Land North of Whalley Road, Read

Transport Assessment

April 2026

Applethwaite Ltd

AMA Project Number: 22655

Andrew Moseley Associates
15 St Paul's Street
Leeds
LS1 2JG

www.amatp.co.uk
info@amatp.co.uk

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REPORT PRODUCTION TEAM

Name	Initials	Job Title
Elizabeth Theakston	ECT	Senior Transport Planner
Alex McGarrell	AMM	Associate Director

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1 INTRODUCTION

1.1 OVERVIEW

1.1.1 Andrew Moseley Associates (AMA) has been commissioned by Applethwaite Ltd to prepare a Transport Assessment (TA) and Residential Travel Plan in support of a full planning application for a residential development consisting of 77 dwellings on land to the north of the A671 Whalley Road. The site layout plan is attached at **Appendix A**.

1.1.2 The Local Planning Authority (LPA) is Ribble Valley Borough Council (RVBC) and the Local Highway Authority (LHA) is Lancashire County Council (LCC).

1.1.3 Vehicular, walking and cycling access is proposed from the south of the site via a priority-controlled T junction with a right turn ghost island from the A671 Whalley Road.

1.1.4 This TA has also been prepared with reference to the Department for Communities and Local Government National Planning Policy Framework (NPPF) and Planning Practice Guidance (PPG).

1.1.5 This TA will demonstrate that the site is well served by existing transport provision and is accessible to a range of key services and facilities. The report will also demonstrate that the traffic generated by the proposals will not result in a detrimental impact on the surrounding road network.

1.1.6 A TP has also been prepared which sets out measures to encourage sustainable travel patterns and reduce the reliance on private car use.

1.2 REPORT STRUCTURE

1.2.1 The structure of the report is set out as follows:

- **Section 2** – outlines the policy background at a national and local level.
- **Section 3** – provides a description of the site location, highway network surrounding the site, and examines the accessibility of the site by sustainable modes of travel. This section also considers the accessibility of a range of key services and facilities as well as a review of personal injury collisions
- **Section 4** – describes the development proposals with regard to the proposed quantum of development, the proposed means of access to the site, servicing, parking provision and drive thru queue capacity.
- **Section 5** – summarises the assessment parameters and trips rates that have been adopted within this TA.
- **Section 6** – examines the impact of development traffic on the local highway network and presents the results of the future year junction assessments to determine the potential impact of the proposals.
- **Section 7** – provides a summary of the TA.

2 POLICY BACKGROUND

2.1 NATIONAL POLICY

2.1.1 The National Planning Policy Framework (NPPF) came into effect in 2012. The document was designed to supersede and simplify previous national planning documents and their policies.

2.1.2 The NPPF was revised in response to the proposed reforms to the NPPF and other changes to the Planning system consultation on 12 December 2024 and sets out the government's planning policies for England and how these are expected to be applied.

2.1.3 This version of the NPPF was amended on 7 February 2025 to correct cross-references from footnotes 7 and 8 and amend the end of the first sentence of paragraph 155 to make its intent clear. For the avoidance of doubt the amendment to paragraph 155 is not intended to constitute a change to the policy set out in the Framework as published on 12 December 2024.

2.1.4 This revised framework replaces the previous NPPF published in March 2012, revised in July 2018, updated in February 2012, revised in July 2021, updated in September 2023 and revised in December 2023.

2.1.5 The preparation of this TA is consistent with national transport policy guidance set out in the NPPF which advocates the submission of such documents to support applications for new developments which generate traffic movements.

2.1.6 The NPPF states under the subheading 'Considering development proposals', within the 'Promoting Sustainable Transport' chapter that:

> *115. In assessing sites that may be allocated for development in plans, or specific applications for development, it should be ensured that:*
>
> *a) sustainable transport modes are prioritised taking account of the vision for the site, the type of development and its location;*
>
> *b) safe and suitable access to the site can be achieved for all users;*
>
> *c) the design of streets, parking areas, other transport elements and the content of associated standards reflects current national guidance, including the National Design Guide and the National Model Design Code48; and*
>
> *d) 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 through a vision-led approach*
>
> *116. 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.*
>
> *117. Within this context, applications for development should:*
>
> *a) 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;*
>
> *b) address the needs of people with disabilities and reduced mobility in relation to all modes of transport;*

c) 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;

d) allow for the efficient delivery of goods, and access by service and emergency vehicles; and

e) be designed to enable charging of plug-in and other ultra-low emission vehicles in safe, accessible and convenient locations.

118. All developments that will generate significant amounts of movement should be required to provide a travel plan, and the application should be supported by a vision-led transport statement or transport assessment so that the likely impacts of the proposal can be assessed and monitored.

2.1.7 It is also important to note that within the NPPF Glossary of terms it states Sustainable transport modes are:

'Any efficient, safe and accessible means of transport with overall low impact on the environment, including walking and cycling, ultra low and zero emission vehicles, car sharing and public transport.'

2.1.8 **Section 3** of this report highlights the existing sustainable travel modes within the vicinity of the site and demonstrates that the development will be well suited to this location.

2.1.9 **Section 6** of this report assesses the traffic associated with the development on the surrounding road network and will identify mitigation measures where necessary to ensure that the impact of the development is not severe.

2.1.10 The Government's objectives set out in the revised NPPF are to ensure that new developments are provided in sustainable locations, where the need to travel is minimised and the use of sustainable modes can be maximised.

2.2 LOCAL POLICY

Ribble Valley Borough Council Core Strategy (2008-2028)

2.2.1 The Core Strategy establishes the vision, underlying objectives and key principals that will guide development of the area. The key policies that relate to these development proposals are set out below.

'Key Statement DMI2: Transport Considerations

New development should be located to minimise the need to travel. Also it should incorporate good access by foot and cycle and have convenient links to public transport to reduce the need for travel by private car.

In general, schemes offering opportunities for more sustainable means of transport and sustainable travel improvements will be supported. Sites for potential future railway stations at Chatburn and Gisburn will be protected from inappropriate development.

Major applications should always be accompanied by a comprehensive travel plan.'

2.2.2 Policy DMG3: Transport and Mobility states the following:

In making decisions on development proposals the local planning authority will, in addition to assessing proposals within the context of the development strategy, attach considerable weight to:

The availability and adequacy of public transport and associated infrastructure to serve those moving to and from the development

The relationship of the site to the primary route network and the strategic road network

The provision made for access to the development by pedestrian, cyclists and those with reduced mobility

Proposals which promote development within existing developed areas or extensions to them at locations which are highly accessible by means other than the private car

Proposals which locate major generators of travel demand in existing centers which are highly accessible by means other than the private car

Proposals which strengthen existing town and village centers which offer a range of everyday community shopping and employment opportunities by protecting and enhancing the vitality and viability.

Proposals which locate development in areas which maintain and improve choice for people to walk, cycle or catch public transport rather than drive between homes and facilities which they need to visit regularly

Proposals which limit parking provision for developments and other on or off street parking provision to discourage reliance on the car for work and other journeys here there are effective alternatives.'

3 EXISTING CONDITIONS AND SUSTAINABLE TRANSPORT

3.1 SITE LOCATION

3.1.1 The site currently consists of undeveloped agricultural land and is bound to the north and east by residential dwellings, to the south by the A671 Whalley Road and to the west by vegetation.

3.1.2 The site is located to the west of the village of Simonstone within the area of Read. The location of the site is illustrated in Figure 3-1.

Figure 3-1 Indicative Site Location Plan

3.2 LOCAL HIGHWAY NETWORK

3.2.1 The site would be accessed from A671 Whalley Road to the south of the site via a proposed priority-controlled right turn ghost island.

3.2.2 A671 Whalley Road is a single carriageway two-way road which is subject to a 40mph speed limit. The carriageway has an approximate east / west alignment, continuing approximately 2.3km east through residential villages Read and Simonstone before forming a signal-controlled crossroads with A6068 Barrowford Road. To the west, A671 Whalley Road proceeds approximately 2.3km east, past Bridge Hey Wood Holiday Park access and over Read Bridge, before forming a signal-controlled junction with A680 Accrington Road.

3.2.3 A6068 Barrowford Road is a single carriageway two-way road that has an approximate north / south alignment. To the north, this provides access to residential villages such as Higham (3.5km) and Fence (6km) before forming the Reedyford Interchange around 9km north. Reedyford Interchange provides access to further residential villages such as Barrowford, Higherford, Greystone and Gisburn via A682 Scotland Road, and towns Skipton and Colne via M65. 1.6km to the south, A6068 Barrowford Road forms a 4-arm uncontrolled roundabout, providing access to Burnley and Skipton via the M65 (E), Preston and Blackburn via the M65 (N), and Burnley (W) and Halifax via the A679. 40km south of this roundabout, central Manchester can be accessed via the A56 / M66.

3.2.4 A680 Accrington Road is a single carriageway two-way road that has an approximate north / south alignment. Approximately 2.4km north, this forms a 3-arm uncontrolled roundabout providing both eastern and western access onto the A59. The A59 is a major east-west artery from Liverpool, passing through several towns and cities including Maghull, Ormskirk, Preston, Clitheroe, Skipton, Harrogate,

and York. To the south of A680 Accrington Road junction, this provides access to residential villages such as Great Harwood (2.5km), Clayton-le-Moors (3.6km), and town of Accrington (6km).

3.2.5 It is therefore considered that the site is well located in terms of access to the nearby residential areas as well as towards regional and national destinations.

3.3 WALKING ACCESSIBILITY

3.3.1 The Government's objectives set out in the NPPF are to ensure that new developments are provided in sustainable locations, where the need to travel is minimised and the use of sustainable modes can be maximised.

3.3.2 The Government's National Design Guide defines "walkable" well-designed places as having local facilities within 800m, and CIHT Planning for Walking (2015) states "walkable neighbourhoods" are typically within a catchment of around 800m or a 10 minutes' walk.

3.3.3 In addition, whilst superseded by the NPPF, the transport policies in the former PPG13 set out specific guidance related to walking:

> *"Walking is the most important mode of travel at the local level and offers the greatest potential to replace short car trips, particularly under 2 kilometres" (Para 74)*

3.3.4 Figure 3-2 shows a 2km walking catchment area from the centre of the site with the star showing the location of the site.

Figure 3-2 2km Walking Catchment Plan

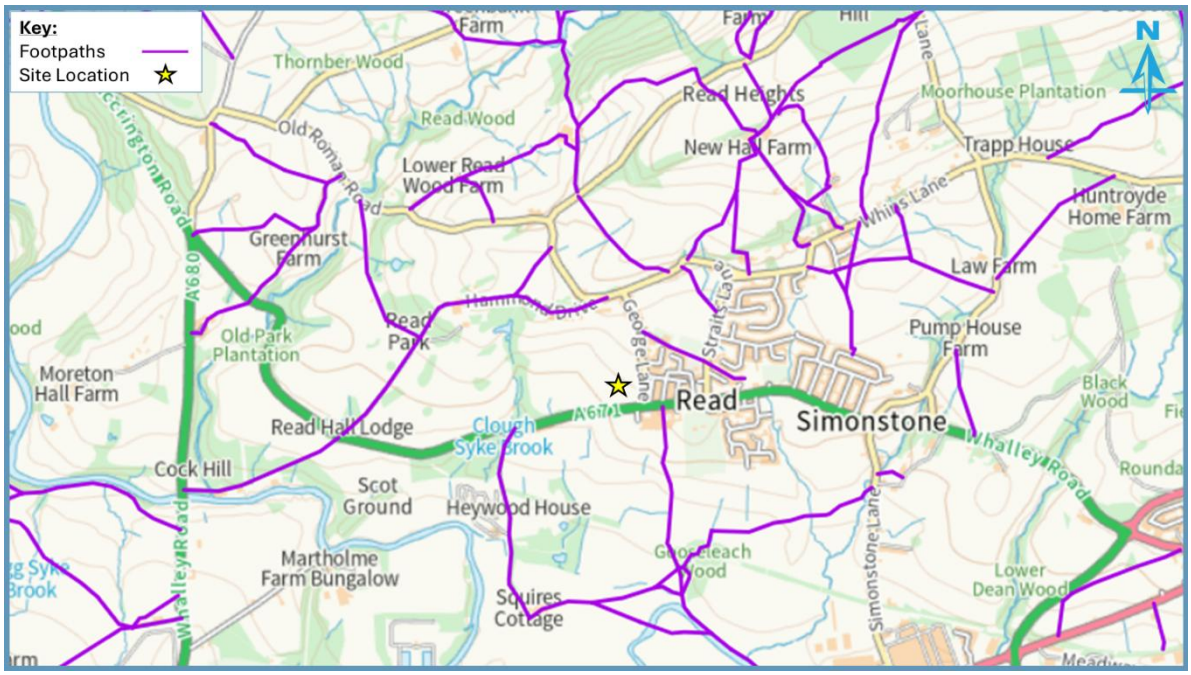
3.3.5 As shown, the site is located within a suitable walking distance of the village of Simonstone. Within the 2km catchment of the site, there are a number of facilities and amenities, including:

- Restaurants (300m);
- Read and Simonstone Village Hall (300m);
- Bus stops (400m);
- Read Cricket and Bowling Club (450m);
- Read Playground (450m);
- Pub (650m);
- Petrol Station (650m);
- Convenience store (650m);
- Primary Schools (1.3km); and
- Read & Simonstone Community Tennis Club (1.5km).

3.3.6 It is also important to note that as part of the proposals a new publicly accessible parkland will be provided at the west of the dwellings. This will provide a key amenity in close proximity to the site for future residents.

3.3.7 There are also a number of Public Rights of Way (PRoW) within the vicinity of the site that provide traffic-free walking facilities, details of which are provided in **Figure 3-3**.

Figure 3-3 Public Rights of Way Map



3.3.8 The map shows that there is a network of PRoW routes to provide safe pedestrian walking facilities within the vicinity of the site to areas within Read and to the north and south of Read.

3.3.9 The development is therefore considered to be located within a sustainable location to a range of walkable destinations.

3.4 CYCLING ACCESSIBILITY

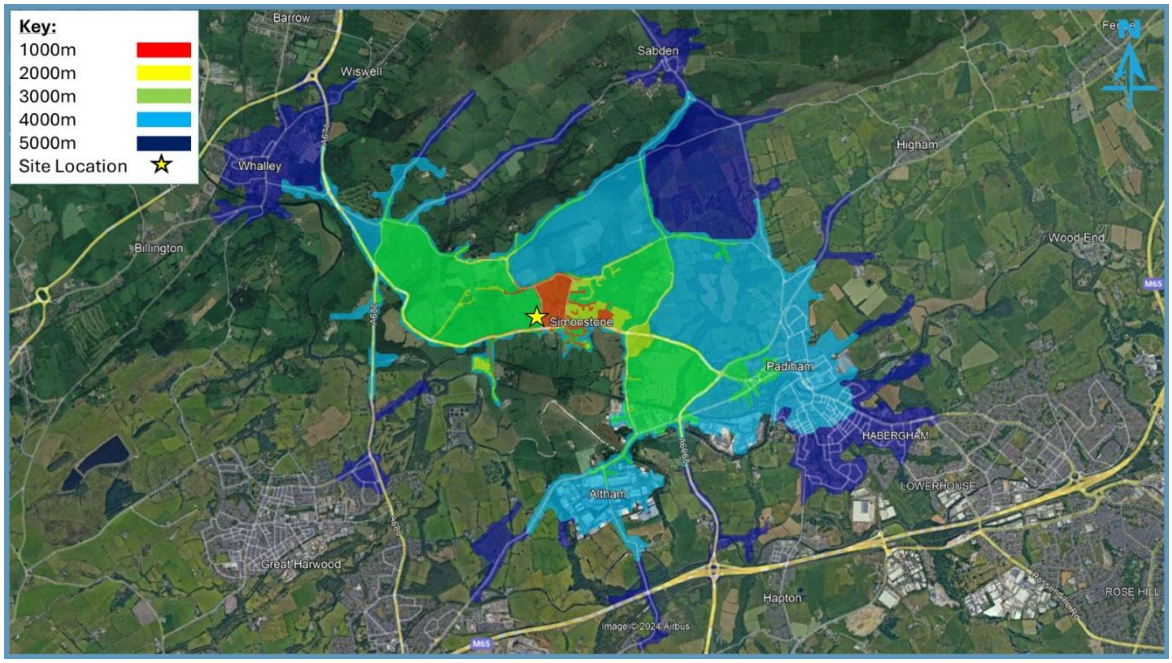
3.4.1 Whilst superseded by the NPPF, the transport policies in the former PPG13 set out specific guidance related to cycling:

> *"Cycling also has potential to substitute for short car trips, particularly those under 5 kilometres, and to form part of a longer journey by public transport" (Para 77)*

3.4.2 As such, all areas and facilities within a reasonable walking distance can also be considered to be within a reasonable cycling distance.

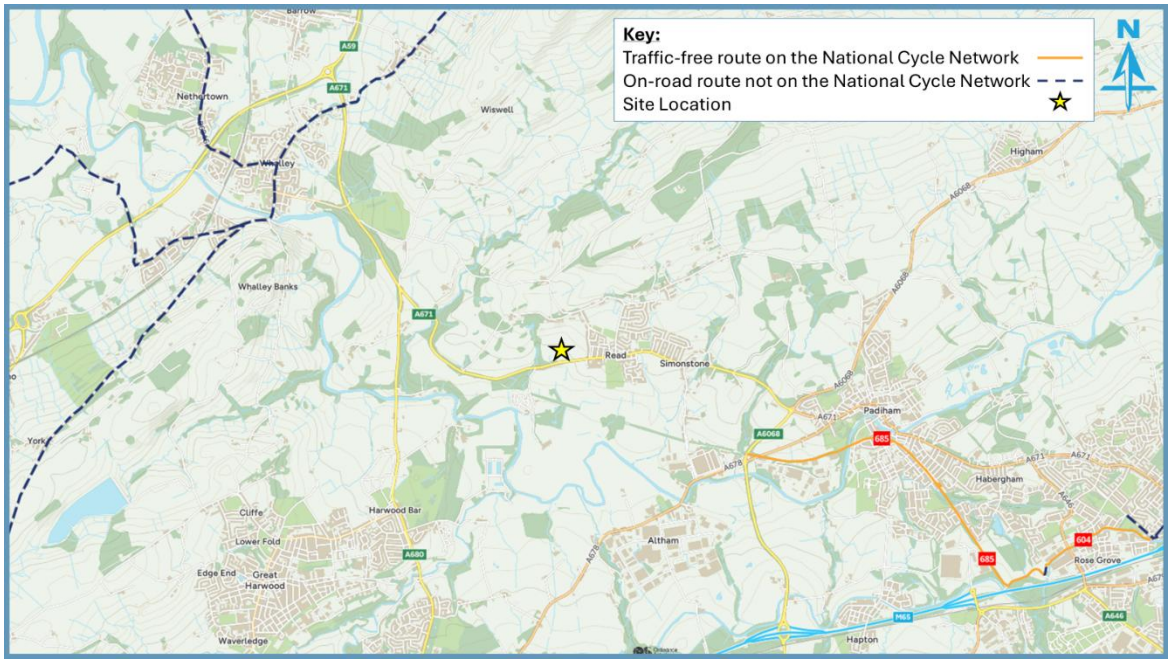
3.4.3 Figure 3-4 shows a 5km cycling catchment area from the centre of the site. In addition to the areas accessible within the 2km walking catchment, the catchment area includes Whalley, Sabden, Padiham, Habergham and Altham.

Figure 3-4 5km Cycling Catchment Plan



3.4.4 Within the vicinity of the site, there are a number of cycle routes, including a traffic-free route on the National Cycle Network and an on-road route not on the National Cycle Network. The cycle network is detailed on the plan attached at Figure 3-5.

Figure 3-5 Cycle Network Map



3.4.5 Approximately 3km southeast of the site route 685 which is a traffic free cycle route on the national cycle network is available. This is available from the A6068 and facilitates travel to the east of the site through Padiham and Habergham. At Rose Grove this changes to route 604 facilitating cycling through Wittlefield and Burnely. At Burnley, route 604 connects to route 68 facilitating travel to the north of Burnley towards Brierfield, Nelson and Colne.

3.4.6 As detailed in the map an on-road cycle route not on the national cycle network is available approximately 4km northwest of the site from Accrington Road in the neighbouring village of Whalley. This connects to routes to the northeast, northwest, west and southwest of Whalley.

3.5 PUBLIC TRANSPORT

Bus Services

3.5.1 In line with current local and national transport objectives, particularly of encouraging modal shift away from the private car and increasing accessibility through sustainable travel, public transport has a major role to play. The IHT's 'Guidelines for Planning for Public Transport in Developments' (IHT 1999) recommend that the maximum walking distance to bus routes should not exceed 400 metres. Measures to facilitate the use of public transport are therefore an integral part of good land use and transport planning.

3.5.2 There are two bus stops located on the A671 Whalley Road approximately 290m east of the site. The bus stop on the northern side of the carriageway is unmarked and the bus stop on the southern side of the carriageway has a flag. The stops detailed are set out on the attached plan at Figure 3-6.

Figure 3-6 Public Transport Location Plan

3.5.3 Details of the services calling at the mentioned bus stops have been obtained from recent timetables produced by various bus operators. Table 3-1 summarises local bus service details and route information.

Table 3-1 Local Bus Services

Services	Route	Weekday	Saturday	Sunday
M1/M2	Burnley – Padiham – Whalley - Clitheroe	30 mins	30 mins	60 mins

3.5.4 Table 3-1 sets out that the local bus stop provides access to one public bus service that provides a frequency of two buses per hour towards Burnley and Clitheroe. Three school services are also available from these bus stops, and a further two school services are available from the two bus stops approximately 350m west of the site.

Rail Services

3.5.5 Whalley railway station is located approximately 4.8km cycling distance from the site. The platforms are accessible from both the B6246 Station Road and The Sidings.

3.5.6 Railway services usually provide facilities for in carriage cycle storage to facilitate journeys by bike which can be prebooked or on a first come first served basis depending on the operator.

3.5.7 The station provides hourly services towards Rochdale, Clitheroe and Manchester Victoria.

3.6 PERSONAL INJURY COLLISION RECORDS

3.6.1 To consider the last five years of Personal Injury Collision (PIC) data within the vicinity of the site, an initial study of the CrashMap database has been conducted. The study area includes approximately 200m either side of the site access. The most recent five-year period of available data has been considered (2020-2024) ensuring the study is up to date. The collision plot is set out in **Figure 3-7**.

Figure 3-7 Personal Injury Collision Plot

3.6.2 Within the study area a single slight collision has occurred in between the junctions of George Lane, Church Street and the A671 Whalley Road. The collision occurred on 28th October 2020 and involved a motorcycle and car with the motorcyclist sustaining slight injury. It was also reported that the collision involved a young driver.

Summary

3.6.3 Given the low frequency and severity of the collisions recorded over the most recent five-year period, it is considered there are no existing highways safety concerns. Therefore, it is considered that additional collision data is not required to be requested from LCC given there are no clusters or hotspots identified that require more in-depth analysis.

4 DEVELOPMENT PROPOSALS

4.1 DEVELOPMENT PROPOSALS AND SITE LAYOUT

4.1.1 The application is for full permission for 77 dwellings with associated parking, road layout, landscaping, and access arrangements. The development mix is set out below:

- 16 X 2-bedroom dwellings;
- 27 X 3-bedroom dwellings;
- 30 X 4-bedroom dwellings; and
- 4 X 5-bedroom dwellings.

4.1.2 A copy of the proposed site layout is included in **Appendix A**.

4.1.3 The site layout has been designed to ensure low vehicle speeds are achieved throughout the site whilst maintaining manoeuvrability for vehicles.

4.2 SITE ACCESS DESIGN AND VISIBILITY SPLAYS

4.2.1 Vehicular, walking and cycling access is proposed from the south of the site from the A671 Whalley Road via a priority-controlled T junction with a right turn ghost island. The access is 5.5m wide with 6m radii and 2m footways on either side of the access which extend north into the site and tie into the existing footways on the A671 Whalley Road. This access design has been designed in accordance with the Design Manual for Roads and Bridges (DMRB) standards for a 40mph carriageway and is attached at **Appendix B**.

4.2.2 Visibility splays of 2.4m x 120m can be provided at the site access in line with DMRB standards for a 70kph design speed which relates to the posted speed limit of 40mph.

4.2.3 Internal junction visibility splays are detailed in drawing AMA-22655-SK-004 at **Appendix C** which are all achievable at 2.4m by 25m in line with the Manual for Streets (MfS) standards for a design speed of 20mph.

4.2.4 Forward visibility splays at the bends within the layout are set out in drawing AMA-22655-SK-004 at **Appendix C.** At the northern bend within the site forward visibility is achievable at 25m in line with Manual for Streets (MfS) standards for a design speed of 20mph. At the bend at the south of the site forward visibility is achievable at 23m which is in line with a 19mph speed based on Manual for Streets (MfS) standards. It is expected in reality that due to the tightness of the bend vehicle speeds will be lower than 20mph when turning at this bend within the site. It is therefore considered that the minimal reduction to 23m forward visibility is acceptable.

4.3 SERVICING ARRANGEMENTS

4.3.1 Swept path analysis has been conducted for a standard 11.125m standard refuse vehicle at the access as well as the internal layout. The swept path analysis is set out in AMA Drawing No. 22655-ATR-001 1.2 and 2.2 and is attached at **Appendix C**. As detailed in the drawing, the vehicle can access and egress the site within the proposed carriageway and adopted highway boundary.

4.4 PARKING

4.4.1 A total of 154 parking spaces will be provided at the site with two spaces available per dwelling.

4.4.2 Parking will be provided in the form of driveways, and garages within the site provide access to additional parking spaces.

4.4.3 Each dwelling will be provided with the facilities for electric car charging and secure cycle parking.

5 ASSESSMENT PARAMETERS

5.1 INTRODUCTION

5.1.1 This section sets out the methodology and assessment parameters used in assessing the proposed development and its potential impact on the highway network.

5.2 BASE TRAFFIC SURVEYS

5.2.1 Traffic surveys were undertaken at the junctions that are predicted to experience an increase of more than 30 two-way trips as a result of the development proposals. These are as follows:

- Site Access / A671 Whalley Road

5.2.2 A 7 day Automatic Traffic Count was undertaken on the A671 Whalley Road The turning counts were undertaken from Tuesday 30th September to Monday 6th October 2025. The resultant network peak periods were concluded to occur between:

- AM Peak – 08:00 – 09:00
- PM Peak – 16:00 – 17:00

5.2.3 For the purposes of the junction capacity modelling, the above surveys have been converted to Passenger Car Units (PCUs). The resultant 2025 surveyed flows are illustrated at **Appendix D**.

5.3 ASSESSMENT YEARS

5.3.1 The base year of 2025 has been uplifted to provide 2026 base flows which will be assessed as the year of submission. In line with national guidance, a horizon period five years to 2031 has been assessed within this TA.

5.4 TRAFFIC GROWTH

5.4.1 The National Traffic Model (NTM) within the TEMPRO software package has been interrogated to provide local growth factors for Middle Super Output Area (MSOA) area 'Ribble Valley 005'.

5.4.2 The resultant growth factors are set out in **Table 5-1**.

Table 5-1 TEMPro Growth Factors – Ribble Valley 005

Period	MSOA	AM Peak	PM Peak
2025 - 2026	Ribble Valley 005	1.0086	1.0084
2025-2031	Ribble Valley 005	1.0529	1.0533

5.4.3 Details of the resultant 2026 and 2031 base traffic flows are set out at **Appendix D** which sets out all traffic flow diagrams associated with the proposals.

5.5 COMMITTED DEVELOPMENT TRAFFIC

5.5.1 A review of local committed developments has been conducted which has found no consented planning applications that could have an impact on the junctions considered within this TA.

5.6 DEVELOPMENT TRAFFIC GENERATION

5.6.1 The TRICS database has been interrogated to obtain the vehicle-based trip rates of the proposed development. The full TRICS trip rates are provided in **Appendix E**. The report includes residential, houses privately owned in edge of town locations. Surveys undertaken in Greater London, Ireland and undertaken during COVID-19 have been excluded.

5.6.2 The time period of 08:00-09:00 has been selected for the AM peak period, whilst the time period of 17:00-18:00 has been selected for the PM peak period which is in line with the TRICS peak periods.

5.6.3 The vehicle trip rates derived are summarised in Table 5-2 and have been factored against the 77 dwellings.

Table 5-2 Peak Hour Trip Rates and Trip Generation

	AM Peak			PM Peak		
	Arrivals	Departures	Total	Arrivals	Departures	Total
Trip Rate	0.149	0.352	0.501	0.313	0.157	0.470
Trip Generation	11	27	39	24	12	36

5.6.4 On this basis, the trip generation of the proposed scheme will result in just over one trip to the local highway network every 2 minutes during the peak hours. The impact of these trips at the site access is set out in Section 6.2.

5.7 DEVELOPMENT TRAFFIC DISTRIBUTION AND ASSIGNMENT

5.7.1 Development traffic distribution has been undertaken based upon existing (2011) Nomis 'Journey to Work Data' for the Ribble Valley 005 MSOA, which best represents the location of the site. This method uses Office of National Statistics data and is considered a robust approach.

5.7.2 The traffic distribution has been applied to the forecast trip generations to estimate the change in traffic flows on the highway network as a result of the development at the site. Consideration of the traffic distribution exercise shows the total change in traffic flows that is forecast on the road network as a result of the development proposals.

5.7.3 The distribution exercise is summarised in Table 5-3. A copy of the 2011 journey to work census data and a plan detailing the location of each MSOA is available upon request.

Table 5-3 Development Traffic Distribution

Route	Distribution
A671 Whalley Road (E)	41%
A671 Whalley Road (W)	59%

5.7.4 The AM and PM peak traffic distributions have been applied to the total development traffic generation set out in Table 5-2. The traffic flow diagrams for both the traffic distribution and generation are set out in Appendix D.

5.8 SUMMARY

5.8.1 As detailed in the above section, the following scenarios have been modelled as part of this TA:

- 2031 Base + Development

5.8.2 The traffic flow diagrams are attached at Appendix D, and the modelling exercise is detailed in Section 6 overleaf.

6 TRAFFIC MODELLING AND DEVELOPMENT IMPACTS

6.1 INTRODUCTION

6.1.1 To determine the impact of the proposed development traffic on the local highway network, the following junctions have been assessed:

- Site Access / A671 Whalley Road

6.1.2 Due to the traffic distribution, after the site access the number of two way trips are below 30 and so it is considered that the impact of additional trips generated by the site at existing junctions surrounding the site will be minimal.

6.1.3 Junctions9 software has been used to prepare models for the priority-controlled junctions. Junctions9 software analyses the traffic movements on each arm of the junction and assesses the junctions Ratio Flow to Capacity (RFC) and queue lengths in PCU's.

6.1.4 The RFC provides the primary measure of junction performance and is reported for each entry arm. An RFC of 0.85 or lower indicates that the specific arm of the junction is operating within its practical capacity; an RFC greater than 1.0 indicates that traffic demand exceeds theoretical capacity. Queue length provides an indication of how the overall junction performance may affect adjacent junctions on the highway network.

6.1.5 The detailed modelling outputs are in **Appendix F**.

6.2 JUNCTION MODELLING RESULTS

Site Access / A671 Whalley Road

6.2.1 **Table 6-1** sets out the operational capacity at the Site Access / A671 Whalley Road priority-controlled T junction.

Table 6-1 Site Access / A671 Whalley Road Modelling Summary

Arms	AM Peak		PM Peak	
	RFC	Queue	RFC	Queue
2031 Base + Development Traffic				
Site Access	0.07	0	0.03	0
A671 Whalley Road	0.01	0	0.02	0

6.2.2 **Table 6-1** identifies that all arms at the proposed Site Access / A671 Whalley Road priority-controlled T-junction are predicted to operate well within their theoretical capacity in the 2031 Base + Development Test scenario.

6.3 SUMMARY

6.3.1 The impact of the development-generated traffic associated with the development proposals on the surrounding area has been shown to operate effectively in 2031 with the addition of development traffic. It is therefore concluded that the development proposals could be accommodated without resulting any significant detrimental impact upon existing road safety or the capacity of the highway network.

7 SUMMARY

7.1.1 AMA has prepared this Transport Assessment to accompany a planning application for a proposed residential development consisting of 77 dwellings at land to the north of Whalley Road, Read. The following summarises the key points:

- The proposed development has been assessed for residential development. The site fully accords with both national and local transport policy;
- Future residents of the development would have the opportunity to travel for all key journey purposes by modes other than the private car, including walking, cycling and public transport;
- The site access and internal road layout has been designed in accordance with the relevant DMRB standards;
- The development proposals are anticipated to generate 39 two-way trips in the AM peak hour and 36 two-way trips in the PM peak hour;
- Operational assessments of the local highway network have been undertaken based on 2025 survey data, growthed to a base year of 2026 and a future year of 2031 using TEMPro;
- The operational assessments demonstrate that the local highway network has sufficient capacity to accommodate the predicted traffic generation associated with the traffic flows generated by the proposed development;
- Swept path analysis has been undertaken of the proposed site access and internal road layout to demonstrate that a refuse vehicle will be able to manoeuvre the site;
- Car parking and cycle parking will be provided to meet LCC standards; and
- A Travel Plan has also been prepared which sets out measures to encourage sustainable travel patterns and reduce the reliance on private car use.

7.1.2 This TA has demonstrated that the traffic associated with the development proposals can be accommodated on surrounding highway network without having a severe impact in accordance with the NPPF.

7.1.3 Therefore, there are no overriding traffic and transportation reasons preventing the local highway authority from recognising that the proposals are acceptable nor why planning permission could not be granted.

APPENDICES

Appendix A Site Layout

Appendix B Drawing AMA-22655-SK-001 Proposed Access Design

Appendix C Swept Path Analysis and Visibility Splays

Appendix D Traffic Flow Diagrams

Appendix E TRICS Output

Appendix F Junctions9 Output

Appendix A
Site Layout

Land North of Whalley Road, Read

ACCOMODATION SCHEDULE

Ref	House Type	Beds	Sq. Ft	FMV	Affordable	Total Beds	Total SqFt
Thu	Thursby Semi/Mews	3	1023	7		21	7161
Als	Alston - CT	3	1071	4		12	4284
Yew	Yewdale	3	1107	5		15	5535
Fir	Firbank	3	1154	5		15	5770
Cas	Casterton Det	4	1231	1		4	1231
Cas DA	Casterton Det	4	1231	3		12	3693
Wrn	Windermere Det	4	1363	3		12	4089
Lev	Levens	4	1430	2		8	2860
Mil	Milburn	4	1468	6		24	8808
Ken	Kentmere	4	1484	2		8	2968
Cal	Calder Outrigger	4	1741	6		24	10446
Cro	Crofton	4	1932	5		20	9660
Hav	Haverthwaite	5	2309	5		25	11545
Bar	Barton	2	760		8	16	6080
Whi	Whinfell – 7.5%	2	774		8	16	6192
Thu	Thursby	3	1023		7	21	7161
Total				**54**	**23**	**253**	
Grandtotal				**77**		**253**	**97483**

Key

Application Boundary

Boundary Treatments

- 1.8m Brick wall with timber infill panels
- 1.8m Timber fence
- 1.2m high timber post and rail fence
- Hedge Planting refer to detailed landscaping layout for exact details

NB. Red edge removed from this drawing for clarity of boundary details.

Hard Landscaping

- Access Road / Footway
- Private Footpath/Patio - Paving Slabs
- Private Driveway/Parking
- Private Shared Drive
- Denotes dual aspect type

Existing neighbouring buildings

- Topographical survey line (brown lines) measured where possible
- Ordnance survey line (black lines)

Existing Trees

- Trees to be retained
- Trees / Bushes to be removed

Affordable housing location

- Affordable housing plot
- Assumed Mine Shaft Location. Zone of influence to be determined and confirmed by engineer.

Applethwaite

Planning

General Arrangements

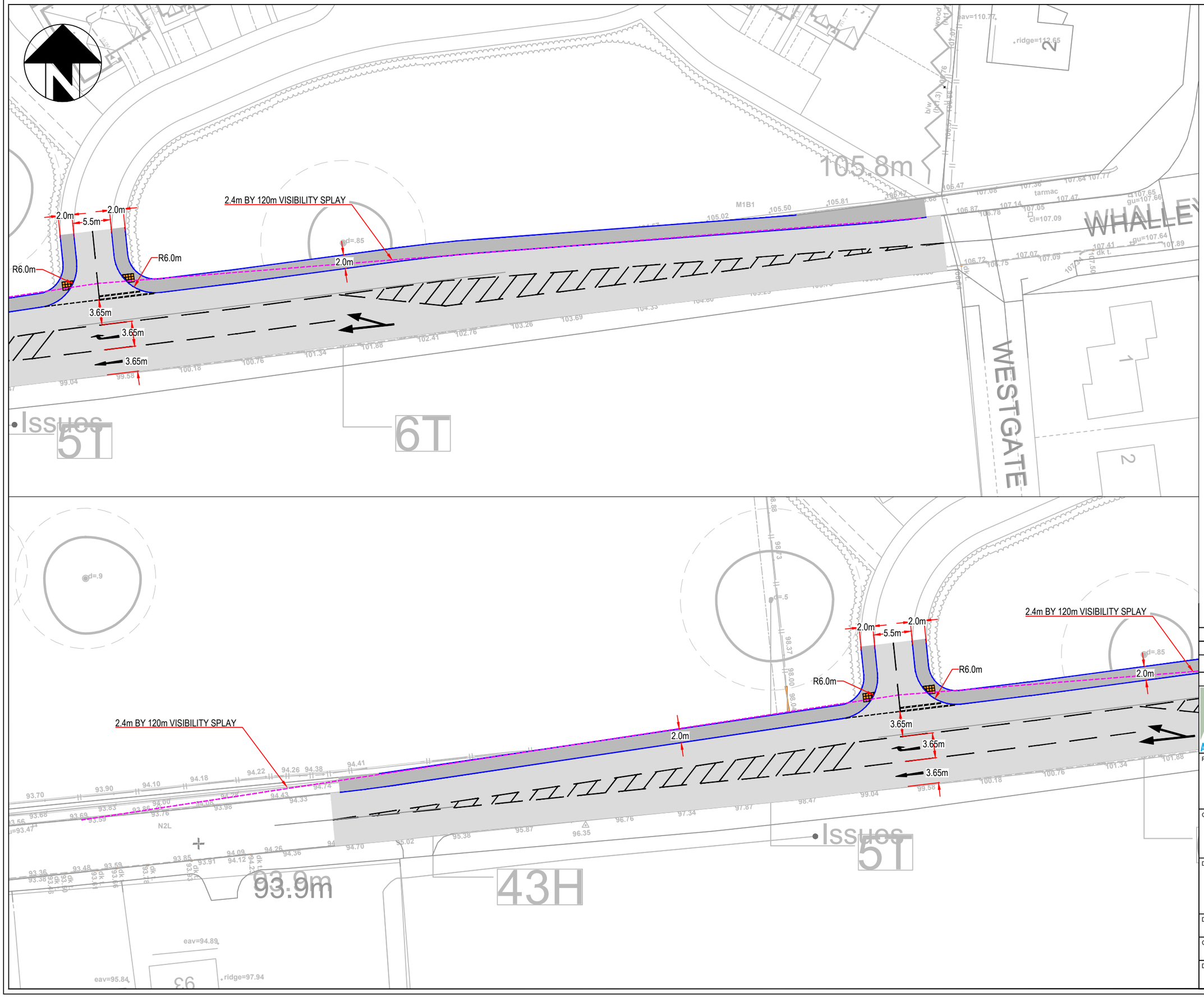
SCALE BAR 1:1000 (0 5 10 15 25 50 m)

URBAN DESIGN GROUP PROFESSIONAL PRACTICE

Drawing No.	23-154-P01	Rev.	-
Scale:	1:1000		
Date:	Jan 2025		
Sheet Size:	A0		

Woodcroft design
urban design | masterplanning | architecture

Appendix B
Drawing AMA-22655-SK-001 Proposed Access Design



P04	Updated Site Layout	02.04.2026	ECT
P03	Proposed Site Access Moved to the West	04.03.2026	SA
P02	Proposed Site Access Moved 10m to the East	12.12.2025	SA
P01	Preliminary Issue	18.03.2024	MSF

ANDREW MOSELEY ASSOCIATES

Transport & Infrastructure Consultants

15 St Paul's Street
Second Floor
Leeds
LS1 2JG

www.amatp.co.uk

Project:

LAND NORTH OF WHALLEY ROAD, READ

Client:

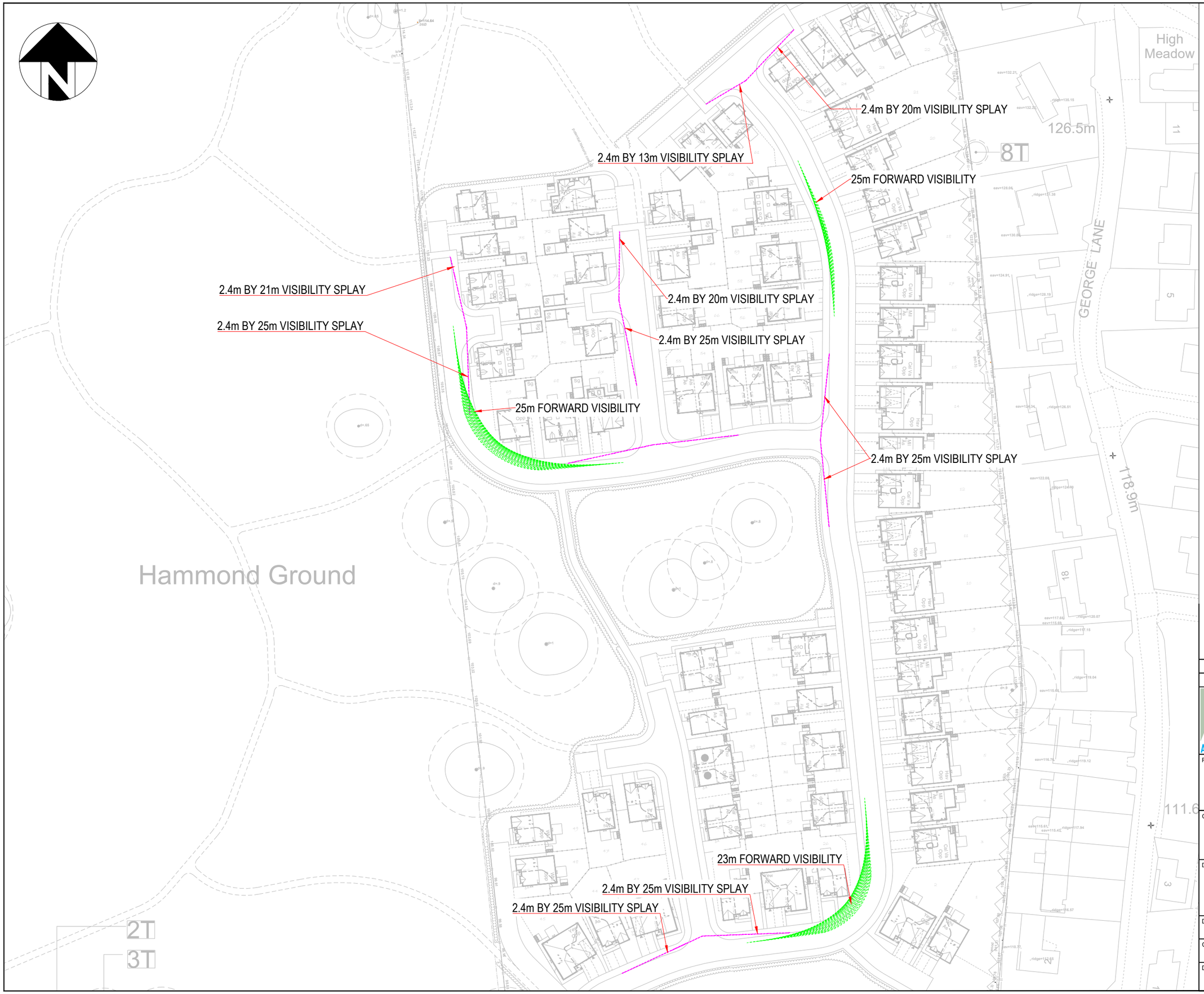
APPLETHWAITE

Drawing:

PROPOSED ACCESS OPTION

Drawn By:	Date:	
MSF	18.03.2024	
Checked:	Scale:	Paper:
MHT	1:500	A3
Drawing No.		Rev.
AMA-22655-SK001.1		P03

Appendix C
Swept Path Analysis and Visibility Splays



P02	Updated to Suit Revised Layout	08.04.26	SA
P01	Preliminary Issue	20.02.26	ECT

ANDREW MOSELEY ASSOCIATES

Transport & Infrastructure Consultants

15 St Paul's Street
Second Floor
Leeds
LS1 2JG

www.amatp.co.uk

Project:

LAND NORTH OF WHALLEY ROAD, READ

Client:

APPLETHWAITE LTD

Drawing:

VISIBILITY SPLAYS ANALYSIS

Drawn By:	Date:	
SA	20.02.2026	
Checked:	Scale:	Paper:
ECT	1:1000	A3
Drawing No.		Rev.
AMA-22655-SK-004		P02

P03	Updated to Suit Revised Layout	07.04.26	SA
P02	Updated Following Client Comment	26.02.26	SA
P01	Preliminary Issue	20.02.26	ECT

ANDREW MOSELEY ASSOCIATES
Transport & Infrastructure Consultants
15 St Paul's Street
Second Floor
Leeds
LS1 2JG
www.amatp.co.uk

Project:

LAND NORTH OF WHALLEY ROAD, READ

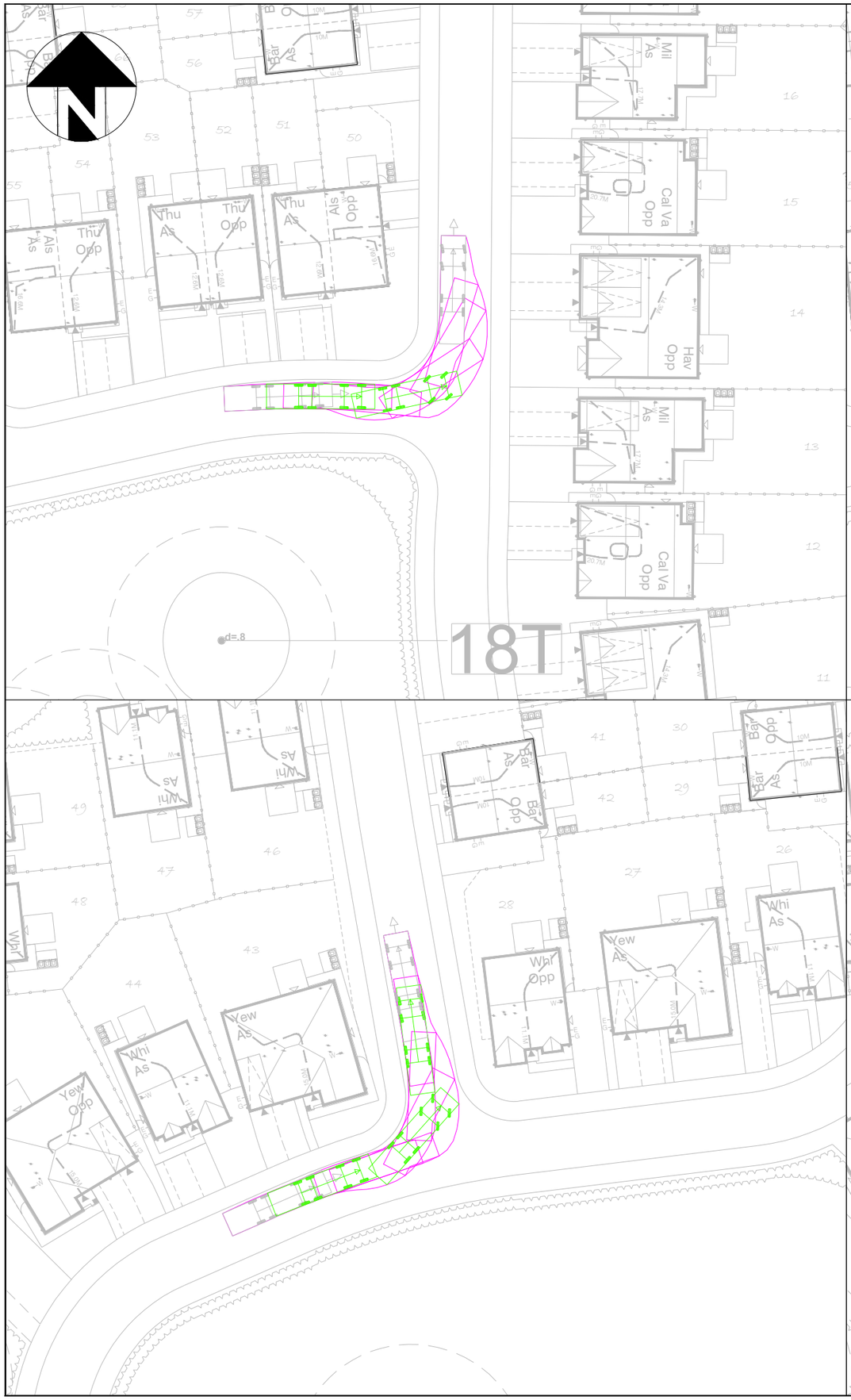
Client:

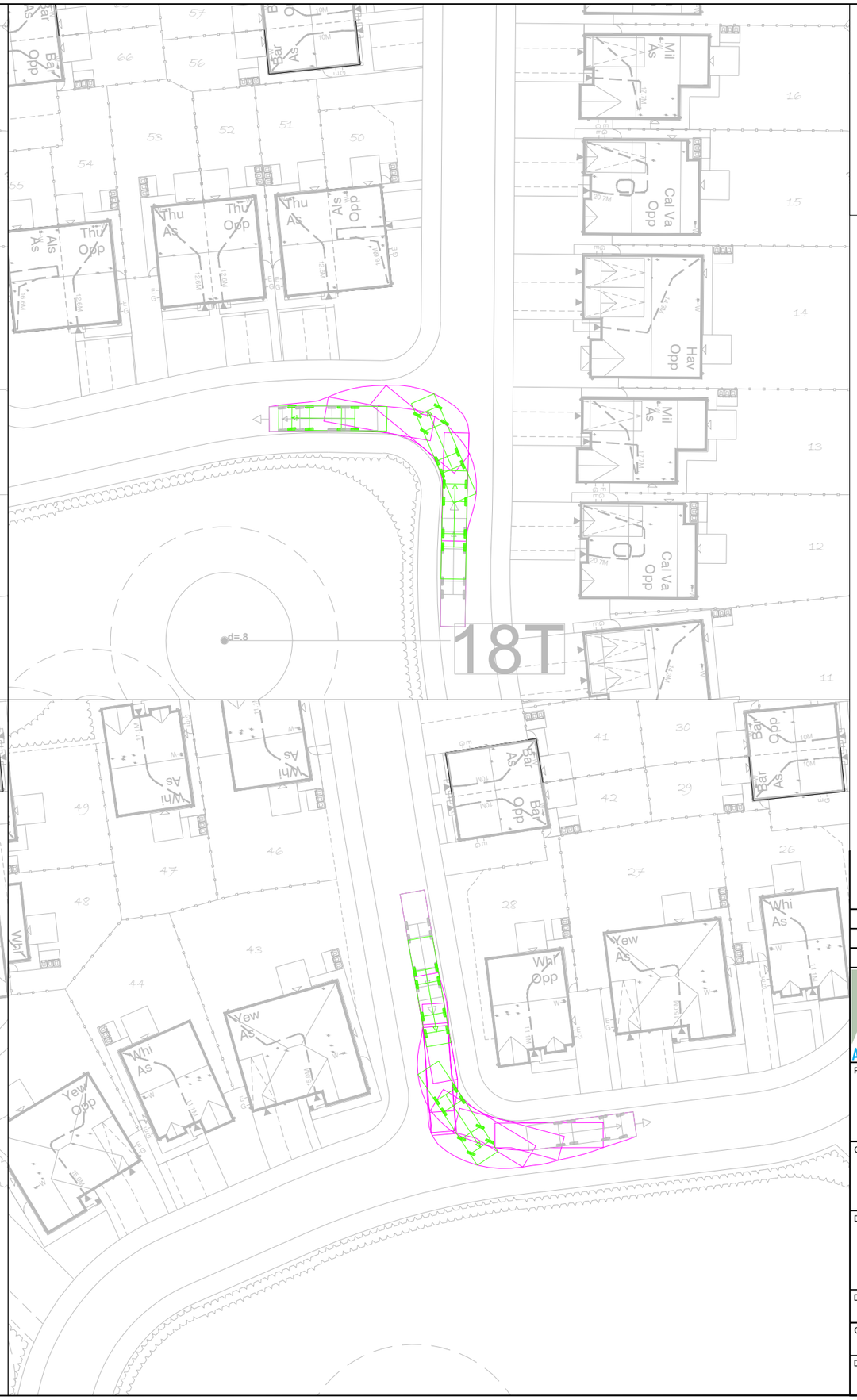
APPLETHWAITE LTD

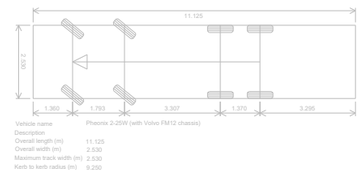
Drawing:

LARGE REFUSE VEHICLE SWEPT PATH ANALYSIS

Drawn By:	Date:	
SA	19.02.2026	
Checked: ECT	Scale: 1:500	Paper: A3
Drawing No. AMA-22655-ATR-001-1.2		Rev. P03







P03	Updated to Suit Revised Layout	07.04.26	SA
P02	Updated Following Client Comment	26.02.26	SA
P01	Preliminary Issue	20.02.26	ECT

ANDREW MOSELEY ASSOCIATES
Transport & Infrastructure Consultants
15 St Paul's Street
Second Floor
Leeds
LS1 2JG
www.amatp.co.uk

Project:

LAND NORTH OF WHALLEY ROAD, READ

Client:

APPLETHWAITE LTD

Drawing:

LARGE REFUSE VEHICLE SWEPT PATH ANALYSIS

Drawn By:	Date:	
SA	12.03.2026	
Checked:	Scale:	Paper:
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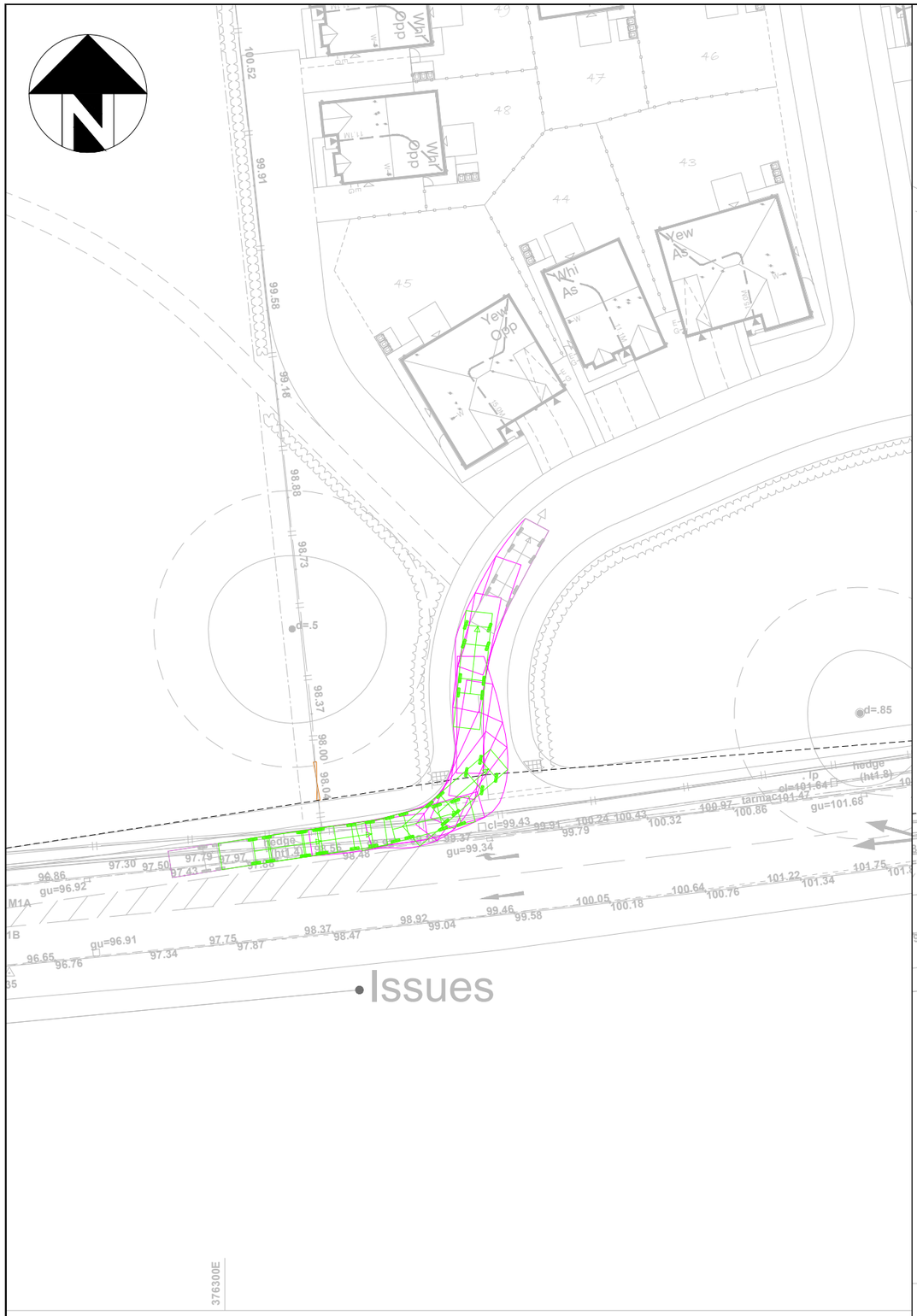
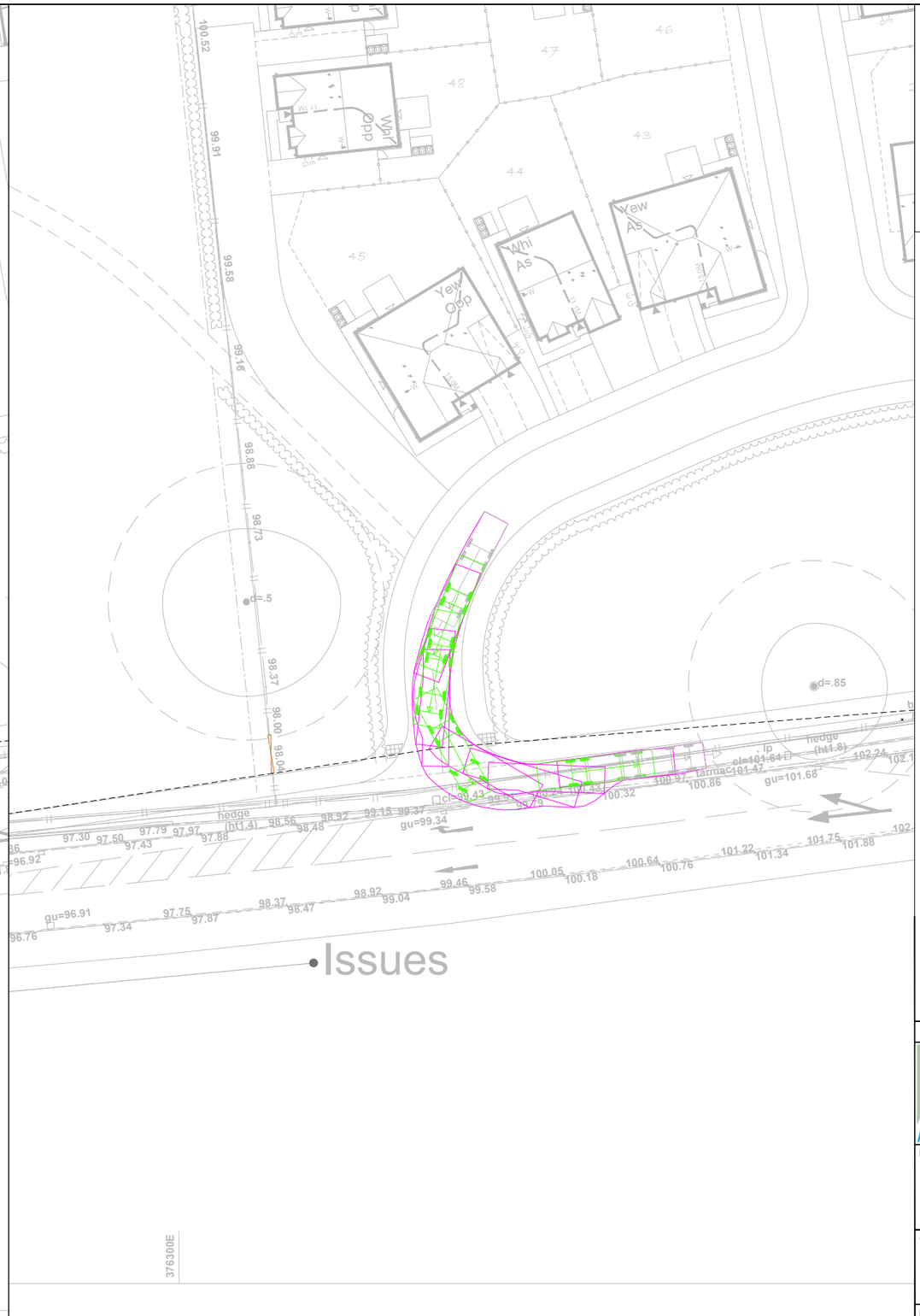
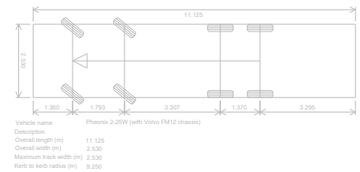
Drawing No.		Rev.
AMA-22655-ATR-001-2.2		P03







P01	Preliminary Issue	07.04.26	ECT

ANDREW MOSELEY ASSOCIATES
Transport & Infrastructure Consultants
15 St Paul's Street
Second Floor
Leeds
LS1 2JG
www.amatp.co.uk

Project:

LAND NORTH OF WHALLEY ROAD, READ

Client:

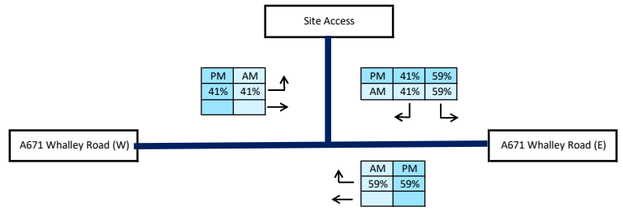
APPLETHWAITE LTD

Drawing:

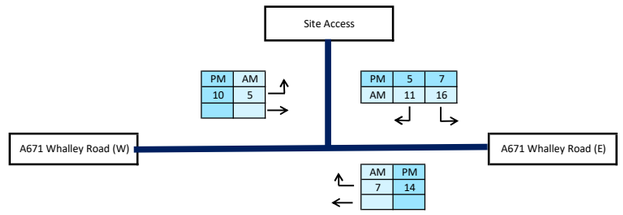
LARGE REFUSE VEHICLE SWEPT PATH ANALYSIS

Drawn By:	Date:	
SA	07.042026	
Checked:	Scale:	Paper:
ECT	1:500	A3
Drawing No.		Rev.
AMA-22655-ATR-002		P01

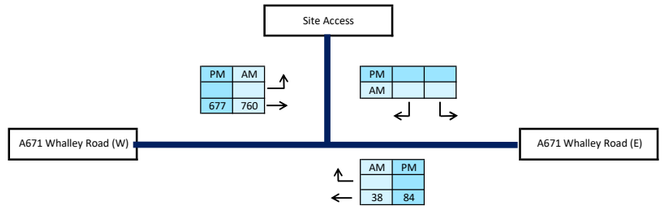
Appendix D
Traffic Flow Diagrams



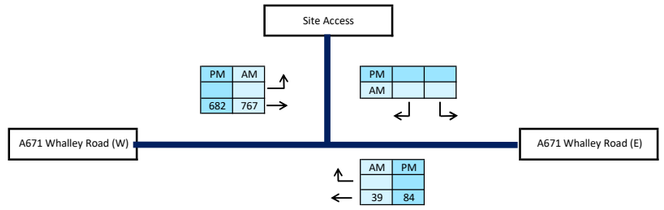
ANDREW MOSELEY ASSOCIATES TRANSPORT AND DEVELOPMENT PLANNING CONSULTANTS	02/04/2026	Land North of Whalley Road, Read	In PCU's	AM 08:00 - 09:00
	AMA/22655		Drawn by: ECT	
	Figure 1	Development Trip Distribution	Checked: AMM	PM 16:00 - 17:00



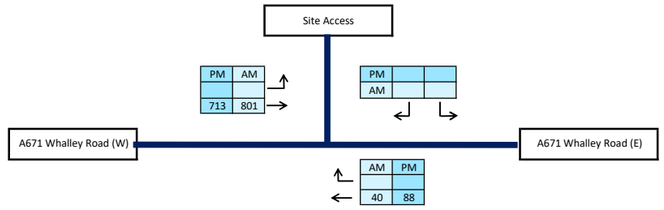
ANDREW MOSELEY ASSOCIATES TRANSPORT AND DEVELOPMENT PLANNING CONSULTANTS	02/04/2026	Land North of Whalley Road, Read	In PCU's	AM 08:00 - 09:00
	AMA/22655		Drawn by: ECT	
	Figure 2	Development Trip Generation	Checked: AMM	PM 16:00 - 17:00



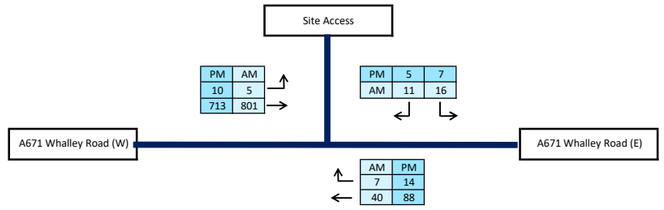
ANDREW MOSELEY ASSOCIATES TRANSPORT AND DEVELOPMENT PLANNING CONSULTANTS	02/04/2026	Land North of Whalley Road, Read	In PCU's	AM 08:00 - 09:00
	AMA/22655		Drawn by: ECT	
	Figure 3	2025 Base	Checked: AMM	PM 16:00 - 17:00



ANDREW MOSELEY ASSOCIATES TRANSPORT AND DEVELOPMENT PLANNING CONSULTANTS	02/04/2026	Land North of Whalley Road, Read	In PCU's	AM 08:00 - 09:00
	AMA/22655		Drawn by: ECT	
	Figure 4	2026 Base	Checked: AMM	PM 16:00 - 17:00



ANDREW MOSELEY ASSOCIATES TRANSPORT AND DEVELOPMENT PLANNING CONSULTANTS	02/04/2026	Land North of Whalley Road, Read	In PCU's	AM 08:00 - 09:00
	AMA/22655		Drawn by: ECT	
	Figure 5	2031 Base	Checked: AMM	PM 16:00 - 17:00



ANDREW MOSELEY ASSOCIATES TRANSPORT AND DEVELOPMENT PLANNING CONSULTANTS	02/04/2026	Land North of Whalley Road, Read	In PCU's	AM 08:00 - 09:00
	AMA/22655		Drawn by: ECT	
	Figure 6	2031 Base + Development Flows	Checked: AMM	PM 16:00 - 17:00

Appendix E
TRICS Output

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use: 03 - RESIDENTIAL

Category: A - HOUSES PRIVATELY OWNED

Selected Vehicle Type: Total Vehicles

Selected regions and areas:

02	**SOUTH EAST**		
	CT	CENTRAL BEDFORDSHIRE	1 day
	ES	EAST SUSSEX	8 days
	EX	ESSEX	1 day
	HC	HAMPSHIRE	7 days
	HF	HERTFORDSHIRE	3 days
	KC	KENT	4 days
	MW	MEDWAY	1 day
	SC	SURREY	2 days
	WB	WEST BERKSHIRE	1 day
	WS	WEST SUSSEX	6 days
03	**SOUTH WEST**		
	DC	DORSET	3 days
04	**EAST ANGLIA**		
	CA	CAMBRIDGESHIRE	1 day
	NF	NORFOLK	11 days
	SF	SUFFOLK	1 day
05	**EAST MIDLANDS**		
	NT	NOTTINGHAMSHIRE	1 day
06	**WEST MIDLANDS**		
	ST	STAFFORDSHIRE	1 day
	WK	WARWICKSHIRE	1 day
07	**YORKSHIRE & NORTH LINCOLNSHIRE**		
	NY	NORTH YORKSHIRE	2 days
08	**NORTH WEST**		
	LC	LANCASHIRE	1 day
09	**NORTH**		
	DH	DURHAM	1 day
	IM	ISLE OF MAN	2 days
10	**WALES**		
	VG	VALE OF GLAMORGAN	1 day
11	**SCOTLAND**		
	AS	ABERDEENSHIRE	1 day

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:	DWELLS
Actual Range:	6 to 190 (units:DWELLS)
Range Selected by User:	6 to 190 (units:DWELLS)
Parking Spaces Range:	6 - 2824

Public Transport Provision:

Selection by:	All Surveys Included
Date Range:	05/05/16 to 30/06/25

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:

Friday	6 days
Monday	9 days
Thursday	12 days
Tuesday	19 days
Wednesday	15 days

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

Selected survey types:

Manual count	56
Direction ATC Count	5

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:

Edge of Town	61 days

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:

Development Zone	1 days
No Sub Category	2 days
Out of Town	1 days
Residential Zone	57 days

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 Vehicle Counts:

Servicing vehicles Excluded	3 days
Servicing vehicles Included	9 days
Servicing vehicles Unknown	49 days

Secondary Filtering Selection:

Use Class:

C3	61 surveys

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:

220 - 3400

Population within 1 mile:

1,001 to 5,000	8 surveys
10,001 to 15,000	21 surveys
15,001 to 20,000	8 surveys
20,001 to 25,000	6 surveys
5,001 to 10,000	18 surveys

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

Population within 5 miles:

100,001 to 125,000	2 surveys
125,001 to 250,000	22 surveys
25,001 to 50,000	13 surveys
250,001 to 500,000	3 surveys
5,001 to 25,000	11 surveys
50,001 to 75,000	5 surveys
75,001 to 100,000	5 surveys

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	14 surveys
1.1 to 1.5	43 surveys
1.6 to 2.0	4 surveys

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.

Petrol filling station:

This data displays the number of surveys within the selected set that include petrol filling station activity, and the number of surveys that do not.

Travel Plan:

No	17 surveys
Yes	44 surveys

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	61 surveys

This data displays the number of surveys within the selected set that include petrol filling station activity, and the number of surveys that do not.

COVID-19 Restrictions:

No

1	**AS-03-A-02**	**MIXED HOUSES**	**ABERDEENSHIRE**

FARROCHIE ROAD
STONEHAVEN
Edge of Town
Residential Zone
Site area: 5.300000190734863 hect
Survey date: Wednesday 20/04/2022
Survey Type: Manual

2	**CA-03-A-09**	**MIXED HOUSES & FLATS**	**CAMBRIDGESHIRE**

EDDINGTON AVENUE
CAMBRIDGE
EDDINGTON
Edge of Town
Development Zone
Site area: 3.57 hect
Survey date: Thursday 28/11/2024
Survey Type: Manual

3	**CT-03-A-03**	**MIXED HOUSES**	**CENTRAL BEDFORDSHIRE**

ARLESEY ROAD
STOTFOLD
Edge of Town
Residential Zone
Site area: 3.690000057220459 hect
Survey date: Tuesday 27/06/2023
Survey Type: Manual

4	**DC-03-A-10**	**MIXED HOUSES**	**DORSET**

ADDISON CLOSE
GILLINGHAM
Edge of Town
Residential Zone
Site area: 1.399999976158142 hect
Survey date: Wednesday 09/11/2022
Survey Type: Manual

5	**DC-03-A-11**	**MIXED HOUSES**	**DORSET**

A350
SHAFTESBURY
Edge of Town
No Sub Category
Site area: 6.630000114440918 hect
Survey date: Tuesday 31/10/2023
Survey Type: Manual

6	**DC-03-A-13**	**MIXED HOUSES**	**DORSET**

ADDISON CLOSE
GILLINGHAM
Edge of Town
Residential Zone
Site area: 4 hect
Survey date: Tuesday 10/06/2025
Survey Type: Manual

7	**DH-03-A-03**	**SEMI-DETACHED & TERRACED**	**DURHAM**

PILGRIMS WAY
DURHAM
Edge of Town
Residential Zone
Site area: 5.603000164031982 hect
Survey date: Friday 19/10/2018
Survey Type: Manual

8	**ES-03-A-07**	**MIXED HOUSES & FLATS**	**EAST SUSSEX**

NEW ROAD
HAILSHAM
HELLINGLY
Edge of Town
Residential Zone

Site area: 3.490000009536743 hect
Survey date: Thursday 07/11/2019 Survey Type: Manual

9	**ES-03-A-10**	**MIXED HOUSES & FLATS**	**EAST SUSSEX**

WATERGATE
BEXHILL-ON-SEA
Edge of Town
Residential Zone
Site area: 5.409999847412109 hect
Survey date: Thursday 28/09/2023 Survey Type: Manual

10	**ES-03-A-13**	**DETACHED HOUSES**	**EAST SUSSEX**

A265
HEATHFIELD
Edge of Town
Residential Zone
Site area: 1.7000000476837158 hect
Survey date: Survey Type: Manual

11	**ES-03-A-14**	**MIXED HOUSES & FLATS**	**EAST SUSSEX**

RATTLE ROAD
NEAR EASTBOURNE
STONE CROSS
Edge of Town
Residential Zone
Site area: 3.4000000953674316 hect
Survey date: Tuesday 30/04/2024 Survey Type: Manual

12	**ES-03-A-19**	**MIXED HOUSES & FLATS**	**EAST SUSSEX**

WRESTWOOD ROAD
BEXHILL-ON-SEA
Edge of Town
Residential Zone
Site area: 6.699999809265137 hect
Survey date: Wednesday 09/10/2024 Survey Type: Manual

13	**ES-03-A-20**	**DETACHED & SEMI-DETACHED**	**EAST SUSSEX**

NEW ROAD
HAILSHAM
HELLINGLY
Edge of Town
Residential Zone
Site area: 0.51 hect
Survey date: Wednesday 06/11/2024 Survey Type: Manual

14	**ES-03-A-21**	**MIXED HOUSES & FLATS**	**EAST SUSSEX**

PARK ROAD
HAILSHAM
HELLINGLY
Edge of Town
Residential Zone
Site area: 8.24 hect
Survey date: Wednesday 26/03/2025 Survey Type: Manual

15	**ES-03-A-22**	**MIXED HOUSES**	**EAST SUSSEX**

THE FAIRWAY
NEWHAVEN
Edge of Town
Residential Zone
Site area: 2.5 hect
Survey date: Tuesday 22/04/2025 Survey Type: Manual

16	**EX-03-A-03**	**MIXED HOUSES**	**ESSEX**

KESTREL GROVE
RAYLEIGH
Edge of Town
Residential Zone
Site area: 3.5999999046325684 hect
Survey date: Survey Type: Manual

17 **HC-03-A-21** **TERRACED & SEMI-DETACHED** **HAMPSHIRE**
PRIESTLEY ROAD
BASINGSTOKE
HOUNDMILLS
Edge of Town
Residential Zone
Site area: 1.2000000476837158 hect
Survey date: Tuesday 13/11/2018 Survey Type: Manual

18 **HC-03-A-22** **MIXED HOUSES** **HAMPSHIRE**
BOW LAKE GARDENS
NEAR EASTLEIGH
BISHOPSTOKE
Edge of Town
Residential Zone
Site area: 1.690000057220459 hect
Survey date: Wednesday 31/10/2018 Survey Type: Manual

19 **HC-03-A-27** **MIXED HOUSES** **HAMPSHIRE**
DAIRY ROAD
ANDOVER
Edge of Town
Residential Zone
Site area: 2.5 hect
Survey date: Tuesday 16/11/2021 Survey Type: Manual

20 **HC-03-A-28** **MIXED HOUSES & FLATS** **HAMPSHIRE**
EAGLE AVENUE
WATERLOOVILLE
LOVEDEAN
Edge of Town
Residential Zone
Site area: 5.96999979019165 hect
Survey date: Survey Type: Manual

21 **HC-03-A-36** **MIXED HOUSES & FLATS** **HAMPSHIRE**
HAVANT ROAD
EMSWORTH
Edge of Town
Residential Zone
Site area: 6.230000019073486 hect
Survey date: Tuesday 12/09/2023 Survey Type: Manual

22 **HC-03-A-37** **MIXED HOUSES** **HAMPSHIRE**
REDFIELDS LANE
FLEET
CHURCH CROOKHAM
Edge of Town
Residential Zone
Site area: 3.46 hect
Survey date: Wednesday 27/03/2024 Survey Type: Manual

23 **HC-03-A-39** **MIXED HOUSES & FLATS** **HAMPSHIRE**
KILN ROAD
LIPHOOK
Edge of Town

Residential Zone
Site area: 6.09 hect
Survey date: Thursday 14/11/2024 Survey Type: Manual

24	**HF-03-A-03**	**MIXED HOUSES**	**HERTFORDSHIRE**

HARE STREET ROAD
BUNTINGFORD
Edge of Town
Residential Zone
Site area: 5.670000076293945 hect
Survey date: Survey Type: Manual

25	**HF-03-A-05**	**TERRACED HOUSES**	**HERTFORDSHIRE**

HOLMSIDE RISE
WATFORD
SOUTH OXHEY
Edge of Town
Residential Zone
Site area: 0.1899999976158142 hect
Survey date: Survey Type: Manual

26	**HF-03-A-06**	**MIXED HOUSES & FLATS**	**HERTFORDSHIRE**

A505
ROYSTON
Edge of Town
Residential Zone
Site area: 8 hect
Survey date: Tuesday 28/11/2023 Survey Type: Manual

27	**IM-03-A-05**	**MIXED HOUSES**	**ISLE OF MAN**

SCARLETT ROAD
CASTLETOWN
Edge of Town
Residential Zone
Site area: 2.190000057220459 hect
Survey date: Tuesday 21/05/2024 Survey Type: Manual

28	**IM-03-A-06**	**MIXED HOUSES**	**ISLE OF MAN**

MOORAGH PROMENADE
RAMSEY
Edge of Town
Residential Zone
Site area: 6.900000095367432 hect
Survey date: Thursday 23/05/2024 Survey Type: Manual

29	**KC-03-A-04**	**SEMI-DETACHED & TERRACED**	**KENT**

KILN BARN ROAD
AYLESFORD
DITTON
Edge of Town
Residential Zone
Site area: 4.309999942779541 hect
Survey date: Friday 22/09/2017 Survey Type: Manual

30	**KC-03-A-10**	**MIXED HOUSES**	**KENT**

HEADCORN ROAD
STAPLEHURST
Edge of Town
Residential Zone
Site area: 3.9100000858306885 hect
Survey date: Tuesday 09/05/2023 Survey Type: Manual

31	**KC-03-A-12**	**MIXED HOUSES & FLATS**	**KENT**

WESTERN LINK
FAVERSHAM
DAVINGTON
Edge of Town
Residential Zone
Site area: 6.78000020980835 hect
Survey date: Tuesday 19/09/2023 Survey Type: Manual

32 **KC-03-A-14** **MIXED HOUSES** **KENT**
HEADCORN ROAD
STAPLEHURST
Edge of Town
Residential Zone
Site area: 6.84 hect
Survey date: Thursday 22/05/2025 Survey Type: Manual

33 **LC-03-A-31** **DETACHED HOUSES** **LANCASHIRE**
GREENSIDE
PRESTON
COTTAM
Edge of Town
Residential Zone
Site area: 1.315999984741211 hect
Survey date: Friday 17/11/2017 Survey Type: Manual

34 **MW-03-A-02** **MIXED HOUSES** **MEDWAY**
OTTERHAM QUAY LANE
RAINHAM
Edge of Town
Residential Zone
Site area: 0.699999988079071 hect
Survey date: Survey Type: Manual

35 **NF-03-A-10** **MIXED HOUSES & FLATS** **NORFOLK**
HUNSTANTON ROAD
HUNSTANTON
Edge of Town
Residential Zone
Site area: 0.699999988079071 hect
Survey date: Wednesday 12/09/2018 Survey Type: Manual

36 **NF-03-A-14** **MIXED HOUSES** **NORFOLK**
BEAUFORT WAY
GREAT YARMOUTH
BRADWELL
Edge of Town
Residential Zone
Site area: 4.170000076293945 hect
Survey date: Thursday 05/10/2017 Survey Type: Manual

37 **NF-03-A-25** **MIXED HOUSES & FLATS** **NORFOLK**
WOODFARM LANE
GORLESTON-ON-SEA
Edge of Town
Residential Zone
Site area: 3.0999999046325684 hect
Survey date: Tuesday 21/09/2021 Survey Type: Manual

38 **NF-03-A-26** **MIXED HOUSES** **NORFOLK**
HEATH DRIVE
HOLT
Edge of Town
Residential Zone

Site area: 3.509999990463257 hect
Survey date: Wednesday 22/09/2021 Survey Type: Manual

39 **NF-03-A-32** **MIXED HOUSES & FLATS** **NORFOLK**
HUNSTANTON ROAD
HUNSTANTON
Edge of Town
Residential Zone
Site area: 7.300000190734863 hect
Survey date: Wednesday 21/09/2022 Survey Type: Manual

40 **NF-03-A-33** **MIXED HOUSES** **NORFOLK**
LONDON ROAD
ATTLEBOROUGH
Edge of Town
Residential Zone
Site area: 4.78000020980835 hect
Survey date: Thursday 29/09/2022 Survey Type: Manual

41 **NF-03-A-34** **MIXED HOUSES** **NORFOLK**
NORWICH ROAD
SWAFFHAM
Edge of Town
Out of Town
Site area: 3.1500000953674316 hect
Survey date: Tuesday 27/09/2022 Survey Type: Manual

42 **NF-03-A-35** **MIXED HOUSES & FLATS** **NORFOLK**
REPTON AVENUE
NORWICH
Edge of Town
Residential Zone
Site area: 5.340000152587891 hect
Survey date: Wednesday 28/09/2022 Survey Type: Manual

43 **NF-03-A-36** **MIXED HOUSES** **NORFOLK**
LONDON ROAD
WYMONDHAM
Edge of Town
No Sub Category
Site area: 3.200000047683716 hect
Survey date: Thursday 29/09/2022 Survey Type: Manual

44 **NF-03-A-37** **MIXED HOUSES** **NORFOLK**
GREENFIELDS ROAD
DEREHAM
Edge of Town
Residential Zone
Site area: 1.6399999856948853 hect
Survey date: Tuesday 27/09/2022 Survey Type: Manual

45 **NF-03-A-48** **MIXED HOUSES** **NORFOLK**
BRANDON ROAD
SWAFFHAM
Edge of Town
Residential Zone
Site area: 6.739999771118164 hect
Survey date: Tuesday 17/09/2019 Survey Type: Manual

46 **NT-03-A-08** **DETACHED HOUSES** **NOTTINGHAMSHIRE**
WIGHAY ROAD
HUCKNALL
Edge of Town

Residential Zone
Site area: 1.6100000143051147 hect
Survey date: Survey Type: Manual

47 **NY-03-A-14** **DETACHED & BUNGALOWS** **NORTH YORKSHIRE**
PALACE ROAD
RIPON
Edge of Town
Residential Zone
Site area: 2.9000000953674316 hect
Survey date: Wednesday 18/05/2022 Survey Type: Manual

48 **NY-03-A-15** **DETACHED & SEMI-DETACHED** **NORTH YORKSHIRE**
MILBY ROAD
BOROUGHBRIDGE
MILBY
Edge of Town
Residential Zone
Site area: 6.8 hect
Survey date: Thursday 19/09/2024 Survey Type: Manual

49 **SC-03-A-11** **MIXED HOUSES** **SURREY**
FOLLY HILL
FARNHAM
Edge of Town
Residential Zone
Site area: 5.820000171661377 hect
Survey date: Tuesday 14/05/2024 Survey Type: Manual

50 **SC-03-A-14** **MIXED HOUSES & FLATS** **SURREY**
HOLLOWAY HILL
CHERTSEY
Edge of Town
Residential Zone
Site area: 8.1 hect
Survey date: Tuesday 22/10/2024 Survey Type: Manual

51 **SF-03-A-11** **BUNGALOWS** **SUFFOLK**
WHITTON CHURCH LANE
IPSWICH
WHITTON
Edge of Town
Residential Zone
Site area: 1.55 hect
Survey date: Wednesday 06/11/2024 Survey Type: Manual

52 **ST-03-A-08** **DETACHED HOUSES** **STAFFORDSHIRE**
SILKMORE CRESCENT
STAFFORD
MEADOWCROFT PARK
Edge of Town
Residential Zone
Site area: 0.800000011920929 hect
Survey date: Wednesday 22/11/2017 Survey Type: Manual

53 **VG-03-A-01** **SEMI-DETACHED & TERRACED** **VALE OF GLAMORGAN**
ARTHUR STREET
BARRY
Edge of Town
Residential Zone
Site area: 0.20999999344348907 hect
Survey date: Survey Type: Manual

54	**WB-03-A-03**	**MIXED HOUSES**	**WEST BERKSHIRE**

DORKING WAY
READING
CALCOT
Edge of Town
Residential Zone
Site area: 3.9000000953674316 hect
Survey date: Friday 09/09/2022 Survey Type: Manual

55	**WK-03-A-04**	**DETACHED HOUSES**	**WARWICKSHIRE**

DALEHOUSE LANE
KENILWORTH
Edge of Town
Residential Zone
Site area: 2.424999952316284 hect
Survey date: Friday 27/09/2019 Survey Type: Manual

56	**WS-03-A-08**	**MIXED HOUSES**	**WEST SUSSEX**

ROUNDSTONE LANE
ANGMERING
Edge of Town
Residential Zone
Site area: 8.859999656677246 hect
Survey date: Thursday 19/04/2018 Survey Type: Manual

57	**WS-03-A-14**	**MIXED HOUSES**	**WEST SUSSEX**

TODDINGTON LANE
LITTLEHAMPTON
WICK
Edge of Town
Residential Zone
Site area: 2.8299999237060547 hect
Survey date: Wednesday 20/10/2021 Survey Type: Manual

58	**WS-03-A-19**	**MIXED HOUSES & FLATS**	**WEST SUSSEX**

TURNERS HILL ROAD
EAST GRINSTEAD
Edge of Town
Residential Zone
Site area: 5.159999847412109 hect
Survey date: Survey Type: Manual

59	**WS-03-A-22**	**MIXED HOUSES & FLATS**	**WEST SUSSEX**

SHOPWHYKE ROAD
CHICHESTER
Edge of Town
Residential Zone
Site area: 3.799999952316284 hect
Survey date: Tuesday 19/03/2024 Survey Type: Manual

60	**WS-03-A-26**	**MIXED HOUSES & FLATS**	**WEST SUSSEX**

RUSPER ROAD
HORSHAM
NORTH HORSHAM
Edge of Town
Residential Zone
Site area: 4 hect
Survey date: Tuesday 24/09/2024 Survey Type: Manual

61	**WS-03-A-27**	**MIXED HOUSES & FLATS**	**WEST SUSSEX**

OCKLEY LANE
HASSOCKS
Edge of Town

Residential Zone
Site area: 9.42 hect
Survey date: Friday 20/09/2024

Survey Type: Manual

DESELECTED SURVEYS

Site Ref	Survey Date	Reason for Deselection
AN-03-A-09|12-10-2016	12-10-2016	Ireland
BO-03-A-01|15-10-2020	15-10-2020	COVID-19
CC-03-A-01|25-05-2016	25-05-2016	Ireland
CV-03-A-02|22-05-2017	22-05-2017	Ireland
CV-03-A-03|22-05-2017	22-05-2017	Ireland
DE-03-A-04|19-05-2022	19-05-2022	Ireland
DE-03-A-05|20-05-2022	20-05-2022	Ireland
DL-03-A-10|20-06-2018	20-06-2018	Ireland
DN-03-A-06|10-10-2018	10-10-2018	Ireland
ME-03-A-01|30-10-2024	30-10-2024	Ireland
SF-03-A-10|22-06-2021	22-06-2021	COVID-19
TI-03-A-01|17-06-2021	17-06-2021	COVID-19
TY-03-A-02|14-03-2019	14-03-2019	Ireland
WC-03-A-01|28-05-2018	28-05-2018	Ireland
WO-03-A-07|01-10-2020	01-10-2020	COVID-19
WS-03-A-12|16-06-2021	16-06-2021	COVID-19

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

Total Vehicles

Calculation factor: 1 DWELLS

**BOLD print indicates peak (busiest) period*

Time Range	No. Days	Ave. DWELLS	Arrivals	Departures	Totals
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	**61**	**100**	**0.078**	**0.291**	**0.369**
08:00-09:00	**61**	**100**	**0.149**	**0.352**	**0.501**
09:00-10:00	**61**	**100**	**0.131**	**0.162**	**0.293**
10:00-11:00	**61**	**100**	**0.116**	**0.143**	**0.259**
11:00-12:00	**61**	**100**	**0.134**	**0.131**	**0.265**
12:00-13:00	**61**	**100**	**0.153**	**0.137**	**0.290**
13:00-14:00	**61**	**100**	**0.158**	**0.149**	**0.307**
14:00-15:00	**61**	**100**	**0.158**	**0.174**	**0.332**
15:00-16:00	**61**	**100**	**0.251**	**0.172**	**0.423**
16:00-17:00	**61**	**100**	**0.250**	**0.157**	**0.407**
17:00-18:00	**61**	**100**	**0.313**	**0.157**	**0.470**
18:00-19:00	**61**	**100**	**0.246**	**0.136**	**0.382**
19:00-20:00					
20:00-21:00					
21:00-22:00					
22:00-23:00					
23:00-00:00					
Total Rates:			**2.137**	**2.161**	**4.298**

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:	6 - 190 (units: DWELLS)
Survey date date range:	08/05/2017 - 10/06/2025
Number of weekdays (Monday-Friday):	61
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	35
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.

Appendix F
Junctions9 Output

Junctions 9

PICADY 9 - Priority Intersection Module

Filename: Site Access - A671 Whalley Road.j9
Path: C:\AMA\AMA\AMA - Documents\001 - Projects\22655 - Land North of Whalley Road, Read\D Models and Drawings\JUNCTION MODELLING
Report generation date: 25/02/2026 14:46:00

Summary of junction performance

	AM					PM				
	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Set ID	Queue (PCU)	Delay (s)	RFC	LOS
	2031 Base + Development									
Stream B-AC	D1	0.1	9.40	0.07	A	D2	0.0	8.74	0.03	A
Stream C-AB		0.0	6.06	0.01	A		0.0	5.91	0.02	A

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

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

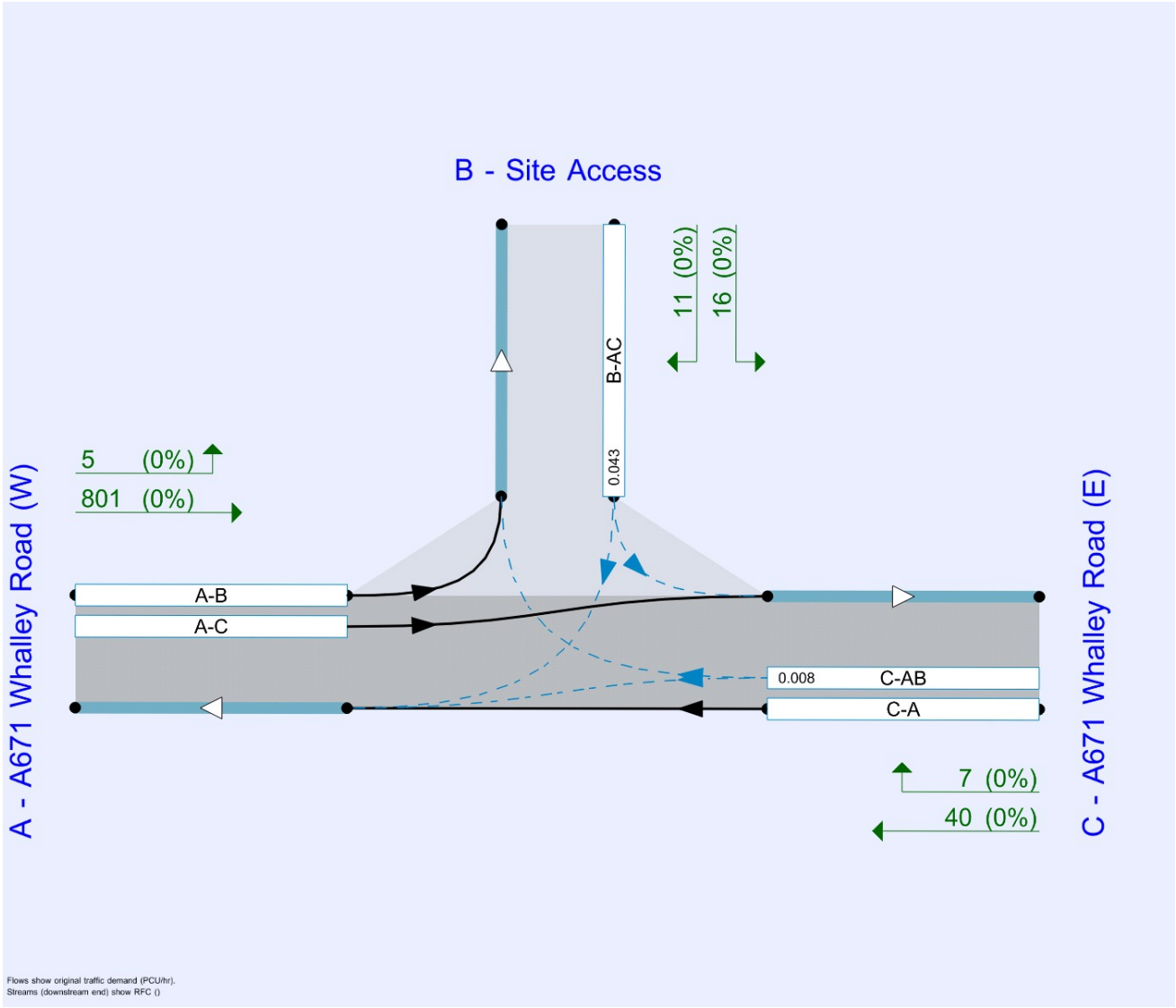
File summary

File Description

Title	
Location	
Site number	
Date	25/02/2026
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	AzureAD\Modellinglaptop
Description	

Units

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



The junction diagram reflects the last run of Junctions.

Analysis Options

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

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2031 Base + Development	AM	ONE HOUR	07:45	09:15	15
D2	2031 Base + Development	PM	ONE HOUR	15:45	17:15	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

2031 Base + Development, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Site Access - A671 Whalley Road	T-Junction	Two-way		0.34	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	A671 Whalley Road (W)		Major
B	Site Access		Minor
C	A671 Whalley Road (E)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Width for right turn (m)	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C - A671 Whalley Road (E)	10.90		✓	3.65	239.6	✓	7.00

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

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Visibility to left (m)	Visibility to right (m)
B - Site Access	One lane	3.40	23	16

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	513	0.073	0.186	0.117	0.265
B-C	659	0.080	0.201	-	-
C-B	825	0.252	0.252	-	-

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

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

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2031 Base + Development	AM	ONE HOUR	07:45	09:15	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - A671 Whalley Road (W)		✓	806	100.000
B - Site Access		✓	27	100.000
C - A671 Whalley Road (E)		✓	47	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A - A671 Whalley Road (W)	B - Site Access	C - A671 Whalley Road (E)
From	A - A671 Whalley Road (W)	0	5	801
	B - Site Access	11	0	16
	C - A671 Whalley Road (E)	40	7	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - A671 Whalley Road (W)	B - Site Access	C - A671 Whalley Road (E)
From	A - A671 Whalley Road (W)	0	0	0
	B - Site Access	0	0	0
	C - A671 Whalley Road (E)	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.07	9.40	0.1	A
C-AB	0.01	6.06	0.0	A
C-A				
A-B				
A-C				

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	20	469	0.043	20	0.0	8.013	A
C-AB	5	673	0.008	5	0.0	5.394	A
C-A	30			30			
A-B	4			4			
A-C	603			603			

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	24	445	0.055	24	0.1	8.546	A
C-AB	6	643	0.010	6	0.0	5.654	A
C-A	36			36			
A-B	4			4			
A-C	720			720			

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	30	413	0.072	30	0.1	9.399	A
C-AB	8	602	0.013	8	0.0	6.057	A
C-A	44			44			
A-B	6			6			
A-C	882			882			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	30	413	0.072	30	0.1	9.403	A
C-AB	8	602	0.013	8	0.0	6.057	A
C-A	44			44			
A-B	6			6			
A-C	882			882			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	24	445	0.055	24	0.1	8.551	A
C-AB	6	643	0.010	6	0.0	5.654	A
C-A	36			36			
A-B	4			4			
A-C	720			720			

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	20	469	0.043	20	0.0	8.025	A
C-AB	5	673	0.008	5	0.0	5.394	A
C-A	30			30			
A-B	4			4			
A-C	603			603			

2031 Base + Development, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Site Access - A671 Whalley Road	T-Junction	Two-way		0.22	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D2	2031 Base + Development	PM	ONE HOUR	15:45	17:15	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - A671 Whalley Road (W)		✓	723	100.000
B - Site Access		✓	12	100.000
C - A671 Whalley Road (E)		✓	102	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A - A671 Whalley Road (W)	B - Site Access	C - A671 Whalley Road (E)
From	A - A671 Whalley Road (W)	0	10	713
	B - Site Access	5	0	7
	C - A671 Whalley Road (E)	88	14	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - A671 Whalley Road (W)	B - Site Access	C - A671 Whalley Road (E)
From	A - A671 Whalley Road (W)	0	0	0
	B - Site Access	0	0	0
	C - A671 Whalley Road (E)	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.03	8.74	0.0	A
C-AB	0.02	5.91	0.0	A
C-A				
A-B				
A-C				

Main Results for each time segment

15:45 - 16:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	9	477	0.019	9	0.0	7.688	A
C-AB	11	688	0.015	10	0.0	5.311	A
C-A	66			66			
A-B	8			8			
A-C	537			537			

16:00 - 16:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	11	455	0.024	11	0.0	8.098	A
C-AB	13	662	0.019	13	0.0	5.545	A
C-A	79			79			
A-B	9			9			
A-C	641			641			

16:15 - 16:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	13	425	0.031	13	0.0	8.743	A
C-AB	15	625	0.025	15	0.0	5.905	A
C-A	97			97			
A-B	11			11			
A-C	785			785			

16:30 - 16:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	13	425	0.031	13	0.0	8.743	A
C-AB	15	625	0.025	15	0.0	5.905	A
C-A	97			97			
A-B	11			11			
A-C	785			785			

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	11	455	0.024	11	0.0	8.099	A
C-AB	13	662	0.019	13	0.0	5.545	A
C-A	79			79			
A-B	9			9			
A-C	641			641			

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	9	477	0.019	9	0.0	7.690	A
C-AB	11	688	0.015	11	0.0	5.311	A
C-A	66			66			
A-B	8			8			
A-C	537			537			

ANDREW MOSELEY ASSOCIATES

Andrew Moseley Associates, 15 St Paul's Street, Leeds, LS1 2JG

www.amatp.co.uk

info@amatp.co.uk