

Proposed Residential Development Land off Greenvale, Bamford (Within JPA17 Allocation)

784-B068938

Transport Assessment

Revision 04

June 2025

Wain Homes Ltd



TETRA TECH

Document Control

Document:	Transport Assessment
Project:	Proposed Residential Development Land off Greenvale, Bamford (Within JPA17 Allocation)
Client:	Wain Homes Ltd
Project Number:	784-B068938
File Origin:	Y:\784-B068938 Greenvale, Bamford\60_Output\61_WIP\6103_Reports\TA

Revision:	01	Prepared by:	A Benotman / M Thompson
Date:	27/03/2024	Checked by:	M Thompson
Status:	Draft	Approved By:	A Khan

Revision:	02	Prepared by:	A Benotman / M Thompson
Date:	02/04/2025	Checked by:	M Thompson
Status:	For Submission	Approved By:	A Khan

Revision:	03	Prepared by:	A Benotman / M Thompson
Date:	11/06/2025	Checked by:	M Thompson
Status:	Draft	Approved By:	A Khan

Revision:	04	Prepared by:	A Benotman / M Thompson
Date:	12/06/2025	Checked by:	M Thompson
Status:	For Submission	Approved By:	A Khan

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1.0 Introduction

1.1 Background

- 1.1.1 Tetra Tech (TT) has been appointed by Wain Homes (North West) Ltd to provide transport planning advice in relation to a proposed residential development, on land off Greenvale, Bamford, Rochdale.
- 1.1.2 **Plan 1** shows the site location in a wider geographical context, whilst **Plan 2** shows the site location in a local geographical context, along with the local highway network.
- 1.1.3 The proposals are for 43 dwellings, with the proposed site access taken from Greenvale (Application Site). The application for the 43 dwellings is a detailed/full application. The proposed site layout is attached in **Appendix A**. Of the 43 dwellings proposed, 7 are affordable homes.
- 1.1.4 The proposals form part of ‘JPA17 - Bamford and Norden’ (Allocation Site) which is an allocated site within Places for Everyone Joint Development Plan (2022 to 2039) document for Bolton, Bury, Manchester, Oldham, Rochdale, Salford, Tameside, Trafford and Wigan, which was adopted on 21st March 2024. The full JPA17 allocation is for around 450 homes and enhanced sports pitches.
- 1.1.5 Rochdale Metropolitan Borough Council (RMBC) act as both the Local Planning Authority (LPA) and the Local Highway Authority (LHA).
- 1.1.6 Transport for Greater Manchester (TfGM) is the local government body responsible for co-ordinating transport services throughout the Greater Manchester (GM).
- 1.1.7 The purpose of this Transport Assessment (TA) is to appraise the LHA of the anticipated transport and highway impacts of the proposals on the local transport and highway network, resulting from the proposed 43 dwellings. This TA also includes an assessment of the full JPA 17 allocation.
- 1.1.8 Additionally, a Framework Travel Plan (FTP) has been prepared and is submitted as part of the planning application.

1.2 Pre-Application Scoping

- 1.2.1 The transport work to support this planning application has been scoped with LPA, the LHA and TfGM.
- 1.2.2 An initial scoping package was submitted by TT to RMBC and TfGM on 21.11.2024, see **Appendix B**. The initial scoping package sought to scope the contents of a Transport Statement, which would typically be provided for a 43-dwelling proposal.
- 1.2.3 A Transport pre-app meeting was then held on 27.11.2024, between the applicant, the planning consultant on behalf of the applicant, TT, TfGM, the LHA and the LPA. Following the meeting, TfGM scoping comments were provided to TT on 02.12.2024 (albeit they are erroneously dated 01.11.2024), see **Appendix C**.
- 1.2.4 At the pre-application meeting and within the TfGM comments, it has been requested that a Transport Assessment (TA), which considers the full allocation, is provided for the 43-dwelling

scheme. Given the TfGM request, the assessment of the full allocation (450 dwellings) has been carried out as part of this TA. However, the full allocation assessment is only carried out to provide a cumulative assessment and to derive suitable mitigation measures where justified, which can then be costed, and those costs can then be split proportionately between the 43-dwelling scheme and the remaining allocation 407 (450-43) dwellings

- 1.2.5 Given the above, the determination of the planning application should be based on the impacts of the proposed 43 dwellings and any associated proportional mitigation costs.

1.3 Report Structure

- 1.3.1 Following this introduction, the TA is structured as follows:

- **Section 2** outlines the national and local planning policies that are relevant to the proposed development.
- **Section 3** set out the proposals in the context of the PfE Allocation JPA17.
- **Section 4** describes the existing conditions of the site, including the local highway network and presents the local road safety record.
- **Section 5** presents the developments proposals, including the proposed access and parking provision.
- **Section 6** sets out the multimodal trip generation of the proposals in the Vision Led planning system; and
- **Section 7** assesses the existing sustainable transport provisions relevant to the site.
- **Section 8** sets out the traffic flow analysis.
- **Section 9** provides the traffic impact assessment; and
- **Section 10** summarises and concludes this TA.

2.0 National and Local Planning Policy Context

2.1 Preamble

2.1.1 This section reviews the relevant transport planning policy and guidance documents in the context of the proposed development. This TA has been produced with due regard of the following documents:

- National Planning Policy Framework (2024);
- Rochdale: Adopted Core Strategy (2016);
- Places for Everyone – Joint Development Plan (2024); and
- Greater Manchester Transport Strategy 2040 (2021).

2.2 National Planning Policy Framework (2024)

2.2.1 The Ministry of Housing, Communities and Local Government published the revised National Planning Policy Framework (NPPF) in December 2024.

2.2.2 At the heart of the NPPF is a presumption in favour of sustainable development. In this context, it is fundamental that for new developments sustainable transport is promoted. Section 9 sets out policies for promoting sustainable transport.

2.2.3 Paragraph 109 of the NPPF states:

“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:

- a) making transport considerations an important part of early engagement with local communities;*
- b) ensuring patterns of movement, streets, parking and other transport considerations are integral to the design of schemes, and contribute to making high quality places;*
- c) understanding and addressing the potential impacts of development on transport networks;*
- d) 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;*
- e) identifying and pursuing opportunities to promote walking, cycling and public transport use; and*
- f) 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*

2.2.4 Paragraph 110 of the NPPF states:

“The planning system should actively manage patterns of growth in support of these objectives. Significant development should be focused on locations which are or can be made sustainable, through limiting the need to travel and offering a genuine choice of transport modes. This can help to reduce congestion and emissions, and improve air quality and public health. However, opportunities to maximise sustainable transport solutions will vary between urban and rural areas, and this should be taken into account in both plan-making and decision-making.”

2.2.5 Paragraphs 115 and 116 of the NPPF sets out a key test for the acceptability of planning applications in relation to transport and highways.

2.2.6 Paragraph 115 of the NPPF states:

“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.”

2.2.7 Paragraph 116 of the NPPF states:

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

2.3 Places for Everyone – Joint Development Plan (2024)

2.3.1 Places for Everyone (PfE) is a long-term plan of nine Greater Manchester districts (Bolton, Bury, Manchester, Oldham, Rochdale, Salford, Tameside, Trafford and Wigan) for jobs, new homes, and sustainable growth. It has been published by the Greater Manchester Combined Authority (GMCA) on behalf of the nine districts and was adopted in March 2024.

2.3.2 The transport requirements for new development are set out in Policy JP-C8, which states:

“We will require new development to be located and designed to enable and encourage walking, cycling and public transport use, to reduce the negative effects of car dependency, and help deliver high quality, attractive, liveable and sustainable environments. We will do this by:

Connectivity and Permeability

- 1. Prioritising safe and convenient access to the site and buildings for all users in accordance with the user hierarchy in Policy JP-C1 'An Integrated Network', including;*

- *Prioritising new and enhanced walking, cycling and public transport routes and stops, through and around the site. These routes should:*
 - *be direct, safe and convenient;*
 - *connect to nearby facilities, employment areas, public transport stops; and*
 - *improve the coverage, quality and integration of the wider walking and cycling infrastructure and public transport provision;*
- *Ensuring that the layout, design and landscaping of development prioritises the provision of safe, secure and attractive access to local services and facilities for pedestrians, cyclists and people with a disability; and*
- *Ensuring that new development is connected visually and physically; within the site and to the surrounding built environment;*

Ensure appropriate connectivity to the existing highway network.

Design

2. *Reducing the need to travel by ensuring that community facilities, services and amenities are provided within the site or within walking distance of new development;*
3. *Incorporating highway design at a human scale using street-based prescriptions such as those within Manual for Streets and/or any locally adopted design guidance, to ensure that highways do not dominate the development;*

Public Transport

4. *Ensuring (through funding improvements where appropriate) that the nearest public transport stops (both within and adjacent to the development site) are attractive to users in terms of seating, shelters, information and easy step-free access;*
5. *Subsidising new or amended public transport services where the development would otherwise have inadequate public transport access;*

Parking Infrastructure

6. *Making adequate car parking provision, including for disabled drivers and passengers;*
7. *Ensuring that car parking provision is well integrated and unobtrusive, so it supports the street scene; and where appropriate parking provision is flexible and can be adapted over time to reflect demand;*
8. *Incorporating enough secure and covered cycle parking to meet long-term demand from occupiers and visitors in a convenient location that helps to maximise its use, and for workplaces, where appropriate providing:*
 - i. *Showers, changing facilities and lockers for cyclists and walkers.*
 - ii. *Pool or hire bikes for use by occupiers.*
 - iii. *Information in advance about facilities to visitors;*

9. *Promoting alternatives to car ownership, such as the use of ULEV car clubs rather than the provision of private car parking spaces;*
10. *Promoting the increased provision of ULEV charging infrastructure including meeting any standards set by local plans.*
11. *Providing for overnight parking and rest areas, with appropriate facilities, for heavy goods vehicle drivers, where the development is likely to generate demand, and it is appropriate to the location.*

Access and Servicing

12. *Providing designated pick-up/drop-off points for taxis and other demand responsive transport services where appropriate, taking into account the potential increase in demand if car ownership falls;*
13. *Making appropriate provision for deliveries and servicing (including requiring Delivery and Servicing Plans for appropriate developments), in a way that:*
 - *meets road safety requirements,*
 - *reduces transport emissions and other environmental impacts,*
 - *reduces traffic congestion, the number of vehicle movements and the need for repeat deliveries.*

Construction Management

14. *Ensuring Construction Management Plans are produced for developments, where appropriate, to mitigate construction logistics and environmental impacts including air quality and noise on the surrounding area and encourage sustainable deliveries.*

Transport Assessments

15. *Planning applications will be accompanied by a Transport Assessment / Transport Statement and Travel Plan where appropriate, in order to assess impacts and determine the most appropriate mitigation on the SRN and local transport network. Where a Transport Assessment is required, this should start with a vision of what the development/allocation is seeking to achieve and then test a set of scenarios to determine the optimum design and transport infrastructure to realise this vision. Consultation should be undertaken, at pre-application stage, with the relevant local highway authorities to agree which committed developments / allocations and which potential transport interventions should be considered, with reference to Appendix D, as appropriate.*
16. *Planning applications which are required to be accompanied by a Transport Assessment will need to consider air quality impacts on Holcroft Moss, within the Manchester Mosses Special Area of Conservation (SAC). Any proposals that would result in increased traffic flows on the M62 past Holcroft Moss of more than 100 vehicles per day or 20 Heavy Goods Vehicles (HGVs) per day must devise a scheme-specific range of measures to reduce reliance on cars, reduce trip generation and promote ultra-low emission vehicles and provide a contribution towards restoration measures in accordance with the Holcroft Moss Habitat Mitigation Plan”*

- 2.3.3 The proposed 43 dwellings form part of the PfE allocation JPA17: Bamford / Norden. The wider allocation is for around 450 homes.

2.4 Rochdale Metropolitan Borough Council: Adopted Core Strategy (2016)

- 2.4.1 The RMBCs Core Strategy was adopted in October 2016 and is the lead document of the Council's Local Plan.

- 2.4.2 Policy T2 relates to improving accessibility and states:

We will improve accessibility by locating development where good access to public transport is available or can be provided, backed by measures to reduce the need for travel and effective provision for cyclists, pedestrians and people with impaired mobility. Development will be appropriately located to minimise the need to travel by car and the number and length of car trips made to access local amenities.

- 2.4.3 Policy C6 aims to improve health and wellbeing of the residents of the borough. In relation to transport, this will be achieved through:

*“1. Ensuring good provision of and access to a range of food shops within or adjacent to town centres, local centres and particularly those located in or able to serve deprived areas;
2. Seeking to provide better access to jobs in areas with high levels of deprivation and poor health;
3. Seeking high quality design of buildings, streets and spaces to create neighbourhoods that are safe to use, easy to move through, adaptable and sustainable;
4. Identifying and implementing measures to reduce traffic movements and congestion to reduce air and noise pollution;
5. Encouraging development that promotes active living by making places more accessible by walking, cycling and public transport; and
6. Supporting the provision of health facilities and services in accessible locations that meet current and future need.”*

- 2.4.4 Policy DM1 relates to general development requirements within the Borough. In relation to transport, all development proposals will be expected to demonstrate that they:

*“1. Mitigate against any impacts due to noise, air, dust, light and odour pollution, traffic generation or inadequate access, where such mitigation is identified as being necessary; and
2. Provide satisfactory vehicular access with adequate parking, manoeuvring, and servicing arrangements taking into account of the proposed use and location.”*

2.5 Greater Manchester Transport Strategy 2040 (2021)

- 2.5.1 The Greater Manchester Transport Strategy 2040 was published in February 2017 and updated in January 2021.
- 2.5.2 The document sets out the ‘right mix vision’:

“For 50% of trips to be made by sustainable modes, with no net increase in motor vehicle traffic, by 2040.”

2.5.3 The document describes how:

“Transport is crucial in supporting Greater Manchester’s ambitious plans, including those set out in the Greater Manchester Strategy (GMS) with its vision ‘to make Greater Manchester one of the best places in the world to grow up, get on and grow old’.”

2.5.4 Policy 4 of the Strategy states:

“We will work with developers to ensure that new developments are accessible by sustainable modes, and to reduce transport emissions and impacts on the highway network.”

2.5.5 Policy 4 also outlines how:

“Transport for Greater Manchester (TfGM) and LPAs will continue to work with developers to better integrate transport and new developments in accordance with the principles of:

- *Reducing the need to travel;*
- *Reducing the need to travel by car, and the distance travelled;*
- *Maximising accessibility by sustainable modes;*
- *Making the best use of existing infrastructure, particularly through increasing the density of development close to public transport nodes;*
- *Maximising opportunities to provide additional public transport; and*
- *Designing to encourage active travel.”*

2.6 Compliance with Policy

2.6.1 Subsequent sections of this report will describe the proposed development and the surrounding existing facilities, such as local services, pedestrian routes, cycle routes and existing public transport provisions. This will demonstrate that the proposed development complies with the guidelines and policies detailed above.

3.0 Context of the Proposals within JPA17

3.1 Overview

3.1.1 The proposals in the context of the wider allocation are shown on **Plan 2**.

3.2 Allocation Provision

3.2.1 In addition to the allocated 450 dwellings, JPA17 also includes provision which relates to transport, including the following:

- retaining and enhancing the existing recreational facilities as part of an integrated green and blue infrastructure network on the site.
- incorporating existing public rights of way along with new routes for active travel into a high quality integrated green infrastructure network that links to existing public rights of way in the countryside to the west and northwest of the site.
- making provision for new and improved sustainable transport and highways infrastructure having regard to the indicative transport interventions set out in Appendix D in accordance with policy JP-C8., i.e.,
- Norden Road – new pedestrian crossing.
- Bus stop upgrades at the Norden Road / War Office Road junction.
- Active travel improvements including Furbarn Road improvements and North-South Greenway corridor through the site.

3.2.2 The wider allocation will have a main point of (vehicular) access taken from Norden Road.

3.3 Approach to Assessment and Mitigation

3.3.1 This TA which has been prepared for the 43-dwelling proposal, it takes account of the wider allocation, notwithstanding that the 43-dwelling proposals comprise a small portion (9.56%) of the 450 dwellings, which are allocated within JPA17.

3.3.2 The 43-dwelling proposals have been designed to integrate with the wider JPA17 masterplan and hence will not prejudice the remaining allocation coming forward.

3.3.3 This TA has been prepared to broadly align with the GM Transport Strategy ‘Right Mix Vision’, see Section 2.

3.3.4 This TA includes the proposed off-site sustainable transport measures for the full JPA17 allocation (450 dwelling), in accordance with PFE Appendix D. The applicant is willing to contribute to the proportionate costs associated with the delivery of those measures (see Section 7.2 for details).

3.3.5 This TA includes traffic impact assessments for the full 450-dwelling allocation.

4.0 Existing Conditions

4.1 Existing Site

- 4.1.1 The proposed site is located approximately 500m (straight-line distance) northwest of Bamford village centre. **Plan 2** shows the approximate extent of the application site in red, whilst the wider JPA17 allocation extent is shown in blue.
- 4.1.2 The site has an approximate area of 2.7ha and is currently undeveloped land.
- 4.1.3 The proposed site is bounded by residential dwellings to the north and by the wider JPA17 allocation to the east, south and west.

4.2 Local Highway Network

- 4.2.1 As shown on **Plan 2**, the key roads which will be utilised to access the site are Greenvale, Bramley Road, Norford Way, Clay Lane and the Norden Road / Bagslate Moor Road corridor. The characteristics of each of those roads are set out below.

Greenvale

- 4.2.2 Greenvale is a residential street which extends in an east to west direction, to the north of the application site. It extends over c.370m between Norford Way in the east and Clay Lane, in the northwest.
- 4.2.3 It is a c.5.5m wide, two-way single carriageway road which is subject to a 30mph speed limit.
- 4.2.4 It features street-lit footways, c.2m wide along both sides of the road. Driveway crossings of the footway are provided throughout its extent.

Bramley Road

- 4.2.5 Bramley Road is a residential street which extends in a north to south direction, between Clay Lane in the north and Greenvale in the south.
- 4.2.6 It is a c.5 to 5.5m wide, two-way single carriageway road which is subject to a 30mph speed limit.
- 4.2.7 It features street-lit footways, c.2m wide along both sides of the road. Driveway crossings of the footway are provided throughout its extent.

Norford Way

- 4.2.8 Norford Way is a residential street which extends in a general south-east to north-west direction, between Norden Road in the south-east and to its termination c. 50m north of its junction with Greenvale.
- 4.2.9 It is a c.5.5 to 6m wide, two-way single carriageway road which is subject to a 30mph speed limit.
- 4.2.10 It features street-lit footways, c.2m wide along both sides of the road. Driveway crossings of the footway are provided throughout its extent.

Clay Lane

- 4.2.11 Clay Lane is local connector street, with some frontage residential development. It extends generally in an east to west direction, between Bagslate Moor Road in the east and Furbarn Road in the west.
- 4.2.12 It is a c.5 to 6m wide, two-way single carriageway road which is subject to a 30mph speed limit.
- 4.2.13 It features street-lit footways, c.2m wide along both sides of the road. Driveway crossings of the footway are provided throughout the sections with residential frontages.

Bagslate Moor Road/ Norden Road Corridor

- 4.2.14 Bagslate Moor Road/ Norden Road extends generally in a north to south direction, from the A680 in the north, to Bury and Rochdale Old Road in the south.
- 4.2.15 It is a typically 6-7m wide, two-way single carriageway road and is subject to a 30mph speed limit.
- 4.2.16 It features street-lit footways, c.2m wide along both sides of the road. Driveway crossings of the footway are provided throughout its extent.
- 4.2.17 Signalised pedestrian crossings are located at the Norden Road/ Bury and Rochdale Old Road junction and at the Bamford shopping precinct, while pedestrian islands are located at the Bagslate Moor Road/ A680 junction.
- 4.2.18 It is also a bus route and features bus stops.

4.3 Surveyed Traffic Flows – November 2024

- 4.3.1 To inform this TS, two 7-day Automated Traffic Count (ATC) have been carried out on Greenvale, on either side of the proposed site access, between 04/11/24 and 11/11/24. The ATC raw data is shown in **Appendix D**. The eastern ATC was located to the east of Bramley Road, to obtain the westbound approach speeds and the western ATC was located to the west of Linnell Road to obtain the eastbound approach speeds.
- 4.3.2 The ATCs recorded traffic volumes and speeds, including 85th percentile speeds.
- 4.3.3 The 2024 recorded AM and PM peak hour traffic volumes along Greenvale are set out in **Table 4.1**.

Table 4.1 – Greenvale 2024 Survey Results: Weekday Average Peak Hour Traffic Volumes

Direction of Travel	Eastern ATC		Western ATC	
	08:00-09:00	17:00-18:00	08:00-09:00	16:00-18:00
Westbound	30	62	9	14
Eastbound	62	36	11	9
Two-way	92	98	20	23

- 4.3.4 **Table 4.1** demonstrates that Greenvale is lightly trafficked, with just 1.5 trips per minute in the AM peak and 2 trips per minute in the PM peak (two-way).
- 4.3.5 **Table 4.2** summarises the average and 85th percentile speeds recorded on Greenvale.

Table 3.2 – Greenvale 2024 Survey Results: Vehicle Speeds (mph)

Speed Type	Eastbound Speeds (Western ATC)	Westbound speeds (Eastern ATC)
Average	16.7	18.3
85 th Percentile	22.1	23.1

4.3.6 As can be seen the observed speeds on Greenvale are well below the speed limit of the road (30mph).

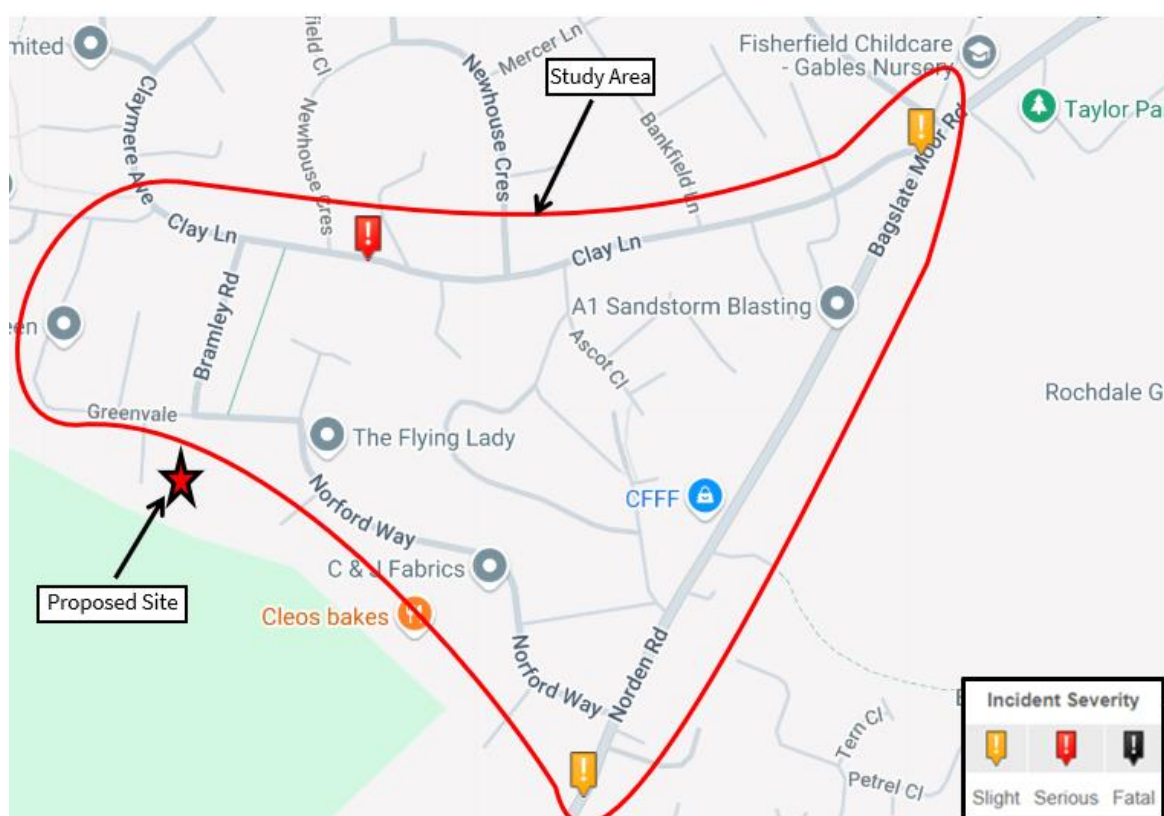
4.3.7 The recorded 85th percentile approach speeds inform the visibility splays at the proposed site access (see **Section 5.3**).

4.4 Personal Injury Accident Review

4.4.1 Personal Injury Accident (PIA) data was obtained from the web resource CrashMap (www.crashmap.co.uk) for the most up to date 5-year period, namely 2019 to 2023.

4.4.2 The locations and severity of PIAs in the vicinity of the proposed site are shown in **Image 4.1**.

Image 4.1 – Review of CrashMap PIA Data *Source: Crashmap.co.uk*



4.4.3 **Image 4.1** shows that during the seven-year period reviewed, there were three recorded PIAs within the study area. All PIAs recorded along Bagslate Moor Road/ Norden Road were classified as 'slight'. Only 1 'serious' was recorded along Clay Lane and no 'Fatal' incidents.

4.4.4 A summary of the PIA data obtained from CrashMap is summarised in **Table 4.1**.

Table 4.1 – Summary of PIA Data from CrashMap

Severity	2019	2020	2021	2022	2023	Total
Slight	0	1	1	0	0	2
Serious	0	0	0	0	1	1
Fatal	0	0	0	0	0	0
Total	0	1	1	0	1	3

- 4.4.5 **Image 4.1** and **Table 4.1** show there are no obvious clusters of PIAs which might suggest an existing road safety problem.
- 4.4.6 The incident recorded as ‘Serious’ was recorded on 18/07/2023 and involved one vehicle and one pedestrian.
- 4.4.7 Overall, the road network near the proposals has a very good safety record. It is concluded there are no existing road safety problems which could be exacerbated by the proposed development.

5.0 Proposed Development

5.1 Development Proposals

- 5.1.1 The proposals are for 43 dwellings adjacent to the existing residential area of Bamford. The site layout for the proposed development is shown in **Appendix A**. The application for the 43 dwellings will be in full.
- 5.1.2 The proposals comprise:
- 7 x 2-bedroom dwellings (affordable)
 - 12 x 3-bedroom dwellings
 - 8 x 4-bedroom dwellings
 - 16 x 5-bedroom dwellings.

5.2 On-Site Layout

- 5.2.1 The proposed layout on site has been designed in accordance with the principles set out in Manual for Streets.
- 5.2.2 The layout has been designed to allow future connections to the wider JPA17 allocations to be made.
- 5.2.3 Swept path analysis has been carried out with a large refuse vehicle (11.2m) at the proposed on-site turning heads, see Drawing TR-O-003 (**Appendix E**). The swept path analysis shows that a large refuse vehicle can turn on-site without overrunning the kerb.
- 5.2.4 The forward SSDs have been assessed on the two bends on the internal road layout, see drawings TR-O-003-01 and TR-O-003-02 (**Appendix E**). The SSDs of 25m and 19m will assist in self-enforcing low speeds on site.

5.3 Access Arrangements

Vehicular Access

- 5.3.1 Access is proposed via a simple priority junction onto Greenvale. The proposed site access is shown in Drawing DR-O-001, in **Appendix F**.
- 5.3.2 The design features a site access road with a 5.5m wide carriageway, with 6m kerb radii tying into Greenvale.
- 5.3.3 To inform the assessment of visibility splays to be provided at the site junction, the recorded 85th percentile approach speeds on Greenvale (set out in **Section 3.3**) have been applied to the Stopping Sight Distance (SSD) formula set out in MfS, as follows:
- For the eastbound approach speed of 22.5mph, MfS suggests a visibility splay of 2.4 x 26.3m, looking to the left.
 - For the westbound approach speed of 23.1mph, MfS suggests a visibility splay of 2.4 x 27.4m, looking to the right.

- 5.3.4 Drawing DR-O-001 shows that these visibility splays are achieved at the proposed site access junction.
- 5.3.5 Drawing DR-O-001 also shows the achievable visibility splays within the extents of the adopted highway, which are 2.4 x 43m and 2.4 x 57m to the left and right, respectively.
- 5.3.6 Swept path analysis has been carried out at the site access junction, using a large refuse vehicle, see Drawing TR-O-002 (**Appendix G**). The swept path analysis shows that a large refuse vehicle can manoeuvre through the junction without conflicting with footways.
- 5.3.7 The swept path analysis also shows that the large refuse vehicle will have to cross into the opposing lane when manoeuvring in/ out of the site access. This would only occur a nominal number of times a week, typically outside the peak hours. This is typical for residential streets and is recognised within Manual for Streets.
- 5.3.8 The site access drawing was provided to the LHA and TfGM as part of the pre-application submission (**Appendix B**) and no adverse comments on the access and tracking were provided in the TfGM pre-application response (**Appendix C**).
- 5.3.9 Within the February 2025 trip generation and distribution scoping submission to TfGM, the proposed site access was scoped in, for junction capacity testing. However, at that a larger development quantum was being considered.
- 5.3.10 The peak traffic generation of the 43 dwellings proposed is 20 (AM) and 18 (PM) two-way trip (see **Table 8.1**) and surveyed traffic volumes on Greenvale in the vicinity of the site access are just 20 (AM) and 23 (PM) two-way (see **Table 4.1**, Western ATC). Given this, level of vehicular trip making, it is clear that the site access junction will operate well within its capacity and consequently, a modelling assessment of this junction is not justified.

Pedestrian Access

- 5.3.11 The main access onto Greenvale will include a 2m wide footway on both sides, which will tie into the existing footway. This access suitably provides for pedestrians at the proposed development.
- 5.3.12 The proposed site layout (**Appendix A**) also shows a pedestrian route within application boundary towards the PRow which extends north to south, to the east of the application boundary. The LHA may choose to deliver the onward connection to the PRow, which is outside of the boundary and the onward connection will be provided as the wider JPA17 allocation is brought forward. For the avoidance of doubt, the proposals are not reliant on this connection to the PRow being made, as suitable pedestrian routes are provided through the site, to Greenvale where the existing footway network can be reached.

5.4 Parking Provision

- 5.4.1 The parking schedule for the proposals is shown on the site layout plan (**Appendix A**). The proposed parking provision is summarised in **Table 6.1**, alongside the RMBC minimum parking standards, as set out in Appendix 5 of the adopted Core Strategy.

Table 6.1 –Proposed Car Parking and the RMBC Car Parking Standards

Beds	No. Dwellings	External Spaces per dwelling	Garage provision	Total Spaces per Dwelling	Parking Standards
2	7	2		2	2 per dwelling
3	12	2		2	2 per dwelling
4	8	2	single garage	3	2 per dwelling
5	10	2	single garage	3	2 per dwelling
5	6	2	double garage	4	2 per dwelling
Total	43	86	30	116	86

- 5.4.2 **Table 6.1** demonstrates that the proposals will provide parking in accordance with the RMBC minimum parking standards.
- 5.4.3 The RMBC parking standards, as set out in Appendix 5 of the adopted Core Strategy, do not require any specific cycle parking. Nonetheless, **Table 6.1** demonstrates that 24 of the proposed dwellings will have garages. The single garages will be 6x3m and the double garages will be 6x6m. These garages can be used for cycle parking.

6.0 Multi-Modal Trip Generation Assessment

6.1 Preamble

- 6.1.1 To forecast the proposed developments traffic volumes, assessments of trip generation have been carried out, which are set out below.

6.2 TRICS Multi-Modal Trip Generation

- 6.2.1 To provide a starting point for understanding the multi-modal trip generation during the peak hours and across the day, the National Trip Database, known as TRICS has been interrogated.
- 6.2.2 When selecting donor sites within TRICS, sites with similar characteristics to the proposals have been chosen. The full TRICS output is attached in **Appendix H** and the AM peak hour, PM peak hour and daily two-way trip rates are provided in **Table 6.1**, along with the modal split.

Table 6.1: TRICS Multi-Modal Trip Rates and Mode Share %

Method of Travel	Multi-Modal Trip Rate (Two-way)			Mode Share (%)		
	AM Peak	PM Peak	Daily	AM Peak	PM Peak	Daily
Pedestrians	0.085	0.050	0.592	9.1%	6.6%	8.3%
Cyclists	0.011	0.010	0.085	1.2%	1.3%	1.2%
Public Transport User	0.023	0.017	0.215	2.5%	2.3%	3.0%
Vehicle Driver*	0.521	0.469	4.436	56.1%	62.1%	61.9%
Vehicle Passengers**	0.289	0.208	1.838	31.1%	27.5%	25.6%
Total People	0.929	0.755	7.168	100%	100%	100%

*No. of Vehicles **calculated from vehicle occupant rate minus vehicle rate

- 6.2.3 **Table 6.1** shows that based on TRICS typical trip rates for sites of similar characteristics, the car driver mode share is between 56 & 62% and car passengers make up 25-31%. Whilst pedestrians make up around 7-9%, cyclists around 1% and public transport users around 2-3%.
- 6.2.4 Interestingly, a significant portion of the car drivers will be carrying out a sustainable trip, as a proportion of the car drivers will have car passengers and are therefore classified as car sharers, and a proportion of the car drivers will be using zero emission or ultra-low emission vehicles, all of which are classified as sustainable methods of travel in accordance with the NPPF.
- 6.2.5 Nonetheless, it is noted that a TRICS suggest that based on typical trip rates, the proposals will fall short of the GM Vision of 50% of trips being made by car driver.
- 6.2.6 The TRICS typical trip rates for sites of similar characteristics, as set out in **Table 6.1**, have been applied to the proposals (43 dwellings) and the JPA17 Allocation (450 dwellings) and the resultant TRICS typical multi-modal trip generation is set out in **Table 6.2**.

Table 6.2: Multi-modal TRICS Typical Trip Generation

Method of Travel	Proposed Development (43 dwellings)			Full JPA17 Allocation (450 dwellings)		
	AM Peak	PM Peak	Daily	AM Peak	PM Peak	Daily
Pedestrians	4	2	25	38	23	266
Cyclists	0	0	4	5	5	38
Public Transport User	1	1	9	10	8	97
Vehicle Driver	22	20	191	234	211	1996
Vehicle Passengers	12	9	79	130	94	827
Total People	40	32	308	418	340	3226

6.2.7 In terms of non-car trips, **Table 6.2** demonstrates that TRICS predicts that the

- proposed development will generate 25 pedestrian trips, 4 cycle trips and 9 public transport trips across the day.
- JPA17 allocation as a whole (including the proposed 43 dwellings) will generate 266 pedestrian trips, 38 cycle trips, 97 public transport trips across the day.

6.3 Vision Led Multi-Modal Trip Generation

- 6.3.1 To better align with the GM Vision of 50% of all trips being made by car, the TRICS typical trip rates have been adjusted to provide vision-led trip rates.
- 6.3.2 It should also be noted that at para. 115 the NPPF states that: ‘*sustainable transport modes are prioritised taking account of the vision for the site, the type of development and its location*’.
- 6.3.3 In adjusting the trip rates, the sites accessibility credentials should be considered. It is considered that the TRICS rate for pedestrians of c. 7-9% is reasonable, based on the sites location on the edge of existing conurbation, however the allocation will the upgrading of the nearby bus stops and provide a contribution to funding bus services, if necessary. This along with TfGM promoting cycling and bus travel through their own on-going initiatives, the mode splits for cycle (1%) and bus (2-3%) are not considered to align with the Vision.
- 6.3.4 Additionally, it should be noted that the overall allocation will generate significant new bus patronage, which is likely to allow some bus operators to enhance their services in this locality on a commercial basis. These likely enhanced bus services will assist in increasing bus mode share.
- 6.3.5 The trip rates adjustments therefore increase the mode share by bus and cycle. The car driver and car passenger trip rates have been proportionally reduced to account for the increase in bus users and cyclist. The TRICS typical and the Vision Led mode shares are presented in **Table 6.3**.

Table 6.3 – TRICS Typical Mode Share and Vision Led Mode Share

Method of Travel	TRICS Typical Mode Share			Vision Led Mode Share		
	AM Peak	PM Peak	Daily	AM Peak	PM Peak	Daily
Pedestrians	9.1%	6.6%	8.3%	9.1%	6.6%	8.3%
Cyclists	1.2%	1.3%	1.2%	3.0%	3.0%	3.0%
Public Transport User	2.5%	2.3%	3.0%	10.0%	10.0%	10.0%
Vehicle Driver	56.1%	62.1%	61.9%	50.1%	55.7%	55.7%
Vehicle Passengers	31.1%	27.5%	25.6%	27.8%	24.7%	23.1%
Total People	100%	100%	100%	100%	100%	100%

6.3.6 **Table 6.3** shows that under the Vision Led scenario, the vehicle driver mode share is reduced to 50-56%, the public transport increases to 10% and the cyclists are increased to 3%.

6.3.7 The Vision Led mode shares have been applied to the TRICS “Total People” trip rate, to provide multi-modal Vision Led trip rates, as shown in **Table 6.4**. The Vision Led rates have then been applied to the proposals (43 dwellings) and the JPA17 Allocation (450 dwellings) and the resultant Vision Led multimodal trip generation is shown in **Table 6.5**.

Table 6.4 –Vision Led Multimodal Mode Share and Vision Led Trip Rates

Method of Travel	Vision Led Mode Share			Vision Led Trip Rates		
	AM Peak	PM Peak	Daily	AM Peak	PM Peak	Daily
Pedestrians	9.1%	6.6%	8.3%	0.085	0.050	0.592
Cyclists	3.0%	3.0%	3.0%	0.028	0.023	0.215
Public Transport User	10.0%	10.0%	10.0%	0.093	0.076	0.717
Vehicle Driver	50.1%	55.7%	55.7%	0.465	0.420	3.991
Vehicle Passengers	27.8%	24.7%	23.1%	0.258	0.186	1.653
Total People	100%	100%	100%	0.929	0.755	7.168

Table 6.5 – Multimodal Vision-Led Trip Generation

Method of Travel	Proposed Development (43 dwellings)			Full JPA17 Allocation (450 dwellings)		
	AM Peak	PM Peak	Daily	AM Peak	PM Peak	Daily
Pedestrians	4	2	25	38	23	266
Cyclists	1	1	9	13	10	97
Public Transport User	4	3	31	42	34	323
Vehicle Driver	20	18	172	209	189	1796
Vehicle Passengers	11	8	71	116	84	744
Total People	40	32	308	418	340	3226

6.3.8 In terms of non-car trips, **Table 6.5** demonstrates that the Vision Led assessment predicts that the

- proposed development will generate 25 pedestrian trips, 9 cycle trips and 31 public transport trips across the day.
- JPA17 allocation as a whole (including the proposed 43 dwellings) will generate 266 pedestrian trips, 97 cycle trips, 323 public transport trips across the day.

6.3.9 To achieve the vision, the overall JPA17 allocation site will:

- include greenways across the allocation site,
- provide a signalised pedestrian crossing point on Norden Road.
- upgrade the existing bus stops on Norden Road / War Office Road.
- provide a suitable contribution to public transport (per dwelling) to be agreed with TfGM, if justified.

6.3.10 It should also be noted that the overall proposals for the allocation will increase bus patronage significantly, resulting in some bus service improvements on a commercial basis.

7.0 Accessibility via Sustainable Travel Modes

7.1 Preamble

- 7.1.1 This section provides an assessment of the accessibility of the site by sustainable travel modes.
- 7.1.2 As requested by the TfGM pre-app comments, the existing site has been reviewed against the Greater Manchester Accessibility Level (GMAL). The GMAL postcode data has been reviewed, and the nearby locations score the following Accessibility Levels in GMAL in the existing situation (scores range from Level 1, lowest accessibility to Level 8, highest accessibility):
- Linnell Drive, directly opposite the site to the north (most representative score for the proposed 43 dwellings): **Level 3**
 - The Springs, northeastern corner of the site: **Level 3**
 - Bamford Mews: **Level 4**
- 7.1.3 The TfGM pre-application comments describe how Norford Way is on TfGM's bee network map as a preferred route for active travel, and TfGM also state that it is expected that the nearby section of Bury Road will become a route that would connect the bee network to both Bury and Rochdale town centres. The proposals connect to Norford Way via Greenvale, which is a street lit, quiet street with footways to both sides of the carriageway, therefore providing suitable access to TfGM's bee network.

7.2 Sustainable Transport Improvements – For JPA17

- 7.2.1 The off-site sustainable transport improvement identified within PfE for JPA17 include:
- a signalised pedestrian crossing point on Norden Road.
 - Upgrading of the existing bus stops on Norden Road / War Office Road.
- 7.2.2 Preliminary layout drawings of the off-site sustainable transport improvements have been prepared and are attached as **Appendix I**.
- 7.2.3 The signalised crossing point is shown in 784-B068938-TTE-00-XX-DR-O-003 P01 (**Appendix I**). At this stage, the drawing is indicative, with the finalised location to be determined as the wider JPA17 site is brought forward.
- 7.2.4 The Norden Road bus stop improvements are shown in 784-B068938-TTE-00-XX-DR-O-004 P01 (**Appendix I**). Given the geometrical constraints, the upgrades are limited to the provision of a small shelter (as space on the footway is restricted) and a replacement pole and flag. The kerbs have not been raised as the geometry means a bus cannot pull in parallel to the stop.
- 7.2.5 The War Office Road bus stop improvements are shown in 784-B068938-TTE-00-XX-DR-O-005 P01 (**Appendix I**). This includes new kerbs installed, with the horizontal alignment of the footway and drainage adjusted accordingly. Bus cage markings would also be provided on the southbound carriageway as the existing marking in the adjacent layby do not appear to serve any practical purpose.

- 7.2.6 The preliminary layout drawings provide a layout for costing, such that the applicant can provide proportionate funding (9.56%) towards these improvements within a Section 106 Agreement.
- 7.2.7 With the above improvements in place, the GMAL score for the site location including the proposed development is expected to improve.

7.3 Accessibility on Foot

- 7.3.1 The Chartered Institution of Highways and Transportation's (CIHT) document 'Guidelines for Providing for Journeys on Foot' states, in paragraph 1.12, that:

"...walking accounts for over a quarter of all journeys and four fifths of journeys of less than one mile."

- 7.3.2 Whilst superseded by the NPPF, 'Planning Policy Guidance 13 (PPG13) – Transport' sets out useful guidance related to walking catchments, which is still widely accepted. Paragraph 74 states:

"...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."

- 7.3.3 In respect to this guidance, **Plan 3** has been prepared which shows the local amenities and facilities which are accessible within a 1km and 2km walk from the centre of the site using existing footways and Public Right of Way (PRoW).
- 7.3.4 **Plan 3** shows that within the 1km walking catchment there is Bamford Precinct which includes a dentist, a convenience store, an ATM, a restaurant, a hairdresser, a dry cleaner and a take-away. Additionally, within the 1km catchment there are 5 sports facilities (football, cricket, tennis, bowling and martial arts), a public house with a restaurant, Bamford Academy primary school and a Scouts Hut.
- 7.3.5 In addition to the facilities within the 1km catchment, there are the following further facilities within the 2km walk catchment; six restaurants, five places of worship, three convenience stores. Three primary schools, two sports clubs, two post offices, a butcher, a café and a nursery.
- 7.3.6 To the edge of the 2km catchment, there are further facilities and amenities which are also be accessible on foot to those who choose to walk beyond 2km.
- 7.3.7 In terms of infrastructure, the local highway network has good quality footway provision, mainly around 1.5 to 2m wide and the roads are street lit and overlooked.
- 7.3.8 As set out in Section 7.2, the JPA17 allocation will bring forward a signalised crossing point on Norden Road, which will encourage travel on foot and enhance highway safety.

7.4 Accessibility by Cycle

- 7.4.1 A distance of 5km is widely recognised as being a reasonable cycle distance. **Plan 4** shows a 5km cycling catchment from the centre of the site. Within the 5km catchment the vast majority of Rochdale can be accessed, as well as the town of Heywood. Those destinations include leisure, retail, employment and other facilities which can be accessed by cycle.

- 7.4.2 In recent years, there has been a significant uptake in electric bikes (i.e. e-bikes). An e-bike features a pedal-assist motor which can propel the cyclist at 15.5mph, while the batteries are capable of c.100km on a single charge. Assuming a reasonable commute time of 25mins, a cyclist on an e-bike could travel a distance of 10km.
- 7.4.3 **Plan 4** also shows a 10km e-bike catchment from the centre of the site. Within the 10km catchment Bury, the town of Middleton, as well as the northern sector of Oldham can be accessed. Those destinations include leisure, retail, employment and other facilities which can be accessed by e-bike.
- 7.4.4 The cycle network map for Rochdale is shown in **Appendix J**. This shows that in the vicinity of the site, a traffic free route is provided on Furbank Lane and Edenfield Road features some sections with cycle lane.
- 7.4.5 Furthermore, Bury and Rochdale Old Road in the south features cycle lanes to both sides of the road heading towards Rochdale town centre.

7.5 Accessibility by Bus

- 7.5.1 The location of the nearest bus stops to the site are shown on **Plan 2**.
- 7.5.2 The bus stops located closest to the proposed site are situated on Norden Road (SB stop) / Bagslate Moor Road (NB stop), near Springbank Lane, approximately a 700m walk from the centre of the proposals, which is acceptable to a high frequency bus stop.
- 7.5.3 The walk distance to these bus stops via the PRow network could be 550m from the centre of the site, should a PRow connection on the eastern side of the site be provided by the LHA. That said, the proposals are not reliant on this link being provided.
- 7.5.4 Once the wider JPA17 allocation comes forward, the nearest bus stops will be the Norden Road bus stops near Belgium Street and those bus stops will be a c.450m walk from the centre of the site.
- 7.5.5 A bus stop is also provided on Clay Lane, approximately 850m walk from the centre of the site.
- 7.5.6 The bus services available in the vicinity of the site are outlined in **Table 7.1**.

Table 7.1 – Bus Services Accessible from the Proposed Development

Service	Route	One Way Frequency per Hour					
		AM Peak	Inter Peak	PM Peak	After 7pm	Sat	Sun
Services from Norden Road / Bagslate Road							
17	Norden - Rochdale - Middleton - Blackley - Manchester	3 services operating at 05:56, 06:16 and 06:35				0	
433	Bury-Fern Grove-Fairfield General Hospital-Norden	1	1	1	0.5*	1	0.5*
442	Norden-Bagslate-Bamford-Broadhalgh-Rochdale	1-2	1	1	1	1	1
467	Bury-Jericho-Bamford-Caldershaw-Sotland-Rochdale	2	2	2	2	2	1
468	Bury- Fairfield General Hospital-Bamford- Rochdale	2	2	2	1	2	1
832	Oldham Mumps - Higginshaw - Heyside - Shaw - Norden	1 service during the AM and PM peak hour from running from Blue Coat School to Norden during the weekday					
887	Buersil Head - Bamford - Spotland - Catley Lane Head	1 service during the AM and PM peak hour from running from Bramhall High School to Webb Lane during the weekday					
967	Rochdale - Caldershaw - Bamford - Jericho - Bury - Fishpool	1 service during the AM and PM peak hour from running from Bury CE High School to Rochdale Lane during the weekday					
968	Rochdale - Bamford - Fairfield General Hospital - Bury	1 service during the AM and PM peak hour from running from St Gabriel's RC High School to Rochdale Lane during the weekday					
998	Rochdale – Bamford – Rawtenstall - Waterfoot	1 service during the AM and PM peak hour from running from Bacup Grammar School to Rochdale Lane during the weekday					
Services from Clay Lane							
461	Rochdale- Spotland- Bagslate-Shawfield circular	1	1	1	0	1	0

*0.5 equates to one service every 2 hours.

7.5.7 **Table 7.1** shows that between Monday and Saturday, there are typically 6 one-way buses an hour (12 two-way) available during the peak period within a 650m walk of the site. The bus services provide access to Norden, Rochdale, Middleton, Bury, Fairfield General Hospital, Spotland and various other destinations.

- 7.5.8 On Sundays, there is typically 3 to 4 bus services an hour in each direction, providing a convenient link between Norden, Rochdale, Bury, Fairfield General Hospital, Spotland and various other destinations.
- 7.5.9 Bus Services 832, 887, 967 998 and 968 are School bus services running 1 service during the day to the various schools and colleges.
- 7.5.10 The bus stops within a short walk distance from the site provide access to a good range of bus services, with hourly frequencies to number of key local destinations.
- 7.5.11 As set out in **Section 7.2**, the JPA17 allocation will deliver upgrades to the bus stops at Norden Road / War Office Road and the applicant is willing to proportionally contribute towards those bus stop upgrades.
- 7.5.12 Furthermore, to assist in achieving the GM Vision, the applicant is willing to contribute a towards public transport funding, if justified.

7.6 Promoting Smarter Choices via Travel Plans

- 7.6.1 To further encourage travel at the proposed development by non-car modes, a Travel Plan Framework (TPF) has been prepared as an accompanying document to the planning application. The TPF has been prepared in accordance with current guidance. The objective of the TPF is to encourage residents to travel by public transport, on foot and by bicycle, and reduce single-occupancy car trips.
- 7.6.2 The effectiveness of a Travel Plan, in increasing the use of non-car modes for journeys to/ from work is intrinsically linked to the accessibility of a given site by means other than by private car.
- 7.6.3 The proposed site has been demonstrated to benefit from good non-car accessibility and it should, therefore, be expected that the adoption of a Travel Plan would be effective.

7.7 Summary

- 7.7.1 The proposed development is well located for access on foot. The roads within the vicinity of the site have good quality footway provision and a wide number of facilities and amenities are accessible on foot, including local shopping destinations, eateries, schools and leisure facilities.
- 7.7.2 A wide number of employment destinations can be reach by cycle, including Heywood and areas in the west of Rochdale. The e-bike catchment also includes the whole of Rochdale, Bury town centre and Middleton.
- 7.7.3 The nearest bus stops are about 700m walk from the centre of the proposals, via the existing highway network. The walk distance will be reduced to circa 450m, following the implementation of the wider JPA17 proposals.
- 7.7.4 The bus services on Norden Road provide a high frequency service of 12 buses an hour (two-way), to a wide variety of destinations. This existing high frequency bus provision will assist in promoting sustainable travel at the site.
- 7.7.5 In conclusion, the proposals are accessible via sustainable travel means and is therefore compliant with national and local policies on sustainable transport provisions.

7.7.6 Nonetheless, the proposals will provide:

- an east to west pedestrian link through the site, which will allow future tie into the wider allocation greenways.
- provide a suitable contribution to public transport (per dwelling) to be agreed with TfGM, if justified.

7.7.7 The wider JPA17 allocation will deliver:

- greenways across the allocation site,
- a signalised pedestrian crossing point on Norden Road.
- Upgrades to the existing bus stops on Norden Road / War Office Road.
- provide a suitable contribution to public transport (per dwelling) to be agreed with TfGM, if justified.

7.7.8 Furthermore, the wider allocation will increase bus patronage significantly, resulting in some bus service improvements on a commercial basis.

7.7.9 The applicant is willing to proportionately contributed towards the signalised pedestrian cross and the bus stop upgrades.

7.7.10 These measures will assist the site in achieving the Transport Vision, which is to work towards the GM Transport Strategy 2040 'Right Mix Vision'.

8.0 Traffic Volume Analysis

8.1 Introduction

- 8.1.1 This section describes the methodology used to derive the traffic volumes which have been used in the junction capacity assessments, which are set out in Section 9.0.
- 8.1.2 The surveyed traffic volumes, traffic growth considerations including committed development, the JPA17 trip distribution and generation, and the ‘without’ and ‘with’ development traffic volumes are detailed in this section.

8.2 2025 Surveyed Traffic Flows

- 8.2.1 To inform this TA, fully classified turning count surveys were carried out by MHC Traffic on Thursday 15th May 2025 at the following junctions:
1. A680 / Bagslate Moor Road Priority Junction (J1) – which also informs the site access assessment
 2. Bagslate Moor Road / Moorland Avenue Priority Junction (J2)
 3. Bagslate Moor Road / Clay Lane Priority Junction (J3)
 4. Norden Road / Norford Way Priority Junction (J4)
 5. Norden Road / War Office Road Priority Junction (J5)
 6. Bury & Rochdale Old Road / Norden Road Signalised Junction (J6)
 7. Bury & Rochdale Old Road / War Office Road Priority Junction (J7)
 8. Bury & Rochdale Old Road / Queen’s Park Road Signalised Junction (J8)
 9. Greenvale / Bramley Road Priority Junction (J9)
- 8.2.2 The raw survey data has been reviewed, and the network peak hours are:
- AM Peak: 07:45 until 08:45
 - PM Peak: 16:15 until 17:15
- 8.2.3 The raw traffic count data is attached as **Appendix K**.
- 8.2.4 The 2025 surveyed weekday AM and PM peak hour flows converted into Passenger Car Units (PCUs) are illustrated in **Figures 1** and **2** respectively.

8.3 Traffic Growth

- 8.3.1 The GM Transport Strategy 2040 includes a ‘right mix’ vision which includes measures to promote and increase the uptake in sustainable travel modes, such that overall traffic is set reduce by around 9% across the region between 2017 and 2040. Given this GM vision, there is a case for not including any traffic growth and instead applying a reduction factor to the 2025 traffic volumes to derive 2040 future year volumes.

- 8.3.2 In the shorter term, there is some potential for traffic growth whilst the measures included in the 2040 vision take effect. Given this, a 2030 future year assessment has been carried out. The 2025 to 2030 growth factors have been obtained from the TEMPro database for Rochdale 007.
- 8.3.3 Both the proposed development (JPA17) and one of the committed developments (JPA19) which is also included in the assessment (see Section 8.4) are allocated sites. Given this, alternative assumptions have been applied to the TEMPro database to remove any double counting of future traffic volumes.
- 8.3.4 The resultant 2025 to 2030 TEMPro growth factors are set out in **Table 8.1**.

Table 8.1: TEMPRO Growth Factors Adjusted by NTM – Rochdale 007 – Alternative Assumptions Applied

Period	AM Peak	PM Peak
2025-2030	1.0173	1.0148

- 8.3.5 The AM and PM peak hour surveyed traffic volumes have been uplifted using the growth factors in **Table 8.1** to provide 2030 growthed surveyed traffic volumes, which are shown in **Figures 3 & 4** for the weekday AM and PM peak hours, respectively.

8.4 Committed Development

- 8.4.1 As part of the initial pre-application discussions with the LPA, it was requested that the Crimble Mill allocation (JPA19) / associated planning application (22/00588/FUL) is included as a committed development.
- 8.4.2 Additionally, the RMBC planning portal has been reviewed to establish whether there is any further influencing nearby committed developments, which have the potential to generate traffic within the road network of interest to the proposed development site. One additional development was identified which is Greenbooth Road (20/01170/OUT).
- 8.4.3 In deriving traffic volumes for this assessment associated with the above two committed developments, the Tetra Tech Transport Assessment (January 2022) for Crimble Mill and the SCP Transport Statement (August 2020) for Land at Greenbooth Road have been reviewed and relevant the trip generation / traffic assignment information has been extracted.
- 8.4.4 The Crimble Mill committed development traffic volumes are shown on **Figures 5 and 6**, for the AM and PM peak hours respectively.
- 8.4.5 The Land at Greenbooth Road committed development traffic flows are shown on **Figures 7 and 8**, for the AM and PM peak hours respectively.
- 8.4.6 The combined committed development traffic volumes are shown on **Figures 9 and 10**, for the AM and PM peak hours respectively.

8.5 2030 'Without' Development Traffic Volumes

- 8.5.1 The 2030 'without development traffic volumes (2025 Survey + TEMPro Growth + Committed) are shown in **Figures 11 and 12** for the weekday AM and PM peak hours, respectively.

8.6 Trip Distribution

- 8.6.1 The approach to trip distribution has been agreed with TfGM.
- 8.6.2 A census-based gravity model was prepared to derive an initial distribution, for establishing the study area. Following the 2025 traffic surveys, the trip distribution has been updated based on the survey traffic volumes, as agreed with TfGM.
- 8.6.3 The most likely route (or routes) between the development site and employment areas has been identified using Google Maps traffic routing for the roads. Those routes are shown on **Extract 8.1**.
- 8.6.4 The weighting on each route is shown in **Table 8.2**, for both the census-based gravity model and the surveyed traffic volume approaches.

Extract 8.1: Routes for Traffic Distribution – Residential Development



Table 8.2: Trip Distribution Gravity Model: Weighting per Route

Route	Census Data (Both peaks, arrivals and departures)	Traffic Survey Data			
		AM peak		PM peak	
		Depart	Arrive	Depart	Arrive
A	6%	10%	14%	19%	7%
B	25%	20%	22%	18%	15%
C	19%	7%	8%	5%	9%
D	37%	32%	36%	26%	29%
E	13%	31%	19%	32%	40%
Total	100%	100%	100%	100%	100%

- 8.6.5 The traffic survey data trip distribution has been used for the traffic impacts assessments, and this is presented as follows:

- Figure 13 – Trip Distribution – AM peak – 43 Dwellings from Greenvale

- Figure 14 – Trip Distribution – PM peak – 43 Dwellings from Greenvale
- Figure 15 – Trip Distribution – AM peak – 407 Dwellings from Norden Road
- Figure 16 – Trip Distribution – PM peak – 407 Dwellings from Norden Road

8.7 Vehicular Trip Generation

- 8.7.1 It is clear that the proposed 43 dwellings in isolation will not have a significant impact on the local highway network, given that they are forecast to generate just 20 and 18 trips in the AM and PM peak hours respectively (See **Table 8.3**).
- 8.7.2 The proposed development is estimated to generate less than one trip every minute during either peak hour. From the site access, the development trips will dissipate across the network thus further diluting the impacts of the development trips.
- 8.7.3 With reference to paragraph 115 of the NPPF, the results summarised in this section demonstrate that the residual cumulative traffic impacts of the proposed development (43 dwellings) will not be significant, and certainly will not be severe.
- 8.7.4 Notwithstanding the above, as part of the pre-application scoping, TfGM and the LHA have requested that the traffic impacts of the full JPA17 allocation are tested.

Vision Led Vehicle Trip Generation of the Proposals & the Wider Allocation – For Assessment

- 8.7.5 As set out in Chapter 6, the NPPF requires a Vision Led assessment and the Vision Led multimodal trip rates were previously set out in **Table 6.4**. The Vision Led AM and PM peak hour vehicle trip rates are set out in **Table 8.3**, along with the traffic generation associated with the proposed 43 dwellings, the remaining 407 dwellings within JPA17 and then the combined JPA17 total (450 dwellings).

Table 8.3: Vision Led Vehicle Trip and Traffic Generation – Peak Hours

Classification	AM peak hour			PM peak hour		
	Arrive	Depart	Total	Arrive	Depart	Total
Trip Rates (Vision Led)						
Vision Led	0.12	0.35	0.47	0.30	0.12	0.42
Traffic Generation (Vision Led)						
Proposals: 43 dwellings	5	15	20	13	5	18
Remainder of JPA17: 407 dwellings	48	141	189	123	48	171
JPA17 total: 450 dwellings	53	156	209	136	53	189

- 8.7.6 **Table 8.3** shows that the proposals are forecast to generate 209 and 189 two-way people trips in the weekday AM and PM peak hour, respectively.

8.8 JPA 17 Development Traffic Assignment

- 8.8.1 The JPA17 vehicle trip generation as set out in **Table 8.3** has been assigned to the residential trip distribution in **Figures 13 to 16**.
- 8.8.2 The resultant traffic generation and assignment associated with proposed development (43 dwellings) is shown in **Figures 17 and 18** for the AM and PM peak hours respectively.
- 8.8.3 The resultant traffic generation and assignment associated with remainder of the JPA17 allocation (407 dwellings) is shown in **Figures 19 and 20** for the AM and PM peak hours respectively.
- 8.8.4 The JPA17 total (450 dwellings) traffic generation and assignment is shown in **Figures 21 and 22** for the AM and PM peak hours respectively.

8.9 2030 ‘With’ JPA17 Traffic Volumes

- 8.9.1 To derive the 2030 ‘With’ JPA17 traffic volumes, the JPA17 Allocation traffic generation and assignment (**Figures 21 & 22**) have been added to the 2030 ‘Without’ Development traffic volumes (**Figures 11 & 12**). The resultant 2030 ‘With’ JPA17 traffic volumes are illustrated in **Figures 23 and 24**, for the AM and PM peak hours respectively.

9.0 Traffic Impact Assessment

9.1 Background

- 9.1.1 This section of the report summarises the capacity assessments undertaken for the junctions within the study area, which comprise:
1. Proposed Site Access / Greenvale (43 Dwellings)
 2. A680 / Bagslate Moor Road (J1)
 3. Bagslate Moor Road / Moorland Avenue (J2)
 4. Bagslate Moor Road / Clay Lane (J3)
 5. Norden Road / Norford Way (J4)
 6. Norden Road / War Office Road (J5)
 7. Bury & Rochdale Old Road / Norden Road (J6)
 8. Bury & Rochdale Old Road / War Office Road (J7)
 9. Bury & Rochdale Old Road / Queen's Park Road (J8)
 10. Greenvale / Bramley Road (J9)
- 9.1.2 The junction capacity assessment at these junctions have been carried out for weekday AM and PM peak hours for the following scenarios:
- 2030 'Without' development traffic volumes and
 - 2030 'With' JPA17 traffic volumes.
- 9.1.3 The junction capacity assessments have been undertaken using TRL's Junctions 9 modelling software (ARCADY for roundabouts and PICADY for T-junctions) and JCT's LinSig for signalised junctions.
- 9.1.4 For Junctions 9 (ARCADY and PICADY), the key junction performance indicators are:
- The ratio of flow to capacity (RFC), where RFC values less than 1.0 indicate the junction is operating within its ultimate capacity;
 - Average queues in PCUs, which indicates the forecast length of traffic queues; and
 - Average delays in seconds per PCU.
- 9.1.5 For LinSig, the key junction performance indicators are:
- Degree of Saturation (DegSat) values, where a value of 100% indicates that the junction is operating at its theoretical capacity
 - Mean Max Queue lengths (MMQ) measured in passenger car units (PCU).
 - Average delays provided in sec/PCU
 - Junction Modelling

9.2 Proposed Site Access / Greenvale Junction

- 9.2.1 The capacity assessment for the proposed Site Access / Greenvale priority junction has been carried out in PICADY (Junctions 9).
- 9.2.2 The capacity assessment results are summarised in **Table 9.1** and the full Junctions 9 output is included as **Appendix L**.

Table 9.1: Proposed Site Access / Greenvale Priority Junction - Modelling Assessment Results

Arm	AM Peak			PM Peak		
	Queue (PCU)	Delay (s)	RFC	Queue (PCU)	Delay (s)	RFC
2030 With JPA17 (43 dwellings via this Access)						
Site Access	0	8	0.03	0	7	0.01
Greenvale Right Turners	0	0	0	0	0	0
Junction Delay (s)	2			1		

- 9.2.3 As expected, **Table 9.1** demonstrates that the site access junction from Greenvale is forecast to easily accommodate the proposed development, with ample spare capacity and no queues, and very limited delays on all arms.

9.3 J1 – A680 / Bagslate Moor Road Mini Roundabout Junction

- 9.3.1 The capacity assessment for the A680 / Bagslate Moor Road mini roundabout junction has been carried out in ARCADY (Junctions 9).
- 9.3.2 This junction has been validated using the direct traffic volume input, which is in line with TRL's suggested approach where validation is carried out. The validation model is attached as **Appendix M**. The ARCADY intercept values from the validation model have been carried over into the 2030 assessment model. Within the 2030 assessment model, the "one-hour" modelling input has been used which synthesises a 30-minute peak within the peak hour.
- 9.3.3 The junction summary results are presented in **Table 9.2**, and the 2030 Assessment model is attached as **Appendix N**.

Table 9.2: Bagslate Moor Road / Moorland Avenue Junction - Modelling Assessment Results

Arm	AM Peak			PM Peak		
	Queue (PCU)	Delay (s)	RFC	Queue (PCU)	Delay (s)	RFC
2030 Without Development						
A680 East	2.9	17	0.75	12.7	61	0.96
Bagslate Moor Road	7	52	0.90	17.6	126	1.03
A680 West	7	32	0.89	2.4	12	0.71
Junction Delay (s)	30			59		
2030 With JPA17						
A680 East	2.9	17	0.75	12.7	61	0.96
Bagslate Moor Road	11.4	77	0.96	20.7	143	1.05
A680 West	8.4	38	0.91	2.5	12	0.72
Junction Delay (s)	38			63		

- 9.3.4 **Table 9.2** demonstrates that the A680 / Bagslate Moor Road junction is forecast to operate within capacity on all three arms during in the AM peak hour. Two arms are approaching capacity, with Bagslate Moor Road and the A680 west forecast to operate at 96% and 91% of their capacities in the With JPA 17 Scenario. That said, the additional delay as a result of the JPA 17 allocation is just 25 and 6 seconds, whilst the additional queues are just 4.4 and 1.4 PCU on the Bagslate Moor Road and the A680 west arms respectively. These queue and delay impacts in the AM peak hour are not significant.
- 9.3.5 In the PM peak hour, the Bagslate Moor Road arm is forecast to operate over capacity in both the Without (103%) and With JPA17 (105%) scenarios. The JPA 17 impacts on this arm are an additional 17 seconds of delay (average second per PCU) and an additional 3.1 PCU in the queue. The total delay and queue on this arm in the ‘With’ JPA 17 Scenario are 2 minutes and 23 seconds and 20.7 PCU respectively. The other two arms are forecast to operate within capacity and with very limited impacts associated with JPA 17. Considering the results at this junction as a whole, the JPA 17 impacts are not significant.
- 9.3.6 Furthermore, during the PM peak hour, the average delay per PCU across the whole junction increases from 59 to 63 seconds in the Without and With JPA 17 scenarios. This overall increase in junction delay is clearly not significant.
- 9.3.7 Given the above, this junction does not justify any mitigation with reference to the NPPF.

9.4 J2 – Bagslate Moor Road / Moorland Avenue Priority Junction

- 9.4.1 The capacity assessment for the Bagslate Moor Road / Moorland Avenue priority junction has been carried out in PICADY (Junctions 9).
- 9.4.2 The capacity assessment results are summarised in **Table 9.3** and the full Junctions 9 output is included as **Appendix O**.

Table 9.3: Bagslate Moor Road / Moorland Avenue Junction - Modelling Assessment Results

Arm	AM Peak			PM Peak		
	Queue (PCU)	Delay (s)	RFC	Queue (PCU)	Delay (s)	RFC
2030 Without Development						
Moorland Ave - Left	0.0	17	0.04	0.0	10	0.01
Moorland Ave - Right	2.7	42	0.74	1.0	23	0.49
Bagslate Moor Rd - Right Turners	0.0	5	0.03	0.1	5	0.05
Junction Delay (s)	7			2		
2030 With JPA17						
Moorland Ave - Left	0.1	23	0.06	0.0	10	0.02
Moorland Ave - Right	3.5	54	0.80	1.1	25	0.54
Bagslate Moor Rd - Right Turners	0.0	5	0.03	0.1	5	0.05
Junction Delay (s)	9			3		

9.4.3 **Table 9.3** demonstrates that the Bagslate Moor Road / Moorland Avenue junction is forecast to easily accommodate the JPA 17 allocation, with spare capacity and very limited impacts on queue and delay on all arms, associated with the development.

9.5 J3 – Bagslate Moor Road / Clay Lane Priority Junction

- 9.5.1 The capacity assessment for the Bagslate Moor Road / Clay Lane priority junction has been carried out in PICADY (Junctions 9).
- 9.5.2 The capacity assessment results are summarised in **Table 9.4** and the full Junctions 9 output is included as **Appendix P**.

Table 9.4: Bagslate Moor Road / Clay Lane Priority Junction - Modelling Assessment Results

Arm	AM Peak			PM Peak		
	Queue (PCU)	Delay (s)	RFC	Queue (PCU)	Delay (s)	RFC
2030 Without Development						
Clay Lane - Left	0.4	9	0.27	0.2	9	0.18
Clay Lane - Right	0.3	19	0.22	0.2	21	0.16
Bagslate Moor Rd - Right Turners	0.6	4	0.18	1.0	6	0.32
Junction Delay (s)	2			2		
2030 With JPA17						
Clay Lane - Left	0.4	10	0.28	0.2	9	0.19
Clay Lane - Right	0.3	20	0.23	0.2	22	0.17
Bagslate Moor Rd - Right Turners	0.6	4	0.20	1.1	6	0.34
Junction Delay (s)	2			2		

9.5.3 **Table 9.4** demonstrates that the approved Bagslate Moor Road/ Clay Lane junction is forecast to easily accommodate the JPA 17 allocation, with ample spare capacity and no queues, and very limited delays on all arms.

9.6 J4 – Norden Road / Norford Way Priority Junction

- 9.6.1 The junction capacity assessment for the Norden Road / Norford Way priority junction has been carried out in PICADY (Junctions 9).
- 9.6.2 The capacity assessment results are summarised in **Table 9.5** and the full Junctions 9 output is included as **Appendix Q**.

Table 9.5: Norden Road / Norford Way Priority Junction - Modelling Assessment Results

Arm	AM Peak			PM Peak		
	Queue (PCU)	Delay (s)	RFC	Queue (PCU)	Delay (s)	RFC
2030 Without Development						
Norford Way	0.6	22	0.39	0.3	20	0.26
Norden Road - Right Turners	0.0	8	0.02	0.0	9	0.02
Junction Delay (s)	2			1		
2030 With JPA17						
Norford Way	0.8	26	0.46	0.4	22	0.29
Norden Road - Right Turners	0.0	8	0.02	0.0	10	0.02
Junction Delay (s)	2			1		

- 9.6.3 **Table 9.5** demonstrates that Norden Road / Norford Way junction is forecast to easily accommodate the JPA 17 allocation, with ample spare capacity and no queues, and very limited delays on all arms.

9.7 J5 – Norden Road / War Office Road Priority Junction

- 9.7.1 The capacity assessment for the Norden Road / War Office Road priority junction has been carried out in PICADY (Junctions 9).
- 9.7.2 The capacity assessment results are summarised in **Table 9.6** and the full Junctions 9 output is included as **Appendix R**.

Table 9.6: Norden Road / War Office Road Priority Junction - Modelling Assessment Results

Arm	AM Peak			PM Peak		
	Queue (PCU)	Delay (s)	RFC	Queue (PCU)	Delay (s)	RFC
2030 Without Development						
War Office Rd - Left	0.0	10	0.02	0.0	10	0.03
War Office Rd - Right	0.9	20	0.47	1.2	24	0.55
Norden Rd - Right Turners	0.0	5	0.02	0.0	4	0.02
Junction Delay (s)	2			3		
2030 With JPA17						
War Office Rd - Left	0.0	10	0.03	0.1	10	0.06
War Office Rd - Right	1.0	23	0.50	1.3	26	0.58
Norden Rd - Right Turners	0.1	5	0.05	0.0	4	0.03
Junction Delay (s)	3			3		

9.7.3 **Table 9.6** demonstrates that the Norden Road / War Office Road junction is forecast to easily accommodate the JPA 17 allocation, with ample spare capacity and no queues, and very limited delays on all arms.

9.8 J6 – Bury & Rochdale Old Road / Norden Road Signalised Junction

- 9.8.1 The junction capacity assessment for the Bury & Rochdale Old Road / Norden Road signalised junction has been carried out in LinSig. In modelling this junction, the TfGM UTC signal data has been obtained from TfGM and aligned with.
- 9.8.2 The capacity assessment results are summarised in **Table 9.7** and the full LinSig output is included as **Appendix S**.

Table 9.7: Bury & Rochdale Old Road / Norden Road Signalised Junction - Modelling Assessment Results

Arm	AM Peak			PM Peak		
	DOS (%)	Delay (s)	MMQ (PCU)	DOS (%)	Delay (s)	MMQ (PCU)
2030 Without Development						
Bury & Rochdale Old Road S Left	22.0%	4	2.1	49.3%	5	6.3
Bury & Rochdale Old Road S Ahead Right	69.9%	37	13.7	70.0%	28	16.4
Norden Road Right Left Ahead	85.0%	42	19.3	69.1%	41	10.7
Bury & Rochdale Old Road N Ahead Left	83.9%	48	17.1	65.8%	28	13.9
Bury & Rochdale Old Road N Right	0.6%	49	0	3.4%	42	0.1
Residential Access Left Ahead Right	0.0%	0	0	0.0%	0	0
Junction Delay (s)	20			15		
2030 With JPA17						
Bury & Rochdale Old Road S Left	24.0%	4	2.2	55.9%	6	7.9
Bury & Rochdale Old Road S Ahead Right	76.1%	42	14.6	71.4%	29	16.7
Norden Road Right Left Ahead	92.0%	50	24.9	72.4%	42	11.7
Bury & Rochdale Old Road N Ahead Left	91.8%	66	19.9	67.2%	29	14.2
Bury & Rochdale Old Road N Right	0.7%	55	0	3.7%	44	0.1
Residential Access Left Ahead Right	0.0%	0	0	0.0%	0	0
Junction Delay (s)	27			16		

- 9.8.3 **Table 9.7** demonstrates that the Bury & Rochdale Old Road/ Norden Road Junction is forecast to operate within capacity in both peak hours in the With JPA 17 scenario. During the AM peak hour, two arms are approaching capacity, however those arms can accommodate the JPA 17 allocation, with very limited queues and delays impacts on all arms and across the junction as a whole.

9.9 J7 –Bury & Rochdale Old Rd/War Office Rd / Sandhole Ln Priority Junction

- 9.9.1 The junction capacity assessment for the Bury & Rochdale Old Road / War Office Road / Sandhole Lane priority junction has been carried out in PICADY (Junctions 9).
- 9.9.2 The capacity assessment results are summarised in **Table 9.8** and the full Junctions 9 output is included as **Appendix T**.

Table 9.8: Bury & Rochdale Old Rd / War Office Rd / Sandhole Ln Junction - Modelling Assessment Results

Arm	AM Peak			PM Peak		
	Queue (PCU)	Delay (s)	RFC	Queue (PCU)	Delay (s)	RFC
2030 Without Development						
Sandhole Lane	0	0	0	0	0	0
Bury & Rochdale Old Road (E) - Right Turners	0.4	10	0.28	0.7	14	0.42
War Office Road - Left Ahead	0.5	11	0.31	0.3	11	0.23
War Office Road - Right Ahead	0.4	18	0.28	0.4	23	0.28
Bury & Rochdale Old Road (W) - Right Turners	0	0	0	0	8	0
Junction Delay (s)	3			3		
2030 With JPA17						
Sandhole Lane	0	0	0	0	0	0
Bury & Rochdale Old Road (E) - Right Turners	0.4	11	0.29	0.8	15	0.45
War Office Road - Left Ahead	0.5	12	0.34	0.3	11	0.24
War Office Road - Right Ahead	0.4	18	0.28	0.4	24	0.28
Bury & Rochdale Old Road (W) - Right Turners	0	0	0	0	8	0
Junction Delay (s)	3			3		

9.9.3 **Table 9.8** demonstrates that the Bury & Rochdale Old Road / War Office Road / Sandhole Lane junction is forecast to easily accommodate the JPA 17 allocation, with ample spare capacity and no queues, and very limited delays on all arms.

9.10 J8 – Bury & Rochdale Old Road / Queen’s Park Road Signalised Junction

9.10.1 The junction capacity assessment for the Bury & Rochdale Old Road / Queen’s Park Road signalised junction has been carried out in LinSig. In modelling this junction, the TfGM UTC signal data has been obtained and aligned with. Additionally, the 2025 traffic surveys carried out by MHC traffic included signal timing observations and records, which have also been used to inform the modelling of this junction.

9.10.2 The 2025 surveyed traffic volumes have been included in the modelling and two scenarios have been run:

1. Maximum cycle time as suggested by SCOOT.
2. Average cycle time observed during the peak hour as suggested by the 2025 traffic survey.

- 9.10.3 Looking at the 2025 surveyed traffic volumes, it is the case that the cycle time based on the 2025 observed cycle time validates significantly better than the maximum cycle time suggested by SCOOT.
- 9.10.4 Both cycle times have been taken forward into the 2030 capacity assessment and the results are summarised in **Table 9.9** the full LinSig output is included as **Appendix U**.

Table 9.9: Bury & Rochdale Old Rd / Queen's Park Rd Signalised Junction - Modelling Assessment Results

Arm	AM Peak			PM Peak		
	DOS (%)	Delay (s)	MMQ (PCU)	DOS (%)	Delay (s)	MMQ (PCU)
2030 Without Development - SCOOT suggested cycle time						
Bury & Rochdale Old Rd (West) Ahead Right	50.3%	16	9.4	97.9%	72	34.6
Bury & Rochdale Old Road (East) Ahead Left	83.5%	20	16	86.0%	29	16.1
Queen’s Park Road Left	16.1%	41	1.4	8.8%	28	1
Queen’s Park Road Right	81.1%	64	10.2	98.3%	95	26.4
Junction Delay (s)	15			41		
2030 With JPA17 - SCOOT suggested cycle time						
Bury & Rochdale Old Rd (West) Ahead Right	51.2%	16	9.8	104.3%	142	56.1
Bury & Rochdale Old Road (East) Ahead Left	89.2%	23	20.7	88.9%	32	17.5
Queen’s Park Road Left	16.9%	42	1.4	8.8%	28	1
Queen’s Park Road Right	88.0%	78	11.8	105.1%	173	41.2
Junction Delay (s)	18			76		
2030 Without Development - Surveyed Cycle Time						
Bury & Rochdale Old Rd (West) Ahead Right	45.3%	16	11.7	92.7%	55	35.4
Bury & Rochdale Old Road (East) Ahead Left	79.3%	18	22	84.0%	29	20.9
Queen’s Park Road Left	15.7%	57	2	8.2%	33	1.3
Queen’s Park Road Right	79.3%	81	13.9	91.7%	72	25.8
Junction Delay (s)	16			18		
2030 With JPA17 - Surveyed Cycle Time						
Bury & Rochdale Old Rd (West) Ahead Right	46.4%	16	12.2	98.7%	83	46.4
Bury & Rochdale Old Road (East) Ahead Left	85.2%	20	29.2	86.7%	32	23.5
Queen’s Park Road Left	16.2%	58	2	8.2%	33	1.3
Queen’s Park Road Right	84.6%	89	15.2	98.0%	100	33
Junction Delay (s)	33			50		

- 9.10.5 Looking at the average observed / surveyed cycle time during the peak hours, **Table 9.9** demonstrates that the Bury & Rochdale Old Road / Queen's Park Road junction is forecast to operate within capacity in both the AM and PM peak hours. The PM peak hour is approaching capacity on two arms, however those arms can accommodate the JPA 17 allocation, with very limited queues and delays impacts on all arms and across the junction as a whole.

9.11 J9 – Greenvale / Bramley Road Priority Junction

- 9.11.1 The junction capacity assessment for the Greenvale/ Bramley Road priority junction has been carried out in PICADY (Junctions 9).
- 9.11.2 The capacity assessment results are summarised in **Table 9.10** and the full Junctions 9 output is included as **Appendix V**.

Table 9.10: Greenvale / Bramley Road Junction - Modelling Assessment Results

Arm	AM Peak			PM Peak		
	Queue (PCU)	Delay (s)	RFC	Queue (PCU)	Delay (s)	RFC
2030 Without Development						
Bramley Road - Right	0.1	6	0.09	0.0	6	0.04
Bramley Road - Left	0.0	6	0.01	0.0	6	0.01
Greenvale (E) - Right Turners	0.0	6	0.03	0.1	6	0.06
Junction Delay (s)	4			3		
2030 With JPA17						
Bramley Road - Right	0.1	6	0.09	0.0	6	0.04
Bramley Road - Left	0.0	6	0.01	0.0	6	0.01
Greenvale (E) - Right Turners	0.0	6	0.03	0.1	6	0.06
Junction Delay (s)	4			3		

- 9.11.3 **Table 9.10** demonstrates that the Greenvale / Bramley Road junction is forecast to easily accommodate the JPA17 allocation, with ample spare capacity and no queues, and very limited delays on all arms.

9.12 Traffic Impact Assessment Summary

- 9.12.1 The traffic impact assessment has found that the majority of junctions are forecast to operate well within capacity in both the AM and PM peak hours.
- 9.12.2 Junctions 1 and 6 in the AM peak, along with Junction 8 in the PM peak are forecast to operate close to their capacity in the 2030 With JPA 17 Scenario, however the queue and delay impacts as a result of the allocation are not significant.
- 9.12.3 Junction 1 in the PM peak hour is forecast to operate over slightly capacity in the in the 2030 With JPA 17 Scenario, however the queue and delay impacts as a result of the allocation are not significant.
- 9.12.4 Given the above and reference to the NPPF no highway capacity improvements are required to enable the JPA 17 allocation to be brought forward. The focus of mitigation should relate to active travel and public transport, as set out earlier in this TA.
- 9.12.5 Of the 9 off site junctions, which have been assessed, only one arm of one junction in one peak hour is forecast to operate slightly over capacity, and hence the JPA 17 impacts are not significant. Accordingly with reference to the NPPF, it is concluded that the residual cumulative impacts on

the road network, following the sustainable mitigation measures, will not be severe, taking into account all reasonable future scenarios.

10.0 Summary and Conclusions

10.1 Summary

- 10.1.1 Tetra Tech (TT) has been appointed by Wain Homes (Northwest) Ltd to provide transport planning advice in relation to a proposed residential development, on land off Greenvale, Bamford, Rochdale.
- 10.1.2 The proposals are for 43 dwellings, with the proposed site access taken from Greenvale (Application Site). Of the 43 dwellings proposed, 7 are affordable homes.
- 10.1.3 The proposals form part of 'JPA17 - Bamford and Norden' (Allocation Site) which is an allocated site within the adopted Places for Everyone Joint Development Plan (2022 to 2039), The full JPA17 allocation is for around 450 homes.
- 10.1.4 The transport planning work for this TA has been scoped with the Local Highway Authority (LHA) and Transport for Greater Manchester (TfGM).
- 10.1.5 The existing conditions of the local highway network have been reviewed, along with the personal injury accident data. The residential roads in the vicinity of the site are of adequate width and quality, are subject to 30mph speed limits and are street lit.
- 10.1.6 The personal injury accident review has found that road network near the proposals has a very good safety record. It is concluded there are no existing road safety problems which could be exacerbated by the proposed development.
- 10.1.7 The on-site layout has been designed using the principles set out in Manual for Streets and other relevant guidance
- 10.1.8 The on-site turning heads have been tracked with a large refuse vehicle, demonstrating that this vehicle can adequately turn within the site.
- 10.1.9 The proposed bends on the internal road layout, will assist in self-enforcing low vehicle speeds.
- 10.1.10 The proposed site access is taken from Greenvale, via a simple priority junction. The visibility splays achieved are more than adequate, based on the recorded 85th percentile approach speeds.
- 10.1.11 The site access junction has been tracked with a large refuse vehicle, demonstrating that this vehicle can adequately access the site.
- 10.1.12 Pedestrian access to the site is via the main site access on Greenvale and that pedestrian access is suitable for the proposals.
- 10.1.13 There is however the potential for a further pedestrian connection to be made to the east of the site, to the existing Public Right of Way, which exists within the wider JPA17 allocation. The site layout plan shows how the applicant will provide the pedestrian infrastructure for this potential connection within their red line boundary. The LHA may choose to deliver the onward connection to the PRoW, which is outside of the application site boundary and the onward connection will be provided as the remaining wider JPA17 allocation is brought forward. For the avoidance of doubt, the proposals are not reliant on this connection to the PRoW being made, as safe and suitable

pedestrian routes are provided through the site, to Greenvale where the existing footway network can be reached.

- 10.1.14 The proposed parking provides a slightly higher level of parking than the RMBC minimum parking standards to minimise on-street parking. As those are minimum parking standards, providing a higher level of parking accords with the standards. A number of dwellings will have garages, which will also provide space for cycle parking.
- 10.1.15 Both a typical and a 'Vision Led' multimodal trip generation assessment has been carried out, for both the proposals, and the wider JPA17 allocation. The typical trip rates suggest around 56 – 62% of trips will be made by car drivers. The Vision Led trip rates give a figure of 50-56%. The mode shift identified within the Vision Led is for cyclists and public transport users.
- 10.1.16 In the Vision Led trip generation assessment, the proposals are forecast to generate:
- 25 pedestrian trips a day.
 - 9 cycle trips a day.
 - 31 public transport trips a day.
- 10.1.17 In the Vision Led trip generation assessment, the full JPA17 allocation is forecast to generate:
- 266 pedestrian trips a day.
 - 97 cycle trips a day.
 - 323 public transport trips a day.
- 10.1.18 To achieve the vision, the JPA17 allocation site will:
- include greenways across the allocation site,
 - provide a signalised pedestrian crossing point on Norden Road.
 - upgrade the existing bus stops on Norden Road / War Office Road.
 - provide a suitable contribution to public transport (per dwelling) to be agreed with TfGM, if justified.
- 10.1.19 Furthermore, the wider allocation will increase bus patronage significantly, resulting in some bus service improvements on a commercial basis.
- 10.1.20 The applicant for this 43-dwelling scheme will proportionately (9.56%) contribute towards those improvements.
- 10.1.21 The proposed development is well located for access on foot. The roads within the vicinity of the site have good footway provision and a wide number of facilities and amenities are accessible on foot, including local shopping destinations, eateries, schools and leisure facilities.
- 10.1.22 A wide number of employment destinations can be reach by cycle, including Heywood and areas in the west of Rochdale. The e-bike catchment also includes the whole of Rochdale, Bury town centre and Middleton.
- 10.1.23 The nearest bus stops are 700m walk from the centre of the proposals, via the existing highway network. The walk distance will be reduced to 450m, following the implementation of the wider JPA17 proposals.

- 10.1.24 The bus services on Norden Road provide a high frequency service of 12 buses an hour (two-way), to a wide variety of destinations. This existing bus provision will assist in promoting sustainable travel at the site.
- 10.1.25 Given the above, the proposals are accessible via sustainable travel means and is therefore compliant with national and local policies on sustainable transport provisions.
- 10.1.26 The sustainable transport measures to be provided by the proposals and the JPA17 allocation will assist the site in achieving the Transport Vision for the proposals, which is to work towards the GM 2040 Transport Strategy 'Right Mix Vision'.
- 10.1.27 In terms of traffic impact, in the Vision Led scenario, the proposals are expected to generate just 20 and 18 vehicle trips in the AM and PM peak hours respectively. This level of traffic generation clearly will not have any significant impacts on the local highway network.
- 10.1.28 The traffic impact assessment has found that the majority of junctions are forecast to operate well within capacity in both the AM and PM peak hours, with the full JPA 17 allocation having been assessed.
- 10.1.29 Junctions 1 and 6 in the AM peak, along with Junction 8 in the PM peak are forecast to operate close to their capacity in the 2030 With JPA 17 Scenario, however the queue and delay impacts as a result of the allocation are not significant.
- 10.1.30 Junction 1 in the PM peak hour is forecast to operate slightly over capacity in the in the 2030 With JPA 17 Scenario, however the queue and delay impacts as a result of the allocation are not significant.
- 10.1.31 Given the above, no highway capacity improvements are required to enable the JPA 17 allocation to be brought forward. The focus of mitigation should relate to active travel and public transport, as set out above.
- 10.1.32 In summary, of the 9 off site junctions, which have been assessed, only one arm of one junction in one peak hour is forecast to operate slightly over capacity, and hence the JPA 17 impacts are not significant. Accordingly with reference to the NPPF, it is concluded that the residual cumulative impacts on the road network, following the sustainable mitigation measures, will not be severe, taking into account all reasonable future scenarios.

10.2 Conclusions

- 10.2.1 In conclusion, the proposed development will:
- Have a safe and suitable site access.
 - Be accessible via sustainable travel modes.
 - Sustainable mitigation measures will be provided
 - Not have any material impacts on the local highway network.
 - The proposals are in line with both national and local transport policies.
- 10.2.2 The applicant will provide proportionate funding for the wider allocation sustainable mitigation measures.

- 10.2.3 Given the above, there are no transport or highways reasons as to why the proposed development should not be approved.