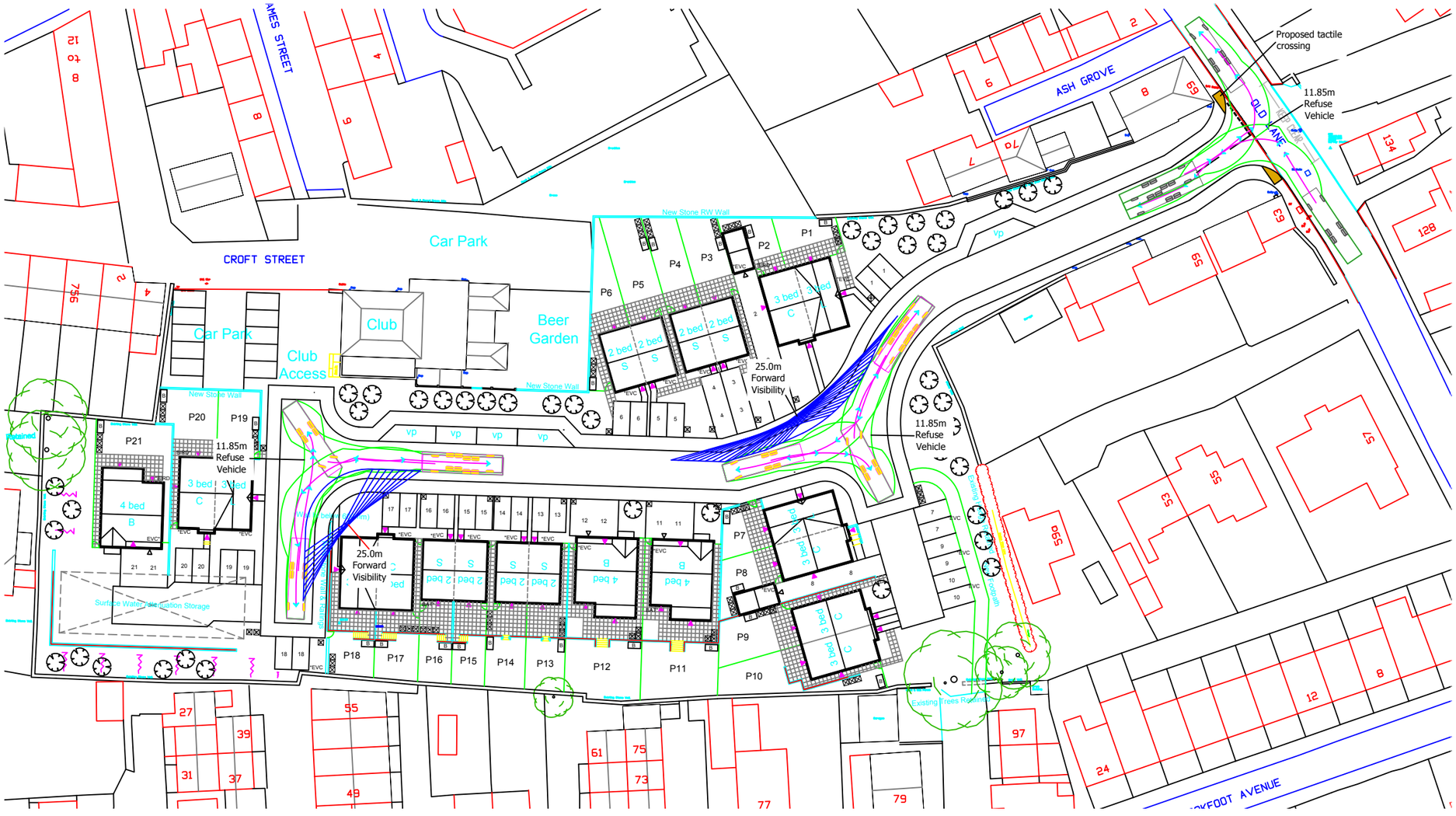
6.5 It is therefore concluded that the development is considered acceptable, and that there are no highway safety or efficiency reasons why planning consent for the proposed development should not be granted.

Appendix A

Development Proposals

General Notes

- This drawing should not be scaled for setting out purposes.
- This drawing shows the provisional design only and is subject to Local Authority approval.
- This drawing is based upon a topographical / ordnance survey provided by others.



PARAGON HIGHWAYS

PROJECT TITLE
CROFT STREET, BIRKENSHAW

DRAWING TITLE
TRACKING & FORWARD VISIBILITY

DRAWING NUMBER

ORIGINATOR	PROJECT	VOL	TYPE	ROLE	NUMBER
PRGN -	2318 -	HGN -	DR -	CH -	0002E

CLIENT
MARTIN WALSH ARCHITECTURAL

SCALE	SIZE	DRAWN	CHECKED	AUTHORISED	DATE
1:700	A3	JJH	LJO	LJO	FEB 25

PARAGON HIGHWAYS
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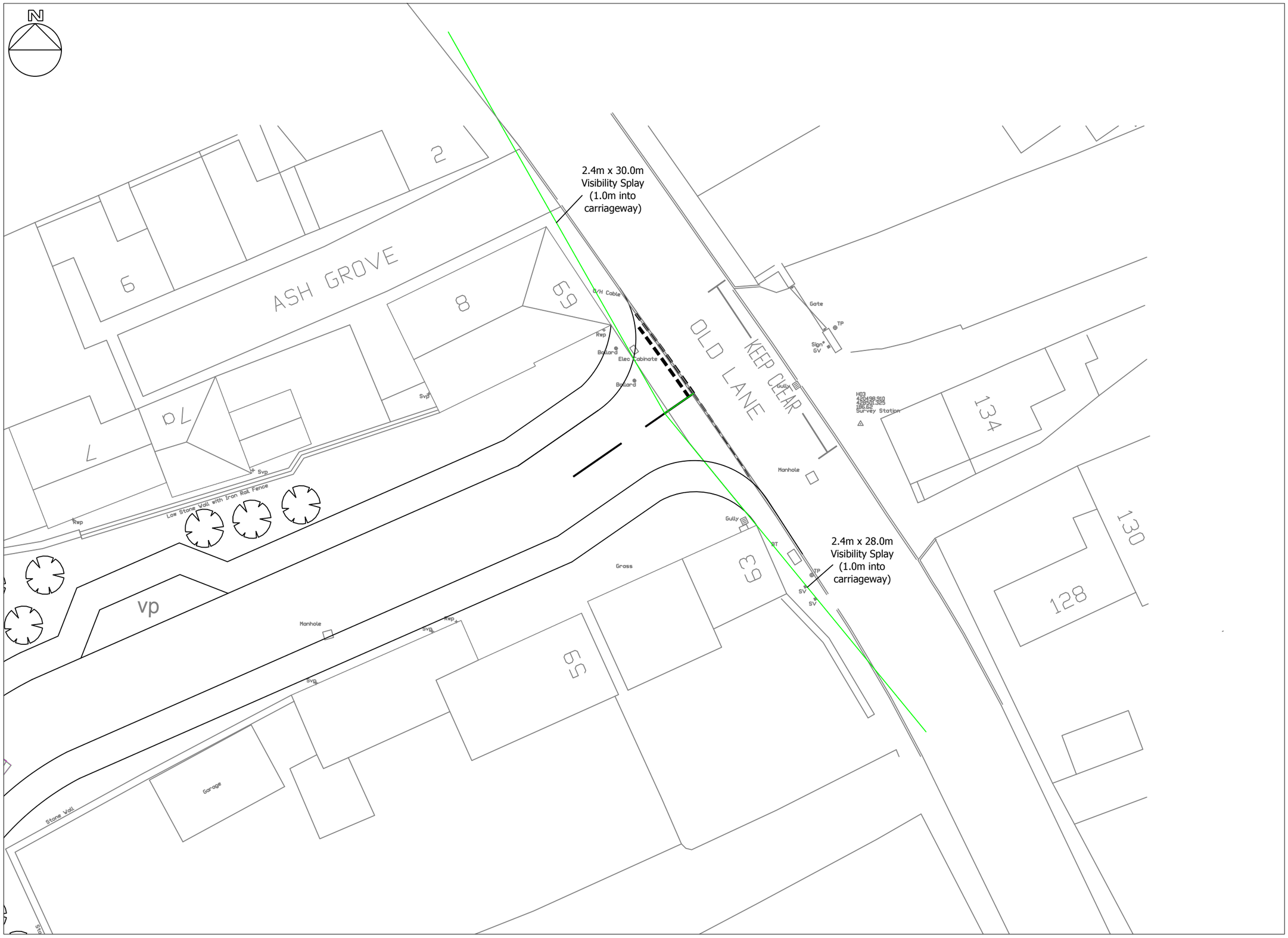

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PARAGON HIGHWAYS

PROJECT TITLE
CROFT STREET, BIRKENSHAW

DRAWING TITLE
JUNCTION VISIBILITY DRAWING

DRAWING NUMBER

ORIGINATOR	PROJECT	VOL	TYPE	ROLE	NUMBER
PRGN -	2318 -	HGN -	DR -	CH -	0001C

CLIENT
MARTIN WALSH ARCHITECTURAL/ RIVA HOMES

SCALE	SIZE	DRAWN	CHECKED	AUTHORISED	DATE
1:250	A3	JJH	LJO	JJH	JAN 25

PARAGON HIGHWAYS
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NOSTELL ESTATE YARD
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Appendix B

Collision Plot Data

2021131083816 | Serious | Sat | 04/09/2021 | 09:58 | Light | Dry

Authority (highway):	Kirklees	Road 2:	Unclassified, --	Weather:	Fine	(Image available to ACP users only)
Speed limit:	30	Junction detail:	T or staggered junction	Light conditions:	Light	
Police force:	West Yorkshire	Junction control:	Give way/uncontrolled	Special conditions:	--	
Road type:	Single carriageway	Crossing (human):	None within 50m	Hazards:	--	
Road 1:	A, 651	Crossing (physical):	None within 50m	Police attend?:	Yes	

Vehicles

Vehicle ref & type:	1, Car	2, Car
Manouevre:	Going ahead	Going ahead
Direction of travel:	South to north	North to south
Vehicle Location:	On main carriageway	On main carriageway
Junction Location:	Mid junction, on roundabout/main road	Mid junction, on roundabout/main road
First point of impact:	Front	Front
Driver sex & age:	Male, 43	Male, 29
Engine capacity (cc):	2998	1997
Propulsion:	Hybrid electric	Heavy oil
Age of vehicle:	0	7
Generic make/model:	BMW M3	CITROEN DS4

Casualties

Casualty reference:	1	2
Vehicle reference:	1 (Car)	2 (Car)
Severity:	Serious	Slight
Class:	Driver or rider	Driver or rider
Sex & age:	Male, 43	Male, 29

Appendix C

Speed Survey Results

ABACUS TRAFFIC SURVEYS
14 CLIFF HILL COURT, HOLMFIRTH, HD9 1JF

Job Number	2318
Survey Date	10.05.24
Start Time	13:00
Finish Time	14:35

Location	Old Lane, Birkenshaw
Direction of Travel	Northbound

Speed (Mph)	No. of Readings	Speed (Mph)	No. of Readings	Speed (Mph)	No. of Readings	Speed (Mph)	No. of Readings
1		26	6	51		76	
2		27	9	52		77	
3		28	2	53		78	
4		29	5	54		79	
5		30		55		80	
6		31	2	56		81	
7		32	1	57		82	
8		33		58		83	
9		34		59		84	
10		35	1	60		85	
11		36		61		86	
12		37		62		87	
13		38		63		88	
14	1	39		64		89	
15	1	40		65		90	
16	3	41		66		91	
17	6	42		67		92	
18	3	43		68		93	
19	4	44		69		94	
20	13	45		70		95	
21	9	46		71		96	
22	16	47		72		97	
23	8	48		73		98	
24	7	49		74		99	
25	6	50		75		100	

Overall Readings	103	Dual Carriageway?	N
Mean Speed	22.728	Single Carriageway?	Y
Standard Deviation	3.986	Wet Road Surface?	N
85th Percentile	26.714		
85th Percentile Wet Weather Speed	24.229	✓	

ABACUS
TRAFFIC SURVEYS
14 CLIFF HILL COURT,
HOLMFIRTH, HD9 1JF

Job Number	2318
Survey Date	10.05.24
Start Time	13:00
Finish Time	15:15

Location	Old Lane, Birkenshaw
Direction of Travel	Southbound

Speed (Mph)	No. of Readings	Speed (Mph)	No. of Readings	Speed (Mph)	No. of Readings	Speed (Mph)	No. of Readings
1		26	5	51		76	
2		27	2	52		77	
3		28	3	53		78	
4		29	1	54		79	
5		30	1	55		80	
6		31	2	56		81	
7		32	2	57		82	
8		33		58		83	
9		34		59		84	
10		35		60		85	
11		36		61		86	
12		37		62		87	
13		38		63		88	
14		39		64		89	
15	1	40		65		90	
16	3	41		66		91	
17	5	42		67		92	
18	8	43		68		93	
19	8	44		69		94	
20	17	45		70		95	
21	9	46		71		96	
22	8	47		72		97	
23	10	48		73		98	
24	8	49		74		99	
25	7	50		75		100	

Overall Readings	100	Dual Carriageway?	N
Mean Speed	21.990	Single Carriageway?	Y
Standard Deviation	3.729	Wet Road Surface?	N
85th Percentile	25.719		
85th Percentile Wet Weather Speed	23.234	✓	

Appendix D

TRICS Data

Calculation Reference: AUDIT-742101-240607-0603

TRIP RATE CALCULATION SELECTION PARAMETERS:

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

Selected regions and areas:

01	GREATER LONDON		
	BN	BARNET	1 days
02	SOUTH EAST		
	BO	BEDFORD	1 days
	ES	EAST SUSSEX	1 days
	KC	KENT	1 days
	MW	MEDWAY	1 days
03	SOUTH WEST		
	DC	DORSET	1 days
	SD	SWINDON	1 days
04	EAST ANGLIA		
	NF	NORFOLK	1 days
	PB	PETERBOROUGH	1 days
06	WEST MIDLANDS		
	ST	STAFFORDSHIRE	1 days
	WK	WARWICKSHIRE	1 days
07	YORKSHIRE & NORTH LINCOLNSHIRE		
	BY	BARNSLEY	1 days
	SE	SHEFFIELD	1 days
08	NORTH WEST		
	AC	CHESHIRE WEST & CHESTER	1 days
10	WALES		
	VG	VALE OF GLAMORGAN	1 days
12	CONNAUGHT		
	CS	SLIGO	1 days
14	LEINSTER		
	CC	CARLOW	1 days
15	GREATER DUBLIN		
	DL	DUBLIN	1 days

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

Primary Filtering selection:

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

Parameter: No of Dwellings
Actual Range: 12 to 30 (units:)
Range Selected by User: 12 to 30 (units:)

Parking Spaces Range: All Surveys Included

Parking Spaces per Dwelling Range: All Surveys Included

Bedrooms per Dwelling Range: All Surveys Included

Percentage of dwellings privately owned: All Surveys Included

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/16 to 09/11/22

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

Selected survey days:

Monday	3 days
Tuesday	1 days
Wednesday	9 days
Thursday	5 days

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

Selected survey types:

Manual count	17 days
Directional ATC Count	1 days

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

Selected Locations:

Suburban Area (PPS6 Out of Centre)	5
Edge of Town	8
Neighbourhood Centre (PPS6 Local Centre)	5

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

Selected Location Sub Categories:

Residential Zone	14
Village	4

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

Inclusion of Servicing Vehicles Counts:

Servicing vehicles Included	3 days - Selected
Servicing vehicles Excluded	15 days - Selected

Secondary Filtering selection:

Use Class:

C3	18 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order (England) 2020 has been used for this purpose, which can be found within the Library module of TRICS®.

Population within 500m Range:
All Surveys Included

Secondary Filtering selection (Cont.):

Population within 1 mile:

1,000 or Less	1 days
1,001 to 5,000	4 days
5,001 to 10,000	4 days
10,001 to 15,000	3 days
15,001 to 20,000	1 days
20,001 to 25,000	2 days
25,001 to 50,000	3 days

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

Population within 5 miles:

5,000 or Less	1 days
5,001 to 25,000	1 days
25,001 to 50,000	4 days
50,001 to 75,000	1 days
75,001 to 100,000	1 days
125,001 to 250,000	6 days
250,001 to 500,000	1 days
500,001 or More	3 days

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

Car ownership within 5 miles:

0.6 to 1.0	4 days
1.1 to 1.5	13 days
1.6 to 2.0	1 days

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

Travel Plan:

Yes	6 days
No	12 days

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

PTAL Rating:

No PTAL Present	17 days
2 Poor	1 days

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

Covid-19 Restrictions	Yes	At least one survey within the selected data set was undertaken at a time of Covid-19 restrictions

LIST OF SITES relevant to selection parameters

1 AC-03-A-04 TOWN HOUSES CHESHIRE WEST & CHESTER
LONDON ROAD
NORTHWICH
LEFTWICH
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total No of Dwellings: 24
Survey date: THURSDAY 06/06/19 Survey Type: MANUAL

2 BN-03-A-02 MIXED HOUSES BARNET
SWEETS WAY
WHETSTONE

Neighbourhood Centre (PPS6 Local Centre)
Residential Zone
Total No of Dwellings: 21
Survey date: TUESDAY 03/07/18 Survey Type: MANUAL

3 BO-03-A-01 DETACHED HOUSES BEDFORD
CARNOUSTIE DRIVE
BEDFORD
GREAT DENHAM
Edge of Town
Residential Zone
Total No of Dwellings: 30
Survey date: THURSDAY 15/10/20 Survey Type: MANUAL

4 BY-03-A-01 BUNGALOWS & DETACHED BARNSLEY
CHURCH LANE
NEAR BARNSLEY
WORSBROUGH
Neighbourhood Centre (PPS6 Local Centre)
Village
Total No of Dwellings: 19
Survey date: WEDNESDAY 09/09/20 Survey Type: MANUAL

5 CC-03-A-01 DETACHED HOUSES CARLOW
R417 ANTHY ROAD
CARLOW

Edge of Town
Residential Zone
Total No of Dwellings: 23
Survey date: WEDNESDAY 25/05/16 Survey Type: MANUAL

6 CS-03-A-03 MIXED HOUSES SLIGO
TOP ROAD
STRANDHILL
STRANDHILL
Neighbourhood Centre (PPS6 Local Centre)
Village
Total No of Dwellings: 30
Survey date: THURSDAY 27/10/16 Survey Type: MANUAL

7 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

8 DL-03-A-11 SEMI-DETACHED HOUSES DUBLIN
GRACE PARK ROAD
DUBLIN
WHITEHALL
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total No of Dwellings: 19
Survey date: WEDNESDAY 19/05/21 Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

9 ES-03-A-06 MIXED HOUSES EAST SUSSEX
BISHOPS LANE
RINGMER

Neighbourhood Centre (PPS6 Local Centre)
Village
Total No of Dwellings: 12
Survey date: WEDNESDAY 16/06/21 Survey Type: MANUAL

10 KC-03-A-09 MIXED HOUSES & FLATS KENT
WESTERN LINK
FAVERSHAM
DAVINGTON
Edge of Town
Residential Zone
Total No of Dwellings: 14
Survey date: WEDNESDAY 09/06/21 Survey Type: MANUAL

11 MW-03-A-02 MIXED HOUSES MEDWAY
OTTERHAM QUAY LANE
RAINHAM

Edge of Town
Residential Zone
Total No of Dwellings: 19
Survey date: MONDAY 06/06/22 Survey Type: MANUAL

12 NF-03-A-10 MIXED HOUSES & FLATS NORFOLK
HUNSTANTON ROAD
HUNSTANTON

Edge of Town
Residential Zone
Total No of Dwellings: 17
Survey date: WEDNESDAY 12/09/18 Survey Type: DIRECTIONAL ATC COUNT

13 PB-03-A-04 DETACHED HOUSES PETERBOROUGH
EASTFIELD ROAD
PETERBOROUGH

Suburban Area (PPS6 Out of Centre)
Residential Zone
Total No of Dwellings: 28
Survey date: MONDAY 17/10/16 Survey Type: MANUAL

14 SD-03-A-01 SEMI DETACHED SWINDON
HEADLANDS GROVE
SWINDON

Suburban Area (PPS6 Out of Centre)
Residential Zone
Total No of Dwellings: 27
Survey date: THURSDAY 22/09/16 Survey Type: MANUAL

15 SE-03-A-01 DETACHED & BUNGALOWS SHEFFIELD
MANOR ROAD
NEAR SHEFFIELD
WALES
Neighbourhood Centre (PPS6 Local Centre)
Village
Total No of Dwellings: 25
Survey date: THURSDAY 10/09/20 Survey Type: MANUAL

16 ST-03-A-08 DETACHED HOUSES STAFFORDSHIRE
SILKMORE CRESCENT
STAFFORD
MEADOWCROFT PARK
Edge of Town
Residential Zone
Total No of Dwellings: 26
Survey date: WEDNESDAY 22/11/17 Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

17 VG-03-A-01 SEMI-DETACHED & TERRACED VALE OF GLAMORGAN
ARTHUR STREET
BARRY

Edge of Town
Residential Zone
Total No of Dwellings: 12
Survey date: MONDAY *08/05/17* *Survey Type: MANUAL*

18 WK-03-A-03 DETACHED HOUSES WARWICKSHIRE
BRESE AVENUE
WARWICK
GUYS CLIFFE
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total No of Dwellings: 23
Survey date: WEDNESDAY *25/09/19* *Survey Type: MANUAL*

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

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
TOTAL VEHICLES
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	18	22	0.081	18	22	0.248	18	22	0.329
08:00 - 09:00	18	22	0.208	18	22	0.415	18	22	0.623
09:00 - 10:00	18	22	0.147	18	22	0.218	18	22	0.365
10:00 - 11:00	18	22	0.170	18	22	0.195	18	22	0.365
11:00 - 12:00	18	22	0.223	18	22	0.182	18	22	0.405
12:00 - 13:00	18	22	0.220	18	22	0.195	18	22	0.415
13:00 - 14:00	18	22	0.215	18	22	0.238	18	22	0.453
14:00 - 15:00	18	22	0.195	18	22	0.243	18	22	0.438
15:00 - 16:00	18	22	0.301	18	22	0.230	18	22	0.531
16:00 - 17:00	18	22	0.286	18	22	0.215	18	22	0.501
17:00 - 18:00	18	22	0.367	18	22	0.233	18	22	0.600
18:00 - 19:00	18	22	0.319	18	22	0.223	18	22	0.542
19:00 - 20:00	1	21	0.286	1	21	0.048	1	21	0.334
20:00 - 21:00	1	21	0.238	1	21	0.286	1	21	0.524
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			3.256			3.169			6.425

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

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

Parameter summary

Trip rate parameter range selected:	12 - 30 (units:)
Survey date date range:	01/01/16 - 09/11/22
Number of weekdays (Monday-Friday):	18
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	0

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