November 2020

Transport Locality Assessments

Introductory Note and Assessments – Wigan allocations

GMSF 2020

GREATER MANCHESTER
DOING THINGS DIFFERENTLY

Table of contents

1. Background

1.1 Greater Manchester Spatial Framework (GMSF)

1.1.1 The GMSF is a joint plan of all ten local authorities in Greater Manchester, providing a spatial interpretation of the Greater Manchester Strategy which will set out how Greater Manchester should develop over the next two decades up to the year 2037. It will:

- identify the amount of new development that will come forward across the 10 Local Authorities, in terms of housing, offices, and industry and warehousing, and the main areas in which this will be focused;
- ensure we have an appropriate supply of land to meet this need;
- protect the important environmental assets across the conurbation;
- allocate sites for employment and housing outside of the urban area;
- support the delivery of key infrastructure, such as transport and utilities;
- define a new Green Belt boundary for Greater Manchester.

1.1.2 The Plan focuses on making the most of Greater Manchester's brownfield sites, prioritising redevelopment of town centres and other sustainable locations. The Plan is required to demonstrate that Greater Manchester has enough land to deliver the homes and jobs people require up until 2037, and whilst there is an expectation that the focus of development will be on brownfield sites in the early years, it is recognised that some land will need to be released from the green belt to fully meet Greater Manchester's housing and employment requirement.

1.1.3 The comments from the Draft GMSF 2019, together with local and national policy, have helped to inform the Locality Assessments methodology for the Draft GMSF 2020. More information on the consultation comments can be found in the Consultation Statement and within each of the Allocation Locality Assessments.

1.1.4 This document has been prepared as evidence for the GMSF and is part of a suite of documents that examine the implications of the GMSF on transport in Greater Manchester. The other documents are:

- Greater Manchester Transport Strategy 2040 and supporting Five Year Transport Delivery Plan. These documents together set out our strategic aspirations for transport in Greater Manchester and articulate our plan for delivery.
- Greater Manchester Transport Strategy 2040 'Right Mix' Technical Note. This note describes the 'Right Mix' transport vision and sets out a pathway to achieving this vision.
- GMSF Existing Land Supply and Transport Technical Note. This describes the distribution and quantity of the Existing Land Supply, identified key growth areas, and considers the relationship of these growth areas to the transport schemes proposed within the Greater Manchester Transport Strategy Delivery Plan.
- GMSF Allocations Strategic Modelling Technical Note. This provides analysis of the potential strategic impact of growth on our transport network in a "policy-off" scenario.

1.2 Policy Context – The National Planning Policy Framework

1.2.1 The National Planning Policy Framework sets out the Government's planning policies for England and Wales and how these are to be applied. It provides a framework for which locally prepared plans for housing and development, such as the GMSF, can be produced.

1.2.2 The NPPF makes it clear that transport issues should be considered from the earliest stages of plan-making and development proposals, so that:

- the potential impacts of development on transport networks can be addressed;
- opportunities from existing or proposed transport infrastructure, and changing transport technology and usage, are realised – for example in relation to the scale, location or density of development that can be accommodated;
- opportunities to promote walking, cycling and public transport use are identified and pursued;
- the environmental impacts of traffic and transport infrastructure can be identified, assessed and taken into account – including appropriate opportunities for avoiding and mitigating any adverse effects, and for net environmental gains; and
- patterns of movement, streets, parking and other transport considerations are integral to the design of schemes, and contribute to making high quality places.

1.2.3 The NPPF makes clear that when assessing sites that may be allocated for development in plans, or specific applications for development, it should be ensured that:

- appropriate opportunities to promote sustainable transport modes can be – or have been – taken up, given the type of development and its location;
- safe and suitable access to the site can be achieved for all users; and
- 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.

1.2.4 Importantly, NPPF states that: 'development should only be prevented or refused on highways grounds if there would be an unacceptable impact on highway safety, or the residual cumulative impacts on the road network would be severe'. (NPPF, Chapter 9, Para 109).

1.2.5 In order to ensure that the requirements of the NPPF were fully met and that that these allocations can be brought forward and operate sustainably within the context of the wider transport network, Transport for Greater Manchester (TfGM), on behalf of the ten Greater Manchester Local Planning Authorities, appointed SYSTRA Ltd to oversee the development of Locality Assessments for each site.

1.2.6 These Locality Assessments forecast the likely level and distribution of traffic generated by each Allocation and assess its impact on the transport network. Where that impact is considered significant, possible schemes to mitigate that impact and reduce it back to the reference level of operation have been developed, tested and costed. Potential mitigations could include the introduction of new public transport schemes, cycling and walking routes, as well as highway engineering solutions. Where suitable mitigations could not be identified, a decision to either reduce the level of development at the Allocation such that it had a lesser impact on the transport network, or to remove the site from the GMSF completely were considered.

1.2.7 It is important to note that the mitigation schemes developed are intended to demonstrate only that significant transport impacts of the Allocation can be appropriately ameliorated. As such they are indicative only, and are not intended to

act as a definitive proposal for the mitigation of any Allocation, which would be developed as part of a Transport Assessment submitted as part of a planning application at a later date.

1.2.8 The Locality Assessments are one of a number of pieces of evidence developed in order to assess and evaluate the impact of the GMSF proposals on the transport network and focus only on the sites being allocated in the Plan. The majority of sites proposed for development are actually contained within the existing land supply (ELS) and have been split into three subcategories; Homes (both houses and apartments), Offices, and Industry and Warehousing. A separate "Existing Land Supply and Transport Technical Note" describes the quantity and distribution of the ELS, the key growth areas and the relationship between areas and the transport schemes proposed to serve them.

1.2.9 Transport for Greater Manchester has also worked closely with Highways England to understand the impact that the Allocations may have on the Strategic Road Network (SRN). SYSTRA Ltd was asked to carry out an exercise to assign the 'with GMSF' traffic flows to an representation of an empty SRN network and to produce network stress maps which identified areas of significant delay on the network, as well as providing detailed breakdowns of GMSF Allocation traffic for key sections of the SRN. This exercise has enabled all parties to move towards a common understanding of where the most significant traffic impacts are likely to occur, and provides a common basis to enable Highways England to make investment decisions as part of future Road Investment Strategy (RIS) planning discussions.

1.3 Policy Context – Greater Manchester Transport Strategy 2040

1.3.1 It is important to recognise that the GMSF has been developed with the benefit of an adopted Local Transport Plan – the Greater Manchester Transport Strategy 2040 (hereafter referred to as the 2040 Transport Strategy). The 2040 Transport Strategy has an established long-term vision for transport, of providing *world class connections that support long-term, sustainable economic growth and access to opportunity for all*. The four key elements of this vision are:

- Supporting sustainable economic growth;
- Protecting the environment;
- Improving quality of life for all; and,
- Developing an innovative city region.

1.3.2 The 2040 Transport Strategy was first published in February 2017. The Strategy has undergone a 'light touch' refresh to reflect work undertaken and the changed context, since 2017. As well as refreshing the 2040 Transport Strategy, to support the GMSF an updated Five Year Transport Delivery Plan has also been prepared. It sets out the practical actions planned to deliver the 2040 Transport Strategy and achieve the ambitions of the GMCA and the Mayor, providing a coordinated approach to transport investment. It is also intended to inform the development of the Greater Manchester Infrastructure Programme (GMIP).

1.3.3 Covid-19 has had a massive health and economic impact on our city region, affecting every person and every business in our city-region. The impact from the pandemic has not been equal or fair, highlighting inequalities across Greater Manchester. Travel demand remains well below levels prior to the pandemic and, although it is increasing, it is clear that Greater Manchester's plans for transport and other policy areas will need to be adaptive as the recovery continues.

1.3.4 The aim will be to "lock in" some of the benefits our neighbourhoods, communities, towns and cities have experienced from lower vehicle traffic levels and embracing the opportunities to be more productive through flexible working and accessing services through high quality digital systems. The vision is for a future where walking and cycling are the obvious choice for shorter journeys and where the past dependency on the car is superseded by a reliable and responsive public transport system. Our Five Year Transport Delivery Plan sets out those first steps, from a transport and place making perspective to support leading the recovery and creating a stronger, sustainable and resilient Greater Manchester.

1.3.5 The Our Network policies in the GMSF and in Our Five Year Transport Delivery Plan support the implementation of "Our Network", a ten-year plan to create an integrated, modern and accessible transport network for Greater Manchester. The Delivery Plan brings together different modes of public transport –- bus, tram, rail,

tram-train and cycling and walking in an integrated, easy-to-use system with seamless connections, and simplified ticketing and fares.

1.3.6 The Five Year Delivery Plan has been prepared to respond to the transport opportunities and challenges facing Greater Manchester, in parallel with the development of the Greater Manchester Spatial Framework (GMSF). Together, these documents provide an integrated approach to transport and land use planning by identifying the strategic transport interventions required to deliver the scale of growth set out in the GMSF. It also supports the priorities of the Greater Manchester Strategy (2018).

1.3.7 A key ambition is to improve our transport system so that, by 2040, 50% of all journeys in Greater Manchester are made by public transport or active travel, supporting a reduction in car use to no more than 50% of daily trips. This will mean one million more sustainable journeys every day in Greater Manchester by 2040, enabling us to deliver a healthier, greener and more productive city-region – this is known as the "Right Mix". Achieving the Right Mix is expected to lead to zero net growth in motor vehicle traffic in Greater Manchester between 2017 and 2040.

1.3.8 Fundamental to delivering the Right Mix will be the adoption of a "Streets for All" framework – to enable more people to walk, cycle and use public transport, and improve reliability for, in particular, buses and freight vehicles on the key route network serving our towns and Regional Centre.

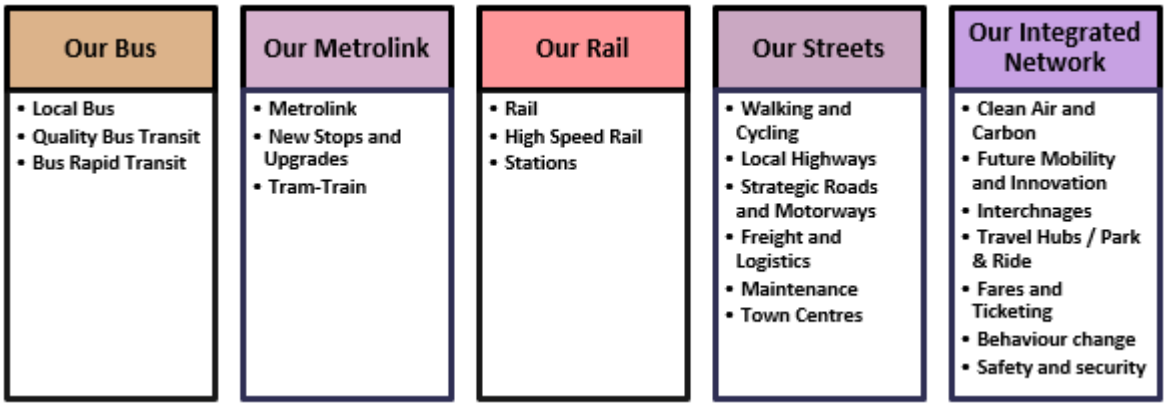
1.3.9 This will be one of the mechanisms used to grow bus patronage alongside:

- Bus Reform
- Integrated Ticketing
- Quality Bus Transit and Bus Corridor Upgrades
- Bus Rapid Transit

1.3.10 Following the introduction of the Bus Services Act (2017), the GMCA asked TfGM to carry out an assessment of a bus franchising scheme, have that assessment reviewed by an independent audit organisation, and carry out a consultation on a proposed franchising scheme which ran from 14 October 2019 to 8 January 2020. The Covid-19 pandemic has had a significant impact on Greater Manchester's bus market, including timetables, revenues, passenger numbers and the public's attitudes to public transport. Due to this, further work will be undertaken to assess the impact of coronavirus on the bus reform process.

1.3.11 Greater Manchester is also delivering the Bee Network - the UK's largest cycling and walking network as a key element in delivering the Right Mix vision. The Combined Authority has allocated £160m between 2018-2022 to fund the first phase of the Bee Network. The network has at its core a programme of new and upgraded pedestrian and cycling crossing points of major roads and other sources of severance, connected by a network of signed cycling and walking routes – known as Beeways – on existing quiet streets. These will be complemented by a number of routes on busier roads where Dutch style cycle lanes protected from motor traffic will be constructed.

1.3.12 Our Five Year Transport Delivery Plan sets out a comprehensive programme of work across all modes and in all Local Authorities which are focused on ensuring the realisation of the 'Right Mix' vision. It contains explanatory text and a summary of the interventions and their stage in the development and delivery process. These include committed, unfunded priorities for the next five years and our longer-term development priorities. The Delivery Plan sections are:



1.3.13 Many of these interventions support the GMSF Allocations directly, whilst others are intended to provide alternatives to private car travel more generally. The schemes demonstrate a clear plan for delivering strategic transport interventions for the first five years of the GMSF plan period, whilst also laying the foundations for longer term investment in sustainable transport across the length of the plan period.

1.3.14 Where relevant, each of the individual Locality Assessments will highlight elements of the Delivery Plan that are particularly relevant to each Allocation or the local area.

1.3.15 Our Five Year Transport Delivery Plan is supported by ten Local Implementation Plans (LIPs) covering the period 2020 to 2025. Each of the ten councils that make up Greater Manchester has its own LIP. The LIPs are designed to ensure local priorities are articulated in the Delivery Plan. The LIPs are included as an appendix to the Delivery Plan. They will be 'live' documents for a period of time and will be updated as councils develop and publish transport plans and strategies, or as new schemes are developed or delivered.

1.3.16 For more detail on the Greater Manchester Transport Strategy 2040 and Our Five Year Transport Delivery Plan visit the TfGM website.

1.4 Structure of this Note

1.4.1 This note sets out the process that was implemented to identify the sites considered as suitable for inclusion in the draft GMSF. It also sets out a summary of the Greater Manchester Accessibility Level (GMAL) model which is TfGM's tool for

assessing the accessibly of sites in public transport terms and which was used in assessing the transport requirements of the Allocations.

1.4.2 An associated exercise was carried out to assess the potential to introduce or extend bus services to the Allocations, and this note sets out the process implemented to assess the likely demand and revenue implications of these new services.

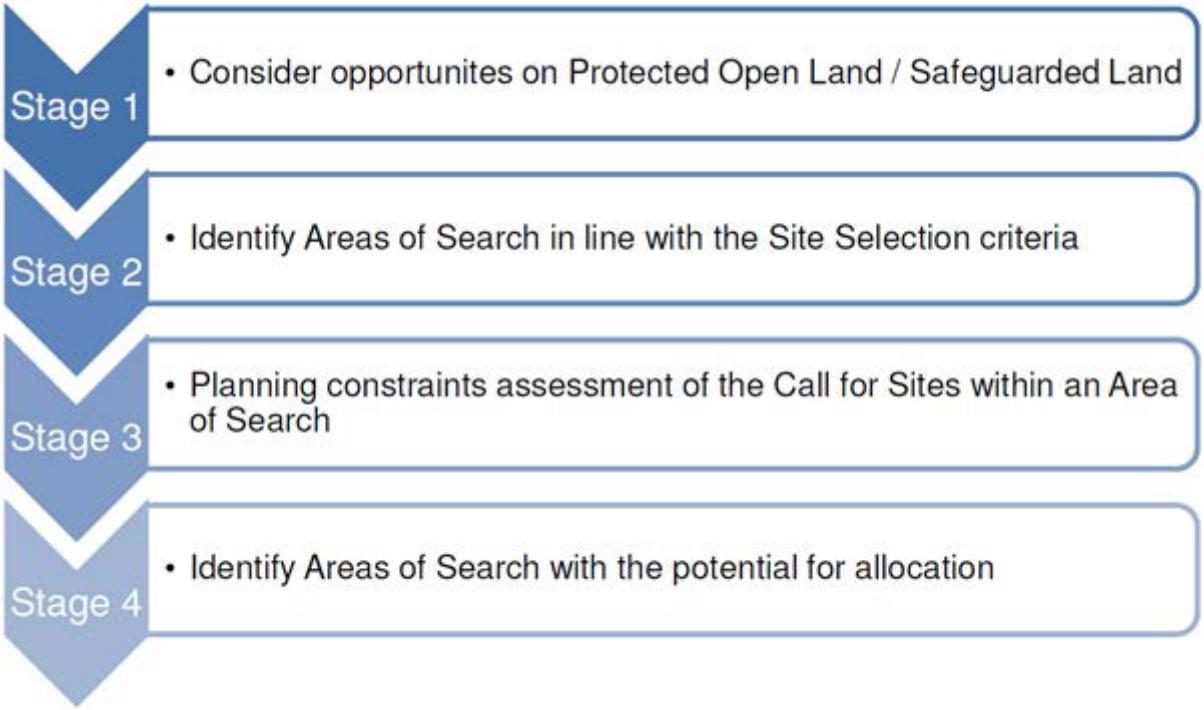
1.4.3 It then explains the approach to strategic modelling which was used to highlight the transport impacts of the Allocations on the transport network, and the process to identify, develop and categorise suggested mitigation schemes.

2. Site Selection

2.1 The Process

1.1.1 The process of identifying and selecting site allocations for the draft GMSF was led by the 10 Greater Manchester Authorities and provided the starting point for further investigation of the preferred sites through the Locality Assessments. It should be noted at the outset that a wide range of planning issues are considered when identifying sites for release, and transport is just one important aspect of this. A Site Selection methodology was developed that included seven criteria informed by the Vision, Objectives and Spatial Strategy in the GMSF 2019, and was used to guide the selection of sites for development within the green belt. A key objective for the process was to demonstrate a clear, consistent and transparent approach to the selection of sites in the GMSF.

1.1.2 The following stages set out the process used to identify the proposed allocations in the GMSF:



1.1.3 Stage One relates to land which is outside of the existing urban area but which is not in the green belt. This includes land which has been identified in Local Authority Local Plans as safeguarded land and/or protected open land (POL). This land is considered to be sequentially preferable to green belt. If stage one does not identify sufficient land to meet the need then it will be necessary to consider sites which are currently in the green belt as part of Stage two.

1.1.4 Stage Two is the identification of broad "Areas of Search" based on the Site Selection Criteria within which call for sites could be assessed. The Site Selection criteria reflect the priorities of the GMSF Spatial Strategy and objectives. The broad Areas of Search approach was chosen because of the volume of call for sites submitted and therefore it was necessary to undertake an initial high level sift to identify only those sites with the potential to meet the GMSF strategy. Sites which did not fall within an Area of Search were not considered to meet the strategy and were therefore excluded from the Site Selection process and not subject to any further assessment.

1.1.5 Based on the GMSF Spatial Strategy, plan objectives and guidance in the NPPF on green belt release, seven Site Selection Criteria were developed to identify the most sustainable sites in the green belt.

- Criterion 1 – Land which has been previously developed and/or land which is well served by public transport.
- Criterion 2 – Land that is able to take advantage of the key assets and opportunities that genuinely distinguish Greater Manchester from its competitors.
- Criterion 3 – Land that can maximise existing economic opportunities which have significant capacity to deliver transformational change and / or boost the competitiveness and connectivity of Greater Manchester and genuinely deliver inclusive growth.
- Criterion 4 – Land within 800 metres of a main town centre boundary or 800m from the other town centres' centroids.
- Criterion 5 – Land which would have a direct significant impact on delivering urban regeneration.
- Criterion 6 – Land where transport investment (by the developer) and the creation of significant new demand (through appropriate development densities), would support the delivery of long-term viable sustainable travel options and deliver significant wider community benefits.
- Criterion 7 – Land that would deliver significant local benefits by addressing a major local problem/issue.

1.1.6 Stage Three is an assessment of the sites within the identified Areas of Search to determine whether development in the Areas of Search would be appropriate, weighing the likely benefits against key planning constraints.

1.1.7 Stage four of the assessment identified proposed allocations within the Areas of Search. These Areas of Search were those which were considered to have no other significant constraints precluding development. Because the Areas of Search were derived from the Site Selection Criteria, it is considered that allocations within them represent the best fit for delivering the GMSF Spatial Strategy.

1.1.8 The Locality Assessments are not proposed to take the place of Transport Assessments (TA) which are a required part of individual Planning Applications. The Locality Assessments are intended to give a high-level assessment of how the site may impact on the surrounding transport network, in the absence of any detailed proposals for the configuration and phasing of a site. As such, they are intended to

highlight any significant 'show stoppers' that would suggest the site was not suitable for further consideration.

2.2 Greater Manchester Accessibility Levels

1.2.1 In order to support analysis of public transport accessibility and to assist in service development, TfGM has developed the Greater Manchester Accessibility Levels (GMAL) model, which provides a detailed and accurate measure of accessibility for any given location in the City Region for public transport (bus, rail and Metrolink), as well as flexible transport services such as Local Link.

1.2.2 GMAL provides a score of a location of between 1 to 8, where 1 represents the lowest level of accessibility and 8 represents the highest.

1.2.3 The GMAL measure reflects:

- Walking time from the point-of interest to the public transport access points;
- The number of services (bus, Metrolink and Rail) available within the catchment;
- The level of service at the public transport access points - i.e. average waiting time; and
- The operating areas of Local Link (flexible transport) services.

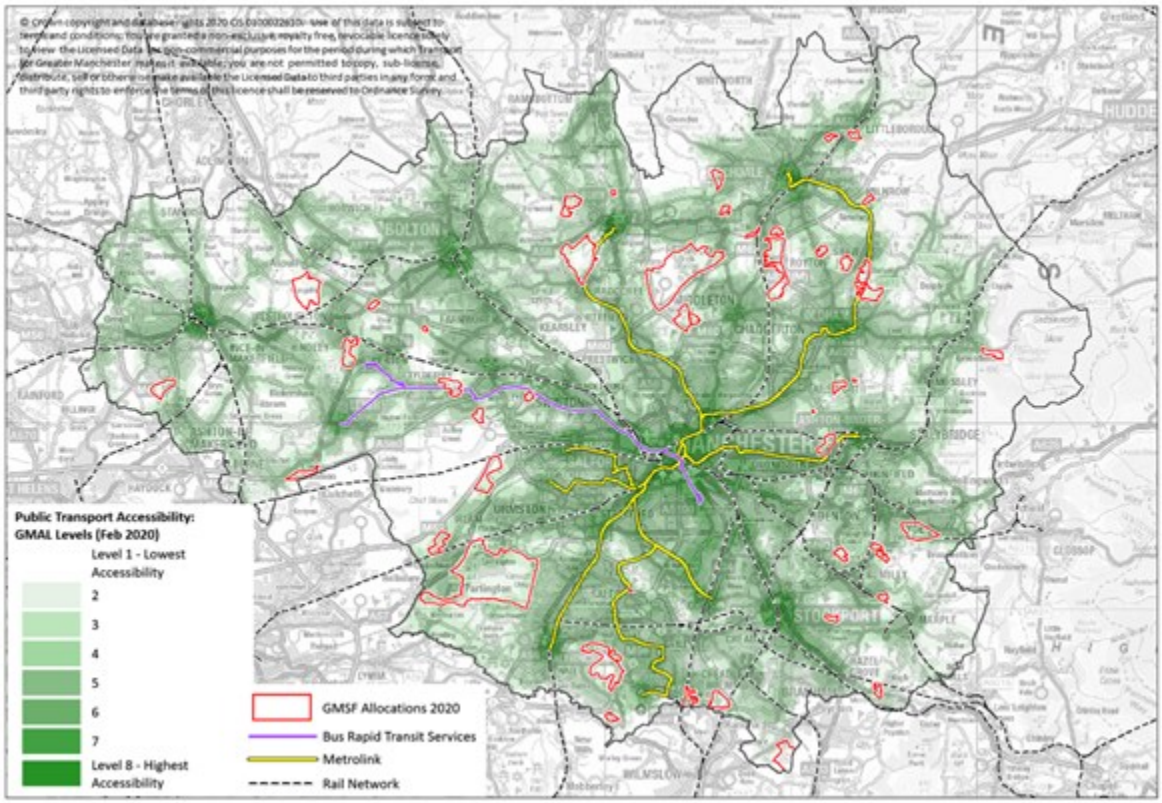
1.2.4 It does not consider:

- The speed or utility of accessible services;
- Crowding, including the ability to board services; or,
- Ease of interchange.

1.2.5 The map below displays the public transport accessibility of allocations within the Greater Manchester Spatial Framework. A representation of the Rail, Metrolink (including the Trafford Park Line completed in March 2020) and Bus Rapid Transit (Vantage bus services) corridors are provided for reference, as well as an indication of public transport accessibility through GMAL.

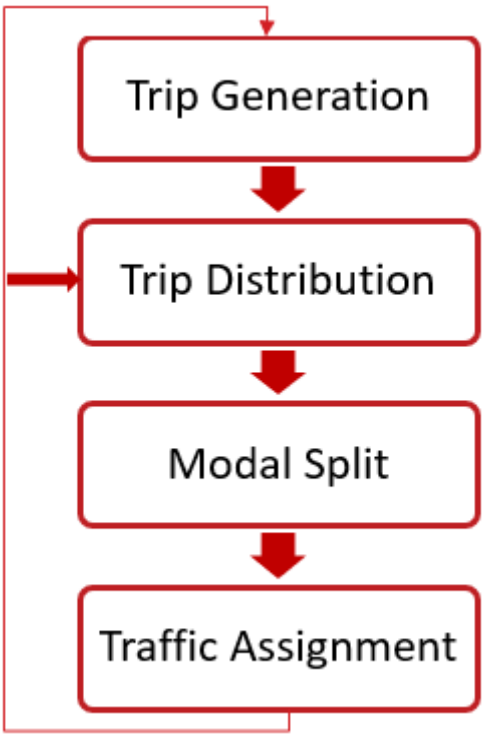
1.2.6 This accessibility data should be considered correct as of February 2020, providing a stable representation of the public transport network before changes in services associated with Covid-19. Since March 2020, public transport services have been under continuous review subject to the requirements of demand, social distancing

and funding. There have been a range of changes made regarding service frequencies across public transport networks, and while there was an initial reduction in services, much of this has now been restored, and this would still represent the areas best served by public transport within a stable service pattern.



3. Approach to Strategic Modelling

2.1 The GMSF Locality Assessments have been produced using data provided from TfGM's Variable Demand Model (GMVDM). This model is a mathematical representation of the transport network, which works by determining all of the origins and destinations of trips within a given area, matching these two together in order to generate a set of journeys, assigning these journeys to a mode (for example, car, bus, or cycling) and then assigning these trips to a route. The model runs numerous 'loops' in order to identify the best path (by generalised cost). This approach is summarised in the diagram below.



2.2 For this project, SYSTRA updated the model in order to produce a number of different scenarios to permit comparison and evaluation.

2.3 TfGM provided the Base Model to SYSTRA representing how the transport network operates at present (in 2017). SYSTRA made some refinements to the Base Model to add detail in the vicinity of some allocations. GMVDM is a strategic model and, as such, does have limitations in terms of investigating localised transport issues.

2.4 SYSTRA then produced a Reference Scenario, including the Existing Land Supply and committed transport infrastructure for two assessment years – 2025 and 2040. This facilitated an understanding of how the transport network was likely to operate in

the future, with the existing land supply identified in the GMSF, but without the introduction of the Allocations proposed in the plan.

2.5 Future trip generation to/from the site (i.e. how many people and vehicles will enter or leave the site) was estimated by applying a set of Greater Manchester-wide trip rates derived from an industry database known as TRICS (Trip Rate Information Computer System) to the agreed development quantum for each site. TRICS is a national system for trip generation analysis which allows users to establish potential levels of trip generation for a wide range of development types and scenarios. Trip rates were based on the Trafford Park Metrolink business case and were given for three periods, AM(0700-1000), Inter-Peak (1000-1600) and PM (1600-1900), different rates were also used for town centre and out-of-centre areas. Where Office or Industry and Warehouse was a part of the land use mix, floorspace was converted into a number of jobs, using densities derived from the Homes and Community Agency Employment Density Guide.

2.6 The distribution of trips (i.e. where they are going to or coming from) was derived by selecting nearby zones with similar land use characteristics as a proxy and using the existing distribution in the model.

2.7 In order to assess the cumulative impact of Greater Manchester allocations on the network, two test model scenarios were undertaken, a 'constrained' and 'high side' assessment. The constrained forecasts could reduce the number of future highway trips due to congestion on the highway network. This constraining process is undertaken by the GMVDM.

2.8 In simple terms, the GMVDM takes the unconstrained input demand and adjusts it to reflect changes in the costs of travel over time, due to:

- increased congestion due to the underlying increase in car trips forecast by the National Trip End Model (NTEM) a UK wide forecast of population, employment, car ownership and trip rates, produced by the Department for Transport
- the inclusion of significant new developments causing additional local congestion
- changes in values of time and vehicle operating costs
- changes in public transport fares

- introduction of new public transport services or changes to journeys times / headways for existing services
- introduction of new road infrastructure

2.9 The model adjusts the input demand based on how the cost of travel changes from the base year to the future. For example, for a shopping trip undertaken by car which becomes more congested in future, changes might be:

- travel via a different route
- travel via a different mode, e.g. walk/cycle, bus, Metrolink
- travel to some different shops
- travel at a different time of day
- some combination of the above

2.10 The 'standard' development planning approach would generally not assume that future highway trips are constrained by congestion on the highway network. Discussions between SYSTRA and TfGM pointed towards a need to also look at such a 'high-side' scenario with the GMSF development scenario which does not take account of future congestion on the road network.

2.11 The outputs of these four Test Cases ("GMSF Constrained" and "GMSF High Side", for both 2025 and 2040) were used to assess and mitigate the impact of the GMSF Allocations on the Greater Manchester transport network.

2.12 Further iterations of the above process were necessary in the case of some sites. When the process was completed, a comparison was made of the input TRICS trip rates and the output GMVDM development traffic flows, to confirm that both were broadly comparable.

4. Approach to Technical Analysis

4.1 Background

3.1.1 For each of the Site Allocations originally examined, SYSTRA worked with representatives of the ten Greater Manchester Local Authorities, TfGM and site promoters to identify key parts of the transport network (e.g. key road links and

junctions) likely to be impacted by the site. This was achieved by a combination of both professional judgement and local knowledge.

3.1.2 In almost all cases the junctions in a road network reach capacity before the road links. Hence, much of the analysis focused on the identified critical junctions. For each of these, a local junction model was built which replicated the current operation of the junction. Signalised junctions were assessed in detail using industry-standard modelling software 'LINSIG Version 3'. Where possible, traffic signal information (i.e. signal phasing and timings) and lane geometry (alignment, profile and lane position) were provided by TfGM to ensure that the local junction models reflected (as far as possible), the operation of the junctions on the ground. 'Junctions 9' software was used to assess priority and roundabout junctions.

3.1.3 Junction performance was tested for the "Reference", "GMSF Constrained" and "GMSF High Side" scenarios for both 2025 and 2040. Site traffic impacts were measured relative to the Reference scenario. Where these impacts were considered to be significant, transport mitigation schemes were developed to address these. Through discussions with TfGM and the Combined Authority, it was agreed that where mitigation was required, it should mitigate the impacts back to the Reference Case scenario – i.e. the allocations should mitigate their own cumulative impact rather than seek to mitigate the impact of general traffic growth arising from the Existing Land Supply. It should be noted that mitigating back to this level of operation may not mean that the junction operates within capacity by 2040.

4.2 Approach to identifying Public Transport schemes

3.2.1 Public transport interventions have been identified which could support non-car trips to and from the draft Allocation. In some instances sites have been proposed close to current or planned Metrolink stops or current rail stations, and for a majority of sites the introduction of new or extended bus services have been proposed and outline costs developed.

3.2.2 In order to develop these proposals, SYSTRA Ltd's bus service experts and TfGM's Operational Planning team held a workshop to identify potential new and improved services for each site, including any existing proposals identified during the early stages of the planning process. The identified services were then defined in more

detail to understand the likely catchments and patronage levels. Patronage was based on TRICS outputs moderated in line with the actual levels of services proposed (e.g. slow and/or low frequency services are unlikely to achieve the patronage implied by the raw TRICS outputs). The patronage forecasts were used to estimate the likely revenue levels to be generated by the new or improved bus service associated with each site.

3.2.3 Services were also costed using detailed costing information available to TfGM through its specification of current socially necessary bus services, to establish whether they could operate without subsidy, and, where subsidy was likely to be necessary, to understand the likely cost per passenger. Services with an unacceptably high cost per passenger subsidy were reviewed in order to understand if any changes could be made that would reduce the subsidy, which led to a reduction in the specification of some services.

3.2.4 Services which, following review, still had an unacceptably high cost per passenger subsidy were deemed to be unviable and were not included in the Locality Assessments.

3.2.5 It should be noted that the working environment for buses is likely to be substantially different in the future, and this exercise was intended to be indicative of the type of bus service that may be possible when an Allocation is developed. The opportunity for bus service improvements will need to be reviewed at the time of submission of the planning application (within the Transport Assessment) as circumstances and opportunities for service improvement may have changed.

4.3 Mitigations and Scheme Development

3.3.1 A number of the site allocations have a body of pre-existing planning information associated with them. This body of work includes consideration of how they could best be linked into the transport network. Therefore, for some sites, there were pre-existing proposals for interventions in the form of link roads, new rail or Metrolink stations, or extensions to existing or proposed bus, cycle and walking routes. Where these schemes had a base level of detail (which would allow them to be coded into the model), they could be examined to consider the level of relief they provided to the traffic impacts. In other instances, it was for the Locality

Assessment technical teams to identify possible interventions and off-site mitigations. Typical local mitigations that were considered included:

- priority junctions (both new priority junctions and modification of existing junctions)
- signalised junctions (both new signalised junctions, modification of existing signalised junctions and conversion of priority junctions to signalised arrangement)
- roundabouts (both mini and standard, modification of existing roundabouts and signalisation of standard roundabouts)
- carriageway construction (single and dual carriageway)
- installation of pedestrian / cycle crossings (pelican, toucan, puffin and zebra).

3.3.2 In addition, the team considered the introduction of new bus services, extensions to or increases in frequency for existing bus services, and the possible introduction of Demand Responsive Transport.

3.3.3 In parallel to the identification and costing of local mitigations, a costing exercise was undertaken to identify broad costs for each intervention to understand how these could be delivered and the extent to which they offered value for money. SYSTRA and other third-party consultants have pro-actively engaged with the Local Authorities and other stakeholders such as TfGM and Highways England throughout the assessment process and based on their inputs the list of transport interventions has been refined and consolidated.

3.3.4 In the case of certain allocations, it was necessary to undertake the process described above more than once. In the case of some larger and/or more complex sites, it was necessary to test the effectiveness of the identified mitigations via the GMVDM and to further check that traffic reassignment did not generate additional problems.

3.3.5 Each of the Locality Assessments has considered the full range of mitigations and interventions, from public transport, to highway schemes, to sustainable modes. Some of the sites allocated for development have proven to be more complex than others; due either to their size and composition, their proximity to other sites or their interaction with congested sections of the Strategic Road Network. In these instances, is has been necessary to complete several iterations of the process set out above. For example, mitigations developed for a site may not fully address the

issues identified, and further mitigations and/or reductions in development quantum have been considered in order to identify the correct level of scale. This has in some cases necessitated several rounds of strategic modelling.

3.3.6 In some instances, it was not possible to full identify interventions which could suitably mitigate the impact of the site on the network. Where this is the case, this became a contributing factor in decisions to either reduce the scale or remove the site completely from the GMSF (Appendix 1 gives a full list of the final GMSF Allocations). In other instances, the proposed intervention made a contribution to mitigating the site, but could not fully ameliorate the impact. In these instances, care has been taken to ensure that the Allocation is not proposed for delivery in the early part of the Plan period, in order to allow further work to be done to improve the transport network, and ensure that the Allocation can be brought forward safely and sustainably.

3.3.7 Mitigations have been grouped in one of four categories depending on their size and significance:

Necessary strategic interventions

3.3.8 These comprise significant interventions that have potential to have strategic benefits – i.e. benefits to the wider network not just the local network. There is a consensus that the intervention is required to support the implementation of a specific site and that the site could not come forward without it

Supporting strategic interventions

3.3.9 These comprise significant interventions; similar in magnitude to those defined in the previous category. These interventions are considered highly desirable and may be required in order to deliver the GMSF at a Plan level but are not necessarily linked to the delivery of any one Allocation.

Necessary local interventions

3.3.10 These are essential for a site to come forward, but do not have a wider strategic impact on the transport network. They are comprised of three main types:

- Site Access – Direct connections between the external road network and the site.

- Local Mitigation – Local transport mitigation measures proposed to address direct impacts of the site. These might comprise road network improvements, localised public transport improvements and measures to support the use of active modes.
- SRN Mitigation – Highway mitigation measures specifically intended to address identified issues on the Strategic Road Network arising from an Allocation.

Supporting local interventions

3.3.11 Site Access, Local Mitigation and SRN mitigation which are considered highly desirable but are not essential to the delivery of any one Allocation.

3.3.12 It is important to note that the interventions developed are intended to demonstrate only that significant transport impacts of the Allocation can be appropriately ameliorated. As such they are indicative only and are not intended to act as a definitive proposal for the mitigation of any Allocation, which would be developed as part of a Transport Assessment submitted as part of a planning application at a later date.

3.3.13 All of the interventions set out in the Locality Assessments are included in Greater Manchester's Five Year Transport Delivery Plan (or are covered within the associated Local Implementation Plans (LIP) for each local authority). This sets out those transport schemes which will be implemented or developed further across the next five-years in order to deliver on Greater Manchester's wider economic, social and environmental objectives for transport as set out in 2040 Transport Strategy.

3.3.14 The focus of the main Transport Delivery Plan is on those GMSF schemes that have strategic benefits, while the LIP documents enable the local interventions to be incorporated into the local sustainable transport and highway programmes.

3.3.15 In all cases, we would expect significant developer funding to enable the delivery of both the strategic and local schemes, and where appropriate other sources of public funding will be sought to help ensure delivery over the plan period. Funding and delivery priorities of the Delivery Plan, over the next 3-5 years, will be reflected in the Greater Manchester Infrastructure Programme (GMIP).

3.3.16 Further iterations of the Delivery Plan will be published at regular intervals, and as sites come forward for development, we would expect to see interventions necessary to ensure new Allocations can be delivered sustainably to be reflected in those iterations. TfGM, the Local Authorities, Highway England and site promoters will work together to ensure that schemes which are brought forward support the City Region's commitment to the Right Mix vision and the ambition to enable more people to walk, cycle and use public transport.

5. Conclusion

4.2 The completion of Locality Assessments on the proposed GMSF Allocations has ensured that each site has been subject to a thorough, robust and consistent evaluation of its likely contribution to transport impacts in Greater Manchester. The sites that have been selected for inclusion in the latest version of the GMSF have been found to be suitable from a transport perspective, and satisfy the requirements of National Planning Policy Framework in that they do not place an unacceptable impact on highway safety or severe impact on the road network. Where necessary, illustrative mitigation schemes have been developed, and their effectiveness in reducing traffic impacts has been demonstrated. Those schemes which have a strategic benefit and are likely to be needed in the next five-year period have been referenced in Our Five Year Transport Delivery Plan and form part of GMIP.

4.3 Nonetheless, it is clear that for some Allocations there is further work to be done in order to develop a solution that fully mitigates the site's impact on the transport network. In these instances care has been taken to ensure that the Allocation is not identified for delivery in the first five years of the Plan, to enable more work to be undertaken to ensure that the site can be delivered in a safe and sustainable matter at a later point in time.

6. GMSF Allocations List

Local Authority	2019 Ref	2019 Title	2020 Ref	2020 Title
Cross Boundary	GMA01.1	Northern Gateway Heywood Pilsworth	GMA1.1	Northern Gateway Heywood Pilsworth
Cross Boundary	GMA01.2	Northern Gateway Simister and Bowlee	GMA1.2	Northern Gateway Simister and Bowlee
Cross Boundary	GMA01.3	Whitefield	Withdrawn	Withdrawn
Cross Boundary	GMA02	Stakehill	GMA2	Stakehill
Cross Boundary	GMA03	Kingsway South	Withdrawn	Withdrawn
Bolton	GMA04	Bewshill Farm	GMA4	Bewshill Farm
Bolton	GMA05	Chequerbent North	GMA5	Chequerbent North
Bolton	GMA06	West of Wingates	GMA6	West of Wingates
Bury	GMA07	Elton Reservoir	GMA7	Elton Reservoir
Bury	GMA08	Seedfield	GMA8	Seedfield
Bury	GMA09	Walshaw	GMA9	Walshaw
Manchester	GMA10	Global Logistics	GMA10	Global Logistics
Manchester	GMA11	Roundthorn MediPark Extension	GMA3.1	Roundthorn MediPark Extension
Manchester	GMA12	Southwick Park	GMA11	Southwick Park
Oldham	GMA13	Ashton Road Corridor	GMA18	Land south of Coal Pit Lane (Ashton Road)
Oldham	GMA14	Beal Valley	GMA12	Beal Valley

Local Authority	2019 Ref	2019 Title	2020 Ref	2020 Title
Oldham	GMA15	Broadbent Moss	GMA14	Broadbent Moss
Oldham	GMA16	Cowlishaw	GMA16	Cowlishaw
Oldham	GMA17	Hanging Chadder	GMA17	Hanging Chadder
Oldham	GMA18	Robert Fletchers	GMA15	Chew Brook Vale (Robert Fletchers)
Oldham	GMA19	South of Rosary Road	GMA19	South of Rosary Road
Oldham	GMA20	Spinners Way	Withdrawn	Withdrawn
Oldham	GMA21	Thornham Old Road	Withdrawn	Withdrawn
Oldham	GMA22	Woodhouses	GMA13	Bottom Field Farm (Woodhouses)
Rochdale	GMA23	Bamford and Norden	GMA20	Bamford and Norden
Rochdale	GMA24	Castleton Sidings	GMA21	Castleton Sidings
Rochdale	GMA25	Crimble Mill	GMA22	Crimble Mill
Rochdale	GMA26	Land north of Smithy Bridge	GMA23	Land north of Smithy Bridge
Rochdale	GMA27	Newhey Quarry	GMA24	Newhey Quarry
Rochdale	GMA28	Roch Valley	GMA25	Roch Valley
Rochdale	GMA29	Trows Farm	GMA26	Trows Farm
Salford	GMA30	Land at Hazelhurst Farm	GMA27	Land at Hazelhurst Farm

Local Authority	2019 Ref	2019 Title	2020 Ref	2020 Title
Salford	GMA31	East of Boothstown	GMA28	East of Boothstown
Salford	GMA32	North of Irlam Station	GMA29	North of Irlam Station
Salford	GMA33	Port Salford Extension	GMA30	Port Salford Extension
Stockport	GMA34	Bredbury Park Extension	GMA31	Bredbury Park Extension
Stockport	GMA35	Former Offerton High School	GMA32	Former Offerton High School
Stockport	GMA36	Gravel Bank Road/Unity Mill	Withdrawn	Withdrawn
Stockport	GMA37	Heald Green	GMA33	Heald Green 1 (West)
Stockport	GMA38	High Lane	GMA35	High Lane
Stockport	GMA39	Hyde Bank Meadows	GMA36	Hyde Bank Meadows
Stockport	GMA40	Griffen Farm/Stanley Green	GMA34	Heald Green 2 (East)
Stockport	GMA41	Woodford Aerodrome	GMA37	Woodford Aerodrome
Tameside	GMA42	Ashton Moss West	GMA38	Ashton Moss West
Tameside	GMA43	Godley Green Garden Village	GMA39	Godley Green Garden Village
Tameside	GMA44	South of Hyde	GMA40	South of Hyde

Local Authority	2019 Ref	2019 Title	2020 Ref	2020 Title
Trafford	GMA45	New Carrington	GMA41	New Carrington
Trafford	GMA46	Timperley Wedge	GMA3.2	Timperley Wedge
Wigan	GMA47	Land South of Pennington	Withdrawn	Withdrawn
Wigan	GMA48	M6 Jctn 25	GMA42	M6 Junction 25
Wigan	GMA49	North of Mosley Common	GMA43	North of Mosley Common
Wigan	GMA50	Pocket Nook	GMA44	Pocket Nook
Wigan	GMA51	West of Gibfield	GMA45	West of Gibfield

Greater Manchester Spatial Framework

Locality Assessment:

M6 Junction 25 (GMA42)

Publication Version 2: November 2020

Identification Table	
Client	Wigan Metropolitan Borough Council/TfGM
Allocation	M6 Junction 25
File name	GMA42 Wigan - M6 J25 LA 021020
Reference number	GMA42 (2020 GMSF) previously GMA48 (2019 GMSF)

Approval					
Version	**Role**	**Name**	**Position**	**Date**	**Modifications**
0	Author	S Riley	Wigan Council	DD/MM/YY	Base report
	Checked by			DD/MM/YY	
	Approved by			DD/MM/YY	
1	Author	R Clowes	TfGM	28/09/20	Consistency edits
	Checked by	S Riley	Wigan Council	02/10/20	
	Approved by	N Clarke	Wigan Council	02/10/20	

Table of contents

List of Figures

List of Tables

Allocation Data	
Allocation Reference No.	GMA42 (2020 GMSF) previously GMA48 (2019 GMSF)
Allocation Name	M6 Junction 25
Authority	Wigan Metropolitan Borough Council
Ward	Winstanley
Allocation Proposal	140,000sqm Industrial/Warehousing
Allocation Timescale	0-5 years ✓ 6-15 years ☐ 16 + years ☐

Glossary

"2025 GMSF Constrained" - is the 2025 forecast case in which the model adjusts the input demand based on how the cost of travel changes from the base year to the future. For example, for a shopping trip undertaken by car which becomes more congested in future, changes might be travel via a different route, mode, location or time of day.

"2040 GMSF Constrained" - as above, but for a 2040 forecast year

"2025 GMSF High-Side"- is the 2025 forecast case in which the model does not adjust the input demand based on how the cost of travel changes. In this scenario congestion does not lead to a reassignment of traffic, and therefore road traffic flow will generally be higher.

"2040 GMSF High-Side" - as above, but for a 2040 forecast year

"2025 Reference Case" - is the Do Minimum scenario which includes delivery of all transport schemes already committed and assumed to be completed by 2025

"2040 Reference Case"- is the Do Minimum scenario which includes delivery of all transport schemes already committed and assumed to be completed by 2040

AADT - Annual average daily traffic, is a measure used in transportation planning to quantify how busy the road is

Bee Network - is a proposal for Greater Manchester to become the very first city-region in the UK to have a fully joined-up cycling and walking network: the most comprehensive in Britain covering 1,800 miles.

Bus Rapid Transit - is a bus-based public transport system designed to improve capacity and reliability relative to a conventional bus system. Typically, a BRT system includes roadways that are dedicated to buses, and gives priority to buses at junctions where buses may interact with other traffic

Existing Land Supply - these are sites across the county that have been identified by each local planning authority across Greater Manchester and are available for development

Greater Manchester Variable Demand Model (GMVDM) - the multi-modal transport model for Greater Manchester. This transport model provides estimates of future year transport demand as well as the estimates of travel behaviour changes and new patterns that the Plan is likely to produce. These include

changes in choices of routes, travel mode, time of travel and changes in journey destinations for some activities such as work and shopping.

“LRN” (Local Road Network) All other roads comprise the Local Road Network. The LRN is managed by the local highways authorities

National Trip End Model (NTEM) - is a Department for Transport forecast that ensures that measures of population, jobs and trips made by various mode are consistent across the whole of Great Britain.

Rapid transit services - refers to high frequency, high capacity metro style transport services including Metrolink and Bus Rapid Transit.

“SRN” (Strategic Road Network) The Strategic Road Network comprises motorways and trunk roads, the most significant ‘A’ roads. The SRN is managed by Highways England.

“TfGM” - Transport for Greater Manchester, the Passenger Transport Executive for Greater Manchester

Urban Traffic Control (UTC) - is a specialist form of traffic management that, by coordinating traffic signals in a centralised location, minimises the impact of stop times on the road user.

1. Allocation Location & Overview

1.1.1 The ten local planning authorities in Greater Manchester have agreed to prepare a joint Development Plan document to guide the development of land for housing and employment over the next 20 years. This is known as the Greater Manchester Spatial Framework (GMSF).

1.1.2 The authorities issued a revised draft consultation document in January 2019. The 2019 document notes that the overall spatial strategy of the GMSF seeks to take advantage of the opportunities for delivering high levels of economic growth. The M6 Junction 25 allocation, presents a major opportunity to provide a high quality location for substantial employment development in the M6 corridor.

1.1.3 The allocation is located on a parcel of land to the south of Winstanley and to the north of M6 junction 25, bound to the south by the M6 link road/ A49 distributor road and the A49 to the east. To the north is the Wigan suburb of Winstanley and the Wheatlea Industrial Estate.

1.1.4 The allocation is currently green belt and has an allocation of 140,000sqm of employment land comprising of B8 and ancillary B1 floorspace. It is understood that the development will consist of 8 large sheds, constructed in a phased approach. All phasing plans information contained in this Locality Assessment is indicative only and has only been used to understand the likely intervention delivery timetable. Final trajectory information and the final allocation proposal is contained in the GMSF Allocation Topic Paper.

1.1.5 A hybrid planning application has been submitted that seeks permission for the demolition of existing buildings and reprofiling of the site to facilitate construction of up to 133,966 sqm (1,442,000sqft) gross internal floorspace, comprising storage and distribution (use class B8) and ancillary offices (use class B1(a)). The application was accompanied by a Transport Assessment (TA) dated August 2018 and a Transport Assessment Addendum (TAA) dated July 2019 The planning application was approved in January 2020.

Figure 1. Allocation Plan

Note: All boundaries shown were correct at time of writing – for definitive boundary information refer to the GMSF allocation maps.

2. Justification for Allocation Selection

2.1.1 The M6 Junction 25 allocation is located where development will make a positive contribution to delivering the GMSF. The allocation's location at M6 Junction 25 provides access to the nearby strategic road network, including the M6 and M58. An employment use in this location would take advantage of its strategically important location and maximise existing economic opportunities which have significant capacity to deliver transformational change and / or boost the competitiveness and connectivity of Greater Manchester and genuinely deliver inclusive growth. The allocation constraints have been assessed and the allocation is considered to be free of significant constraint.

3. Key Issues from Consultation

3.1.1 Issues have been raised with regards to congestion on the network, in particular due to the allocations proximity to junction 25 of the M6. Junction 25 has no southbound off slip or northbound on slip leading to traffic rat running through Pemberton and Ashton-in-Makerfield.

3.1.2 The M6 corridor in the local area has significant development at junctions 23, 24 and 25 which will have a cumulative impact.

3.1.3 A complete breakdown of the key issues relating to this allocation can be found in the GMSF Consultation Summary Report (October 2019).

4. Existing Network Conditions and Allocation Access

4.1 Existing Network Conditions

4.1.1 Adjacent to the allocation, the A49 is dual carriageway separated by a central reservation and has a speed limit of 40mph.

4.1.2 Around 50m south of the existing allocation access, the A49 forms the northern and southern arms of a three-arm roundabout (the Bryn Interchange), with the extended slip roads of junction 25 of the M6 motorway forming the western arm.

4.1.3 Junction 25 is a restricted access junction; only northbound off-slip and southbound on-slip movements are available.

4.1.4 South of the roundabout with the M6 slip roads, the A49 continues as a single carriageway road towards Bryn and Ashton-in-Makerfield. After around 1.4km, it forms the northern and southern arms of a staggered signalised junction with the B5207.

4.1.5 West of the junction, the B5207 extends as Downall Green Road, which provides access to the residential areas of Bryn before crossing the M6 motorway and continuing towards Garswood. To the south-east of the junction, the B5207 extends as Bryn Road for around 1.7km, where it meets the A58 Bolton Road.

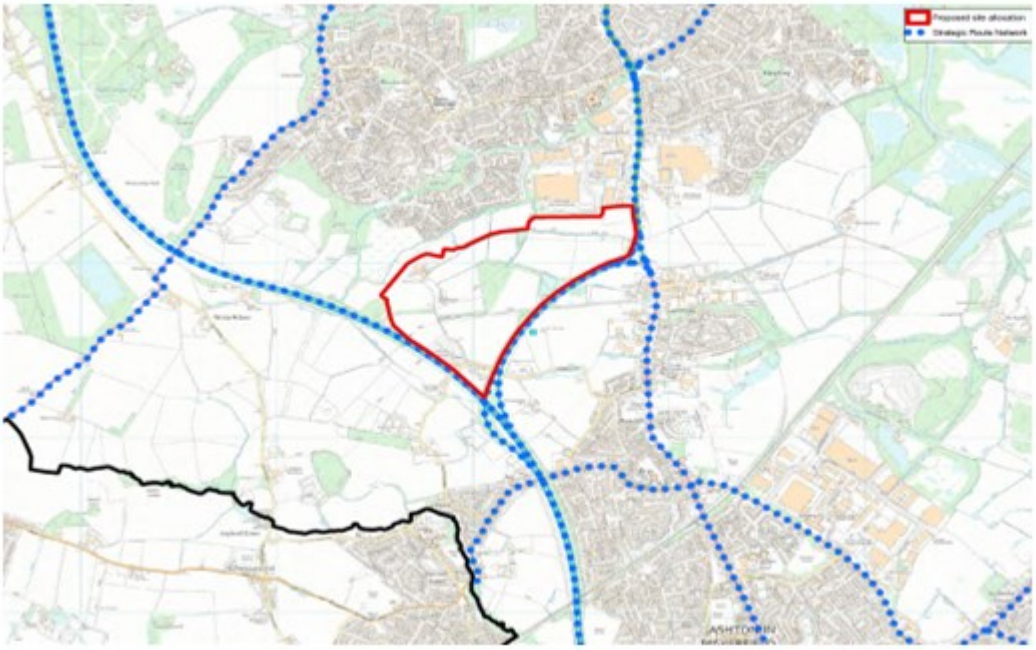
4.1.6 From its junction with the B5207, the A49 continues south towards Ashton-in- Makerfield. After around 1.8km, it meets the A58 Liverpool Road, where it forms a signalised junction, from where it extends southwards towards junction 24 of the M6.

4.1.7 To the east of its junction with the A49, the A58 extends towards Platt Bridge, whilst around 800m to the west, it forms junction 24 of the M6 before proceeding towards St Helens.

4.1.8 Around 650m north of the allocation the A49 forms a signalised junction with Worthington Way and Fulbeck Avenue. It then continues northwards, forming another signalised arrangement, with Highfield Grange Avenue and Poolstock Lane before continuing towards Wigan town centre.

4.1.9 A consideration of accident statistics concludes that the local highway network in the vicinity of the allocation does not have an unduly poor safety record, particularly when considering the volumes of traffic the local highway network accommodates, and that there is no reason to assume that this situation would alter as a consequence of the development proposals.

Figure 2. Surrounding Highway Network



4.2 Current Access

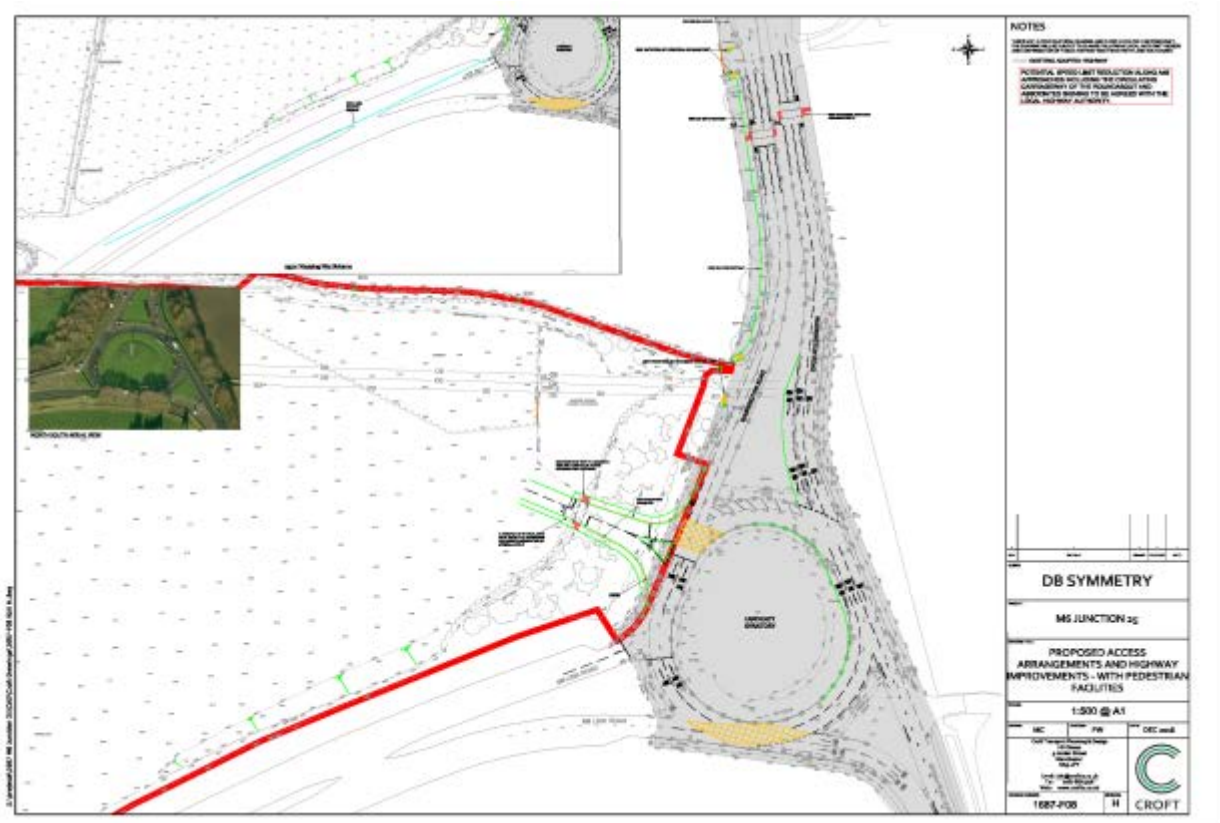
4.2.1 Access to the allocation via gated public footpath from the A49 to Cranberry Ley Farm.

4.3 Proposed Access

4.3.1 Access to the allocation is proposed via a new fourth arm of the existing A49/M6 slip road roundabout junction (Bryn Interchange).

4.3.2 The scheme has been agreed with Wigan Council that will signalise both the allocation access arm and the M6 Link Road. The scheme would also provide widening of the A49 southbound approach to provide a third lane flare and associated widening of the circulatory carriageway. Signalised pedestrian crossing facilities are also proposed on the allocation access arm and the A49, in the vicinity of existing bus stops to the north of the Bryn Interchange. The scheme design is shown below.

Figure 3. Illustrative Access to allocation from Bryn Interchange



5. Multi-modal accessibility

5.1 Current

5.1.1 There is a footway along the western side of the A49 Warrington Road, south of the existing allocation access, though there is no footway between the existing allocation access and the northbound bus stop along the A49. Uncontrolled pedestrian crossing facilities are available across the each of the arms of the A49/M6 Link Road roundabout, which allow connectivity to the existing footways south of the roundabout. The existing footways provide pedestrian linkages to nearby residential areas.

5.1.2 There are several Public Rights of Way (PRoW) throughout the allocation, providing pedestrian linkages to Wheatlea Industrial Estate and the Winstanley settlement.

5.1.3 Walking is the most important mode of travel at the local level, offering the greatest potential to replace short car journeys, particularly those under 2km. For the allocation, the 2km catchment includes the residential areas of Hawkley Hall, Winstanley, Marus Bridge, Goose Green and Bryn.

5.1.4 An on-road cycle route is available along the section of the A49 Warrington Road adjacent to the allocation. This extends southwards through Bryn and northwards as far as Highfield Grange Avenue, where it then continues as far as Pemberton Road.

5.1.5 The nearest bus stops to the allocation are located to the north of the allocation on Warrington Road, a walking distance of approximately 200 metres from the proposed allocation access. Further bus stops are situated on Tan House Drive, Winstanley

5.1.6 These bus stops provide up to 7 services per hour and provide access to Wigan town centre, Golborne and Leigh and operate from around 5.30am to 11.00pm.

5.2 Proposed

5.2.1 A footway will be provided between the existing access and the northbound bus stop along the A49 thus ensuring a continuous footway (via a combination of existing and proposed footways) from the proposed allocation access to the bus stop. This will not only provide direct linkages to the bus stop but will also connect to the existing footway that extends north of this bus stop.

5.2.2 Signalised crossing facilities are proposed on the A49 that will provide a convenient link to the existing southbound bus stop and the footways along the eastern side of the A49.

5.2.3 A dropped crossing with tactile paving is proposed across the existing allocation access to assist pedestrians, in crossing the junction. The proposed allocation access arm will include a signalised pedestrian crossing to assist pedestrians travelling north to south.

5.2.4 To improve cycle accessibility to the allocation the existing Public Right of Way connecting the allocation to Allonby Close and Crowther Drive is to be upgraded to bridleway standard.

6. Parking

6.1.1 Wigan Council Parking Standards require 1 space per 100sqm for the proposed B8 Storage / Distribution use class Wigan.

Table 1. Parking to serve development

	Full Element	Outline Element
Floorspace (sqm)	27,871	106,095
Proposed Car Parking (incl disabled)	279	1061
Proposed Disabled Parking	17	63
Proposed Cycle Parking	37	138
Proposed Motor Cycle Parking	7	27
Proposed Electric Charging Points	4 (serving 8 bays)	2 (serving 4 bays) per unit

7. Allocation Trip Generation and Distribution

7.1.1 Future trip generation to/from the allocation (i.e. how many people and vehicles will enter or leave the allocation) was estimated by applying a set of GM-wide trip rates to the agreed development quantum for each allocation. The distribution of trips (i.e. where they are going to or coming from) was derived by selecting nearby zones with similar land use characteristics as a proxy and using the existing distribution in the model.

7.1.2 It has been agreed with Wigan Council and Highways England that the trip rates should be as per those agreed as part of other similar applications in the area, specifically the trip rates adopted for the approved Florida Farm planning application (135,000 sqm of Class B2/B8). The resulting traffic flows are summarised below.

Table 2. Development Quantum

Residential	Houses	0	0
Residential	Apartments	0	0
Industrial	B8.	133,936sqm	0
Total		**133,936sqm**	**0**

Table 3. Trip Generation

	Weekday AM Peak Arrivals	Weekday AM Peak Departures	Weekday PM Peak Arrivals	Weekday PM Peak Departures
Cars / LGVs	96	63	80	118
HGVs	21	23	20	20
Total	117	86	100	138

7.1.3 In order to assign the light vehicles to the network, reference has been made to the 2011 census data, and consideration given to the origin of those employed in the middle upper output area (MSOA) workplace zones of Wigan 021. This reveals the percentage of staff trips that are likely to originate within the 40 MSOA workplace zones within the borough of Wigan and areas of adjacent boroughs. The routes vehicles are likely to take from each of these locations to the application development allocation has then been predicted using routing software.

7.1.4 In order to assign the HGV trips to the network, it is assumed that all HGV traffic would travel to/from the allocation via the motorway network rather than the local road network. In this regard, it has been assumed that 67% of trips would travel to and from the section of the M6 to the south whilst 33% of trips would travel to and from the section of the M6 to the north. It is acknowledged that travelling traffic to/from the north would have to turn at junction 24 and this is reflected in the analysis.

Table 4. Traffic Distribution

Route	AM Peak Hour	PM Peak Hour
A49 Warrington Road	42%	42%
A49 Wigan Road	30%	30%
M6 J25	28%	28%

8. Current Highway Capacity Review

8.1.1 The allocation is located between the M6 and A49 to the south of Winstanley. Junction 25 of the M6 is located to the south of the allocation with a northbound off slip and southbound on slip. Junction 24 can be accessed for northbound travel on the M6 with southbound traffic being able to exit. This can result in some traffic travelling through Ashton in Makerfield. Junction 26 to the north west of the allocation links with the M58 and will

8.1.2 At the time of the 2017 traffic surveys, the southbound arm of the Bryn Interchange was observed to be generally free flowing, though occasional long queues developed, which dispersed quickly. On the northbound arm, consistent but small queues developed during the AM peak, which were slightly longer queues in the PM peak. On the eastbound arm, queues built up but dispersed quickly, though queues developed during 0845-0900 due to queues backing up from A49/Worthington Way junction.

8.1.3 In isolation, the junction appears to operate within capacity, albeit that some queuing does develop on the southbound approach. However, it is acknowledged that, on occasions, queuing develops from the A49/Poolstock Lane junction through the A49/Worthington Way junction , which can impact on the Bryn Interchange

9. Treatment of Cumulative Impacts

9.1.1 Wigan Council advised of a number of committed developments and pending applications (i.e. not committed, but included as a worst case scenario) that should be included within this impact analysis. These are as follows:

- SAICA development, Warrington Road, Hawkley (App Ref: A/15/80314);
- Mixed Use Development at Landgate (App Ref: A/14/79481);
- Landgate residential (App Ref: A/17/84450);
- Westwood (App Ref: A/12/77633);
- Former Bulls Head site, Goose Green (App Ref: A/13/77747);
- Pemberton Colliery (App Ref: A/11/76138);
- Florida Farm, Slag Lane, Haydock (St Helens Council App Ref: P/2016/0608/HYBR);
- Haydock Point, St Helens (St Helen's Council, App Ref: P/2017/0254/OUP); and
- Former Parkside Colliery, Winwick Road, Newton-Le-Willows (St Helens Council, App Ref: P/2018/0048/OUP)

9.1.2 In addition, St Helens requested that consideration be taken of the following:

- Haydock Lane (P/2017/0920);
- Haydock Green (P/2015/0571 & P/2018/0121/S73); and
- Kilbuck Lane (P/2015/0843/FUL)

10. Allocation Access Assessment

10.1.1 The vehicular and pedestrian access to the allocation is proposed via a new fourth arm of the Bryn Interchange. The scheme has been agreed with Wigan Council to signalise both the allocation access and M6 link arms.

10.1.2 The scheme would also provide widening of the A49 southbound approach to provide a third lane flare and associated widening of the circulatory carriageway. Signalised pedestrian crossing facilities are also proposed on the allocation access arm and the A49, in the vicinity of existing bus stops to the north of the Bryn Interchange.

10.1.3 The results of the capacity assessment for the 2030 forecast year are summarised in the table below.

Table 5. Bryn Interchange Allocation Access Capacity Assessment Results

Arm	AM Peak Hour DoS	AM Peak Hour Queue (PCU)	PM Peak Hour DoS	PM Peak Hour Queue (PCU)
A49(N) Warrington Road (Ahead)	69%	1	68.8%	1
A49(N) Warrington Road (Ahead/Right)	81.8%	3	81.7%	3
A49(S) Wigan Road	73.5%	1	75.7%	1
M6 Link Road (Ahead/Left)	75.9%	12	90.7%	14
M6 Link Road (Ahead)	75.6%	12	90.6%	15
Proposed Allocation Access	43.5%	2	52.6%	3
Internal with M6 Link (Right/Ahead)	48.2%	2	55.7%	6
Internal with M6 Link (Right/Ahead)	44.5%	5	49.2%	5
Internal with Allocation Access (Ahead)	54.9%	2	63.9%	3
Internal with Allocation Access (Ahead/Right)	65.7%	3	76.2%	5

10.1.4 The analysis demonstrates that the proposed allocation access junction will operate within capacity for the 2030 forecast year.

11. Impact of Allocation Before Mitigation on the Local Road Network

11.1.1 The TA for the allocation suggests that an increase in traffic flow of approximately 7% will be observed in the AM & PM weekday peaks respectively at the Bryn Interchange. In real terms this will see traffic rise from 3,968 vehicles at a 2020 Base without scheme to 4,216 with scheme (AM Peak) and 4,103 to 4,381 increase in the PM.

11.1.2 The TA suggests a minimal impact at junction 26 of the M6 on and off slips with larger impacts at junction 24 (between 3% and 4%) - in excess of 60 vehicles in both peaks on the on and off slip roads.

11.1.3 The TA has carried out detailed analysis of those junctions where there is forecast to be an increase of 30 two-way vehicle movements or above during the weekday AM and PM peaks.

11.1.4 The A49/ M6 Link Road roundabout is predicted to operate above capacity by 2030 in both the base and with development scenario.

11.1.5 The TA modelling shown below indicates that the M6 Junction 24 – A58/Southbound off-slip would operate within capacity during the base scenario and ‘with development’ scenarios.

Table 6. Capacity analysis of M6 Junction 24 / A58 Southbound off-slip

Arm	2030 Base Flows						2030 'With Dev' Flows					
	Weekday AM			Weekday PM			Weekday AM			Weekday PM		
	DoS	MMQ	Ave Delay/ PCU (secs)	DoS	MMQ	Ave Delay/ PCU (secs)	DoS	MMQ	Ave Delay/ PCU (secs)	DoS	MMQ	Ave Delay/ PCU (secs)
M6 Slip Road Left	32.1	4	24	33.8	5	14	29.9	3	22	33.8	5	14
M6 Slip Road Right	83.1	13	41	76.0	14	23	84.0	14	40	80.6	16	25
Liverpool Road Westbound Ahead	81.8	18	25	76.6	12	35	86.6	20	31	78.7	12	36
Liverpool Road Eastbound Ahead	21.8	3	12	45.2	6	26	24.1	3	14	46.7	6	26

11.1.6 The TA modelling shown below indicates that the following junctions are approaching capacity during the base scenario and 'with development' scenarios:

- A49 Warrington Road/Worthington Way; and
- A49 Wigan Road/B5207 Bryn Road

Table 7. Capacity Analysis of A49 Warrington/Worthington Way junction

Arm	2025 Base Flows						2025 'With Dev' Flows					
	Weekday AM			Weekday PM			Weekday AM			Weekday PM		
	DoS[3]	MMQ[4]	Ave Delay/ PCU (secs)	DoS	MMQ	Ave Delay/ PCU (secs)	DoS	MMQ	Ave Delay/ PCU (secs)	DoS	MMQ	Ave Delay/ PCU (secs)
Warrington Road N Ahead Left	75.7	28	25	66.1	20	14	77.8	30	26	67.4	21	15
Warrington Road N Ahead	80.0	32	26	71.9	24	15	83.1	35	29	73.0	25	15
Fulbeck Avenue Right Left	84.7	14	84	88.1	10	121	83.9	14	82	90.5	11	130
Warrington Road S Ahead Left	83.7	28	41	89.4	34	43	86.5	30	44	92.2	37	49
Warrington Road S Ahead	82.9	31	43	88.2	37	46	85.9	33	46	91.5	40	51
Worthington Way Left	26.3	3	56	70.4	11	57	26.3	3	56	70.4	11	57
Worthington Way Right	29.4	3	45	76.0	10	70	28.8	3	44	76.0	10	70
Warrington Road Adv'ced Stop Line Ahead	75.4	31	10	58.6	15	5	78.0	33	12	60.1	16	5
Warrington Road Adv'ced Stop Line Ahead	72.1	25	9	55.0	9	4	74.9	26	9	56.3	9	4
Warrington Road Adv'ced Stop Line Ahead	82.5	10	97	90.1	17	99	82.5	10	96	90.1	17	99

Table 8. Capacity Analysis of A49 Wigan Road/B5207 Bryn Road junction

Arm	2025 Base Flows						2025 'With Dev' Flows					
	Weekday AM			Weekday PM			Weekday AM			Weekday PM		
	DoS	MMQ	Ave Delay/ PCU (secs)	DoS	MMQ	Ave Delay/ PCU (secs)	DoS	MMQ	Ave Delay/ PCU (secs)	DoS	MMQ	Ave Delay/ PCU (secs)
Wigan Road (S) ahead right left	92.8	16	69	83.5	13	50	95.5	18	80	84	14	50
Wigan Road (N) ahead left right	61.4	8	34	63.0	9	35	63.6	8	34	66.1	10	35
Bryn Road left right ahead	94.6	11	115	81.7	10	60	96.5	12	123	84.7	11	64
Downall Green Rd right left ahead	93.4	17	68	83.0	11	59	95.4	18	78	85.0	11	64

11.1.7 The TA modelling shown below indicates that the following junctions exceed capacity during the base scenario and 'with development' scenarios:

- A49 Warrington Road/Poolstock Lane; and
- M6, Junction 24 – A58/Northbound On-Slip.

Table 9. Capacity Analysis of A49 Warrington Road/ Poolstock Lane junction

Arm	2025 Base Flows						2025 'With Dev' Flows					
	Weekday AM			Weekday PM			Weekday AM			Weekday PM		
	DoS	MMQ	Ave Delay/ PCU (secs)	DoS	MMQ	Ave Delay/ PCU (secs)	DoS	MMQ	Ave Delay/ PCU (secs)	DoS	MMQ	Ave Delay/ PCU (secs)
Warrington Road S/bound left ahead	126.5	64	513	131.7	85	570	128.1	67	532	132.8	88	582
Warrington Road S/bound ahead right	126.6	70	512	131.2	92	563	128.0	73	530	132.5	95	577
Poolstock Lane left ahead	125.7	135	474	132.2	168	553	129.1	149	518	135.5	181	592
Poolstock Lane right	15.9	2	58	10.4	1	54	16.6	2	59	10.8	1	55
Warrington Road N/bound ahead left	110.8	103	258	134.0	246	571	110.8	104	258	135.0	256	582
Warrington Road N/bound ahead right	127.8	113	505	133.6	132	574	127.9	116	506	136.3	145	605
Highfield Grange Avenue left ahead right	123.6	61	471	128.4	49	540	125.9	65	499	130.7	52	566
Highfield Grange Avenue right	123.6	58	472	128.1	47	547	125.5	62	495	130.8	50	566

Table 10. Capacity Analysis of M6 Junction 24 – A58/ Northbound on-slip

Arm	2030 Base Flows						2030 'With Dev' Flows					
	Weekday AM			Weekday PM			Weekday AM			Weekday PM		
	Max RFC	Max Queue	Delay (secs)	Max RFC	Max Queue	Delay (secs)	Max RFC	Max Queue	Delay (secs)	Max RFC	Max Queue	Delay (secs)
Northbound Sliproad	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0
Liverpool Road (E) right turn	1.03	24	129	0.89	7	46	1.11	46	217	0.97	13	82

12. Transport Interventions Tested on the Local Road Network

12.1.1 With regard to the Bryn Interchange, a scheme has been agreed with Wigan Council that will signalise both the proposed allocation access arm and the M6 Link Road. The scheme would also provide widening of the A49 southbound approach to provide a third lane flare and associated widening of the circulatory carriageway. Signalised pedestrian crossing facilities are also proposed on the allocation access arm and the A49, in the vicinity of the existing bus stops.

12.1.2 With regard to the M6, Junction 24 – A58/Northbound On-Slip junction, the on-slip carriageway benefits from two lanes, with left turning traffic from the A49 onto the slip road generally using the nearside lane and right turning traffic from the A49 generally using the offside lane. As such, left and right turning vehicles are able to carry out these turning manoeuvres simultaneously and on-site observations confirm that this occurs.

12.1.3 The proposed development would add traffic to the right turn movement and consideration has therefore been given to the potential to provide an improvement at this junction, which would formalise the existing arrangement and assist in limiting queuing on the right turn movement. Details of the proposed improvement scheme are shown in Appendix 1

12.1.4 A potential scheme for improvements at junction 25 has been considered to allow for all movements to and from the SRN, however, it is unclear if these will come forward. The planning application does not rely on the delivery of this scheme.

Table 11. Approach to Mitigation

Junction	Mitigation Approach
Bryn Interchange	Signalisation of allocation access arm and M6 Link Road, widening of A49 southbound approach and circulatory carriageway and signalised pedestrian crossing facilities
M6 Junction 24	Formalise existing arrangement on A58 Northbound on-slip

13. Impact of interventions on the Local Road Network (where appropriate)

13.1.1 The proposed signalisation of the M6 Link and Allocation Access nodes would result in substantial betterment compared with the base flow without improvement scenario, with all approaches predicted to operate with a DoS of 90% or below at the 2030 assessment year as shown below.

Table 12. Capacity Analysis of Bryn Interchange with mitigation scenario

Arm	2030 'With Dev' Flows plus Improvements					
	Weekday AM			Weekday PM		
	Max DoS	Mean Max Queue	Delay (secs)	Max DoS	Mean Max Queue	Delay (secs)
A49 (N) Warrington Road Ahead	69.0%	1	5.5	68.8%	1	5.6
A49 (N) Warrington Road Ahead / Right	81.8%	3	5.5	81.7%	3	5.6
A49 (S) Wigan Road	73.5%	1	5.4	75.7%	1	4.7
M6 Link Road Ahead / Left	75.9%	12	24.9	90.7%	14	40.2
M6 Link Road Ahead	75.6%	12	24.2	90.6%	15	38.8
Proposed Site Access	43.5%	2	39.6	52.6%	3	34.3
Internal with M6 Link Right / Ahead	48.2%	6	17.7	55.7%	6	15.3
Internal with M6 Link Right / Ahead	44.5%	5	17.2	49.2%	5	14.3
Internal with Site Access Ahead	54.9%	2	3.5	63.9%	3	5.1
Internal with Site Access Ahead / Right	65.7%	3	4.2	76.2%	5	6.6

13.1.2 With regard to the improvement at the J24 on-slip node, it can be concluded that the improvement, as shown below, would mitigate the impact of the development.

Table 13. Capacity Analysis of M6 Junction 24 – A58/Northbound on-slip with mitigation scenario

Arm	2030 With Development' Flows					
	Weekday AM			Weekday PM		
	Max RFC	Max Queue	Delay (secs)	Max RFC	Max Queue	Delay (secs)
Northbound Sliproad	0.00	0	0	0.00	0	0
Liverpool Road (E) right turn	1.11	78	343	0.97	15	55

14. Impact and mitigation on Strategic Road Network

14.1.1 In order to inform Highways England of the likely effect on the operation of the M6, the TA includes assessments for the merge and diverge operation compared to the design standard for motorways set in TD22/06 of the Design Manual for Roads and Bridges (DMRB).

14.1.2 The analysis does not identify any material locations in either the weekday AM or weekday PM peak periods in future years, where the addition of traffic related to the development would detrimentally affect the level of service, which the M6 would otherwise provide.

15. Final list of interventions

15.1.1 A summary of the interventions is set out in the table below:

Table 14. Final List of Interventions: M6 Junction 25

Mitigation	Description
Allocation Access	
Access from Bryn Interchange	The vehicular and pedestrian access to the allocation is proposed via a new fourth arm of the Bryn Interchange.
Necessary Strategic interventions	
Signalisation of Bryn Interchange	Signalise allocation access and M6 Link Road arms widening of A49 southbound approach and circulatory carriageway and signalised pedestrian crossing facilities.
Necessary Local Mitigations	
	n/a
Supporting Local Mitigations	
	n/a
SRN Interventions	
M6 J24	Proposed improvement to northbound on-slip to assist in limiting queuing on the right turn movement

16. Strategic Context – GM Transport Strategy Interventions

16.1.1 The GMCA 2040 Transport Strategy Delivery Plan sets out a comprehensive programme of work across all modes and in all Districts which are all focused on ensuring the realisation of the 'Right Mix' vision. Many of these interventions support the GMSF Allocations directly, whilst others are intended to provide alternatives to private car travel more generally. The schemes demonstrate a clear plan for delivering strategic transport interventions for the first five years of the GMSF plan period, whilst also laying the foundations for longer term investment in sustainable transport across the length of the plan period.

16.1.2 In addition to the allocation-specific interventions set out in this Locality Assessment, there are a number of other measures already planned by Wigan Council and Transport for Greater Manchester to support sustainable travel, and to contribute to the achievement of Greater Manchester's 'Right Mix' ambition.

16.1.3 Network Rail has developed proposals, currently awaiting DfT approval, for the electrification of the line from Bolton via the Lostock spur to Wigan, which could result in increased capacity and reduced journey times. In addition, TfGM is conducting a study into the feasibility of opening new rail stations at Golborne, Kenyon and Little Hulton. If constructed these stations would provide the opportunity to improve linkages to Liverpool, the Regional Centre, and onwards across the Pennines.

16.1.4 TfGM is also working on implementing Quality Bus Transit (QBT) on key bus corridors. QBT is typified by improvements to frequency and quality of the bus service as well as localised public realm enhancements. As part of this scheme the Wigan – Bolton corridor route is a candidate for improvement.

16.1.5 Greater Manchester also has ambitious plans to develop the Bee Network - the UK's largest cycling and walking network as a key element to delivering on the "Right Mix" vision, and the Combined Authority has allocated £160m between 2018-2022 to fund the first phase of the Bee Network. The network has at its core a programme of new and upgraded pedestrian and cycling crossing points of major roads and other sources of severance, connected by a network of signed cycling and walking routes – known as Beeways – on existing quiet streets. These will be complemented by a number of routes on busier roads where Dutch style cycle lanes protected from motor traffic will

be constructed. In Wigan, 183 new or upgraded crossings are proposed for pedestrians and cyclists and 16 miles of Bee Network routes are proposed on busier roads in Wigan.

17. Phasing Plan

17.1.1 The hybrid planning application seeks permission for demolition of existing buildings and reprofiling of the allocation to facilitate construction of up to 133,966 sqm (1,442,000 sqft) gross internal floorspace, comprising storage and distribution (use class B8) and ancillary offices (use class B1(a)). The specific full and outline elements of the application comprise:

- Full planning permission for Units DBS 1 and 2 for 27,871 sqm (300,000 sq ft) of employment floorspace (Use Class B8 with ancillary Use Class B1a) and the provision of associated infrastructure including car parking, landscaping, access from the A49 roundabout and internal estate road; and

- Outline planning permission for up to 106,095 sqm (1.142 million sq ft) of employment floorspace (Use Class B8) with ancillary office use (Use Class B1a), including car parking, internal estate road and landscaping, with all matters except for access reserved for future determination.

Table 15. Allocation Phasing

Allocation Phasing	2018 2024	2025 2030	2030 2037	2038+	Total
27,871 sqm of employment floorspace (Use Class B8 with ancillary B1a)	✓				27,871 sqm
106,095sqm of employment floorspace (Use Class B8 with ancillary B1a)		✓			106,095sqm

All phasing plans information contained in this Locality Assessment is indicative only and has only been used to understand the likely intervention delivery timetable. Final trajectory information and the final allocation proposal is contained in the GMSF Allocation Topic Paper.

Table 16. Indicative intervention delivery timetable

Mitigation	2018 2024	2025 2029	2030 2040*	2040+
Allocation Access				
Access from Bryn Interchange	✓			
Necessary Strategic interventions				
Signalisation of Bryn Interchange	✓			
Supporting Strategic Interventions				
n/a				
Necessary Local Mitigations				
n/a				
Supporting Local Mitigations				
n/a				
SRN Interventions				
M6 J24 Improvement Scheme	✓			

18. Summary & Conclusion

18.1.1 The proposals will facilitate trips on foot between the allocation and the surrounding areas. As part of the proposals, a footway will be provided between the allocation access and the existing footway to the north (adjacent to the northbound bus stop), whilst the enhancement of an existing PRoW to bridleway standard (aside from small area in existing woodland) will facilitate a more direct access to the residential areas to the north (the PRoW runs to junction of Allonby Close and Crowther Drive).

18.1.2 The allocation is accessible by cycle; an on-road cycle route is available adjacent to the allocation (A49) and National Cycle Routes 562 and 55 being located within a relatively short cycle of the allocation. The improvement of the existing PRoW to bridleway standard will also strengthen cycle linkages to the residential areas to the north.

18.1.3 Bus services available in the vicinity of the allocation operate at times that provide the opportunity for staff and visitors of the proposed development to travel by public transport.

18.1.4 It is concluded that the proposals would result in modest increases in traffic on the network.

18.1.5 As expected, the largest increase in traffic will occur at the Bryn Interchange (A49 / M6 J25 Link / allocation access), where an additional arm to serve the scheme is proposed. This junction is predicted to experience an increase in traffic of 6.3% during the weekday AM peak and 6.8% during the weekday PM peak.

18.1.6 The proposed improvement to the Bryn Interchange, will result in the junction operating substantially better (even with the addition of proposed development traffic) than would occur in the base scenario.

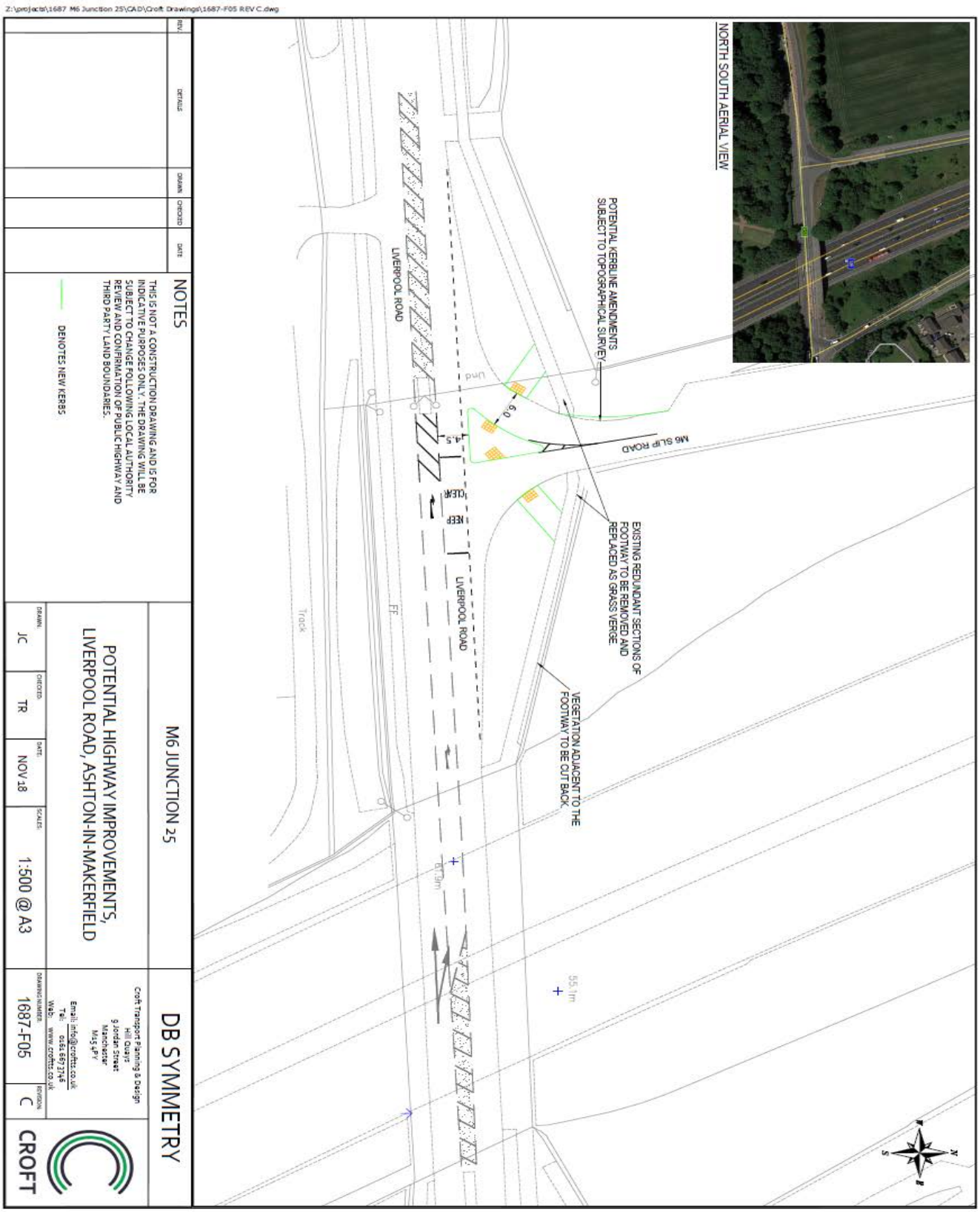
18.1.7 As traffic disperses on the wider network, development trips at junctions become increasingly diluted, with increases being 4% or lower. The wider junctions considered as part of the assessment will not therefore experience a significant impact as a result of the proposals and any increase in queuing/delay are not considered to be severe.

18.1.8 The proposed development would add traffic to the right turn movement of the J24 on-slip road and an improvement is proposed that would mitigate the impact of the development.

18.1.9 A sensitivity assessment has also been undertaken that accounts for the potential provision of the A49 and M58 link roads. Whilst these highway schemes will result in changes in traffic on the network, the development proposals are not considered to result in a significant impact compared with the situation that will occur should the development proposals not proceed; and

18.1.10 Wigan Council and Highways England has confirmed the proposal is acceptable in highways and transportation terms and the planning application was approved in January 2020.

Appendix 1 – M6 J24 Intervention



Greater Manchester Spatial Framework

Locality Assessment:

North of Mosley Common (GMA43)

Publication Version 2: November 2020

Identification Table	
Client	Wigan Metropolitan Borough Council and TfGM
Allocation	North of Mosley Common
File name	GMA43 North of Mosley Common LA 021020
Reference number	GMA43 (2020 GMSF) previously GMA49 (2019 GMSF)

Approval					
Version	**Role**	**Name**	**Position**	**Date**	**Modifications**
0	Author	M Wilson	Senior Consultant	18/9/20	Base report
	Checked by	M Hibbert	Director	18/9/20	
	Approved by	M Hibbert	Director	18/9/20	
1	Author	R Clowes	TfGM	29/09/20	Consistency edits
	Checked by	S Riley	Wigan MBC	02/10/20	
	Approved by	N Clarke	Wigan MBC	02/10/20	

Table of contents

List of figures

List of tables

Allocation Data	
Allocation Reference No.	GMA43 (2020 GMSF) previously GMA49 (2019 GMSF)
Allocation Name	North of Mosley Common
Authority	Wigan
Ward	Astley Mosley Common
Allocation Proposal	1,100 houses
Allocation Timescale	0-5 years ✓ 6-15 years ✓ 16 + years

Glossary

"2025 GMSF Constrained" - is the 2025 forecast case in which the model adjusts the input demand based on how the cost of travel changes from the base year to the future. For example, for a shopping trip undertaken by car which becomes more congested in future, changes might be travel via a different route, mode, location or time of day.

"2040 GMSF Constrained" - as above, but for a 2040 forecast year

"2025 GMSF High-Side"- is the 2025 forecast case in which the model does not adjust the input demand based on how the cost of travel changes. In this scenario congestion does not lead to a reassignment of traffic, and therefore road traffic flow will generally be higher.

"2040 GMSF High-Side" - as above, but for a 2040 forecast year

"2025 Reference Case" - is the Do Minimum scenario which includes delivery of all transport schemes already committed and assumed to be completed by 2025

"2040 Reference Case"- is the Do Minimum scenario which includes delivery of all transport schemes already committed and assumed to be completed by 2040

AADT - Annual average daily traffic, is a measure used in transportation planning to quantify how busy the road is

Bee Network - is a proposal for Greater Manchester to become the very first city-region in the UK to have a fully joined-up cycling and walking network: the most comprehensive in Britain covering 1,800 miles.

Bus Rapid Transit - is a bus-based public transport system designed to improve capacity and reliability relative to a conventional bus system. Typically, a BRT system includes roadways that are dedicated to buses, and gives priority to buses at junctions where buses may interact with other traffic

Existing Land Supply - these are allocations across the county that have been identified by each local planning authority across Greater Manchester and are available for development

Greater Manchester Variable Demand Model (GMVDM) - the multi-modal transport model for Greater Manchester. This transport model provides estimates of future year transport demand as well as the estimates of travel behaviour changes and new patterns that the Plan is likely to produce. These include

changes in choices of routes, travel mode, time of travel and changes in journey destinations for some activities such as work and shopping.

Local Road Network (LRN) - All other roads comprise the Local Road Network. The LRN is managed by the local highways authorities

National Trip End Model (NTEM) - is a Department for Transport forecast that ensures that measures of population, jobs and trips made by various mode are consistent across the whole of Great Britain.

Rapid transit services - refers to high frequency, high capacity metro style transport services including Metrolink and Bus Rapid Transit.

Strategic Road Network (SRN) - The Strategic Road Network comprises motorways and trunk roads, the most significant 'A' roads. The SRN is managed by Highways England.

"TfGM" - Transport for Greater Manchester, the Passenger Transport Executive for Greater Manchester

Urban Traffic Control (UTC) - is a specialist form of traffic management that, by coordinating traffic signals in a centralised location, minimises the impact of stop times on the road user.

Allocation Location & Overview

1.1.1 The Locality Assessment (LA) provides an overview of the Allocation consistent with other GM Spatial Framework (GMSF) allocations. Additional background assessment work undertaken which supplements the evidence base for the allocation is provided in Appendix 1. The LA has been finalised following feedback from SYSTRA, Wigan Council and TfGM.

1.1.2 The allocation is located to the north of Mosley Common and sits within green belt land. It is bisected by the Leigh Salford Manchester (LSM) Guided Busway.

1.1.3 To the west and south, the allocation is largely bound by residential development off Mosley Common Road. There is also a small industrial area at Parr Bridge Farm, and part of this is undergoing conversion to retail/commercial and housing use.

1.1.4 To the east, the allocation is separated from Ellenbrook residential area by playing fields and Woodland Cemetery, and it also joins with the small residential area called New Manchester.

1.1.5 For the purposes of the testing the impact of the allocation through the strategic model, a total of 1,200 dwellings have been assumed to be built out by 2040. The GM transport modelling suite has a 2040 forecast year, as such it uses 2040 trajectory data as proxy for 2037 full build-out, this is not considered to materially impact on the analysis or conclusions of this report.

1.1.6 All phasing plans information contained in this Locality Assessment is indicative only and has only been used to understand the likely intervention delivery timetable. Final trajectory information is contained in the GMSF Allocation Topic Paper.

1.1.7 The GMSF allocation is for a total of 1,100 homes . This has been reduced down from an earlier figure of 1,200 units as it reflects an adjustment to the Red Line plan to remove a parcel of land at Parr Bridge Farm which already has consent for 100 units. The traffic modelling work is based on the earlier allocation figure of 1,200 units. This gives the correct combined With GMSF allocation traffic volumes on the highway network (1,100 units within the revised Red Line plus 100 outside of it). However, the Reference Case traffic flows (i.e. traffic flows in the absence of the GMSF allocations) should also include traffic from the 100 units committed development site (which they don't). The assessment of allocation impact should be based on the net change in traffic between these two traffic scenarios. The assessment therefore results in a larger net increase in traffic

resulting specifically from the allocation. The testing described within this report therefore provides a robust test.

Justification for Allocation Selection

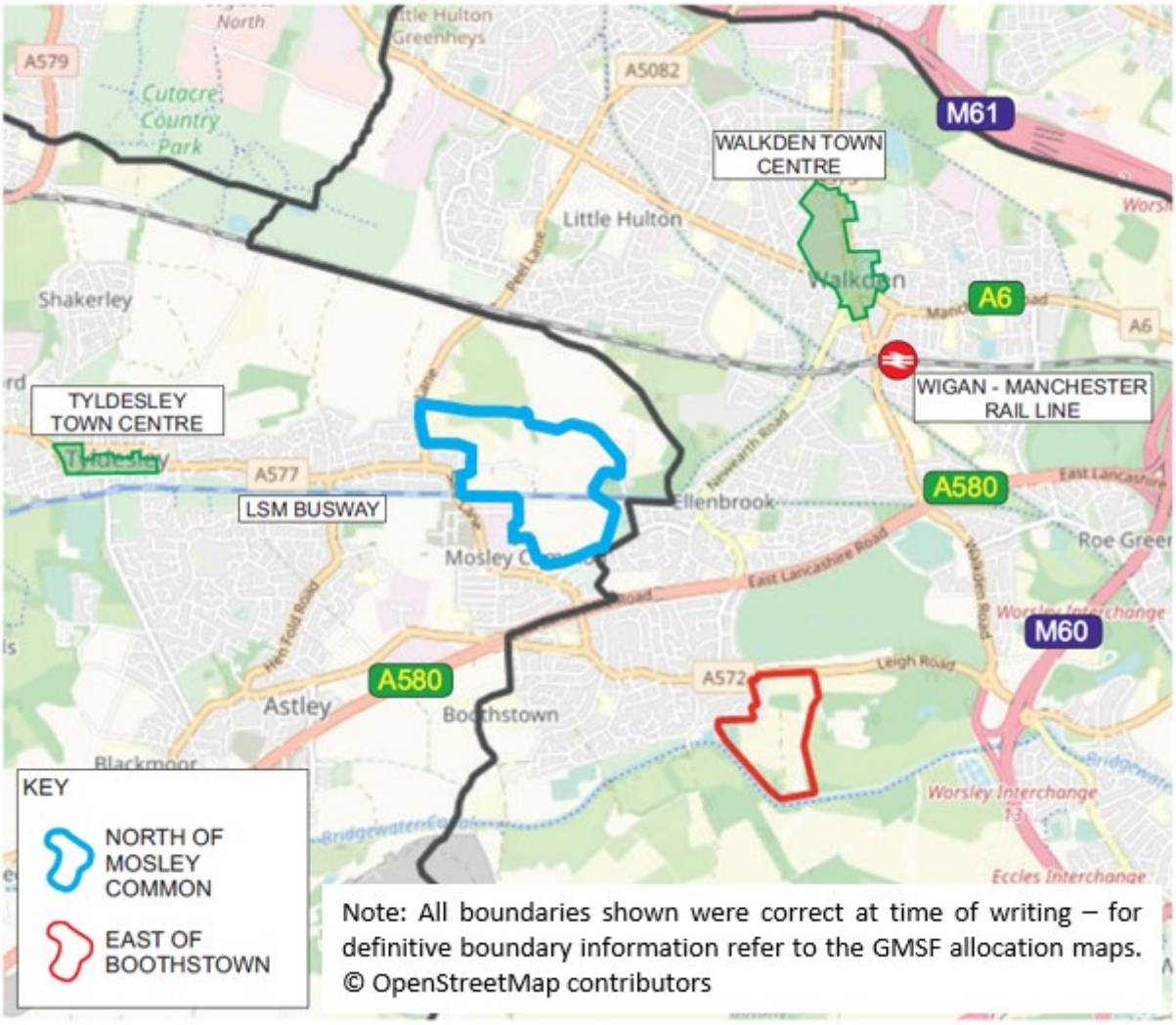
2.1.1 The North of Mosley Common allocation is located within an area where development will make a positive contribution to delivering the GMSF Spatial Strategy. It is a sustainable allocation in a strategic location adjoining the A580 East Lancashire Road which can make a significant contribution to meeting future development needs. The constraints have been assessed and the allocation is considered to be free from significant constraint.

2.1.2 Development at this allocation would be on land which is well served by public transport and where transport investment (by the developer) and the creation of significant new demand (through appropriate development densities), would support the delivery of long-term viable sustainable travel, justifying release from the designated green belt.

Location Map

3.1.1 Figure 1 below shows the location of the allocation and the surrounding highway and transport network. The East of Boothstown allocation which is for around 300 homes is also indicated.

Figure 1. Allocation location map: North of Mosley Common



3.1.2 The plan shows the locational benefits of the allocation. Most notably it is bisected by the Leigh Salford Manchester (LSM) Guided Busway. The fact that the LSM Busway runs through the middle of the allocation is a major locational benefit for providing significant new housing development in this location. The success to date of the LSM Busway services confirms that this provides a realistic alternative to the car, and therefore new development in this location should be less reliant on the car. The Wigan – Manchester railway also runs just to the north. The nearby town centres of Tyldesley and Walkden are also shown.

Key Issues from Consultation

4.1.1 The following concerns have been raised in consultation:

- A significant amount of house building is already ongoing or planned in the area which is already putting the road network under considerable strain;
- The proposed allocation will only add to the existing congestion problems, particularly at the A580/Mosley Common junction, and there is little space to improve the network to ease congestion;
- The significant level of traffic that the site will generate will worsen already poor air quality, further impacting on the health and wellbeing of local residents**;**
- The proposed allocation and the baseline supply sites in the area would result in urban sprawl and the merger of Tyldesley, Mosley Common, Astley, Boothstown, Walkden, Little Hulton and Worsley, removing a critical Green Belt gap and significantly altering the character of the area;
- The Guided Busway seems to be the only reason for selecting the site;
- A new Busway stop will have little impact because buses are already full at Tyldesley and there is no capacity on the route to increase service provision;
- The park and ride facility is always full resulting in many people parking on local roads. It is also difficult to access due to traffic congestion; and
- Mosley Common is poorly served by public transport, and is not within walking distance of the Guided Busway or the nearest train stations at Atherton and Walkden; which have insufficient car parking provision.

Existing Network Conditions and Allocation Access

Current Allocation Access

5.1.1 There are currently no vehicular access points into the Allocation, although it does abut the public highway at a number of locations. The illustrative masterplan (Figure 3) shows the guided busway bisecting the allocation. National Cycle Route (NCR) 55 also runs adjacent to the guided busway providing pedestrian and cycle access on an east-west axis through the centre of the allocation. There are also other existing public rights of way into and through the allocation.

5.1.2 Crashmap official accident data has been obtained for the five years from 2015 to 2019. This is indicated in Figure 2 and summarised by route in Table 1 below.

Figure 2. Accident Locations

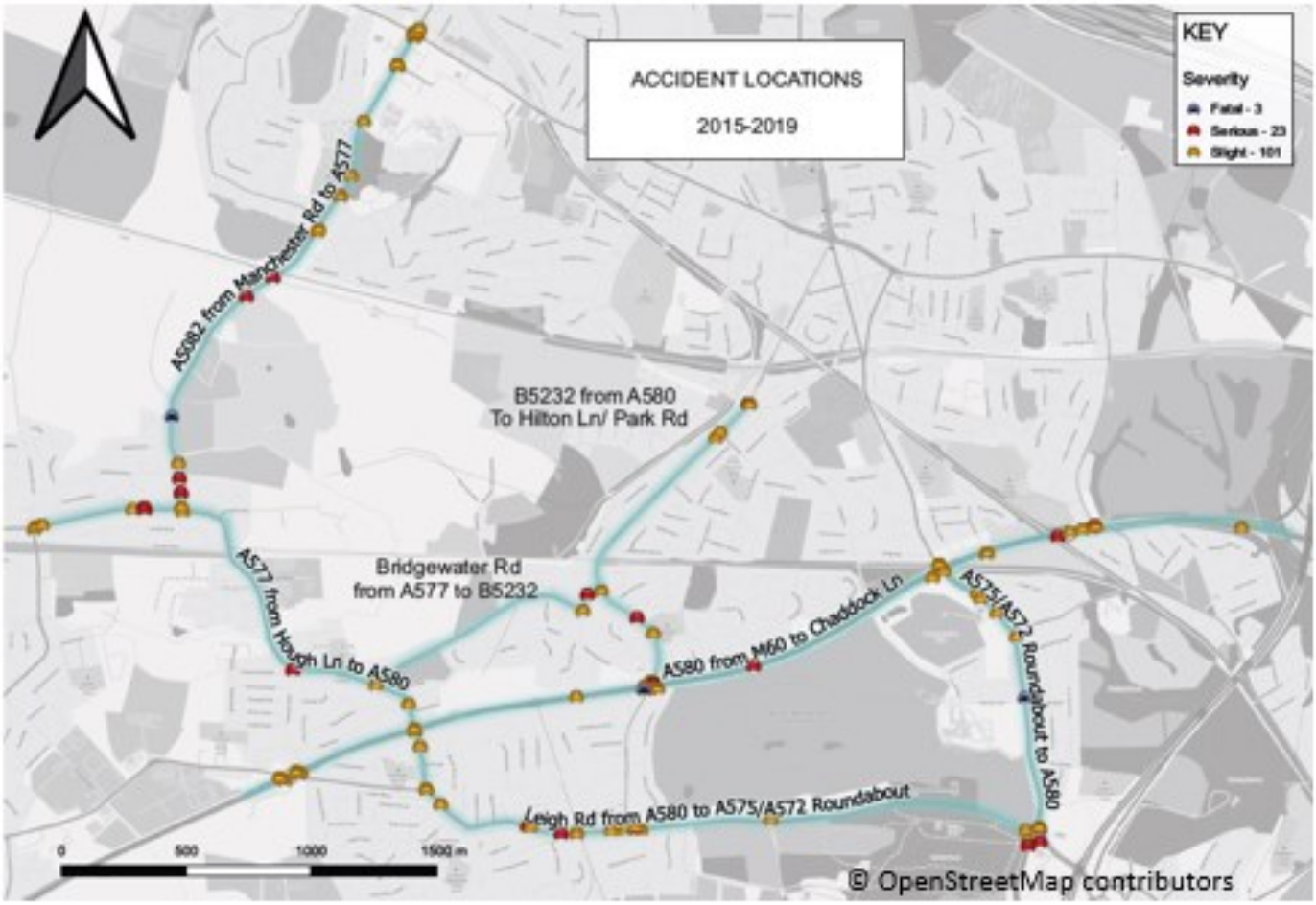


Table 1. Accident Data: North of Mosley Common

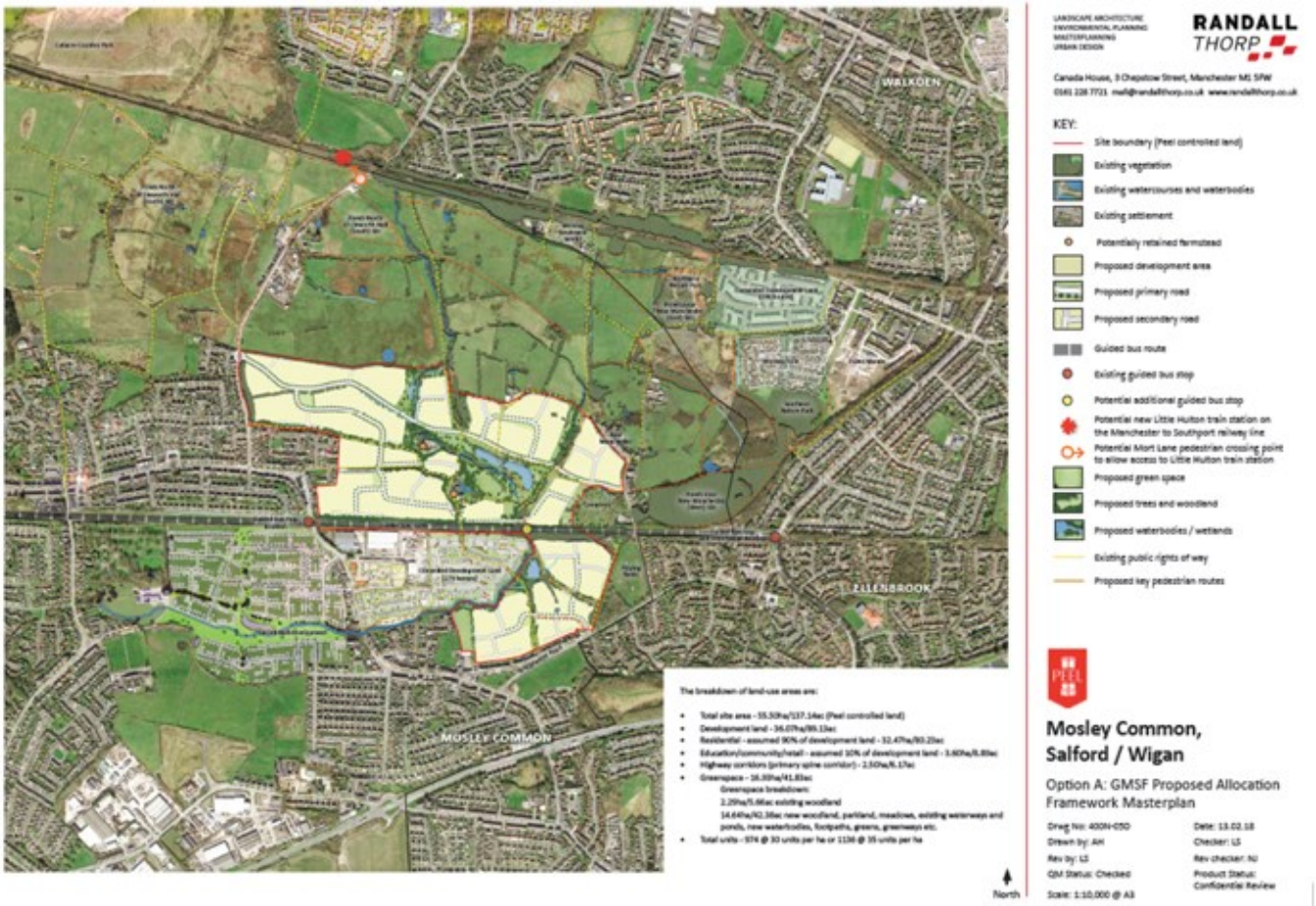
Total Accidents 2015 2019	Slight	Serious	Fatal
A5082 from Manchester Rd to A577 (1.4 miles) *Including the junction with A577	22	5	1
A577 from Hough Ln to A580 (1.3 miles) *Including the junction with Bridgewater Rd	7	3	0
Leigh Rd from A580 to A575/A572 Roundabout (1.5 mile)*Including the junction with A575/A572 Roundabout	18	6	0
Walkden Rd from A575/A572 Roundabout to A580 (0.8 miles)	4	0	1
A580 from Chaddock Ln to M60 (2.6 miles) *Including junctions with A577, B5232 and A575	40	5	1
Bridgewater Rd from A577 to B5232 (0.7 miles) *Including the junction with B5232	1	1	0
Bridgewater Rd/ Newearth Rd roundabout to Hilton Ln / Park Rd (0.9 miles)	5	2	0

5.1.3 The accident locations are evenly distributed over the above routes, and other than the expected typical concentration of accidents at junctions, there are no clusters to suggest that any locations are particularly hazardous.

Proposed Allocation Access

5.1.4 North of the Guided Busway, a number of vehicular access points are proposed. The illustrative masterplan for the allocation is shown in Figure 3 below.

Figure 3. Illustrative Allocation Masterplan



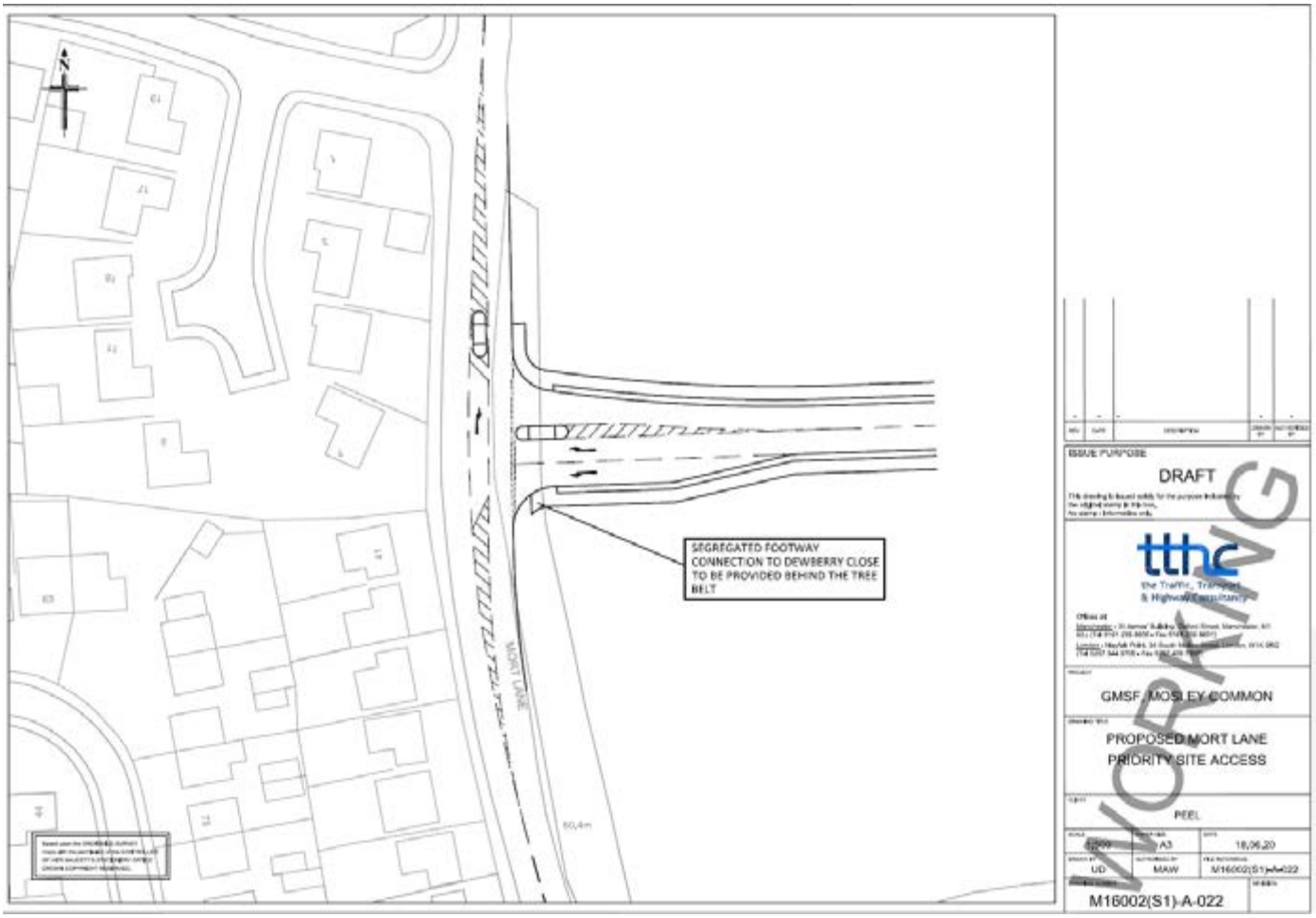
5.1.5 There are five potential access locations including the consented access to Parr Bridge Farm: three to the north of the Guided Busway; and two to the south.

5.1.6 The northern access points are off Mort Lane; Wellington Drive and City Road. Wigan Council has stated that they would like to see a link through the allocation, connecting the Mort Lane access with a new access off City Road, as this would provide a new routeing option for the full allocation across the wider highway network (for trips between the north and south east). This LA is based on the assumption of this through connection, although further assessment work will also test the impact without the new through connection.

5.1.7 Given the extent of the Mort Lane allocation frontage, a new allocation access can readily be accommodated here. A number of access layout options have been developed for Mort Lane including priority and roundabout options. Figure 4 shows these options. The roundabout has two access spurs and the ghost island junction one minor arm. The schemes shown would provide the

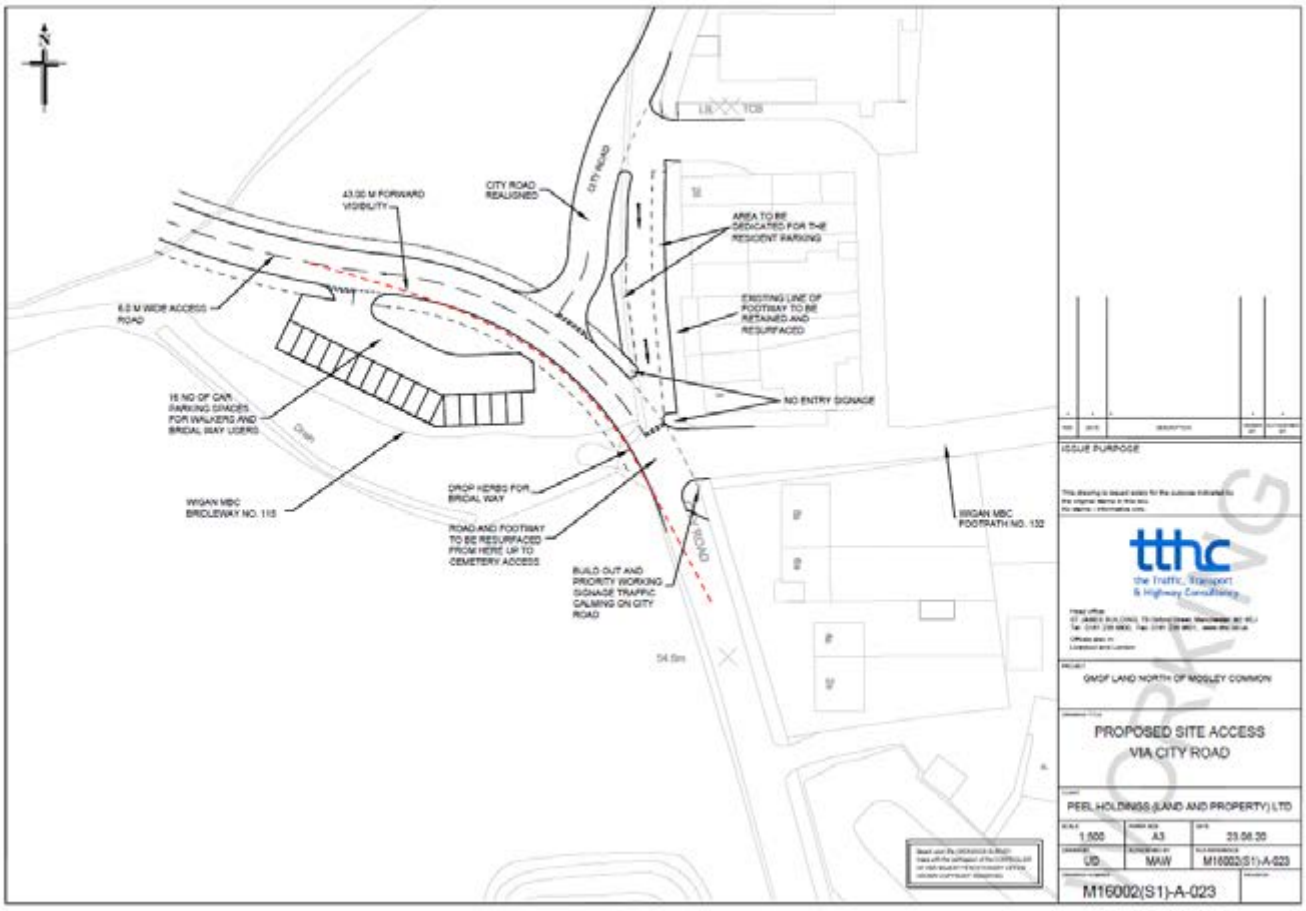
principal access point for the northern pocket, and would provide for the first phase of development. The roundabout option demonstrates that access could be provided by way of a 'loop' off Mort Lane if required.

Figure 4. Illustrative Mort Lane access options



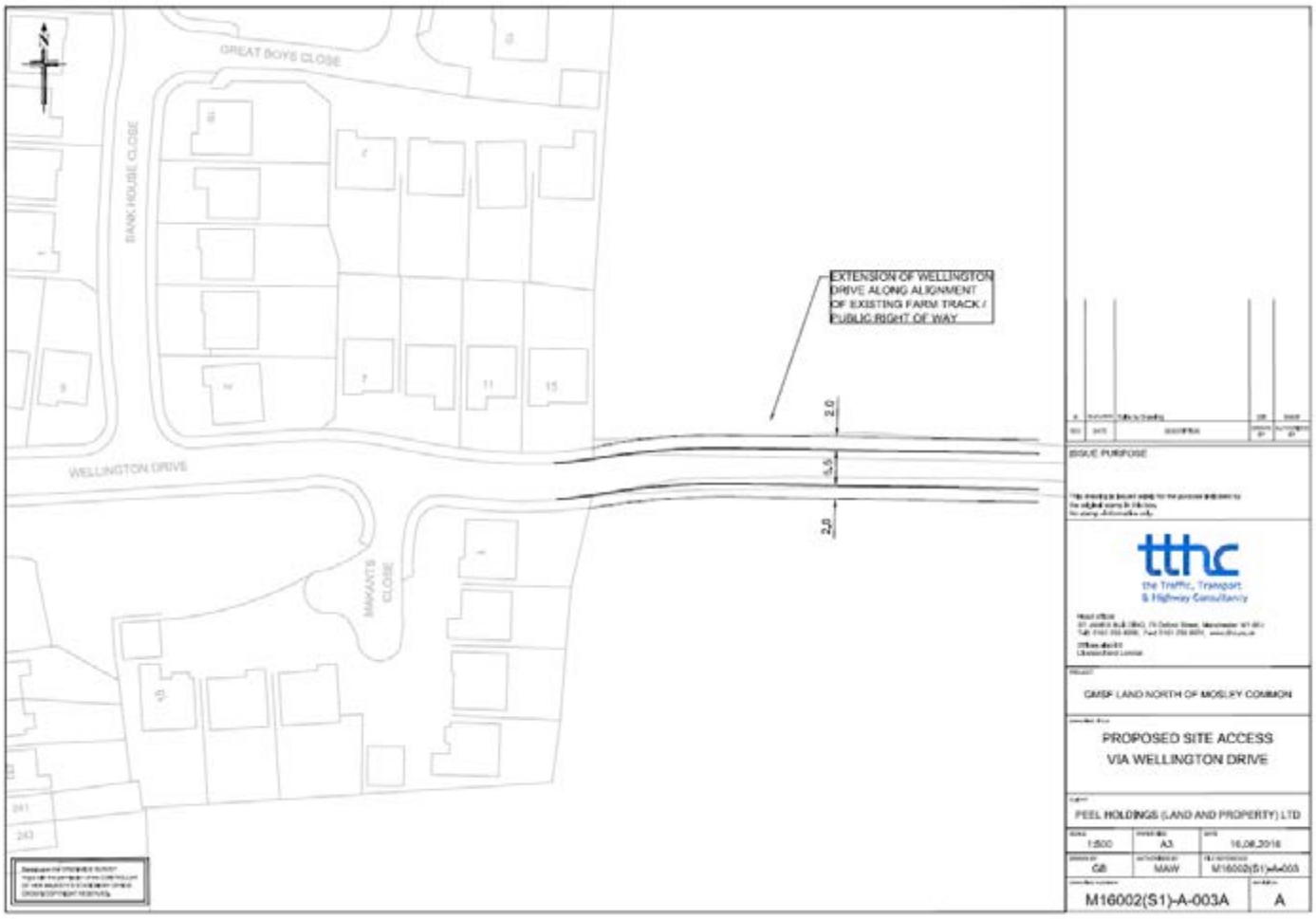
5.1.9 Figure 5 shows how access via City Road could be achieved. City Road is effectively a cul-de-sac, and the access proposals are for the access road to become the main road, and for City Road to the north of this to become the side road. The proposals include for the adoption of the section of City Road between the allocation and the LSM Busway. The physical works would include resurfacing of the carriageway and footway to the north of the Cemetery access, and a build out and give way markings to control traffic through this area. Existing on-street parking is retained and there is also the opportunity to deliver a small car park to provide access to the adjacent Public Right of Way.

Figure 5. Illustrative City Road access: North of Mosley Common



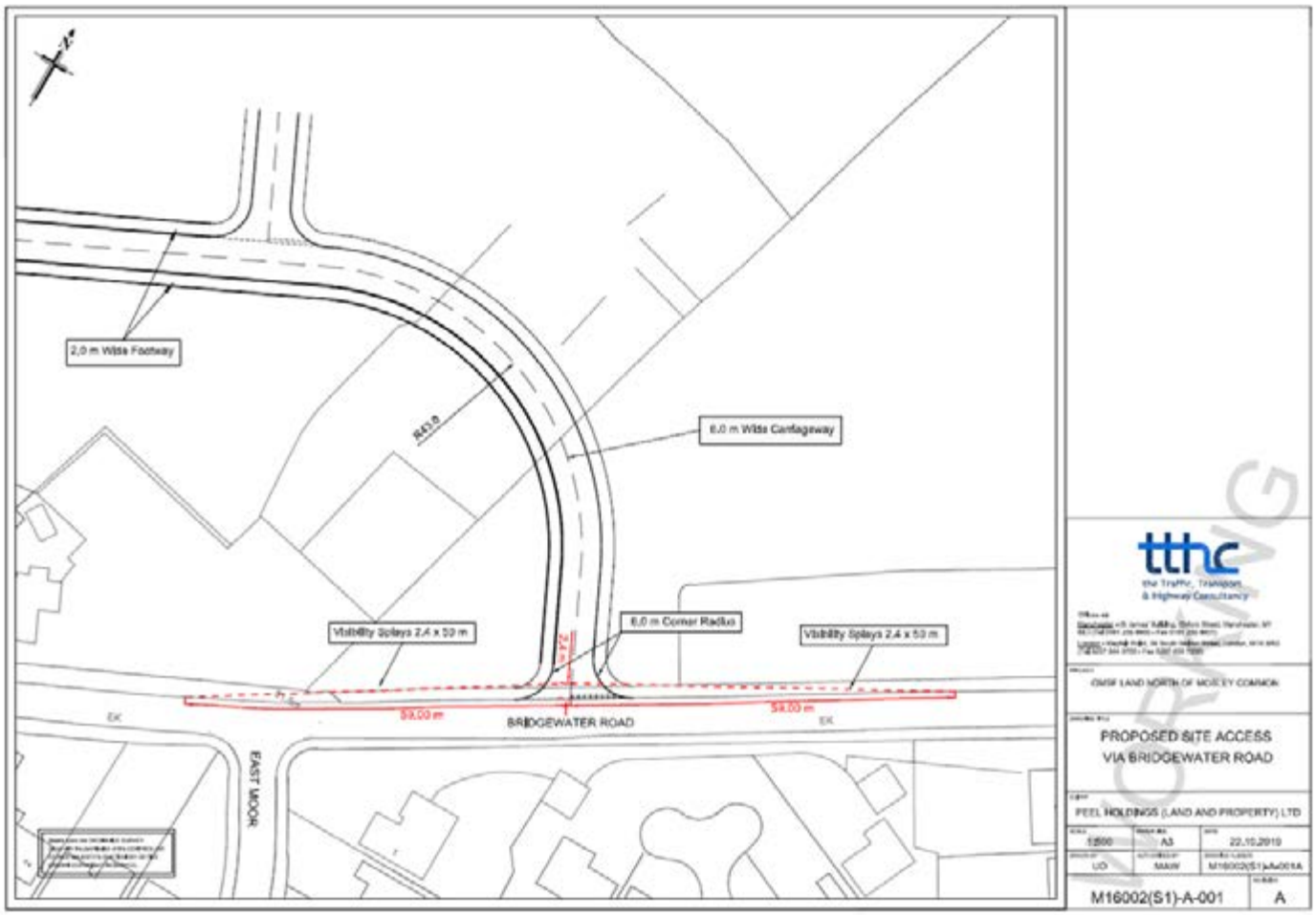
5.1.10 Figure 6 shows the Wellington Drive cul-de-sac access. This would serve up to circa 100 units.

Figure 6. Illustrative Wellington Drive access: North of Mosley Common



5.1.11 To the south of the Guided Busway, the main access would be taken from Bridgewater Road near East Moor as shown in Figure 7.

Figure 7. Illustrative Bridgewater Road access: North of Mosley Common



5.1.12 Part of the allocation also includes a small extension to the consented Parr Bridge Farm site. Access would be via an extension of the access road for the consented site, which has a priority access junction with Mosley Common Road to the south of Bridgefield Close.

Multi-modal accessibility

6.1 Current

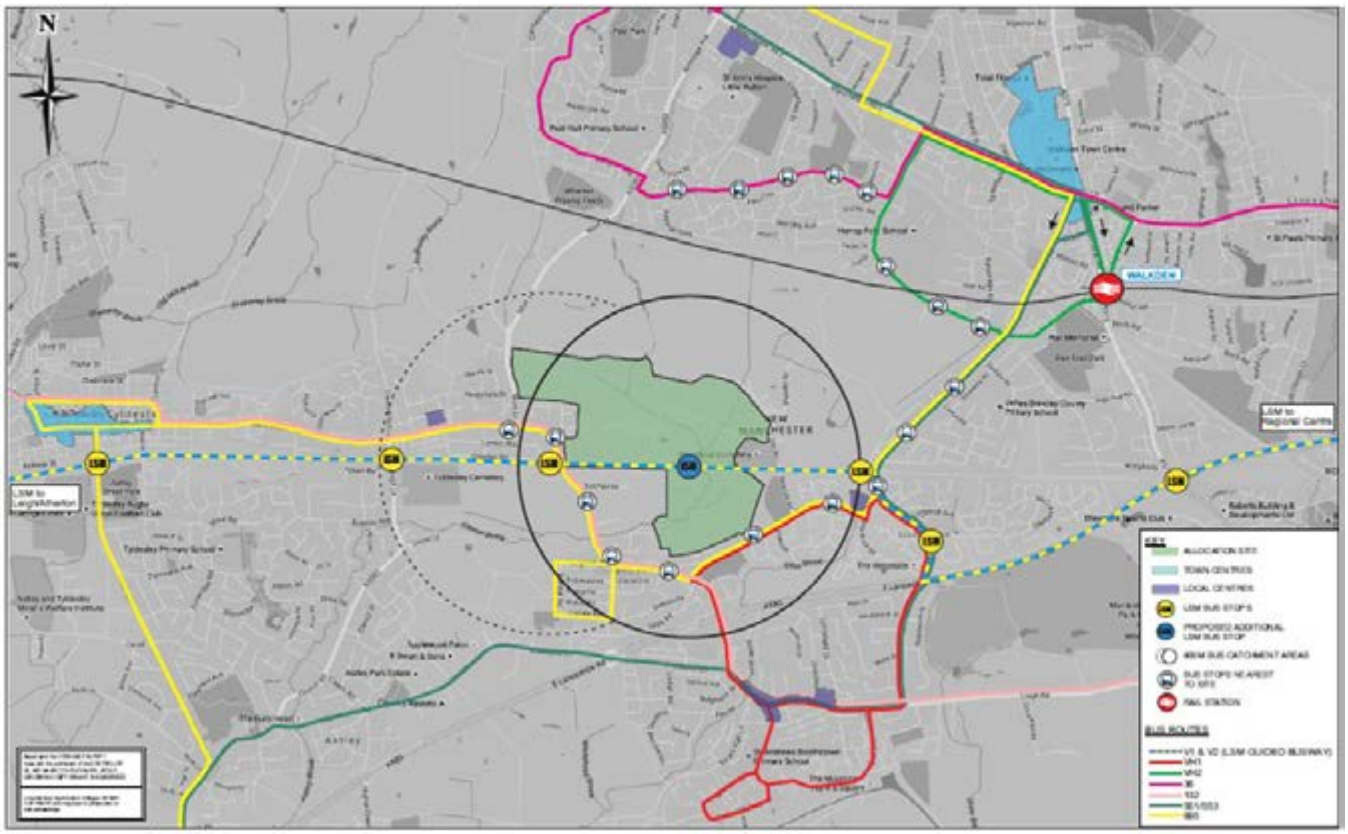
6.1.1 The LSM Guided Busway intersects the allocation. A stop is located off A577 Sale Lane, just west of the proposed allocation, and one to the east off B5232 Newearth Road. The allocation is positioned between the two existing stops. For context, the proposed interventions associated with the allocation include for a further stop to be situated within the allocation between the two existing stops. Further details are provided under the 'Proposed' sub-heading.

6.1.2 The LSM Busway services have proven very popular since their introduction, providing a reliable, frequent and attractive journey option to key sites in the Regional Centre including significant employment areas, the Universities, the Oxford Road healthcare area and leisure destinations, enabling residents to commute without using private cars.

6.1.3 The LSM Busway Vantage services are operated by First Greater Manchester (service numbers V1, V2 and V4). These are high specification vehicles, operating on a high frequency (on average one bus every 4 minutes heading into the Regional Centre during the AM peak hour), and with a higher level of bus priority cutting journey times and providing greater journey time reliability.

6.1.4 In addition to the Busway route through the allocation, a number of other bus routes pass close to the allocation, which will provide additional services for those living close to these bus corridors. These bus routes and the location of bus stops are indicated in Figure 8.

Figure 8. Public Transport Services: North of Mosley Common



6.1.5 The LSM Guided Busway has a shared walk and cycle route running alongside it, which is also part of the National Cycle Network (NCN Route 55). This not only provides the allocation with access to

the existing LSM stops, but also to the conventional bus services on the public highway at A577 Sale Lane and at B5232 Newearth Road. Bus stops on the A577 can also be accessed south from the Mort Lane access, and close to Wellington Drive and Parr Bridge Farm access points. On Bridgewater Road there are bus stops adjacent to the proposed southern access. For those living on the eastern side of the allocation, there is access via City Road and/or the LSM adjacent walk/cycle route to the stops on the LSM Guided Busway, and the Newearth Road and Bridgewater Road stops.

6.1.6 Table 2 below provides a summary of the destinations served and the frequency of services.

Table 2. Local Bus Services: North of Mosley Common

No.	Route	Mon Fri 0700 0900**	Mon Fri 1600 1800**	Mon Fri Typical Daytime Frequency	Mon Fri Daily Total **	Sat Daily Total **	Sun Daily Total **
	Busway within the Allocation						
V1	Leigh – Allocation – Salford – Manchester	14 6	8 12	15 mins	69 67	55 53	32 31
V2	Atherton – Tyldesley – Allocation – Salford – Manchester	8 5	7 7	15 mins	61 59	54 52	29 31
	South (Bridgewater Road)						
695	Bolton Hospital – Walkden – Mosley Common – Tyldesley – Leigh	0 1	2 2	Hourly	10 10	9 8	0 0
VH1 circ	Ellenbrook – Mosley Common – Boothstown	4	4	30 mins	25	15	15

No.	Route	Mon Fri 0700 0900**	Mon Fri 1600 1800**	Mon Fri Typical Daytime Frequency	Mon Fri Daily Total **	Sat Daily Total **	Sun Daily Total **
	South West (Mosley Common Road)						
132	Wigan – Tyldesley – Boothstown – Trafford Centre	2 1	2 2	Hourly	18 17	15 16	16 15
695	Bolton Hospital – Walkden – Mosley Common - Tyldesley – Leigh	0 1	2 2	Hourly	10 10	9 8	0 0
VH1 circ	Ellenbrook – Mosley Common – Boothstown	4	4	30 mins	25	15	15
	South East (B5232 Newearth Road)						
695	Bolton Hospital – Walkden – Mosley Common - Tyldesley – Leigh	0 1	2 2	Hourly	10 10	9 8	0 0
551/ 553*	Bolton – Walkden – Boothstown	2 2	2 2	Hourly	17 17	16 16	13 14

* 551 provides an evening and Sunday route extension between Boothstown and Leigh

** Number of buses in stated time period

6.1.7 Of particular note for the allocation , service numbers 695 and 132 (yellow and pink routes) route close to the allocation via A577 Sale Lane / Mosley Common Road and Bridgewater Road. These each provide an hourly service. The 695 operates six days a week and connects to the two nearby town centres of Tyldesley and Walkden as well as Leigh town centre and Bolton Hospital. The 132 service operates seven days a week. It also connects to Tyldesley town centre, Wigan town centre,

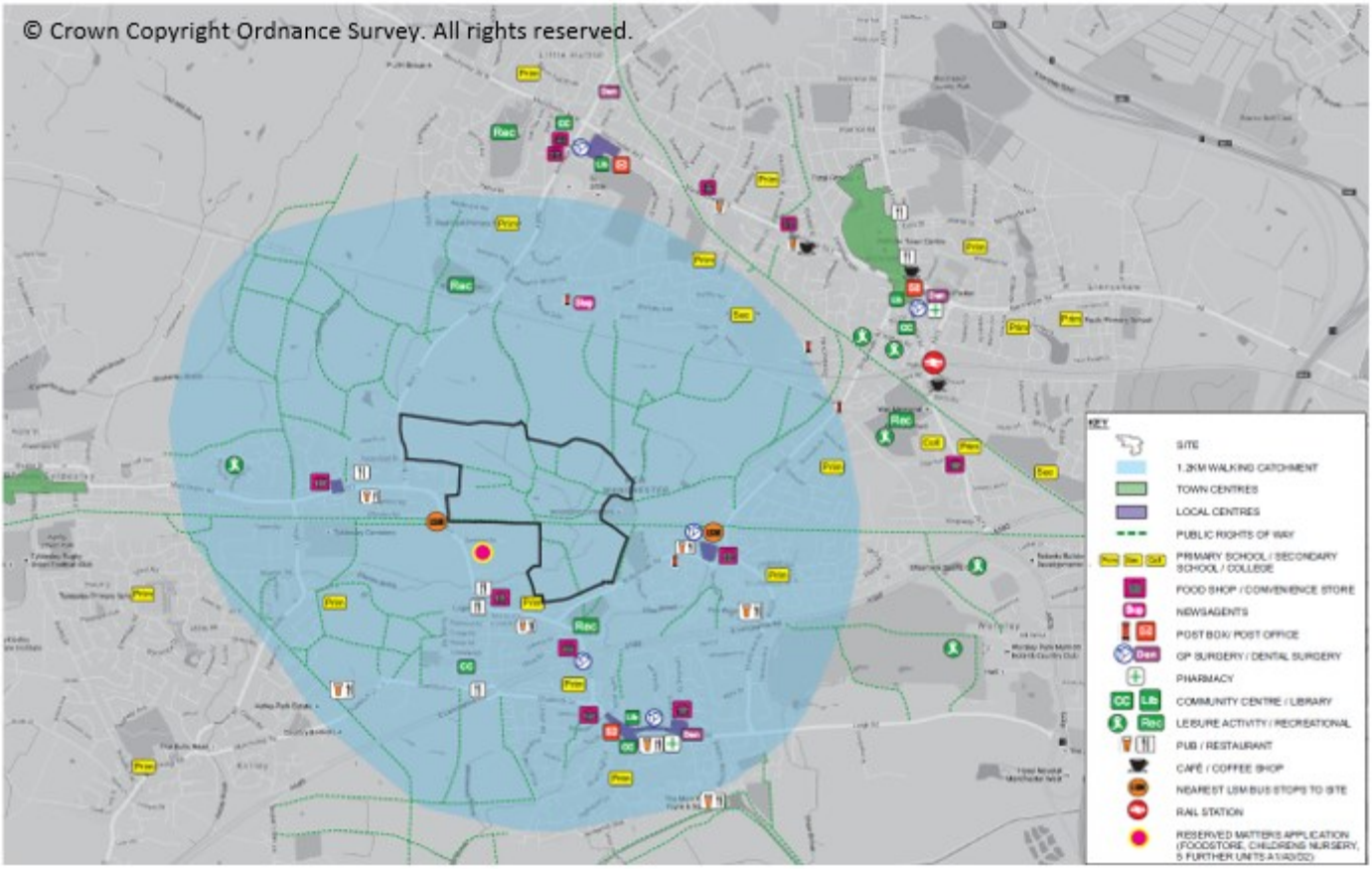
the local centre of Boothstown, and Trafford Centre. The VH1 circular service via Bridgewater Road also provides a local connection to Boothstown, operating on a 30 minute frequency, seven days a week. Also, for those living on the eastern side of the allocation, Newearth Road provides an additional hourly service (551/553). This routes to Boothstown, Walkden town centre, and Bolton town centre. It operates seven days a week.

6.1.8 Walkden station is located approximately 2km from the allocation, with an off-road route available most of the way via NCN55 (parallel to the Busway), and the Ellenbrook Loopline (parallel to Newearth Road). It serves Manchester Victoria to the east and Wigan to the west, but of course for trips into Manchester, the LSM Busway would be the obvious choice for residents of the allocation.

6.1.9 A new rail station study identified the potential for a station at Little Hulton, approximately 650 metres north of the allocation, which might also include a Park & Ride site. This line has also been identified as a priority for Tram train in the next 10-15 years. This would improve the public transport accessibility of the allocation even further.

6.1.10 Walking is the most important mode of travel at the local level, and has the greatest potential to replace car trips for distances up to 2 kilometres. In relation to this more local trip making, the allocation is well placed for local trips to be carried out on foot. There are a number of local shops and facilities located nearby with three designated centres at Sale Lane Local Centre (450m walking distance to the west), Ellenbrook Neighbourhood Centre (600m to the east), and Boothstown Neighbourhood Centre (900m to the south).There are also numerous schools. These are indicated in Figure 9 which also shows a 1.2km (15 minutes) walking catchment.

Figure 9. 1.2km Walking Catchment and Local Facilities: North of Mosley Common



6.1.11 The plan shows that there is an extensive provision of shops and facilities close to the allocation : to the west on Sale Lane, to the south and southeast in Mosley Common, Boothstown and Ellenbrook. Furthermore, the Parr Bridge Farm development site includes for a foodstore, children's nursery and five further units with A1/A3/D2 use. A larger range of shops and facilities can be accessed in two nearby town centres, both approximately 2km away: Tyldesley to the west; and Walkden to the north east.

6.1.12 While those living towards the centre of the allocation (with the greater walk distances) may be more inclined to use cars to access some of the more distant shops and facilities, the majority of residents should readily be able to access the highlighted shops and facilities on foot.

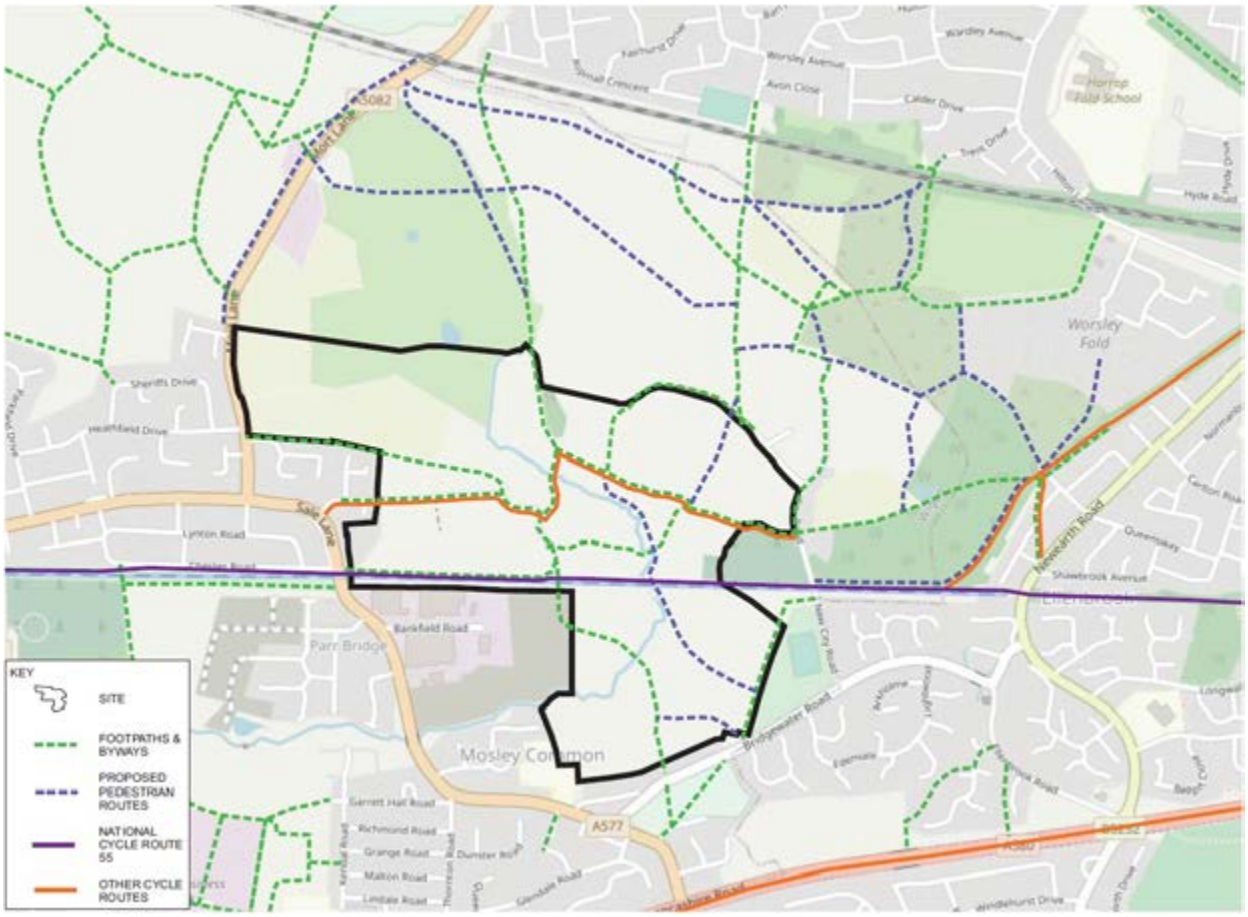
6.1.13 Nevertheless, given the scale of development proposed, provision will be made for the inclusion of a local amenities cluster within the allocation to complement the existing provision in the surrounding area, and will further promote the sustainable development of the allocation.

6.1.14 In relation to schools there are eight primary schools lying within 1.2km of the allocation . Clockwise on the plan, these are Peel Hall (just off Mort Lane), Hilton Lane, James Brindley, Ellenbrook Community, St Andrew's, Boothstown Methodist, St John's Mosley Common CofE, and Garrett Hall.

6.1.15 For secondary schools, Harrop Fold is located just 400m walk to the north of the railway line (there is a footpath connection under), and Walkden High School is located 1.9km to the east via the Roe Green Loopline. This is a former railway route which forms part of the Salford City Council (SCC) footpath and cycle route network.

6.1.16 A number of existing footpaths pass through the allocation and new footpaths are identified as part of the concept plans for the allocation to promote sustainable access. These are indicated in Figure 10 below. As shown, there is a network of paths which connect to and pass through the Allocation.

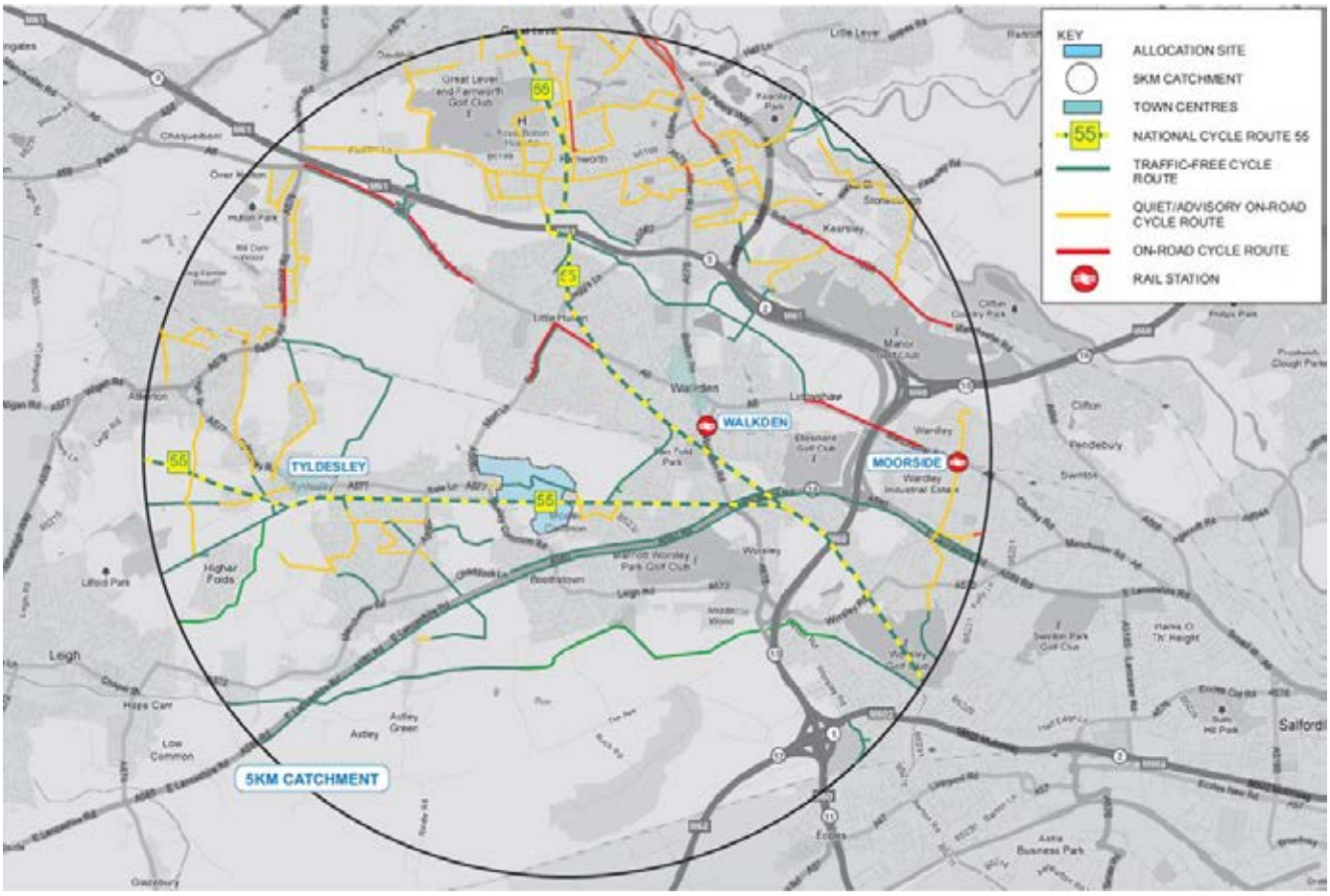
Figure 10. Public Rights of Way within Allocation



6.1.17 With regard to cycling as a mode of transport, it is generally recognised that cycling can substitute car trips, particularly for journeys under 5km, although with much greater emphasis and investment in cycling in recent years, and the recent increased take-up of cycling, many cyclists will be willing to cycle much further than this, particularly to access their place of work.

6.1.18 Figure 11 shows cycle routes within 5km of the Allocation. This includes two routes which pass through the Allocation: NCN55 (on the Tyldesley Loopline) on the same direct alignment as the Guided Busway; and a traffic free rough surface route which connects Wellington Drive off Sale Lane with New City Road at New Manchester.

Figure 11. Cycle Network



6.1.19 NCN55 follows the Guided Busway providing a good quality cycling and walking opportunity west to Tyldesley and Wigan, and east towards Manchester and beyond. There is a further branch a short distance east of the allocation (the Ellenbrook Loopline) which routes to Walkden where it joins another spur of NCN55 to Bolton. The nearby A580 East Lancashire Road also has off road cycle lanes.

6.1.20 The cycle network within the 5km catchment provides dedicated off-road routes to Walkden, Farnworth, Worsley, Tyldesley and Atherton. It is also possible to cycle to Swinton on a largely traffic free route.

6.1.21 The proximity of the allocation to Walkden Station, and the provision of good cycle links to it, makes cycle-rail a potential alternative mode of access for the allocation . Under the National Access for All programme there is funding in place for improvements to Walkden Station, which includes a new lift to provide step-free access, and also includes for new cycle parking.

6.2 Proposed

6.2.1 The provision of LSM through the allocation provides a significant opportunity for access to the allocation via the high frequency, high quality bus services which it serves. In order to maximise the benefits of LSM for the allocation a new bus stop is proposed on the Guided Busway where it routes through the centre of the allocation. This would be located approximately midway between the two existing stops at A577 Sale Lane and Newearth Road, and will maximise the Busway catchment area. This assists in the delivery of new development where the need for car travel will be significantly reduced.

6.2.2 Wigan Council and TfGM recognise the opportunities to be provided by a new stop in this location. This proposed new LSM stop is identified in the Greater Manchester Transport Strategy 2040 Draft Delivery Plan 2020 - 2025. It is considered by Wigan Council, alongside funding towards increased service provision on this popular route, as the top priority for mitigation of the allocation's development impact.

6.2.3 A 400m walk distance has historically been considered reasonable for accessing a conventional bus stop, and 800m for a railway station. A paper titled 'How Far Do People Walk' by Wakenshaw and Bunn produces evidence based on the National Travel Surveys of 2010, 2011 and 2012. That research presents greater actual walking distances to bus stops: 580m average walking distance (outside of London) and 800m for 85th percentile distances. For a railway station the distances are 1010m average and 1610m 85th percentile.

6.2.4 For rapid transit routes such as the LSM Busway, in terms of their attractiveness, their bus stops are considered more akin to a railway station, and therefore passengers will accept greater walk distances to access these given the benefits that they bring. However, the attraction of this service (to compete with the private car) will clearly be improved the shorter the distance to the stop.

6.2.5 Whilst a wider catchment area is considered appropriate for an LSM Busway stop, propensity to use it is not simply a case of whether the stop falls within or outside a certain walk threshold; the closer one is to a stop the greater the likelihood of using it.

6.2.6 Figure 12 below shows an 800 metre catchment area for the Busway (proposed stop and existing A577 Sale Lane and Newearth Road stops) overlaid on the allocation illustrative masterplan. It can

be seen that this covers the whole allocation , thus providing all future residents with a realistic alternative to the car, particularly for trips into the Regional Centre. Indeed, as can be seen, much of the allocation lies with 400 metres/5 minutes' walk of the proposed new stop. The allocation therefore benefits from excellent public transport accessibility opportunities.

Figure 12. 800 metre walk catchment from LSM bus stops: North of Mosley Common

6.2.7 In order to further maximise the attractiveness of the Busway to as many future residents as possible, development parcels closest to this new stop would provide for apartments in order to maximise residential density in the immediate vicinity of the stop, and pedestrian routes would minimise walk distances.

6.2.8 It is noted that the popularity of the LSM services has led to on-street parking around some of the existing bus stops and that there is local concern that this might be replicated here. Traffic Regulation Orders would be used to ensure such commuter parking does not take place.

6.2.9 Other local concerns raised in relation to the popularity of these LSM services is that buses can be full and unable to pick up new passengers further downstream in the AM peak. This indicates the need for increased capacity on these services. The popularity of these services demonstrates their

long term viability without the need for subsidy, nevertheless, in order to offset the upfront costs of the purchase of new buses, the allocation will provide a significant contribution towards the purchase of new buses.

6.2.10 Likewise, the layout would ensure for a number of connections to the adjoining NCN 55 cycle route.

6.2.11 In relation to the potential cycle-rail mode choice linked to Walkden Station, whilst there are current proposals (and funding) for the provision of more cycle parking at the station, the number of spaces are unknown. The supply and demand for spaces will be reviewed at the planning application stage for the allocation, and if further provision is required, then this would be addressed as part of the application.

6.2.12 The allocation also provides the opportunity for the delivery of a new primary school, and retail/commercial development in the form of a new Local Centre. These will not only enhance the sustainability of the allocation, but also provide benefits for the existing surrounding residential community.

Parking

7.1.1 Wigan Council Parking Standards remain in place (Policy A1S) from the UDP, although these are subject to review in the near future.

7.1.2 The residential standards require 1 space per dwelling (up to 3 bedrooms), with 2 spaces for dwellings of 4+ bedrooms.

7.1.3 Parking provision at the allocation (car and cycle) will be provided in accordance with Wigan Council's standards that are in place at the time any future planning application is made.

Allocation Trip Generation and Distribution

8.1.1 The allocation is for up to 1,100 units, although as highlighted in chapter 1, the modelling work is based on 1,200 units, and the unit and traffic volumes quoted throughout this report are based on this larger figure. Table 3 below shows the assumed trajectory for build out at the assessment years 2025 and 2040.

Table 3. Development Quantum: North of Mosley Common

Residential	Houses	40	960
Residential	Apartments	10	240
Industrial	e.g. B2/B8 etc.	0	0
Total		**50**	**1200**

8.1.2 The assessment of GMSF allocations uses TfGM's Greater Manchester Variable Demand Model (GMVDM) in order to consider the impact of allocations on the transport network. This takes the origin and destination of trips, assigns them to a mode of transport, and then to a route based on generalised cost. The assignment of vehicular trips on the highway network takes account of congestion on the network.

8.1.3 All strategic modelling work has been undertaken by SYSTRA on behalf of TfGM. GMVDM is a strategic model, and as such, does have some limitations in terms of investigating localised transport issues. For the purposes of GMSF, some refinements have been added to the model to provide more network detail in the vicinity of some of the allocations.

8.1.4 Future year 2025 and 2040 'Reference Case' flows have been derived taking account of committed developments and transport infrastructure. This provides the 'Base' against which the addition of GMSF allocations can be considered.

8.1.5 SYSTRA GMSF-wide trip rates for residential development would result in the Mosley Common allocation generating 530 two way vehicular trips in the AM peak hour and 580 in the PM peak.

8.1.6 The 'With GMSF' model scenario also includes traffic from all other allocations. Two model scenarios have been run for the With GMSF scenario: 'Constrained' and 'High Side' assessments. In simple terms the 'Constrained' forecast derived by GMVDM could reduce the number of highway trips where the network is congested. A separate 'High Side' forecast provides a worst case assumption, allowing all development traffic to load onto the network. It should be noted

that neither of these scenarios has specific regard to the full mode choice potential of a new LSM Stop within the centre of the allocation.

8.1.7 Table 4 below details the peak hour vehicular trips associated with the North of Mosley Common allocation as contained within the GMVDM modelling under both the 'Constrained' and 'High Side' development traffic scenarios.

Table 4. Allocation Traffic Generation: North of Mosley Common (1200 units)

Year	AM Peak Hour Departures	AM Peak Hour Arrivals	PM Peak Hour Departures	PM Peak Hour Arrivals
2025 GMSF Constrained	15	5	8	17
2025 GMSF High-Side	16	6	10	17
2040 GMSF Constrained	296	56	144	345
2040 GMSF High-Side	383	148	234	345

Units are in PCU (passenger car units/hr)

8.1.8 Only a small quantum of development will take place by 2025, and therefore the assessment work contained in this report focuses on the year 2040 outputs with full development build out. Of course, as the allocation is for 100 units less than that tested, the traffic generation at full build out will be some 8% less than the figures quoted in Table 4 above.

8.1.9 It is important to note that the GMSF trip rates do not take account of the proposed transport infrastructure, in particular the proposed new Busway stop is expected to provide for a high public transport modal share, but the assumption within the modelled trip generations is that only 2 – 3 % travel by public transport during the peak hours. This is an extremely low proportion (for this area, Office of National Statistics 2011 data (i.e. before the benefit of LSM) indicates 6.5% travelling by public transport), and with the addition of LSM in recent years one would expect that to increase quite significantly. The modelled vehicular trip generations for this allocation are therefore extremely robust and unlikely to reflect the actual traffic generation which would be expected to arise from the allocation.

8.1.10 The distribution of allocation trips onto the surrounding highway network is undertaken on a GMSF consistent basis (based on the distribution of trips from nearby residential zones). Traffic is assigned to the network within the GMVDM, taking account of the proposed new access arrangements as well as the background operating conditions.

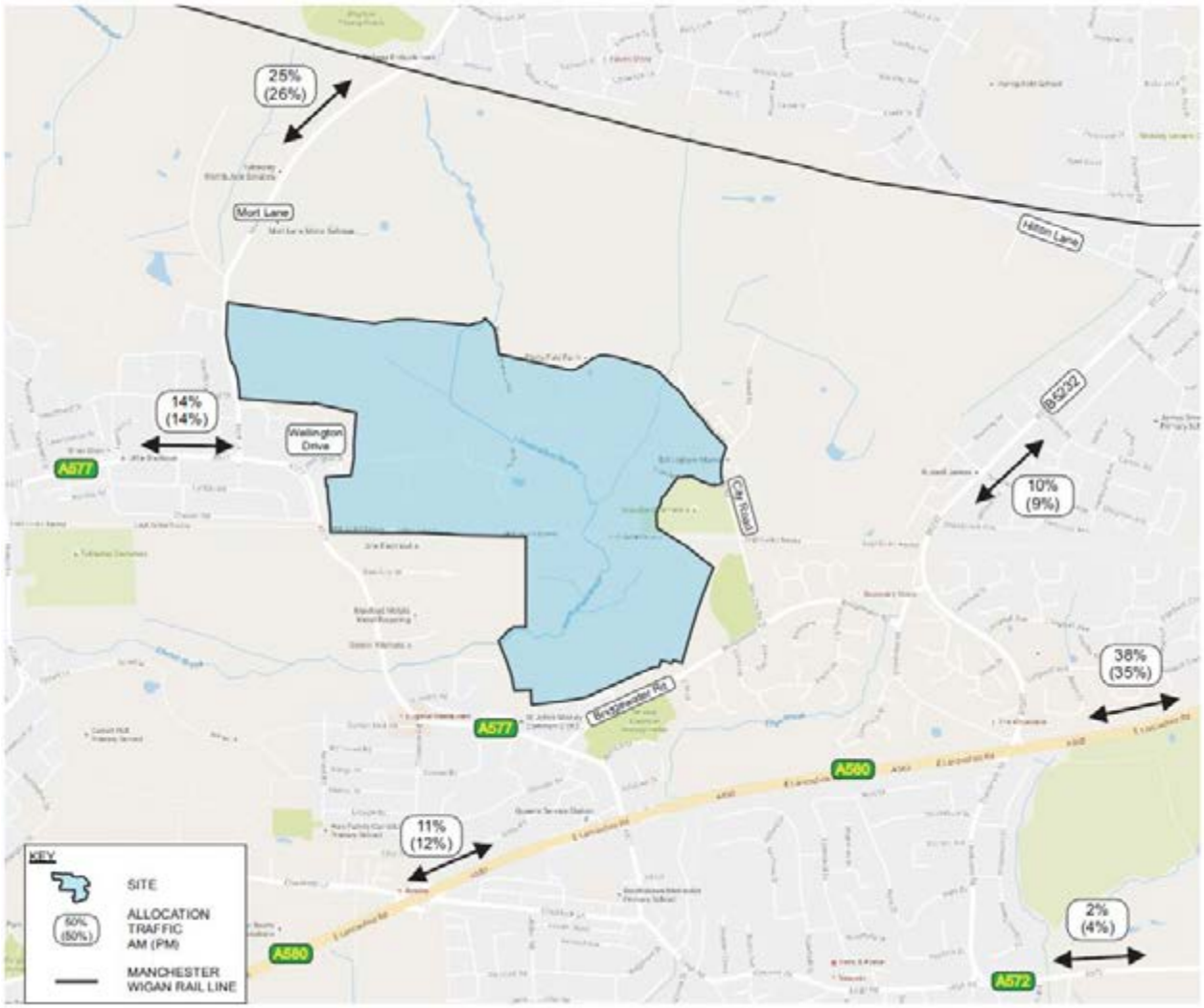
8.1.11 It is noted that at this stage a simplified version of the allocation access arrangements has been adopted within the model. The allocation arrangements coding adopted within the GMVDM at this stage allow for route choices for development traffic to access the external highway network in different directions, whereas some parts of the allocation will be served by a single access road thus removing that route choice. This must be borne in mind when considering junction impacts more local to the allocation because localised routeing patterns may change. A more refined assessment of these more localised impacts will be undertaken at the appropriate stage.

8.1.12 The modelled assignment of trips varies by time of day. The impacts on the key routes are as detailed below in Table 5 and shown diagrammatically in Figure 13. This traffic assignment is in advance of any highway mitigations associated with the allocation and in the absence of any mode switch from car to LSM Busway. Within this context, it is unsurprising that the largest proportion of traffic is expected to route via the A580 (East).

Table 5. Allocation Traffic Distribution, 2040 GMSF High-Side (Origin/Destination Combined): North of Mosley Common

Route	AM Peak Hour	PM Peak Hour
A577 Sale Lane	14%	14%
A5082 Mort Lane	25%	26%
B5232 Newearth Road	10%	9%
A580 East Lancashire Road (East)	38%	35%
A572 Leigh Road	2%	4%
A580 East Lancashire Road (West)	11%	12%

Figure 13. Allocation Traffic Distribution, 2040 GMSF High-Side (Origin/Destination Combined): North of Mosley Common



8.1.13 It can be seen that more than a third of traffic routes to/from A580 East. Table 6 below shows the cross boundary trips.

Table 6. Cross-boundary trip distribution at 2040 GMSF High-Side: North of Mosley Common

Route	Share AM Peak Hour	Share PM Peak Hour	2 Way Flow AM Peak Hour	2 Way Flow PM Peak Hour
Salford north (Mort Lane)	25%	26%	132	152
Salford east (Bridgewater Road)	43%	43%	227	250
Salford south (Mosley Common Rd)	18%	17%	96	99

Units are in PCU (passenger car units/hr)

Current Highway Capacity Review

9.1.1 The A580 East Lancashire Road to the south of the allocation connects Manchester with Liverpool (east to west) and provides connections with M60 and M6. In the local area, as is the norm with urban radial routes, a number of the junctions have been identified as suffering from congestion during peak hours.

9.1.2 On the west side of the allocation, Mort Lane southbound traffic experiences some peak hour delay at the mini roundabout junction with A577 Sale Lane. The traffic modelling includes for a new Mort Lane to City Road connection through the allocation which would provide an alternative route for some of this traffic. Further testing without the through connection will also be undertaken at a later stage as required.

9.1.3 North of the allocation, A5082 Mort Lane connects with A6 Manchester Road at Armitage Avenue, which has also been identified as experiencing peak hour congestion.

9.1.4 The A572 corridor eastbound through Boothstown and A575 southbound through Worsley experience peak period queuing in the morning peak, which is associated with the heavy M60 southbound entry demand at Junction 13 of the M60.

9.1.5 The proximity and scale of the development to Junctions 13 and 14 of the M60 could impact on the operation of the Strategic Road Network. In relation to Junction 13 it is noted that Salford City Council has a highway improvement scheme for this junction which is currently under construction. Only 8% of AM peak outbound development traffic is forecast to route via Junction

13 and it should be noted that there is the potential for some of this traffic to be intercepted by the provision of LSM Bus services within the allocation, which the model does not fully account for at this stage.

9.1.6 Junction 14 provides free flow slip roads at which A580 west (outside the M60 ring road) is connected to M60 to/from the north east (and A580 east (inside the M60 ring road) connects to M61. There is no connection to/from M60 south (these movements are catered for at Junction 13). A significant proportion would use the Junction 14 slip roads.

9.1.7 It is not appropriate to adopt a 'predict and provide' approach, particularly for peak period journey to work trips. As the population grows, and the road network becomes more constrained, future travel habits will adapt, particularly where a non-car mode is able to compete and is available. This adaptation of trip making will include changing mode of travel, time of travel, or even suppressing the trip. Greater Manchester's ambition is to reduce carbon emissions by 80% by 2050 (from 1990 levels), and therefore an appropriate balance needs to be struck on infrastructure spending, with greater emphasis on sustainable transport mitigation.

Cumulative Impacts

10.1.1 The modelling undertaken includes traffic associated with all GMSF development, both under the Constrained and High Side scenarios. This allows the cumulative impact of all development to be considered at individual junctions, but without, at this stage, an assessment of individual impacts.

10.1.2 In relation to the allocation, GMSF Allocation 31 at Boothstown would impact partially on the same area of interest as the allocation , but to a very limited extent. The two way trip generation (High Side) of GMSF Allocation 31 is 144 vehicles in the AM peak hour and 163 in the PM peak. The model shows that the majority of this traffic routes to and from the east via M60 Junction 13 roundabouts, with very little traffic routeing via the A580 junctions (less than 20 trips at the Chaddock Lane and Ellenbrook Road junctions, and less than 10 trips at the Mosley Common Road junction.

10.1.3 The modelled flows contain traffic associated with other allocations further west along the A580 to the south of Leigh. Their impacts at the A580 junctions will also need to be factored in when considering funding of any highway mitigation.

10.1.4 Where highway mitigation is considered necessary, the costs will need to be apportioned across all those allocations impacting on that location, whilst also taking account of any strategic benefits which might be delivered.

Allocation Access Assessment

11.1.1 The allocation access arrangements have been developed to illustrate that there are practical options for allocation access and to develop indicative cost estimations.

11.1.2 Chapter 5 identifies five access points to the allocation, and potential layout options for these.

11.1.3 Capacity assessments have been undertaken adopting the industry standard Junctions9 (ARCADY for roundabouts; PICADY for priority junctions) in order to confirm that the proposed access arrangements are suitable. The assessments are based on the worst case modelled traffic flows (further explanation on the test flows is provided later in the report). Table 7 below shows the ratio of flow to capacity on the worst case arm at each junction.

Table 7. Allocation Access Junction Capacities: North of Mosley Common

Junction	GMSF High AM	GMSF High PM
Mort Lane – as priority junction Mort Lane – as roundabout	72% 61%	74% 63%
City Road - **N/A allocation traffic has priority**	-	-
Wellington Drive / Mosley Common Road	36%	16%
Bridgewater Road	20%	19%
Parr Bridge Farm / Mosley Common Road	9%	9%

Note: assessments based on With GMSF High Side – Run 2 'With Mitigation' Test Flows

Impact of Allocation Before Mitigation

12.1.1 The modelled assignment of development traffic (prior to highway mitigation and the provision of a new LSM Busway Stop) shows that the key route for North of Mosley Common development traffic is A580 to/from the east (including Junction 14) routeing to/from the allocation via Newearth Road. The other routes of note are A580 to/from the west via Mosley Common Road, and A5082 Mort Lane dispersing west and north.

12.1.2 The junctions listed below were initially identified as likely to require further consideration as a consequence of the allocation (albeit that this was based on the existing highway network, and did not at that stage include committed highway infrastructure, policy interventions or the effects of non-highway mitigation and improvements such as the proposed new LSM Busway Stop).

- Manchester Road East/Armitage Avenue
- Manchester Road/Hough Lane
- Sale Lane/Mort Lane roundabout
- A580/Chaddock Lane
- A580/Mosley Common Road

- A580/Ellenbrook Road
- Bridgewater Road/Newearth Road
- A580/Walkden Road
- Greenleach Lane/Old Clough Lane
- M60 Junction 13 Western roundabout
- M60 Junction 14 (M60 North) A580 eastbound divergeM60 Junction 14 (M60 North) A580 westbound merge
- Hilton Lane/Newearth Road/Park Road/Bridgewater Road roundabout; and
- Mosley Common Road/Bridgewater Road

12.1.3 As detailed in Section 8, only a small quantum of development will take place by 2025, and therefore the assessment work contained in this report focuses on the year 2040 outputs with full development build out.

12.1.4 The initial list of junctions to be considered for each allocation has been agreed between SYSTRA and the Local Authority in advance of the traffic modelling outputs. In order to consider further and refine which junctions require detailed operational assessments in connection with this allocation, the actual allocation traffic impacts at each junction in year 2040 have been considered. Table 8 provides a summary of the allocation's traffic impact at each of the above junctions (for both the Constrained and High Side scenarios) based on the higher 1,200 unit figure.

12.1.5 Whilst this early model information has been used to inform this report, judgement is required to ensure that appropriate and sensible improvements and mitigation are provided, particularly in light of the focus around a new LSM Busway stop (which the modelling does not reflect at this stage).

Table 8. North of Mosley Common Junction Impacts (in PCUs) – Absolute figures: North of Mosley Common

	Based On 1,200 Units	Run 1 Without Mitigation AM High (Constrained)	Run 1 Without Mitigation PM High (Constrained)
1	Manchester Road East/Armitage Avenue	91 (55)	138 (114)
2	Manchester Road/Hough Lane	75 (54)	76 (58)
3	Sale Lane/Mort Lane Roundabout	185 (121)	119 (93)
4	A580/Chaddock Lane	56 (34)	66 (63)
5	A580 East Lancashire Road/ Mosley Common Road	95 (59)	92 (88)
6	A580 East Lancashire Road/ Ellenbrook Road	202 (138)	211 (173)
7	Bridgewater Rd / Newearth Rd	228 (155)	256 (214)
8	A580 East Lancashire Road/Walkden Road	207 (143)	202 (167)
9	Greenleach Lane / Old Clough Lane	0 (0)	0 (0)
10	M60 Junction 13 - western roundabout	43 (29)	46 (38)
11	M60 Junction 14 on slip (A580 diverge)	132 (101)	74 (45)
11	M60 Junction 14 off slip (A580 merge)	45 (17)	103 (103)
12	Hilton Lane/ Newearth Road/ Park Road/ Bridgewater Road Roundabout	53 (36)	52 (46)

	Based On 1,200 Units	Run 1 Without Mitigation AM High (Constrained)	Run 1 Without Mitigation PM High (Constrained)
13	Mosley Common Road/Bridgewater Road	95 (58)	92 (88)

12.1.6 In order to consider further which junctions should be subject to more detailed modelling, consideration is also given to percentage increases in traffic as well as the absolute increases. This is provided in Table 9 below based on the worst case 'High Side' test only.

Table 9. North of Mosley Common Junction Impacts (in PCUs) – Percentage Impacts: North of Mosley Common Run 1 Without Mitigation – High Side (based on 1,200 units)

	Junction	A Ref Case	B 2040 'With GMSF	C 2040 'With GMSF Net Change	D 2040 Allocation Only	E 2040 Allocation Only % Increase Over Ref Case
AM Peak						
1	Manchester Road East/Armitage Avenue	2926	3066	140	91	3.1%
2	Manchester Road/Hough Lane	2610	2681	71	75	2.9%
3	Sale Lane/Mort Lane Roundabout	3176	3273	97	185	5.8%
4	A580/Chaddock Lane	4352	4386	34	56	1.3%
5	A580 East Lancashire Rd/ Mosley Common Rd	4843	4595	-248	95	2.0%
6	A580 East Lancashire Road/ Ellenbrook Road	4693	5016	323	202	4.3%
7	Bridgewater Rd / Newearth Rd	1929	2258	329	228	11.8%
8	A580 East Lancashire Road/Walkden Road	5826	6084	258	207	3.6%
9	Greenleach Lane / Old Clough Lane				0	0
10	M60 Junction 13 - western roundabout	4077	4000	-77	43	1.1%
11	M60 Junction 14 on slip (A580 diverge)	2697	2828	131	132	4.9%
11	M60 Junction 14 off slip	1823	1902	79	45	2.5%

	Junction	A Ref Case	B 2040 'With GMSF	C 2040 'With GMSF Net Change	D 2040 Allocation Only	E 2040 Allocation Only % Increase Over Ref Case
	(A580 merge)					
12	Hilton Ln/ Newearth Rd/ Park Rd/Bridgewater Rd Rbt	1944	2156	212	53	2.7%
13	Mosley Common Road/Bridgewater Road	2149	1924	-225	95	4.4%
PM Peak						
1	Manchester Road East/Armitage Avenue	3114	3268	154	138	4.4%
2	Manchester Road/Hough Lane	2687	2639	-48	76	2.8%
3	Sale Lane/Mort Lane Roundabout	3451	3426	-25	119	3.4%
4	A580/Chaddock Lane	5385	5567	182	66	1.2%
5	A580 East Lancashire Rd/ Mosley Common Rd	5364	5728	364	92	1.7%
6	A580 East Lancashire Rd/ Ellenbrook Rd	5494	5877	383	211	3.8%
7	Bridgewater Rd / Newearth Rd	2066	2362	296	256	12.4%
8	A580 East Lancashire Road/Walkden Road	6362	6905	543	202	3.2%
9	Greenleach Lane / Old Clough Lane				0	0

	Junction	A Ref Case	B 2040 'With GMSF	C 2040 'With GMSF Net Change	D 2040 Allocation Only	E 2040 Allocation Only % Increase Over Ref Case
10	M60 Junction 13 - western roundabout	4959	4618	-341	46	0.9%
11	M60 Junction 14 on slip (A580 diverge)	1811	1980	169	74	4.1%
11	M60 Junction 14 off slip (A580 merge)	3198	3432	234	103	3.2%
12	Hilton Ln/ Newearth Rd/ Park Rd/Bridgewater Rd Rbt	2020	2147	127	52	2.6%
13	Mosley Common Road/Bridgewater Road	2138	2151	13	92	4.3%

12.1.7 Based on the above impacts and further discussion with Wigan Highways regarding the key junctions on their network, the initial list of junctions has been refined to nine junctions as follows (with junction numbers 2, 4, 9 and 10 removed).

- Manchester Road East/Armitage Avenue
- Sale Lane/Mort Lane roundabout
- A580/Mosley Common Road
- A580/Ellenbrook Road
- Bridgewater Road/Newearth Road
- A580/Walkden Road
- M60 Junction 14 (M60 North) A580 eastbound divergeM60 Junction 14 (M60 North) A580 westbound merge
- Hilton Lane/Newearth Road/Park Road/Bridgewater Road roundabout; and
- Mosley Common Road/Bridgewater Road

12.1.8 This includes A580/Mosley Common Road signals as this was raised as a particular location of concern, and whilst the model indicates a reduction in traffic during the more critical AM peak hour, testing (and mitigation) has been considered for this junction, as the allocation impacts at this junction may be higher in advance of the City Road through connection (conversely, the impacts at A580/Ellenbrook Road junction would be lower).

12.1.9 Table 9 also indicates the Net difference changes from Reference Case to With GMSF scenarios, which includes all other allocations and some re-routeing (and hence some negative values at some junctions whilst larger increases at others). This gives an indication of the other impacting elements at each junction i.e. it is not solely the allocation.

12.1.10 Operational assessments have been undertaken for the nine listed junctions. Signal junctions are tested using LINSIG. The Junction 14 slips are free flow and reference is made to Department for Transport standards. Table 10 below provides a comparison between the operation of the in-scope junctions in the 2040 reference case and the 2040 'high side' scenarios. The table shows a comparison between the ratio of flow to capacity on the worst case arm at each junction as well as the total development flows through the junction (based on the higher 1,200 unit figure). As the reference case flows do not include for the 100 units committed development flows, the reference case junction operations will be slightly worse than those reported below. The With GMSF operational performance values are correct. However, this means that the net change in performance as a consequence of GMSF is overestimated. The comparative assessment is therefore robust.

Table 10. Results of Local Junction Capacity Analysis Before Mitigation: North of Mosley Common

Junction	Reference Case AM	Reference Case PM	GMSF High AM	GMSF High PM	Allocation Flows AM	Allocation Flows PM
1. Manchester Rd E/Armitage Ave	115%	170%	128%	185%	91	138
3.Sale Lane/Mort Lane roundabout	199%	185%	190%	188%	185	119
5.A580/Mosley Common Road	120%	116%	122%	136%	95	92
6. A580 /Ellenbrook Rd	94%	121%	104%	126%	202	211
7. Bridgewater Road/Newearth Road roundabout	99%	103%	108%	143%	228	256
8.A580 /Walkden Road	129%	127%	132%	135%	207	202
11. M60 Junction 14 on slip (A580 diverge)	63%	49%	63%	55%	132	74
11.M60 Junction 14 off slip (A580 merge)	31%	62%	30%	67%	45	103
12.Hilton Ln/ Newearth Rd/ Park Rd/ Bridgewater Rd Rbt	118%	113%	124%	103%	53	52

Junction	Reference Case AM	Reference Case PM	GMSF High AM	GMSF High PM	Allocation Flows AM	Allocation Flows PM
13.Mosley Common Rd/Bridgewater Road	82%	69%	63%	72%	95	92

Manchester Rd East/Armitage Rd signals

12.1.11 The junction has an All Red pedestrian stage, however, this would not be called every cycle. The LINSIG results reported are for a cycle where the All Red pedestrian stage is called. This represents another worst case assumption. When the pedestrian stage isn't called there would be maximum degree of saturation improvements of some 30 – 65%. Over the course of the peak hour, with the pedestrian stage not being called every cycle, the overall performance would be significantly better than that presented in Table 10 above..

12.1.12 The junction would be operating over capacity in the Reference Case, particularly in the PM peak. The With GMSF traffic results indicates some worsening of conditions. It has been agreed with Wigan Council and TfGM that the potential to improve capacity at this junction should be investigated further.

A577 Sale Lane / Mort Lane roundabout

12.1.13 This junction would be operating over capacity during the year 2040 peak hours, however the net change in operational performance (from Reference Case to With GMSF) as a consequence of all GMSF allocations is not material, and would not be perceptible (worst case volume over capacity (v/c) improving from 199% to 190% in the AM peak, and a very small reduction in the PM peak from 185% to 188%). As the results are comparable no mitigation has been tested.

A580 East Lancashire Road/Mosley Common Road signals

12.1.14 This junction is operating over capacity. Although the GMVDM testing does not necessarily show a material deterioration in operation (due to the variable demand modelling), without intervention it will restrict the ability of development traffic to route through this junction and based on TTHC's

judgement it is considered that mitigation should be considered here. The junction is currently restricted by the single lane entry to the signals from Mosley Common Road. Consideration has been given to the potential for mitigation at this junction, which is discussed in more detail later.

A580/Ellenbrook Road signals

12.1.15 This junction would be operating close to capacity in the AM peak and over capacity in the PM peak under the Reference Case flows. With GMSF flows sees the worst case v/c increase from just under capacity to just over capacity (from 94% to 104%) in the AM peak hour, and very slightly from 121% to 126% in the PM peak hour. The LSM Busway route joins A580 at this junction and therefore further consideration has been given to the operation of this junction. Through discussions with Wigan Council and TfGM further consideration has been given as to whether highway mitigation could be provided here.

Bridgewater Road / Newearth Road roundabout

12.1.16 During the PM peak hour there would be a significant increase in the worst case v/c value at this junction. Consideration has been given to a potential mitigation scheme.

A580/Walkden Road signals

12.1.17 This junction would be operating over capacity during both peaks under Reference flow conditions. Under GMSF flows it would see a very slight deterioration in operational performance. The worst case v/c values would increase from 129% to 132% in the AM peak hour, and from 127% to 135% in the PM peak hour.

12.1.18 As the results are comparable no mitigation has been tested.

A580 slips to/from M60 North (Junction 14)

12.1.19 The v/c information quoted in Table 10 is obtained directly from the model. These are the v/c values for the slip roads in isolation. However, these slip roads are not of a conventional design: they are very long, and whilst they have a design width of two lanes, some sections are marked as two lanes whilst some sections (around the bends) are marked as a single lane. Also, the merge and diverge areas have sufficient width for two lanes but there are no lane markings in these areas. The A580 has two lanes continuing through the junction in both directions. Unusually, the modelled flows indicate higher flow volumes on the slip roads than on the mainline.

12.1.20 The slip road merge and diverge areas are free flowing and therefore the assessment of these arrangements should normally be based on Design Manual for Roads and Bridges (DMRB) CD122 which considers the design and lane allocations at merge and diverge areas. Typically, the slip road and A580 straight on demand flows are plotted on graphs to determine how many lanes should be allocated on the slip and on the mainline.

12.1.21 However, the existing layout of these slips does not conform to the conventional arrangements and therefore the graphs cannot be rigidly applied. It is also important to understand that the plot assumes each lane has only a 1600 vehicle per hour design capacity, and furthermore the flows provided by the model (and plotted) are in PCUs; not vehicles. In the case of an all-purpose road, where a proportion of traffic would be heavy vehicles, the actual vehicle numbers will be much lower than the PCU volumes tested.

12.1.22 For the diverge slip it is the AM peak flows which represent the worst case. Based on the PCU volumes (not vehicles) the DMRB CD122 plot suggests there should be two lanes on the diverge slip and the A580 mainline upstream (prior to the diverge slip). For downstream it suggests only a

single lane is required; whereas there are two lanes provided straight through. Critically, the graph shows that there is no change in design required as a consequence of the net change in flow from Reference Case to With GMSF flows.

12.1.23 Based on the With GMSF High-Side v/c value of 63% and the CD122 graphs it is concluded that there is no need for mitigation at this diverge slip arrangement.

12.1.24 For the merge slip it is the PM peak flow which represents the worst case. The CD122 plot (based on PCUs; not vehicles) suggests that there should be two lanes on the slip road merge. The mainline requirement indicates a single lane requirement upstream prior to the merge (two lanes provided) and with the With GMSF flows just pushing into the three lane bracket for downstream. Taking account of the high heavy vehicle proportions on this type of road the downstream requirement would remain at two lanes as provided.

12.1.25 Again, the assessment indicates no change in design required as a consequence of the net change in flow from Reference Case to With GMSF flows.

12.1.26 Based on the With GMSF High-Side v/c value of 67% and the CD122 graphs it is concluded that there is no need for mitigation at this merge slip arrangement.

Hilton Lane/Newearth Road/Park Road/Bridgewater Road roundabout

12.1.27 This junction would be operating over capacity during the year 2040 peak hours, however the net change in operational performance (from Reference Case to With GMSF) as a consequence of all GMSF allocations is not material, and would not be perceptible (worst case v/c increasing from 118% to 124% in the AM peak, and an improvement in the PM peak from 113% to 103%). As the results are comparable no mitigation has been tested.

Mosley Common Road/Bridgewater Road priority junction

12.1.28 This junction would be operating with reserve capacity at year 2040, and with improved performance in the AM peak hour. There is therefore no need to consider mitigation.

12.1.29 It should be noted that based on the first round of modelling outputs, a mitigation scheme for A580/Mosley Common Road junction has been identified and has been coded into the GMVDM as part of the second 'with mitigation' run of the model. The mitigation scheme which has been

developed for the Bridgewater Road / Newearth Road roundabout and for Manchester Road East/Armitage Avenue have been developed following the 'with mitigation' model run, and therefore are not accounted for within that second model run.

Transport Interventions to be tested

Overview

13.1.1 The test adopted for detailed junction assessment purposes is a comparative assessment of junction operation under the 'With GMSF' scenario relative to the Reference Case scenario. This test therefore considers all GMSF traffic rather than allocation-specific impacts. It has been noted that SYSTRA has adopted the 'High Side' GMSF flows in respect of other allocations, and for consistency these flows have also been adopted in this report when testing the detailed capacity benefits of any mitigation schemes. This provides an extra layer of robustness in assessing whether the mitigation is adequate for that location, or whether further interventions would be required.

13.1.2 However, it is important to note that some allocations, including North of Mosley Common, will have significant public transport interventions which will provide for a significant modal switch and corresponding reduction to development traffic forecasts.

Leigh-Salford-Manchester Busway

13.1.3 The Leigh-Salford-Manchester Busway runs west-east through the allocation and the proposals include a new busway stop at the centre of the allocation. Wigan Council support this proposal as it would reduce the need for car use for commuting and leisure purposes, and it is proposed within TfGM's Greater Manchester Transport Strategy 2040 Draft Delivery Plan.

13.1.4 The inclusion of the new Busway stop at the centre of the allocation will increase public transport modal share and thus reduce the proportion of car drivers, particularly during the peak hours. Whilst no adjustments have been made to modelled flows to reflect the lesser impact of the Mosley Common allocation, this must be borne in mind when considering the assessment results.

Local Mitigation

13.1.5 The local mitigation tested is as detailed in Table 11 below:

Table 11. Approach to Mitigation: North of Mosley Common

Junction	Mitigation Approach
1. Manchester Rd E/Armitage Ave	Widening of Armitage Avenue (south) approach
3.Sale Lane/Mort Lane roundabout	Results comparable – no mitigation tested
5.A580/Mosley Common Road	Mitigation tested – additional approach lanes to signals. Details provided below.
6. A580 /Ellenbrook Rd	Mitigation investigated. Improved signal control. Details provided below.
7. Bridgewater Road/Newearth Road roundabout	Conversion from mini roundabout to 38 metre diameter roundabout. Details provided below.
8.A580 /Walkden Road	Results comparable – no mitigation tested
11. M60 Junction 14 on slip (A580 diverge)	Results comparable – no mitigation tested
11.M60 Junction 14 off slip (A580 merge)	Results comparable – no mitigation tested
12.Hilton Ln/ Newearth Rd/ Park Rd/ Bridgewater Rd Rbt	Results comparable – no mitigation tested
13.Mosley Common Rd/Bridgewater Road	Junction operating within capacity – no mitigation tested

13.1.6 Wigan and Salford Councils have developed a joint improvement scheme for the A580/Mosley Common Road junction. This provides a second approach lane on Mosley Common Road approach from the north, the addition of a dedicated left turn lane into Mosley Common Road (north), and enhancements for pedestrians and cyclists. There are Section 106 Agreement monies accrued from the consented Parr Bridge and Garrett Hall residential developments which are allocated to this junction. Further improvements are possible which would provide additional capacity on the A580. A scheme has been developed and modelled which would provide for three running lanes eastbound through the junction. This scheme has been capacity tested and costed to show that suitable mitigation can be achieved; but it may not be the final scheme agreed between the Councils and TfGM. It should be noted that the full improvement scheme and associated costings are allowed for within the assessment.

13.1.7 In addition to the A580 / Mosley Common Road mitigation scheme , other junction mitigation schemes have been identified (mostly in association with other GMSF allocations) and included within the second round of SYSTRA modelling. Whilst they may not be associated with the North of Mosley Common allocation, they may impact on traffic routeings in the area, and are listed below for information:

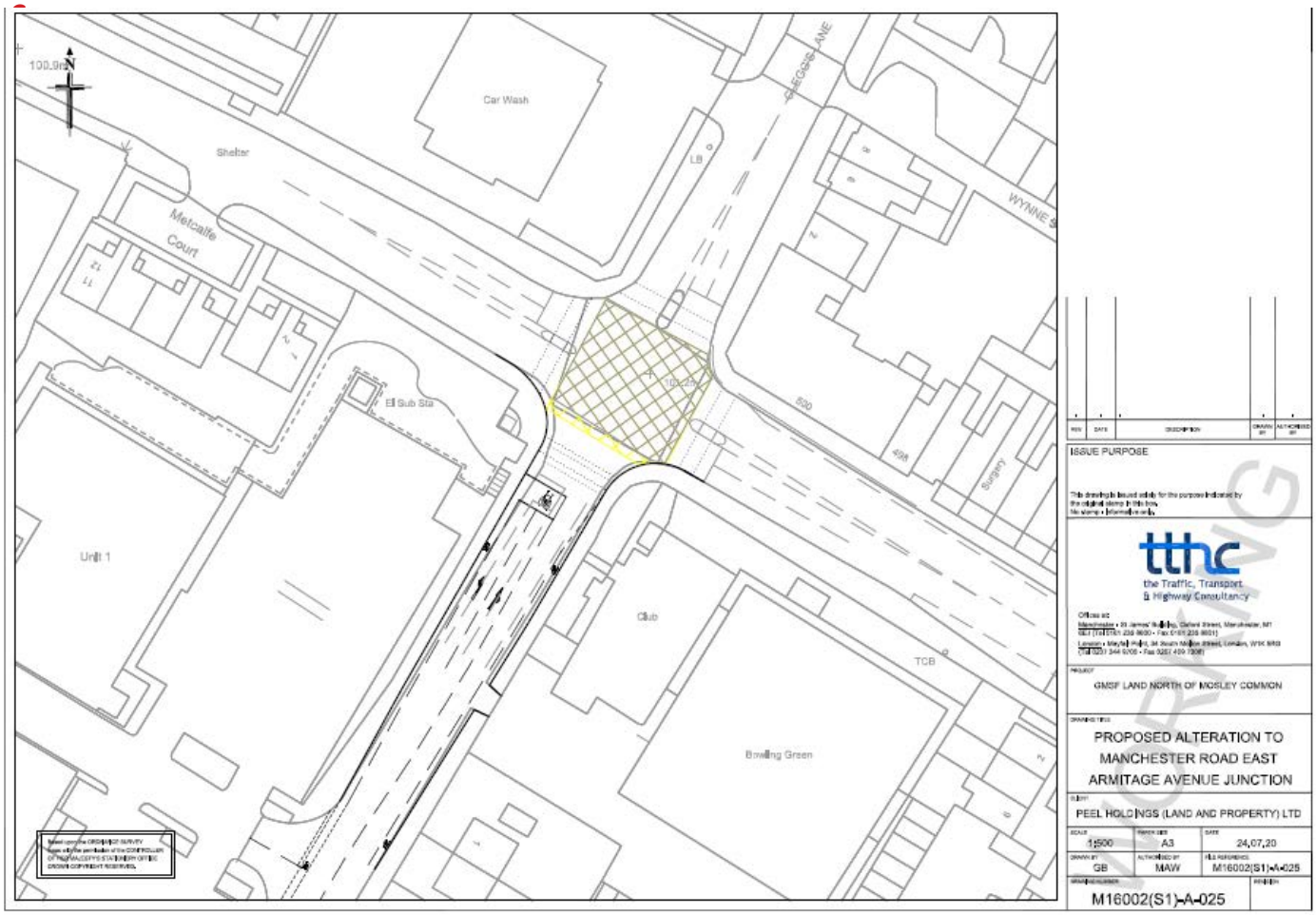
- A572 Chaddock Lane / A577 Mosley Common Road – signalisation of priority junction;
- SCC improvements to the M60 Junction 13 roundabouts;
- Junction improvements on the A580 East Lancs (A580 East Lancs/ Warrington Rd, A580 East Lancs/ A579 Atherleigh way) – related to GMA44 Pocket Nook and GMA47 South of Pennington (now removed from GMSF);
- Signalisation of the A572 Worsley Road/ Folly Lane junction;
- Additional public transport improvements in relation to the East Lancs Road corridor.

13.1.8 It should also be noted that the Mosley Common allocation access and connection assumptions remain unaltered from the first round of modelling. As previously highlighted in section 8, the allocation access arrangements coding adopted within the GMVDM at this stage allow for route choices for development traffic to access the external highway network in different directions, whereas some parts of the allocation will be served by a single access road thus removing that route choice. This must be borne in mind when considering junction impacts more local to the allocation because localised routeing patterns are likely to change. A more refined assessment of these more localised impacts will be undertaken at the appropriate stage.

Other Mitigation

13.1.9 Whilst not specifically included within the Run 2 'With Mitigation' model run, as discussed in section 11, further consideration has been given to a potential improvement scheme for the Manchester Road East/Armitage Avenue junction. The existing single lane approach on Armitage Avenue from the south has limited capacity and blocking by right turners can easily occur, thus reducing the efficiency of the signals. The illustrative improvement scheme in Figure 14 below widens this approach to provide two entry lanes, with an arrangement similar to the other existing arms.

Figure 14. Illustrative Manchester Road East/Armitage Avenue Mitigation Scheme: North of Mosley



13.1.10 It should be noted that the improved performance delivered by this scheme can only be demonstrated in the PM peak scenario assessments, as the modelled flows indicate that the AM peak right turn is zero (thus theoretically the addition of the dedicated right turn lane provides no

benefit – of course in reality right turners are expected in the AM peak too, and therefore the improvement scheme should bring benefits during both peak hours).

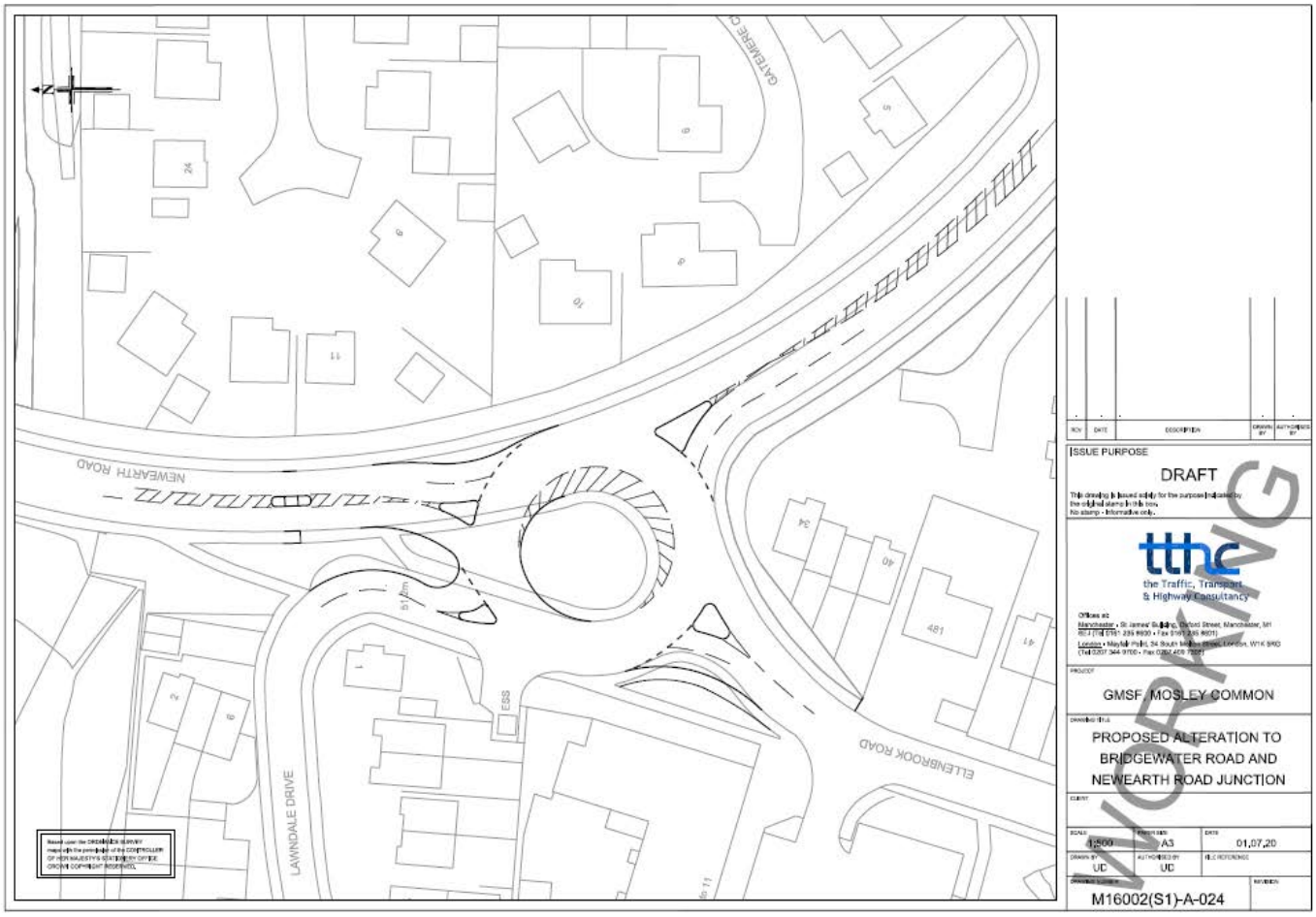
13.1.11 The improvement scheme can be delivered within the highway boundary. Further benefits may be possible with the inclusion of third party land.

13.1.12 Consideration has also been given to whether mitigation is possible at the A580/Ellenbrook Road junction. The junction already benefits from significant flaring (widening of the approaches to provide extra lanes through the junction). No additional lanes can be added, and the flare lengths are already of significant length. Testing indicates that any extension of the flare lengths will not deliver any meaningful capacity improvement. There may be potential to upgrade junction capacity through signal upgrades.

13.1.13 However, it is considered more appropriate to focus mitigation on public transport rather than simply adding highway capacity which will directly compete with the LSM services. TfGM will ensure that the signal timings at this junction prioritise the LSM services for the left turn out of and right turn into Newearth Road to provide them with a more favourable passage through the junction than general traffic travelling straight through on the A580.

13.1.14 Whilst not specifically included within the Run 2 'With Mitigation' model run, as discussed in section 11, a mitigation scheme has been developed for the Bridgewater Road / Newearth Road roundabout. The existing junction is a mini roundabout and the proposed scheme provides for a larger standard roundabout. This is indicated in Figure 15 below.

Figure 15. Illustrative Bridgewater Road / Newearth Road mitigation scheme: North of Mosley



Impact of testing

14.1.1 As detailed in Chapter 8, only a small quantum of development will take place by 2025, and therefore the assessment work contained in this report focuses on the year 2040 outputs with full development build out.

14.1.2 A comparison of the outputs from the first and second runs of the model indicate that some quite significant changes in traffic routeing take place in some areas with the added mitigation in place. This is illustrated in Table 12 below, which compares the net increase in traffic (from Reference Case to With GMSF scenarios) for Run 1 (Without Mitigation) and Run 2 (With Mitigation). Overall, the total traffic demands have not increased; the local traffic increases indicated below are a consequence of re-routeing within the model.

Table 12. Net Change 'Ref Case' to 'With GMSF' High : North of Mosley Common

	Junction	Run 1 Net Change	Run 2 Net Change
AM Peak			
1	Manchester Road East/Armitage Avenue	140	298
2	Manchester Road/Hough Lane	71	240
3	Sale Lane/Mort Lane Roundabout	97	182
4	A580/Chaddock Lane	34	1356
5	A580 East Lancashire Rd/ Mosley Common Rd	-248	1177
6	A580 East Lancashire Road/ Ellenbrook Road	323	1427
7	Bridgewater Rd / Newearth Rd	329	600
8	A580 East Lancashire Road/Walkden Road	258	1379
10	M60 Junction 13 - western roundabout	-77	784
11	M60 Junction 14 on slip (A580 diverge)	131	632
11	M60 Junction 14 off slip (A580 merge)	79	912
12	Hilton Ln/ Newearth Rd/ Park Rd/Bridgewater Rd Rbt	212	346
13	Mosley Common Road/Bridgewater Road	-225	-461
PM Peak			
1	Manchester Road East/Armitage Avenue	154	123
2	Manchester Road/Hough Lane	-48	281
3	Sale Lane/Mort Lane Roundabout	-25	133
4	A580/Chaddock Lane	182	624
5	A580 East Lancashire Rd/ Mosley Common Rd	364	811
6	A580 East Lancashire Rd/ Ellenbrook Rd	383	762

	Junction	Run 1 Net Change	Run 2 Net Change
7	Bridgewater Rd / Newearth Rd	296	469
8	A580 East Lancashire Road/Walkden Road	543	888
10	M60 Junction 13 - western roundabout	-341	150
11	M60 Junction 14 on slip (A580 diverge)	169	465
11	M60 Junction 14 off slip (A580 merge)	234	607
12	Hilton Ln/ Newearth Rd/ Park Rd/Bridgewater Rd Rbt	127	46
13	Mosley Common Road/Bridgewater Road	13	218

14.1.3 The two most notable changes are:

- A very significant increase in the AM peak westbound (non-peak directional) flow along the A580; and
- A shift in eastbound traffic from A580 to A572 through Boothstown.

14.1.4 This may be partly due to junction improvements making some routes quicker and therefore relatively more favourable than they previously were. Route choices also become more complicated under congested peak network conditions, and under these circumstances it becomes increasingly difficult for traffic models to simulate actual driver behaviour. Whilst the model provides an overall indication of the scale of impact for allocation purposes, it still requires a measure of informed engineering judgement when considering impacts at individual junctions.

14.1.5 In relation to the AM peak westbound flow along the A580 this has increased by circa 900 PCUs relative to the Reference Case. This scale of change appears to be largely a consequence of much wider rerouting within the model rather than it being GMSF development traffic.

14.1.6 These external factors must be borne in mind when considering the junction impacts.

14.1.7 The junction assessments with the Run 2 (With Mitigation) flows, and the associated mitigation schemes are detailed below in Table 13. Again, as the reference case flows do not include for the

100 units committed development flows, the reference case junction operations will be slightly worse than those reported below. This means that the net change in performance as a consequence of GMSF is overestimated, and therefore the comparative assessment is robust.

Table 13. Results of Local Junction Capacity Analysis After Mitigation: North of Mosley Common

Junction	Reference Case AM	Reference Case PM	GMSF High AM	GMSF High PM	Allocation Flows AM	Allocation Flows PM
1. Manchester Rd E/Armitage Ave	115%	170%	143%	135%	101	137
3.Sale Lane/Mort Lane roundabout	199%	185%	164%	200%	165	127
5.A580/Mosley Common Road	120%	116%	117%	132%	108	122
6. A580 /Ellenbrook Rd	94%	121%	124%	130%	203	216
7. Bridgewater Road/Newearth Road roundabout	99%	103%	82%	80%	237	244
8.A580 /Walkden Road	129%	127%	230%	138%	191	209
11. M60 Junction 14 on slip (A580 diverge)	63%	49%	79%	67%	Not provided	
11.M60 Junction 14 off slip (A580 merge)	31%	62%	44%	59%	Not provided	
12.Hilton Ln/ Newearth Rd/ Park Rd/ Bridgewater Rd Rbt	118%	113%	130%	100%	42	42

Junction	Reference Case AM	Reference Case PM	GMSF High AM	GMSF High PM	Allocation Flows AM	Allocation Flows PM
13.Mosley Common Rd/Bridgewater Road	82%	69%	55%	75%	99	121

Manchester Rd East/Armitage Rd

14.1.8 As discussed in Chapter 13, the benefits of the improvement scheme cannot be demonstrated in the AM peak because of the zero right turn demand in the modelled flows. However, the benefits are demonstrated in the PM peak results. With the addition of GMSF traffic and the improvement scheme, the PM peak operational performance of this junction returns to a level which is better than the Reference Case scenario. In reality, with AM peak right turn demand, the proposed widening is also expected to deliver improved performance at this time.

A577 Sale Lane / Mort Lane roundabout

14.1.9 As there is no material change in performance at this junction with the addition of GMSF allocation traffic, no mitigation is proposed at this junction. The conclusion on the Sale Lane / Mort Lane junction operation under the Run 2 'With Mitigation' traffic flows remains unaltered: improvement in the AM peak, and slight reduction in performance in the PM peak.

A580 East Lancashire Road/Mosley Common Road

14.1.10 The mitigation scheme tested will be most beneficial in the AM peak (for peak directional flow into Manchester). The results show that during the AM peak a slight betterment in performance is achieved with the maximum volume over capacity (v/c) reducing from 120% to 117% - even with the addition of over 1000 PCUs which are not related to the GMSF allocations (including over 900 trips westbound on the A580). In the PM peak the maximum v/c increases from 116% to 132%, but this must be considered against a traffic increase at the junction of almost 700 PCUs which is not related to the allocation.

14.1.11 It should be noted that the true benefits of an additional approach lane on Mosley Common Road are not reflected in the results because the GMVDM modelled flows reveal very little demand for the segregated left turn. In reality, it is considered that a much higher volume would turn left onto A580, rather than routeing through Boothstown i.e. more akin to Run 1 of the model.

14.1.12 It is therefore considered that the benefits of the tested mitigation scheme are understated for the reasons set out above

A580/Ellenbrook Road

14.1.13 No mitigation is possible at this junction, although the signal timings will ensure there is minimal delay to the LSM services. There is a worsening of performance at this junction under the Run 2 With Mitigation flows, particularly in the AM peak, although this is unsurprising given that there is a flow increase of over 1100 PCUs through the junction resulting purely from the provision of mitigation elsewhere. The operation under the Run 1 Without Mitigation flow scenario is considered far more realistic.

Bridgewater Road / Newearth Road roundabout

14.1.14 The conversion of the Bridgewater Road / Newearth Road mini roundabout to a standard roundabout provides improved operational performance relative to the Reference Case, and would be operating with spare capacity.

A580 /Walkden Road

14.1.15 The conclusion on GMSF impact on this junction under the Run 1 Without Mitigation scenario was that there would be no material change as a consequence of GMSF. The table above shows that in the AM peak the results significantly increase from 132% under Run 1 flows to 230% under Run 2 flows. Again, the significant impact is a consequence of an increase in flows at the junction of over 1100 PCUs which are resulting purely from the provision of mitigation elsewhere. The operation under the Run 1 Without Mitigation flow scenario is considered to be more realistic in practice.

A580 slips to/from M60 North (Junction 14)

14.1.16 The conclusion drawn on GMSF impact based on the Run 1 Without Mitigation flows was that no change in slip road merge and diverge design is required. Whilst Run 2 With Mitigation scenario

exhibits much higher flows, and therefore a much larger step change on the CD122 plots, as discussed this large step change is a consequence of significant rerouting from other routes within the model; and not traffic growth from GMSF. The conclusion therefore remains unaltered.

Hilton Lane/Newearth Road/Park Road/Bridgewater Road roundabout

14.1.17 The results of the Run 2 With Mitigation flow junction assessments show no material change from Run 1 results, and therefore there is no change in the conclusions.

Mosley Common Road/Bridgewater Road

14.1.18 This junction would continue to operate with reserve capacity under Run 2 flows, and therefore there is no change in the conclusions.

Impact and mitigation on Strategic Road Network

15.1.1 SYSTRA is currently consulting with Highways England on the individual and cumulative impacts of GMSF allocations on the Strategic Road Network (SRN).

15.1.2 In respect of the Junction 13 roundabouts, the inclusion of SCC's improvement scheme in the With GMSF (with mitigation) model run, but not in the Reference Case, is likely to have drawn more traffic through this junction relative to the Reference Case. The GMSF traffic increases at this location will therefore be exaggerated, and this needs to be borne in mind.

15.1.3 The Run 1 With GMSF Constrained flows are therefore considered to provide the more appropriate measure of traffic increases at these roundabouts. As highlighted in Chapter 12, the impact of the Mosley Common allocation at the western roundabout (based on the higher 1,200 unit figure) would be just 43 PCUs High Side (29 PCUs Constrained) in the AM peak hour and 46 PCUs High Side (38 Constrained) in the PM peak hour, with an even lower impact at the eastern roundabout. The impact of the North of Mosley Common allocation at Junction 13 is not considered material.

Final list of interventions

16.1.1 The final list of interventions is shown in Table 14 below.

Table 14. Interventions: North of Mosley Common

Mitigation	Description
Allocation Access	
Mort Lane	Two-lane priority junction
City Road	Priority junction
Bridgewater Road	Priority junction
Pedestrian and cycle connections	Providing good pedestrian and cycle links to LSM stops, NCN55, and the surrounding area to be included within planning applications
Necessary Strategic interventions	
N/A	
Supporting Strategic Interventions	
N/A	
Necessary Local Mitigations	
New LSM stop and guided bus funding	New LSM Busway stop to be located in middle of allocation Contribution to funding new guided buses to increase capacity on the route
A580/Mosley Common Road junction improvement	Capacity improvement scheme already developed by Wigan/Salford Councils, and further capacity enhancements can be added
Bridgewater Rd/Newearth Rd junction improvement	Conversion from mini to standard roundabout
Manchester Road East / Armitage Avenue junction improvement	Widening to provide two lane approach from south.

Mitigation	Description
Supporting Local Mitigations	
N/A	
SRN Interventions	
N/A	

16.1.2 It is essential that the allocation itself provides for direct walk and cycle routes to link to both the new Busway stop and to the existing one adjacent to Mosley Common Road. Likewise, such provision should be made to NCR 55 cycle route which runs alongside the Busway. Walk/cycle routes will provide permeability improving non-car accessibility for existing nearby residents.

16.1.3 As would be expected, the Year 2040 junction modelling indicates peak hour congestion at a number of junctions, and with limited scope for improvement in many places. As the population grows, and the road network becomes more constrained, future travel habits will adapt. This will include changing mode of travel, time of travel, or even suppressing the trip. There is significant potential for a future modal switch to non-car modes, particularly in the case of the Mosley Common allocation where the provision of a new bus stop on the LSM Busway will provide significant opportunity for modal switch. These bus services have already proven very popular.

16.1.4 The provision of a new LSM stop, which is identified in the Greater Manchester Transport Strategy 2040 t Delivery Plan, is Wigan Council's top infrastructure delivery priority associated with this allocation. This includes funding to assist in the upfront purchase costs of additional guided buses.

16.1.5 Three junction improvement schemes are considered necessary to support the allocation as detailed in Table 14 above.

16.1.6 The capacity improvement at Bridgewater Road /Newearth Road junction will assist in the dispersal of traffic from the allocation although this could, to a degree, compete with LSM.

16.1.7 The capacity improvement at Manchester Road East/Armitage Avenue will also assist in the dispersal of traffic from the allocation.

16.1.8 Capacity improvements at the junction of A580 / Mosley Common Road will help improve for access to/from the A580 radial route. However, it is not appropriate to consider wide-scale traffic capacity improvements along the A580 itself; the emphasis has to be on the public transport improvements.

16.1.9 A580/Mosley Common Road junction has an improvement scheme already developed by Wigan and Salford Councils, and as identified there is scope to provide further capacity benefits.

Strategic Context – GM Transport Strategy Interventions

17.1.1 The GMCA 2040 Transport Strategy Delivery Plan sets out a comprehensive programme of work across all modes and in all Districts, which are all focused on ensuring the realisation of the 'Right Mix' vision. Many of these interventions support the GMSF Allocations directly, whilst others are intended to provide alternatives to private car travel more generally. The schemes demonstrate a clear plan for delivering strategic transport interventions for the first five years of the GMSF plan period, whilst also laying the foundations for longer term investment in sustainable transport across the length of the plan period.

17.1.2 In addition to the allocation-specific interventions set out in this Locality Assessment, there are a number of other measures already planned by WMBC and TfGM to support sustainable travel, and to contribute to the achievement of Greater Manchester's 'Right Mix' ambition.

17.1.3 The Atherton line serves Atherton and Walkden railway stations, and the potential station at Little Hulton would also be on this line. TfGM are exploring the conversion of this line to tram-tram operation, which would improve frequencies and provide access to more of the Regional Centre.

17.1.4 The Bridgewater Canal towpath has recently been upgraded through the Astley area with a high-quality surface, improved drainage, access points and signage. This was delivered via the TfGM Mayor's Challenge Fund (MCF). Further upgrades are proposed in the Boothstown and Worsley area (within the City of Salford) to enable a continuous route between Leigh and inner Salford.

17.1.5 Greater Manchester also has ambitious plans to develop the Bee Network - the UK's largest cycling and walking network as a key element to delivering on the "Right Mix" vision, and the Combined Authority has allocated £160m between 2018-2022 to fund the first phase of the Bee Network. The network has at its core a programme of new and upgraded pedestrian and cycling crossing points

of major roads and other sources of severance, connected by a network of signed cycling and walking routes – known as Beeways – on existing quiet streets. These will be complemented by a number of routes on busier roads where Dutch style cycle lanes protected from motor traffic will be constructed. In Wigan, 183 new or upgraded crossings are proposed for pedestrians and cyclists and 16 miles of Bee Network routes are proposed on busier roads in Wigan.

17.1.6 The Bee Network includes a specific sub-network of local routes in Leigh, Atherton and Tyldesley which are currently under construction. Whist the allocation already benefits from good cycle links the proposed improvements at the other trip end will help encourage cycling from the allocation to these destinations.

Phasing Plan

18.1.1 The allocation phasing as assumed within the modelling is detailed in Table 15 below. All phasing plans information contained in this Locality Assessment is indicative only and has only been used to understand the likely intervention delivery timetable. Final trajectory information and the final allocation proposal is contained in the GMSF Allocation Topic Paper.

Table 15. Allocation Phasing Assumed Within Model: North of Mosley Common

Allocation Phasing	2018 2024	2025 2029	2030 2040*	2040+	Total
Parcel 1	0	225	280	0	**505**
Parcel 2	0	175	240	0	**415**
Parcel 3	0	40	240	0	**280**
Total	0	440	760	0	**1200**

* GM modelling suite has a 2040 forecast year, as such it uses 2040 data as proxy for 2037 full build out. This will not materially impact on the analysis.

18.1.2 The developer does however anticipate a faster build out rate per annum in line with current building practices as per Table 16. Whilst there will be slightly more units occupied at 2025 than assumed in the model, the full development build out at test year 2040 remains unaltered. There is therefore no change to the conclusions of this report.

Table 16. Expected Allocation Phasing: North of Mosley Common

Allocation Phasing	2018 2024	2025 2029	2030 2040*	2040+	Total
Parcel 1	48	180	168	0	**396**
Parcel 2	12	180	228	0	**420**
Parcel 3	0	120	264	0	**384**
Total	60	480	660	0	**1200**

GM modelling suite has a 2040 forecast year, as such it uses 2040 data as proxy for 2037 full build out. This will not materially impact on the analysis.

18.1.3 Table 17 indicates when mitigation might be delivered.

Table 17. Indicative intervention delivery timetable: North of Mosley Common

Mitigation	2018 2024	2025 2029	2030 2040*	2040+
Allocation Access				
Providing good pedestrian and cycle links to LSM stops, NCN55, and the surrounding area	✓			
Necessary Strategic interventions				
N/A				
Supporting Strategic Interventions				
N/A				
Necessary Local Mitigations				
New LSM stop and guided bus funding		✓		
A580/Mosley Common Road junction improvement		✓		
Bridgewater Rd/Newearth Rd junction			✓	

Mitigation	2018 2024	2025 2029	2030 2040*	2040+
improvement				
Manchester Road East / Armitage Avenue junction improvement			✓	
SRN Interventions				
N/A				

* GM modelling suite has a 2040 forecast year, as such it uses 2040 data as proxy for 2037 full build out. This will not materially impact on the analysis.

18.1.4 The new LSM Busway stop is the key component of mitigation for this allocation and it is important that this, and its required connections, are delivered early within the build period. Subject to a more detailed assessment, it is anticipated that the new stop and bus funding would be delivered at around 200 units.

18.1.5 At the assessment year 2025, the number of units delivered at the North of Mosley Common allocation will be less than 50 units. The quantum of development traffic associated with this scale of development would not be perceptible on the highway network (20 – 30 two way PCUs total in the peak hour), and would disperse quickly. No highway mitigation would be required at this stage.

18.1.6 The trigger point for delivery of highway mitigation beyond this will not only depend on the North of Mosley Common allocation, but other GMSF allocations that impact on the same part of the highway network. The timescales indicated for delivery of junction improvements is based on operational performance levels reported in section 13.

Summary & Conclusion

19.1.1 The North of Mosley Common allocation is allocated for 1,100 residential units, although the modelling work on which this assessment is based includes for a net increase of 1,200 units, and therefore provides a robust assessment of traffic impact and the need for mitigation.

19.1.2 The allocation is well located for access on foot to shops, facilities and schools and could make provision to supplement these services and facilities. There are a number of nearby local centres, and a larger range of shops and facilities can be accessed at the two nearby town centres of Tyldesley and Walkden (both approximately 2km from the allocation). There is a good existing network of off-road cycle routes with further investment and improvement planned, and several bus routes running close to the allocation (plus the Vantage services on the LSM Busway which runs through the allocation). Walkden train station is approximately 2km to the north east, and there are future plans by TfGM to locate a potential new rail station at Little Hulton, just 10 minutes' walk north west of the allocation.

19.1.3 The allocation is bisected by the LSM Busway and the parallel National Cycle Route 55. These sustainable transport features form the basis of the allocation proposals, with non-car access being at the heart of the allocation. Given the opportunities which the LSM Busway presents the allocation proposals include for a new stop on the Busway to serve the allocation and maximise the catchment area for these Vantage bus services. The Vantage services provide a direct, high specification, high frequency public transport connection to the Regional Centre. The delivery of a new stop is included within the Greater Manchester Transport Strategy 2040 Draft Delivery Plan. It is the top priority for new infrastructure to be delivered with this allocation. Funding will also be provided towards the upfront costs of additional guided buses in order to increase capacity on the route.

19.1.4 The allocation will use a number of access points providing good dispersal of traffic across the network. There is also the opportunity to provide a new highway connection through the allocation from Mort Lane in the west to City Road in the east, which will provide some relief to the existing highway network, in particular at the Mort Lane/Sale Lane junction, and which will provide for improved network resilience.

19.1.5 Modelling work has been undertaken using the Greater Manchester Variable Demand Model (GMVDM) with a constrained and high side scenario. The constrained and high side model runs take account of traffic associated with all GMSF allocations.

19.1.6 A 'with GMSF' scenario has been assessed against a Reference Case which assumes background growth and includes the housing and employment commitments from the districts.

19.1.7 Highway mitigation schemes have been identified for the Bridgewater Road / Newearth Road junction, Manchester Road East/Armitage Avenue, and A580 / Mosley Common Road junction. In respect of the wider A580 radial route it is not appropriate to consider wide-scale traffic capacity improvements along the A580 itself; the emphasis has to be on the public transport improvements. The proposed additional stop on the LSM within the centre of the Mosley Common allocation, and the potential for a new rail station and tram train services at Little Hulton, make Mosley Common a highly sustainable proposal in this context.

19.1.8 Based on the information contained within this report, it is concluded that the traffic impacts of the allocation would not be severe. Whilst the modelling work does indicate that some junctions will experience capacity issues, they are not significantly worse than those experienced in the reference case situation and are not directly attributable to the North of Mosley Common allocation. At this stage, the modelling work is considered to be a 'worst case' scenario as it does not take full account of the extensive opportunities for active travel and public transport improvements in the local area, particularly given the proposed new LSM Busway stop. On this basis, it is consider that the allocation is deliverable from a transport perspective.

19.1.9 Further detailed work will be necessary to identify the specific interventions required to mitigate the impact of the North of Mosley Common allocation based on transport network conditions at the time of the planning application, and based specifically on the individual allocation impact.

Appendix 1 – Supporting Allocation Data Tables

Allocation Overview

Proposed allocation

Homes (units)	Office (sqm)	Industrial & Warehouse (sqm)
1,200	-	-

Existing Conditions

Existing land use (MSOA)

Source: 2011 Census

MSOA	Existing Households	Existing Jobs (Full And Part Time)
E02001315 : Wigan 029	3,326	3,181

Public Transport Accessibility

Mode	Nearest Stop/Station	Distance (km)*	Peak Hour Frequency (mins)
Bus	Parr Brow	0.3	30
Rail	Walkden	2.3	20
Metrolink	Eccles	7.0	12

* Straight line from the centre of the allocation

Grater Manchester Accessibility Level Rating - GMAL Level 4

Local Amenities

Destination	Walking (2km)	Cycling (5km)	PT (Direct)
Primary School	X	X	-
Secondary School	-	X	-
Retail - Supermarket	X	X	-
Retail - Town Centre	-	X	-
GP Surgery	-	X	-
Leisure - Sports Centre	-	X	-
Employment - Town Centre	-	X	-
Employment - Industrial Estate	-	X	-

Development Multi-Modal trips

Source: GM models

Mode	AM Peak	PM Peak	Daily

Mode	AM Peak	PM Peak	Daily
Person Trips	890	1,099	11,541
Vehicle Trips	531	579	-
PT Share (%)	2.8%	1.9%	-
Walk/Cycle Share (%)	17.4%	16.5%	-

Development Traffic

Net External Trip Generation:

GM Model

TRICS

Representation

AM Peak Arrivals	AM Peak Departures	PM Peak Arrivals	PM Peak Departures
148	383	345	234
105	315	273	147
-	-	-	-

Traffic Distribution

Source: GM models

Route	GM Model
B5232 (S)	2%
A580 (East)	37%
A575 (S)	15%
A577 (W)	10%
Lumber Lane (S)	7%
A580 (W)	23%
A6 (W)	5%

Parking

Local parking standards - (Policy A1S) from the UDP

Car parking - 1 space to be provided per dwelling (up to 3 bedrooms) with 2 spaces for dwellings of 4+ bedrooms

Network Review

Manchester model outputs:

Junction volume over capacity - See traffic flow diagrams.

- Base and future year traffic flows - See traffic flow diagrams.

Impact on SRN (HE opinion) – M60 Junction 14, M61 Junction 2 Roads/Junctions

Road safety:

- Collision data review (within 1km)

TfGM

Fatal	Serious	Slight	Total
1	18	50	69

Cumulative Assessment

Other local allocations - GM31 East of Boothstown

Other committed developments -

Cumulative and cross-boundary impacts -

Greater Manchester Spatial Framework

Locality Assessment:

Pocket Nook (GMA44)

Publication Version 2: November 2020

Identification Table	
Client	Wigan Council / TfGM
Allocation	Pocket Nook
File name	GMA44 Wigan - Pocket Nook LA 021020
Reference number	GMA44 (2020 GMSF) previously GMA50 (2019 GMSF)

Approval					
Version	**Role**	**Name**	**Position**	**Date**	**Modifications**
0	Author	Jessica Harrowsmith	Assistant Consultant	28/07/20	Base report
	Checked by	Huw Williams	Associate Director	16/09/20	
	Approved by	Darren Kirkman	Associate	18/09/20	
1	Author	R Clowes	TfGM	29/09/20	Consistency edits
	Checked by	S Riley	Wigan MBC	02/10/20	
	Approved by	N Clarke	Wigan MBC	02/10/20	

Table of contents

List of figures

List of tables

Allocation Data	
Allocation Reference No.	GMA44 (2020 GMSF) previously GMA50 (2019 GMSF)
Allocation Name	Pocket Nook
Authority	Wigan
Ward	Lowton East
Allocation Proposal	600 homes and 15,000 sqm Industrial/Warehousing
Allocation Timescale	0-5 years ☐ 6-15 years ✓ 16 + years ☐

Glossary

"2025 GMSF Constrained" - is the 2025 forecast case in which the model adjusts the input demand based on how the cost of travel changes from the base year to the future. For example, for a shopping trip undertaken by car which becomes more congested in future, changes might be travel via a different route, mode, location or time of day.

"2040 GMSF Constrained" - as above, but for a 2040 forecast year

"2025 GMSF High-Side"- is the 2025 forecast case in which the model does not adjust the input demand based on how the cost of travel changes. In this scenario congestion does not lead to a reassignment of traffic, and therefore road traffic flow will generally be higher.

"2040 GMSF High-Side" - as above, but for a 2040 forecast year

"2025 Reference Case" - is the Do Minimum scenario which includes delivery of all transport schemes already committed and assumed to be completed by 2025

"2040 Reference Case"- is the Do Minimum scenario which includes delivery of all transport schemes already committed and assumed to be completed by 2040

AADT - Annual average daily traffic, is a measure used in transportation planning to quantify how busy the road is

Bee Network - is a proposal for Greater Manchester to become the very first city-region in the UK to have a fully joined-up cycling and walking network: the most comprehensive in Britain covering 1,800 miles.

Bus Rapid Transit - is a bus-based public transport system designed to improve capacity and reliability relative to a conventional bus system. Typically, a BRT system includes roadways that are dedicated to buses, and gives priority to buses at junctions where buses may interact with other traffic

Existing Land Supply - these are sites across the county that have been identified by each local planning authority across Greater Manchester and are available for development

Greater Manchester Variable Demand Model (GMVDM) - the multi-modal transport model for Greater Manchester. This transport model provides estimates of future year transport demand as well as the estimates of travel behaviour changes and new patterns that the Plan is likely to produce. These include

changes in choices of routes, travel mode, time of travel and changes in journey destinations for some activities such as work and shopping.

“LRN” (Local Road Network) All other roads comprise the Local Road Network. The LRN is managed by the local highways authorities

National Trip End Model (NTEM) - is a Department for Transport forecast that ensures that measures of population, jobs and trips made by various mode are consistent across the whole of Great Britain.

Rapid transit services - refers to high frequency, high capacity metro style transport services including Metrolink and Bus Rapid Transit.

“SRN” (Strategic Road Network) The Strategic Road Network comprises motorways and trunk roads, the most significant ‘A’ roads. The SRN is managed by Highways England.

“TfGM” - Transport for Greater Manchester, the Passenger Transport Executive for Greater Manchester

Urban Traffic Control (UTC) - is a specialist form of traffic management that, by coordinating traffic signals in a centralised location, minimises the impact of stop times on the road user.

1. Allocation Location & Overview

1.1.1 This Locality Assessment (LA) is one of a series being prepared for the allocations within the Greater Manchester Spatial Framework (GMSF) in order to confirm the potential impacts.

1.1.2 The Pocket Nook allocation is located to the south of Leigh, bound to the south by the A580 East Lancashire Road, to the north and west by the residential areas of Lowton St Mary's/ Lowton Common and to the east by the A579 Atherleigh Way.

1.1.3 A concept plan suggests that the allocation will be split into six different parcels with two located to the west of a safeguarded area for HS2. The allocation is expected to comprise of circa 600 homes and 15,000sqm of employment land. The development also proposes a new through road between the A579 Atherleigh Way and A572 Newton Road with the need for a new bridge over the proposed HS2 rail line through the allocation. It is envisaged that the development parcels will be accessed from the through road.

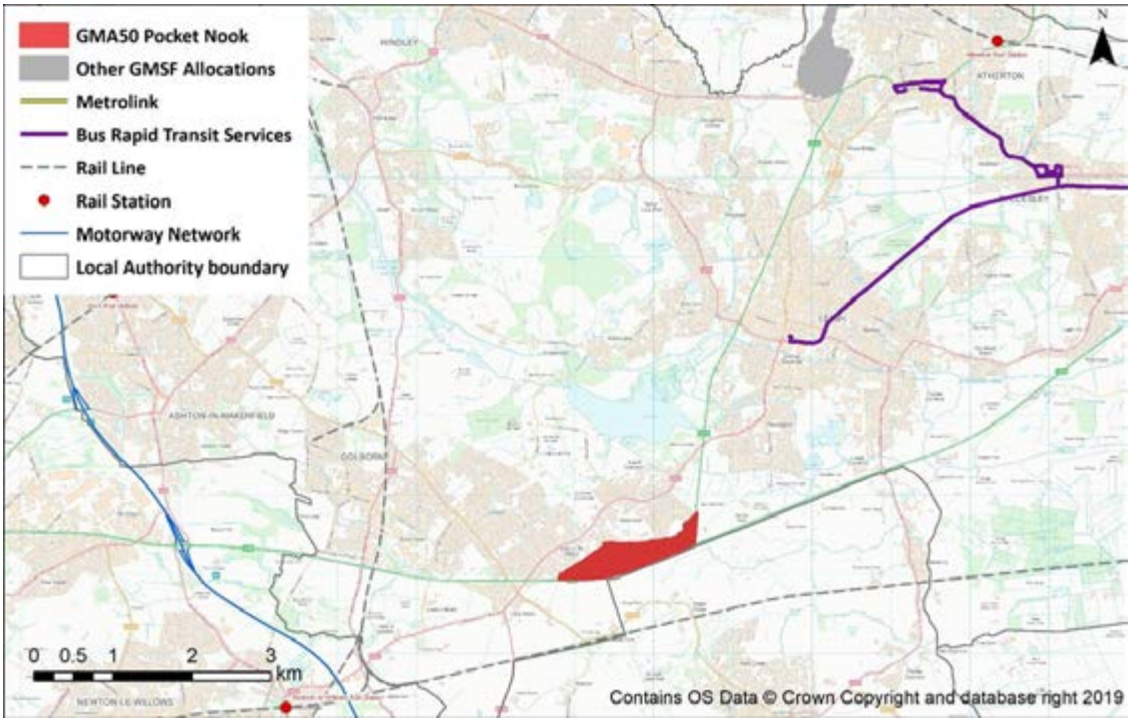
1.1.4 The current land use of the area is agricultural land with some small buildings at Pocket Nook Farm and Pocket Nook Lane.

1.1.5 Pocket Nook is located to the south east of Lowton on the Wigan/ Warrington border approximately 3km south west of Leigh town centre and situated to the north of the A580 East Lancashire Road.

1.1.6 Figure 1 indicates the location of the allocation, proximity to other allocations and public transport opportunities.

1.1.7 Note: All boundaries shown were correct at time of writing – for definitive boundary information refer to the GMSF allocation maps.

Figure 1. Allocation Location



2. Justification for Allocation Selection

2.1.1 As Pocket Nook is not within the Green Belt and is designated as safeguarded land for future development within an existing development plan, the allocation selection assessment deemed it sequentially preferable to Green Belt allocations in principle. It is a sustainable allocation in a strategic location adjoining the A580 East Lancashire Road which can make a significant contribution to meeting future development needs.

3. Key Issues from Consultation

3.1.1 The Greater Manchester Plan for Homes, Jobs and Environment (Spatial Framework) consultation ran from 14th January to 18th March 2019. The comments made during the 2019 GMSF consultation relate to the following key transport themes; roads, public transport, air quality and active travel. The main concerns of respondents with regards to transport are indicated below and these have informed the mitigation considered when assessing the allocation.

3.1.2 From a transport perspective, congestion issues during peak times were raised, in particular on the A580 East Lancashire Rd between Lane Head and the A579 Atherleigh Way and on the A579 Atherleigh Way between A580 East Lancashire Road and A572 St Helens Road. Fears were also

raised that the addition of a new junction on the A579 Atherleigh Way would lead to further congestion and the feasibility of introducing a new junction was also queried.

3.1.3 Respondents appeared at odds in terms of Pocket Nook Lane with some suggesting that it could be used to access part of the site with others suggesting it was too narrow to accommodate traffic.

3.1.4 Concerns were raised over the requirement for a bridge over the HS2 line, the maintenance and access arrangements as well as funding.

3.1.5 Public transport is perceived to be poor in Lowton with no direct buses to Warrington, Bolton, Manchester or Liverpool. Concerns were also raised over the possible extension of the guided busway, in particular along Beech Walk. Comments were also received from those not working in Manchester and requesting improved public transport options for people travelling elsewhere across the region.

3.1.6 The need for a rail station for Leigh was identified during the Consultation as was minimal safe segregated cycle lanes.

3.1.7 From an Air Quality perspective, concerns were raised with regards to the increase in traffic along the A580 East Lancashire Road.

3.1.8 Further information on the consultation responses can be found in the GMSF Consultation Report (October 2019).

4. Existing Network Conditions and Allocation Access

4.1.1 At present, there is no vehicular access into the allocation.

4.1.2 A number of public rights of way cross the allocation and link up with the residential areas of Lowton St Mary's and Lowton Common.

Accidents and Collision Overview

4.1.3 Collision analysis has been undertaken within 1km for the most recent 5 year period (2015 and 2019 inclusive). Table 1 provides a summary of the collisions by severity.

Table 1. 2015 – 2019 Collision Data

Fatal	Serious	Slight	Total
0	9	37	46

4.1.4 It can be seen that no fatal collisions were recorded with 9 serious and 37 slight collisions recorded.

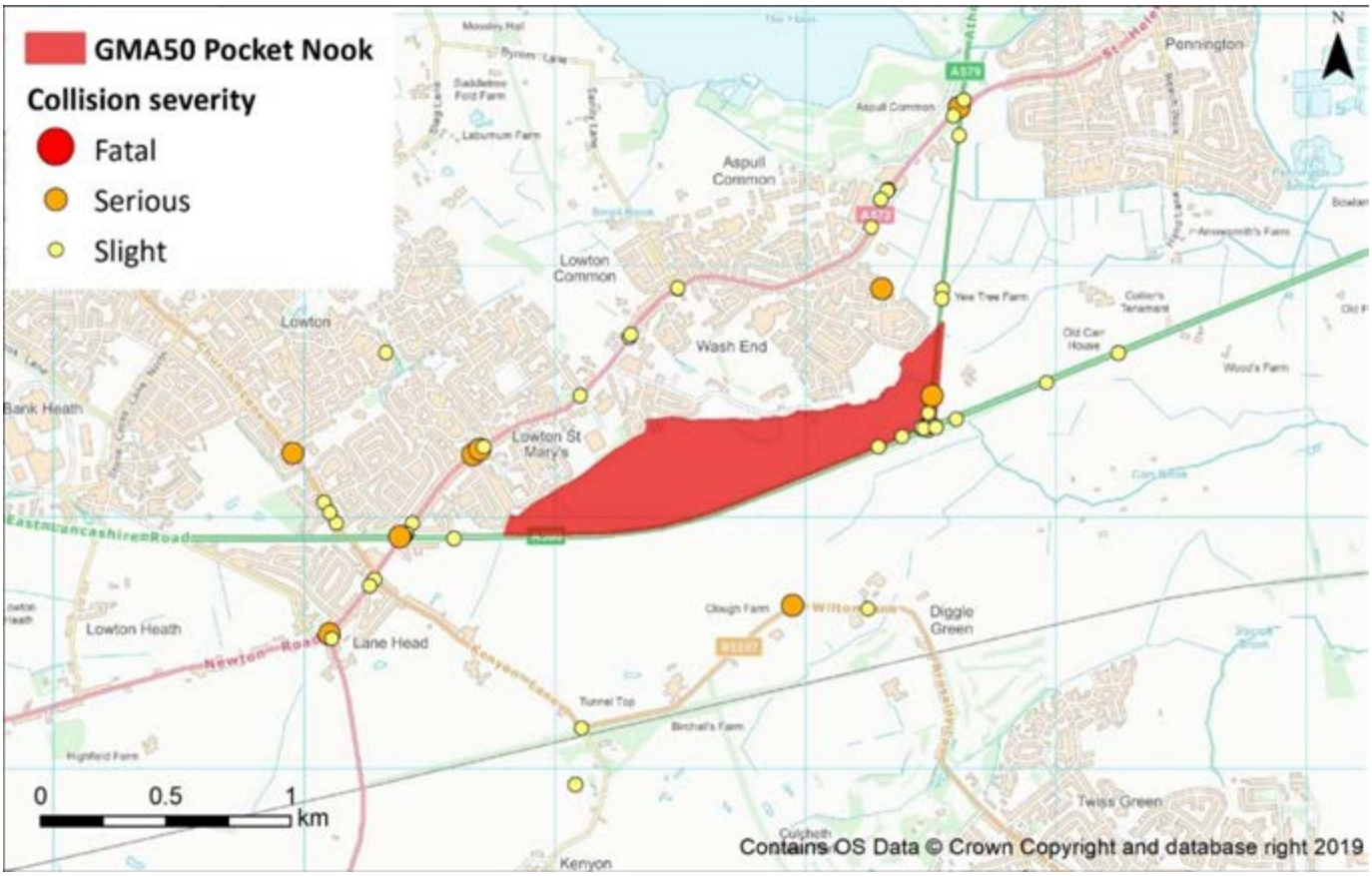
4.1.5 Figure 2 provides an illustrative indication of where the collisions occurred. It can be seen that most collisions occur at junctions with a cluster around the A580 East Lancashire Road/ A579 Atherleigh Way junction.

4.1.6 Further analysis of the collisions, indicates that four involved pedestrian casualties with a further three pedal cycle casualties.

4.1.7 Pedestrian collisions were recorded at the A580 East Lancashire Road junction with A572 Newton Road, on the Poplars (off Mayfield Drive) and south of Daroc Close on the A572 Newton Road.

4.1.8 Collisions involving pedal cycles were at the B5207 Kenyon Lane/ Wilton Lane, A572 Newton Road/ Sandy Lane and A572 St Helens Road/ A579 Atherleigh Way junctions.

Figure 2. Collision Analysis



5. Proposed Access to the Allocation

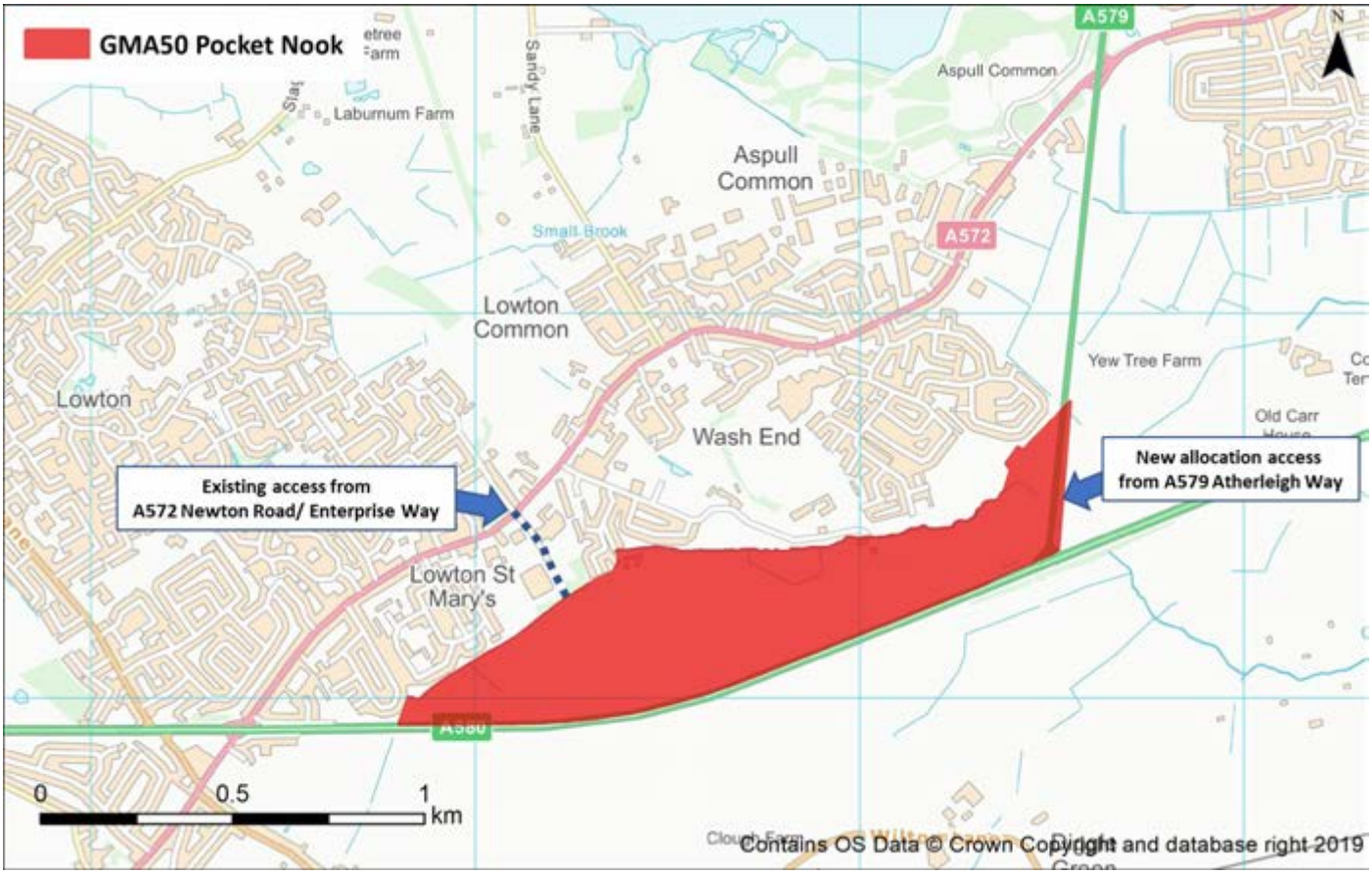
5.1.1 The allocation is to be accessed off the A579 Atherleigh Way near Carr Brook. The South of Pennington allocation (GMA47) was originally included in the GMSF, located directly east of the Pocket Nook allocation. GMA47 South of Pennington has subsequently been removed from GMSF and the transport modelling work updated to reflect this change.

5.1.2 Due to the heavy flow and speed along the A579 Atherleigh Way, it is anticipated that a signalised 3 arm junction will be provided to afford access to and from the allocation.

5.1.3 A through road is proposed to run through the allocation to access the A572 via Enterprise Way. Due to the presence of the proposed HS2 line and associated safeguarded land, the through road would require a bridge over the HS2 line. With the through road in place, the existing signalised junction of A572 Newton Road/ Enterprise Way would be used for traffic travelling to and from the west with Enterprise Way extended to the allocation as shown in figure 3.

5.1.4 For the purpose of this Locality Assessment, two junctions are assumed on the through road between the A572 Newton Road and the A579 Atherleigh Way to allow access to the residential and employment land.

Figure 3. Allocation Access Arrangements



6. Multi-modal accessibility

6.1 Overview

6.1.1 The development of access and active travel across the Greater Manchester Region is a central tenet of the GMSF, to be realised through the establishment and continued improvement of the cycle and walking network.

6.1.2 An assessment of the accessibility of the allocation, by all modes of transport, has been undertaken so as to establish if it would meet with prevailing sustainable transport policies.

6.1.3 It highlights the opportunities for employees, residents and visitors to travel to and from the allocation by modes of travel other than in a privately owned car.

6.1.4 Greater Manchester Accessibility Levels (GMAL) are a detailed and accurate measure of the accessibility of a point to both the conventional public transport network (i.e. bus, Metrolink and rail) and Greater Manchester's Local Link (flexible transport service), taking into account walk access time and service availability. The method is essentially a way of measuring the density of the public transport provision at any location within the Greater Manchester region. The accessibility index score is categorized into eight levels, 1 to 8, where level 8 represents a high level of accessibility and level 1 a low level of accessibility. The Pocket Nook allocation varies in its score with areas closest to the A580 East Lancashire Road scoring lowest due to limited access to public transport opportunities. Moving further north and consequently closer to the A572 Newton Road, the GMAL score increases to 3 for accessibility which is still considered poor.

6.2 Walking and Cycling

6.2.1 A number of public rights of way cross the allocation and link up with the residential areas of Lowton St Mary's and Lowton Common. A segregated combined cycle and pedestrian footway runs alongside the A579 Atherleigh Way between the junction with A572 St Helens Road, and Leigh Town Centre. There are advisory cycle lanes along A572 St Helens Road and a wide shared use cycleway on the southern side of the A580 East Lancashire Road. The main cycle flows in the area (projected from the Propensity to Cycle Tool) are between Lane Head/Lowton and Leigh Town Centre via A572 Newton Road/ St Helens Road. The Propensity to Cycle Tool (PCT) was designed to

prioritise investments and interventions to promote cycling by highlighting where cycling is currently common and where it has the greatest potential to grow.

6.2.2 Within relatively easy walking and cycling distance of the allocation are three schools; Lowton Junior & Infant School (550m), Lowton Church of England High School (800m) and Lowton St Mary's Church of England Primary School.

6.2.3 Employment opportunities at Lowton Business Park are located within 500m of the centre of the allocation with Moss Industrial Estate 1.4km away. Footways are provided on both sides of the A572 Newton Road with numerous signal controlled crossings along its length.

6.2.4 Local shopping opportunities are available along the A572 Newton Road within 600m of the allocation. Access to leisure walks and cycling is provided via the off road right of way running alongside the A579 Atherleigh Way, ultimately connecting in with Pennington Flash Country Park approximately 2km from the allocation.

6.2.5 Leigh bus station (less than 4km from the allocation) has a cycle hub with room for 45 bicycles, providing a safe and secure place to lock bikes under cover. Hubs are protected by CCTV and have a swipe-card entry system.

6.3 Public Transport

6.3.1 Table 2 sets out the existing bus stops, rail station and park and ride that are closest to the allocation. This distance is an approximation from the centre of the allocation using Enterprise Way or Atherleigh Way.

Table 2. Accessibility of and proximity to public transport

Mode	Nearest Stop / Station	Distance (km)	Peak Hour Frequency (mins)
Bus	Hesketh Meadow Lane	0.7	8
Rail	Newton-le-Willows	5.0	15
Park and Ride	Leigh Guided Busway Park & Ride	4.0	20

Bus

6.3.2 Table 3 summarises the bus services operating from the A572 Newton Road with information including service number, route, frequency and operator.

Table 3. Bus Services operating from A572 Newton Road

Service No.	Route	Frequency	Operator
10	Leigh - Lowton – Golborne – Ashton-in-Makerfield – Wigan via Old Road	10minutes day 30 minutes evening 60minutes after 1900 (0600-2300)	Stagecoach
10A	Leigh - Lowton – Golborne – Ashton-in-Makerfield – Wigan	Evening only (M-Sat) Hourly Sundays	Stagecoach
34	Leigh – Newton le Willows – Crow Lane – St Helens	30minutes	Stagecoach
590	Leigh – Lowton Common – Lowton – Pennington Circular	60minutes (0900 – 1800)	Warrington's Own Buses

6.3.3 It can be seen that service number 10 connecting Leigh with Wigan has a very good level of service throughout the day with reduced services as the day progresses. Service 590 enters local residential areas off the A572 Newton Road including The Poplars, Maple Avenue, Laburnam Road and Bradwell Road in Lowton Common and Lowton St Mary's as well as Garton Drive in Lowton.

6.3.4 Service 34 offers a good service connecting the Lowton area with Newton le Willows affording interchange at Newton-le Willows railway station. Journey time from Lowton to Newton-le-Willows is approximately 11 minutes.

6.3.5 The Leigh Guided Busway (as highlighted in table 2) is located approximately 4km from the allocation with parking for up to 131 cars. The V1 service operates between 0400 and 2300 serving Tyldesley, Salford and Manchester City Centre. During the day, the V1 has a 10 minute frequency which reduces to a 30 minute frequency in the evening.

Rail

6.3.6 The nearest railway station is located at Newton le Willows 5km away from the allocation on the Manchester to Liverpool line. To the north of Leigh, on the Atherton line, three stations are located within reasonably close proximity - Daisy Hill, Hag Fold and Atherton, all of which are located approximately 8km from the allocation.

6.3.7 Newton-le-Willows station has recently undergone a significant upgrade, increasing parking capacity to 400 spaces, introducing bus interchange and step free access. Regular services running to Liverpool and Manchester are provided from the station.

6.3.8 Daisy Hill, Hag Fold and Atherton stations are all on the Manchester to Wigan line with four services provided to Manchester Victoria between 0700 and 0900 and three services in the evening. Three services are provided to Wigan Wallgate in the AM and PM peaks. At peak times, the journey time between the Regional Centre and the stations is approximately 30minutes and Wigan can be reached in approximately 15minutes. Note that these service frequencies and journey times represent the pre-Covid situation.

6.3.9 Daisy Hill station has parking for up to 20 cars and bicycle stands to cater for cyclists. Hag Fold has no car park on site or cycle storage facilities. Atherton station can accommodate 11 bikes with seven lockers and four stands. A 64 space car park is provided on site.

6.4 Proposed

6.4.1 Opportunities to improve connectivity to the existing Leigh – Salford – Manchester (LSM) Busway service are being explored in order to provide improved journey times by public transport to the Regional Centre. A guided busway section is provided between Leigh and Ellenbrook reducing congestion on the highway network and providing a valuable public transport service between Leigh and the Regional Centre.

6.4.2 In addition to any improved connectivity to the LSM busway, a new rail station study identified potential for stations to the south of the A580.

6.4.3 The sites at Glazebury, Kenyon and Culcheth are located in Warrington, on the Chat Moss line. Further work is required to determine the preferred option of the three sites, only one of which will be recommended to progress for further consideration. The sites are referred to collectively as 'Chat Moss'. TfGM have appointed consultants to complete Strategic Outline Business Cases (SOBCs) for new rail stations in Golborne, Chat Moss and Little Hulton. The next steps are for TfGM to complete the SOBC process and disseminate the findings to the Council and wider rail industry. Upon identification of the preferred options, TfGM will be responsible for identifying appropriate funding streams. The introduction of new rail stations will help to support growth and reduce congestion in Wigan, as detailed in the Greater Manchester Transport Strategy 2040.

6.4.4 Proposed pedestrian and cycle access is planned to run throughout the allocation, linking into adjacent provision to provide adequate access for sustainable users.

6.4.5 The TfGM Bee network proposals include Bee Network routes along the A580 East Lancashire Road, the A579 Atherleigh Way into Leigh Town Centre and two routes between Lane Head towards the A579 Atherleigh Way and towards Golborne town centre. Several cycling schemes are already confirmed for Leigh Town Centre connecting to the A579 Atherleigh Way and to A574 Warrington Road.

6.4.6 In addition public transport and active mode improvements in the local area, a series of highway infrastructural improvements will also be taking place in Golborne and Lowton. Table 4 presents the highway schemes that are anticipated to be carried out to assist with local congestion.

Table 4. Local Highway Improvements

Junction	Scheme
A580 East Lancashire Road/ A573 Bridge Street	Roundabout is being replaced with traffic signals
A580 East Lancashire Road/ A572 Newton Road	New left turn lane from A580 to A572
A580 East Lancashire Road/ B5207 Church Lane	New left turn lane from A580 to B5207
A580 East Lancashire Road/ Stone Cross Lane	Widening of Stone Cross Lane to create 3 lanes
A579 Winwick Lane/ A572 Newton Road	Removal of traffic signals & installation of give way junction Newton Road

6.4.7 These improvements have been taken account of in the modelling work undertaken for GMSF.

6.4.8 The main recommendations for infrastructure which will promote sustainable modes include:

- Segregated walking and cycling connections at the proposed allocation access points at the A579 Atherleigh Way, Rowan Avenue and A572 Newton Road, connecting to the proposed Bee Network.
- A segregated walking and cycling link built to Bee Network standards between St Helens Road and the A580, completing the route between the A580 cycleway and Leigh Town Centre.
- Signalised crossings at the junction of the proposed through road and A579 with pedestrian and cycling facilities.
- New cycling and walking facilities along the proposed through road with particular consideration of a safe crossing of the proposed HS2 rail line via a bridge.
- A footway and cycle network within the development incorporating all bus stops. Should a new bus service along the through road not prove to be viable, footway connections and safe crossing should be made to the closest bus stops along A572 Newton Road to the west and north of the allocation.
- Safeguarding Pocket Nook Lane near Pocket Nook Farm, to create a north south walking and cycling route through the allocation and potential emergency access.
- Improve rights of way from the proposed residential areas, connecting Pocket Nook Lane to Newton Road and the closest schools (Lowton CE Primary and Lowton CE High School).

7. Parking

7.1.1 Wigan Council Parking Standards remain in place (Policy A1S) from the UDP. The maximum parking standards stipulate that for B8 Storage/ Distribution, 1 space should be provided per 100sqm which would require 150 spaces based on 15,000sqm of solely B8 development.

7.1.2 For cyclists, 1 space should be provided per 850sqm, equivalent to 18 spaces based on 15,000sqm.

7.1.3 For B1 Business, stand alone offices should have 1 space per 35sqm with Business Parks having 1 space per 40sqm. One cycle space should be provided per 400sqm.

7.1.4 For General Industry (B2), 1 space should be provided per 60sqm with cycle parking provided for each 700sqm.

7.1.5 The council is reviewing its parking standards and different standards may apply at the time when any planning application is submitted.

8. Allocation Trip Generation and Distribution

8.1.1 The strategic modelling component of the GMSF Locality Assessments have been produced using data provided from TfGM's Variable Demand Model (GMVDM).

8.1.2 Future trip generation to/from the allocation (i.e. how many people and vehicles will enter or leave the allocation) was estimated by applying a set of GM-wide trip rates to the agreed development quantum for each allocation. The distribution of trips (i.e. where they are going to or coming from) was derived by selecting nearby zones with similar land use characteristics as a proxy and using the existing distribution in the model.

8.1.3 Four Test Cases ("GMSF Constrained" and "GMSF High Side", for both 2025 and 2040) were used to assess and mitigate the impact of the GMSF Allocations on the Greater Manchester transport network.

8.1.4 The 'standard' development planning approach would generally not assume that future highway trips are constrained by congestion on the highway network. Discussions between SYSTRA and TfGM pointed towards a need to also look at a 'high-side' scenario with the GMSF development scenario which does not take account of future congestion on the road network. The 'GMSF High

Side' is considered to be a worst case and the modelling work has been undertaken using these 'high side' flows.

8.1.5 The development quantum for the allocation is shown in Table 5, while the estimated traffic generation for the high scenario is shown in Table 6.

Table 5. Cumulative Development Quantum

Residential	Houses	0	600
Residential	Apartments	0	0
Employment	B2/B8	0	15,000sqm
Total		**0**	**600 homes & 15,000sm B2/B8**

Table 6. Allocation Traffic Generation

Year	AM Peak Hour Departures	AM Peak Hour Arrivals	PM Peak Hour Departures	PM Peak Hour Arrivals
2025 GMSF High-Side	0	0	0	0
2040 GMSF High-Side	265	117	145	222

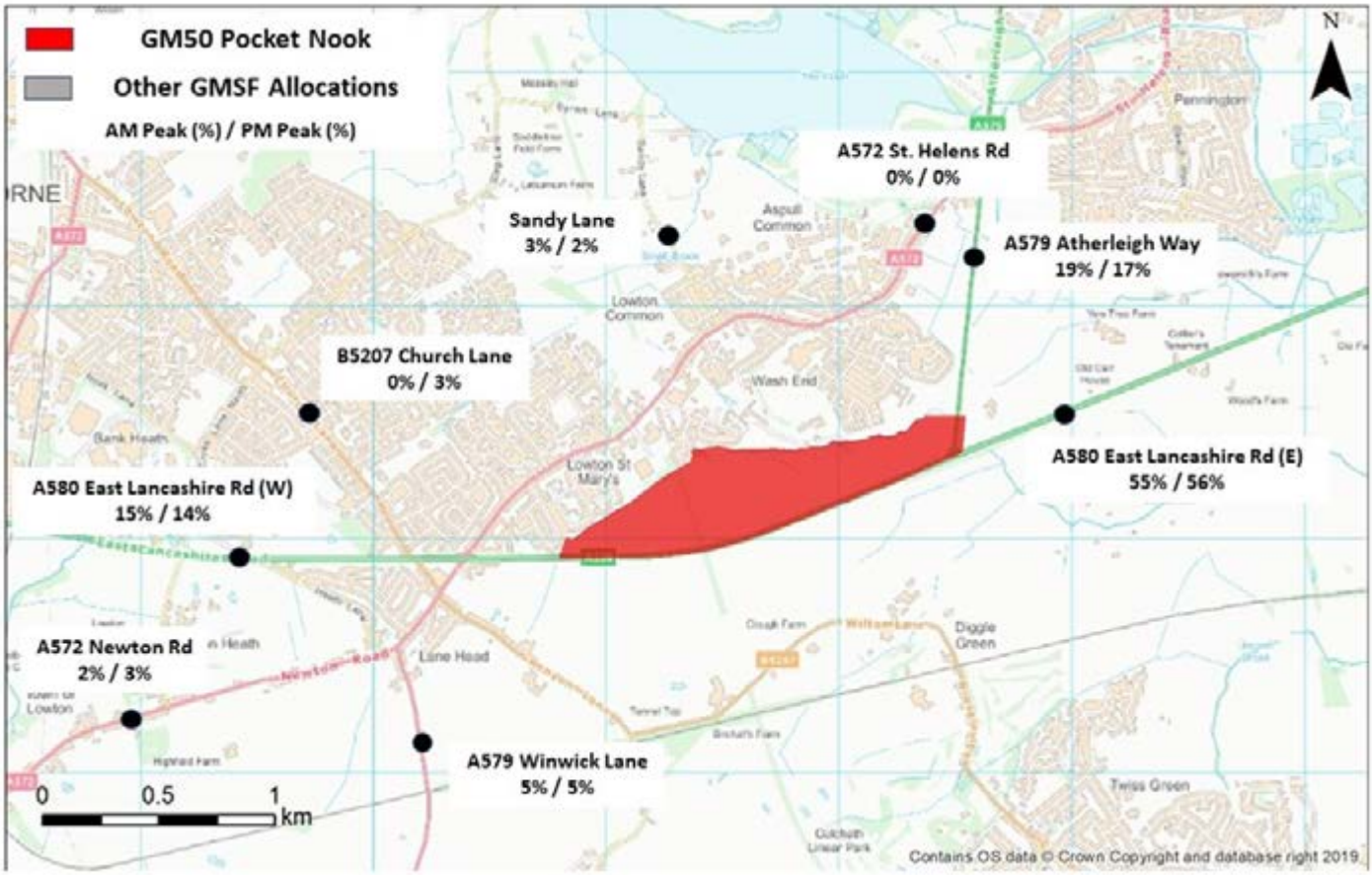
Units are in PCU (passenger car units/hr)

8.1.6 Table 7 and Figure 4 indicate the distribution of traffic on the network to and from the allocation in the peak model periods which are 0800-0900 (AM peak) and 1700-1800 (PM Peak). The primary movements are to/from the A580 East Lancashire Road.

Table 7. Traffic Distribution, 2040 GMSF High-Side (OD Combined)

Route	AM Peak Hour	PM Peak Hour
A572 Newton Road	2%	3%
A580 East Lancashire Road (West)	15%	14%
B5207 Church Lane	0%	3%
Sandy Lane	3%	2%
A572 St. Helens Road	0%	0%
A579 Atherleigh Way	19%	17%
A580 East Lancashire Road (East)	55%	56%

Figure 4. Traffic Distribution, 2040 GMSF High-Side (OD Combined)



8.1.7 Table 8 indicates the proportion of traffic likely to be distributed on neighbouring authority network and the actual numbers based on TfGM's Variable Demand Model (GMVDM). It can be seen that the impact from the allocation on the neighbouring authority network is minimal with only twenty three additional trips forecast to travel to/ from Warrington in the AM peak (2 way).

Table 8. Traffic Distribution to Neighbouring Authorities (GMSF High 2040)

Authority/ Route	Share AM Peak Hour	Share PM Peak Hour	Two Way Flow AM Peak Hour	Two Way Flow PM Peak Hour
Warrington (All)	6%	5%	23	18
A579 Winwick Lane	5%	5%	19	18
Parkside Road	1%	0%	4	0

9. Current Highway Capacity Review

9.1 Existing Network

9.1.1 Between Lane Head and Aspull Common, the A572 Newton Road runs through the residential communities of Lowton St Mary, Lowton Common and past the industrial areas of Lowton Business Park and Moss Industrial Estate at Aspull Common.

9.1.2 To the south of Lane Head, Newton Road leads to Newton-le-Willows with Winwick Lane leading to the M6 at junction 22.

9.1.3 Limited on street parking is provided along the A572 Newton Road/ St Helens Road which is a 30mph highway with double yellow lines along most of the corridor. A number of schools are located in close proximity with signalised crossing points available to aide pedestrians/ cyclists to cross.

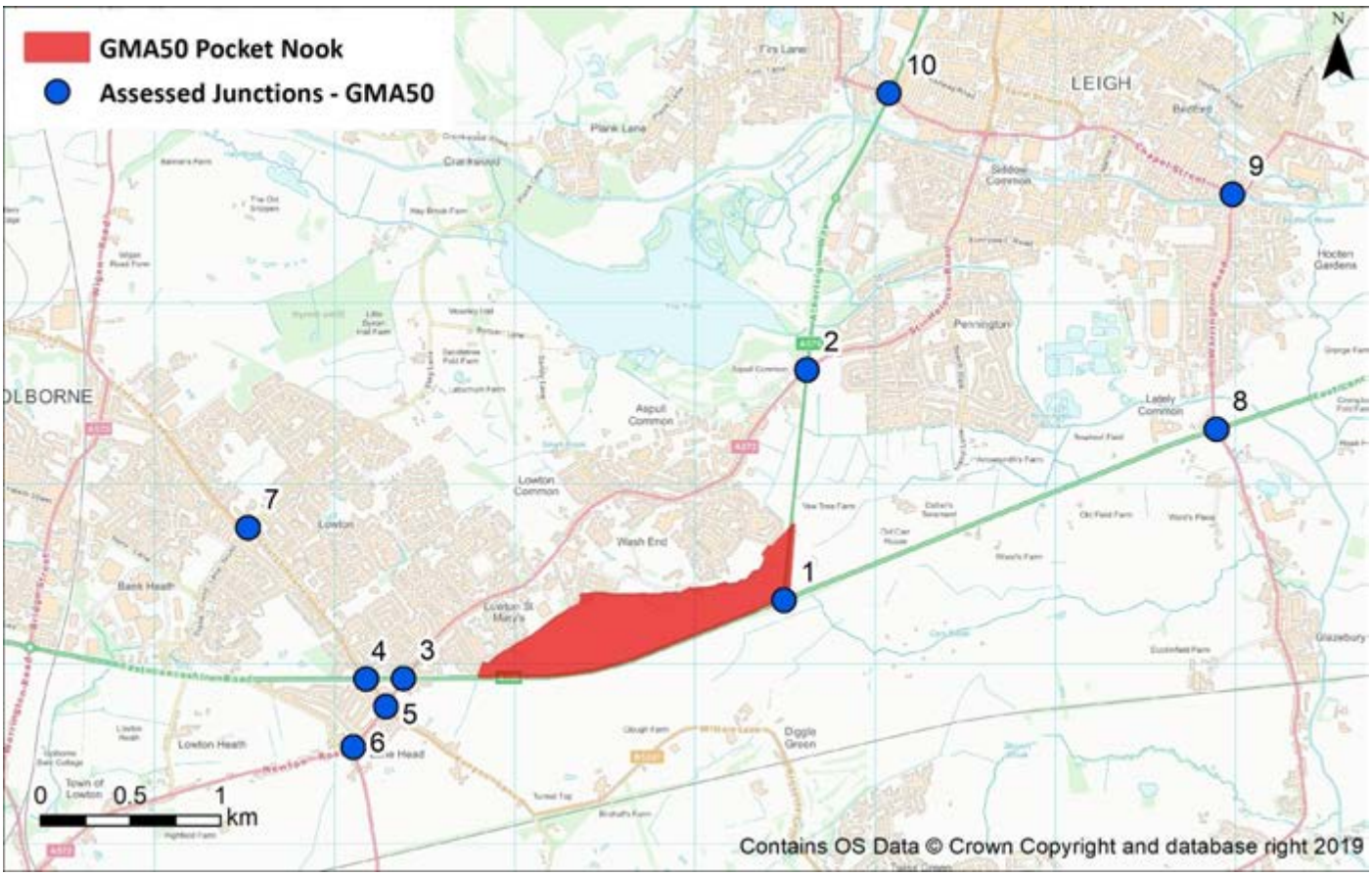
9.1.4 The A580 East Lancashire Road runs east-west to the south of the allocation connecting Liverpool with Manchester as well as national connections via the M6. A number of junctions along the corridor experience significant congestion, in particular at the Lane Head junction.

9.1.5 The A579 Atherleigh Way is a single carriageway road linking Leigh with the A580 which also suffers from congestion during the peak hours. Atherleigh Way runs north/ south to the east of the allocation with major signalised junctions at A572 St Helens Road and with the A580 East Lancashire Road.

9.1.6 Based on the configuration of the of the existing highway network and the planned access strategy, 10 junctions have been identified for assessment. These are identified in Figure 5.

- 1. A580 East Lancashire Road / A579 Atherleigh Way
- 2. A579 Atherleigh Way/ A572 St Helens Road
- 3. A580 East Lancashire Road/ A572 Newton Road
- 4. A580 East Lancashire Road/ B5207 Church Lane
- 5. A572 Newton Road/ B5207 Church Lane/ B5207 Kenyon Lane
- 6. A572 Newton Road/ A579 Winwick Lane
- 7. B5207 Church Lane/ Stone Cross Lane North/ Slag Lane
- 8. A580 East Lancashire Road / A574 Warrington Road
- 9. A574 Warrington Road / A572 Chapel Street
- 10. A579 Atherleigh Way/ A578 Twist Lane/ Parsonage Way

Figure 5. Assessed Junctions



10. Treatment of Cumulative Impacts

10.1.1 In order to assess the cumulative impact of GM allocations on the network, two model runs were undertaken, a 'constrained' and 'high side' assessment. The constrained forecasts could reduce the number of future highway trips due to congestion on the highway network. This constraining process is undertaken by the Greater Manchester Variable Demand Model (GMVDM).

10.1.2 The transport impacts of the allocation need to be considered cumulatively with other GMSF allocations. Hence, both the constrained and high side model runs take account of traffic associated with all GMSF allocations in proximity to the allocation.

10.1.3 The South of Pennington allocation was originally allocated for 160,000sqm of employment land (B8 logistics) within GMSF. South of Pennington is located to the east of Pocket Nook, on the eastern side of the A579 Atherleigh Way. The South of Pennington allocation has subsequently been removed from GMSF.

10.1.4 GMSF-wide traffic uses the A580 East Lancashire Road as a key radial route in and out of the Regional Centre. Analysis of traffic flows from the model indicates that the following allocations contribute to the overall impact at junctions along the A580 East Lancashire Road.

- GMA42: M6 J25
- GMA43: North of Mosley Common

11. Allocation Access Assessment

11.1.1 Vehicular access to the allocation as a whole would be as per the access strategy set out in Chapter 5. Access arrangements for individual development parcels within the allocation have not been considered in this locality assessment; this will be covered by subsequent masterplanning work.

11.1.2 These allocation access arrangements should produce a detailed design consistent with Greater Manchester's best practice Streets for All highway design principles which will be required at the more detailed planning application stage.

12. Impact of Allocation Before Mitigation on the Local Road Network

12.1.1 In order to understand a worst case impact of the GMSF, the 'high side' runs from the GMVDM were used to derive with GMSF development flows for 2040. These flows were then entered into junction based models for the junctions identified in Section 8. Flows from a 2040 reference case scenario (including approved Local Plan development from the respective districts) were also extracted to provide a comparison between the operation of those junctions in the 2040 reference case and the 2040 with GMSF development scenarios.

12.1.2 The 'with GMSF' scenario has been assessed against a Reference Case which assumes background growth and includes the housing and employment commitments from the districts. It has been agreed for the purposes of GMSF that where mitigation is required, it should mitigate the impacts back to a reference case scenario. It should be noted that mitigating back to this level of impact may not mean that the junction operates within capacity.

12.1.3 These assessments were then used to identify the junctions where there was considered to be a substantial impact, relative to the operation of the junction in the 2040 reference case, and hence where mitigation was considered to be required in order to bring GMSF allocations forward.

12.1.4 This section looks at the impact on the network at the junctions highlighted in section 9. Signalised junctions were assessed in detail using industry-standard modelling software LINSIG version 3. Where possible, traffic signal information was requested from TfGM in order to ensure that the local junction models reflected (as far as possible), the operation of the junction s on the ground. Junctions 9 software was used to assess priority and roundabout junctions. The table below provides a comparison between the operation of the in scope junctions in the 2040 reference case and the 2040 'high side' scenarios, as well as the allocation development flows through each respective junction. The table shows a comparison between the ratio of flow to capacity on the worst case arm at each junction as well as the total development flows through the junction.

12.1.5 For reference, a figure of between 85% and 99% illustrates that the junction is nearing its operational capacity, and a figure of 100% or over illustrates that flows exceed the operational capacity at the junction and increased vehicle queuing and delay are likely to occur.

12.1.6 The following table summarises the results of the individual junctions models assessing the junctions on the Local Road Network (LRN).

Table 9. Local Junction Capacity Analysis Before Mitigation – Year 2040

No.	Junction	Ref Case AM	Ref Case PM	GMSF High AM	GMSF High PM	Allocation Flows AM	Allocation Flows PM
1	A580 East Lancashire Road / A579 Atherleigh Way	96%	90%	116%	96%	259	225
2	A580 Atherleigh Way/ A572 St Helens Road	112.0%	109.0%	98%	111%	70	69
3	A580 East Lancashire Road/ A572 Newton Road	103%	115%	118%	121%	64	73
4	A580 East Lancashire Road/ B5207 Church Lane	110%	96%	119%	115%	58	54

No.	Junction	Ref Case AM	Ref Case PM	GMSF High AM	GMSF High PM	Allocation Flows AM	Allocation Flows PM
5	A572 Newton Road/ B5207 Church Lane/ B5207 Kenyon Lane	102%	79%	111%	91%	29	23
6	A572 Newton Road/ A579 Winwick Lane	151%	95%	182%	107%	19	19
7	B5207 Church Lane/ Stone Cross Lane North/ Slag Lane	124%	94%	130%	111%	12	19
8	A580 East Lancashire Road / A574 Warrington Road	151%	237%	156%	251%	214	191
9	A574 Warrington Road / A572 Chapel Street	87%	78%	97%	82%	0	0
10	A579 Atherleigh Way/ A578 Twist Lane/ Parsonage Way	83%	97%	88%	101%	56	50

1. A580 East Lancashire Road / A579 Atherleigh Way

12.1.7 The A580 East Lancashire Road / A579 junction is a signalised junction operating at operational capacity in the Reference Case. The 'GMSF High' scenario is worse than the Reference Case at 2040 as a consequence of the increase in PCUs (circa 400) through the junction associated with development traffic for Pocket Nook and the wider GMSF allocations. Of these, over 250 are anticipated to relate to Pocket Nook in the AM peak with a further 225 in the PM peak.

2. A579 Atherleigh Way/ A572 St Helens Road

12.1.8 The A579 / St Helens Road junction is a signalised junction operating above its operational capacity in the Reference Case. Modelling suggests that overall traffic flows through the junction are anticipated to decrease in the 'with GMSF' scenario with traffic re-routing on to the A580 and other local roads to avoid congestion at the junction. Only 70 trips in either peak are associated with Pocket Nook.

3. A580 East Lancashire Road/ A572 Newton Road

12.1.9 The A580 East Lancashire Road / A572 Newton Road is a substantial signalised junction operating above its operational capacity in both reference case and 'with GMSF High' modelling scenarios.

4. A580 East Lancashire Road/ B5207 Church Lane

12.1.10 The A580 East Lancashire Road / Church Lane junction is a signalised junction operating above operational capacity in the Reference Case. With the GMSF 'high side' scenario at 2040, the junction operates considerably worse. As with the A580 Lancashire Road/ A572 Newton Road junction, in excess of 100 more PCUs are observed in the AM peak when compared with the reference case.

5. A572 Newton Road/ B5207 Church Lane/ B5207 Kenyon Lane

12.1.11 The Newton Road/Church Lane/Kenyon Lane junction is a signalised junction operating above operational capacity in the AM peak Reference Case. The 'GMSF High' scenario is slightly worse than the AM Reference case at 2040 with fewer than 30 trips associated with Pocket Nook travelling through the junction. The PM peaks in both the reference case and 'with GMSF High' scenarios operate within capacity.

6. A572 Newton Road/ A579 Winwick Lane

12.1.12 The A572 Newton Road / A579 Winwick Lane junction is a signalised junction operating above operational capacity in the AM Reference Case and operating within capacity in the PM Reference Case in its existing condition. The 'with GMSF High' scenario operation is worse, however, only 19 PCUs travel through the junction in both the AM and PM peaks from Pocket Nook.

7. B5207 Church Lane/ Stone Cross Lane North/ Slag Lane

12.1.13 The Stone Cross Lane/Church Lane/Slag Lane/Golborne Road junction is a signalised junction operating above capacity in the Reference Case. In the 'with GMSF High' scenario, traffic conditions are exacerbated, however, a small number of trips from the allocation are predicted to pass through the junction.

8. A580 East Lancashire Road / A574 Warrington Road

12.1.14 The A580 East Lancashire Road / A574 Warrington Lane junction is a roundabout operating significantly above operational capacity in the Reference Case with the situation exacerbated in the 'with GMSF' scenario as a consequence of an increase of 400 trips in the AM peak and 350 in the PM peak. Of these trips, 214 are related Pocket Nook in the AM peak with a further 191 in the PM peak.

9. A574 Warrington Road / A572 Chapel Street

12.1.15 The A574 Warrington Road/ A572 Chapel Street signalised junction is observed to be within capacity at 2040 in the 'with GMSF High scenario and the reference case.

10. A579 Atherleigh Way/ A578 Twist Lane/ Parsonage Way

12.1.16 The A579 Atherleigh Way/ A578 Twist Lane/ Parsonage Way signalised gyratory is observed to be within capacity at 2040 in the reference case with 'with GMSF High' AM peak scenarios. Flows through the junction in the PM peak are observed to tip the junction slightly over capacity in the 'with GMSF High' scenario.

13. Transport Interventions Tested on the Local Road Network

Specific Junction Mitigation Measures

13.1.1 The proposed mitigation schemes which are set out in the section are designed to mitigate the impact of GMSF only. The schemes are not designed to solve pre-existing congestion on the local network.

13.1.2 Also it should be noted that these interventions are not expected to be the definitive solution but rather to demonstrate that a solution is possible at the location. The details of any mitigation schemes will need to be developed as part of the detailed planning process.

13.1.3 The following junctions have not been considered for mitigation due to the modelling work indicating that the impact between the Reference Case and with 'GMSF High' scenarios is negligible.

- 2. A579 Atherleigh Way/ A572 St Helens Road
- 5. A572 Newton Road/ B5207 Church Lane/ B5207 Kenyon Lane
- 9. A574 Warrington Road / A572 Chapel Street
- 10. A579 Atherleigh Way/ A578 Twist Lane/ Parsonage Way

13.1.4 The following table provides a summary of the schemes proposed to mitigate the impact of GMSF at the remaining junctions which have been identified through the junction modelling process.

Table 10. Approach to Mitigation

No	Junction	Mitigation Approach
1	A580 East Lancashire Road / A579 Atherleigh Way	Mitigation tested in the form of additional lanes
3	A580 East Lancashire Road/ A572 Newton Road	Unable to identify workable scheme. Allocation contributes fewer than 75 trips through the junction
4	A580 East Lancashire Road/ B5207 Church Lane	Increased number of lanes tested. Allocation contributes fewer than 60 trips to the junction
6	A572 Newton Road/ A579 Winwick Lane	Shave Northern kerb line to allow for non-blocking storage (2pcus) for right turning traffic to turn south
8	A580 East Lancashire Road/ A574 Warrington Road	Signalised roundabout tested

1.A580 East Lancashire Road / A579 Atherleigh Way

13.1.5 Interventions at the junction have been considered to improve the situation in the 'with GMSF scenario' and there is some space around the junction to deliver a scheme. The proposed

mitigation at this junction consists of a second left turn lane from west to north and a two lane exit to the north. Information on the impact of the proposed scheme is provided in section 14.

3.A580 East Lancashire Road / A572 Newton Road

13.1.6 Wigan Council have a proposed scheme at the junction which introduces a new left turn from the A580 east to the A572 south. This scheme is included in the modelling work, however at 2040, it is unable to accommodate GMSF traffic. An alternative intervention has been sought, however, no viable forms of mitigation were considered achievable due to limitations on space.

4.A580 East Lancashire Road / Church Lane

13.1.7 Given that there is some space around the A580 East Lancashire Road / Church Lane junction to deliver a scheme, SYSTRA investigated mitigation. A form of mitigation has been tested consisting of a third straight ahead lane/left turn lane from east to west with a three lane exit to the west and provision of short left turn lane from the west to the north.

6.A572 Newton Road/ A579 Winwick Lane

13.1.8 The proposed mitigation at this junction is to shave the northern kerb line to allow for non-blocking storage (2pcus) for right turning traffic to turn south.

8. A580 East Lancashire Road / A574 Warrington Road

13.1.9 Interventions at the junction have been considered to improve the situation in the 'with GMSF scenario' and there is some space around the junction to deliver a scheme. A number of different forms of mitigation were tested at the junction including localised widening to the roundabout, a signalised crossroads and signalised roundabout.

13.1.10 The best performing option for the junction was a signalised roundabout arrangement consisting of an additional lane on the northern arm, formalising the two lane approach on the southern arm and provision of flared approaches on the mainline.

13.1.1 The mitigation schemes discussed above were then coded into the GMVDM, in advance of a second 'with mitigation' run of the model. The outcomes of this model run in relation to the Pocket Nook allocation are presented in the following section.

13.1.2 These transport interventions are purely highway infrastructural interventions and do not take full account of the impact public transport improvements could have along the A580 corridor.

13.1.3 The A580 East Lancashire Road carries a significant volume of traffic towards and from the Regional Centre. The junction modelling work undertaken indicates that each of the junctions along the corridor is operating under considerable stress by 2040 and it is anticipated that a strategic corridor based approach to improving the operation of the junctions will be required. Based on current traffic flow projections, considerable engineering interventions are likely to be required should forecast traffic flows become a reality.

14. Impact of interventions on the Local Road Network

14.1.1 In order to understand whether the mitigation developed for the allocation (and all other allocations within the GMSF) is sufficient to mitigate the worst case impacts of the GMSF identified a second run of the GMVDM, with all identified mitigation included, was undertaken. Due to the scale of the models involved, a difference plot between the with mitigation and without mitigation model runs was used to identify where there was a significant difference in model flows which may impact on the operation of junction models. Where a significant change was observed, the junction models were rerun to check that the mitigation identified in section 13 would still be sufficient to mitigate allocation impacts and that all other in scope junctions continue to operate satisfactorily in light of any reassignment due to the mitigation schemes.

14.1.2 Table 11 below provides a comparison between the operation of the in scope junctions in the 2040 reference case and the 2040 'high side' with and without mitigation scenarios. The table shows a comparison between the ratio of flow to capacity on the worst case arm at each junction. For reference, a figure of between 85% and 99% illustrates that the junction is nearing its operational capacity (orange), and a figure of 100% or over (red) illustrates that flows exceed the operational capacity at the junction. The numbers in green suggest that the junction is operating within capacity.

Table 11. Results of Local Junction Capacity Analysis After Mitigation – Year 2040

No.	Junction	Ref Case AM	Ref Case PM	GMSF High AM (Without Mitigation)	GMSF High PM (Without Mitigation)	GMSF High AM (With Mitigation)	GMSF High PM (With Mitigation)
1	A580 East Lancashire Road/ Atherleigh Way	96%	90%	116%	96%	113%	94%
4	A580 East Lancashire Road / Church Lane	110%	96%	119%	115%	118%	109%
6	A572 Newton Road/ A579 Winwick Lane	151%	95%	182%	107%	103%	84%
8	A580 East Lancashire Road / A574 Warrington Road	151%	237%	156%	251%	162 %	155%

1.A580 East Lancashire Road/ A579 Atherleigh Way

14.1.3 The proposed improvements at the junction slightly reduce the impact in comparison with the 'without mitigation' scenario. The mitigation does not however return the junction back to the reference case situation. This mitigation would also require a highway structure.

4.A580 East Lancashire Road/ Church Lane

14.1.4 The mitigation does improve the situation at the junction when compared with the 'without mitigation' scenario, however, it does not return the junction back in line with the reference case.

6.A572 Newton Road/ A579 Winwick Lane

14.1.5 The mitigation is shown to improve the situation at the junction when compared with the 'without mitigation' and reference case scenarios.

8.A580 East Lancashire Road / A574 Warrington Lane

14.1.6 The mitigation is shown to improve the situation at the junction which is an improvement on the reference case in the PM peak only, however, substantial queuing will remain on the approach arms. Impact and mitigation on the Strategic Road Network

Overview

14.1.7 The strategic modelling results suggest that by 2040, fewer than 30 trips from the allocation, in the AM and PM peaks will use the SRN to enter or leave the M6.

14.1.8 SYSTRA is currently consulting with Highways England on behalf of TfGM and the Combined Authority in relation to the GMSF through a process set out in detail in the note entitled 'Note on Process for Highways England Consultation' (17/02/2020). Through this process, SYSTRA is providing:

- Allocation impacts in the form of an 'empty network' assignment of the GMSF development in the GMVDM; and
- Network stress maps in the form of outputs from TfGM SATURN model for the 2040 reference case showing link flows and delay.

14.1.9 The allocation impacts and network stress maps will allow Highways England to gain a strategic understanding of where there is an interaction between network stress points and GMSF development demand which will facilitate further discussion and transfer of information between TfGM and Highways England (yet to be defined) in reaching agreement and/or common ground relating to the acceptability of GMSF allocations in advance of Examination in Public (EiP).

15. Final list of interventions

15.1.1 The proposed final list of interventions is summarised in Table 12.

Table 12. Final List of Interventions

Mitigation	Description
Allocation Access	
Atherleigh way Signalised junction (3 arm)	New access provided on Atherleigh Way to connect with the through road and new developments
Necessary Strategic Interventions	
Bridge over HS2 line	A bridge will be required over the HS2 line. HS2 Ltd to fund the bridge
Supporting Strategic Interventions	
Improved bus service connectivity	Opportunities to link with the Leigh Guided Busway
New railway station in local area	Options are currently being explored for a station at 'Chat Moss' (one option to be identified from 3).
A580 East Lancashire Road / A579 Atherleigh Way	Scheme identified although does not take impact back to reference case
A580 East Lancashire Road/ A572 Newton Road	Further work required to mitigate wider GMSF impact at the junction
A580 East Lancashire Road/ B5207 Church Lane	Scheme identified although does not take impact back to reference case
A572 Newton Road/ A579 Winwick Lane	Scheme identified. Impact is an improvement on reference case

A580 East Lancashire Road/ A574 Warrington Road	Scheme identified – improves impact in PM peak only to reference case
Necessary Local Mitigations	
Permeable network for pedestrian and cyclist priority within the development	Assumed full permeability of cycle and pedestrian access, as well as direct connections to PROWs either bounding or near the development and improvement of local walking/cycling facilities
Rights of way improvement	Develop Rights of Way connectivity between Pocket Nook Lane and schools
Rights of way improvement	Develop Rights of Way connectivity between Pocket Nook Lane and Moorfield Crescent
SRN Interventions	
n/a	

15.2 Traffic Reduction Strategies

15.2.1 The analysis underpinning this Locality Assessment has been undertaken using a standard robust highway modelling approach including reference to predicted future development trip levels based on the historical operation of major employment sites, particularly with respect to traditional AM & PM peak 'rush hour' periods.

15.2.2 There is an increasingly compelling argument that the use of such peak hour demand estimates is overly robust for long term forecasting, particularly if applied wholesale across new strategic development areas. 'Peak spreading' is already a well-recognised feature of recent general traffic growth across Greater Manchester (i.e. only limited traffic growth taking place during critical 'rush hour' periods), with additional travel demand tending to be concentrated on more 'off-peak' periods, when there is spare transport network capacity to accommodate such movements. Furthermore, increases in modern communications technology have increased the potential for home-working / tele-working and reduced the need for business travel and meetings. The notion

of ‘9 to 5’ style working is now viewed as an out-dated concept, with staff valuing the benefits of flexible working.

16. Strategic Context – GM Transport Strategy Interventions

16.1.1 The GMCA 2040 Transport Strategy Delivery Plan sets out a comprehensive programme of work across all modes and in all Districts, which are all focused on ensuring the realisation of the ‘Right Mix’ vision. Many of these interventions support the GMSF Allocations directly, whilst others are intended to provide alternatives to private car travel more generally. The schemes demonstrate a clear plan for delivering strategic transport interventions for the first five years of the GMSF plan period, whilst also laying the foundations for longer term investment in sustainable transport across the length of the plan period. In addition to the allocation-specific interventions set out in this Locality Assessment, there are a number of other measures already planned by Wigan MBC and TfGM to support sustainable travel, and to contribute to the achievement of Greater Manchester’s ‘Right Mix’ ambition.

16.1.2 The potential connection from the Leigh Guided Busway services to Pocket Nook via the Land south of Pennington is now complicated by the council’s decision to withdraw GMA47 South of Pennington from the GMSF. Alternative solutions must now be considered such as increased provision from Leigh to Pocket Nook via Leigh Sports Village.

16.1.3 TfGM have appointed consultants to complete Strategic Outline Business Cases (SOBCs) for new rail stations in Golborne, Chat Moss and Little Hulton. The next steps are for TfGM to complete the SOBC process and disseminate the findings to the Council and wider rail industry. Upon identification of the preferred options, TfGM will be responsible for identifying appropriate funding streams. The introduction of new rail stations will help to support growth and reduce congestion in Wigan, as detailed in the Greater Manchester Transport Strategy 2040.

16.1.4 The Government confirmed its commitment to HS2 in an announcement made on 11 Feb. In particular, the Prime Minister informed Parliament that he is committed to Phase 2b of the project, extending high-speed rail from the West Midlands to the North. In order to work out how best to deliver Northern Powerhouse Rail and Phase 2b more effectively, government will draw up an integrated plan for rail in the North, informed by an assessment from the National Infrastructure Commission.

16.1.5 This will work to identify the most effective sequencing of all relevant investments in the north, and look at how the two schemes can work together alongside wider investment in transport for the North and Midlands. It will also have a focus on ensuring that lessons are learned from Phase 1 of HS2 to drive down costs.

16.1.6 Greater Manchester also has ambitious plans to develop the Bee Network - the UK's largest cycling and walking network as a key element to delivering on the "Right Mix" vision, and the Combined Authority has allocated £160m between 2018-2022 to fund the first phase of the Bee Network. The network has at its core a programme of new and upgraded pedestrian and cycling crossing points of major roads and other sources of severance, connected by a network of signed cycling and walking routes – known as Beeways – on existing quiet streets. These will be complemented by a number of routes on busier roads where Dutch style cycle lanes protected from motor traffic will be constructed.

17. Phasing Plan

17.1.1 This Locality Assessment identifies a package of improvements, to support the full delivery of the Pocket Nook allocation over the plan period. It is anticipated that these improvements would be delivered over time in line with a development phasing strategy, with the provision of different elements of the strategy linked to the release of defined development quantum across the allocation. Such a phasing strategy would be set out and controlled via detailed planning conditions / legal agreements.

17.1.2 During the course of the locality assessment work in late 2019 / early 2020, the Districts provided input on their expected phasing of the allocations focusing on the milestone years of 2025 and 2040. The expected 2025 development quanta were tested along with those for 2040 to assess their deliverability in terms of transport network capacity. In some cases, the development phasing was amended by the Districts as a result of the technical analysis undertaken.

17.1.3 For Pocket Nook, no GMSF development will take place prior to 2025 and therefore, all other forms of mitigation will require implementation between 2025 and 2040, with a more precise implementation timeframe for these schemes being ascertained through a similar process to that detailed in sections 12 to 14 as part of the five year review of the plan.

17.1.4 The following table provides an indicative delivery timetable for the identified mitigation measures.

Table 13. Indicative intervention delivery timetable

Mitigation	2020 2025	2025 2030	2030 2038
Allocation Access			
Atherleigh way Signalised junction (3 arm)			✓
Necessary Strategic interventions			
Bridge over HS2 line			✓
Supporting Strategic Interventions			
Improved bus service connectivity			✓
New railway station in local area			✓
A580 East Lancashire Road / A579 Atherleigh Way			✓
A580 East Lancashire Road/ A572 Newton Road			✓
A580 East Lancashire Road/ B5207 Church Lane			✓
A572 Newton Road/ A579 Winwick Lane			✓
A580 East Lancashire Road/ A574 Warrington Road			✓
Necessary Local Mitigations			
Permeable network for pedestrian and cyclist priority within the development			✓
Rights of way improvement – to schools			✓
Rights of way improvement – to Moorfield Crescent			✓
Supporting Local Mitigations			
n/a			
SRN Interventions			
n/a			

18. Summary & Conclusion

18.1.1 The Pocket Nook allocation is located to the south of Leigh bound to the south by the A580 East Lancashire Road, to the north and west by the residential areas of Lowton St Mary's/ Lowton Common and to the east by the A579 Atherleigh Way.

18.1.2 Pocket Nook has been allocated for 600 homes and 15,000sqm of employment in the GMSF.

18.1.3 Modelling work has been undertaken using the Greater Manchester Variable Demand Model (GMVDM) with a constrained and high side scenario. The constrained and high side model runs take account of traffic associated with all GMSF allocations. This report has considered the allocation in isolation and the allocation in context with the wider GMSF programme using the 'high side' flows which are considered to be a worst case.

18.1.4 A 'with GMSF' scenario has been assessed against a Reference Case which assumes background growth and includes the housing and employment commitments from the districts. Specific junctions have been assessed to understand the impact of the development at local junctions and along the A580 East Lancashire Road where capacity issues have been observed in the reference case scenario.

18.1.5 Planning for the allocation aims to maximise its accessibility in relation to the A580 East Lancashire Road, the motorway network and proximity to existing and future public transport opportunities.

18.1.6 The allocation will need to create safe and convenient walking and cycling links to key local destinations and public transport facilities including local schools and public transport opportunities along the A572 Newton Road.

18.1.7 The allocation would require a new signalised 3 arm junction to be provided on the A579 Atherleigh Way serving the development. A through road will be provided extending from the A579 Atherleigh Way to the A572 Newton Road which would require a bridge over a safeguarded HS2 line.

18.1.8 Consultation on the allocation identified concerns over congestion along the A580 East Lancashire Road which has been reflected in modelling terms. Mitigation has been proposed at key junctions which can accommodate the allocation traffic in isolation.

18.1.9 Public transport was also identified to be an area of concern, however, the rail station study identifying the need for a new stations in the area and the opportunity to provide links to the Leigh Guided Busway will improve the situation in the future.

18.1.10 Concerns during consultation were also raised over air quality and Wigan have proposed to designate Winwick Lane an Air Quality Management Area (AQMA) under section 83 of the Environment Act. The Government has instructed Wigan to take quick action to reduce the harmful Nitrogen Dioxide levels following the Secretary of State issuing a direction under the Environment Act 1995.Improvements to public transport and active modes are proposed. In close proximity to the allocation, the Lane Head junction is classified as an AQMA.

18.1.11 Walking and cycling improvements have also been considered to align with existing provision, making it easier to make short journeys by active modes.

18.1.12 At this stage, the modelling and analysis work is considered to be a 'worst case' scenario as it focuses on the high scenario forecasting results. Furthermore, it does not take full account of the extensive opportunities for active travel and public transport improvements in the wider GM area.

18.1.13 Mitigation schemes were developed and tested to address the network congestion impacts on the local road network. The schemes have been shown to mitigate the impact of the allocation trips and to restore the network to a similar state as that found in the Reference scenario however, at a cumulative level with other GMSF allocations, it has not been possible to mitigate the entire GMSF impact due to land constraints or costs associated with major infrastructure works. Further detailed work will be necessary to identify the specific interventions required to ensure the network works effectively based on transport network conditions at the time of the planning application.

18.1.14 The A580 East Lancashire Road carries a significant volume of traffic towards and from the Regional Centre. The junction modelling work undertaken indicates that each of the junctions along the corridor is operating under considerable stress by 2040 and it is anticipated that a strategic corridor based approach to improving the operation of the junctions will be required. Based on current traffic flow projections, considerable engineering interventions are likely to be required should forecast traffic flows become a reality.

18.1.15 There is an increasingly compelling argument that the use of peak hour demand estimates is overly robust for long term forecasting, particularly if applied wholesale across new strategic development areas. 'Peak spreading' is already a well-recognised feature of recent general traffic growth across Greater Manchester (i.e. only limited traffic growth taking place during critical 'rush hour' periods), with additional travel demand tending to be concentrated on more 'off-peak' periods, when there is spare transport network capacity to accommodate such movements. Furthermore, increases in modern communications technology have increased the potential for home-working / tele-working and reduced the need for business travel and meetings. The notion of '9 to 5' style working is now viewed as an out-dated concept, with staff valuing the benefits of flexible working.

18.1.16 In summary, there is an initial indication that the site is suitable for allocation in the GMSF, however, further work will be needed as the allocation moves through the planning process. The allocation would need to be supported by continuing wider transport investment across GM.

Greater Manchester Spatial Framework

Locality Assessment:

West of Gibfield (GMA45)

Publication Version 2: November 2020

Identification Table	
Client	Wigan Council/TfGM
Allocation	West of Gibfield
File name	GMA45 Wigan - West of Gibfield LA 021020
Reference number	GMA45 (2020 GMSF) previously GMA51 (2019 GMSF)

Approval					
Version	**Role**	**Name**	**Position**	**Date**	**Modifications**
0	Author	Steven Eggleston	Partner i-Transport	20/07/20	Base report
	Checked by	H Williams	Associate Director (SYSTRA)	22/07/20	
	Approved by				
1	Author	R Clowes	TfGM	28/09/20	Consistency edits
	Checked by	S Riley	Wigan MBC	02/10/20	
	Approved by	N Clarke	Wigan MBC	02/10/20	

Table of contents

List of figures

Allocation Data	
Allocation Reference No.	GMA45 (202 GMSF) previously GMA51 (2019 GMSF)
Allocation Name	West of Gibfield
Authority	Wigan
Ward	Atherton
Allocation Proposal	700 New homes and around 45,500 sqm of B1, B2 and/or B8 employment floorspace.
Allocation Timescale	0-5 years ✓ 6-15 years ✓ 16 + years ☐

Glossary

"2025 GMSF Constrained" - is the 2025 forecast case in which the model adjusts the input demand based on how the cost of travel changes from the base year to the future. For example, for a shopping trip undertaken by car which becomes more congested in future, changes might be travel via a different route, mode, location or time of day.

"2040 GMSF Constrained" - as above, but for a 2040 forecast year

"2025 GMSF High-Side"- is the 2025 forecast case in which the model does not adjust the input demand based on how the cost of travel changes. In this scenario congestion does not lead to a reassignment of traffic, and therefore road traffic flow will generally be higher.

"2040 GMSF High-Side" - as above, but for a 2040 forecast year

"2025 Reference Case" - is the Do Minimum scenario which includes delivery of all transport schemes already committed and assumed to be completed by 2025

"2040 Reference Case"- is the Do Minimum scenario which includes delivery of all transport schemes already committed and assumed to be completed by 2040

AADT - Annual average daily traffic, is a measure used in transportation planning to quantify how busy the road is

Bee Network - is a proposal for Greater Manchester to become the very first city-region in the UK to have a fully joined-up cycling and walking network: the most comprehensive in Britain covering 1,800 miles.

Bus Rapid Transit - is a bus-based public transport system designed to improve capacity and reliability relative to a conventional bus system. Typically, a BRT system includes roadways that are dedicated to buses, and gives priority to buses at junctions where buses may interact with other traffic

Existing Land Supply - these are sites across the county that have been identified by each local planning authority across Greater Manchester and are available for development

Greater Manchester Variable Demand Model (GMVDM) - the multi-modal transport model for Greater Manchester. This transport model provides estimates of future year transport demand as well as the estimates of travel behaviour changes and new patterns that the Plan is likely to produce. These include

changes in choices of routes, travel mode, time of travel and changes in journey destinations for some activities such as work and shopping.

“LRN” (Local Road Network) All other roads comprise the Local Road Network. The LRN is managed by the local highways authorities

National Trip End Model (NTEM) - is a Department for Transport forecast that ensures that measures of population, jobs and trips made by various mode are consistent across the whole of Great Britain.

Rapid transit services - refers to high frequency, high capacity metro style transport services including Metrolink and Bus Rapid Transit.

“SRN” (Strategic Road Network) The Strategic Road Network comprises motorways and trunk roads, the most significant ‘A’ roads. The SRN is managed by Highways England.

“TfGM” - Transport for Greater Manchester, the Passenger Transport Executive for Greater Manchester

Urban Traffic Control (UTC) - is a specialist form of traffic management that, by coordinating traffic signals in a centralised location, minimises the impact of stop times on the road user.

1. Allocation Location & Overview

1.1.1 The ten local planning authorities in Greater Manchester have agreed to prepare a joint Development Plan document to guide the development of land for housing and employment over the next 20 years. This is known as the Greater Manchester Spatial Framework (GMSF).

1.1.2 This Locality Assessment (LA) is one of a series being prepared for allocations within the GMSF in order to confirm the potential impacts.

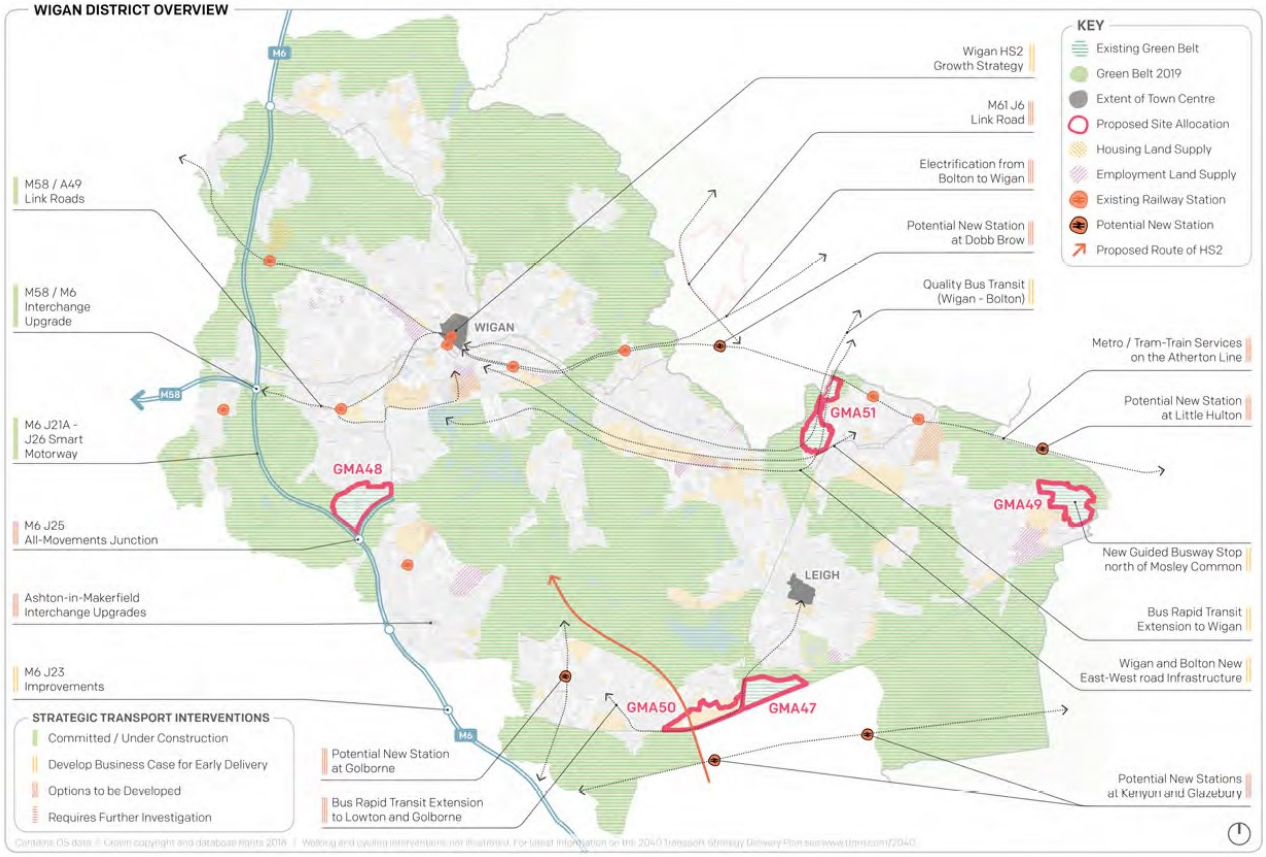
1.1.3 The authorities issued a revised draft consultation document in January 2019. The 2019 document notes that the overall spatial strategy of the GMSF seeks to take advantage of the opportunities for delivering high levels of economic growth. Policy GM-Strat 8 identifies that the Wigan-Bolton growth corridor will deliver a regionally-significant area of economic growth and residential development and proposes to allocate West of Gibfield for residential and employment uses.

1.1.4 The revised draft GMSF (January 2019) identifies the potential of the Wigan – Bolton Growth Corridor to support long-term economic prosperity. West of Gibfield is proposed for allocation and is identified on Figure 4.7 of the draft GMSF, as part of the Wigan-Bolton Growth Corridor, which is reproduced below.

Figure 1. GMSF Wigan-Bolton Growth Corridor (Extract from Draft GMSF (January 2019) Figure 4.7)

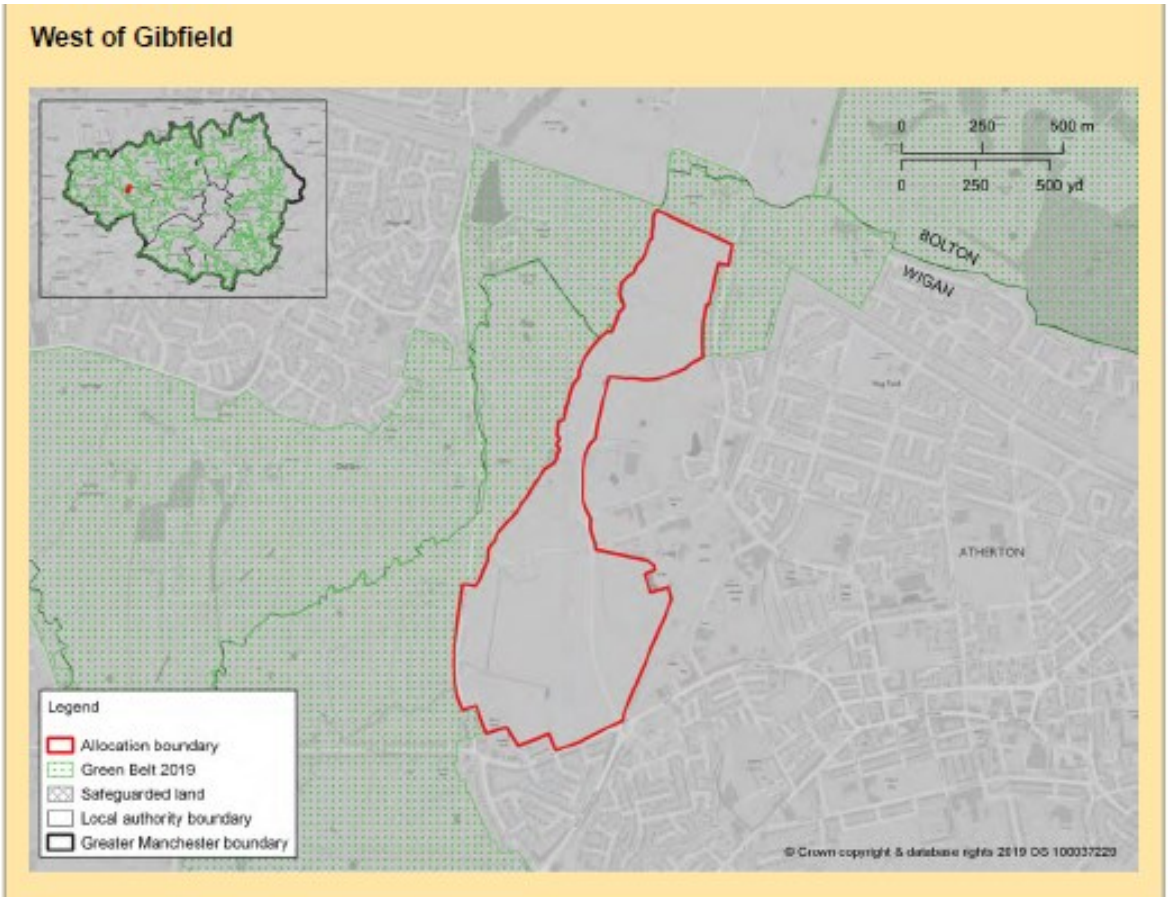
1.1.5 West of Gibfield, is one of the four allocations in Wigan, the others being, M6, Junction 25 , North of Mosley Common nd Pocket Nook. The strategic allocations in Wigan are shown in Figure 11.12 of the draft GMSF, reproduced below. Note that Land South of Pennington has now been removed from GMSF.

Figure 2. Strategic Allocations in Wigan (Extract from Draft GMSF (January 2019) Figure 11.12)



1.1.6 The GMSF allocation plan is shown below, confirming its location on the western side of Atherton. Note: all boundaries shown were correct at the time of writing – for definitive boundary information refer to the GMSF allocation maps.

Figure 3. GMSF Draft Allocation Plan (Extract from Draft GMSF (January 2019) – Allocation Plan (No figure reference, page 363)



1.1.7 The West of Gibfield allocation is located west of the Gibfield area in Atherton and is bounded by the Wigan-Manchester railway line to the north, Schofield Lane and field boundaries to the west, existing built development to the east and Wigan Road to the south. It is proposed for allocation for 700 dwellings and around 45,500 sqm of B1, B2 and/or B8 employment floorspace.

1.1.8 An Illustrative Development Framework Plan for the allocation, has been developed and is shown below. The illustrative masterplan shows built development within the draft allocation boundary extending to Schofield Lane with pedestrian connections to this.

Figure 4. Illustrative Development Framework Plan

Produced by Randall Thorp for Peel © Google Maps 2020

1.1.9 The development quanta assessed in this Locality Assessment is that adopted in TfGM's Strategic Transport Model. This is a greater quantity of residential development that can likely be delivered on the allocation and the assessments therefore represent a worst case. For the purposes of the testing the impact of the allocation through the strategic model, a total of 700 dwellings and 45,500 sqm of employment floorspace have been assumed to be built out by 2040. The GM transport modelling suite has a 2040 forecast year, as such it uses 2040 trajectory data as proxy for

2037 full build-out, this is not considered to materially impact on the analysis or conclusions of this report.

1.1.10 All phasing plans information contained in this Locality Assessment is indicative only and has only been used to understand the likely intervention delivery timetable. Final trajectory information and the final allocation proposal is contained in the GMSF Allocation Topic Paper.

2. Justification for Allocation Selection

2.1.1 West of Gibfield is located within the Wigan-Bolton Growth Corridor where an employment use would take advantage of its strategically important location making a positive contribution to delivering the GMSF Spatial Strategy. The allocation is considered to be free from significant constraint and can maximise existing economic opportunities which have significant capacity to deliver transformational change and / or boost the competitiveness and connectivity of Greater Manchester and genuinely deliver inclusive growth. The allocation would deliver significant local benefits by addressing a major local problem/issues.

3. Key Issues from Consultation

3.1.1 The GMSF Consultation Summary Report (October 2019) sets out a summary of the responses received on the consultations to the GMSF draft plan. A summary of the representations for each strategic allocation is set out in the report.

3.1.2 In total, 70 comments were received on GM Allocation 51: West of Gibfield. The summary of the transport and highways related comments, extracted from the consultation summary report, are set out below:

"Transport – Highways / Public Transport/ Cycling / Walking

- The existing road network is already at overcapacity at peak times including: the roundabouts at Chequerbent for the M61 at Junction 5 and at the intersection of the A58 and A6; Snydale Way; Schofield Lane; Wigan Road; Atherleigh Way; Lovers Lane; Leigh Road; Newbrook Road; and Platt Lane. This proposal, together with the other proposed GMSF allocations and existing development commitments in the area e.g. South of Atherton, will exacerbate this.

- More traffic will increase the risk of traffic accidents and delay the response time of emergency services.

- The additional traffic will make pot holes in the local roads worse.
- Off road parking should be provided for residents.
- The proposed new link road from Atherleigh Way to the M61 will not resolve traffic congestion because it will encourage more vehicles to travel through the area.
- The impact on traffic flows that the proposed link road will have on the M61 needs to be assessed.
- Chequerbent Roundabout would need to be upgraded to accommodate increased traffic flows using the new link road and from large new developments such as Hulton Park.
- The traffic congestion impacts will be widespread and will be felt on the A580 and M60.
- The proposals to upgrade the rail infrastructure and services on the Atherton line are welcome.
- The car parks at Atherton and Westhoughton stations are full and should be expanded. The trains at these stations are full at peak times as they only have three or four carriages.
- How would the proposal impact on Daisy Hill station?
- New bus services should be introduced to service the development."

3.1.3 The relevant matters are addressed in detail throughout this Locality Assessment Report which demonstrates that the transport impacts of the allocation can be accommodated on the surrounding networks without severe impacts.

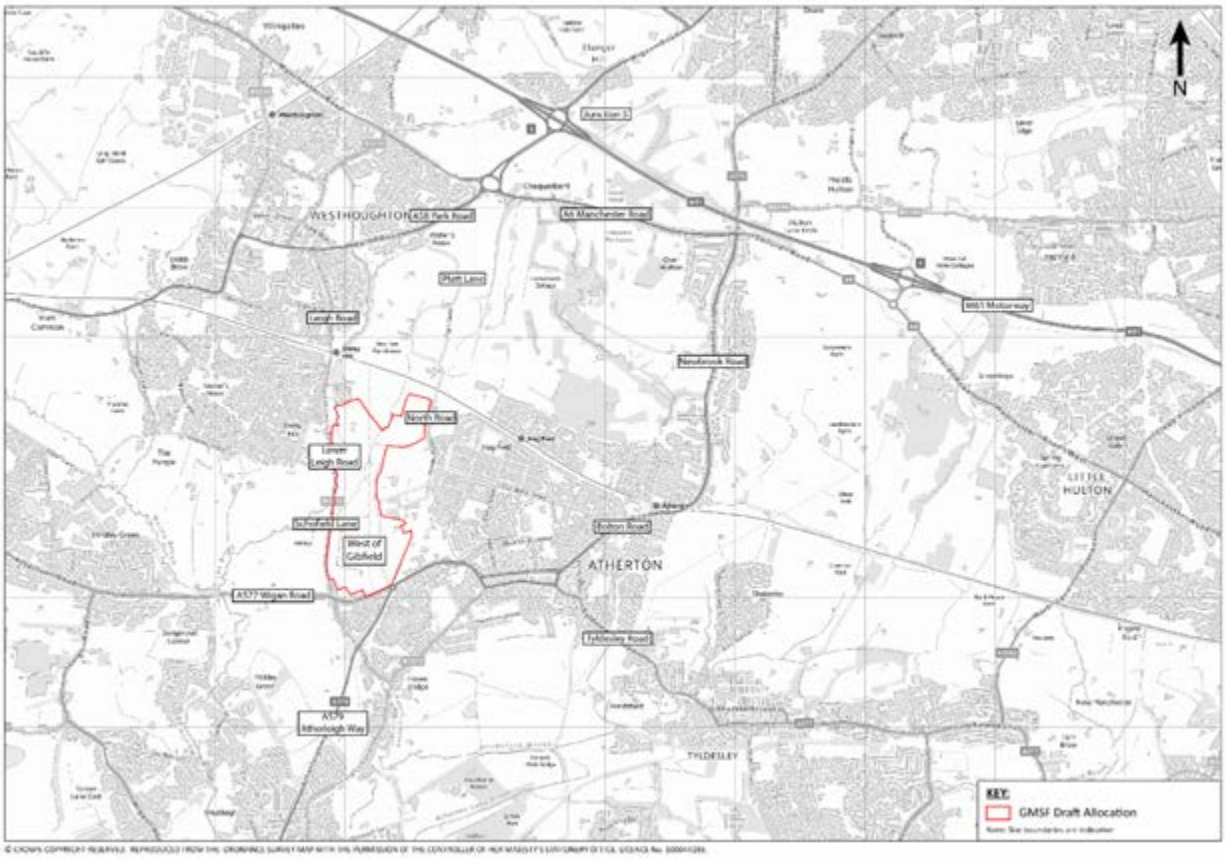
4. Existing Network Conditions and Allocation Access

4.1 Existing Network Conditions

4.1.1 The allocation is located to the immediate north of A577 Wigan Road and west of B5235 Schofield Lane. Gibfield Park Way runs through the allocation and the route northwards then leads to A58 Park Road which joins Chequerbent roundabout at its junction with A6; A58 continues as Snydale Way and connects with M61 at Junction 51. The motorway junction is c.2.2km north of the allocation's northern boundary.

4.1.2 The highway network surrounding the allocation is given on the figure below:

Figure 5. Surrounding Highway Network



4.1.3 The M61 motorway runs between M60 motorway at Wardley and M6 motorway at Preston. At Junction 5 it is a dual three-lane motorway. Junction 5 (M61J5) is a four-arm large grade-separated roundabout connecting M61 with A58 Snydale Way/Wigan Road; Snydale Way providing access towards Westhoughton and beyond and Wigan Road providing access to Bolton.

4.1.4 A58 Snydale Way runs south from M61J5 towards Chequerbent roundabout, with the latter located c.550m from the motorway junction. Snydale Way is a two-lane dual carriageway with a 40mph speed limit; it has street lighting and footways down both sides.

4.1.5 Chequerbent roundabout is a large at-grade roundabout of c.150m diameter. The roundabout has five entry arms; as well as A58 Snydale Way to the north, these are A58 Park Road to the south west, A6 Manchester Road to the east and west and an un-named minor road to the south. This minor road will be improved by the committed Lee Hall development (located immediately south

of the roundabout) with a road connection provided from Chequerbent roundabout through the site to Platt Lane. A58 Park Road connects Chequerbent roundabout with Westhoughton town centre.

4.1.6 About 600m to the south west of Chequerbent, Platt Lane joins Park Road at a priority controlled 'T' junction. Platt Lane continues in a southerly direction towards Atherton and continues to become North Road as it enters Wigan Borough and crosses the railway line, North Road then connecting with Gibfield Park Avenue at a roundabout junction. To the south of this roundabout, the route continues as Bag Lane towards Atherton town centre.

4.1.7 Gibfield Park Avenue runs westwards from North Road towards the draft allocation and provides access to several recent developments. It joins Gibfield Park Way at a roundabout junction: Gibfield Park Way runs northwards into the allocation and forms a cul-de-sac; and southwards through the allocation to join A577 Wigan Road and A579 Atherleigh Way at another roundabout.

4.1.8 A577 Wigan Road runs east-west through the roundabout, towards Hindley and then Wigan to the west and through Atherton and then to Tyldesley to the east. A579 is a generally north-south route, from M6J22, joining the A580 East Lancs Road and then running northwards around Leigh to join with the A577/Gibfield Park Way roundabout. It emerges on the eastern side of Atherton town centre to travel northwards to Bolton, crossing the M61 at Over Hulton

4.2 Current Access

4.2.1 The allocation has highway frontage with A577 Wigan Road along its southern boundary, with B5235 Schofield Lane/Lower Leigh Road to the west and North Road at its north-east corner. The location is shown below.

Figure 6. West of Gibfield – Existing Access (© Google Maps 2020)

Note: all boundaries shown were correct at the time of writing – for definitive boundary information refer to the GMSF allocation maps.

4.2.2 Gibfield Park Way runs through the allocation, northwards from the A577/A579 Atherleigh Way roundabout and joins Gibfield Park Avenue at a roundabout junction within the allocation. Gibfield Park Way continues to the north from this roundabout as a cul-de-sac.

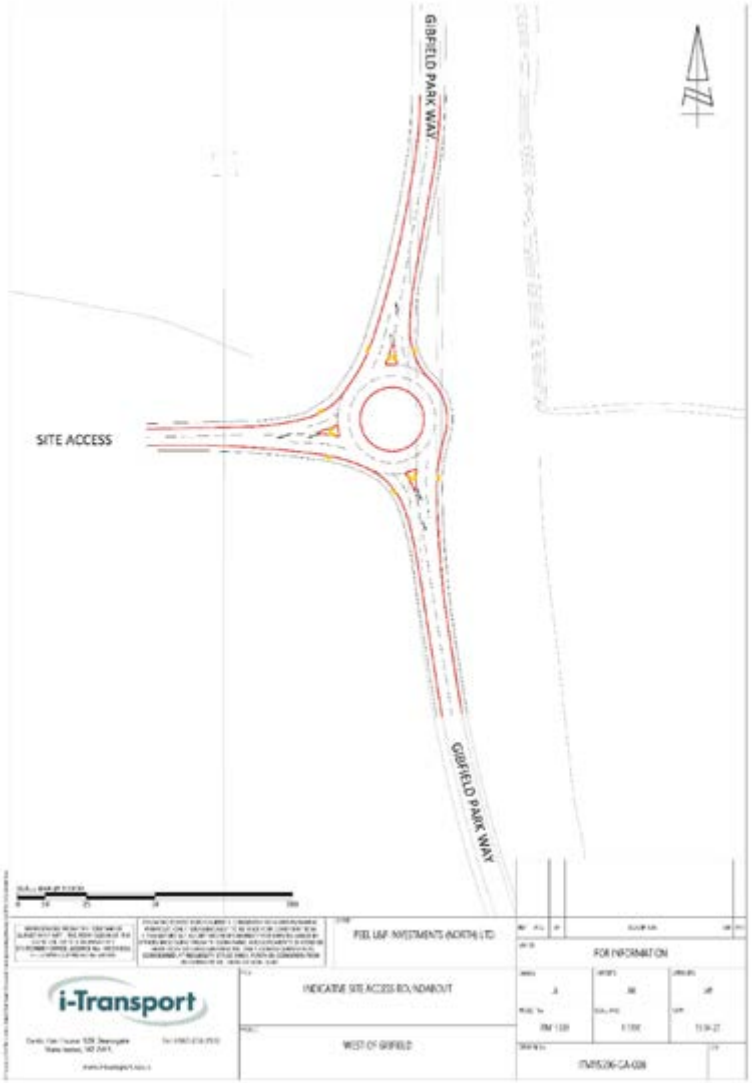
4.3 Proposed Access

4.3.1 The illustrative framework plan included at Figure 4 shows several potential accesses to the allocation, connecting with Gibfield Park Way. Peel controls the land either side of Gibfield Park

Way and therefore it will be possible to deliver accesses to fit with the final masterplan for the allocation and the specific location of access points will be identified as part of detailed masterplanning and when a planning application is prepared.

4.3.2 As several accesses are possible given Peel's land control, traffic capacity testing has considered an indicative access roundabout located on Gibfield Park Way. The purpose of this is to demonstrate that suitability sized junctions can be designed that will accommodate the traffic flows generated by the allocation. An indicative access roundabout junction design is shown below.

Figure 7. Indicative Access off Gibfield Park Way



5. Multi-modal Accessibility

5.1 Current

5.1.1 The area in which the allocation sits is served by a wide range of existing public transport services, including bus and rail routes and the majority of roads and streets in the area have footways.

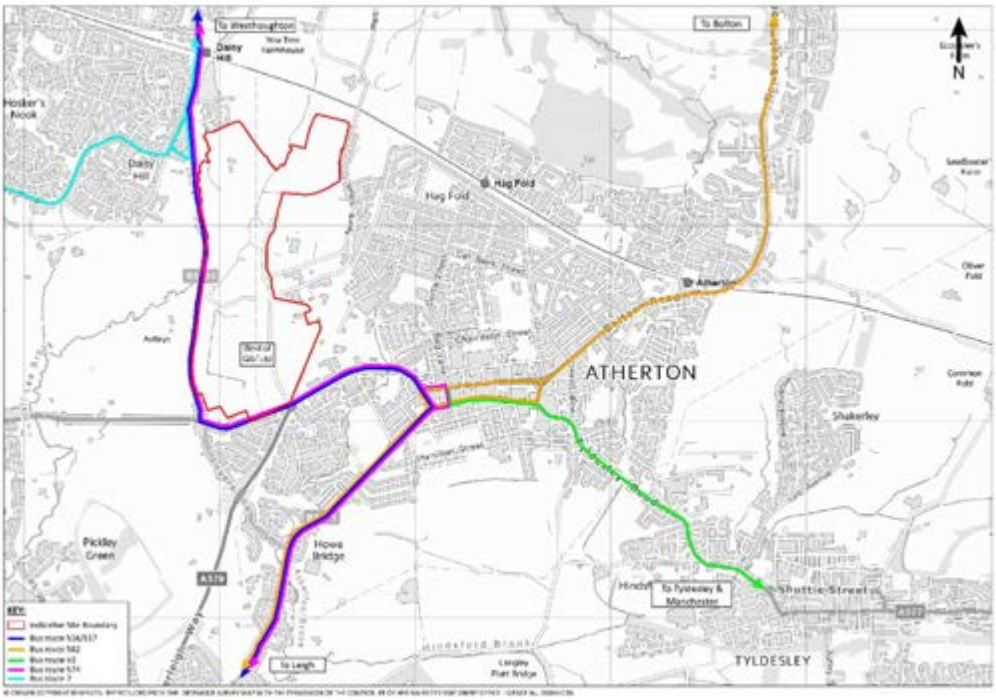
Bus Services

5.1.2 Table 1 below sets out the bus route and frequency details for all of the services around the allocation. The bus routes within the vicinity of the allocation are shown on the plan below.

Table 1. Existing Bus Services and Frequencies (mins)

Service No.	Mon Fri Day	Mon Fri Eve	Sat Day	Sat Eve	Sun Day	Sun Eve	Route
582	10 mins	30 mins	10 mins	30 mins	20 mins	30 mins	Leigh – Atherton – Over Hulton - Bolton
V2	20 mins	30 mins	20 mins	30 mins	30 mins	30 mins	Atherton – Tyldesley – Manchester
516 / 517	30 mins	60 mins	30 mins	60 mins	60 mins	60 mins	Horwich – Lostock – Middlebrook – Westhoughton – Daisy Hill – Atherton – Leigh
132	60 mins	60 mins	60 mins	60 mins	60 mins	-	Leigh – Astley – Boothstown – Trafford Centre
583 / 681 / 682	60 mins	60 mins	60 mins	60 mins	60 mins	-	Hag Fold – Atherton – Leigh
574	60 mins	-	60 mins	-	60 mins	-	Leigh – Atherton – Daisy Hill – Wingates – Middlebrook – Bolton
7	15-20 mins	60 mins	15-20 mins	60 mins	30 mins	60 mins	Wigan – Ince – Hindley – Daisy Hill – Bolton

Figure 8. Existing Bus Services



5.1.3 There are several frequent bus services in proximity to the allocation. The 516/517 run along the western and southern frontages and provide half hourly (hourly evenings and Sundays) routes to Westhoughton and onwards to Middlebrook and Horwich and to Leigh. The frequent 582 service is available in Atherton with 10 minute services to Leigh and Bolton whilst the V2 provides a half hourly service to Manchester city centre. The 132 provides an hourly route to the Trafford Centre. The 583/681/682 routes provide hourly services between Hag Fold and Leigh. Diamond service 574 and route 7 run to the west of the allocation and serve Daisy Hill station.

5.1.4 The 516/517, 132, 583 and 574 bus services travel along 577 Wigan Road, the allocations southern frontage. The closest stops are adjacent to the allocation and are c.175m to the west of the A577/A579/Gibfield Park Way roundabout. The closest stops for the V2 service are in Atherton, c.900m walking distance from the south-east corner of the allocation. The nearest stops for route 7 are at Lower Leigh Road to the west of the allocation, c.500m 'as the crow flies'. The closest stops served by the 582 Leigh – Bolton bus route are on B5215 Leigh Road near Liscard Street and are c.830m walk distance from the allocation's south-east corner.

Rail Services

5.1.5 There are three railway stations within the vicinity of the development allocation, as illustrated on the above plan. Daisy Hill, Hag Fold and Atherton stations all lie on the Manchester to Wigan line. Hag Fold station is the closest to the allocation located c.1km to the east. The walking or cycling route from the allocation is via Gibfield Park Avenue, Railway Street, Birchfield Avenue, Somerset Road, Norfolk Road and Dorset Road. The journey times to Wigan and Manchester from Hag Fold are 13-minutes and 30-minutes at peak times respectively. GMCA/TfGM proposes to develop options for metro/tram-train services on the Atherton line which will also see increases in frequency.

5.1.6 Table 2 below provides details of the available rail connections from the three stations, together with frequencies.

Table 2. Existing Rail Services Frequency*

Destination	Mon Fri AM Peak**	Mon Fri Day	Mon Fri Eve	Sat Day	Sat Eve	Sun Day	Sun Eve	Journey Time
Manchester Victoria	4	3	2-3	3	1-2	1	1	26-34 mins
Wigan Wallgate	3	3	3	3	2	1	1	11-15 mins
Southport	3	2	1	1	-	-	-	43-51 min
Kirkby (Merseyside)	1	1	-	1	-	-	-	36-37 mins
Blackburn	1	1	-	1	1	1	1	1 hour 32 mins – 2 hours 3 mins

*Frequency expressed as number of services per hour; **AM Peak 0700-0900;

Walk and Cycle Networks

5.1.7 The majority of the roads and streets in the vicinity of the allocation have footways with pedestrian crossing facilities at key locations, particularly at junctions. The pedestrian routes from the allocation to Atherton are via Gibfield Park Way or Gibfield Park Avenue and both have footways on both sides, connecting into the wider networks in Atherton.

5.1.8 A traffic-free cycle route runs along Gibfield Park Way between Gibfield Park Avenue and the Wigan Road / Atherleigh Way junction, running through the allocation. Residential streets, including Gadbury Fold and Gibfield Drive, can then be used to access National Cycle Route 55 which provides connections to Hindley, Tyldesley and on to Eccles, Salford and Manchester.

5.1.9 There are a number of Public Rights of Way (PRoW) around and across the West of Gibfield allocation. Each of these footpaths provides an unsurfaced leisure trail route connecting into the wider footway/footpath networks around Atherton and Westhoughton.

5.2 Proposed

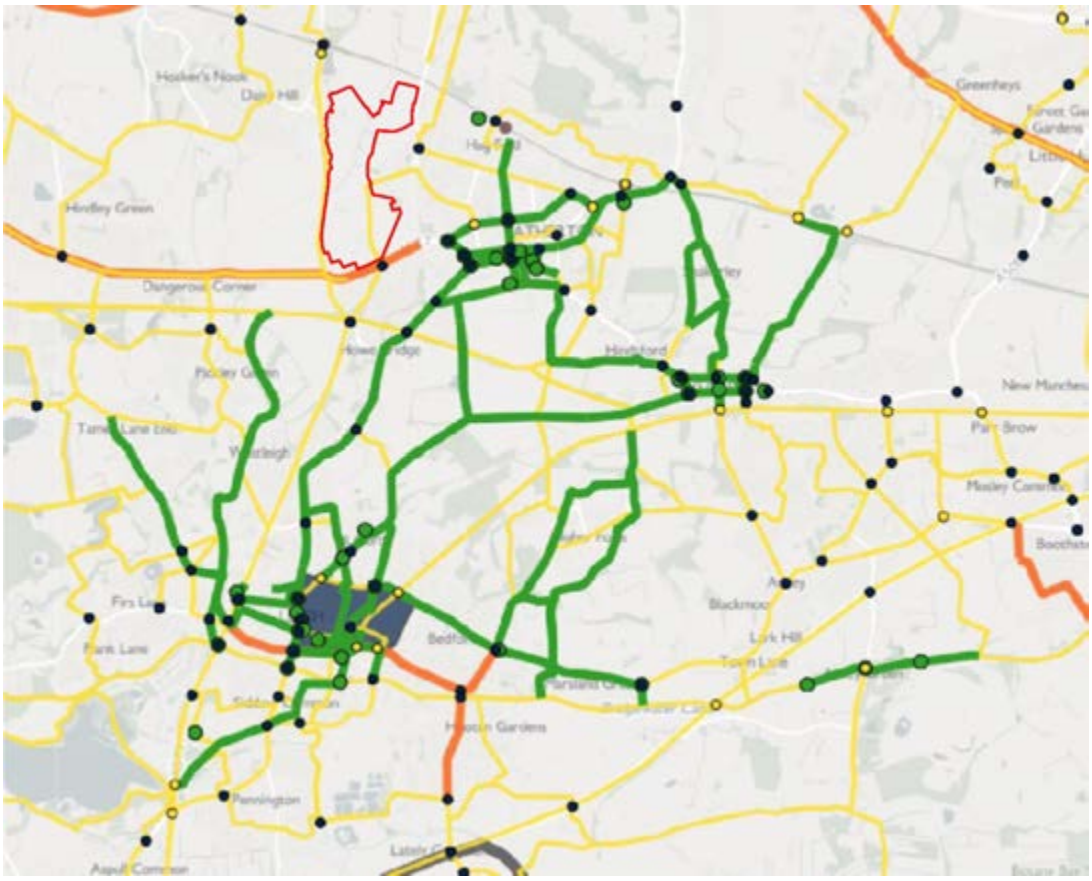
Bee Network

5.2.1 As part of the Greater Manchester Bee Network, schemes are being introduced in Leigh, Atherton and Tyldesley. The schemes will provide improved routes and crossings throughout the towns to create a new and improved cycling and walking network, improving access to destinations across the area, cutting congestion and improving air quality and increasing walking and cycling. Key features and elements of the scheme include:

- Improved on and off-road cycling and walking routes.
- New and improved links to key destinations including schools, health services, transport hubs and leisure areas.
- Provision of dedicated cycling and walking lanes, and safe crossing points, along main roads and near schools.
- Sustainable access to jobs and town centres to support businesses and services.

5.2.2 A schematic plan of the extent of the Bee network, extracted from TfGM's website is given below.

Figure 9. Leigh, Atherton and Tyldesley Bee Network



Extract from TfGM Bee Network Map © Crown Copyright & database rights 2020 OS 100037229

5.2.3 Gibfield Park Avenue and Bag Lane connect the draft allocation with the scheme at Atherton and these are shown as Beeways on TfGM's on-line mapping (yellow on the above plan).

Connectivity of the Allocation

5.2.4 The West of Gibfield allocation is well located to existing walk, cycle and public transport networks, both rail and bus, enhancing the sustainability of the allocation.

5.2.5 The design of the allocation will include high quality footways and cycleways and these will focus movement towards the most appropriate locations to leave (or access) the allocation, connecting with existing provision to facilitate longer distance journeys. There are walking routes to bus stops, all three railway stations within the vicinity of the allocation and to a range of destinations within nearby Atherton. A pedestrian crossing of Schofield Lane will also be investigated such that

pedestrians can use the existing footway on the west side of Schofield Lane/Lower Leigh Road. The need for footway improvements to connect the allocation to Daisy Hill station will be considered in detail at planning application stage.

5.2.6 A dedicated traffic-free cycle route runs along Gibfield Park Way, effectively through the middle of the allocation. Residential roads can then be used to access the SUSTRANS national cycle route 55 providing connections to Hindley, Tyldesley, Eccles, Salford and Manchester. There are crossing facilities at the A577/A579/Gibfield Park Way roundabout by way of dropped kerbs, tactile paving and splitter islands.

5.2.7 Three railway stations can be reached on foot or by bike (the distance from the edge of the allocation to the stations is: Daisy Hill – 0.8km Hag Fold – 1.3km; Atherton – 2.2km) and all can be accessed using existing footways. There are cycle storage facilities at Atherton and Daisy Hill stations but not at Hag Fold. The proposed Bee Network, provides connections to Hag Fold and Atherton stations. The former can also be accessed by the quiet residential street network between Bag Lane and Norfolk Road / Dorset Road.

5.2.8 It is understood that there are firm plans (GM 2040 Transport Strategy) to increase the frequency of services on the Wigan – Manchester railway line (serving Daisy Hill and Atherton) to four trains per hour in the peak periods. These will provide significant enhancements to existing rail services, providing frequent services to the regional centre from the allocation. In addition, there are prospects for 'train – tram' services on the line with potential further frequency increases. Policy GM Strat 8 notes there will be new east-west public transport infrastructure between Wigan and Bolton.

5.2.9 Both workers and residents on the allocation will be able to access existing bus services which are described above. These provide frequent services to a range of destinations both within the local area and beyond to Wigan, Leigh and Bolton. The V2 service from Atherton provides frequent and fast services to Manchester city centre. Much of the allocation is within an easy walking distance of existing bus stops. The need for any diversions or improvements to existing bus services can be determined at the time the proposals are brought forward for development taking account of the provision that will be available at that time (which may be several years away), including any infrastructure delivered by Policy GM Strat 8.

5.2.10 Suitable and sustainable access to/from the allocation by public transport can therefore be provided.

5.2.11 A range of 'hard' and 'soft' measures could also be implemented to encourage and promote bus use. These could include: high quality stops, shelters, and timetable information; taster tickets or bus passes; personalised travel planning; and general promotion of bus (and, of course, walk and cycle) use via a Travel Plan.

Accessibility of the Allocation

5.2.12 The accessibility of the West of Gibfield allocation to key facilities and services by a range of travel modes is set out below. Residents on the allocation will want to access facilities and services such as schools, GP surgeries, shops and leisure areas and these are considered. Employees will travel to the allocation from residential areas and will also access local facilities e.g. at lunchtime.

5.2.13 The Institution of Highways and Transport guidance on walking 'Providing for Journeys on Foot (2000)' outlines a preferred maximum walking distance for commuting and school trips of 2km. 2km is also referred to as an 'easy' walking distance within TfGM's Transport Vision 2040 document. The Department for Transport's guidance on cycling 'LTN2/08 Cycle Infrastructure Design (2008)' states that many utility cycle journeys are under three miles (5km) and for commuter journeys it is not uncommon for journeys to be over five miles (8km). 5km is also referred to as an 'easy cycling distance' within the Transport Vision 2040 document.

5.2.14 The distances between the approximate centre of the allocation (taken as the Gifield Park Way and / GIbfield Park Avenue junction) and key destinations in the local area are set out in the table below.

Table 3. Distances to Key Facilities

Facility Type	Name	Distance
Primary Schools	St George's C of E	1.0km
	St Richard's RC	1.4km
	Meadow Bank	1.6km
	St James' C of E	1.5km
	Washacre	2.3km
Secondary Schools	The Westleigh School	3.0km
	Westhoughton High School	3.0km
	Fred Longworth High School	3.3km
	Oakfield High School and College	4.5km
	Hindley High School	5.1km
Health	Ormerod House, Nelson Street Medical Centre	0.9km
	Seven Brooks Medical Centre	1.9km
	Unsworth GP, Westhoughton	2.8km
	Cohens Chemist	0.8km
	Lloyds Pharmacy	2.0km
Retail and Leisure	Atherton Post Office	1.5km
	Tesco, Atherton	2.0km
	Asda, Atherton	2.0km
	Hindley Road Post Office	1.8km
	Sainsburys Westhoughton	3.1km
	Play areas on the allocation	On-allocation

Accessibility to Education

5.2.15 There are several primary schools within Atherton and Westhoughton within 2km walking distance of the allocation. High schools are further afield, typically c.3km from the allocation. Overall, the accessibility to both primary and secondary education is concluded to be very good.

Accessibility to Health Facilities

5.2.16 There are GP surgeries, dental practices and pharmacies within Atherton and Westhoughton, close to and within walking distance of the allocation, including Ormerod House, Nelson Street surgery less than 1km distant.

Accessibility to Retail and Leisure

5.2.17 There are various retail and leisure facilities close by including in Atherton and Westhoughton town centres which are within walking or cycling distance and existing bus services will provide connections to these destinations.

5.2.18 Higher-order facilities are available further afield in several locations including Wigan, Bolton and Manchester with frequent bus and/or rail connections readily available to both. Again, it is concluded that the accessibility to retail and leisure facilities is very good.

5.2.19 Thus a range of facilities and services will be available locally within walking and/or cycling distance. These include: primary and secondary schools, health facilities including doctors, dentists and pharmacies in Atherton and Westhoughton; and Atherton town centre where there is a range of retail uses. There are committed proposals to provide the Bee Network in the area.

5.2.20 Existing bus routes and services provide connections to several destinations including Westhoughton and Atherton town centres, and rail services available from Daisy Hill, Hag Fold and Atherton railway stations provide suitable access to a range of additional destinations including further afield in Manchester and Wigan. Improvements are planned to both rail and bus infrastructure.

5.2.21 It is therefore concluded that the allocation is sustainable and accessible by a range of travel modes and will therefore be in accordance with the NPPF.

6. Parking

6.1.1 The allocation will be developed for residential and B1, B2 and/or B8 uses.

6.1.2 Wigan Council's UDP (April 2006) includes Policy A1S 'Parking in New Development' which notes:-

"A1S Parking in New Development

In new development, convenient, safe and secure provision will be required for:-

(a) Cycle and motorcycle parking and car parking for disabled people in accordance with the minimum standards adopted by the Council;

(b) Car parking in line with the maximum standards adopted by the Council.

The scope for providing cycle and motorcycle parking or car parking for disabled people below the minimum standards, or car parking below the maximum standard, will be considered against the following factors:-

(i) The accessibility of the site by public transport;

(ii) The availability of convenient and safe off-street car parking;

(iii) The availability of on-street car parking without detriment to residential amenity and highway safety;

(iv) The feasibility of providing on-site parking relative to other planning issues such as the reuse of a constrained site or building and urban design.

Where necessary, a legal agreement will be sought to secure the developer's contribution to the provision and/or management of off-site parking."

6.1.3 The parking standards, set out at Appendix 9 of the Wigan UDP, are summarised in the table below, noting that the Council is reducing its parking standards and as a result, different standards may apply at the time a planning applications is submitted.

Table 4. Wigan Council Parking Standards

Use Class	Maximum Standard For Car Parking*	Minimum Standard For Car Parking For Disabled People	Minimum Standard For Cycle Parking	Minimum Standard For Motorcycle Parking
B1 Business Parks	1 per 40 sqm	51 to 200 bays – 6% of capacity. Over 200 bays – 4 bays + 4% of total capacity.	1 per 400 sqm – minimum of 2 spaces	1 per 1,400 sqm - minimum 2 spaces
B2 – General Industry	1 per 60sqm	51 to 200 bays – 6% of capacity. Over 200 bays – 4 bays + 4% of total capacity.	1 per 700sqm – minimum of 2 spaces	1 per 2,800sqm – minimum of 2 spaces.
B8 – Storage or distribution	1 per 100sqm	51 to 200 bays – 6% of capacity. Over 200 bays – 4 bays + 4% of total capacity.	1 per 850sqm – minimum of 2 spaces	1 per 4,000 sqm – minimum of 2 spaces
C3 – Dwellings				
Up to 3 bedrooms	1 per dwelling	N/A	No Standard	No Standard
4+ bedrooms	2 per dwelling	N/A	No Standard	No Standard

*Excludes disabled parking

6.1.4 Paragraph 106 of the NPPF notes that maximum parking standards for residential and non-residential development should only be set where there is a clear and compelling justification that they are necessary for managing the local road network. Thus the parking provision at the allocation will be determined, in liaison with the Council, at planning application stage for subsequent reserved matters approvals.

7. Allocation Trip Generation and Distribution

7.1 Introduction

7.1.1 Future trip generation to/from the allocation (i.e. how many people and vehicles will enter or leave the allocation) was estimated by applying a set of GM-wide trip rates to the agreed development quantum for each allocation. The distribution of trips (i.e. where they are going to or coming from) was derived by selecting nearby zones with similar land use characteristics as a proxy and using the existing distribution in the model.

7.1.2 The peak hour trip generations for the allocation have therefore been derived from Select Link Analysis provided by TfGM. These vary depending on the model scenario and are described in 7.2 below.

7.1.3 The Select Link Analysis provides a summary of the distribution and assignment of trips in terms of development generated traffic flows on the road network surrounding the allocation. These are described in Section 7.3.

7.1.4 The development quantum adopted in the GMVDM is as follows:

Table 5. Development Quantum: West of Gibfield

Use	Use Sub Category	Development Quantum 2025	Development Quantum 2040
Residential	Houses	180	630
Residential	Apartments	20	70
Industrial	B2/B8 etc.	0	45,000sqm

Note: All phasing plans information contained in this Locality Assessment is indicative only and has only been used to understand the likely intervention delivery timetable. Final trajectory information and the final allocation proposal is contained in the GMSF Allocation Topic Paper.

7.2 Trip Generation

7.2.1 The levels of trips generated by the allocation which are output from GMVDM for the forecast years are set out in Table 6 below for the following scenarios:-

- With mitigation – constrained by the supply/demand model.
- With mitigation – high side: unconstrained by the model.

Table 6. West of Gibfield – Trip Generations

Year	AM Peak Hour Departures	AM Peak Hour Arrivals	PM Peak Hour Departures	PM Peak Hour Arrivals
2025 GMSF Constrained	66	20	34	71
2025 GMSF High-Side	66	26	40	71
2040 GMSF Constrained	282	195	239	265
2040 GMSF High-Side	337	266	253	265

Units are in PCU (passenger car units/hr)

7.2.2 The above trip generation assume that the allocation will deliver around 700 houses. Masterplanning identifies that the allocation is likely to deliver fewer houses than envisaged by the draft allocation.

7.2.3 The trip generation rates will be reviewed if a detailed Transport Assessment (TA) is prepared to accompany a planning application.

7.3 Trip Distribution/Assignment

7.3.1 The routes used by traffic to approach/leave the allocation have been assessed using the select link data derived from the transport model and are summarised in the table below for the roads surrounding the allocation. It is expected that the residential and employment parts of the allocation would have different trip distribution patterns but it is understood this is not reflected in TfGM's modelling as the allocation as a whole is represented by a single zone.

Table 7. Allocation Traffic Distribution, 2040 GMSF High Side (Origin/Destination Combined)

Route	AM Peak Hour	PM Peak Hour
A58 Wigan Road (W of M61)	6.0%	11.2%
M61 West of M61J5	9.5%	11.4%
M61 East of M61J5	37.0%	34.9%
A6 West of A58	3.1%	1.4%
A6 east of A58	3.7%	5.6%
A58 Park Road	7.4%	2.5%
A579 Newbrook Road	9.7%	6.7%
A577 Tyldesley Road	4.0%	3.3%
B5235 Schofield Lane	1.9%	0.6%
A577 Wigan Road West	4.7%	7.9%
A579 Atherleigh Way	11.4%	12.0%
B5215 Leigh Road	1.6%	2.5%
Total	100.0%	100.0%

7.3.2 The cross-boundary GMSF high-side trip distribution / assignment at 2040 is as follows:-

Table 8. Cross-Boundary Trip Distribution at 2040

Route	Share AM Peak Hour	Share PM Peak Hour	2 Way Flow AM Peak Hour	2 Way Flow PM Peak Hour
North Road / Platt Lane (Bolton)	50.6%	53.1%	305	328

Units are in PCU (passenger car units/hr)

8. Current Highway Capacity Review

8.1.1 The A58 corridor between Westhoughton and M61J5 carries between c.19,000 and c.32,000 vehicles per day (AADT), increasing towards the motorway, with two-way peak hour flows of c.2,500 vehicles per hour (vph) to the south west of Chequerbent and rising further to c.2,800-2,900 vph on Snydale Way. Peak hour flows are generally tidal towards the motorway in the AM peak hour and from the motorway in the evening peak hour.

8.1.2 Platt Lane carries c.6,400 vehicles per day (AADT) with around 700 vph in the peak hours. The majority of the traffic using Platt Lane travels to/from A58 Park Road from/to Chequerbent roundabout, reflecting its use as a route from Atherton (and beyond) to M61 motorway and Bolton.

8.1.3 A577 Wigan Road and A579 Atherleigh Way to the west and south of the Gibfield Park Way roundabout carry similar levels of traffic with the traffic flow on A577 increasing to the east of the roundabout as the roads join and the A577 approaches Atherton.

8.1.4 Flows on Gibfield Park Way and Gibfield Park Avenue are generally lower than the surrounding roads at around 7,000 – 8,000 vehicles per day and 550-650 vehicles per hour in the morning and evening peak hours.

8.1.5 Chequerbent roundabout currently operates within capacity in the morning peak hour but significantly over-capacity in the evening peak, with long queues in particular along A58 Snydale way as far back as M61J5.

8.1.6 The Park Road/Platt Lane junction is a priority-controlled T-junction with Platt Lane traffic giving way to traffic on the main road. There are queues and delays on Platt Lane in both the morning and evening peak hours as a result of the high traffic flows along the A58 corridor.

8.1.7 The A577 Wigan Road/B5235 Schofield Lane junction is a staggered traffic signal controlled junction which has modest queues in the morning and evening peak hours with the highest typically being eastbound towards Atherton and westbound from Atherton in the morning and evening peak hours respectively.

8.1.8 The A577/A579/Gibfield Park Way roundabout generally operates within capacity with some limited queuing in the peak hours, notably eastbound towards Atherton on A577 Wigan Road.

8.1.9 There is currently limited queuing at the A579 Atherleigh Way/B5235 Lover's Lane junction.

9. Treatment of Cumulative Impacts

9.1.1 The West of Gibfield allocation forms part of the Wigan-Bolton Growth Corridor and other allocations within and near the corridor will potentially impact on the same sections of the road network. With reference to Figures 11.3 (Bolton) and 11.12 (Wigan) of draft GMSF, the following allocations will likely add traffic flows to some of the sections of road network where the allocation adds traffic.

- Bolton
  - GM Allocation 4: Bewshill Farm – around 21,000 sqm of B2 and B8 floorspace.
  - GM Allocation 5: Chequerbent North – around 25,000 sqm of B2 and B8 uses.
  - GM Allocation 6: West of Wingates – around 440,000 sqm of B2 and B8 floorspace.
- Wigan
  - GM Allocation 44: Pocket Nook – 600 dwellings and around 15,000 sqm of employment floorspace.

9.1.2 The GM Allocation 47: Land South of Pennington (around 160,000 sqm of employment development) shown on Figure 11.2 of the draft GMSF is no longer proposed for allocation and has been removed from GMSF.

9.1.3 The overall approach in this Locality Assessment is to identify mitigation that will accommodate the full GMSF traffic flows, where the West of Gibfield allocation has a potential impact. Various draft allocations and any general growth in travel demands will contribute to impacts and some locations already experience capacity issues (e.g. at Chequerbent roundabout as described above). As such, any mitigation identified at this stage is not solely attributable to the West of Gibfield allocation.

9.1.4 The aim is to demonstrate that mitigation can be identified but also noting that the GMVDM is a strategic modelling tool and therefore mitigation should be properly determined through a comprehensive TA which will be conducted at planning application stage, should the draft allocation be confirmed.

10. Allocation Access Assessment

10.1.1 This allocation access arrangement has been developed to illustrate that there is a practical option for allocation access in this location and to develop indicative cost estimations. It is assumed that a detailed design consistent with Greater Manchester's best practice Streets for All highway design principles will be required at the more detailed planning application stage.

10.1.2 The traffic capacity of the indicative allocation access junction (described in Section 4) has been assessed using the ARCADY software in JUNCTIONS9. The derivation of traffic flows from the Great Manchester Variable Demand Model (GMVDM) is considered later in this Locality Assessment report but at this stage it should be noted that the access capacity assessment has used modelled traffic flows for Gibfield Park Way and development traffic flows taken from the select link data provided from the model. For the purposes of assessment; it has been assumed that all traffic generated by the allocation could use this access as this represents a worst case. In practice, the usage of different accesses will be determined at planning application stage.

10.1.3 The results of the capacity assessment for the 2040 forecast year are summarised in the table below for the 'with mitigation high side' traffic flows.

Table 9. Gibfield Park Way Allocation Access Capacity Assessment Results

Movement	AM Peak Hour RFC	AM Peak Hour Queue (PCU)	PM Peak Hour RFC	PM Peak Hour Queue (PCU)
Gibfield Park Way – North	0.61	2	0.90	8
Gibfield Park Way – South	0.50	1	0.54	1
Allocation Access	0.29	0	0.23	0

10.1.4 The analysis demonstrates that the indicative access junction will operate within capacity. As masterplanning progresses then this will identify the specific access requirements. The final access designs will be subject to road safety audit if the draft allocation is confirmed and a planning application is progressed. It is concluded, at this stage, that satisfactory access to the allocation can be provided in accordance with the NPPF.

11. Impact of Allocation Before Mitigation on the Local Road Network

11.1 Introduction

11.1.1 In order to understand a worst case impact of the GMSF, the 'high side' runs from the GMVDM were used to derive with GMSF development flows for 2040. These flows were then entered into junction based models for the junctions identified in section 8. Flows from a 2040 reference case scenario (including approved Local Plan development from the respective districts) were also extracted to provide a comparison between the operation of those junctions in the 2040 reference case and the 2040 with GMSF development scenarios.

11.1.2 The 'with GMSF' scenario has been assessed against a Reference Case which assumes background growth and includes the housing and employment commitments from the districts. Through discussions with TfGM and the Combined Authority, it has been agreed that where mitigation is required, it should mitigate the impacts back to a reference case scenario. It should be noted that mitigating back to this level of impact may not mean that the junction operates within capacity.

11.1.3 These assessments were then used to identify the junctions where there was considered to be a substantial impact, relative to the operation of the junction in the 2040 reference case, and hence

where mitigation was considered to be required in order to bring GMSF allocations forward. Through discussions with TfGM and the Combined Authority, it was been agreed that where mitigation is required, it should mitigate the impacts back to the reference case scenario. It should be noted that mitigating back to this level of impact may not mean that the junction operates within capacity by 2040.

11.1.4 This section looks at the impact on the network at the junctions highlighted in section 9. Signalised junctions were assessed in detail using industry-standard modelling software LINSIG version 3. Where possible, traffic signal information was requested from TfGM in order to ensure that the local junction models reflected (as far as possible), the operation of the junction s on the ground. Junctions 9 software was used to assess priority and roundabout junctions. Table 4 below provides a comparison between the operation of the in scope junctions in the 2040 reference case and the 2040 'high side' scenarios, as well as the allocation development flows through each respective junction. The table shows a comparison between the ratio of flow to capacity on the worst case arm at each junction as well as the total development flows through the junction.

11.1.5 TfGM/SYSTRA has provided the following:

- Modelled turning movements at key junctions for the 2025 and 2040 'Reference Case' and 'With full GMSF development' scenarios.
- Select Link Analysis from the GMSF scenarios which provides the modelled West of Gibfield traffic flows at each junction.
- Volume/Capacity (V/C) data at the key junctions.
- Traffic Signal Controller data where appropriate.

11.1.6 The following key junctions have been considered:-

1. A6 Manchester Road /A58 Snydale Way (Chequerbent Roundabout)
2. A58 Park Road / Platt Lane
3. A58 Park Road / B5235 Leigh Road
4. A577 Atherton Road / A578 Leigh Road
5. A577 / Westleigh Lane
6. A577 Wigan Road / B5235 Lovers' Lane
7. A579 Atherleigh Way / B5235 Lovers' Lane

8. A577 Wigan Road / A579 Atherleigh Way / Gibfield Park Way
9. A577 / B5215
10. A577 / A579 / Church Street
11. A579 / Bolton Road / Upton Road

11.1.7 Impacts on the Strategic Road Network are considered in Section 14.

11.2 Proportional Impacts

11.2.1 The first stage in the assessment has been to consider the predicted West of Gibfield development flows at junctions and also the total GMSF flows as predicted by the GMVDM.

11.2.2 Table 10 below summarises these flows:

Table 10. Predicted Proportional Impacts of Allocation and GMSF Traffic flows

Ref	Junction Name	2040 Reference Case AM	2040 Reference Case PM	2040 With Total GMSF AM	2040 With Total GMSF PM	% Difference (GMSF /Ref) AM	% Difference (GMSF /Ref) PM	West Of Gibfield Only AM	West Of Gibfield Only PM	% Difference (West Of Gibfield /Ref) AM	% Difference (West Of Gibfield /Ref) PM
1	A6 Manchester Road / A58 Park Road	4,620	4,764	5,287	5,161	14.4%	8.3%	161	169	3.5%	3.5%
2	A58 Park Road / Platt Lane	2,347	3,169	2,479	3,176	5.6%	0.2%	168	172	7.2%	5.4%
3	A58 Park Road / B5235 Leigh Road	1,857	2,213	1,872	2,044	0.8%	7.6%	2	0	0.1%	0.0%
4	A577 Atherton Road / A578 Leigh Road	1,950	2,384	2,067	2,433	6.0%	2.1%	33	39	1.7%	1.6%
5	A577 / Westleigh Lane	1,579	1,871	1,630	1,910	3.2%	2.1%	34	41	2.2%	2.2%
6	A577 Wigan Road / B5235	2,003	2,142	2,080	2,217	3.8%	3.5%	49	48	2.4%	2.2%
7	A579 Atherleigh Way / B5235 Lover's Lane	2,503	2,685	2,599	2,932	3.8%	9.2%	72	69	2.9%	2.6%

Ref	Junction Name	2040 Reference Case AM	2040 Reference Case PM	2040 With Total GMSF AM	2040 With Total GMSF PM	% Difference (GMSF /Ref) AM	% Difference (GMSF /Ref) PM	West Of Gibfield Only AM	West Of Gibfield Only PM	% Difference (West Of Gibfield /Ref) AM	% Difference (West Of Gibfield /Ref) PM
8	A577 Wigan Road / A579 Atherleigh Way / Gibfield Park Way	2,295	2,780	2,411	3,003	5.1%	8.0%	124	120	5.4%	4.3%
9	A577/B5215	1,212	1,731	1,525	1,832	25.8%	5.8%	7	10	0.6%	0.6%
10	A577 / A579 Bolton Road / Church Street	3,280	3,207	3,469	3,686	5.8%	14.9%	28	20	0.9%	0.6%
11	A579 Bolton Road / Upton Road	2,212	2,494	2,315	2,765	4.7%	10.9%	94	108	4.2%	4.3%

11.2.3 The potential impacts of both the West of Gibfield allocation and full GMSF development as well as the absolute West of Gibfield traffic flows have been used to consider junctions to be assessed. It was concluded the following junctions do not require assessment:

- A58/B5235 (SYSTRA Junction 3): increases in traffic as a result of total GMSF and the West of Gibfield allocation are very low / negative.
- A577/A578 (Junction 4): increases in traffic as a result of West of Gibfield allocation are low; V/C analysis shows total GMSF has no material impact.
- A577/Westleigh Lane (Junction 5): increases in traffic as a result of both total GMSF and the West of Gibfield allocation are low.
- A577/B5215 (Junction 9): increases in traffic as a result of the West of Gibfield allocation are low.
- A577/A579/Church Street: increases in traffic as a result of the West of Gibfield allocation are low.

11.2.4 Thus the junctions where the impacts of the allocation and GMSF have been assessed are:-

- A58/A6 Chequerbent roundabout (Systra Junction 1)
- A58 Park Road / Platt Lane (Junction 2)
- A577/B5235 (Junction 6)
- A579/B5235 (Junction 7)
- A577/A579/Gibfield Park Way (Junction 8)
- A579/Upton Road (Junction 11).

11.2.5 The locations of the junctions to be assessed are shown in the following figure.

Figure 10. Junctions for Assessment (© Google Maps 2020)

11.2.6 The maximum traffic demand (Volume, V) to Capacity (C) ratios (V/C ratio) at each of the local junctions are given in the table below, with the V/C ratios taken from GMVDM.

Table 11. Results of Local Junction Capacity Analysis Before Mitigation (Source GMVDM)

Junction	Reference Case AM	Reference Case PM	GMSF AM	GMSF PM	Allocation Flows AM	Allocation Flows PM
1.A58/A6 Chequerbent Roundabout	109%	105%	110%	106%	161	169
2.A58 Park Road / Platt Lane	117%	114%	122%	118%	165	173
6.A577 Wigan Road / B5235 Lovers' Lane	112%	110%	117%	113%	48	47
7.A579 Atherleigh Way / B5235 Lovers' Lane	106%	104%	108%	105%	72	69
8.A577 Wigan Road / A579 Atherleigh Way / Gibfield Park Way	38%	51%	37%	63%	124	126
11.A579 Bolton Road / Upton Road	102%	84%	107%	94%	94	108

11.3 Impacts on Junctions

11.3.1 The initial GMVDM data supplied and used to assess the impact of development before mitigation only included traffic generated by the West of Gibfield allocation in the 2040 forecast year outputs. On this basis only the 2040 assessment results are presented below. Assessments with the effects of mitigation for the 2025 and 2040 forecast years are reported in subsequent sections.

Chequerbent Roundabout

11.3.2 Chequerbent roundabout has been modelled with ARCADY using traffic flows supplied from GMVDM for the following:

- 2040 reference case scenario
- 2040 reference case + allocation (with allocation traffic taken from the SLA).
- 2040 with GMSF.

11.3.3 A summary of the ARCADY traffic model results are included below

Table 12. Junction 1 Chequerbent Roundabout Capacity Assessment - AM Peak Hour

Arm	2040 Reference Case RFC	2040 Reference Case Queue (PCU)	2040 Reference Case + Development Traffic RFC	2040 Reference Case + Development Traffic Queue (PCU)	2040 Full GMSF RFC	2040 Full GMSF Queue (PCU)
A6 (E)	0.93	10	0.95	13	0.98	17
Unnamed	0.00	0	0.00	0	0.00	0
A58 Park Road	0.78	4	0.80	4	0.89	8
A6 (W)	0.96	14	0.99	18	1.03	34
A58 Snydale Way	1.13	143	1.25	263	1.35	358

Table 13. Junction 1 Chequerbent Roundabout Capacity Assessment - PM Peak Hour

Arm	2040 Reference Case RFC	2040 Reference Case Queue (PCU)	2040 Reference Case + Development Traffic RFC	2040 Reference Case + Development Traffic Queue (PCU)	2040 Full GMSF RFC	2040 Full GMSF Queue (PCU)
A6 (E)	0.95	11	0.97	12	1.00	15
Unnamed	0.00	0	0.00	0	0.00	0
A58 Park Road	0.62	2	0.63	2	0.60	2
A6 (W)	1.10	45	1.14	57	1.17	104
A58 Syndale Way	1.72	752	1.86	889	1.87	896

11.3.4 In summary, the traffic capacity assessments indicate:-

- 2040 AM Peak Hour
  - Snydale Way is over-capacity in all scenarios with A6 West just over-capacity with full GMSF.
  - The West of Gibfield and full GMSF allocations have a material impact on the A58 Snydale Way approach, requiring mitigation.
- 2040 PM Peak Hour
  - Snydale Way and A6 West are over-capacity in all scenarios.
  - The West of Gibfield and full GMSF allocations have a material impact on the A58 Snydale Way approach, requiring mitigation.
  - The full GMSF allocations have an impact on A6 West.

11.3.5 Overall, the assessments indicate that the Chequerbent roundabout will require improvement with the reference case traffic flows and the full GMSF development will require additional improvements.

A58 Park Road / Platt Lane

11.3.6 The priority junction has been modelled with PICADY

11.3.7 The modelling confirms that the junction will operate significantly over-capacity in the PM peak hour in all scenarios requiring mitigation.

Table 14. Junction 2 A58 Park Road / Platt Lane Capacity Assessment – AM Peak Hour

Arm	2040 Reference Case RFC	2040 Reference Case Queue (PCU)	2040 Reference Case + Development Traffic RFC	2040 Reference Case + Development Traffic Queue (PCU)	2040 Full GMSF RFC	2040 Full GMSF Queue (PCU)
Platt Lane – Left	0.01	0	1.05	1	0.96	2
Platt Lane – Right	0.76	3	1.05	19	0.91	7
A58 Park Road (W)	0.06	0	0.08	0	0.07	0

Table 15. Junction 2 A58 Park Road / Platt Lane Capacity Assessment – PM Peak Hour

Arm	2040 Reference Case RFC	2040 Reference Case Queue (PCU)	2040 Reference Case + Development Traffic RFC	2040 Reference Case + Development Traffic Queue (PCU)	2040 Full GMSF RFC	2040 Full GMSF Queue (PCU)
Platt Lane – Left	0.00	0	2.48	1	0.00	0
Platt Lane – Right	1.49	31	2.71	75	1.71	57
A58 Park Road (W)	0.41	3	0.53	6	0.67	9

A577 Wigan Road /B5235 Lovers' Lane

11.3.8 The junction has been modelled with LINSIG with the GMVDM traffic flows for the scenarios set out above. The results are summarised below.

Table 16. Junction 6 A577 Wigan Road / B5235 Lovers' Lane Capacity Assessment – AM Peak Hour

Arm	2040 Reference Case Deg Sat %	2040 Reference Case MMQ (PCU)	2040 Reference Case + Development Traffic Deg Sat %	2040 Reference Case + Development Traffic MMQ (PCU)	2040 Full GMSF Deg Sat %	2040 Full GMSF MMQ (PCU)
A577 Wigan Road (E)	53.1%	11	56.7%	11	57.3%	11
B5235 Lovers Lane	94.2%	27	94.8%	28	97.1%	30
A577 Wigan Road (W)	93.3%	25	96.8%	29	98.5%	31
B5235 Schofield Lane	94.4%	14	94.8%	15	98.6%	19

Table 17. Junction 6 A577 Wigan Road / B5235 Lovers' Lane Capacity Assessment – PM Peak Hour

Arm	2040 Reference Case Deg Sat %	2040 Reference Case MMQ (PCU)	2040 Reference Case + Development Traffic Deg Sat %	2040 Reference Case + Development Traffic MMQ (PCU)	2040 Full GMSF Deg Sat %	2040 Full GMSF MMQ (PCU)
A577 Wigan Road (E)	63.6%	15	64.2%	15	83.5%	17
B5235 Lovers Lane	113.3%	54	119.1%	65	95.4%	25
A577 Wigan Road (W)	113.1%	54	113.5%	57	93.2%	21

Arm	2040 Reference Case Deg Sat %	2040 Reference Case MMQ (PCU)	2040 Reference Case + Development Traffic Deg Sat %	2040 Reference Case + Development Traffic MMQ (PCU)	2040 Full GMSF Deg Sat %	2040 Full GMSF MMQ (PCU)
B5235 Schofield Lane	116.0%	58	116.2%	59	95.6%	23

11.3.9 These show the junction operates just under capacity in the AM peak hour but over-capacity in the PM peak hour in the reference case but within capacity with full GMSF as traffic re-assignment appears to take place. On this basis it is concluded that mitigation is not required at the junction.

A579 Atherleigh Way /B5235 Lovers' Lane

11.3.10 The junction has been assessed with LINSIG with the flows supplied by the GMVDM and the results are included below

Table 18. Junction 7 Atherleigh Way A579 / B5235 Lovers' Lane Capacity Assessment – AM Peak Hour

Arm	2040 Reference Case Deg Sat %	2040 Reference Case MMQ (PCU)	2040 Reference Case + Development Traffic Deg Sat %	2040 Reference Case + Development Traffic MMQ (PCU)	2040 Full GMSF Deg Sat %	2040 Full GMSF MMQ (PCU)
B5235 Lovers Lane (N)	94.2%	15	97.9%	18	100.5%	21
A579 Atherleigh Way (E)	87.5%	19	90.0%	21	90.8%	22
B5235 Lovers Lane (S)	54.0%	6	55.3%	6	55.5%	6
A579 Atherleigh Way (W)	92.2%	22	92.4%	23	94.1%	22

Table 19. Junction 7 Atherleigh Way A579 / B5235 Lovers' Lane Capacity Assessment – PM Peak Hour

Arm	2040 Reference Case Deg Sat %	2040 Reference Case MMQ (PCU)	2040 Reference Case + Development Traffic Deg Sat %	2040 Reference Case + Development Traffic MMQ (PCU)	2040 Full GMSF Deg Sat %	2040 Full GMSF MMQ (PCU)
B5235 Lovers Lane (N)	86.4%	8	92.7%	9	101.0%	18
A579 Atherleigh Way (E)	90.9%	27	91.9%	29	103.4%	59
B5235 Lovers Lane (S)	60.2%	7	62.4%	7	59.4%	7

Arm	2040 Reference Case Deg Sat %	2040 Reference Case MMQ (PCU)	2040 Reference Case + Development Traffic Deg Sat %	2040 Reference Case + Development Traffic MMQ (PCU)	2040 Full GMSF Deg Sat %	2040 Full GMSF MMQ (PCU)
A579 Atherleigh Way (W)	82.7%	21	83.4%	21	91.9%	26

11.3.11 These show that the junction operates near capacity in the AM peak hour in all scenarios and, in the PM peak hour, within capacity in the reference case and just over-capacity with full GMSF. The West of Gibfield allocation alone has no material impact at the junction. In the context of a forecast year of 2040 with full GMSF then it is concluded no significant improvements/mitigation is needed at the junction to accommodate the full GMSF traffic flows. A minor improvement, the introduction of MOVA, should accommodate the total GMSF traffic flows.

A577 Wigan Road /A579 Atherleigh Way /Gibfield Park Way

11.3.12 It should be noted that the GMVDM model excludes the Gadbury Fold arm of the junction (which it is assumed relates to the zoning system in the model). This makes the consideration of impacts/mitigation difficult.

11.3.13 The traffic capacity of the junction has been assessed with ARCADY with the GMVDM and the summary results are summarised in the tables below.

Table 20. Junction 8 Wigan Road A577 / Atherleigh Way A579 / Gibfield Park Way Capacity Assessment – AM Peak Hour

Arm	2040 Reference Case RFC	2040 Reference Case Queue (PCU)	2040 Reference Case + Development Traffic RFC	2040 Reference Case + Development Traffic Queue (PCU)	2040 Full GMSF RFC	2040 Full GMSF Queue (PCU)
A577 Wigan Road (E)	0.50	1	0.52	1	0.53	1
Gadbury Fold	0.00	0	0.00	0	0.00	0
A579 Atherleigh Way (W)	0.63	2	0.64	2	0.65	2
A577 Wigan Road (W)	0.78	3	0.78	3	0.81	4
Gibfield Park Way	0.64	2	0.71	2	0.85	5

Table 21. Junction 8 Wigan Road A577 / Atherleigh Way A579 / Gibfield Park Way Capacity Assessment – PM Peak Hour

Arm	2040 Reference Case RFC	2040 Reference Case Queue (PCU)	2040 Reference Case + Development Traffic RFC	2040 Reference Case + Development Traffic Queue (PCU)	2040 Full GMSF RFC	2040 Full GMSF Queue (PCU)
A577 Wigan Road (E)	0.76	3	0.77	3	0.71	2
Gadbury Fold	0.00	0	0.00	0	0.00	0
A579 Atherleigh Way (W)	0.68	2	0.67	2	0.71	2
A577 Wigan Road (W)	0.75	3	0.75	3	0.85	5
Gibfield Park Way	1.27	90	1.32	110	1.42	154

11.3.14 These show the junction is predicted to operate within capacity in the AM peak hour. In the PM peak hour, the Gibfield Park Way arm is predicted to operate over-capacity in all scenarios and mitigation is required.

A579 Bolton Road/Upton Road

11.3.15 The Douglas Street arm of the junction is not included in the GMVDM model (possibly because of the zoning system adopted) which results in it not being possible to accurately model the junction. The V/C results from GMVDM indicate GMSF traffic does not have a severe impact and because of the difficulties with detailed modelling, the junction is not considered further. It will be considered further at the scoping stage of any future planning application.

12. Transport Interventions Tested on the Local Road Network

12.1 Strategic Interventions

12.1.1 Policy GM Strat 8 'Wigan-Bolton Growth Corridor' notes that a new highway will connect Junction 26 of the M6 and Junction 5 of the M61 through the construction of the M58/A49 Link Roads as

well as the implementation of the Wigan and Bolton new east-west road and public transport infrastructure.

12.1.2 Bolton and Wigan Councils have long-standing aspirations to deliver a Westhoughton Bypass, running from Chequerbent roundabout to Gibfield Park Way in Wigan, crossing the railway line to the west of Platt Lane/North Road. The bypass could form part of the wider scheme between the M61J5 and M6J26, across Bolton and Wigan i.e. part of the 'East/West Housing Growth Corridor'.

12.1.3 Wigan Council along with Bolton Council and the Greater Manchester Combined Authority, submitted a bid for funding of the Housing Growth Corridor scheme via the Housing Infrastructure Fund (HIF); the bid was submitted in March 2019. The bid included the Westhoughton Bypass as a component part as well as other schemes forming local bypasses through Wigan. Details of the bid are not publicly available but it is understood the Westhoughton Bypass included grade-separation at Chequerbent roundabout, providing significant enhancements in highway capacity.

12.1.4 Unfortunately, the Councils and GMCA have been advised recently that the HIF bid was unsuccessful. It is understood the Councils and GMCA are now considering alternative funding streams such as DfT 'Large Local Majors'.

12.1.5 Large Local Majors are schemes, costing more than £50 million, that will have a significant impact and which, in the case of those in the north, can be advocated by Transport for the North (TfN) and the local transport authorities. TfN has identified four Large Local Majors projects including 'Wigan East West', in their 'Transforming journeys in the North' publication.

12.1.6 GMCA's 'Greater Manchester Transport Strategy 2040' includes, as a priority, improved strategic highway connections in Wigan District. The Draft 2020-2025 Delivery Plan notes that GMCA is committed to delivering the M58 and A49 Link Roads in the next five years and is also aiming to complete a business case for the early delivery of Wigan – Bolton new east - west road infrastructure, also in the next five years (along with a Quality Bus Transit scheme in the corridor).

12.1.7 Thus there is a prospect of the delivery of a publicly funded new highway scheme between M61 and M6.

12.1.8 If a strategic intervention comprising a new road scheme between M61 and M6 is progressed then this will provide significant additional highway capacity along the A58 corridor including at Chequerbent roundabout (and M61J5). However, in the absence of a formally funded strategic scheme, alternative interventions have been assessed to accommodate the GMSF related growth in the corridor in the vicinity of the allocation.

12.2 Alternative Interventions

12.2.1 The analysis set out at Section 11 identified potential mitigation requirements at Chequerbent roundabout (A58/A6), A58 Park Road/Platt Lane, A577/A579/Gibfield Park Way roundabout and A579/B5235 Lovers' Lane.

12.2.2 Two alternative improvements have been identified at Chequerbent roundabout. These comprise: either a new local road running southwards to Platt Lane; or the signalisation of the junction. These schemes demonstrate that there is a range of potential solutions at the junction and there may also be other options such as the introduction of a signalised cross-roads. The interventions identified are not expected to be the definitive solutions and are identified to demonstrate that

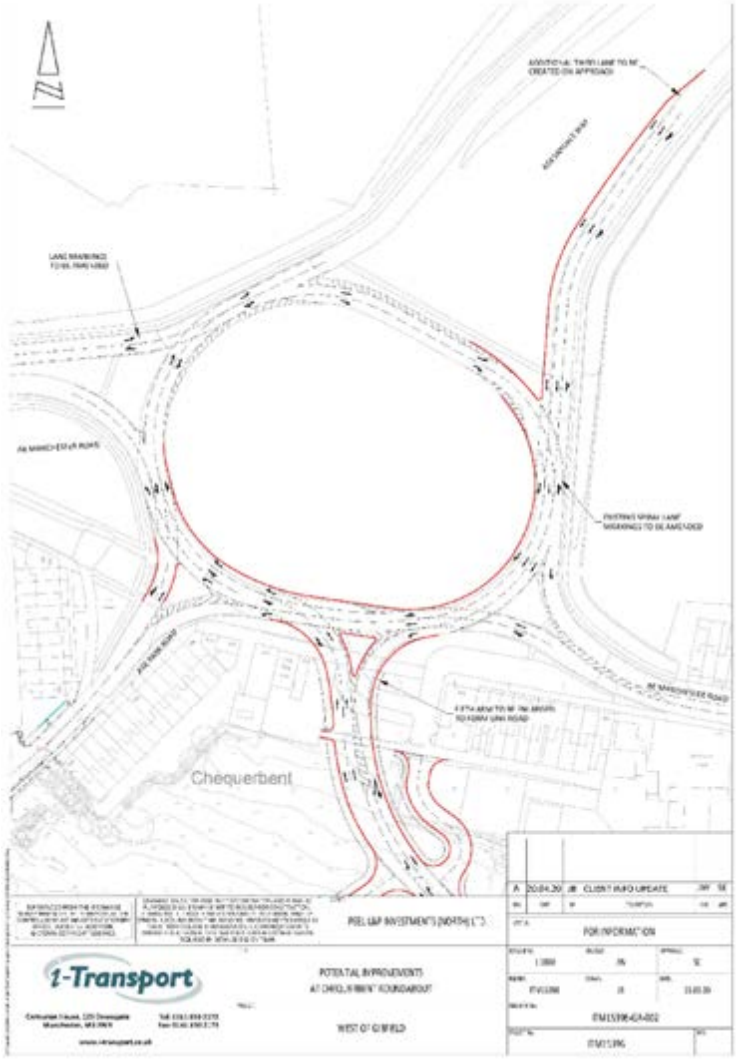
the allocation has the potential to be implemented and also developed to enable costing. The final form of mitigation will be agreed at planning application stage.

12.2.3 At Chequerbent roundabout, the two options assessed are as follows:

- Option 1: construction of a new single carriageway link road between the roundabout and Platt Lane along with associated improvements at the roundabout itself, as shown on drawings ITM15396-GA-001A and ITM15396-GA-002A. The schemes are shown below.

Figure 11. Illustrative Chequerbent Roundabout to Platt Lane Link Road

Figure 12. Illustrative Chequerbent Roundabout Improvements



- Option 2: this comprises signalisation of the junction, also taking account of the effects of the proposed new road through the Lee Hall site which is committed (i.e. has planning consent). The new road provides a connection between Chequerbent roundabout and Platt Lane. This scheme will not have the same benefits as the above link road but will provide sufficient capacity to accommodate the GMSF development, including West of Gibfield. An indicative plan of the potential scheme is shown below. The link through the Lee Hall site will also benefit the Park Road/Platt Lane junction by reducing traffic such that it will operate within capacity.

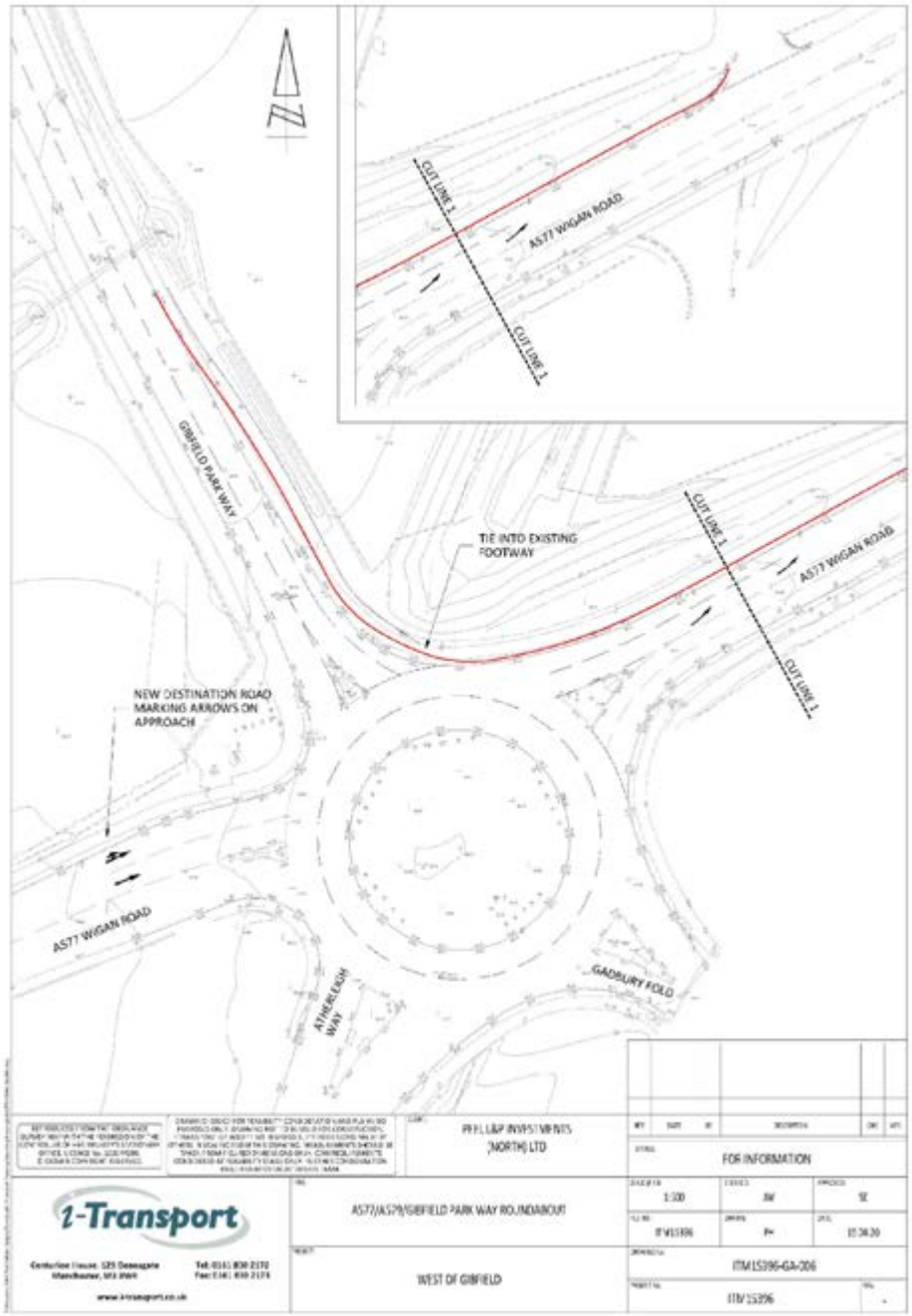
Figure 13. Illustrative Chequerbent Roundabout – Potential Signal Scheme

12.2.4 At A58 Park Road/Platt Lane, the schemes at Chequerbent roundabout are expected to reduce traffic flows at the junction and no specific mitigation is anticipated.

12.2.5 At the A577 Wigan Road /A579 Atherleigh Way /Gibfield Park Way roundabout, the traffic assessments set out at Section 11 identified the need for a minor widening of the Gibfield Park

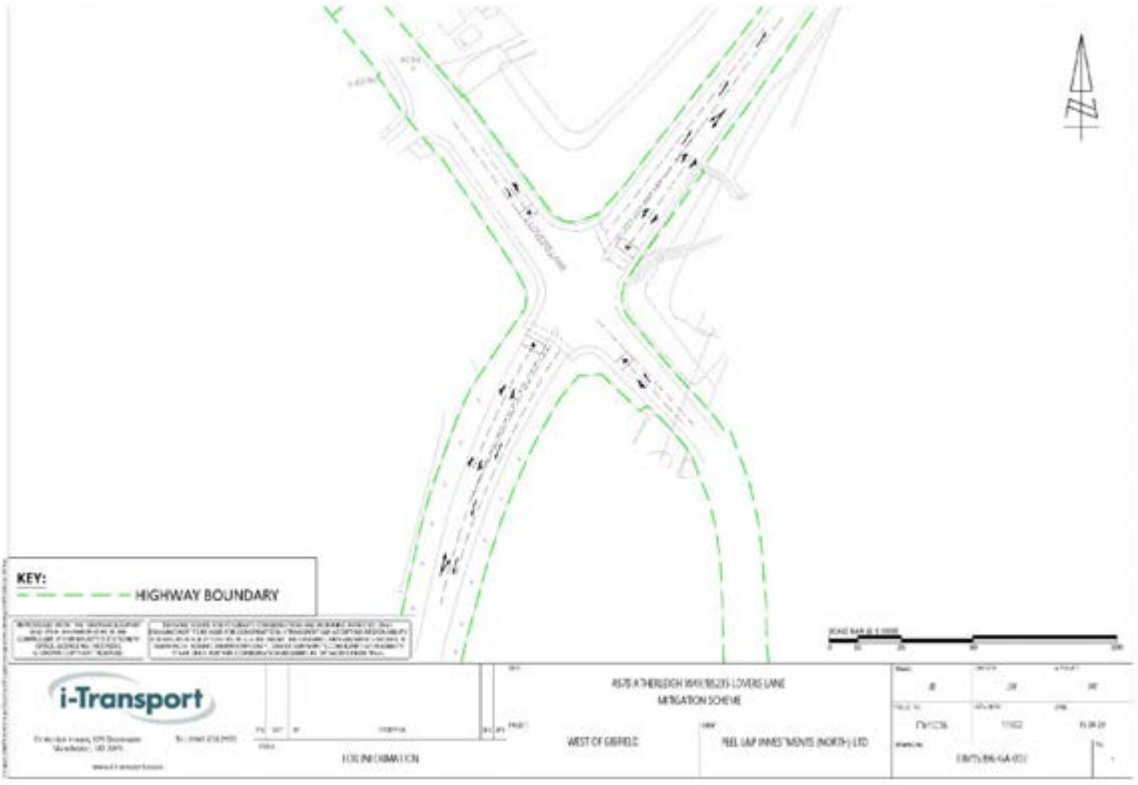
Way entry. Following the receipt of 'with mitigation' traffic forecasts, further improvements at the junction have been identified and the scheme to accommodate full GMSF traffic flows is shown on drawing ITM15396-GA-006 below. Account has been taken of 'unequal lane usage' at the junction where appropriate. The changes in geometry identified increase the capacity of the relevant entry arms.

Figure 14. Illustrative A577 Wigan Road /A579 Atherleigh Way /Gibfield Park Way Improvements



12.2.6 At the A579 Atherleigh Way /B5235 Lover's Lane junction, the assessments with the original GMSF traffic flows at Section 11 identified that the introduction of MOVA will accommodate all GMSF traffic at the junction. With the later 'with mitigation' traffic flows, an additional improvement is needed as shown in drawing ITM15396-GA-007 below. The need for this improvement will be reviewed at planning application stage as it is understood Lovers' Lane may be severed to accommodate a section of the LLM infrastructure.

Figure 15. Illustrative A579 Atherleigh Way /Lovers' Lane Junction Improvement



12.2.7 It is stressed that the interventions are to accommodate all of the GMSF traffic flows including growth identified in the reference case. Those at Chequerbent deal with potential constraints on the highway network that will exist irrespective of the draft allocation.

12.2.8 Details of the schemes were provided to SYSTRA for inclusion in the GMVDM and traffic forecasts have been provided with these mitigation measures included, along with many other interventions across Greater Manchester. The updated 'with mitigation' traffic forecasts have been used to re-evaluate the mitigation schemes and the results are presented below in Section 13 for the junctions on the local road network.

12.2.9 For option 2 at Chequerbent roundabout (signalisation scheme), the traffic forecasts used to assess this scheme are those from the original GMSF model runs i.e. with the effects of the link road excluded. Thus, with this scenario, the following is noted:-

- Gibfield Park Way/A577 Wigan Road /A579 Atherleigh Way roundabout: only minor widening will be needed at the Gibfield Park Way entry.
- A579/B5235 Lovers' Lane junction: the introduction of MOVA will mitigate impacts.

12.2.10 Thus, in summary the interventions are:

Table 22. Approach to Mitigation; West of Gibfield – Option 1 with Chequerbent to Platt Lane Link Road

Junction	Mitigation Approach
Chequerbent Roundabout	New link road between the roundabout and Platt Lane and associated improvements at Chequerbent roundabout.
A58 Park Road / Platt Lane	Above link road anticipated to reduce traffic flows.
A577 Wigan Road / A579 Atherleigh Way / Gibfield Park Way roundabout	Widening of parts of roundabout
A579 Atherleigh Way / B5235 Lovers' Lane	Changes to lane markings and introduction of MOVA.

Table 23. Approach to Mitigation; West of Gibfield – Option 2 with Chequerbent Signalisation

Junction	Mitigation Approach
Chequerbent Roundabout	Traffic signal scheme
A58 Park Road / Platt Lane	Link through Lee Hall site anticipated to reduce traffic flows

Junction	Mitigation Approach
A577 Wigan Road / A579 Atherleigh Way / Gibfield Park Way roundabout	Widening of parts of roundabout
A579 Atherleigh Way / B5235 Lovers' Lane	Introduction of MOVA.

13. Impact of interventions on the Local Road Network

13.1 Introduction

13.1.1 The junctions on the local road network have been reassessed taking account of the two mitigation options at Chequerbent roundabout described above: first, with the link road in place and using the 'with mitigation' traffic flows supplied from the GMVDM; and, secondly, for the scenario with the signalisation of Chequerbent and using the original GMSF GMVDM flows. The results are presented below for each junction on the local road network.

13.2 Option1: With Link Road

Chequerbent Roundabout

13.2.1 The results of the re-assessment of the Chequerbent roundabout taking account of the 'with mitigation' traffic flows are given in the tables below for the constrained and high side scenarios.

Table 24. Junction 1 Chequerbent Roundabout – 2025 with Mitigation (Option 1) Assessment: AM Peak Hour

Movement	Reference Case* Max RFC	Reference Case* Max Queue	Constrained Max RFC	Constrained Max Queue	High Side Max RFC	High Side Max Queue
A6 East	0.27	0	0.30	0	0.33	1
Minor Road / Link Road	0.00	0	0.58	1	0.51	1
A58 Park Road	0.75	3	0.79	4	0.80	4

Movement	Reference Case* Max RFC	Reference Case* Max Queue	Constrained Max RFC	Constrained Max Queue	High Side Max RFC	High Side Max Queue
A6 West	0.31	0	0.39	1	0.40	1
A58 Snydale Way	0.76	3	0.50	1	0.41	1

*No mitigation

Table 25. Junction 1 Chequerbent Roundabout – 2025 with Mitigation (Option 1) Assessment: PM Peak Hour

Movement	Reference Case* Max RFC	Reference Case* Max Queue	Constrained Max RFC	Constrained Max Queue	High Side Max RFC	High Side Max Queue
A6 East	0.99	14	0.61	2	0.61	2
Minor Road / Link Road	0.00	0	0.47	1	0.48	1
A58 Park Road	0.47	1	0.59	2	0.61	2
A6 West	1.11	42	0.59	1	0.56	1
A58 Snydale Way	1.55	592	0.63	2	0.63	2

*No mitigation

Table 26. Junction 1Chequerbent Roundabout – 2040 with Mitigation (Option 1) Assessment: AM Peak Hour

Movement	Reference Case* Max RFC	Reference Case* Max Queue	Constrained Max RFC	Constrained Max Queue	High Side Max RFC	High Side Max Queue
A6 East	0.93	10	0.56	1	0.62	2
Minor Road / Link Road	0.00	0	0.72	3	0.71	2
A58 Park Road	0.78	4	0.98	26	1.02	60
A6 West	0.96	14	0.67	2	0.68	2
A58 Snydale Way	1.13	143	0.75	3	0.93	5

*No mitigation

Table 27. Junction 1 Chequerbent Roundabout – 2040 with Mitigation (Option 1) Assessment: PM Peak Hour

Movement	Reference Case* Max RFC	Reference Case* Max Queue	Constrained Max RFC	Constrained Max Queue	High Side Max RFC	High Side Max Queue
A6 East	0.95	11	0.83	5	0.57	1
Minor Road / Link Road	0.00	0	0.72	3	0.45	1
A58 Park Road	0.62	2	0.91	10	0.94	14
A6 West	1.10	45	0.62	2	0.56	1
A58 Snydale Way	1.72	752	0.96	18	0.96	17

*No mitigation

13.2.2 The analysis confirms that the potential interventions will accommodate all of the GMSF related growth and the junction will operate better overall than the reference case scenario, providing significant benefits. At 2040 in the AM peak hour the maximum queue on Park Road increases but the overall queues and delays at the junction are lower than in the reference case. There are very significant improvements in the PM peak hour.

A58 Park Road / Platt Lane

13.2.3 The link road described above attracts traffic from the A58 Park Road / Platt Lane junction. When the junction was initially re-assessed with the traffic flows from the 'with mitigation' model runs, the junction was found to operate above capacity when these traffic flows were input to the PICADY models.

13.2.4 Given the inconsistencies between the strategic and local junction models, the 2040 strategic model traffic flows have been re-assigned such that 100pcu/hour use the link road to access Chequerbent rather than Platt Lane and Park Road. It is anticipated this would occur in practice as it will be a shorter and faster route.

13.2.5 The results of the traffic capacity assessments are summarised in Tables 28 to 31 below for the constrained and high side scenarios, comparing those with the reference case.

Table 28. Junction 2 A58 Park Road / Platt Lane – 2025with Mitigation Assessment – AM Peak Hour

Movement	Reference Case* Max RFC	Reference Case* Max Queue	Constrained Max RFC	Constrained Max Queue	High Side Max RFC	High Side Max Queue
Platt Lane Left	0.01	0	0.02	0	0.02	0
Platt Lane – Right	0.61	2	0.35	1	0.34	1
Park Road – Right	0.02	0	0.0	0	0.01	0

*No mitigation

Table 29. Junction 2 A58 Park Road / Platt Lane – 2025 with Mitigation Assessment – PM Peak Hour

Movement	Reference Case* Max RFC	Reference Case* Max Queue	Constrained Max RFC	Constrained Max Queue	High Side Max RFC	High Side Max Queue
Platt Lane Left	0.00	0	0.08	0	0.08	0
Platt Lane – Right	0.86	5	0.44	1	0.44	1
Park Road – Right	0.20	1	0.15	0	0.14	0

*No mitigation

Table 30. Junction 2 A58 Park Road / Platt Lane – 2040 with Mitigation Assessment – AM Peak Hour

Movement	Reference Case* Max RFC	Reference Case* Max Queue	Constrained Max RFC	Constrained Max Queue	High Side Max RFC	High Side Max Queue
Platt Lane Left	0.01	0	0.90	7	0.93	9
Platt Lane – Right	0.76	3	0.77	3	0.83	3
Park Road – Right	0.06	0	0.14	0	0.20	1

*No mitigation

Table 31. Junction 2 A58 Park Road / Platt Lane – 2040 with Mitigation Assessment – PM Peak Hour

Movement	Reference Case* Max RFC	Reference Case* Max Queue	Constrained Max RFC	Constrained Max Queue	High Side Max RFC	High Side Max Queue
Platt Lane Left	0.00	0	.034	1	0.51	1
Platt Lane – Right	1.49	31	0.54	1	0.62	2
Park Road – Right	0.41	3	0.16	1	0.20	1

*No mitigation

13.2.6 The junction is predicted to operate within capacity and the link road mitigates the impacts of the full GMSF traffic at the A58 Park Road / Platt Lane junction.

13.2.7 Chequerbent roundabout has been re-assessed with the 100 pcu/hour transfer from Park Road to the link road and this operates slightly better than the scenario without the transfer, with queues reducing on Park Road and increasing only very slightly on the link road.

A577 Wigan Road / A579 Atherleigh Way / Gibfield Park Way

13.2.8 The transfers to the A579 corridor in the 'with mitigation' strategic model runs appear to be particularly high and will need to be re-assessed if a planning application is brought forward. These transfers do result in the theoretical requirement for improvements at the A577/A579/Gibfield Park Way roundabout and these have been assessed with ARCADY and the results are summarised in the tables below for the constrained and high side scenarios.

Table 32. Junction 8 A577/A579/Gibfield Park Way – 2025 With Mitigation Assessment – AM Peak Hour

Arm	Reference Case RFC	Reference Case Queue (PCU)	Constrained RFC	Constrained Queue (PCU)	High Side RFC	High Side Queue (PCU)
A577 Wigan Road (E)	0.43	1	0.54	1	0.54	1
Gadbury Fold	0.00	0	0.00	0	0.00	0
A579 Atherleigh Way (W)	0.50	1	0.60	2	0.60	2
A577 Wigan Road (W)	0.73	3	0.49	1	0.49	1
Gibfield Park Way	0.56	1	0.45	1	0.46	1

Table 33. Junction 8 A577/A579/Gibfield Park Way – 2025 With Mitigation Assessment – PM Peak Hour

Arm	Reference Case RFC	Reference Case Queue (PCU)	Constrained RFC	Constrained Queue (PCU)	High Side RFC	High Side Queue (PCU)
A577 Wigan Road (E)	0.63	2	0.62	2	0.62	2
Gadbury Fold	0.00	0	0.00	0	0.00	0
A579 Atherleigh Way (W)	0.46	1	0.54	1	0.54	1
A577 Wigan Road (W)	0.61	2	0.36	1	0.36	1
Gibfield Park Way	0.70	2	0.60	2	0.59	2

Table 34. Junction 8 A577/A579/Gibfield Park Way – 2040 With Mitigation Assessment Results – AM Peak Hour

Arm	Reference Case RFC	Reference Case Queue (PCU)	Constrained RFC	Constrained Queue (PCU)	High Side RFC	High Side Queue (PCU)
A577 Wigan Road (E)	0.45	1	0,45	1	0.46	1
Gadbury Fold	0.00	0	0.00	0	0.00	0
A579 Atherleigh Way (W)	0.56	1	0.67	2	0.67	2
A577 Wigan Road (W)	0.67	2	0.54	1	0.57	1
Gibfield Park Way	0.53	1	0.75	3	0.86	6

Table 35. Junction 8 A577/A579/Gibfield Park Way – 2040 With Mitigation Assessment – PM Peak Hour

Arm	Reference Case RFC	Reference Case Queue (PCU)	Constrained RFC	Constrained Queue (PCU)	High Side RFC	High Side Queue (PCU)
A577 Wigan Road (E)	0.71	2	0.81	4	0.79	4
Gadbury Fold	0.00	0	0.00	0	0.00	0
A579 Atherleigh Way (W)	0.60	2	0.78	4	0.78	4
A577 Wigan Road (W)	0.64	2	0.62	2	0.53	1
Gibfield Park Way	1.05	49	0.97	21	0.96	17

13.2.9 The assessment results demonstrate that the roundabout will operate within capacity.

A579 Atherleigh /B5235 Lovers' Lane

13.2.10 This junction is also affected by transfers to the A579 corridor and a mitigation scheme has therefore been designed as described above. The junction has been assessed with LINSIG and the results are summarised below.

Table 36. Junction 7 A579 / B5235 2025 with Mitigation Assessment - AM Peak Hour

Arm	Reference Case Deg Sat %	Reference Case MMQ (PCU)	Constrained Deg Sat %	Constrained MMQ (PCU)	High Side Deg Sat %	High Side MMQ (PCU)
B5235 Lovers Lane (N)	84.3%	11	79.9%	10	81.5%	10
A579 Atherleigh Way (E)	80.1%	16	59.7%	8	60.2%	8
B5235 Lovers Lane (S)	47.6%	5	46.0%	5	44.8%	5

A579 Atherleigh Way (W)	87.3%	19	81.65	13	81.8%	13

Table 37. Junction 7 A579 / B5235 2025 with Mitigation Assessment - PM Peak Hour

Arm	Reference Case Deg Sat %	Reference Case MMQ (PCU)	Constrained Deg Sat %	Constrained MMQ (PCU)	High Side Deg Sat %	High Side MMQ (PCU)
B5235 Lovers Lane (N)	86.0%	9	77.2%	8	77.5%	8
A579 Atherleigh Way (E)	84.1%	21	74.0%	10	74.0%	10
B5235 Lovers Lane (S)	48.7%	5	43.0%	5	43.6%	5
A579 Atherleigh Way (W)	84.9%	21	79.0%	12	79.1%	12

Table 38. Junction 7 A579 / B5235 2040 with Mitigation Assessment - AM Peak Hour

Arm	Reference Case Deg Sat %	Reference Case MMQ (PCU)	Constrained Deg Sat %	Constrained MMQ (PCU)	High Side Deg Sat %	High Side MMQ (PCU)
B5235 Lovers Lane (N)	94.2%	15	92.4%	14	91.4%	13
A579 Atherleigh Way (E)	87.5%	19	78.1%	11	80.6%	12
B5235 Lovers Lane (S)	54.0%	6	55.5%	7	56.0%	7
A579 Atherleigh Way (W)	92.2%	22	92.9%	23	93.8%	25

Table 39. Junction 7 A579 / B5235 2040 with Mitigation Assessment - PM Peak Hour

Arm	Reference Case Deg Sat %	Reference Case MMQ (PCU)	Constrained Deg Sat %	Constrained MMQ (PCU)	High Side Deg Sat %	High Side MMQ (PCU)
B5235 Lovers Lane (N)	86.4%	8	94.5%	14	93.1%	14
A579 Atherleigh Way (E)	90.9%	27	93.9%	26	95.8%	30
B5235 Lovers Lane (S)	60.2%	7	57.7%	7	59.4%	7
A579 Atherleigh Way (W)	82.7%	21	88.9%	20	89.3%	20

13.2.11 The results demonstrate that the junction operation will be similar to that of the reference case and the mitigation therefore accommodates the full GMSF traffic flows.

13.2.12 A summary of the results of the assessments is presented below, showing the maximum V/C ratio at each junction.

Table 40. Summary Results of Local Junction Capacity Analysis After Mitigation 2025 Option 1

Junction	Reference Case AM	Reference Case PM	GMSF High AM	GMSF High PM	Allocation Flows AM	Allocation Flows PM
1.Chequerbent Roundabout	76%	105%	80%	63%	61	81
2.A58 Park Road / Platt Lane	61%	86%	34%	44%	13	6
7.A579/B5235	87%	86%	82%	79%	12	11
8.A577/A579/ Gibfield Park Way	73%	70%	60%	62%	8	2

Table 41. Summary Results of Local Junction Capacity Analysis After Mitigation 2040 Option 1

Junction	Reference Case AM	Reference Case PM	GMSF High AM	GMSF High PM	Allocation Flows AM	Allocation Flows PM
1.Chequerbent Roundabout	113%	172%	102%	96%	358	333
2.A58 Park Road / Platt Lane	76%	149%	93%	62%	81	34
7.A579/B5235	94%	91%	94%	96%	85	78
8.A577/A579/ Gibfield Park Way	67%	105%	86%	96%	60	35

13.3 Option 2: With Chequerbent Signalisation

Chequerbent Roundabout

13.3.1 The results of the re-assessment of the Chequerbent roundabout with the traffic signal scheme in place and also taking account of the road through the Lee Hall site are set out in the table below.

Table 42. Junction 1 Chequerbent Roundabout – 2025 with Traffic Signals (Option 2): AM Peak Hour

Movement	Reference Case Max RFC	Reference Case Max Queue	GMSF Flows With Signals Max RFC	GMSF Flows With Signals Max Queue
A6 East	0.27	0	58.1%	5
Minor Road	0.12	0	32.7%	1
A58 Park Road	0.74	3	94.5%	23
A6 West	0.31	0	50.5%	5
A58 Snydale Way	0.67	2	66.6%	11

Table 43. Junction 1 Chequerbent Roundabout – 2025 with Traffic Signals (Option 2): PM Peak Hour

Movement	Reference Case Max RFC	Reference Case Max Queue	GMSF Flows With Signals Max RFC	GMSF Flows With Signals Max Queue
A6 East	0.98	13	89.4%	9
Minor Road	0.08	0	21.6%	0
A58 Park Road	0.46	1	65.2%	5
A6 West	1.07	34	61.8%	7
A58 Snydale Way	1.35	372	110.5%	121

Table 44. Junction 1 Chequerbent Roundabout – 2040 with Traffic Signals (Option 2): AM Peak Hour

Movement	Reference Case Max RFC	Reference Case Max Queue	GMSF Flows With Signals DoS	GMSF Flows With Signals MMQ
A6 East	0.86	6	93.9%	13
Minor Road	0.14	0	49.3%	1
A58 Park Road	0.77	3	99.6%	40
A6 West	0.90	7	80.2%	8
A58 Snydale Way	1.04	50	94.4%	26

Table 45. Junction 1 Chequerbent Roundabout – 2040 with Traffic Signals Option 2: PM Peak Hour

Movement	Reference Case Max RFC	Reference Case Max Queue	GMSF Flows With Signals DoS	GMSF Flows With Signals MMQ
A6 East	0.85	5	83.5%	6
Minor Road	0.05	0	19.4%	0
A58 Park Road	0.61	2	77.1%	7
A6 West	0.97	17	70.3%	8
A58 Snydale Way	1.46	554	125.1%	236

13.3.2 The analysis confirms that at 2040 the introduction of the traffic signal scheme will achieve nil detriment at Chequerbent roundabout, taking account of the additional traffic flows generated by GMSF. At 2025, the signal scheme operates within capacity in the AM peak hour and achieves nil detriment in the PM peak hour. As discussed above, there may be alternative mitigation schemes and the final interventions will be determined at planning application stage. It is concluded that the above analysis demonstrates that a mitigation scheme is deliverable.

A58 Park Road / Platt Lane

13.3.3 The road through the Lee Hall site is anticipated to attract traffic from Park Road and Platt Lane and the impacts of this have been taken into account in the junction capacity modelling. The results of the assessment are set out below.

Table 46. Junction 2 A58 Park Road / Platt Lane – Option 2 2025: AM Peak Hour

Movement	Reference Case Max RFC	Reference Case Max Queue	With GMSF Max RFC	With GMSF Max Queue
Platt Lane – Left	0.00	0	0.00	0
Platt Lane – Right	0.13	0	0.14	0
Park Road – Right	0.02	0	0.02	0

Table 47. Junction 2 A58 Park Road / Platt Lane –Option 2 2025: PM Peak Hour

Movement	Reference Case Max RFC	Reference Case Max Queue	With GMSF Max RFC	With GMSF Max Queue
Platt Lane – Left	0.00	0	0.00	0
Platt Lane – Right	0.34	1	0.35	1
Park Road – Right	0.17	1	0.25	1

Table 48. Junction 2 A58 Park Road / Platt Lane – Option 2 2040: AM Peak Hour

Movement	Reference Case Max RFC	Reference Case Max Queue	With GMSF Max RFC	With GMSF Max Queue
Platt Lane – Left	0.00	0	0.03	0
Platt Lane – Right	0.15	0	0.18	2
Park Road – Right	0.06	0	0.07	0

Table 49. Junction 2 A58 Park Road / Platt Lane – Option 2 2040: PM Peak Hour

Movement	Reference Case Max RFC	Reference Case Max Queue	With GMSF Max RFC	With GMSF Max Queue
Platt Lane – Left	0.00	0	0.00	0
Platt Lane – Right	0.47	1	0.53	1
Park Road – Right	0.36	2	0.47	3

13.3.4 The assessment results confirm that the junction will operate satisfactorily.

A577 Wigan Road /A579 Atherleigh Way /Gibfield Park Way

13.3.5 Without the transfers to the link, the flows at the roundabout are lower and the mitigation needed would comprise the widening of the Gibfield Park Way entry to the roundabout to 9m. The results of the assessments are set out below.

Table 50. Junction 8 A577/A579/Gibfield Park Way – Option 2 2025 AM Peak Hour

Movement	Reference Case Max RFC	Reference Case Max Queue	With GMSF Max RFC	With GMSF Max Queue
A577 Wigan Road – East	0.43	1	0.43	1
Gadbury Fold	0.00	0	0.00	0
A579 Atherleigh Way	0.50	1	0.49	1
A577 Wigan Road – West	0.73	3	0.77	3
Gibfield Park Way	0.56	1	0.37	1

Table 51. Junction 8 A577/A579/Gibfield Park Way – Option 2 2025 PM Peak Hour

Movement	Reference Case Max RFC	Reference Case Max Queue	With GMSF Max RFC	With GMSF Max Queue
A577 Wigan Road – East	0.63	2	0.60	2
Gadbury Fold	0.00	0	0.00	0
A579 Atherleigh Way	0.46	1	0.48	1
A577 Wigan Road – West	0.61	2	0.66	2
Gibfield Park Way	0.70	2	0.58	1

Table 52. Junction 8 A577/A579/Gibfield Park Way – Option 2 2040: AM Peak Hour

Movement	Reference Case Max RFC	Reference Case Max Queue	With GMSF Max RFC	With GMSF Max Queue
A577 Wigan Road – East	0.45	1	0.47	1
Gadbury Fold	0.00	0	0.00	0
A579 Atherleigh Way	0.56	1	0.58	1
A577 Wigan Road – West	0.67	2	0.70	2
Gibfield Park Way	0.53	1	0.56	1

Table 53. Junction 8 A577/A579/Gibfield Park Way – Option 2 2040: PM Peak Hour

Movement	Reference Case Max RFC	Reference Case Max Queue	With GMSF Max RFC	With GMSF Max Queue
A577 Wigan Road – East	0.71	2	0.70	2
Gadbury Fold	0.00	0	0.00	0
A579 Atherleigh Way	0.60	2	0.64	2
A577 Wigan Road – West	0.64	2	0.72	3
Gibfield Park Way	1.05	49	0.96	16

13.3.6 The assessments demonstrate that the scheme will operate at capacity at 2025 and in the AM Peak at 2040 and will achieve nil detriment in the PM peak at 2040.

A579/B5235 Lovers' Lane

13.3.7 Mitigation comprising the introduction of MOVA will accommodate the impacts of the GMSF traffic. The summary assessment results are presented below.

Table 54. Junction 7 A579 / B5235 Lovers' Lane – Option 2 with MOVA 2025 – AM Peak Hour

Arm	2025 Reference Case Deg Sat %	2025 Reference Case MMQ (PCU)	2025 Full GMSF (With MOVA) Deg Sat %	2025 Full GMSF (With MOVA) MMQ (PCU)
B5235 Lovers Lane (N)	84.3%	11	84.4%	11
A579 Atherleigh Way (E)	80.1%	16	77.5%	15
B5235 Lovers Lane (S)	47.6%	5	47.1%	5
A579 Atherleigh Way (W)	87.3%	19	86.3%	19

Table 55. Junction 7 A579 / B5235 Lovers' Lane – Option 2 with MOVA 2025 – PM Peak Hour

Arm	2025 Reference Case Deg Sat %	2025 Reference Case MMQ (PCU)	2025 Full GMSF (With MOVA) Deg Sat %	2025 Full GMSF (With MOVA) MMQ (PCU)
B5235 Lovers Lane (N)	86.0%	9	86.3%	10
A579 Atherleigh Way (E)	84.1%	21	87.1%	23
B5235 Lovers Lane (S)	48.7%	5	44.5%	5
A579 Atherleigh Way (W)	84.9%	21	85.4%	22

Table 56. Junction 7 A579 / B5235 Lovers' Lane – Option 2 with MOVA 2040 – AM Peak Hour

Arm	2040 Reference Case Deg Sat %	2040 Reference Case MMQ (PCU)	2040 Full GMSF (With MOVA) 120s Cycle Deg Sat %	2040 Full GMSF (With MOVA) 120s Cycle MMQ (PCU)
B5235 Lovers Lane (N)	94.2%	15	98.8%	22
A579 Atherleigh Way (E)	87.5%	19	86.1%	26
B5235 Lovers Lane (S)	54.0%	6	56.3%	8
A579 Atherleigh Way (W)	92.2%	22	90.1%	25

Table 57. Junction 7 A579 / B5235 Lovers' Lane – Option 2 with MOVA 2040 - PM Peak Hour

Arm	2040 Reference Case Deg Sat %	2040 Reference Case MMQ (PCU)	2040 Full GMSF (With MOVA) 120s Cycle Deg Sat %	2040 Full GMSF (With MOVA) 120s Cycle MMQ (PCU)
B5235 Lovers Lane (N)	86.4%	8	98.6%	18
A579 Atherleigh Way (E)	90.9%	27	99.3%	51
B5235 Lovers Lane (S)	60.2%	7	60.3%	9
A579 Atherleigh Way (W)	82.7%	21	86.3%	29

13.3.8 Overall, the alternative (option 2) mitigation will accommodate the GMSF traffic.

13.3.9 A summary of the results of the assessments is presented below, showing the maximum V/C ratio at each junction.

Table 58. Summary Results of Local Junction Capacity Analysis After Mitigation 2025 Option 2

Junction	Reference Case AM	Reference Case PM	GMSF High AM	GMSF High PM	Allocation Flows AM	Allocation Flows PM
1.Chequerbent Roundabout	74%	135%	95%	111%	12	13
2.A58 Park Road / Platt Lane	13%	34%	14%	35%	11	13
7.A579/B5235	73%	70%	77%	66%	6	6
8.A577/A579/ Gibfield Park Way	87%	86%	86%	87%	4	3

Table 59. Summary Results of Local Junction Capacity Analysis After Mitigation 2040 Option 2

Junction	Reference Case AM	Reference Case PM	GMSF High AM	GMSF High PM	Allocation Flows AM	Allocation Flows PM
1.Chequerbent Roundabout	104%	146%	100%	125%	228	198
2.A58 Park Road / Platt Lane	15%	47%	18%	53%	233	203
7.A579/B5235	67%	105%	70%	96%	182	154
8.A577/A579/ Gibfield Park Way	94%	91%	99%	99%	105	86

14. Impact and mitigation on Strategic Road Network

14.1 Overview

14.1.1 This chapter covers those impacts where traffic generated by the GMSF allocations meets the Strategic Road Network (SRN). Junctions at the interface between the Local Road Network (LRN) and the Strategic Road Network (SRN) have been assessed using a similar approach to that described in the preceding chapters. Wider issues relating to the SRN mainline are being assessed separately as described below.

14.1.2 SYSTRA is currently consulting with Highways England on behalf of TfGM and the Combined Authority in relation to the wider impacts of the GMSF allocations on the Strategic Road Network (SRN). This consultation is ongoing and it is expected that it will allow Highways England to gain a strategic understanding of where there is an interaction between network stress points and GMSF allocation demand which will facilitate further discussion and transfer of information between TfGM and Highways England (yet to be defined) in reaching agreement and/or common ground relating to the acceptability of GMSF allocations in advance of Examination in Public (EiP).

14.2 Impact of the Allocation before Mitigation on the Strategic Road Network

14.2.1 The West of Gibfield allocation is located c.3km south of M61J5. Table 60 below summarises the flows at the motorway junction.

Table 60. Predicted Proportional Impacts of Allocation and GMSF Traffic Flows

Junction	2040 Ref Case AM	2040 Ref Case PM	2040 With Total GMSF AM	2040 With Total GMSF PM	% Diff (GMSF / Ref) AM	% Diff (GMSF / Ref) PM	West Of Gibfield AM	West Of Gibfield PM	% Diff (West Of Gibfield Ref) AM	% Diff (West Of Gibfield Ref) PM
M61J5	5,208	5,673	5,742	5,969	10.3%	5.2%	142	154	2.7%	2.7%

14.2.2 The maximum V/C ratios at M61J5 from the GMVDM for the 2040 assessment year are given in the table below.

Table 61. Results of Strategic Road Network Junction Capacity Analysis Before Mitigation (Source GMVDM)

Junction	Reference Case AM	Reference Case PM	GMSF AM	GMSF PM	Allocation Flows AM	Allocation Flows PM
M61J5	106%	107%	111%	107%	142	154

14.2.3 M61J5 has been modelled with ARCADY and a summary of the results of the traffic modelling is given below.

Table 62. M61J5 Capacity Assessment – 2025 AM Peak Hour

Arm	2025 Reference Case RFC	2025 Reference Case Queue (PCU)	2025 Reference Case + Development Traffic RFC	2025 Reference Case + Development Traffic Queue (PCU)	2025 Full GMSF RFC	2025 Full GMSF Queue (PCU)
M61 (WB)	0.45	1	0.45	1	0.44	1
A58 Snydale Way	1.08	54	1.09	58	1.11	62
M61 (EB)	0.44	1	0.44	1	0.45	1
A58 Wigan Road	1.18	85	1.18	85	1.22	88

Table 63. M61J5 Capacity Assessment – 2025 PM Peak Hour

Arm	2025 Reference Case RFC	2025 Reference Case Queue (PCU)	2025 Reference Case + Development Traffic RFC	2025 Reference Case + Development Traffic Queue (PCU)	2025 Full GMSF RFC	2025 Full GMSF Queue (PCU)
M61 (WB)	1.17	35	1.17	35	0.96	10
A58 Snydale Way	1.30	165	1.30	165	1.23	115
M61 (EB)	0.47	1	0.47	1	0.56	1
A58 Wigan Road	1.08	50	1.08	51	1.22	97

Table 64. M61J5 Capacity Assessment – 2040 AM Peak Hour

Arm	2040 Reference Case RFC	2040 Reference Case Queue (PCU)	2040 Reference Case + Development Traffic RFC	2040 Reference Case + Development Traffic Queue (PCU)	2040 Full GMSF RFC	2040 Full GMSF Queue (PCU)
M61 (WB)	0.70	2	0.72	2	0.72	3
A58 Snydale Way	1.14	75	1.18	92	1.46	255
M61 (EB)	0.51	1	0.51	1	0.53	1
A58 Wigan Road	1.23	105	1.27	125	1.11	52

Table 65. M61J5 Capacity Assessments – 2040 PM Peak Hour

Arm	2040 Reference Case RFC	2040 Reference Case Queue (PCU)	2040 Reference Case + Development Traffic RFC	2040 Reference Case + Development Traffic Queue (PCU)	2040 Full GMSF RFC	2040 Full GMSF Queue (PCU)
M61 (WB)	1.07	22	1.09	25	0.75	3
A58 Snydale Way	1.44	245	1.47	269	1.18	96
M61 (EB)	0.56	1	0.57	1	0.71	3
A58 Wigan Road	1.17	81	1.24	109	1.48	167

14.2.4 The following clarification is provided regarding the traffic capacity assessment results:

- 2025 PM Peak Hour: RFC and maximum queue on M61 westbound slip road are lower with GMSF than with the reference case traffic flows. The total flow on the slip road increases with GMSF but the increase is to the left-turn whereas the right-turn flow reduces. Only the right-turn gives way at the roundabout (the left-turn flow is in a free-flow lane). The flows are as supplied from GMVDM.

- 2040 AM Peak Hour: RFC and maximum queue on A58 Wigan Road are lower than the reference case (flows as supplied from GMVDM). Snydale Way has a significantly longer queue with GMSF and as a result it is likely that the traffic flow which Wigan Road has to give-way to is lower.
- 2040 PM Peak Hour: the RFCs and maximum queues on M61 westbound slip road and Snydale Way are lower with GMSF than with the reference case. Flows on the M61 slip road are lower with GMSF as supplied from the GMVDM. On Snydale Way, the analysis takes account of different lane usage and some traffic movements are lower with GMSF (flows supplied from GMVDM).

14.2.5 The ARCADY traffic capacity assessments indicate:

- 2025 AM Peak Hour

  - Both A58 arms predicted to be over-capacity in all scenarios.
  - Full GMSF has a minimal impact.
  - GM5 Chequerbent North alone has a minor impact on A58 Wigan Road.

- 2025 PM Peak Hour

  - Both A58 arms over-capacity in all scenarios. M61 Westbound off-slip over-capacity but improvement with full GMSF as a result of changes in traffic flows.
  - GMSF development as a whole and GM5 Chequerbent North alone do not have severe impacts.

- 2040 AM Peak Hour

  - Both A58 arms over-capacity in all scenarios.
  - GMSF development has detrimental impact on Snydale Way but positive impact on Wigan Road.
  - GM5 Chequerbent North alone development has limited impact.

- 2040 PM Peak Hour

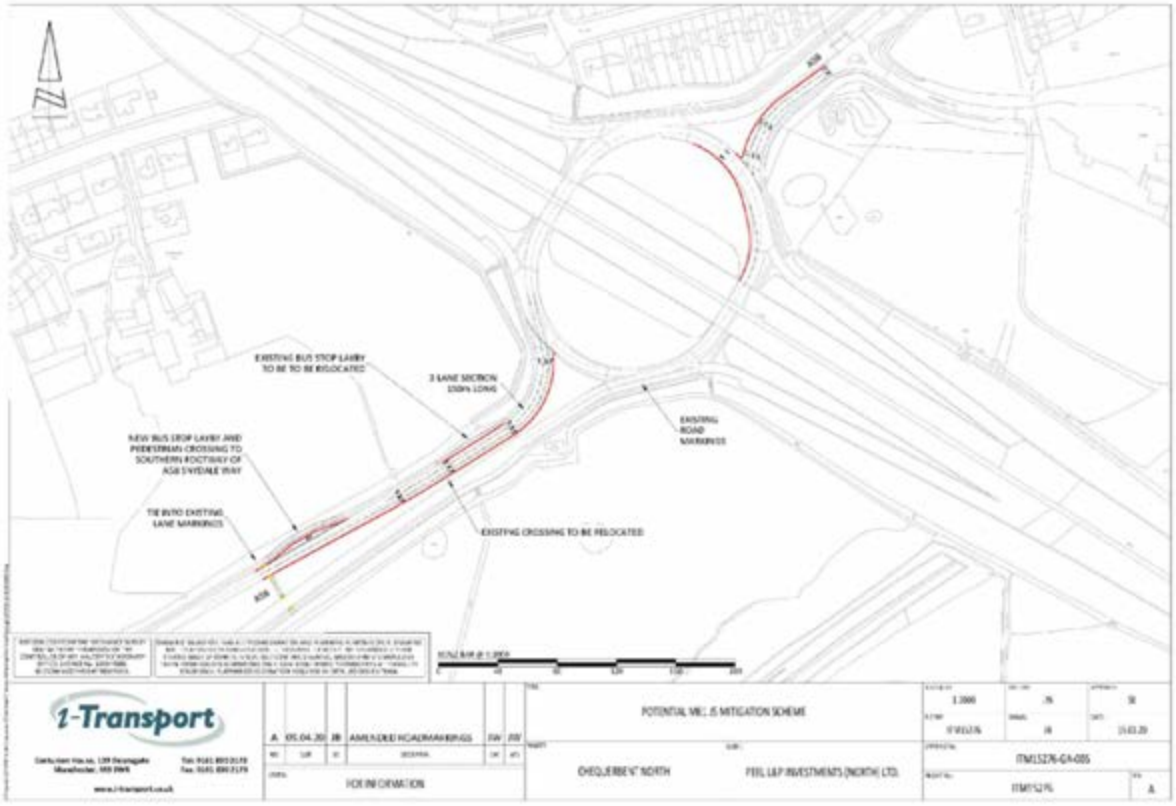
  - All arms of the junction, other than M60 eastbound off-slip, are over-capacity.
  - Overall GMSF development has no material impact on the junction as a whole.
  - GM5 Chequerbent North alone has a minor impact.

14.2.6 Based on the modelled traffic flows provided, M61J5 will require improvement irrespective of whether the GMSF developments proceed.

14.3 Transport Interventions Tested on Strategic Road Network

14.3.1 A mitigation/improvement scheme has been identified at M61J5 which comprises widening of the A58 (Snydale Way and Wigan Road) approaches to the roundabout as given on drawing number ITM15276-GA-005A, shown below.

Figure 16. Illustrative M61J5 Improvements



14.1 Impact of Interventions on the Strategic Road Network

14.1.1 An improvement scheme has been identified and is set out above. The results of the re-assessment of M61J5 taking account of the 'with mitigation' traffic flows are given in the tables below for the constrained and high side scenarios. The traffic flows used and detailed junction model outputs are given in Appendices E and F respectively.

Table 66. M61J5 – 2025 with Mitigation Assessment Results – AM Peak Hour

Movement	Reference Case[1] Max RFC	Reference Case Queue	Constrained Max RFC	Constrained Queue	High Side Max RFC	High Side Queue
M61 Westbound	0.45	1	0.52	1	0.57	1
A58 Snydale Way	1.08	54	0.79	4	0.78	4
M61 Eastbound	0.44	1	0.47	1	0.47	1
A58 Wigan Road	1.18	85	0.79	4	0.79	4

[1]No mitigation

Table 67. M61J5 – 2025 with Mitigation Assessment Results: PM Peak Hour

Movement	Reference Case[1] Max RFC	Reference Case Queue	Constrained Max RFC	Constrained Queue	High Side Max RFC	High Side Queue
M61 Westbound	1.17	35	0.23	0	0.25	0
A58 Snydale Way	1.30	165	0.74	3	0.74	3
M61 Eastbound	0.47	1	0.66	2	0.67	2
A58 Wigan Road	1.08	50	0.77	3	0.76	3

[1]No mitigation

Table 68. M61J5 – 2040 with Mitigation Assessment Results: AM Peak Hour

Arm	Reference Case[1] Max RFC	Reference Case Queue	Constrained Max RFC	Constrained Queue	High Side Max RFC	High Side Queue
M61 (WB)	0.70	2	0.89	6	0.90	7
A58 Snydale Way	1.14	75	0.90	9	0.92	11
M61 (EB)	0.51	1	0.57	1	0.60	2
A58 Wigan Road	1.23	105	0.93	11	0.94	12

[1]No mitigation

Table 69. M61J5 – 2040 with Mitigation Assessment Results: PM Peak Hour

Arm	Reference Case[1] Max RFC	Reference Case Queue	Constrained Max RFC	Constrained Queue	High Side Max RFC	High Side Queue
M61 (WB)	1.07	22	0.20	0	020	0
A58 Snydale Way	1.44	245	0.83	3	0.83	5
M61 (EB)	0.56	1	0.85	5	0.84	5
A58 Wigan Road	1.17	81	0.89	7	0.87	6

[1]No mitigation

14.1.2 The analysis confirms that the potential intervention will accommodate all of the GMSF related growth and the junction will operate within capacity, providing significant benefits compared to the reference case scenario.

14.1.3 A summary of the results of the assessments is presented below, showing the maximum V/C ratio at the junction.

Table 70. Summary Results of Strategic Road Network Junction Capacity Analysis After Mitigation – 2025

Junction	Reference Case AM	Reference Case PM	GMSF High AM	GMSF High PM	Allocation Flows AM	Allocation Flows PM
4. Chequerbent Roundabout	118%	130%	79%	76%	56	70

Table 71. Summary Results of Strategic Road Network Junction Capacity Analysis After Mitigation – 2040

Junction	Reference Case AM	Reference Case PM	GMSF High AM	GMSF High PM	Allocation Flows AM	Allocation Flows PM
4. Chequerbent Roundabout	123%	144%	92%	87%	318	298

15. Final list of interventions

15.1.1 A summary of the interventions is set out in the table below:

Table 72. Final List of Interventions: West of Gibfield

Mitigation	Description
Allocation Access	
Access from Gibfield Park Way	Access proposals to be determined in detail at application stage. Peel controls significant land around Gibfield Park Way. An indicative access drawing is shown on Figure 7.
Necessary Strategic interventions	
Option 1:	
Link road between Chequerbent roundabout and Platt Lane + junction improvements.	Drawings ITM15396-GA-001A and ITM15396-GA-002A

Mitigation	Description
Improvement at A577/A579/Gibfield Park Way roundabout	Drawing ITM15396-GA-006
A579 Atherleigh Way / B5235 Lovers' Lane Junction Improvement	Drawing ITM15396-GA-007
Option 2:	
Signalisation of Chequerbent roundabout (and see 15.1.3 below)	Drawing ITM15396-GA-009
Improvement to Gibfield Park Way entry at the A577/A579 roundabout	As shown on drawing ITM15396-GA-006
A579 Atherleigh Way / B5235 Lovers' Lane junction	Introduction of MOVA
Supporting Strategic Interventions	
Any measures (highway connections and/or east-west public transport) delivered by policy GM Strat 8	Potentially delivered by Wigan and Bolton Councils
Train-tram improvements on the Wigan-Manchester railway line	See GM2040 Transport Vision and Strategy
Necessary Local Mitigations	
Footway/cycleway connections to the allocation including from Daisy Hill rail station	Extension of the existing footway/cycleway that runs along Gibfield Park Way into the allocation, which is adjacent.
Travel Plans	Development and implementation of Travel Plans (Residential and Workplace) to encourage the use of

	sustainable travel modes.
Supporting Local Mitigations	
Bee Network	Implementation of the Leigh, Atherton and Tyldesley Bee Network scheme by GMCA/TfGM/Wigan Council
SRN Interventions	
Improvement at M61J5	Improvements at the existing roundabout as shown on drawing ITM15276-GA-005A

15.1.2 The following interventions will deliver the full GMSF development in the area:-

- Option 1: with Link Road

- A new link road between Chequerbent roundabout and Platt Lane – drawing ITM15396-GA-001A.
- Associated improvements at Chequerbent roundabout – drawing ITM15396-GA-002A.
- Improvement at the A577/A579/Gibfield Park Way roundabout – drawing ITM15396-GA-006
- Improvement at A579 Atherleigh Way/B5235 Lovers' Lane junction – drawing ITM15396-GA-007.
- Improvements at M61J5 – drawing ITM15276-GA-005A.

- Option2: with Chequerbent Signalisation

- Signalisation of Chequerbent roundabout – drawing ITM15396-GA-009.
- Improvement to the Gibfield Park Way entry at the A577/A579 roundabout – as shown on drawing ITM15396-GA-006.
- Introduction of MOVA at the A579/B5235 junction.
- Improvements at M61J5 – drawing ITM15276-GA-005A.

15.1.3 The schemes to mitigate impacts at Chequerbent roundabout demonstrate that there is a range of potential mitigation solutions at the junction. There may be other options such as the introduction of a signalised cross-roads. The interventions identified are not expected to be definitive solutions and are identified to demonstrate that the allocation has the potential to be implemented and also developed to enable costing. The final form of mitigation will be agreed at planning application stage.

15.1.4 The following local interventions will be necessary, specifically related to the West of Gibfield allocation:-

- Access connections to Gibfield Park Way
- Extension of the footway/cycle route at Gibfield Park Way into the allocation.
- Travel Plans (residential and workplace) to encourage the use of sustainable travel modes.

16. Strategic Context – GM Transport Strategy Interventions

16.1.1 The GMCA 2040 Transport Strategy Delivery Plan sets out a comprehensive programme of work across all modes and in all Districts which are all focused on ensuring the realisation of the 'Right Mix' vision. Many of these interventions support the GMSF Allocations directly, whilst others are intended to provide alternatives to private car travel more generally. The schemes demonstrate a clear plan for delivering strategic transport interventions for the first five years of the GMSF plan period, whilst also laying the foundations for longer term investment in sustainable transport across the length of the plan period.

16.1.2 In addition to the allocation-specific interventions set out in this Locality Assessment, there are a number of other measures already planned by Wigan Council and Transport for Greater Manchester to support sustainable travel, and to contribute to the achievement of Greater Manchester's 'Right Mix' ambition.

- Network Rail has developed proposals, currently awaiting DfT approval, for the electrification of the line from Bolton via the Lostock spur to Wigan, which could result in increased capacity and reduced journey times. In addition, TfGM is conducting a study into the feasibility of opening new rail stations at Golborne, Kenyon and Little Hulton. If constructed these stations would provide the opportunity to improve linkages to Liverpool, the Regional Centre, and onwards across the Pennines.

- TfGM proposes to develop options for metro/tram-train services on the Atherton line which will also see increases in frequency.
- TfGM is also working on implementing Quality Bus Transit (QBT) on key bus corridors. QBT is typified by improvements to frequency and quality of the bus service as well as localised public realm enhancements. The Wigan – Bolton corridor route is a candidate for improvement.
- Greater Manchester also has ambitious plans to develop the Bee Network - the UK's largest cycling and walking network as a key element to delivering on the "Right Mix" vision, and the Combined Authority has allocated £160m between 2018-2022 to fund the first phase of the Bee Network. The network has at its core a programme of new and upgraded pedestrian and cycling crossing points of major roads and other sources of severance, connected by a network of signed cycling and walking routes – known as Beeways – on existing quiet streets. These will be complemented by a number of routes on busier roads where Dutch style cycle lanes protected from motor traffic will be constructed. In Wigan, 183 new or upgraded crossings are proposed for pedestrians and cyclists and 16 miles of Bee Network routes are proposed on busier roads in Wigan.

17. Phasing Plan

17.1.1 All phasing plans information contained in this Locality Assessment is indicative only and has only been used to understand the likely intervention delivery timetable. Final trajectory information and the final allocation proposal is contained in the GMSF Allocation Topic Paper. It is envisaged that the allocation will be delivered as follows:

Table 73. Allocation Phasing: West of Gibfield

Allocation Phasing	2018 2024	2025 2029	2030 2040*	2040+	Total
Residential	60 units	515 units	-	-	575 units
Employment**	22,750sqm	22,750sqm	-	-	45,500sqm

* GM modelling suite has a 2040 forecast year, as such it uses 2040 data as proxy for 2037 full build out, this will not materially impact on the analysis.

**Employment phasing is indicative and will be market led.

17.1.2 For the strategic interventions (capable of accommodating the whole of the GMSF development), the following timescales for delivery of the schemes are envisaged:-

- Link road and Chequerbent roundabout improvements or signalisation scheme. The detailed junction modelling indicates that the junction is significantly over-capacity in the PM peak hour at 2025 with the reference case traffic flows. The schemes should therefore be delivered around 2025.
- A577/A579/Gibfield Park Way roundabout improvement: the introduction of the link road between Chequerbent and Platt Lane increases traffic at the junction and, at this point, the proposed improvement is likely to be needed.
- A579/B5235 Lover's Lane improvement: the link road results in a transfer to the A579 corridor and the proposed improvement is likely to be needed to coincide with the delivery of the link road. With the alternative scenario, MOVA could be introduced early in the development programme.
- M61J5 improvements. The detailed junction modelling indicates that the junction is predicted to be over-capacity at 2025 but with GMSF not having a severe impact. By 2040, the junction requires mitigation to accommodate the full GMSF traffic. Therefore mitigation will likely be needed in the period 2025-2040.

17.1.3 The detailed extent and timing of any mitigation associated with the West of Gibfield allocation will be reconsidered at planning application stage.

17.1.4 In terms of the allocation specific local interventions summarised in Section 15, it is envisaged they will be delivered as follows:-

- Access: a minimum of one access before the development is occupied. The timing of the access points will be determined as masterplanning progresses and will be considered at application stage.
- Pedestrian / Cycle connection to Gibfield Park Way: before development is occupied.
- Travel Plans: on first occupation.

17.1.5 The indicative intervention delivery timetable is as follows:

Table 74. Indicative Intervention Delivery Timetable: West of Gibfield

Mitigation	2018 2024	2025 2029	2030 2040*	2040+
Allocation Access				
Access off Gibfield Park Way	✓			
Necessary Strategic interventions				
Option 1: Link Road		✓		
Option 2: Chequerbent Signalisation		✓		
A577/A579/Gibfield Park Way Improvement		✓		
A579/B2535 Improvement		✓		
Supporting Strategic Interventions				
GM Strat 8 Measures		✓	✓	
Tram-train Improvements		✓	✓	
Necessary Local Mitigations				
Footway/cycleway connection	✓			
Travel Plans	✓			
Supporting Local Mitigations				
Bee Network	✓	✓		
SRN Interventions				
Improvement at M61J5		✓		

* GM modelling suite has a 2040 forecast year, as such it uses 2040 data as proxy for 2037 full build out, this will not materially impact on the analysis.

18. Summary and Conclusion

Overview

18.1.1 The ten local planning authorities in Greater Manchester have agreed to prepare a joint Development Plan document to guide the development of land for housing and employment over the next 20 years. This is known as the Greater Manchester Spatial Framework (GMSF).

18.1.2 The authorities issued a Draft GMSF document for consultation in January 2019. The 2019 document notes that the overall spatial strategy of the GMSF seeks to take advantage of the opportunities for delivering high levels of economic growth. Policy GM-Strat 8 identifies that the Wigan-Bolton growth corridor will deliver a regionally-significant area of economic growth and residential development and proposes to allocate West of Gibfield as Policy GM Allocation 51.

18.1.3 This Locality Assessment report considers the key transport and highways implications of the West of Gibfield allocation.

Access

18.1.4 The allocation has highway frontage with A577 Wigan Road along its southern boundary, with B5235 Schofield Lane to the west and North Road at its north-east corner. Gibfield Park Way runs through the allocation northwards.

18.1.5 Access to the West of Gibfield allocation can be provided from Gibfield Park Way and Peel controls the land around the road such that there are no insurmountable constraints. Traffic capacity assessments demonstrate that access junctions will operate within capacity and will provide safe and satisfactory access to the allocation.

18.1.6 The draft policy notes that Gibfield Park Way should be extended northwards towards the railway and that the allocation should contribute to a new bridge to connect with the Westhoughton Bypass. Policy GM Strat 8 notes that a new highway will connect M6 with M61 and there are prospects for a scheme to be delivered using DfT Large Local Majors funding or other funding streams. Alternatively, the allocation can be connected to North Road.

18.1.7 Overall it is therefore concluded that access can be provided to the allocation in accordance with the NPPF

Accessibility

18.1.8 The West of Gibfield allocation is well located to existing walk, cycle and public transport networks, both rail and bus, enhancing the sustainability of the allocation.

18.1.9 The design of the allocation will include high quality footways and cycleways and these will focus movement towards the most appropriate locations to leave (or access) the allocation, connecting with existing provision to facilitate longer distance journeys. There are walking routes to bus stops, all three railway stations (which are within the vicinity of the allocation) and to a range of destinations within nearby Atherton. A pedestrian crossing of Schofield Lane will also be investigated such that pedestrians can use the existing footway on the west side of Schofield Lane/Lower Leigh Road.

18.1.10 A dedicated traffic-free cycle route runs along Gibfield Park Way, effectively through the middle of the allocation. Residential roads can then be used to access the SUSTRANS national cycle route 55 providing connections to Hindley, Tyldesley, Eccles, Salford and Manchester.

18.1.11 Three railway stations can be reached on foot or by bike (the distance from the edge of the allocation to the stations is: Daisy Hill – 0.8km Hag Fold – 1.3km; Atherton – 2.2km) and all can be accessed using existing footways. The proposed Bee Network in the area will provide connections to Hag Fold and Atherton stations. The former can also be accessed by the quiet residential street network between Bag Lane and Norfolk Road / Dorset Road.

18.1.12 It is understood that there are firm plans (GM 2040 Transport Strategy) to increase the frequency of services on the Wigan – Manchester railway line (serving Daisy Hill and Atherton) to four trains per hour in the peak periods. These will provide significant enhancements to existing rail services, providing frequent services to the regional centre from the allocation. In addition, there are prospects for 'train – tram' services on the line with potential further frequency increases. Policy GM Strat 8 notes there will be new east-west public transport infrastructure between Wigan and Bolton.

18.1.13 Both workers and residents on the allocation will be able to access existing bus services which provide frequent services to a range of destinations within both the local area and beyond to Wigan, Leigh and Bolton. The V2 service from Atherton provides frequent and fast services to Manchester city centre. Much of the allocation is within an easy walking distance of existing bus stops. The need for any diversions or improvements to existing bus services can be determined at the time the proposals are brought forward for development taking account of the provision that will be available at that time (which may be several years away), including any infrastructure delivered by Policy GM Strat 8.

18.1.14 Suitable and sustainable access to/from the allocation by public transport can therefore be provided.

18.1.15 A range of facilities and services will be available locally within walking and/or cycling distance. These include: primary and secondary schools, health facilities including doctors, dentists and pharmacies in Atherton and Westhoughton; and Atherton town centre where there is a range of retail uses. There are committed proposals to provide the Bee Network in the area.

18.1.16 Existing bus routes and services provide connections to several destinations including Westhoughton and Atherton town centres, and rail services available from Daisy Hill, Hag Fold and Atherton railway stations provide suitable access to a range of additional facilities and services including further afield in Manchester and Wigan.

18.1.17 It is therefore concluded that the draft allocation is sustainable and accessible by a range of travel modes and will therefore be in accordance with the NPPF.

Traffic Impacts

18.1.18 A traffic impact assessment of the GMSF allocation has been conducted. Traffic forecasts have been provided from the GMVDM. The traffic forecasts are a worst case as they assume 700 dwellings as per the draft allocation but the yield is likely to be less than this.

18.1.19 The existing capacity of the highway network in the vicinity of the allocation has been reviewed. Chequerbent roundabout currently suffers from queues and delays in the evening peak hour.

18.1.20 The overall approach in this Locality Assessment has been to identify mitigation that will accommodate the full GMSF traffic flows, where the West of Gibfield allocation has a potential impact. Various draft allocations and general growth in travel demands contribute to impacts and some locations already experience capacity issues. As such, any mitigation identified at this stage is not solely attributable to the West of Gibfield allocation.

18.1.21 Mitigation schemes were developed and tested to address the network congestion impacts at both the strategic and local road networks and also identify appropriate sustainable solutions. These schemes have only been developed in outline detail to inform viability and allocations policy.

18.1.22 Further detailed work will be necessary to identify the specific interventions required to ensure the network works effectively based on transport network conditions at the time of the planning application. All final design solutions should be consistent with Greater Manchester's best practice Streets for All highway design principles.

18.1.23 In summary, this assessment gives an initial indication that the allocation is deliverable, however, further work will be needed to verify and refine these findings, as the allocation moves through the planning process. The allocation will also be supported by continuing wider transport investment across GM.

18.1.24 The GMVDM traffic flows indicate that mitigation will be required at Chequerbent roundabout, the A577/A579/Gibfield Park Way roundabout and the A579/B5235 Lovers' Lane junction to accommodate the full GMSF traffic flows and schemes have been identified and costed. It is understood the Councils and GMCA are investigating a scheme to deliver the east-west road infrastructure identified in Policy GM Strat 8; if a strategic intervention comprising a new road scheme between M61 and M6 is progressed then this will provide significant additional highway capacity along the A58 corridor including at Chequerbent roundabout and M61J5.

18.1.25 Further traffic assessments then confirm that these mitigation schemes will accommodate the full GMSF traffic flows, confirming there is no impediment to the delivery of GMSF allocations in the area, including the West of Gibfield allocation. It is stressed that the interventions are to accommodate all of the GMSF traffic flows including development and growth identified in the reference case and deal with potential constraints on the highway network that will exist irrespective of the allocation.

18.1.26 It is envisaged that the West of Gibfield allocation will make a proportionate contribution to the costs of the proposed interventions, also taking account that Policy GM Strat 8 identifies a strategic intervention and this may either 'replace' the interventions identified or will provide a source of public funding.

18.1.27 It is therefore concluded that the draft allocation will not result in severe traffic impacts and is therefore in accordance with the NPPF in this regard.

Conclusion

18.1.28 Overall it is concluded that the development of the West of Gibfield allocation for residential and employment uses will be in accordance with the NPPF in transport terms and will enable the delivery of sustainable development in accordance with the polices in the Framework.