

November 2020

Transport Locality Assessments

Introductory Note and Assessments –
Cross-boundary allocations

GMSF 2020

Table of contents

1. Background	2
1.1 Greater Manchester Spatial Framework (GMSF)	2
1.2 Policy Context – The National Planning Policy Framework	3
1.3 Policy Context – Greater Manchester Transport Strategy 2040	5
1.4 Structure of this Note	9
2. Site Selection	10
2.1 The Process	10
2.2 Greater Manchester Accessibility Levels	13
3. Approach to Strategic Modelling	15
4. Approach to Technical Analysis	17
4.1 Background	17
4.2 Approach to identifying Public Transport schemes	18
4.3 Mitigations and Scheme Development	19
5. Conclusion	23
6. GMSF Allocations List	24
Appendix A - GMA1.1 Northern Gateway - Heywood / Pilsworth Locality Assessment	A1
Appendix B - GMA1.2 Northern Gateway - Simister and Bowlee Locality Assessment	B1
Appendix C - GMA2 Stakehill Locality Assessment	C1
Appendix D - GMA3.1 Roundthorn Medipark Extension and GMA3.2 Timperley Wedge Locality Assessment	D1

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:

Our Bus	Our Metrolink	Our Rail	Our Streets	Our Integrated Network
<ul style="list-style-type: none"> Local Bus Quality Bus Transit Bus Rapid Transit 	<ul style="list-style-type: none"> Metrolink New Stops and Upgrades Tram-Train 	<ul style="list-style-type: none"> Rail High Speed Rail Stations 	<ul style="list-style-type: none"> Walking and Cycling Local Highways Strategic Roads and Motorways Freight and Logistics Maintenance Town Centres 	<ul style="list-style-type: none"> Clean Air and Carbon Future Mobility and Innovation Interchnages Travel Hubs / Park & Ride Fares and Ticketing Behaviour change Safety and security

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 accessibility 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.

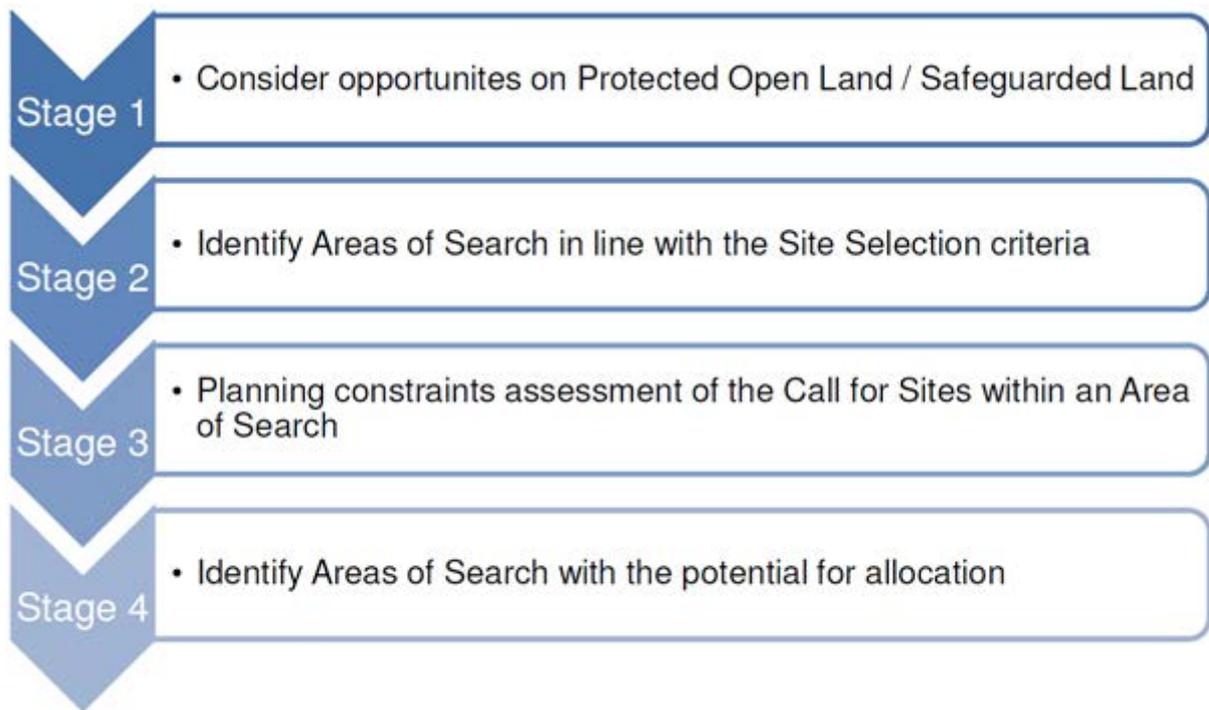
1.4.3 It then explains the approach to strategic modelling which was used to highlight the transport impacts of the Allocations on the transport network, and the process to identify, develop and categorise suggested mitigation schemes.

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.

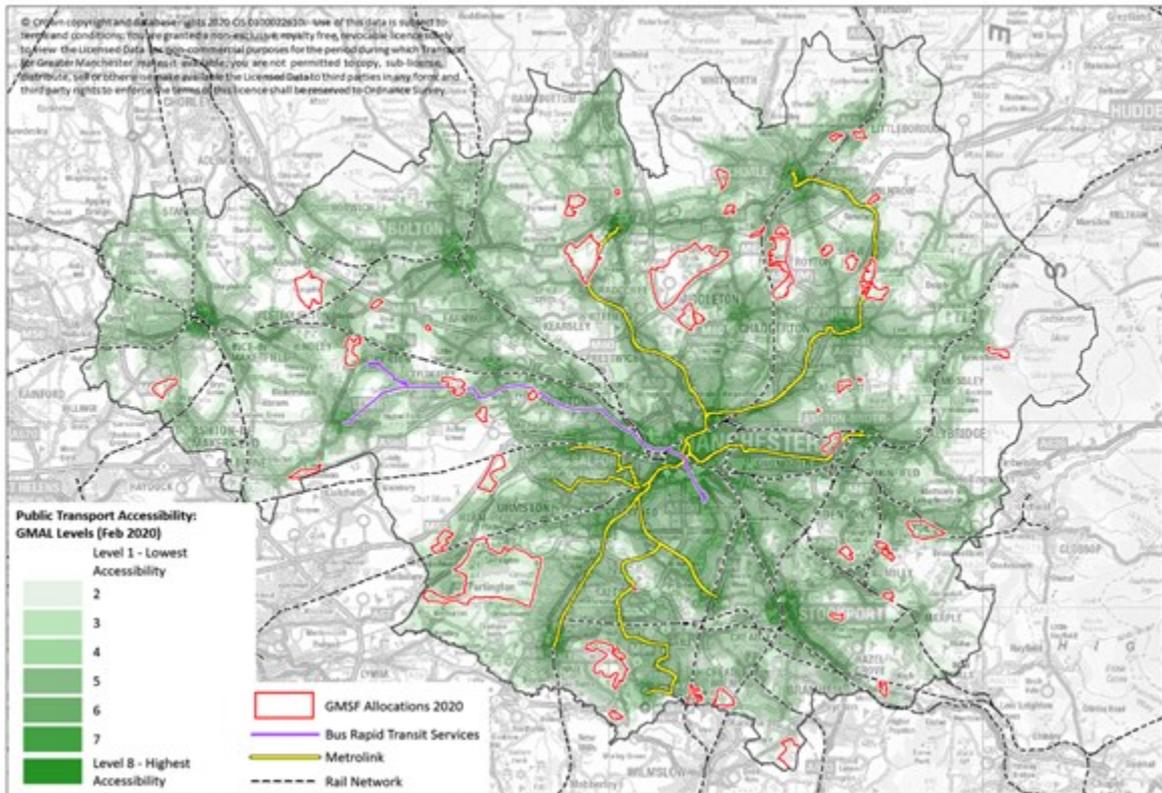
1.2.4 It does not consider:

- 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.

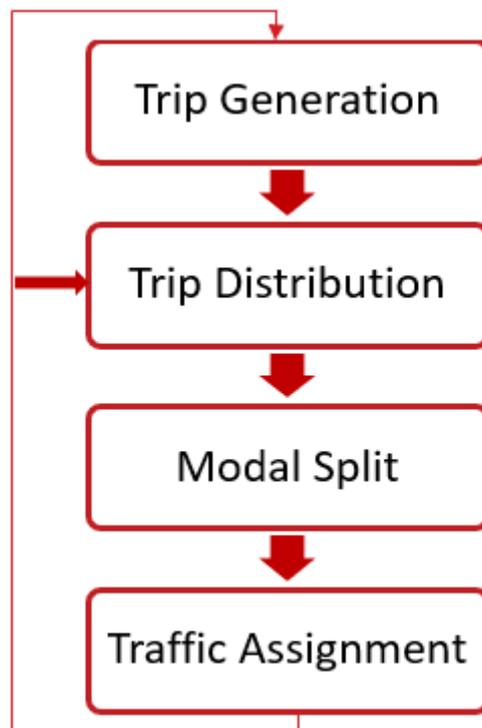
1.2.6 This accessibility data should be considered correct as of February 2020, providing a stable representation of the public transport network before changes in services associated with Covid-19. Since March 2020, public transport services have been under continuous review subject to the requirements 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, it 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 fully 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	Cowlshaw	GMA16	Cowlshaw
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:

**Northern Gateway – Heywood / Pilsworth
(GMA1.1)**

Version 2: November 2020

Identification Table	
Client	Bury Council
Allocation	Northern Gateway - Heywood / Pilsworth
File name	GM01.1 Northern Gateway – Heywood LA 021020
Reference number	GM01.1

Approval					
Version	Role	Name	Position	Date	Modifications
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	Checked by	Stephen Heritage	Associate Director	14/09/20	
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	Checked by	N Blackston R Chapman	Bury Council Rochdale BC	30/09/20	
	Approved by	C Logue P Moore	Bury Council Rochdale BC	30/09/20	

Table of contents

1.	Allocation Location & Overview	7
2.	Justification for Allocation Selection	8
3.	Key Issues from Consultation	9
4.	Existing Network Conditions and Site Access	9
5.	Proposed Access to the Allocation	12
6.	Multi-modal accessibility	14
7.	Parking	21
8.	Allocation Trip Generation and Distribution	26
9.	Existing Highway Network	30
10.	Treatment of Cumulative Impacts	32
11.	Allocation Access Assessment	33
12.	Impact of Allocation Before Mitigation on the Local Road Network	33
13.	Transport Interventions Tested on the Local Road Network	36
14.	Impact of interventions on the Local Road Network	38
15.	Impact and mitigation on Strategic Road Network	41
16.	Final list of interventions	50
17.	Strategic Context – GM Transport Strategy Interventions	53
18.	Phasing Plan	54
19.	Summary	57
	Appendix 1 – Schematic Drawings for Local Mitigation Schemes	59
	Appendix 2 – Supporting Information for M66 Link Road Analysis	63

List of figures

Figure 1.	Allocation Location: Heywood / Pilsworth	10
Figure 2.	Heywood/Pilsworth: Allocation Access Arrangements	14
Figure 3.	Public Rights of Way: Heywood / Pilsworth	16
Figure 4.	Allocation Traffic Distribution, 2040 GMSF High-Side (Origin/Destination Combined)	29
Figure 5.	Assessed Junctions	31
Figure 6.	M66 Link Road Location Plan	47

List of tables

Table 1.	Collision Data within 1km of the allocation within the last 5 years	12
Table 2.	Existing Bus Routes in the vicinity of the allocation	18
Table 4.	Bury Parking Standards	23
Table 5.	Rochdale Parking Standards	25
Table 6.	Development Quantum: Heywood / Pilsworth	27
Table 7.	Allocation Traffic Generation: Heywood / Pilsworth	27
Table 8.	Allocation Traffic Distribution, 2040 GMSF High-Side (Origin/Destination Combined)	28
Table 9.	SRN Allocation Traffic Distribution, 2040 GMSF High-Side (Origin/Destination Combined)	30
Table 10.	Results of Local Junction Capacity Analysis Before Mitigation – Year 2040	35
Table 11.	Approach to Junction Mitigation	37
Table 12.	Results of Local Junction Capacity Analysis After Mitigation – Year 2040	39
Table 13.	Results of Strategic Junction Capacity Analysis Before Mitigation – Year 2040	42
Table 14.	Summary of SRN Junction Mitigation Measures	44
Table 15.	Results of Strategic Junction Capacity Analysis After Mitigation – Year 2040	45
Table 16.	2040 GMVDM Traffic Forecasts – M66 Link Road	48
Table 17.	PCU to Vehicle Conversion	49
Table 18.	Final List of Interventions	50
Table 19.	Allocation Phasing	56
Table 20.	Indicative intervention delivery timetable	56

Allocation Data	
Allocation Reference No.	GMA1.1
Allocation Name	Northern Gateway – Heywood / Pilsworth
Authority	Bury / Rochdale
Ward	Bury – Besses Rochdale - Heywood South
Allocation Proposal	700,000 sq metres of employment space & 200 homes
Allocation Timescale	0-5 years <input type="checkbox"/> 6-15 years <input checked="" type="checkbox"/> 16 + years <input checked="" type="checkbox"/>

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 SYSTRA has been commissioned by Transport for Greater Manchester (TfGM) to provide a series of locality assessments (LAR) for strategic sites within the Greater Manchester region in order to confirm their potential impacts on both the local and strategic network, as well as identifying possible forms of mitigation or the promotion of sustainable alternatives to reduce this impact.
- 1.1.2 This LAR provides an assessment for the Heywood/Pilsworth allocation; its purpose is to identify the likely transport and highways impacts of the allocation and formulate appropriate mitigation strategies to support the inclusion of the allocation in to the GMSF.
- 1.1.3 The Heywood/Pilsworth draft allocation area has been identified as providing the opportunity for the delivery of a nationally significant employment development zone, sited in a highly accessible location, which can build on the success of existing adjacent employment areas to attract a range of business sectors including logistics, manufacturing and advanced manufacturing. The scale of opportunity available at Heywood/Pilsworth is envisaged as being important in securing a significant jobs boost to northern and eastern parts of the Greater Manchester conurbation and increasing the economic output from this area.
- 1.1.4 The Heywood/Pilsworth draft allocation is identified as having the potential to deliver up to 1,200,000sqm of industrial, advanced manufacturing and warehousing space across the full development area and some 1,200 dwellings. This includes South Heywood, which is the 1st phase of the site, which benefits from a full planning consent, 16/01399/HYBR.
- 1.1.5 This locality assessment report considers those elements which fall within the plan period; that is, 200 of the proposed 1,200 dwellings, in addition to 700,000sqm of the employment area. The proposed allocation will see a mix of housing types and will make provision for affordable housing in accordance with the local planning authority's policy requirements. For the purposes of the Locality Assessment modelling, the GMSF plan period development has been considered in line with market experience associated with other large strategic employment sites and therefore based on a land use split of circa 70% B8 / 30% B2 employment (including Advanced Manufacturing).

- 1.1.6 The allocation is situated on the urban fringes of Prestwich, Whitefield Heywood and Middleton, to the north-east of Simister Roundabout, and is bounded to the west by the M66, the M62 to the south, and Heywood Business Park to the north.
- 1.1.7 The location of the proposed allocation adjacent to the SRN allows for direct connections across northern England, connecting Liverpool and Hull via Manchester and Leeds. The M62 and M66 also provide links to the wider UK motorway network including the M1, M6, M65 and A1(M).

2. Justification for Allocation Selection

2.1 Heywood and Pilsworth

- 2.1.1 This site forms part of the wider Northern Gateway allocation and straddles the districts of Bury and Rochdale. The site provides the opportunity to deliver a large nationally significant employment opportunity to attract high quality business and investment with complementary residential development.
- 2.1.2 The site is positioned at a strategically important intersection around the M60, M62 and M66 motorways. As such, it represents a highly accessible opportunity for growth in Greater Manchester, with wider benefits on a regional and national level.
- 2.1.3 Currently much of the area proposed for development is served by an inadequate transport network. Key to delivery of this site will be the provision of significant improvements to highway infrastructure, delivery of improved public transport infrastructure through the site (including Bus Rapid Transport corridor) and close to the site (including potential tram-train adjacent to the East Lancashire rail line between Bury and Rochdale) and the provision of high quality and connected walking and cycling routes.
- 2.1.4 The scale of the development will help to deliver a significant jobs boost to the northern and eastern parts of Greater Manchester, increasing the economic output from this area. It will also enable new residential and community facilities to come forward in what is currently an area with significant pockets of deprivation, low skills and worklessness.
- 2.1.5 Further detail is provided within in the GMSF Site Selection Paper and Bury's Northern Gateway Heywood/Pilsworth Topic Paper.

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. Particularly, respondents were concerned that:

- Existing roads, motorways and junctions are at capacity;
- There is too much emphasis on road transport/improvements necessary;
- [Infrastructure] Needs to be provided before development;
- An evidence base/business case needs to set out detail on improvements to existing motorway junctions;
- There are compulsory purchase (CPO) concerns;
- Birch junction will not work/make roads dangerous, more detail required in policy/evidence;
- The South Heywood link road scheme should be paused until wider proposals are brought forward;
- Public transport is poor, particularly in Heywood, proposed solutions are not suitable;
- There must be recognition of the potential of Metrolink and East Lancashire Railway, subject to heritage impact, to serve site;
- The current cycling network dangerous;
- Cycle lanes not needed; and
- There is some support for the detailed infrastructure proposals.

3.1.2 A [full summary of all consultation responses](#) is available on the GMCA GMSF website.

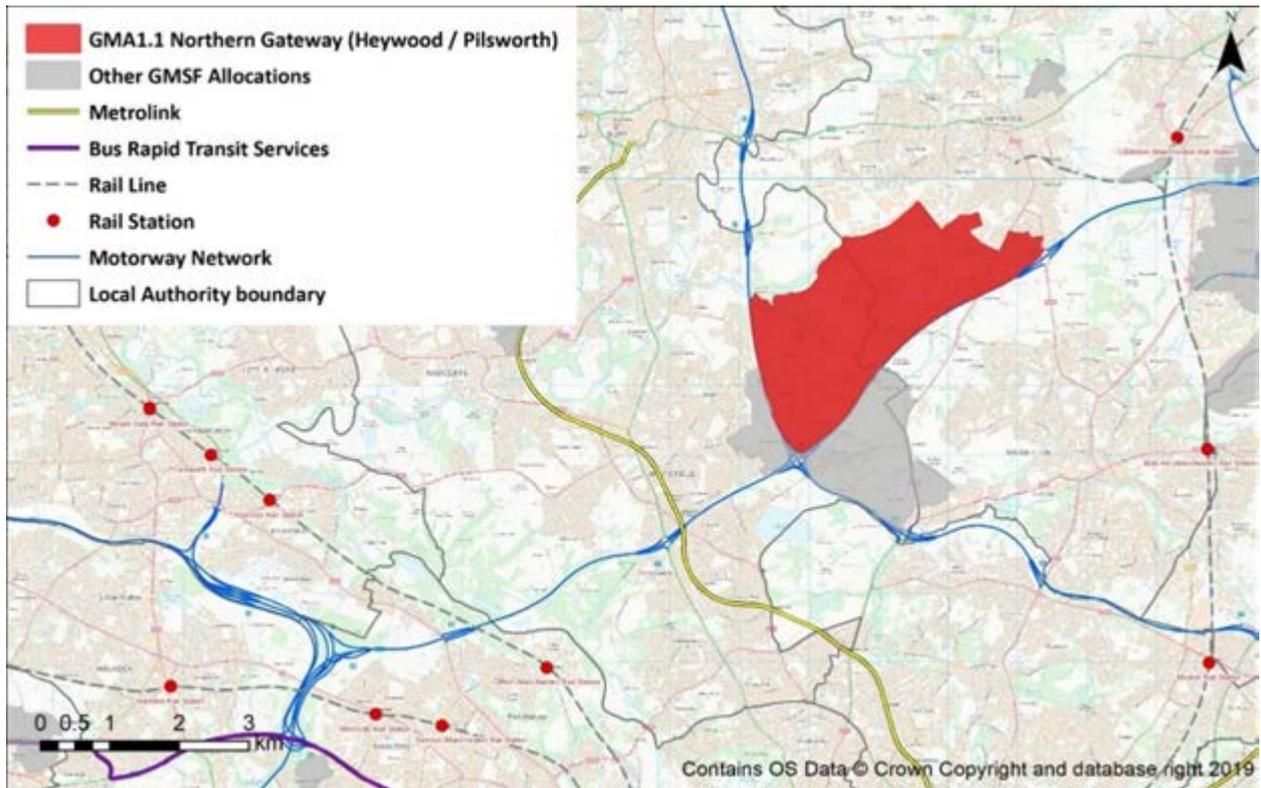
4. Existing Network Conditions and Site Access

4.1 Introduction

4.1.1 This chapter summarises the existing access to the site acknowledging that a dedicated access may not currently be available. In these instances, a more generic narrative is provided on how to access the site area. Paragraphs also consider current opportunities for active travel and proposals for future access. **Figure 1** shows the transport context of the allocation.

4.1.2 Note that the allocation boundaries shown in **Figure 1** were correct at the time of writing, for definitive boundary information refer to the GMSF allocation maps. Since the modelling analysis/images were prepared for this report, the Whitefield allocation – which is shown in a number of images – has been withdrawn from the GMSF.

Figure 1. Allocation Location: Heywood / Pilsworth



4.2 Access from the West and M66

4.2.1 Pilsworth Road, adjacent to the local quarry, can be accessed from the signalised Junction 3 of the M66. The road is typically 7.3m in width but widens in places to accommodate right turn facilities and central hatching on bends. The route is subject to a 30mph speed limit, is street lit and has a footways located on the southern side. The northern side lacks a footway and the hedgerow is particularly overgrown, to the kerb line in places. The junction of Pilsworth Road with Moss Hall Road is signalised. The approach to the junction accommodates a single, all movements, traffic lane; has an advanced cycle stop line and accommodates a two phase, signalised pedestrian crossing.

- 4.2.2 Moss Hall Road approaches to the same junction, north and south, also accommodate single, all movement traffic lanes and advanced cycle stop lines. The signalised pedestrian crossing facilities are also continued throughout the junction and the junction is street lit. Moss Hall Road also provides a low-capacity access to/from the north (restricted to vehicles less than 18t at night) providing a connection with the A58 at Heap Bridge.
- 4.2.3 Moss Hall Road becomes Whittle Lane to the south of Birch Industrial Park. Both route south from Pilsworth Road, adjacent to Heywood Distribution Park, through to Heywood Old Road, effectively bisecting the allocation. As it routes south through the allocation, the road benefits from only intermittent footway provision, is typically 7.3m in width, and is street lit only at its priority junction with Pilsworth Road (The Three Arrows). The route is subject to a 40mph speed limit.
- 4.2.4 Aviation Road routes east to the allocation beneath the M66; it can be accessed from Pilsworth Road via the Pilsworth Industrial estate. The estate has the benefit of bus stops (but with only a low frequency service) and a number of large retail outlets including ASDA.
- 4.2.5 Castle Road routes from Unsworth, east from Hollins Lane, over the M66. It continues northeast, whilst Griffie Lane (predominantly access only) routes southeast from its junction with Castle Road. Both routes are rural in nature and have limited footway provision. Castle Road particularly is of cobbled construction and is a narrow single carriageway suitable for one way movement.

4.3 Access from the East and M62

- 4.3.1 Principal access from the east is via M62 Junction 19 and then the A6046 Middleton Road, A6045 Manchester road and Hareshill Road. The 7.3m wide route benefits from street lighting, has a single footway to the eastern side of the road and is subject to a 30mph speed limit.

4.4 Access from the South and Middleton

- 4.4.1 Whittle Lane also forms a priority junction with the A6045, the latter providing access to M60 J19 (via the A576). Whittle Lane routes northwest, over the M62, immediately adjacent to Birch Services where restricted, private access to the services is provided. The route has intermittent footway provision, is street lit, is subject to a 30mph speed limit and an 18T weight limit. As discussed, Whittle Lane provides access to Birch Industrial Park. Due to the weight restriction however, it is anticipated that most HGV traffic routes from the north.

4.4.2 Further access to the allocation is currently provided via Dr Fold Lane and Simon Lane, both minor routes.

4.5 Accidents and Collisions Overview (From 2014) – Slight, Serious & Fatalities

4.5.1 M66 Junction 3 (J3) sees high volumes of traffic throughout the day and especially during peak hour periods. Consequently, a higher number of road traffic incidents might be anticipated. A review of accident data (from CrashMap) confirms that there have been five serious accidents at M66 J3 in the five year period from since 2014; these involved ten cars and five casualties. Similarly, M66 Junction has seen three serious accidents over the same period; with seven vehicles involved and four casualties.

4.5.2 On the boundary of the allocation, where Moss Hall Road forms a junction with Pilsworth Road and the Three Arrows Inn is located, there was one accident involving two cars; this accident also resulted in a cyclist casualty. There have also been two serious, and separate, accidents along Hareshill Road; both resulted in a casualty and one involved a motorcyclist.

4.5.3 The priority junctions of Dr Fold Lane and Hareshill Road with Manchester Road, have both seen two slight accidents. In addition, the priority T junction between Pilsworth Road and Hareshill Road has seen two slight accident. The number and severity of accidents in the vicinity of the allocation is summarised in **Table 1**.

Table 1. Collision Data within 1km of the allocation within the last 5 years

FATAL	SERIOUS	SLIGHT	TOTAL
11	17	51	79

5. Proposed Access to the Allocation

5.1.1 The nature of existing wider strategic highway connections to the Heywood/Pilsworth draft allocation area are such that, future development traffic associated with the site would effectively be channelled towards the two-main existing strategic highway network access points at M66 J3 and M62 J19. Few other access options exist, as the remaining local road links are of a generally limited standard and are already the subject of traffic calming / HGV operational restrictions - meaning that they are unsuitable to accommodate significant future traffic levels associated with

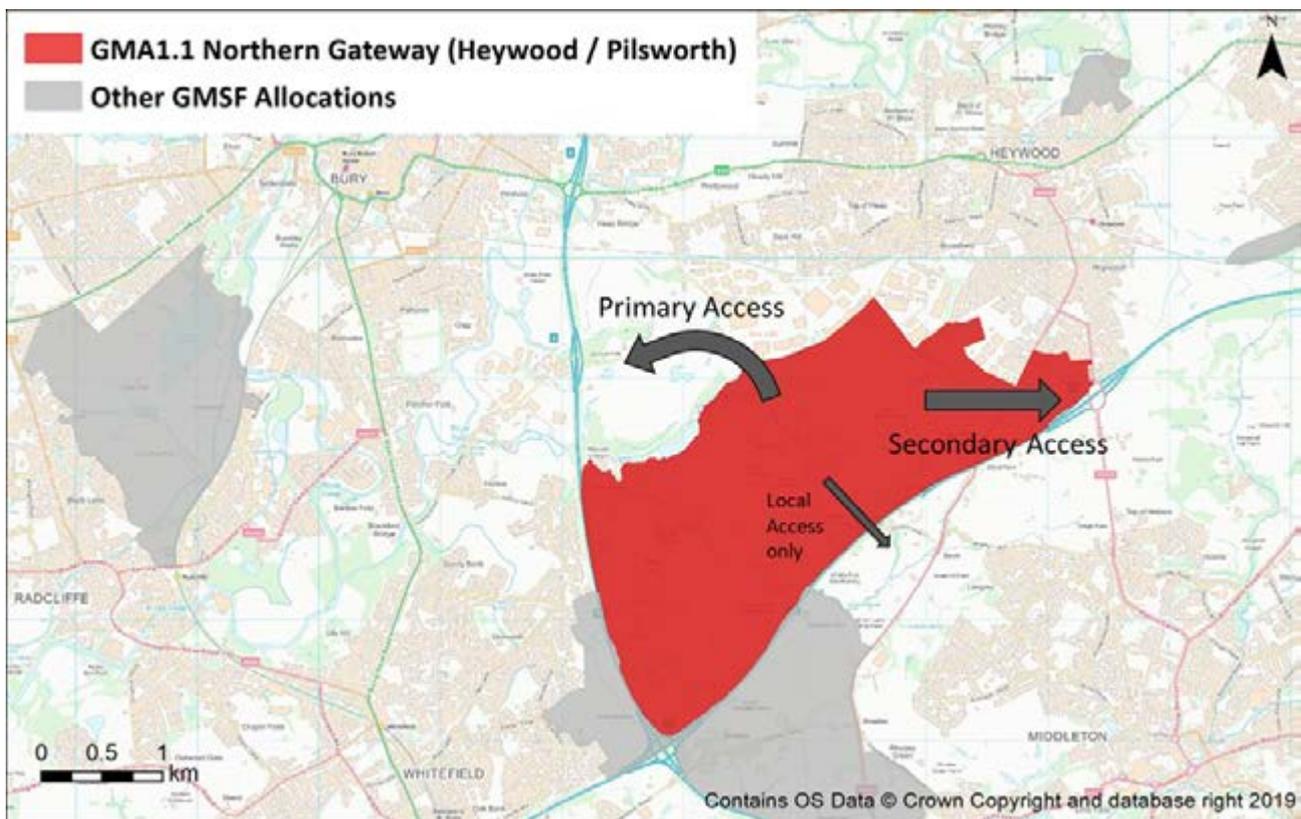
additional major employment development. It is therefore clear that the future operational performance of these existing strategic connection points is likely to be critical to determining the extent of early development that can be successfully realised at the allocation and that supporting infrastructure improvements will ultimately be required at these locations to deliver the full development potential of the wider draft allocation area. The access strategy developed as part of this Locality Assessment recognises the need for such strategic improvements, particularly with respect to western network connections towards M66 J3, including the comprehensive upgrade of this motorway junction.

- 5.1.2 The adjacent, recently consented South Heywood mixed use development area is to be served by a new high-quality link road route (South Heywood Link Road – SHLR), connecting Pilsworth Road to M62 Junction 19. Further details of this scheme can be found in **Section 9.2**. M62 Junction 19 is also being upgraded to accommodate this scheme. It is anticipated that early phases of the development of the allocation area could therefore take advantage of the network capacity benefits to be delivered by this link road scheme.
- 5.1.3 Whilst additional major infrastructure will be required to deliver the full allocation area, the delivery of the SHLR and associated local network improvements are designed to accommodate current development commitments and general traffic growth up to 2038, including delivery of the consented South Heywood development area. Indeed, prior to this 2038 horizon, elements of this enhanced local highway network can be expected to offer a practical level of short-term ‘spare’ operating capacity – i.e. capacity which is effectively ‘reserved’ for longer-term elements at South Heywood, but which could potentially be utilised in the short to medium-term to support initial phases of development at the allocation.
- 5.1.4 The draft allocation therefore offers the opportunity for a coordinated phased development approach, including for the long-term delivery of major transport infrastructure, but which does not exclude the potential for early release of initial development parcels prior to the completion of such works. The extent of such preliminary development phases can be determined by additional future capacity studies and potentially could be maximised through the utilisation of technological demand management solutions and supporting Travel Plan initiatives in order to limit development impact during critical peak periods.
- 5.1.5 **Figure 2** summarises the key elements of the proposed access strategy:

- Primary access via Junction 3 of the M66 and an upgraded east-west link road
- Secondary access via M62 Junction 19 and the SHLR
- Whittle Lane and other local roads/tracks downgraded and designated for local access only

5.1.6 It is envisaged that in the early stages of the development, access would be mainly via the SHLR and M62 J19 (labelled “secondary access” on the figure below). Access to/from M66 J3 (labelled “primary access” on the figure below) would be required later in the development phasing.

Figure 2. Heywood/Pilsworth: Allocation Access Arrangements



6. Multi-modal accessibility

6.1 Overview

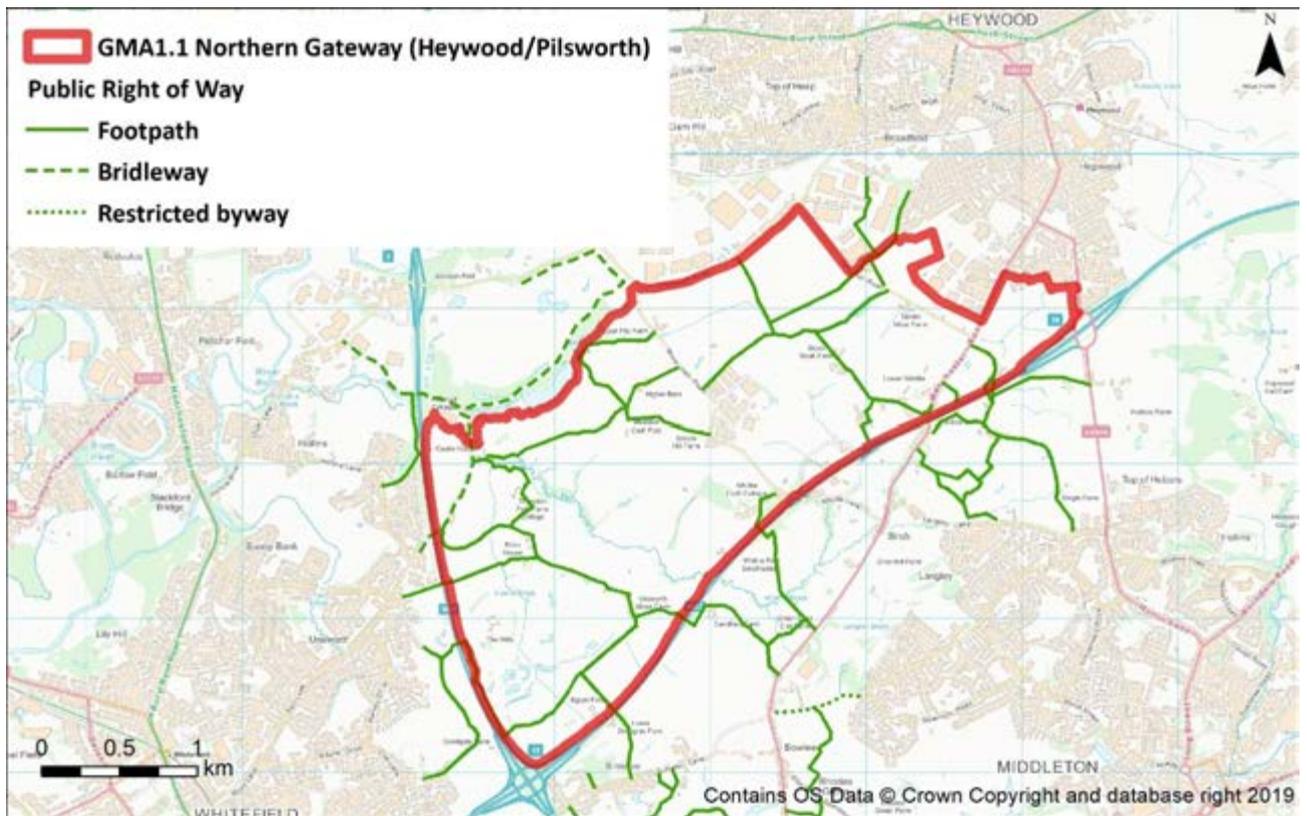
6.1.1 The development of access and active travel across the Greater Manchester Region is a central tenet of the GMSF, to be realised through the establishment and continued improvement of the cycle and walking network.

- 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. The allocation and its relative multi-modal accessibility can be summarised below.
- 6.1.3 It highlights the opportunities for employees, residents and visitors to travel to and from this large allocation by modes of travel other than in a privately owned car. This allocation is in proximity to the existing regionally renowned employment sites at Heywood Distribution Park and Pilsworth.
- 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.
- 6.1.5 Given the extents of the site allocation there is variation within the area in terms of accessibility and a GMAL score. A few sample points were checked surrounding the site allocation and are listed below as examples only:
- Birch Industrial Estate (central to the site allocation on Moss Hall Road): 2
 - Heywood Distribution Park (north of the allocation on Pilsworth Road): 4
 - Manchester Road (south eastern corner of the allocation): 2
- 6.1.6 Note that the GMAL rating is based on pre-COVID-19 pandemic figures and therefore may not be representative of the latest transport accessibility rating.

6.2 Walking and Cycling

- 6.2.1 The land where the allocation is located is currently criss-crossed by a number of public rights of way (**Figure 3**). These include footpaths that provide linkages to the surrounding areas either side of the M62 and M66 motorways that bound the allocation on two sides. Some of these are road bridges with footways, such as Whittle Lane, or under passes such as Manchester Road, and others are single lane bridges where all users have to share the carriageway such as Simon Lane and Hills Lane.

Figure 3. Public Rights of Way: Heywood / Pilsworth



6.2.2 With these and other footpaths the allocation is linked to Unsworth to the west, Simister, Bowlee and Middleton to the south, Birch Industrial Park at its centre, and Heywood and Heywood Distribution Park to the north. There is also a bridleway in the north western corner of the allocation along Castle Road.

6.2.3 Generally speaking, cycling facilities within the area of the allocation are sporadic and not of a high standard. Pilsworth Road is a designated Beeway from Moss Hall Road to Croft Lane, where the route becomes a Busy Beeway. There is also a bridleway in the allocation of the site in between Aviation Road and Moss Hall Road, which can also be used as a nature trail or cycle path, although it is noted that it has a rough surface. There are also designated routes along Manchester Road which is adjacent to Hareshill Road, which is another access route for the public via bicycle. There are many other surrounding bike routes in Whitefield and throughout the boroughs of Bury and Rochdale.

6.2.4 Good facilities for cyclists are currently provided along sections of highway through more built up areas of the allocation such as cycle lanes along Manchester Road southbound from Hopwood, and Moss Hall Road/Whittle Lane is currently marked as an advisory cycling route on Greater Manchester's Cycling Map.

6.3 Bus

6.3.1 **Table 2** sets out the existing bus routes in the vicinity of the proposed allocation. The nearest bus routes to the allocation follow:

- Bury New Road (471), Bury Old Road (163, R2, X63) and Argyle Street to the north;
- Manchester Street, Manchester Road through Heywood and Hopwood, then Middleton Road to the east (162, 163, B4, X63); and
- To the west of the M66 there are low frequency bus links to Asda and Pilsworth industrial estate along Pilsworth Road (92, 94) and through Unsworth and Sunny Bank (92, 93, 94, 95, 97).

Table 2. Existing Bus Routes in the vicinity of the allocation

Operator	Route	Weekday Frequency	Saturday Frequency	Sunday Frequency
Diamond Bus North West	Bury - Darn Hill - Heywood - Middleton - Blackley - Collyhurst - Manchester	10 mins	30 mins	30 mins
Diamond Bus North West	Bolton - Brightmet - Bury - Heywood - Sudden - Rochdale	10 mins	10 mins	20 mins
The Burnley Bus Company	Bury - Heywood - Norden - Rochdale	120 mins	120 mins	No service
The Burnley Bus Company	Bury - Heywood	120 mins	120 mins	No service
Stotts Tours	Middleton - Langley – Accrington Circular	60 mins	60 mins	No service
Go North West	MRI – Langley Circular	10 mins	10 mins	50 mins
Go North West	Manchester – Agecroft – Carr Clough – Whitefield – Unsworth – Sunny Bank - Bury	60 mins	60 mins	60 mins
Stotts Tours	Pilsworth – Prestwich – North Manchester General Hospital	60 mins	60 mins	No service

6.4 Metrolink and Rail

6.4.1 The nearest Metrolink and railway stations to the proposed allocation are Bury, Whitefield (both Metrolink) and Castleton (Rail). **Table 3** summarises how each can be accessed from the proposed allocation.

Table 3. Nearest Metrolink Stops and Rail Stations and Journey Time Information

Stop / Station	Distance (By Road)*	Bike (Mins)*	Bus (Mins)*	Car (Mins)*
Bury	5 km north	14	35	10
Whitefield	5.2 km west	16	29 (1 change)	9
Castleton	5.8 km east	16	42 (1 change)	8
Rochdale Rail and Metrolink Interchange	6.4 km northeast	23	52 (1 change)	14

*(From the edge of the Allocation)

6.4.2 Castleton station is on the Calder Valley rail Line, one stop before the Rochdale Rail and Metrolink interchange. Weekdays and Saturday, there are half-hourly services in each direction during the day. With the exception of a few of peak hour/late evening and Sunday services, trains start at Rochdale then stop at all stations including Castleton to Manchester Victoria. They continue via Salford Central, Salford Crescent, Bolton and Darwen to Blackburn, with alternate trains continuing to Clitheroe. Rail services are also available to Bradford and Leeds via the Rochdale Rail and Metrolink Interchange.

6.4.3 Bury, Whitefield and Rochdale town centre Metrolink stops fall in Zone 4 of the Metrolink network with the former two on the Bury – Piccadilly line and Rochdale town centre on the East Didsbury to Rochdale line. Services are run every 6 minutes on the Bury line and 12 minutes on the Rochdale Line, seven days a week.

6.5 Proposed

Public Transport

- 6.5.1 As described above, communities in the vicinity of the allocation are reasonably well served by various means of public transport, however, the allocation area itself is not well served. Consultation with Transport for Greater Manchester's public transport teams have identified the potential for a new Bury - Northern Gateway – Middleton service in the short to medium term. As a starting assumption this has been assumed to operate at 2 buses per hour initially, potentially increasing to 4 buses per hour.
- 6.5.2 As part of the wider Northern Gateway development, a number of public transport improvement schemes are to be considered relative to the allocation. There is the potential for a new Metrolink spur between Crumpsall and Middleton, which could run along the A576 corridor through M60 J19 and to the south of the allocation area.
- 6.5.3 A Bus Rapid Transit (BRT) corridor linking Manchester city centre, Heywood and Bamford via Heywood Old Road/ Manchester Road has also been proposed, and would provide an effective route for commuters. Opportunities to interchange to east-west buses using a future Bury-Rochdale Quality Bus Transit corridor would be provided in Heywood. A potential future BRT route between Oldham and Bury , building on the initial Bury-Middleton Service referred to above, could provide interlinking access from the surrounding areas.
- 6.5.4 Enhanced bus corridors interchanging with BRT to create key nodes through NG1 are being proposed in addition to the previous schemes via Pilsworth Road, Hareshill Road, Middleton Road and Rochdale Road, which are the main roads surrounding the site allocation.
- 6.5.5 Together, this network could potentially provide rapid transit linking the expanded Heywood employment area with surrounding neighbourhoods and key locations helping to maximise the public transport accessibility of the employment opportunities and to better integrate existing and new communities with the rest of Greater Manchester.

Walking and Cycling

6.5.6 The public transport network set out above will also need to be supported by safe, attractive, and coherent walking and cycling routes to promote healthier and more sustainable journeys to work, create sustainable local connections with new and existing neighbourhoods (including the new significant housing opportunities at Simister and Bowlee and Whitefield) and to connect to new and existing public transport facilities. The principles that have been put in place for SHLR need to be adopted across the allocation incorporating Streets for All and Bee Network specifications.

6.5.7 It is difficult to be specific in advance of the detailed masterplanning for the allocation; however, the following links are proposed:

- Beeway standard cycle route alongside the proposed M66 Link Road connecting to the existing Beeway in the vicinity of M66 Junction 3
- Beeway standard cycle route to neighbouring Sunny Bank area potentially making use of existing bridges at either Castle Road or Hills Lane (thereby helping to address the severance issue caused by the M66)
- Beeway standard cycle route to neighbouring Northern Gateway – Simister and Bowlee allocation and beyond potentially making use of existing bridges at either Simon Lane or Egypt Lane (thereby helping to address the severance issue caused by the M62)

7. Parking

7.1 Overview

7.1.1 The allocation straddles the boundary between Bury and Rochdale. As such the parking standards set by both local authorities are relevant.

7.2 Bury Parking Standards

7.2.1 All types of development proposals will be required to provide appropriate levels of parking in line with the standards set out in the SPD Development Control Policy Guidance Note 11 – Parking Standards in Bury – May 2007. The provision of adequate parking facilities and their design should be appropriate to the scale, nature, location and users of a proposal.

- 7.2.2 **Table 4** shows maximum car parking standards and minimum standards for cycle parking, two wheeled motor vehicles (TWMV) and for people who are disabled. The table only shows the standards for the relevant types of development. The standards in the table should be read alongside the guidance contained elsewhere in the SPD and alongside other relevant material considerations.
- 7.2.3 Bury Metropolitan Borough Council recognises that lower parking thresholds than those set out in the table may be considered in cases where meeting the full parking requirements would be detrimental to wider planning interests. This may include applications relating to Conservation Areas, Listed Buildings or areas of special archaeological, historic or environmental importance. The integrity of these areas and buildings will be given considerable weight, alongside other relevant planning policies and other relevant material considerations.
- 7.2.4 Equally, the Council recognises that exceptional circumstances may exist where strong material considerations may justify a higher parking provision. For example, there may be circumstances where enforcing the standards could cause serious problems for road safety, or where developments are proposed in remote rural areas, which have limited public transport. In such cases, the applicant / developer must demonstrate adequate mitigation measures.

Table 4. Bury Parking Standards

Type Of Development	Maximum Standard For Car Parking Excluding Disabled	Minimum Standards For Car Parking For Those Who Are Disabled	Minimum Standards For Cycle Parking
<p>C3. Dwelling Houses 1 bed dwelling.</p> <p>2 bedrooms</p> <p>3 bedrooms</p> <p>4 bedrooms and above</p>	<p>*HAA - 1/Unit *LAA - 2/Unit</p> <p>*HAA – 1.5/Unit *LAA – 2.5/Unit</p> <p>*HAA - 2/Unit *LAA - 3/Unit</p> <p>*HAA - 3/Unit *LAA - 3/Unit</p>	<p>Where parking is located centrally for flat and apartment developments, at least 5% of parking should be for disabled persons.</p>	<p>Flats and apartments – 1 space per 5 dwellings. Minimum of 4 spaces. Must be provided in a secure long stay secure compound or locker.</p>
<p>C3. Sheltered housing</p>	<p>1 per 3 dwellings</p>	<p>10% of sheltered housing parking should be allocated for disabled people</p>	<p>No standard</p>
<p>B2. General Industry</p>	<p>1 per 60m²</p>	<p>Up to and including 200 bays – individual bays for each disabled employee plus 2 bays or 5% total capacity, whichever is greater.</p> <p>Over 200 bays – 6 bays plus 2% of total capacity.</p>	<p>1 per 700 sqm – minimum of 2 spaces.</p> <p>Note: 10% of cycle spaces should be allocated for customers (short stay) and 90% for staff (long stay).</p>
<p>B8. Storage & Distribution</p>	<p>1 per 100m²</p>	<p>Up to and including 200 bays – individual bays for each disabled employee plus 2 bays or 5% total capacity, whichever is greater.</p> <p>Over 200 bays – 6 bays plus 2% of total capacity.</p>	<p>1 per 850 sqm – minimum of 2 spaces</p> <p>Note: 10% of cycle spaces should be allocated for customers (short stay) and 90% for staff (long stay).</p>

*HAA - High Access Area; LAA - Low Access Area

7.3 Rochdale Parking Standards

7.3.1 Rochdale's Parking Standards are based on draft Greater Manchester-wide standards developed in association with the other Greater Manchester authorities and can be found in Appendix 5 of the Rochdale Borough Adopted Core Strategy (2016).

Car Parking

7.3.2 The car parking standards comply with maximum levels set out in PPG13 'Transport', although for some types of Use Class, the standards are slightly more restrictive to reflect local circumstances. They are also in accordance with the maximum levels set out in draft Regional Planning Guidance (May 2002). The draft RPG also sets out 'urban conurbation' ceilings, and these are generally consistent with the Rochdale standards, with a few exceptions again designed to reflect local circumstances.

Disabled Car Parking

7.3.3 This is based on recommendations in the Department of Transport Traffic Advisory Note on Parking for Disabled People.

Cycle Parking

7.3.4 The cycle standards are generally slightly higher than the level of parking provision suggested in the National Cycle Strategy to reflect the increasing importance of cycle provision.

Motorcycle Parking

7.3.5 The motorcycle standards generally allow for 2.5% of maximum car parking provision.

Table 5. Rochdale Parking Standards

Type Of Development	Maximum Standard For Car Parking Excluding Disabled	Minimum Standards For Car Parking For Those Who Are Disabled	Minimum Standards For Cycle Parking
<p>C3. Dwelling Houses 2+ bedrooms outside town centers</p> <p>Single bed dwellings and dwellings in town centers.</p> <p>Flats/apartments 2+ bedrooms outside town centers</p> <p>Single bed dwellings and flats/apartments in town centers</p>	<p>2 per dwelling (not including a garage)</p> <p>1.25 per dwelling</p> <p>2 per dwelling</p> <p>1.25 per dwelling</p>		<p>No standard</p> <p>No standard</p> <p>Flats and apartments – 1 secure locker per 5 dwellings – minimum of 2 spaces.</p> <p>Flats and apartments – 1 secure locker per 5 dwellings – minimum of 2 spaces.</p>
<p>C3. Sheltered housing</p>	<p>1 per 3 dwellings + 1 per 2 full time staff</p>		<p>No standard</p>
<p>B2. General Industry</p>	<p>1 per 60m²</p>	<p>Below 12 spaces - 10% of total capacity; 12 - 200 - 3 bays or 6% of total capacity (whichever is greater); Over 200 - 4 bays plus 4% of total capacity</p>	<p>1 per 700m² – minimum of 2 spaces.</p>
<p>B8. Storage & Distribution</p>	<p>1 per 100m²</p>	<p>Below 12 spaces - 10% of total capacity; 12 - 200 - 3 bays or 6% of total capacity (whichever is greater); Over 200 - 4 bays plus 4% of total capacity</p>	<p>1 per 850m² – minimum of 2 spaces.</p>

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). An overview of the adopted modelling process can be found in the GMSF Strategic Modelling Technical Note..
- 8.1.2 For the purposes of the testing the impact of the allocation through the strategic model, a total of 200 dwellings and 700,000 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.
- 8.1.3 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 GM-wide trip rates to the agreed development quantum for each site. 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.
- 8.1.4 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.
- 8.1.5 The agreed development quantum for the allocation is shown in **Table 6**, while the estimated traffic generation for both the constrained and high scenarios is shown in **Table 7**.

Table 6. Development Quantum: Heywood / Pilsworth

Residential	Houses	20	160
Residential	Apartments	5	40
	Total	25	200
Industrial	B2/B8m ²	100,000	700,000

Table 7. Allocation Traffic Generation: Heywood / Pilsworth

Year	AM Peak Hour Departures	AM Peak Hour Arrivals	PM Peak Hour Departures	PM Peak Hour Arrivals
2025 GMSF Constrained	101	163	136	71
2025 GMSF High-Side	118	183	136	75
2040 GMSF Constrained	666	1028	877	452
2040 GMSF High-Side	840	1274	877	518

Units are in PCU (passenger car units/hr)

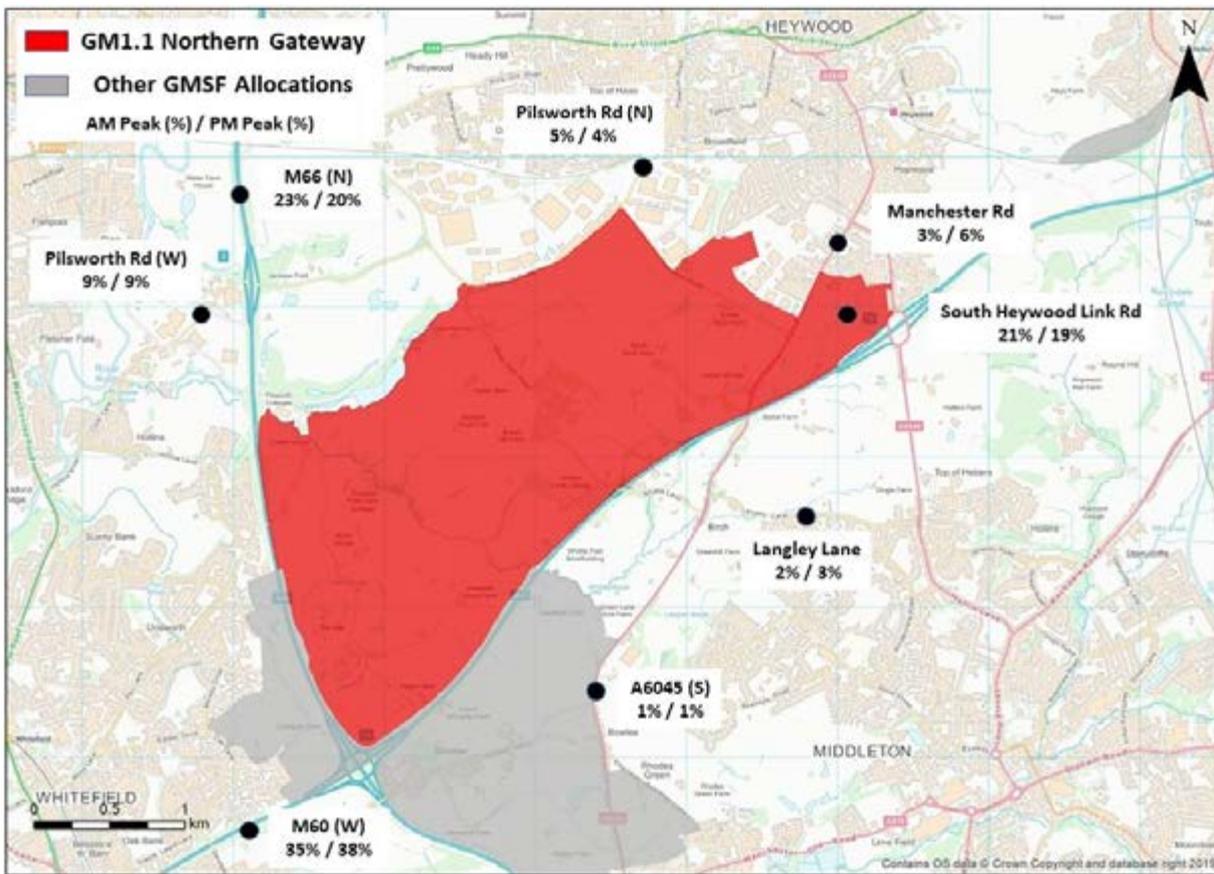
8.1.6 **Table 8** and **Figure 4** indicate the distribution of traffic on the network to and from the allocation. The primary movements are to/from M60 (West), M66 (North) and the South Heywood Link Road leading to M62 Junction 19.

8.1.7 Note that the allocation boundaries shown in **Figure 4** were correct at the time of writing, for definitive boundary information refer to the GMSF allocation maps. Since the modelling analysis/images were prepared for this report, the Whitefield allocation has been withdrawn from the GMSF.

Table 8. Allocation Traffic Distribution, 2040 GMSF High-Side (Origin/Destination Combined)

Route	AM Peak Hour	PM Peak Hour
M60 (West)	35%	38%
Pilsworth Road (West)	9%	9%
M66 (North)	23%	20%
Pilsworth Road (North)	5%	4%
Manchester Road	3%	6%
South Heywood Link Rd	21%	19%
Langley Lane	2%	3%
A6045 (South)	1%	1%

Figure 4. Allocation Traffic Distribution, 2040 GMSF High-Side (Origin/Destination Combined)



8.1.8 The choice of traffic routings to/from the SRN are particularly complex. A supplementary table (Table 9) has been prepared focusing specifically on SRN movements.

Table 9. SRN Allocation Traffic Distribution, 2040 GMSF High-Side (Origin/Destination Combined)

Route	AM Peak Hour	PM Peak Hour
M66 North	22%	23%
M60 West, M66 South	29%	24%
M60 South, M66 South	11%	14%
M62 West, M66 South	0%	1%
M62 East	15%	13%
M62 West, M60 West	1%	3%
M62 West, M60 South	0%	0%
Non SRN	21%	23%

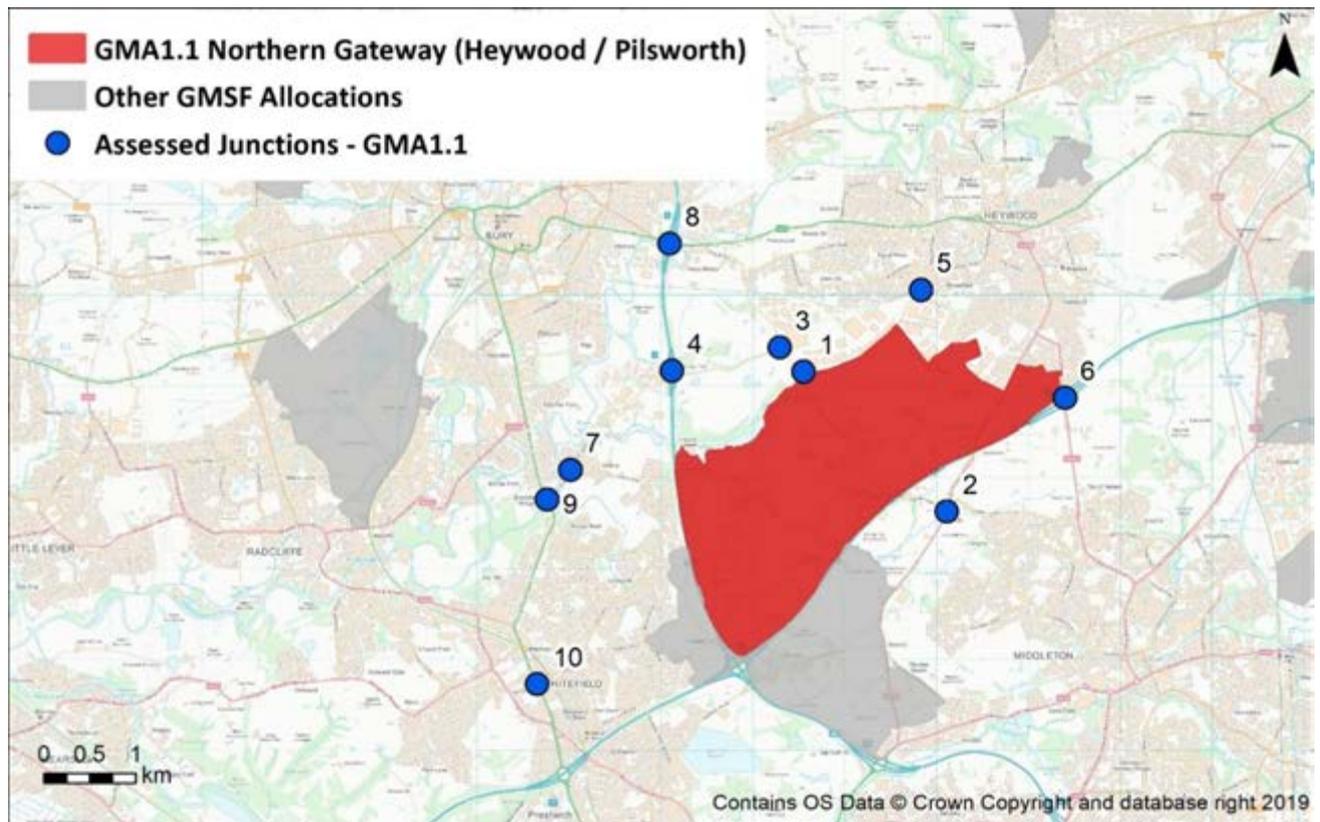
9. Existing Highway Network

9.1 Existing Network

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

9.1.2 Note that the allocation boundaries shown in **Figure 5** were correct at the time of writing, for definitive boundary information refer to the GMSF allocation maps. Since the modelling analysis/images were prepared for this report, the Whitefield allocation has been withdrawn from the GMSF.

Figure 5. Assessed Junctions



9.2 South Heywood Link Road

9.2.1 The South Heywood Link Road (SHLR) will form an important part of the access strategy for the Heywood/Pilsworth allocation. Planning approval for the scheme was secured in March 2020, with preliminary road construction works expected to start during Summer 2020. Based on the current project timetable it is envisaged that the SHLR route would be completed and fully open to traffic by Summer / Autumn 2022.

9.2.2 The SHLR route corridor represents a new / enhanced single carriageway road corridor designed to serve the consented South Heywood development area and to deliver traffic relief to the town of Heywood by providing a high standard connection between the grade separated roundabout at M62 J19 to the south east and the district distributor road of Pilsworth Road to the north west. The delivery of the SHLR has long been identified as a top local infrastructure priority within the Greater Manchester region, and is reflected by the road scheme benefitting from direct investment from Transport for Greater Manchester (TfGM) / Combined Greater Manchester Authorities (GMCA) and Highways England (HE) as part of the 'Local Growth Fund' and 'Pinch Point' funding programmes respectively, alongside developer funding.

9.2.3 Specific relevant elements of the planning consent include:

- Detailed Planning Consent for a new 2.2km Section of Link Road Between M62 J19 and Pilsworth Road.
- A new SHLR connection to the M62 J19 grade-separated roundabout, including a 'free flow' lane direct to the SHLR from the M62 eastbound exit slip.
- Comprehensive traffic signal improvement scheme at M62 J19 Roundabout including associated walking / cycling measures consistent with Bee Network design standards connecting Heywood and Middleton. The scheme provides traffic signal control of all side road connections, including local flaring / lane designation improvements as necessary.
- Construction of a circa 650m new section of Link Road between M62 J19 and A6045 Manchester Road.

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 have been considered cumulatively with other GMSF site allocations, hence, both the constrained and high side model runs take account of traffic associated with all GMSF allocations in the vicinity. Consequently, at the local level, the transport impacts of the allocation are considered cumulatively with the GMSF allocations as follows:

- Northern Gateway - Simister and Bowlee
- Stakehill
- Elton Reservoir
- Walshaw
- Other Bury / Rochdale allocations in the vicinity

10.1.3 As this locality assessment was being finalised a decision was made to remove the 2019 GMSF Whitefield allocation which would have provided 600 new homes from the draft GMSF. This decision came too late to amend the traffic modelling used for this and other allocations. It should be noted that the forecast traffic flows used to examine the impact of this allocation and to identify mitigation would change as a result of the removal of the site. Likely changes would be a modest reduction in traffic levels in the vicinity of this allocation. However, we do not consider that the impact would be sufficiently significant to materially affect the scope and form of the mitigation set out.

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 site access arrangements will be designed to be consistent with Greater Manchester's best practice Streets for All highway design principles 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 Chapter 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.

- 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 sites forward. For the purposes of the GMSF Locality Assessments, 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.
- 12.1.4 The M60 / M62 / M66 Simister Island interchange is recognised as one of the most critical pinch points on the SRN in Greater Manchester. The second Road Investment Strategy (RIS2) confirmed that delivery of an improvement scheme for the interchange will commence by April 2025. However, a final decision has yet to be taken on the form of the improvement and there was therefore no confirmed scheme which could be included within the Reference Case modelling for this assessment. This scheme has particular relevance to the Northern Gateway allocations as the M60 / M62 / M66 approaches to Simister Island would be expected to experience high levels of congestion if the interchange were not improved, potentially diverting some strategic traffic on to the local road network. This could mean that the current modelling which excludes any improvement is exaggerating congestion effects on the local road network in the vicinity of the Northern Gateway sites.
- 12.1.5 This chapter looks at the impact on the network at the junctions highlighted in **Chapter 9**. Signalised junctions were assessed in detail using industry-standard modelling software LINSIG version 3. Where possible, traffic signal information was obtained from TfGM in order 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. **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, as well as the site 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.
- 12.1.6 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.

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

Table 10. Results of Local Junction Capacity Analysis Before Mitigation – Year 2040

No.	Junction	Reference Case AM	Reference Case PM	GMSF High AM	GMSF High PM	Allocation Flows AM	Allocation Flows PM
1	Moss Hall Road / Pilsworth Road (South)	43%	37%	177%	170%	1157	981
2	A6045 Heywood Old Rd / Whittle Lane	19%	31%	130%	108%	949	432
3	Moss Hall Road / Pilsworth Road (North)	129%	116%	141%	133%	544	525
5	Pilsworth Road / Railway Bridge	74%	74%	84%	69%	399	147
7	Hollins Lane/Hollins Brow	122%	109%	198%	145%	84	66
9	A56 / Hollins Brow	116%	115%	130%	128%	60	35
10	A56 Bury New Road / Moss Lane	74%	74%	85%	79%	15	18

12.1.8 As shown in the table above two of the seven junctions on the LRN continue to operate within capacity in the 2040 AM and PM scenarios with GMSF High traffic on the network and so do not require any mitigation, these are:

- A56 Bury New Road / Moss Lane;
- Pilsworth Road / Railway Bridge;

12.1.9 The junction of A56 / Hollins Brow is already forecast to be over capacity in the Reference Scenario. The delivery of this allocation will result in a significant increase in queuing and delay at this junction and improvement works will be required at this junction as supporting mitigation. However, the precise details of such improvement works will be considered in the future as further detailed modelling work is undertaken to support any detailed masterplanning and/or planning applications that come forward.

12.1.10 The remaining four junctions are shown to operate significantly over capacity and worse than the reference scenarios with the additional traffic generated by GMSF in the 2040 scenarios, and therefore mitigation will be required. These junctions are:

- Moss Hall Road / Pilsworth Road (North)
- Moss Hall Road / Pilsworth Road (South)
- Hollins Lane/Hollins Brow
- A6045 Heywood Old Rd / Whittle Lane

12.1.11 The mitigation proposals for these junctions will be discussed in the next section of this report.

13. Transport Interventions Tested on the Local Road Network

13.1 Specific Junction Mitigation Measures

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

13.1.2 In addition, it should also be noted that these interventions may not be the definitive solution to addressing the impact of the allocation but have been developed to demonstrate that a solution is possible at the location. The exact form of the required mitigation will be confirmed and its detailed design developed as part of the statutory planning process.

13.1.3 **Table 11** provides a summary of the schemes proposed to mitigate the impact of GMSF at the three junctions which were identified through the modelling process.

13.1.4 Outline design drawings have been produced for these schemes and are contained in **Appendix 1**.

Table 11. Approach to Junction Mitigation

No.	Junction	Mitigation Approach
1	Moss Hall Road / Pilsworth Road (South)	Replace existing three arm priority junction with a three arm roundabout. New roundabout with 56m (inscribed circle diameter) with two circulating lanes
3	Moss Hall Road / Pilsworth Road (North)	Replace existing three arm signalised junction with a three arm unsignalised roundabout including a free flow-left turn 'bypass lane' from Moss Hall Road northbound to Pilsworth Road eastbound. New roundabout will be of 56m inscribed circle diameter with two circulating lanes
7	Hollins Brow / Hollins Lane	Remove mini roundabout arrangement and replace with a 3 arm signalised junction

13.2 Pilsworth Road Corridor (Between M66 Link Road and "3-Arrows" Junction)

13.2.1 In conjunction with the two proposed new roundabouts at the Moss Hall Road / Pilsworth Road (North and South) junctions, it is also proposed that the section of Pilsworth Road between these junctions should be upgraded to dual-carriageway. This scheme would support the holistic upgrading of the entire Pilsworth Corridor between the M66 and the Pilsworth Rd South (the "3-Arrows") junction.

13.3 Whittle Lane

13.3.1 It is proposed that the section of Whittle Lane to the south of Birch Business Park would be retained as part of the Hewyood/Pilsworth scheme, to maintain local connections between the settlements of Pilsworth and Birch.

- 13.3.2 Unless properly managed, there could be a potential for this local route, which is rural in character, to experience excessive use by Heywood/Pilsworth development related traffic. It is therefore proposed that the route would be subject to additional traffic management measures such as more visible weight-restriction controls and one-way traffic signal-controlled shuttle working over existing narrow sections of the route, and there would be no direct access for general traffic between this route and the main Heywood/Pilsworth eastern spine road. Traffic modelling suggests that these measures would be successful in discouraging through traffic, in combination with the capacity improvements proposed to the main western access corridor linking to M66 J3.
- 13.3.3 However, Whittle Lane could form an important sustainable transport corridor to serve the Heywood/Pilsworth allocation, providing links towards Birch and Middleton and to/from Manchester via Heywood Old Road. It is therefore anticipated that 'bus / emergency vehicle only' and active travel connections would be maintained between Whittle Lane and the Heywood/Pilsworth eastern spine road to help promote site accessibility and ensure good sustainable travel links to the allocation. This link could also potentially provide onward public transport connections to the proposed Northern Gateway – Simister and Bowlee strategic residential allocation area.

13.4 A56 / Hollins Lane

- 13.4.1 A56/Hollins Lane also sees a significant increase in queuing and delay. The precise details of improvement works will be considered in the future as further detailed modelling work is undertaken to support any detailed masterplanning and/or planning applications that come forward.

14. Impact of interventions on the Local Road Network

- 14.1.1 A further run of the GMVDM model was carried out with the mitigation schemes defined in **Table 11** incorporated. Further local junction modelling analysis was undertaken to confirm the satisfactory operation of the junctions and to check that the mitigation has not caused any redistribution which would exacerbate capacity issues on the network.
- 14.1.2 The following table summarises the results of the junctions on the LRN with the proposed mitigation schemes in place.

Table 12. Results of Local Junction Capacity Analysis After Mitigation – Year 2040

No.	Junction	Reference Case AM	Reference Case PM	GMSF High AM	GMSF High PM	Allocation Flows AM	Allocation Flows PM
1	Moss Hall Road / Pilsworth Road (South)	43%	37%	87%	92%	1157	981
2	A6045 Heywood Old Rd / Whittle Lane	19%	31%	39%	30%	949	432
3	Moss Hall Road / Pilsworth Road (North)	128.5%	116.3%	90%	87%	544	525
5	Pilsworth Road / Railway Bridge	73.5%	73.5%	26%	31%	399	147
7	Hollins Lane/Hollins Brow	122%	109%	98%	96%	84	66
9	A56 / Hollins Brow	116.1%	114.6%	123%	121%	60	35
10	A56 Bury New Road / Moss Lane	74.1%	74.8%	92%	72%	15	18

14.1.3 As shown in **Table 12** above, the proposed mitigation schemes reduce the impact the of the additional traffic generated by GMSF allocations.

14.1.4 The proposed new roundabouts at the Moss Hall Road / Pilsworth Road (South) and (North) junctions provide a satisfactory solution to the identified traffic capacity issues at these locations. The Moss Hall Road / Pilsworth Road (South) junction does not return to the level of reserve capacity reported in the reference case however, as the junction has to accommodate a significant volume of the development trips. As the revised junction operates around 90% it is considered to be acceptable and would not constitute a barrier to the development of the site.

- 14.1.5 The final junction form at Moss Hall Road / Pilsworth Road will need further investigation taking account of the needs of all users including pedestrians and cyclists should the allocation be approved for inclusion within GMSF. This will take place as the allocation moves through the statutory planning process.
- 14.1.6 Closing the A6045 Heywood Old Rd / Whittle Lane junction to 'rat running' has had a significant impact on the operation of the junction with it now expected to operate well within capacity in the 2040 GMSF scenarios.
- 14.1.7 As shown the predicted development traffic traveling through the A56/ Hollins Brow junction has reduced meaning the junction will operate broadly the same as in the Reference scenario.

15. Impact and mitigation on Strategic Road Network

15.1 Overview

- 15.1.1 This section 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 sections. Wider issues relating to the SRN mainline are being assessed separately as described below.
- 15.1.2 As noted earlier in the document, the absence of a preferred improvement scheme for the M60 / M62 / M66 Simister Island interchange which could be modelled means that traffic may divert within the model from the SRN approaches to Simister Island on to the local road network. This may result in additional traffic volumes at the Heywood/Pilsworth junctions where the SRN interfaces with the LRN, namely M66 Junction 3 and M62 Junction 19.
- 15.1.3 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).

15.2 Impact of Allocation Before Mitigation on the Strategic Road Network

- 15.2.1 The following table summarises the results of the assessment of the SRN junctions which are impacted by the allocation.

Table 13. Results of Strategic Junction Capacity Analysis Before Mitigation – Year 2040

No.	Junction	Reference Case AM	Reference Case PM	GMSF High AM	GMSF High PM	Allocation Flows AM	Allocation Flows PM
4	M66 Junction 3 / Pilsworth Road (New Junction)	N/A	N/A	N/A	N/A	524	499
6	M62 Junction 19/ A6046	115%	117%	164%	120%	590	506
8	M66 Junction 2 / A58	110%	108%	129%	114%	239	155

15.2.2 As shown in the table above there are three junctions on the SRN which will be impacted by the development. As the M66 Junction 3 / Pilsworth Road junction will form the primary vehicular access point to the employment areas it is accepted that a new junction will need to be designed and constructed. It is expected that this junction will be significantly different to the existing arrangement and so the existing junction has not been assessed in the reference case.

15.2.3 The Reference Scenario for Junction 19 includes the committed improvements relating to the SHLR as set out in **Section 9.2**.

15.3 Specific SRN Junction Mitigation Measures

15.3.1 Mitigation measures are proposed at the points where both the primary and secondary allocation access routes meet the SRN, namely M66 Junction 3 and M62 Junction 19.

M66 Junction 3 / Pilsworth Road

15.3.2 Comprehensive improvement of the existing traffic signal junction layout to deliver a new grade separated roundabout scheme is proposed. Full all-movements access would be retained to the M66 motorway. It is anticipated that the junction would operate with three roundabout circulating lanes and side road approach arms with multiple lanes.

15.3.3 It is envisaged that the pedestrian / cycle facilities would also be implemented to allow pedestrians / cycles to cross to the inside of the circulatory travel around the roundabout and then cross back across the circulatory to the other side of the roundabout. This arrangement removes the need for crossings on the M66 slip roads. It is expected that the demand will be East / West movements as North / South is the M66 Motorway. The pedestrian / cycle facilities at this junction will tie in with the proposed 3m shared surface on the M66 Link Road to the east of the junction.

M62 Junction 19 / A6046 Heywood Interchange

15.3.4 As described earlier, the M62 J19 grade-separated roundabout will be comprehensively upgraded to a traffic signal layout as part of the delivery of the SHLR scheme. The delivery of the Heywood/Pilsworth allocation is expected to result in additional traffic levels passing through M62 J19 (mainly associated with traffic to / from the M62 to the east), much of which could be accommodated in the short to medium term. Ultimately, however, it is anticipated that some further improvements may be required at this location to accommodate later phases of the Heywood/Pilsworth allocation area.

15.3.5 The dedicated pedestrian and cycle facilities at M62 Junction 19 will bring significant benefits for users of active modes. However, these at-grade crossing facilities will result in some loss of capacity for other traffic at both the roundabout entries and at the circulating carriageway. The capacity analysis identified a specific issue at the new SHLR arm of the junction. The crossing requires a significant inter-green stage resulting in excess “dead time” at the junction. Possible mitigation would involve removing the pedestrian/cycle stage at this arm and adjacent section of the circulating carriageway and replacing it with a new subway under the circulating carriageway to allow pedestrians and cyclists to cross under the northern part of the junction. The removal of the pedestrian/cycle stage from this arm would allow for the re-optimization of the signal timings.

M66 Junction 2 / A58

15.3.6 M66 Junction 2 / A58 is a busy junction carrying high volumes of traffic between Bury and Rochdale. The junction is predicted to operate over capacity in the reference scenarios. This is forecast to be exacerbated by the additional traffic generated by GMSF, particularly in the morning peak hour. The proposed mitigation at this location comprises the addition of a fourth lane to the circulating carriageway.

Table 14. Summary of SRN Junction Mitigation Measures

No.	Junction	Mitigation Approach
4	M66 Junction 3 / Pilsworth Road	Planned as the main vehicular access point to the employment areas. Current junction comprises two, four arm signalised junctions linked by Pilsworth Road which runs under the motorway. A 4-arm grade separated signalised configuration has been developed and tested including widened slip road approaches from the M66 and a 3 lane circulatory carriageway. Addition of pedestrian/cycle facilities
6	M62 Junction 19 / A6406 Heywood Interchange	Removal of at-grade pedestrian / cycle facilities at the SHLR arm and adjacent section of the circulating carriageway and replacing them with a pedestrian / cycle subway.
8	M66 Junction 2 / A58	Addition of a fourth lane to the circulating carriageway of the roundabout.

15.3.7 As before, outline design drawings have been produced and are included in **Appendix 1**.

15.4 Impact of Interventions on the SRN

15.4.1 The following table provides a summary of the capacity analysis results with the proposed mitigation schemes in place.

Table 15. Results of Strategic Junction Capacity Analysis After Mitigation – Year 2040

No.	Junction	Reference Case AM	Reference Case PM	GMSF High AM	GMSF High PM	Allocation Flows AM	Allocation Flows PM
4	M66 Junction 3 / Pilsworth Road (New Junction)	N/A	N/A	88%	87%	765	822
6	M62 Junction 19 / A6046	115%	117%	123%	120%	383	244
8	M66 Junction 2 / A58	110%	108%	112%	106%	140	104

M66 Junction 3 / Pilsworth Road

15.4.2 As shown the new grade separated arrangement at junction 3 of the M66 is shown to operate within capacity in the 2040 AM and PM peaks with GMSF in place. This is to be expected as this is a new junction which will be designed to accommodate the predicted traffic. The outline design provided in this locality assessment demonstrates that a suitable scheme is possible at this location.

15.4.3 It should be noted that the impact of the pedestrian / cycle facilities at this junction have not been modelled. It is likely that the addition of these facilities will result in some additional delay at the junction. This will be mitigated by the use of a ‘walk with traffic’ arrangement. However the extended intergreen periods associated with the crossings will likely have some impact on the operation of the junction but the extent will not be known until further more detailed analysis has been undertaken.

M62 Junction 19 / A6046 Heywood Interchange

15.4.4 The proposed mitigation scheme returns the capacity of the junction to a state comparable to the reference case. It should however be noted that significant queues still remain particularly on the northern and southern arms. Further investigation of possible mitigation measures at this location is recommended.

M66 Junction 2 / A58 junction

15.4.5 The operation of this junction could be improved by the addition of a 4th lane all the around the circulatory. It should be noted that this will not remove the queuing on the approach arms however the queue lengths are reduced. The capacity benefit comes from allowing more traffic over the circulatory stop lines every time it cycles to a green phase there is also the additional benefit to having more stacking space so vehicles can wait without blocking back on to the approach arms. Due to the complex nature of this junction further modelling work is recommended to optimise the operation of this junction.

15.5 M66 Junction 3 Link Road

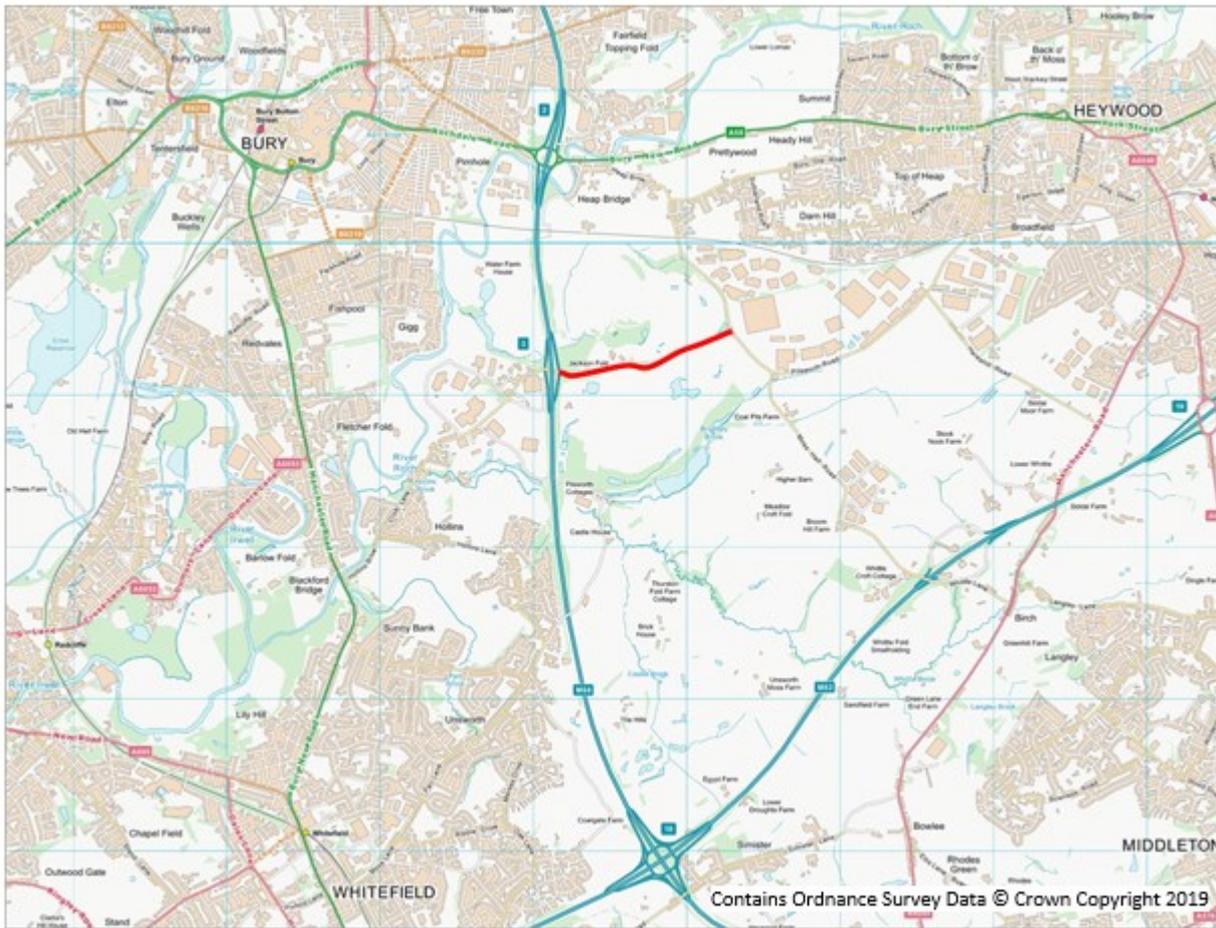
15.5.1 This Chapter covers the future M66 Link Road, comprising the section of Pilsworth Road between M66 Junction 3 and Moss Hall Road. This road will serve as the primary access route for the Heywood/Pilsworth allocation from a new grade separated roundabout with the M66.

15.5.2 These coordinated improvements would represent a new high-capacity western gateway to the Heywood/Pilsworth development area and deliver significant performance benefits over existing arrangements. The extent of proposed works reflects that this western access corridor is anticipated to operate as the main Heywood/Pilsworth allocation area connection to the wider strategic road network.

15.5.3 Currently this road section comprises a single carriageway with one lane in each direction. The required capacity for this link has been assessed in light of the latest GMVDM model outputs. The section of the Pilsworth Road under consideration is shown in **Figure 6** below.

15.5.4 The road is currently an approximately 7.5m wide single carriageway road and is subject to a 40mph speed limit.

Figure 6. M66 Link Road Location Plan



Traffic Demand

15.5.5 Around two-thirds of the total traffic generated by the Heywood/Pilsworth allocation is expected to use the M66 Link Road. This comprises traffic routing via the following corridors: M60/M62 (South), Pilsworth Road (West of M66) and M66 (North).

15.5.6 **Table 16** below shows the forecast traffic flow (in PCUs) for the M66 Link Road in the 2040 High Scenario.

Table 16. 2040 GMVDM Traffic Forecasts – M66 Link Road

Peak Hour	Direction	Reference Case 2040	With GMSF 2040 High
AM	Eastbound	794	2,293
AM	Westbound	709	2,358
PM	Eastbound	837	1,480
PM	Westbound	645	2,429

Units are in PCU (passenger car units/hr)

15.5.7 As shown in **Table 16**, forecast flows on the M66 Link Road increase substantially as compared to the Reference Case. Not all of the forecast increase in traffic using the M66 Link Road is related to the Heywood/Pilsworth allocation. Part of the increase is a result of reference traffic reassigning to make use of an upgraded alternative route avoiding the Simister Interchange. In 2040 the highest two-way flow (4651 PCU/hr) is forecast to occur in the AM Peak Hour, while the highest single direction flow occurs westbound in the PM Peak Hour (2429 PCU/hr). Both flows need to be considered when determining the required link capacity.

15.5.8 Road link capacity assessment requires traffic flows to be converted to vehicles. SYSTRA has carried out a conversion to obtain traffic demands in vehicles per hour. The conversion process is set out in **Table 17**. The forecast proportion of HGVs using the link has been extracted from GMVDM and a suitable PCU factor has been applied (1 HGV = 2.3 PCU).

Table 17. PCU to Vehicle Conversion

Peak Hour	Direction	Demand (PCU/Hr)	HGV Proportion (%)	Demand (Vehicles/Hr)
AM	EB	2,293	7.4%	2,092
AM	WB	2,358	6.9%	2,163
PM	EB	1,480	12.4%	1,275
PM	WB	2,429	4.0%	2,308

Units: As specified

15.5.9 As shown the total number of vehicles which will use the road in the 2040 AM peak is 4,255 as a two-way flow, while the highest single direction flow is 2,308 vehicles/hr.

Link Capacity Assessment

15.5.10 SYSTRA has reviewed the relevant guidance/standards in order to determine the type of road which will be required based on the predicted traffic flows. Current standards for assessing road link capacity are found in the Department for Transport’s WebTAG guidance. A number of road types are referenced; given that the section of road under consideration is subject to a 40mph speed limit the guidance indicates that roads types 10 and 11 should be considered. [Appendix 2 provides further details on this guidance].

15.5.11 As shown in **Appendix 2**, the typical capacity for a 3.65m wide single lane is from a minimum value of 1,350 to a maximum value 1,700 vehicles per hour per lane. As the forecast one-way traffic flows are in the range 2,100 to 2,300, it is clear that a road configuration of one lane per direction is not sufficient. It is recommended that a road configuration of four lanes (two per direction) is adopted for the M66 Link Road to accommodate the forecast 2040 traffic. This requirement could be met by either of the following configurations:

- Four-lane single carriageway – two traffic lanes in each direction, no central reservation
- Dual Carriageway - two traffic lanes in each direction, with a central reservation.

15.5.12 Both configurations would provide sufficient capacity. Given that the extra land required to construct a central reservation would be minimal and considering the safety benefits of a dual carriageway arrangement this would be SYSTRA’s recommendation.

15.5.13 The M66 Link Road would be implemented with 3.0 metre cycle track/footway on alongside both carriageways.

16. Final list of interventions

16.1.1 The proposed final list of interventions is summarised in the table below. Other supporting local mitigation measures – such as the aforementioned scheme at A56 / Hollins Brow – would need to be added when further details are available.

Table 18. Final List of Interventions

Mitigation	Description
	See below – M66 Link Road & improvements at M62 Junction 19
Supporting Strategic Interventions	
Bus Rapid Transit (BRT) corridor to Manchester city centre	Bus Rapid Transit (BRT) corridor to Manchester city centre and Rochdale via Heywood Old Road/ Manchester Road
Necessary Local Mitigations	
Permeable network for pedestrian and cyclist priority to/from/ within the development	Assumed new or upgraded cycle and pedestrian access, linked to PROWs and the Bee Network, providing connectivity to adjacent local areas and employment/educational opportunities, supported by high quality design for active travel within the allocation area. These will be consistent with Bee Network design standards.(As per the earlier Section 6.5)
Introduction of local bus services to/from/ within the allocation	Assumed local bus services to link the allocation with Metrolink and Rail interchanges and key local centres such as Bury, Heywood, Rochdale and Middleton, supported by permeable design of future development to support bus services within the allocation area.
1. Moss Hall Road / Pilsworth Road (South)	Replace existing three arm priority junction with a three arm roundabout.

Mitigation	Description
	New roundabout, including a 56m (inscribed circle diameter) with two circulating lanes
2. A6045 Heywood Old Rd / Whittle Lane	Additional traffic management measures on Whittle Lane
3. Moss Hall Road / Pilsworth Road (North)	Replace existing three arm signalised junction with a three arm unsignalised roundabout. New roundabout will include a 56m (inscribed circle diameter) with two circulating lanes and a left turn bypass from Pilsworth Road South
7. Hollins Brow / Hollins Lane	Remove mini roundabout arrangement and replace with a 3 arm signalised junction
Pilsworth Road (Between M66 Link Road and "3-Arrows" Junction)	Upgrading to dual carriageway standard – two lanes in each direction with a central reserve
SRN Interventions	
4. M66 Junction 3 / Pilsworth Road	Upgrading to a 4-arm grade separated signalised configuration including widened slip road approaches from the M66 and a 3 lane circulating carriageway
6. M62 J19 / A6046 Heywood Interchange	Removal of at-grade pedestrian / cycle facilities at the SHLR arm and adjacent section of the circulating carriageway and replacing them with a pedestrian / cycle subway.
8. M66 Junction 2 / A58	Addition of a fourth lane to the circulating carriageway of the roundabout.
M66 Link Road	Upgrading existing Pilsworth Road between M66 Junction 3 and Moss Hall Lane to dual carriageway - two traffic lanes in each direction, with a central reservation & cycle/pedestrian provision

16.2 Traffic Reduction Strategies

16.2.1 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.

- 16.2.2 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.
- 16.2.3 Such changing business operational trends and technological advances offers the opportunity for bespoke new major employment sites to be operated on a more flexible basis, allowing for reduced / controlled travel demand at peak 'rush hour' periods. Such managed site operation, in combination with supporting Travel Plan / advanced monitoring arrangements, are allowing planning and highway authorities the comfort to promote new development opportunities in what were previously considered potentially traffic constrained locations.
- 16.2.4 The proponents of the Heywood/Pilsworth allocation are currently considering development solutions involving mechanisms such as planning conditions / legal agreements which could set limits or 'caps' on development traffic demand during key times of the day and which could be directly monitored and enforced by highway stakeholders via reference to a network of live traffic count stations. In practice, in order to meet the objectives of such controls, operators would be encouraged to avoid undertaking major staff shift changes during 'rush hour' peak demand periods – which is already not uncommon for major logistics / manufacturing businesses.

16.2.5 In summary, a combination of more flexible operating patterns and targeted development land use strategy could have the potential to reduce the development traffic related impacts identified within this Locality Assessment report. Such a situation could have the benefit of resulting in either a reduced extent of overall highways intervention required to support the development, or the increased operating life of such improvements, thereby allowing the full delivery of the allocation site area, including those land parcels outside of the immediate GMSF strategy period. Reduced development traffic levels would also deliver transport related environmental benefits such as reduced air quality and noise effects.

17. Strategic Context – GM Transport Strategy Interventions

17.1.1 TfGM, in conjunction with both Bury and Rochdale Metropolitan Borough Councils' have developed a number of wider transport proposals which will support travel around the Allocation area. These include:

- Bus Rapid Transit (BRT) from M62 North-East Corridor (Northern Gateway) and surrounding towns to the Regional Centre
- Metro / tram-train services (Rochdale – Bury)

17.1.2 It is expected that options will be developed for these proposals over the next five years, with delivery most likely beyond that period. Taken together these proposals will make it easier to travel by public transport and reduce people's reliance on the private car. Further interventions may be brought forward through the ongoing Department for Transport-funded Manchester Northwest Quadrant Strategic Study, which is looking at interventions to support transport connectivity and capacity through the M60 corridor in the north and west of Greater Manchester.

17.1.3 Greater Manchester has established a 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, which are set out in TfGM's 2040 Strategy and which represent the goals of that strategy are:

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

- 17.1.4 Key to delivering this Streets for All vision will be encouraging growth in bus patronage. More than three quarters of all public transport journeys in Greater Manchester are made by bus, and the bus plays a vital role in tackling congestion and providing access to work leisure and other destinations. Patronage on the bus network has been in decline, with a c. 10% reduction since 2010. Greater Manchester has invested in its bus network in recent years and has committed significant funding to a number of interventions to improve bus travel.
- 17.1.5 Following the introduction of the Bus Services Act 2017, the GMCA is considering whether to make use of new powers to improve the bus market in GM. This includes considering a proposed bus franchising scheme for GM and other realistic courses of action.
- 17.1.6 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 "Right Mix" sets out a pathway which shows how to improve GM's transport system so that we can reduce car use to no more than 50% of daily trips, with the remaining 50% made by public transport, walking and cycling. This will mean approximately one million more trips each day using sustainable transport modes in Greater Manchester by 2040). 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.
- 17.1.7 The Transport Strategy 2040 Delivery Plan sets out a comprehensive programme of work across all modes and in all Districts which are 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.

18. Phasing Plan

18.1 Phasing Plan

- 18.1.1 This Locality Assessment identifies a comprehensive package of improvements, across both the strategic and local highway network, to support the full delivery of the plan period Heywood/Pilsworth allocation area. 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 Heywood/Pilsworth allocation. Such a phasing strategy would be set out and controlled via detailed planning conditions / legal agreements.
- 18.1.2 As identified above, it is considered that opportunities exist to promote a development phasing strategy at the Heywood/Pilsworth allocation area that could exploit existing / committed highway network capacity, to allow an initial quantum of development to be taken forward at Heywood/Pilsworth without the need for immediate major strategic infrastructure interventions. Such an approach will allow for the build-up of development infrastructure contributions and deliver a sustainable approach for contributing to the funding of major strategic highway interventions.
- 18.1.3 Improvements in the consented South Heywood development area are expected to result in some spare operating capacity on the SHLR corridor and at M62 J19 during those years immediately following completion of the road corridor works, reflecting the long-term development timescale for this area. In recognition of this inherent baseline network capacity position, it is proposed that the early phases of the Heywood/Pilsworth development would likely be concentrated on those eastern sections of the development area - utilising a direct link to the South Heywood Employment Area and onward connections via the SHLR – in order to take advantage of this inherent spare capacity.
- 18.1.4 A level of early employment development release is also anticipated to be potentially possible on the immediate north-western sections of the Heywood/Pilsworth allocation area, however, the extent of initial development achievable in this area without the need for supporting major infrastructure, in particular at M66 J3, is anticipated to be limited, unless subject to effective peak hour traffic management.

18.1.5 **Table 19** sets out a high level overview of the likely allocation phasing for the Heywood/Pilsworth allocation. The expected 2025 development quanta were tested along with those for 2040 to assess their deliverability in terms of transport network capacity. This is presented for discussion purposes and is not based on the detailed masterplanning work being undertaken in parallel. The promoters of the Heywood/Pilsworth allocation are currently undertaking further investigations to develop detailed phasing proposals in relation to the proposed interventions and mitigation measures.

Table 19. Allocation Phasing

Allocation Phasing	2020 25	2025 30	2030 2037	Total
Residential Uses (units)	25	200	200	200
Employment Uses (sq. m)	100,000	350,000	700,000	700,000

18.1.6 **Table 20** provides an indicative delivery timetable for the identified mitigation measures. It is expected that a more precise implementation timeframe for these schemes being ascertained as the allocation moves through the planning process. Other supporting local mitigation measures – such as the aforementioned scheme at A56 / Hollins Brow – would need to be added when further details are available.

Table 20. Indicative intervention delivery timetable

Mitigation	2020 2025	2025 2030	2030 2037
Site Access			
[See below]	✓		
Supporting Strategic Interventions			
Bus Rapid Transit (BRT) corridor to Manchester city centre			✓
Necessary Local Mitigations			

Network of routes for pedestrians and cyclists between the development and local centres.	✓
Introduction of local bus services	✓
1. Moss Hall Road / Pilsworth Road (South)	✓
2. A6045 Heywood Old Rd / Whittle Lane	✓
3. Moss Hall Road / Pilsworth Road (North)	✓
7. Hollins Brow / Hollins Lane	✓
Pilsworth Road (Between M66 Link Road and “3-Arrows” Junction)	✓
SRN Interventions	
4. M66 Junction 3 / Pilsworth Road	✓
6. M62 J19 / A6046 Heywood Interchange	✓
8. M66 Junction 2 / A58	✓
M66 Link Road	✓

19. Summary

19.1.1 The Heywood/Pilsworth allocation comprises 700,000sqm of industrial, advanced manufacturing and warehousing space and 200 residential dwellings. The allocation is located adjacent to the existing South Heywood Development Area to the north of the M62 and east of the M66.

19.1.2 Planning for the site aims to maximise its excellent accessibility in relation to the motorway network. Primary access would be from the west via the M66 with secondary access being from the south via the M62. The site could leverage the already planned highway improvements in the vicinity such as the South Heywood Link Road.

19.1.3 This locality assessment addresses most of the key points raised in the earlier consultation process (as set out in Section 3), specifically:

- Significant upgrades to motorway connections are proposed

- New motorway junction at Birch Services no longer considered
- Timing of proposed transport mitigation measures is aligned with the phasing of the allocation
- Improvements to public transport and active modes are proposed

19.1.4 Following our assessment of the proposed trip generation and distribution of this site, we have concluded that this development, both in isolation and in consideration of the cumulative impacts with other nearby GMSF allocations is expected to materially impact both the strategic and local road networks. The SRN impacts are expected to be concentrated at M66 Junction 3 and M62 Junction 19, while the LRN impacts mostly impact on the Pilsworth Road corridor.

19.1.5 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.

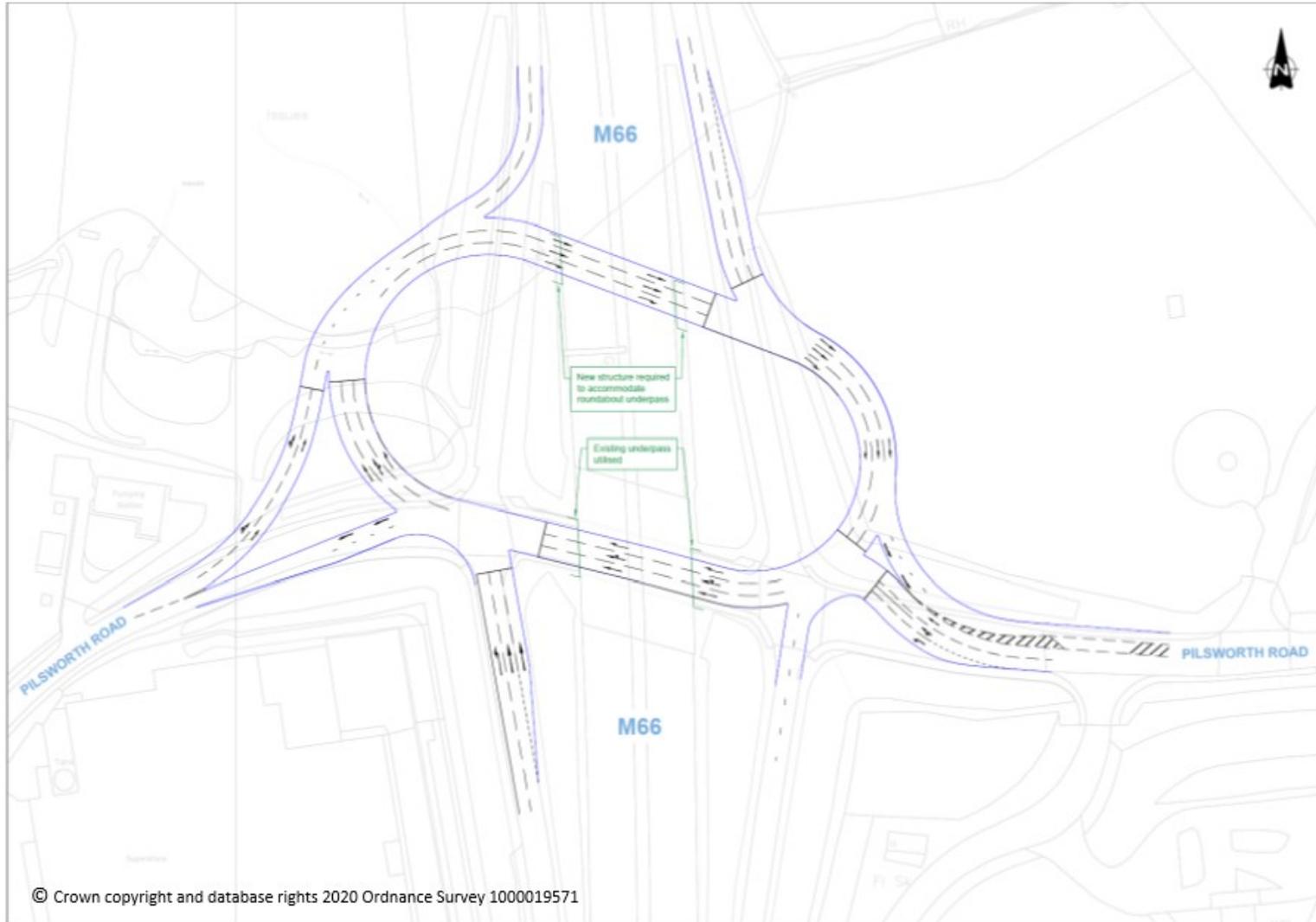
19.1.6 In the specific case of the Northern Gateway allocations, no improvements have been assumed at the M60 / M62 / M66 Simister Island motorway junction. Future plans for the upgrading and improvement of this junction have been discussed for some years; however, at the time this Locality Assessment was prepared there was no confirmed scheme which could be include in the Reference scenario modelling. This assumption could mean that congestion effects on the local road network in the vicinity of the Northern Gateway sites are exaggerated.

19.1.7 Mitigation schemes were developed and tested to address the network congestion impacts at both the strategic and local road networks. 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. These schemes have only been developed in outline detail to inform viability. 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. In particular, further more detailed work is required at the M62 Junction 19 roundabout.

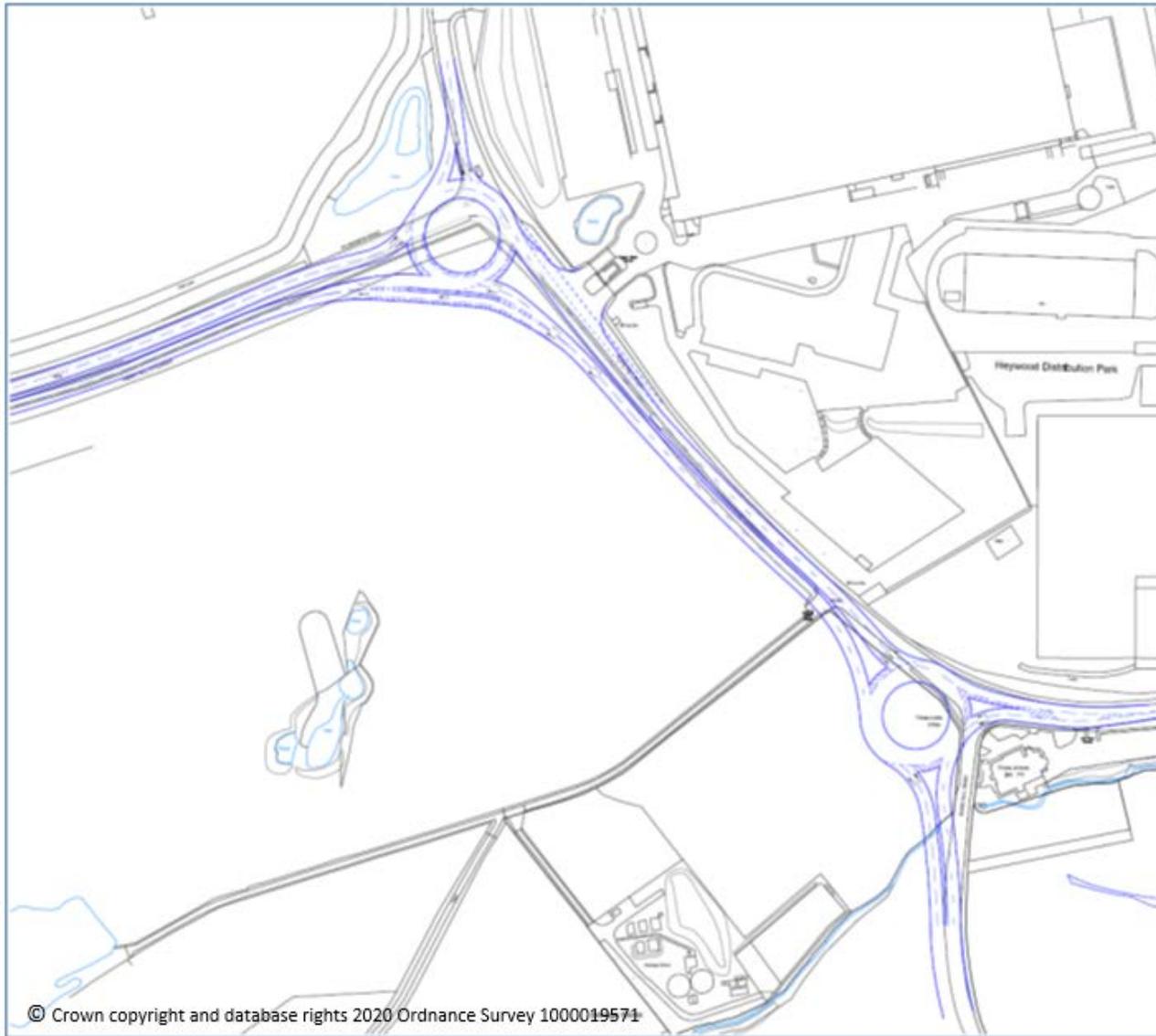
19.1.8 In summary, there is an initial indication that the allocation is deliverable. Further work will be needed to substantiate these findings as the allocation moves through the planning process. The allocation would need to be supported by continuing wider transport investment across GM.

Appendix 1 –Schematic Drawings for Local Mitigation Schemes

Scheme drawing: M66 Junction 3 Improvement (Junction 4) [Illustrative/Typical Layout]



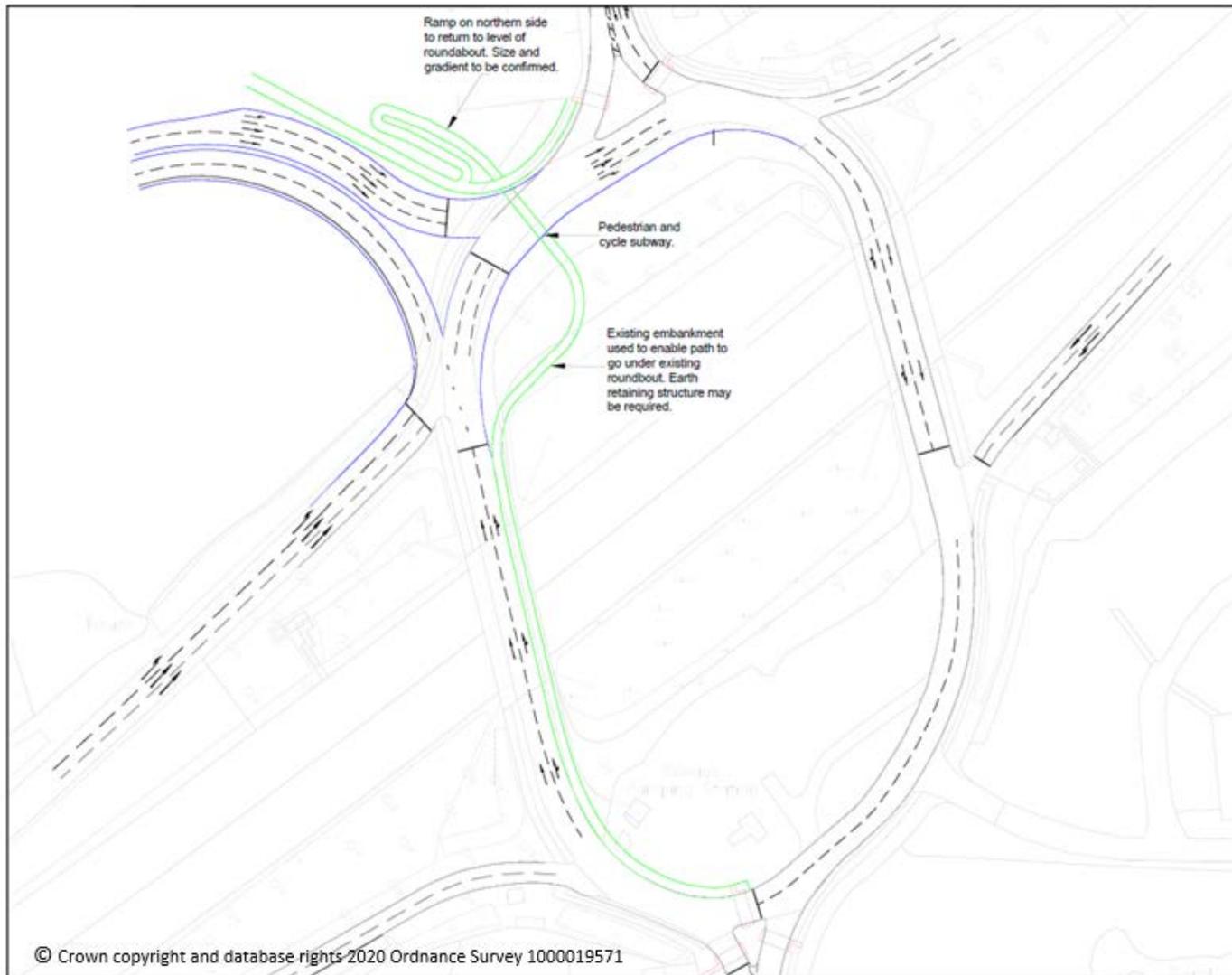
Scheme drawing: Road Improvements on Pilsworth Road Corridor (Junctions 1 and 3) [Illustrative/Typical Layout]



Scheme drawing: Hollins Lane / Hollins Brow (Junction 7) [Illustrative/Typical Layout]



Scheme drawing: M62 J19 / A6046 Heywood Interchange (Junction 6) [Illustrative/Typical Layout]



Appendix 2 – Supporting Information for M66 Link Road Analysis

WebTAG Guidance on Road Link Capacity

After reviewing the WebTAG guidance, capacities of roads are dealt within Appendix D of Unit M3.1 – Highway Assignment Modelling. The document states that the capacity of the road depends on its road type the known types of road are:

1. Rural single carriageway
2. Rural all-purpose dual 2-lane carriageway
3. Rural all-purpose dual 3 or more lane carriageway
4. Motorway, dual 2-lanes
5. Motorway, dual 3-lanes
6. Motorway, dual 4 or more lanes
7. Urban, non-central
8. Urban, central
9. Small town
10. Suburban single carriageway
11. Suburban dual carriageway

Given that the section of road under consideration is subject to a 40mph speed limit the guidance indicates that roads types 10 and 11 should be considered. The following table has been extracted from Appendix D of Unit M3.1 – Highway Assignment Modelling.

Table E.7 Definition of Variables Used in Speed/Flow Relationships for Suburban Roads

Symbol	Variable Description	Typical Values	
		Min	Max
INT	Frequency of major intersections (no/km)	0	2
AXS	Number of minor intersections and private drives (no/km)	5	75
PHV	Percentage of heavy vehicles (%)	2	20
V _L , V _H	Speed of light and heavy Vehicles (km/h)	n/a	n/a
S _L , S _H	Speed/flow slope of light and heavy vehicles (km/h) reduction per 100 increase in Q	0	45
V ₀	Speed at zero flow (km/h)	48	64
Q	Total flow, all vehicles, per standard lane (veh/h/3.65m lane)	0	1500
Q _B	Breakpoint: the value of Q at which the speed/flow slope changes (veh/h/3.65m lane)	1050	
Q _C	Capacity: defined as the maximum realistic value of Q (veh/h/3.65m lane)	1350	1700

Previous DMRB Guidance on Road Link Capacity

The following table has been extracted from Design Manual for Roads and Bridges DMRB TA 79/99:

		Two-way Single Carriageway- Busiest direction flow (Assumes a 60/40 directional split)									Dual Carriageway			
		Total number of Lanes									Number of Lanes in each direction			
		2			2-3	3	3-4	4	4+	2		3	4	
Carriageway width		6.1m	6.75m	7.3m	9.0m	10.0m	12.3m	13.5m	14.6m	18.0m	6.75m	7.3m	11.0m	14.6m
Road type	UM	Not applicable										4000	5600	7200
	UAP1	1020	1320	1590	1860	2010	2550	2800	3050	3300	3350	3600	5200	*
	UAP2	1020	1260	1470	1550	1650	1700	1900	2100	2700	2950	3200	4800	*
	UAP3	900	1110	1300	1530	1620	*	*	*	*	2300	2600	3300	*
	UAP4	750	900	1140	1320	1410	*	*	*	*	*	*	*	*

**Table 2 Capacities of Urban Roads
One-way hourly flows in each direction**

The forecast busiest single direction flow is around 2,300 vehicles per hour. This would suggest a UAP1 road type with 3 lanes would be required. However, in the case of the M66 Link Road the AM Peak Hour flows are quite evenly balanced by direction so it is not clear how this would work in practice. With a 3-lane configuration, one direction of travel would only have one lane and it is highly likely that this would be over capacity.

Greater Manchester Spatial Framework

Locality Assessment:

Northern Gateway (Simister and Bowlee) (GMA1.2)

Version 2: November 2020

Identification Table	
Client	Bury/Rochdale/TfGM
Allocation	Northern Gateway (Simister and Bowlee)
File name	GM01.2 Northern Gateway – Simister 300920
Reference number	GMA1.2

Approval					
Version	Role	Name	Position	Date	Modifications
0	Author	Terry Dale	Associate Director	16/09/20	Base report
	Checked by	Stephen Heritage	Associate Director	16/09/20	
	Approved by	Stephen Heritage	Associate Director	16/09/20	
1	Author	D Nixon	TfGM	29/09/20	Minor edits
	Checked by	N Blackston R Chapman	Bury Council Rochdale BC	30/09/20	
	Approved by	C Logue P Moore	Bury Council Rochdale BC	30/09/20	

Table of contents

1.	Allocation Location & Overview	7
2.	Justification for Allocation Selection	8
3.	Key Issues from Consultation	8
4.	Existing Network Conditions and Allocation Access	9
5.	Proposed Access to the Allocation	13
6.	Multi-modal accessibility	14
7.	Parking	21
8.	Allocation Trip Generation and Distribution	26
9.	Current Highway Capacity Review	30
10.	Treatment of Cumulative Impacts	31
11.	Allocation Access Assessment	32
12.	Impact of Allocation Before Mitigation on the Local Road Network	32
13.	Transport Interventions Tested on the Local Road Network	35
14.	Impact of interventions on the Local Road Network	36
15.	Impact and mitigation on the Strategic Road Network	37
16.	Final list of interventions	41
17.	Strategic Context – GM Transport Strategy Interventions	43
18.	Phasing Plan	45
19.	Summary	46
	Appendix 1 – Illustrative Schematic Drawings for Mitigation Schemes	49

List of figures

Figure 1.	Allocation Location	10
Figure 2.	Collisions within 1km of Simister and Bowlee (2014-2018)	12
Figure 3.	Allocation Access Arrangements	14
Figure 4.	Public rights of Way	16
Figure 5.	Allocation Traffic Distribution, 2040 GMSF High-Side (Origin/Destination Combined)	30
Figure 6.	Assessed Junctions	31

List of tables

Table 1.	Collision Data within 1km of Simister and Bowlee (2014-2018)	11
Table 2.	Accessibility of and proximity to public transport	17
Table 4.	Bury Parking Standards	22
Table 5.	Rochdale Parking Standards	25
Table 6.	Development Quantum	27
Table 7.	Allocation Traffic Generation	28
Table 8.	Allocation Traffic Distribution, 2040 GMSF High-Side (Origin/Destination Combined)	29
Table 9.	Results of Local Junction Capacity Analysis Before Mitigation – Year 2040	34
Table 10.	Approach to Mitigation	36
Table 11.	Results of Local Junction Capacity Analysis After Mitigation – Year 2040	36
Table 12.	Results of Strategic Junction Capacity Analysis Before Mitigation – Year 2040	38
Table 13.	Summary of SRN Junction Mitigation Measures	39
Table 14.	Results of Strategic Junction Capacity Analysis After Mitigation – Year 2040	40
Table 15.	Final List of Interventions	41
Table 16.	Allocation Phasing	45
Table 17.	Indicative intervention delivery timetable	46

Allocation Data	
Allocation Reference No.	GMA1.2
Allocation Name	Northern Gateway - Simister / Bowlee
Authority	Bury / Rochdale
Ward	
Allocation Proposal	1,750 homes within the Plan Period
Allocation Timescale	0-5 years <input type="checkbox"/> 6-15 years <input checked="" type="checkbox"/> 16 + years <input checked="" type="checkbox"/>

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.

“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 proposed new allocations within Greater Manchester in order to confirm the potential impacts of development on both the local and strategic transport network, and to identify appropriate mitigation or the promotion of sustainable alternatives to reduce this impact.
- 1.1.2 The allocation is located to the south-east of the Simister Island interchange, north-west of Middleton, and is approximately bounded by the M60 to the west, the M62 to the north and the A576/A6045 to the east and south. Situated on the urban fringe between the urban areas of Middleton, Prestwich, Whitefield and Heywood, the main land uses of the area consist of recreational and agriculture use, with other land uses consisting of commercial (Birch Industrial Park), residential development (notably around the villages of Simister and Birch), and transport corridors (M62 & M66).
- 1.1.3 The full GMSF allocation is expected to comprise 2,700 dwellings. The allocation will be required to make provision for a new one form entry primary school and a 1,000 place secondary school.
- 1.1.4 This locality assessment report considers 1,750 of the proposed 2,700 dwellings – those properties to be delivered within the period of the GMSF Plan following detailed assessment within the planning application process. The allocation will see a mix of housing types and will make provision for affordable housing in accordance with the local planning authority's policy requirements.
- 1.1.5 The allocation is divided into two parts; a larger part to the west of the A6045 and a smaller part to the east. The precise share of dwellings between the two parts has not yet been fixed and will be subject to detailed masterplanning.

1.1.6 Located adjacent to the M62, connecting Liverpool and Hull via Manchester and Leeds ,the allocation would benefit from direct connections across northern England. The M62 also provides links to the wider UK motorway network including M1, M6 and A1.

2. Justification for Allocation Selection

2.1 Simister and Bowlee

2.1.1 This allocation forms part of the wider Northern Gateway allocation and straddles the districts of Bury and Rochdale. The allocation provides the opportunity to deliver an urban extension and enable new housing, community facilities and transport infrastructure to come forward in an area which currently contains significant pockets of high deprivation.

2.1.2 The delivery of this allocation will require significant investment in infrastructure. In particular the allocation will need to deliver a wide range of public transport improvements in order to promote sustainable travel and improve linkages to new employment opportunities at the Heywood/Pilsworth allocation.

2.1.3 Further detail is provided within in the GMSF Site Selection Paper and Bury's Northern Gateway (Simister/Bowlee) Topic Paper.

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. Particularly, respondents were concerned that:

- The size of the development will increase traffic due to both its proximity to the motorways and the wider growth planned close to allocation.
- Congestion on existing roads, such as Heywood Old Road, is already of concern and is mostly industrial traffic, which causes property damage. Simister has one access and cannot support high levels of traffic, should be diverted. Dangerous for school children.
- The proposed Birch junction and new road intervention are not achievable.
- New junctions on to Heywood Old Road will make the situation worse.

- Public transport improvements are insufficient: Metrolink should be extended to serve all of the allocation.
- Rail services in Rochdale are at capacity.
- More details are required on junction alterations / improvements for both local roads and motorways, including junction 18.
- There is support, with good potential for improvements and existing and proposed infrastructure to meet needs.

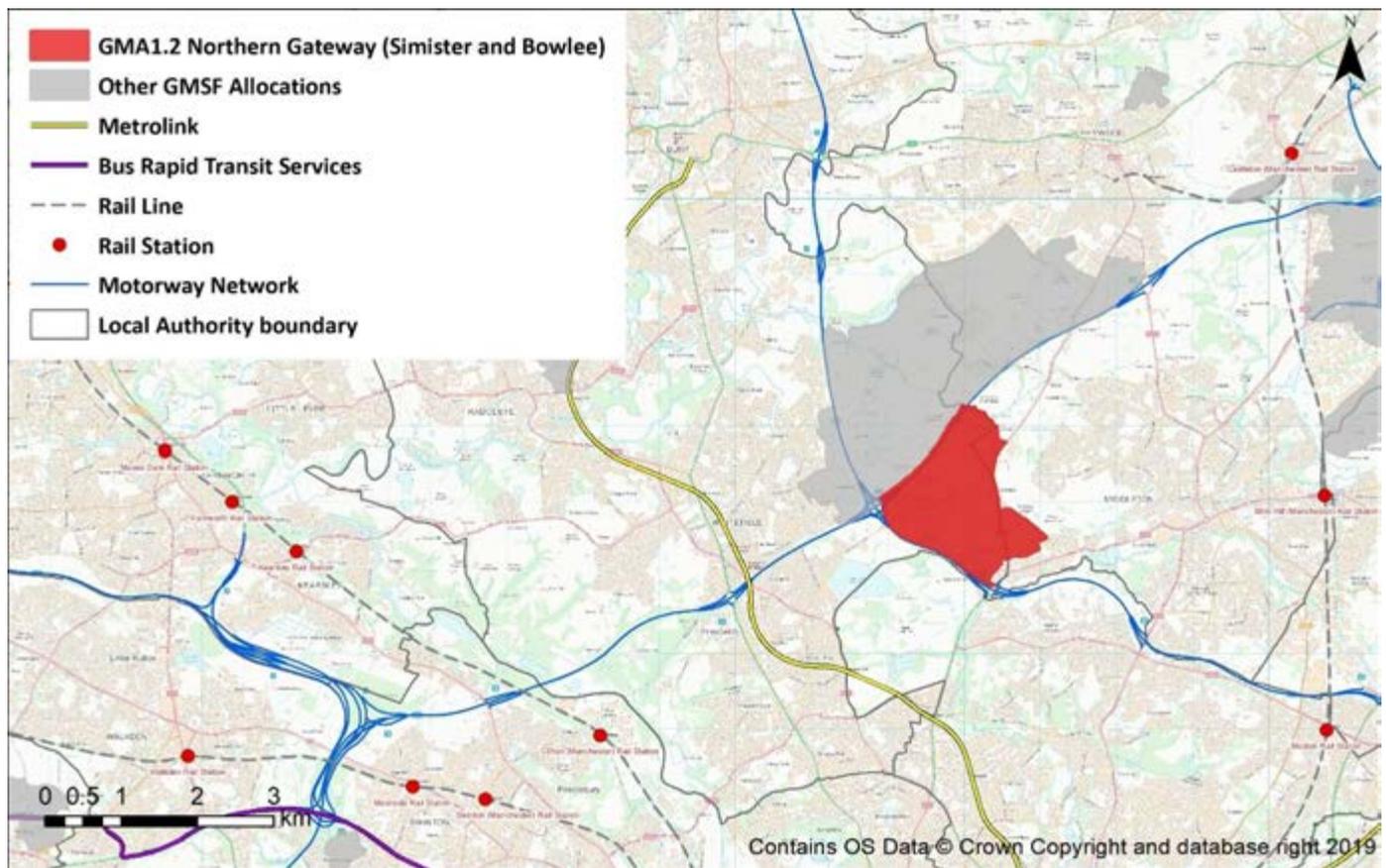
3.1.2 A [full summary of all consultation responses](#) is available on the GMCA GMSF website.

4. Existing Network Conditions and Allocation Access

4.1.1 This section summarises the existing access to the allocation acknowledging that a dedicated access may not currently be available. **Figure 1** shows the transport context of the allocation.

4.1.2 Note that the allocation boundaries shown in **Figure 1** were correct at the time of writing, for definitive boundary information refer to the GMSF allocation maps. Since the modelling analysis has been undertaken for this report, the Whitefield allocation has been removed from the GMSF.

Figure 1. Allocation Location



4.2 Access from the South and M60 19

4.2.1 The primary access route to the allocation from the south is via the A576 Middleton Road corridor leading to the A6045 Heywood Old Road. This route passes through M60 Junction 19, a major junction which experiences peak period congestion along with Middleton Road.

4.3 Access from the North and M62 19

4.3.1 The primary access route to the allocation from the north is via the A6045 Heywood Old Road. This route can be accessed from M62 Junction 19 via the A6046 Middleton Road. An alternative route from the north is via A6046 Middleton Road and then Langley Lane connecting to the A6045 Heywood Old Road.

4.4 Local Access

4.4.1 Local access from the east – the Middleton and Rhodes area – is via the A576 Manchester Old Road and then the A6045 Heywood Old Road. Local access from the west – the Heaton Park area – is via Simister Lane and then Bluebell Lane which both connect to the A6045 Heywood Old Road.

4.4.2 The A6045 Heywood Old Road is a 30mph road with street lighting and footpaths on either side. A number of minor roads and private access roads can be found in the vicinity.

4.5 Accidents and Collision Overview (from 2014) – Slight, Serious and Fatalities

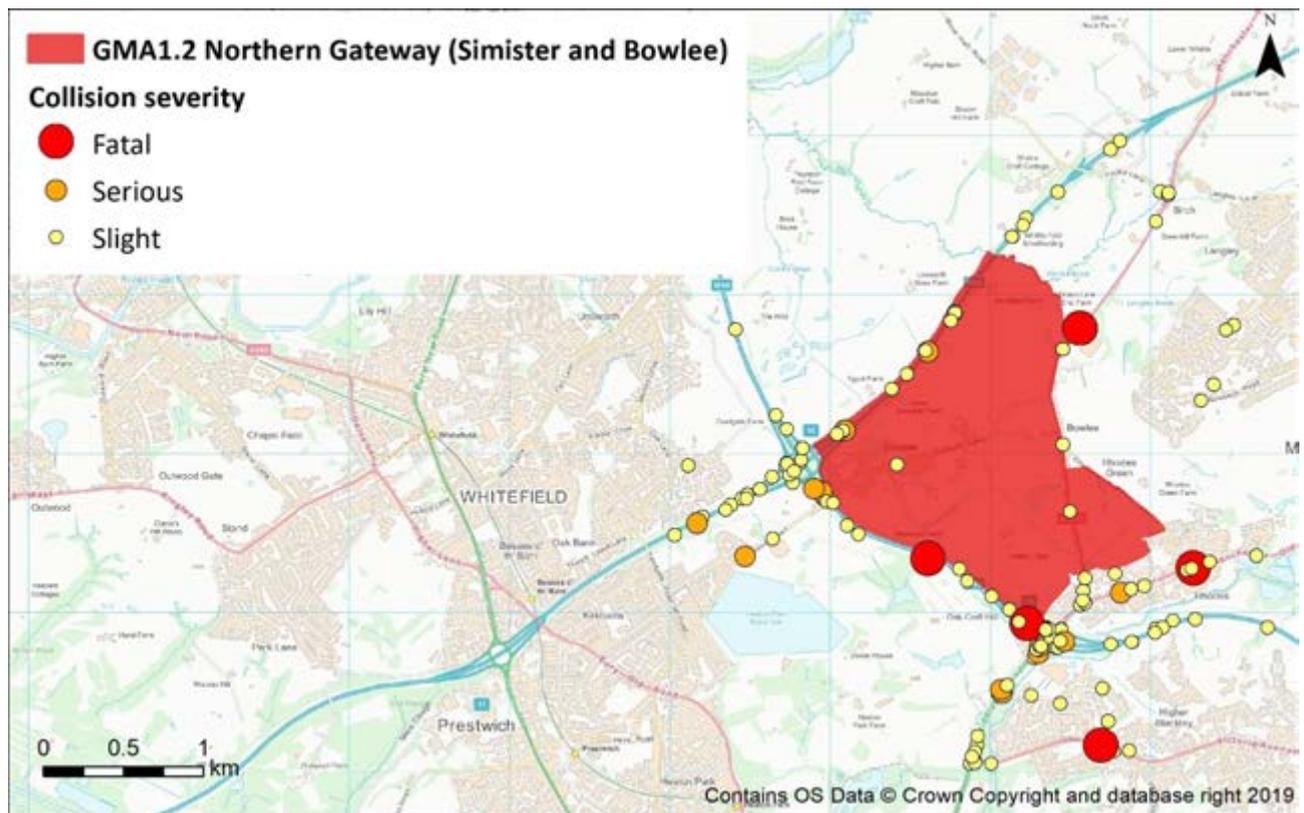
4.5.1 **Table 1** and **Figure 2** provide an overview of the slight, serious and fatal collisions within 1km of the allocation boundary over the last five years.

Table 1. Collision Data within 1km of Simister and Bowlee (2014-2018)

FATAL	SERIOUS	SLIGHT	TOTAL
5	14	129	148

4.5.2 Note that the allocation boundaries shown in **Figure 2** were correct at the time of writing, for definitive boundary information refer to the GMSF allocation maps.

Figure 2. Collisions within 1km of Simister and Bowlee (2014-2018)



4.5.3 As would be expected, there have been a number of traffic accidents on the congested sections of the M60 and M62 adjoining the allocation.

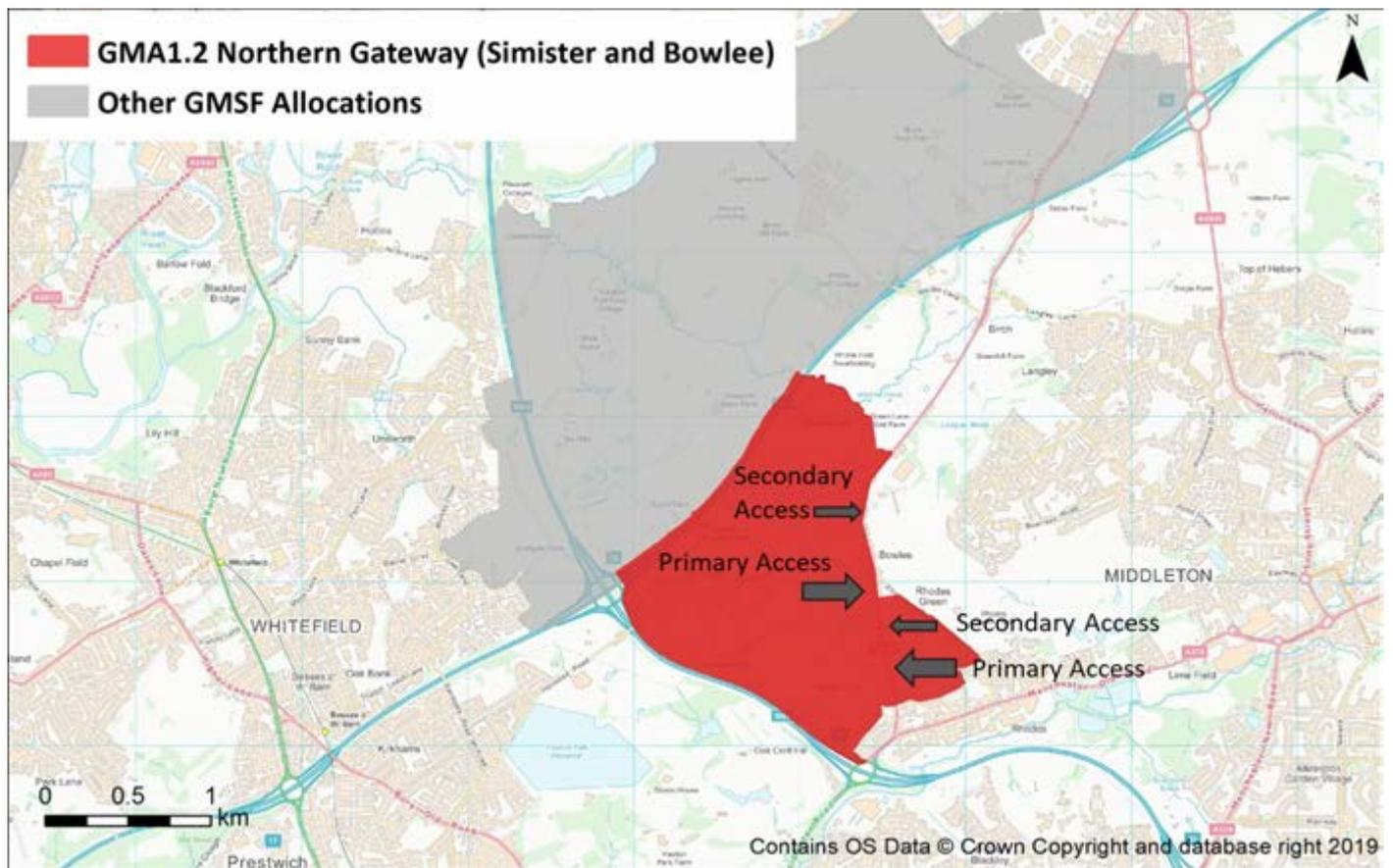
4.5.4 The junction of A576 Middleton Road / A6045 Heywood Old Road has a small cluster at the signalised four way cross junction slightly north of Junction 19 approaching Rhodes. The roads surrounding the junction have a 30mph speed limit with footpaths on either side of the road.

4.5.5 There has been another fatality on the A6045 slightly north of Simon Lane, where there was 3 vehicles involved. The A6045 has speed restrictions in place and cycle lanes are present on this stretch of road. Another single-vehicle accident involving one fatality occurred in the last 5 years in the village of Rhodes.

5. Proposed Access to the Allocation

- 5.1.1 The nature of existing wider strategic highway connections in vicinity of the Simister and Bowlee allocation mean that longer distance traffic is likely to approach the allocation via M60 Junction 19 or M62 Junction 19. For local traffic travelling from the north, the recently consented South Heywood Link Road will improve connectivity via its connection to M62 Junction 19.
- 5.1.2 Both land parcels that comprise the Simister and Bowlee allocation have a generous frontage on the A6045 Heywood Old Road. The precise form of the allocation access would depend on the specific masterplanning undertaken by the respective landowners for each of the land parcels. It may be feasible to implement a new four-arm junction on the A6045 Heywood Old Road thereby providing primary access to both land parcels at a single location. For the purposes of this locality assessment however, it has been assumed that each of the land parcels would have its own access points to the A6045 Heywood Old Road.
- 5.1.3 Each of the land parcels is assumed to have a primary and a secondary access. Given the difference in scale of the two land parcels, different access junction forms may be adopted for these. The smaller parcel to the east may be accessed via simple three-arm priority junctions. The larger parcel to the west however, may require more substantial junctions. Two three-arm signalised junctions have been assumed for the purposes of this locality assessment.
- 5.1.4 Note that the allocation boundaries shown in **Figure 3** were correct at the time of writing, for definitive boundary information refer to the GMSF allocation maps. Since the modelling analysis has been undertaken for this report, the Whitefield allocation has been removed from the GMSF.

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.

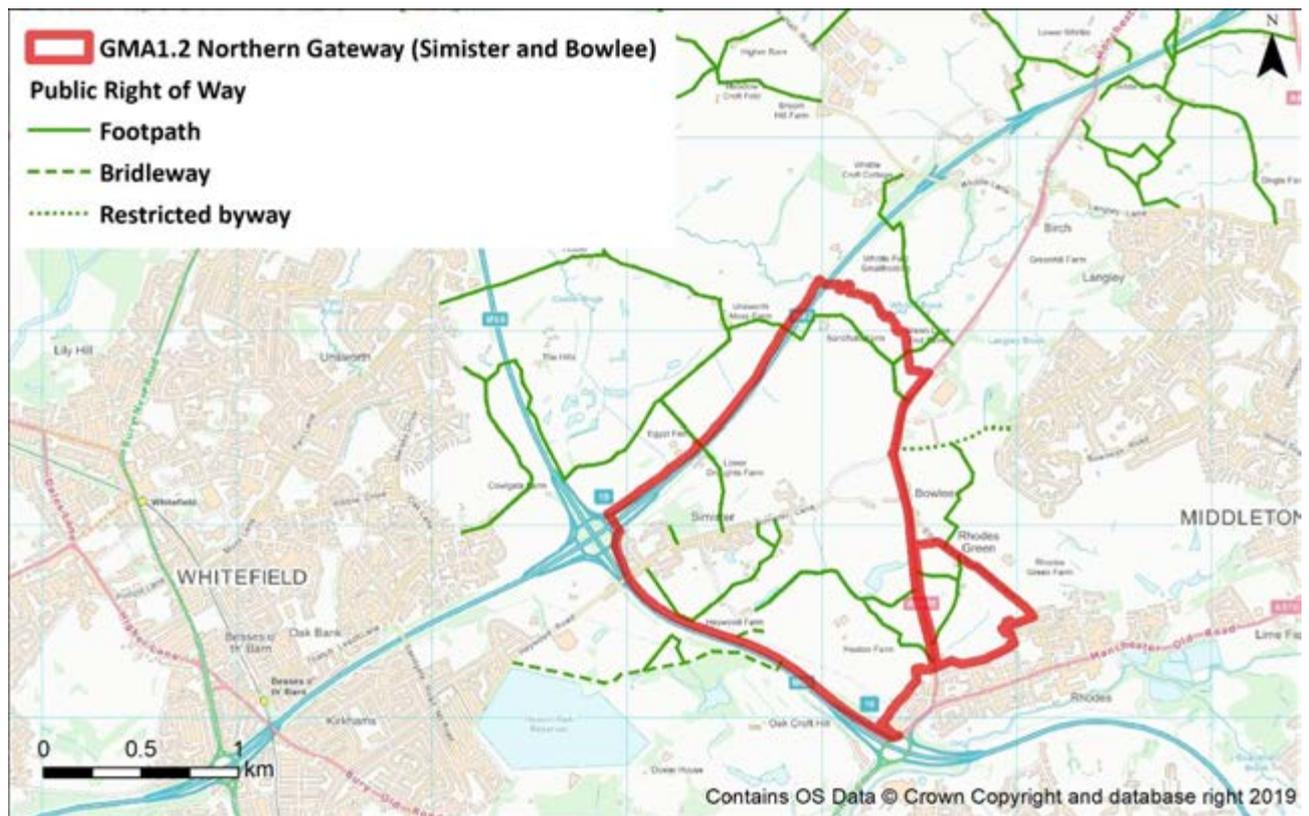
6.1.2 An assessment of the accessibility of the allocation, by all modes of transport, has been undertaken so as to establish if it would meet with prevailing sustainable transport policies. The allocation and its relative multi-modal accessibility can be summarised as below.

- 6.1.3 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.
- 6.1.4 Given the extent of the allocation there is variation within the area in terms of accessibility and GMAL scores. A few sample points were checked surrounding the allocation and are listed below as examples only:
- Simister (2)
 - Bowlee (2)
 - Rhodes Green and Heaton Farm (3)
 - The rest of the allocation (1)
- 6.1.5 Note that the GMAL rating is based on pre-COVID-19 pandemic figures and therefore may not be representative of the latest transport accessibility rating

6.2 Walking and Cycling

- 6.2.1 The land where the allocation is located is currently criss-crossed by a number of public rights of way (**Figure 4**). These include footpaths that provide linkages to the surrounding areas either side of the motorways. Simon Lane crosses the M62 in two places and is a single lane bridge where all users have to share the carriageway, and the M66 is crossed by a footbridge to the west linking both halves of Old Hall Lane and adjacent to Heaton Park golf course.
- 6.2.2 Note that the allocation boundaries shown in **Figure 4** were correct at the time of writing, for definitive boundary information refer to the GMSF allocation maps.

Figure 4. Public rights of Way



6.2.3 With these and other pedestrian routes the allocation is linked to Simister in the centre of the allocation, Rhodes to the south east, and Bowlee and Langley in the east, and the Heywood / Pilsworth allocation to the north.

6.2.4 There are numerous cycle routes in the vicinity of the Simister and Bowlee allocation, especially along Heywood Old Road, where there are cycle lanes present although these do not meet current TfGM cycling standards. There are also cycle lanes on Simister Lane heading over the bridge over the M60, but stopping short of the village of Simister. Simister Lane / Blueball Lane and Ellis Lane/Boardman Lane are marked as advisory cycling routes on Greater Manchester's Cycling Map. Blueball Lane links cyclists to the traffic free route with a good surface for onwards connections to Langley.

6.2.5 A number of pedestrian and cycling facilities are however likely to require an upgrade in order to serve the residents of the allocation. In addition to routes already mentioned others to note include Blueball Lane and the eastern section of Simister Lane that are single lanes without footways, and Boardman Lane and Ellis Lane on the eastern periphery of the allocation that also lack footways.

6.2.6 The main local destinations likely to generate walking and cycling trips are the local shops built on the allocation, Parrenthorn High School (1.3 km), St. Margaret’s Church of England Primary School (1.4 km). With improvements made to existing infrastructure, including that along Ellis Lane and Boardman Lane, there is also the potential for walking and cycling trips to Little Heaton Church of England Primary School (1.7 km), Our Lady's Roman Catholic High School (3.1 km), and Meade Hill School (3.6km). Distances are taken from the approximate centre of the allocation and as a result some areas of the development will be substantially closer to some destinations.

6.3 Bus

6.3.1 **Table 2** sets out the existing bus routes in the vicinity of the proposed allocation . The nearest bus routes to the allocation follow. Closely spaced bus stops can be found on the A576 Manchester Old Road, while the bus stops on the A6045 Heywood Old Road are spaced much further apart reflecting the much lower housing density along this route.

Table 2. Accessibility of and proximity to public transport

Bus	Operator	Nearest Stop	Distance	Route	Mon Fri Freq.	Sat Freq.	Sun Freq.
90	Tylers Coaches	Simister Lane	500m	Prestwich – Heaton Park - Simister	90 minutes	90 minutes	No Service
96	Go North West	Simister Lane	500m		1h20 to 2 hours	1 to 2 hourly	1 to 2 hourly
125	Stotts Tours	Heywood Road	850m	Middleton – Rhodes – Birch – Hollin – Alkington circular	Hourly	Hourly	No Service
59	First Greater Manchester	Manchester Old Road	1.9km	Manchester – Cheetham Hill – Middleton – Oldham – Shaw - Rushcroft	30 minutes	30 minutes	30 minutes

156	Stagecoach Greater Manchester	Manchester Old Road	1.9km	Manchester – North Manchester General Hospital – Higher Blackley - Middleton	Hourly	Hourly	Hourly
18	Go North West	Windermer e Road	1.7km	Manchester Royal Infirmary – Langley circular via Manchester, Middleton	One service	One service	No service
163	Diamond Bus North West	Wood Street	2.4km	Manchester – Collyhurst – Blackley – Middleton – Heywood – Darn Hill - Bury	10 minutes	30 minutes	30 minutes

6.4

Metrolink and Rail

6.4.1 The nearest Metrolink and railway stations to the proposed allocation are Whitefield and Mills Hill.

Table 3 summarises how each can be accessed from the proposed allocation.

Table 3. Nearest Metrolink Stops and Rail Stations and Journey Time Information

Stop / Station	Distance (By Road)*	Bike (Mins)*	Bus (Mins)*	Car (Mins)*
Metrolink				
Besses o'th'Barn Metrolink Stop	3.3 km west	11 min	25 min	8 min
Heaton Park Metrolink Stop	3.2 km south west	10 min	13 min	6 min
Prestwich Metrolink Stop	3.4 km south west	11 min	18 min	7 min
Rail				
Mills Hill Rail Station	6.2 km east	23 min	40 min	10 min
Castleton Rail Station	9.5 km north east	29 min	58 min (1 change)	19 min
Rail and Metrolink				
Rochdale Rail and Metrolink Interchange	18.4 km north east	35 min	1 h 15 (1 change)	21 min

*(From the centre of the allocation)

6.4.2 Whitefield and Heaton Park Metrolink stops fall within Zone 3, and Rochdale town centre Metrolink stop falls into Zone 4 of the Metrolink network. Services are run every 6 minutes on weekdays / Saturdays / 12 minutes on Sundays.

6.4.3 Castleton and Mills Hill Rail stations are on the Calder Valley Line, the former being one stop before Rochdale Station where interchange is possible onto Metrolink. Weekdays and Saturday, there are half-hourly services in each direction during the day. With the exception of a few of peak hour/late evening and Sunday services, trains start at Rochdale then stop at all stations including Castleton to Manchester Victoria. They continue via Salford Central, Salford Crescent, Bolton and Darwen to Blackburn, with alternate trains continuing to Clitheroe. Rochdale Rail station benefits

from 6 services per hour during peak time, with fast services to/from Manchester Victoria and Leeds/Huddersfield.

6.5 Proposed

Public Transport

- 6.5.1 As described above, communities in the vicinity of the Simister and Bowlee allocation are reasonably well served by various means of public transport, however, the allocation area itself is not well served. Consultation with Transport for Greater Manchester's public transport teams have identified a requirement for a significant uplift in provision of bus services to/from/through the allocation to support access to neighbouring areas of Bury, Middleton, and Heywood, including connectivity with Metrolink (via Besses o' th' Barn, Prestwich or Heaton Park) in the short-medium term. This may be partly addressed by provision of enhanced service via Simister linking to Prestwich and Regional Centre
- 6.5.2 As part of the wider Northern Gateway development, a number of public transport improvement schemes are to be considered relative to the Simister and Bowlee Allocation. TfGM is exploring options for a new Metrolink line between Crumpsall and Middleton, which would run parallel to the M62 from Junctions 18 and 19. While initial work has been undertaken on the case for this line, the exact route has yet to be finalised and there may be potential to align it in such a way that a new stop could be provided very close to or within the proposed allocation.
- 6.5.3 There are proposals to develop an extension of the Metrolink connecting Middleton to the Regional Centre. A Bus Rapid Transit (BRT) corridor linking Manchester city centre and Heywood/Bamford via Heywood Old Road/ Manchester Road has also been proposed, and would provide an effective route for commuters.
- 6.5.4 Buses would also link the expanded Heywood employment area with surrounding neighbourhoods and key locations helping to maximise the public transport accessibility of the employment opportunities and to better integrate existing and new communities with the rest of Greater Manchester. This will also need to be supported by safe and attractive walking and cycling routes to promote healthier and more sustainable journeys to work.

Walking and Cycling

6.5.5 Safe and attractive walking and cycling routes which create sustainable local connections with new and existing neighbourhoods (including the new significant housing opportunities at Heywood and Pilsworth, and Whitefield) and connect to new and existing public transport facilities will also need to be provided.

6.5.6 It is difficult to be specific in advance of the detailed masterplanning for the allocation; however, the following links are proposed:

- Beeway standard cycle route connecting to existing cycleway at M60 J19
- Beeway standard cycle route to the neighbouring Heywood/Pilsworth allocation and beyond potentially making use of existing bridges at either Simon Lane or Egypt Lane (thereby helping to address the severance issue caused by the M62)

7. Parking

7.1 Overview

7.1.1 The Simister and Bowlee allocation straddles the boundary between Bury and Rochdale. As such the parking standards set by both districts are relevant.

7.2 Bury Parking Standards

7.2.1 All types of development proposals will be required to provide appropriate levels of parking in line with the standards set out in the SPD Development Control Policy Guidance Note 11 – Parking Standards in Bury – May 2007. The provision of adequate parking facilities and their design should be appropriate to the scale, nature, location and users of a proposal.

7.2.2 Table 3 shows maximum car parking standards and minimum standards for cycle parking, two wheeled motor vehicles (TWMV) and for people who are disabled. The table only shows the standards for the relevant types of development. The standards in the Table should be read alongside the guidance contained elsewhere in the SPD and alongside other relevant material considerations.

7.2.3 Bury Council recognises that lower parking thresholds than those set out in the table may be considered in cases where meeting the full parking requirements would be detrimental to wider planning interests. This may include applications relating to Conservation Areas, Listed Buildings or areas of special archaeological, historic or environmental importance. The integrity of these areas and buildings will be given considerable weight, alongside other relevant planning policies and other relevant material considerations.

7.2.4 Equally, the Council recognises that exceptional circumstances may exist where strong material considerations may justify a higher parking provision. For example, there may be circumstances where enforcing the standards could cause serious problems for road safety, or where developments are proposed in remote rural areas, which have limited public transport. In such cases, the applicant / developer must demonstrate adequate mitigation measures.

Table 4. Bury Parking Standards

Type Of Development	Maximum Standard For Car Parking Excluding Disabled	Minimum Standards For Car Parking For Those Who Are Disabled	Minimum Standards For Cycle Parking
C3. Dwelling Houses 1 bed dwelling. 2 bedrooms 3 bedrooms 4 bedrooms and above	*HAA - 1/Unit *LAA - 2/Unit *HAA – 1.5/Unit *LAA – 2.5/Unit *HAA - 2/Unit *LAA - 3/Unit *HAA - 3/Unit *LAA - 3/Unit	Where parking is located centrally for flat and apartment developments, at least 5% of parking should be for disabled persons.	Flats and apartments – 1 space per 5 dwellings. Minimum of 4 spaces. Must be provided in a secure long stay secure compound or locker.

Type Of Development	Maximum Standard For Car Parking Excluding Disabled	Minimum Standards For Car Parking For Those Who Are Disabled	Minimum Standards For Cycle Parking
C3. Sheltered housing	1 per 3 dwellings	10% of sheltered housing parking should be allocated for disabled people	No standard
B2. General Industry	1 per 60m ²	Up to and including 200 bays – individual bays for each disabled employee plus 2 bays or 5% total capacity, whichever is greater. Over 200 bays – 6 bays plus 2% of total capacity.	1 per 700 sqm – minimum of 2 spaces. Note: 10% of cycle spaces should be allocated for customers (short stay) and 90% for staff (long stay).
B8. Storage & Distribution	1 per 100m ²	Up to and including 200 bays – individual bays for each disabled employee plus 2 bays or 5% total capacity, whichever is greater. Over 200 bays – 6 bays plus 2% of total capacity.	1 per 850 sqm – minimum of 2 spaces Note: 10% of cycle spaces should be allocated for customers (short stay) and 90% for staff (long stay).

*HAA - High Access Area; LAA - Low Access Area

7.3 Rochdale Parking Standards

7.3.1 Rochdale's Parking Standards are based on draft Greater Manchester-wide standards developed in association with the other Greater Manchester authorities and detailed in Appendix 5 of the Rochdale Adopted Core Strategy (2016).

Car Parking

7.3.2 The car parking standards comply with maximum levels set out in PPG13 'Transport', although for some types of Use Class, the standards are slightly more restrictive to reflect local circumstances. They are also in accordance with the maximum levels set out in draft Regional Planning Guidance (May 2002). The draft RPG also sets out 'urban conurbation' ceilings, and these are generally consistent with the Rochdale standards, with a few exceptions again designed to reflect local circumstances.

Disabled Car Parking

7.3.3 This is based on recommendations in the Department of Transport Traffic Advisory Note on Parking for Disabled People.

Cycle Parking

7.3.4 The cycle standards are generally slightly higher than the level of parking provision suggested in the National Cycle Strategy to reflect the increasing importance of cycle provision.

Motorcycle Parking

7.3.5 The motorcycle standards generally allow for 2.5% of maximum car parking provision.

Table 5. Rochdale Parking Standards

Type Of Development	Maximum Standard For Car Parking Excluding Disabled	Minimum Standards For Car Parking For Those Who Are Disabled	Minimum Standards For Cycle Parking
<p>C3. Dwelling Houses 2+ bedrooms outside town centers</p> <p>Single bed dwellings and dwellings in town centers.</p> <p>Flats/apartments 2+ bedrooms outside town centers</p> <p>Single bed dwellings and flats/apartments in town centers</p>	<p>2 per dwelling (not including a garage)</p> <p>1.25 per dwelling</p> <p>2 per dwelling</p> <p>1.25 per dwelling</p>		<p>No standard</p> <p>No standard</p> <p>Flats and apartments – 1 secure locker per 5 dwellings –minimum of 2 spaces.</p> <p>Flats and apartments – 1 secure locker per 5 dwellings –minimum of 2 spaces.</p>
<p>C3. Sheltered housing</p>	<p>1 per 3 dwellings + 1 per 2 full time staff</p>		<p>No standard</p>
<p>B2. General Industry</p>	<p>1 per 60m²</p>	<p>Below 12 spaces - 10% of total capacity; 12 - 200 - 3 bays or 6% of total capacity</p>	<p>1 per 700m² – minimum of 2 spaces.</p>

Type Of Development	Maximum Standard For Car Parking Excluding Disabled	Minimum Standards For Car Parking For Those Who Are Disabled	Minimum Standards For Cycle Parking
		(whichever is greater); Over 200 - 4 bays plus 4% of total capacity	
B8. Storage & Distribution	1 per 100m ²	Below 12 spaces - 10% of total capacity; 12 - 200 - 3 bays or 6% of total capacity (whichever is greater); Over 200 - 4 bays plus 4% of total capacity	1 per 850m ² – minimum of 2 spaces.

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). An overview of the modelling process can be found in the GMSF New Allocations Strategic Modelling Technical Note. Information on adopted trip rates can be found in Appendix D of this document..

- 8.1.2 For the purposes of the testing the impact of the allocation through the strategic model, a total of 1750 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.
- 8.1.3 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.
- 8.1.4 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.
- 8.1.5 The agreed development quantum for the Simister and Bowlee allocation is shown in **Table 6**, while the estimated traffic generation for both the constrained and high scenarios is shown in **Table 7**.

Table 6. Development Quantum

Residential	Houses	140	1474
Residential	Apartments	26	276
Total		166	1750

Table 7. Allocation Traffic Generation

Year	AM Peak Hour Departures	AM Peak Hour Arrivals	PM Peak Hour Departures	PM Peak Hour Arrivals
2025 GMSF Constrained	52	16	27	58
2025 GMSF High-Side	54	21	33	58
2040 GMSF Constrained	515	151	263	567
2040 GMSF High-Side	568	221	347	567

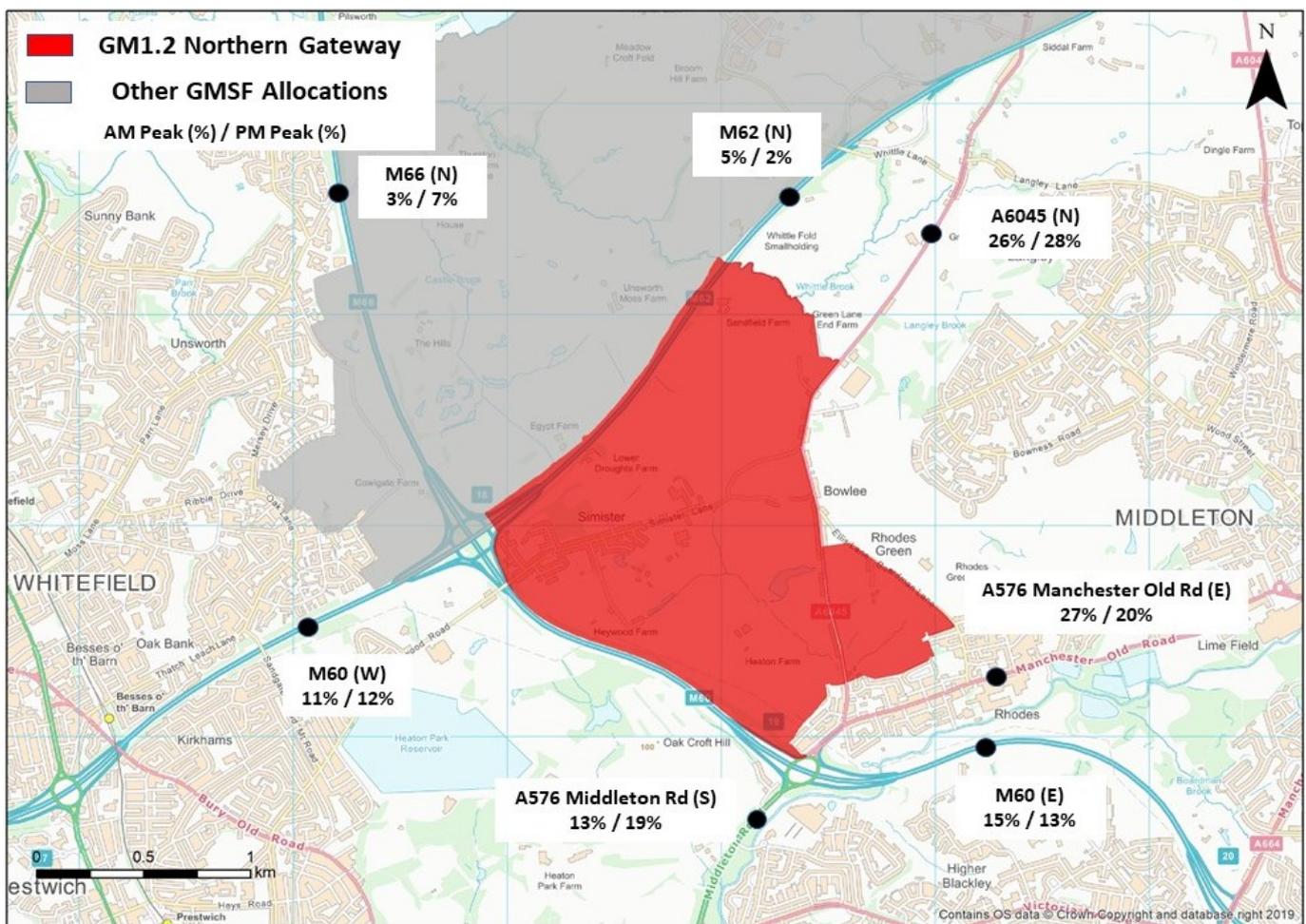
Units are in PCU (passenger car units/hr)

- 8.1.6 **Table 8** and **Figure 5** indicate the distribution of traffic on the network to and from the allocation. The primary movements are to/from A6045 (north) and A576 Manchester Old Road (East).
- 8.1.7 Note that the allocation boundaries shown in **Figure 5** were correct at the time of writing, for definitive boundary information refer to the GMSF allocation maps. Since the modelling analysis has been undertaken for this report, the Whitefield allocation has been removed from the GMSF.

Table 8. Allocation Traffic Distribution, 2040 GMSF High-Side (Origin/Destination Combined)

Route	AM Peak Hour	PM Peak Hour
A576 Middleton Road (South)	13%	19%
M60 (West)	11%	12%
M66 (North)	3%	7%
M62 (North)	5%	2%
A6045 (North)	26%	28%
A576 Manchester Old Road (East)	27%	20%
M60 (East)	15%	13%

Figure 5. Allocation Traffic Distribution, 2040 GMSF High-Side (Origin/Destination Combined)



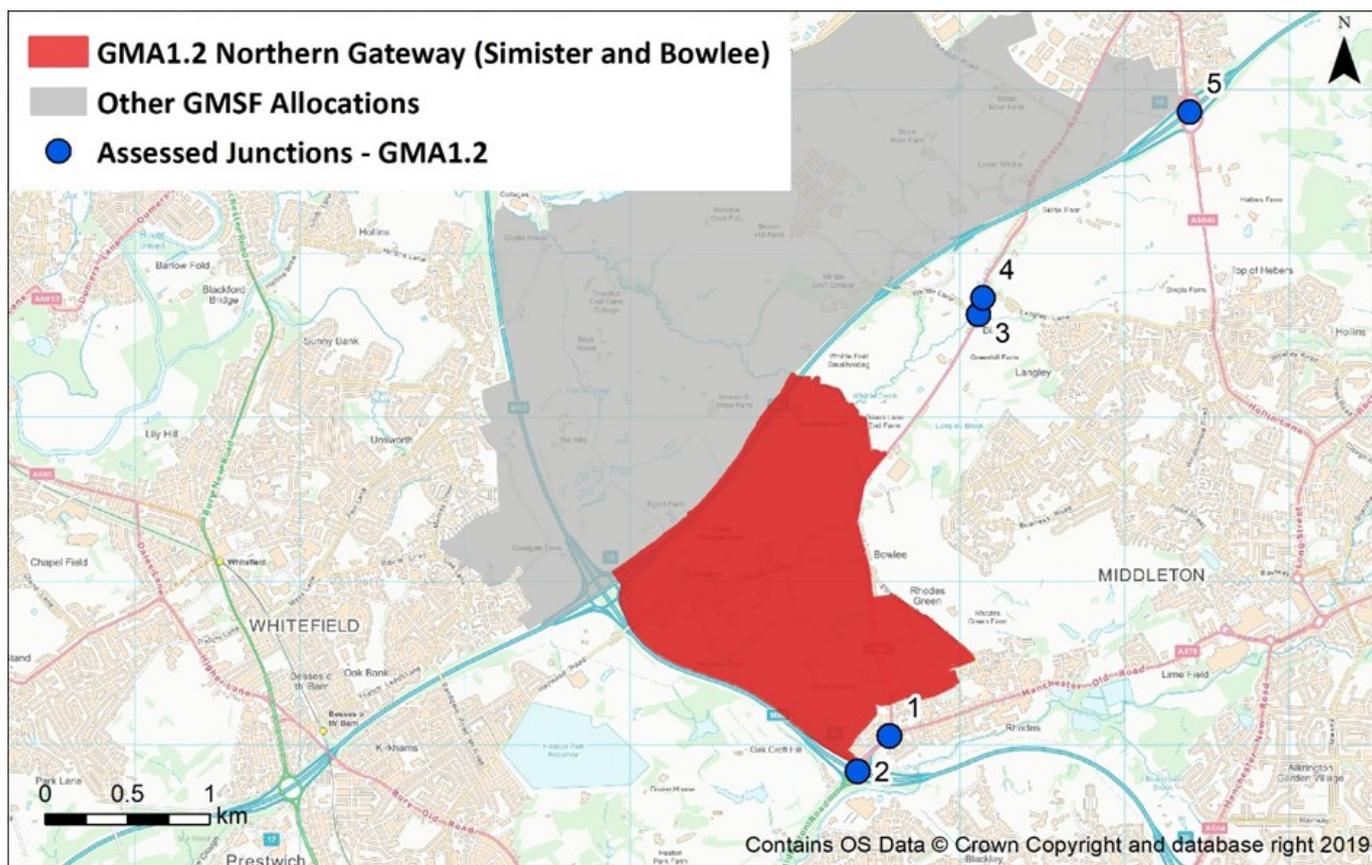
9. Current Highway Capacity Review

9.1 Existing Network

9.1.1 Based on the configuration of the of the existing highway network and the planned access strategy, five junctions have been identified for assessment. These are identified in **Figure 6**.

9.1.2 Note that the allocation boundaries shown in **Figure 6** were correct at the time of writing, for definitive boundary information refer to the GMSF allocation maps. Since the modelling analysis has been undertaken for this report, the Whitefield allocation has been removed from the GMSF.

Figure 6. 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 the other GMSF allocations in the vicinity. Consequently, at the local level, the transport impacts of the allocation are considered cumulatively with the GMSF allocations as follows:

- Heywood and Pilsworth
- Stakehill

- Elton Reservoir
- Walshaw
- Other Bury / Rochdale allocations in the vicinity

10.1.3 As this locality assessment was being finalised a decision was made to remove the 2019 GMSF GMA1.3 Whitefield allocation and GM3 Kingsway South allocation. These decisions came too late to amend the traffic modelling used for this and other allocations. It should be noted that the forecast traffic flows used to examine the impact of these allocations and to identify mitigation would change as a result of the removal of allocations. Likely changes would be a small reduction in traffic levels in the vicinity of this allocation. However, we do not consider that the impact would be sufficiently significant to materially affect the scope and form of the mitigation set out.

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 have also been outlined in **Chapter 5**. The access junctions would be sized to serve the anticipated traffic volumes. The specific details will be addressed in later masterplanning work.

11.1.2 Detailed designs for allocation access arrangements consistent with Greater Manchester's best practice Streets for All highway design principles will be required at the 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 Chapter 9. Flows from a 2040 reference case scenario (including approved Local Plan development proposals 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.

- 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. For the purposes of the GMSF Locality Assessments, it has 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.
- 12.1.4 The M60 / M62 / M66 Simister Island motorway junction is one of the most critical pinch points on the SRN in Greater Manchester. The second Road Investment Strategy (RIS2) confirmed that delivery of an improvement scheme for the interchange will commence by April 2025. However, a final decision has yet to be taken on the form of the improvement and there was therefore no confirmed scheme which could be included in the Reference scenario modelling. This scheme has particular relevance to the Northern Gateway allocations, as the M60 / M62 / M66 approaches to Simister Island would be expected to experience high levels of congestion if the interchange was not improved, potentially diverting some strategic traffic on to the local road network. This could mean that the modelling which excludes any improvement is exaggerating congestion effects on the local road network in the vicinity of the Northern Gateway allocations.
- 12.1.5 This section looks at the impact on the network at the junctions highlighted in Chapter 9. Signalised junctions were assessed in detail using industry-standard modelling software LINSIG version 3. Where possible, traffic signal information was obtained from TfGM in order 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. Table 9 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 traffic 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.
- 12.1.6 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.

12.1.7 The following table summarises the results of the individual junctions models assessing the junctions on the Local Road Network (LRN). Strategic Road Network (SRN) junctions 2 and 5 are considered in **Chapter 15**.

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

No.	Junction	Reference Case AM	Reference Case PM	GMSF High AM	GMSF High PM	Allocation Flows AM	Allocation Flows PM
1	A6045 Heywood Old Road / A576	80%	91%	109%	119%	819	608
3	A6045 Heywood Old Rd / Whittle Lane	19%	31%	130%	108%	158	263
4	A6045 Heywood Old Road/Langley Lane	58%	83%	193%	122%	135	248

12.1.8 All of the LRN junctions are forecast to perform satisfactorily in the Reference 2040 scenario.

12.1.9 As shown in the table above all three junctions are forecast to operate over capacity in the ‘With GMSF’ 2040 High Scenario in both peak hours.

12.1.10 The mitigation proposals for these junctions will be discussed in the next section of this report.

13. Transport Interventions Tested on the Local Road Network

13.1 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 address pre-existing congestion on the local network.
- 13.1.2 It should also be noted that these interventions may not be the definitive solution to addressing the impact of the allocations but have been developed to demonstrate that a solution is possible at the location. The exact form of the required mitigation will be confirmed and its detailed design developed as part of the statutory planning process, should the allocation within GMSF be approved. Site promoters will need to develop detailed design solutions – consistent with Greater Manchester’s best practice Streets for All highway design principles – at the planning application stage.
- 13.1.3 The A6045 Heywood Old Road / A576 junction is constrained on all sides by existing properties, hence no specific mitigation measures are tested at this location.
- 13.1.4 There is the potential for the local route of A6045 Heywood Old Road/Whittle Lane to experience excessive Heywood/Pilsworth development related rat run traffic. As such improvement measures for Whittle Lane have been drawn up in relation to the neighbouring Heywood/Pilsworth allocation. These comprise additional traffic management measures such as more visible weight-restriction controls, one-way traffic signal-controlled shuttle working over existing narrow sections of the route and no-direct access for general traffic. These measures are expected to reduce the traffic flow on Whittle Lane thereby improving the performance of the junction with the A6045 Heywood Old Rd.
- 13.1.5 Signalisation of the A6045 Heywood Old Road/Langley Lane junction is proposed to address the traffic capacity issues.
- 13.1.6 The following table provides a summary of the schemes proposed to mitigate the impact of GMSF at the three junctions which have been identified through the junction modelling process.

Table 10. Approach to Mitigation

No.	Junction	Mitigation Approach
3	A6045 Heywood Old Rd / Whittle Lane	Additional traffic management measures on Whittle Lane
4	A6045 Heywood Old Road/Langley Lane	Signalisation of the junction

14. Impact of interventions on the Local Road Network

14.1.1 A further run of the GMVDM model was carried out with the mitigation schemes defined in Table 9 incorporated. Further local junction modelling analysis was undertaken to confirm the satisfactory operation of the junctions and to check that the mitigation has not caused any redistribution which would exacerbate capacity issues on the network.

14.1.2 The following table summarises the results of the junctions on the LRN with the proposed mitigation schemes in place. Both junctions are forecast to perform satisfactorily with the mitigation in place.

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

No.	Junction	Reference Case AM	Reference Case PM	GMSF High AM	GMSF High PM	Allocation Flows AM	Allocation Flows PM
1	A6045 Heywood Old Road / A576	80%	91%	91%	103%	517	607
3	A6045 Heywood Old Rd / Whittle Lane	19%	31%	39%	30%	222	257
4	A6045 Heywood Old Road/Langley Lane	58%	83%	64%	70%	171	230

14.1.3 The performance of the A6045 Heywood Old Road / A576 junction has improved as a result of traffic reassignment resulting in a lower volume of allocation traffic passing through the junction. Given the proximity of this junction to M60 Junction 19 it is recommended that it be included in the further work recommended in Chapter 15 of this report.

15. Impact and mitigation on the Strategic Road Network

15.1 Overview

15.1.1 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.

15.1.2 As noted in **Chapter 12**, the absence of a preferred improvement scheme for the M60 / M62 / M66 Simister Island interchange which could be modelled means that traffic may divert within the model from the SRN approaches to Simister Island on to the local road network. This may result in additional traffic volumes at the Simister and Bowlee junctions where the SRN interfaces with the LRN, namely M60 Junction 19 and M62 Junction 19.

15.1.3 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 will allow Highways England to gain a strategic understanding of where there is an interaction between network stress points and GMSF allocation demand. This will facilitate further discussion between TfGM and Highways England to reach agreement and/or common ground on GMSF allocations in advance of Examination in Public (EiP).

15.2 Impact of Allocation Before Mitigation on the Strategic Road Network

15.2.1 The following tables summarize the results of the assessment of the SRN junctions which are impacted by the allocation.

Table 12. Results of Strategic Junction Capacity Analysis Before Mitigation – Year 2040

No.	Junction	Reference Case AM	Reference Case PM	GMSF High AM	GMSF High PM	Allocation Flows AM	Allocation Flows PM
2	M60 Junction 19 / A576 Middleton Road	142%	176%	174%	171%	356	473
5	M62 Junction 19 / A6406 Heywood Interchange	115%	117%	164%	120%	85	125

M60 Junction 19 / A576 Middleton Road

15.2.2 The M60 Junction 19 / A576 Middleton Road junction proved particularly difficult to represent in the local junction modelling. It is known that significant traffic queues occur at this location during the AM peak hour. These congestion issues are not localised at the motorway junction, but extend along the A576 corridor towards Cheetham Hill and the Regional Centre. These congestion effects are referred to as “blocking-back” and are difficult to replicate in local junction modelling software.

15.2.3 The results shown in **Table 12** do indicate a significant congestion problem at M60 Junction 19 in both peak hours. This is considered to be a reasonable approximation of the likely traffic situation in 2040 before mitigation. However, in the light of the issue set out above, further more detailed modelling of the roundabout and adjoining parts of the network – potentially using more sophisticated traffic simulation tools – is recommended to confirm these findings.

M62 Junction 19 / A6046 Heywood Interchange

15.2.4 The Reference scenario for M62 Junction 19 includes the improvements related to the South Heywood Link Road. Significant GMSF-related traffic is forecast to pass through this junction causing a notable worsening in junction performance, although the proportion of this traffic which is related to Simister and Bowlee is relatively modest compared to the volumes at other junctions.

15.3 Specific SRN Junction Mitigation Measures

15.3.1 Mitigation measures are proposed at the points where both the allocation access routes meet the SRN, namely M60 Junction 19 and M62 Junction 19.

M60 Junction 19 / A576 Middleton Road

15.3.2 The proposed mitigation consists of signalling the Northern and Eastern Arms (A576 N and the M60 West Bound off Slip) but leaving the southern arm un-signalised.

M62 Junction 19 / A6046 Heywood Interchange

15.3.3 As described earlier, the M62 J19 grade-separated roundabout is proposed to be comprehensively upgraded to a traffic signal layout as part of the delivery of the SHLR scheme. The delivery of the Heywood/Pilsworth and Simister and Bowlee allocations is expected to result in additional traffic levels passing through this junction much of which could be accommodated in the short to medium term. In the longer term, however, it is anticipated that some further improvements may be required at this location, as discussed below.

15.3.4 The dedicated pedestrian and cycle facilities at M62 Junction 19 will bring significant benefits for users of active modes. However, these at-grade crossing facilities will result in some loss of capacity for other traffic at both the roundabout entries and at the circulating carriageway. The capacity analysis identified a specific issue at the new SHLR arm of the junction. The crossing requires a significant inter-green stage resulting in excess “dead time” at the junction. Possible mitigation would consider alternative pedestrian/cycle configurations and re-optimization of the signal timings.

Table 13. Summary of SRN Junction Mitigation Measures

No.	Junction	Mitigation Approach
2	M60 Junction 19 / A576 Middleton Road	Signalisation of the Northern and Eastern Arms (A576 N and the M60 West Bound off Slip)
5	M62 Junction 19/ A6406 Heywood Interchange	Consideration of alternative pedestrian/cycle configurations and re-optimization of the signal timings

15.3.5 Concept drawings have been produced and are included in **Appendix 1**. These drawings are purely illustrative.

15.4 Impact of Interventions on the SRN

15.4.1 The following table provides a summary of the capacity analysis results with the proposed mitigation schemes in place.

Table 14. Results of Strategic Junction Capacity Analysis After Mitigation – Year 2040

No.	Junction	Reference Case AM	Reference Case PM	GMSF High AM	GMSF High PM	Allocation Flows AM	Allocation Flows PM
2	M60 Junction 19 / A576 Middleton Road	142%	176%	113%	109%	329	485
6	M62 Junction 19/ A6406 Heywood Interchange	115%	117%	123%	120%	105	84

M60 Junction 19 / A576 Middleton Road

15.4.2 The proposed mitigation scheme results in a significant improvement in junction operation in both peaks. However, as stated above, these results should be treated with some caution. The more detailed modelling of the roundabout and adjoining parts of the network suggested in **Section 15.2.3** should also consider the mitigation further and confirm the level of relief provided by the suggested mitigation

M62 Junction 19 / A6046 Heywood Interchange

15.4.3 The proposed mitigation scheme returns the capacity of the junction to a state comparable the reference case. It should however be noted that significant queues still remain particularly on the northern and southern arms. Further investigation of possible mitigation measures at this location is recommended.

16. Final list of interventions

16.1.1 The proposed final list of interventions is summarised in **Table 15**.

Table 15. Final List of Interventions

MITIGATION	DESCRIPTION
Allocation Access	
Two new 3-arm signalised junctions with A6045	Allocation access for the land parcel west of A6045
Two new 3-arm priority junctions with A6045	Allocation access for the land parcel east of A6045
Supporting Strategic Interventions	
New Metrolink Stop on the proposed line between Crumpsall and Middleton	New stop on the proposed Crumpsall to Middleton line near Rhodes.
Bus Rapid Transit (BRT) corridor to Manchester city centre	Bus Rapid Transit (BRT) corridor to Manchester city centre and Heywood via Heywood Old Road/ Manchester Road
Necessary Local Mitigations	
Permeable network for pedestrian and cyclist priority to/from/ within the development	Assumed new or upgraded cycle and pedestrian access, linked to PROWs and the Bee Network, providing connectivity to adjacent local areas and employment/educational

	opportunities, supported by high quality design for active travel within the allocation area. These will be consistent with Bee Network design standards.
Introduction of local bus services to/from/within the allocation	Assumed local bus services to link the allocation with Metrolink and Rail interchanges and key local centres such as Prestwich and Middleton, supported by permeable design of future development to support bus services within the allocation area.
1. Improvement of A6045 Heywood Old Road / A576 junction	<i>Required improvements not yet known; subject to further study</i>
4. A6045 Heywood Old Road/Langley Lane	Signalisation of the junction
SRN Interventions	
2. M60 Junction 19/A576 Middleton Road	Signalisation of the Northern and Eastern Arms (A576 N and the M60 West Bound off Slip)
5. M62 J19/A6046 Heywood Interchange	Consideration of alternative pedestrian/cycle configurations and re-optimization of the signal timings
Possible corridor improvements on A576 Middleton Road / Manchester Old Road in vicinity of M60 J19	<i>Required improvements not yet known; subject to further study</i>

16.1.2 The proposed interventions address the majority of the concerns raised during the public consultation exercise.

16.2 Traffic Reduction Strategies

- 16.2.1 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 similar residential allocations, particularly with respect to traditional AM & PM peak 'rush hour' periods.
- 16.2.2 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.

17. Strategic Context – GM Transport Strategy Interventions

- 17.1.1 TfGM, in conjunction with both Bury and Rochdale Councils' are developing a number of wider transport proposals which will support travel around the allocation area. These include an express bus corridor between Manchester and Heywood/Langley, and new bus services connecting the M62 North East corridor to the local area. TfGM are also currently developing options for Bus Rapid Transit (BRT) services from the allocation and surrounding towns to the Regional Centre. TfGM are also considering proposals for an extension of the Metrolink to Middleton. These proposals taken together will make it easier to travel by public transport and reduce people's reliance on the private car. Further interventions may be brought forward through the ongoing Department for Transport-funded Manchester Northwest Quadrant Strategic Study, which is looking at interventions to support transport connectivity and capacity through the M60 corridor in the north and west of Greater Manchester.
- 17.1.2 Greater Manchester has established a 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, which are set out in TfGM's 2040 Strategy and which represent the goals of that strategy are:

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

17.1.3 Key to delivering this Streets for All vision will be encouraging growth in bus patronage. More than three quarters of all public transport journeys in Greater Manchester are made by bus, and the bus plays a vital role in tackling congestion and providing access to work leisure and other destinations. Patronage on the bus network has been in decline, with a c. 10% reduction since 2010. Greater Manchester has invested in its bus network in recent years and has committed significant funding to a number of interventions to improve bus travel. Following the introduction of the Bus Services Act 2017, the GMCA is considering whether to make use of new powers to improve the bus market in GM. This includes considering a proposed bus franchising scheme for GM and other realistic courses of action.

17.1.4 Greater Manchester is also delivering the Bee Network - the UK's largest cycling and walking network as a key element to achieving the "Right Mix" vision. (The "Right Mix" sets out a pathway which shows how to improve GM's transport system so that we can reduce car use to no more than 50% of daily trips, with the remaining 50% made by public transport, walking and cycling. This will mean approximately one million more trips each day using sustainable transport modes in Greater Manchester by 2040) 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.

17.1.5 The 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.

18. Phasing Plan

18.1 Phasing Plan

18.1.1 For the purposes of the testing the impact of the allocation through the strategic model, a total of 2,700 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.

18.1.2 **Table 16** sets out a high level overview of the likely allocation phasing for Simister and Bowlee. No development is expected before 2025. The development quanta for 2040 was tested to assess its deliverability in terms of transport network capacity. This is presented for discussion purposes and is not based on any detailed masterplanning work. Final trajectory information and the final allocation proposal is contained in the GMSF Allocation Topic Paper.

Table 16. Allocation Phasing

Allocation Phasing	2020 25	2025 30	2030 2038	2037+	Total
Residential	0	900	1750	2700	2700*

*total within plan period

18.1.3 **Table 17** provides an indicative delivery timetable for the identified mitigation measures. It is expected that a more precise implementation timeframe for these schemes will be ascertained as the allocation moves through the planning process.

Table 17. Indicative intervention delivery timetable

Mitigation	2020 2025	2025 2030	2030 2037
Allocation Access			
Two new 3-arm signalised junctions with A6045		✓	
Two new 3-arm priority junctions with A6045		✓	
Supporting Strategic Interventions			
New Metrolink stop on the line between Crumpsall and Middleton			✓
Bus Rapid Transit (BRT) corridor to Manchester city centre			✓
Necessary Local Mitigations			
Network of routes for pedestrians and cyclists between the development and local centres		✓	
Introduction of local bus services		✓	
1. Improvement of A6045 Heywood Old Road / A576 junction		✓	
4. Signalisation of A6045 Heywood Old Road/Langley Lane junction		✓	
SRN Interventions			
2. M60 Junction 19 / A576 Middleton Road		✓	
5. M62 J19 / A6046 Middleton Road		✓	
Possible corridor improvements on A576 Middleton Road / Manchester Old Road in vicinity of M60 J19		✓	

19. Summary

19.1.1 The Simister and Bowlee allocation comprises 1,750 dwellings. The allocation is located south of the M62 and east of the M60, and north-west of Middleton.

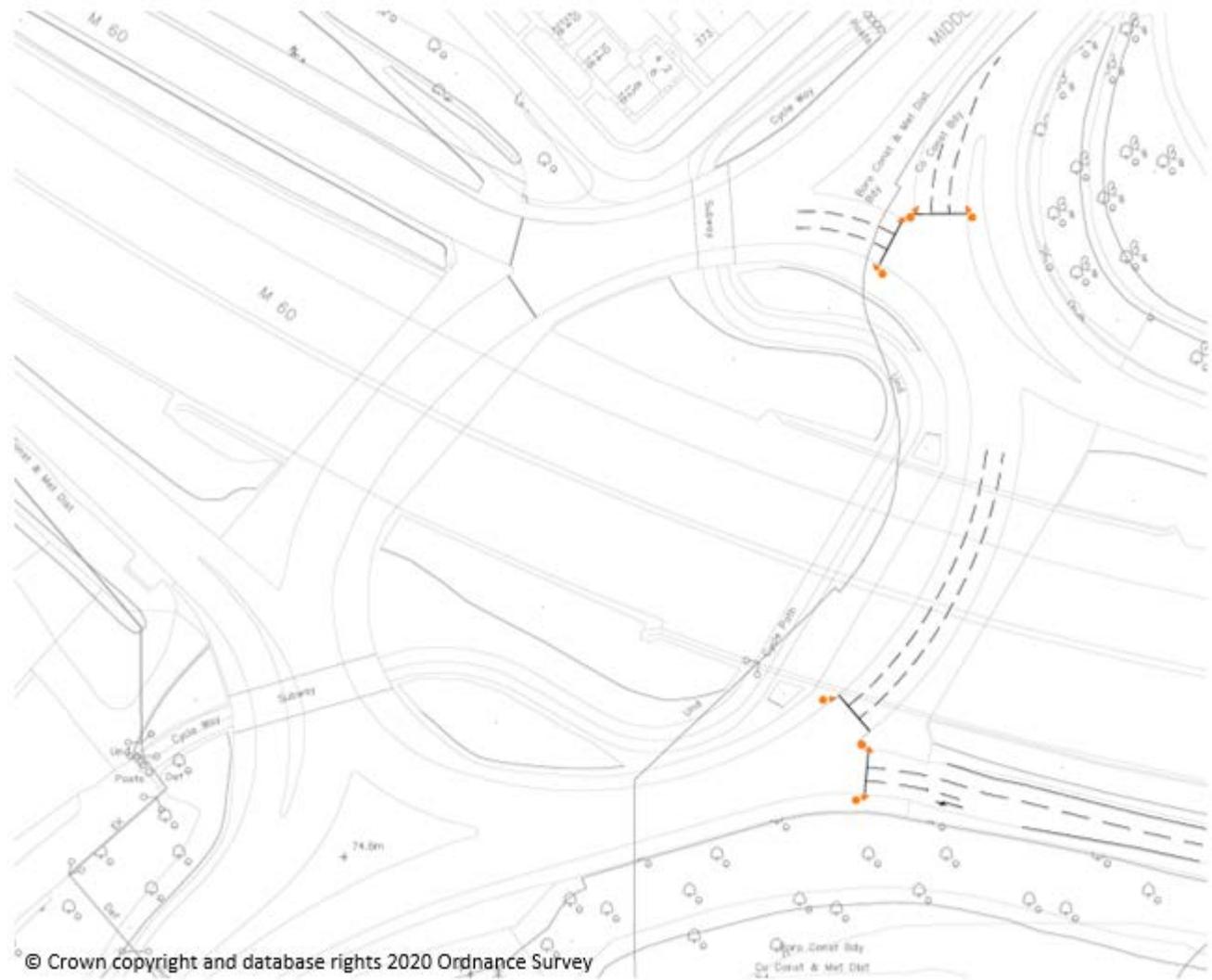
- 19.1.2 Planning for the allocation aims to maximise its excellent accessibility in relation to the motorway network. Primary access for longer distance traffic would be via M60 Junction 19 or M62 Junction 19. Local access arrangements to individual land parcels have not been finalised. For the purposes of this locality assessment it has been assumed that each of the land parcels would have its own access to the A6045 Heywood Old Road. Given the difference in scale of the two land parcels, different access junction forms may be adopted. The smaller parcel to the east may be accessed via a simple three-arm priority junction. The larger parcel to the west however, may require a more substantial junction. A three-arm signalised junction has been assumed for the purposes of this locality assessment.
- 19.1.3 This locality assessment addresses most of the key points raised in the earlier consultation process (as set out in **Chapter 3**), specifically:
- Impacts on the A6045 Heywood Old Road and the motorway junctions to the north and south of the allocation have been assessed; further work is recommended at the motorway junctions
 - New motorway junction at Birch Services is no longer being considered
 - Improvements to public transport and active modes are being proposed
- 19.1.4 Following our assessment of the proposed trip generation and distribution of this allocation, we have concluded that this development, both in isolation and in consideration of the cumulative impacts with other nearby GMSF allocations is expected to materially impact both the strategic and local road networks. The SRN impacts are expected to be concentrated at M60 Junction 19 and M62 Junction 19, while the LRN impacts mostly impact the junctions on the A6045 Heywood Old Road.
- 19.1.5 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.

- 19.1.6 In the specific case of the Northern Gateway allocations, no improvements have been assumed at the M60 / M62 / M66 Simister Island motorway junction. Future plans for the upgrading and improvement of this junction have been discussed for some years; however, at the time this Locality Assessment was prepared there was no confirmed scheme which could be included in the Reference scenario modelling. This assumption could mean that congestion effects on the local road network in the vicinity of the Northern Gateway allocations are exaggerated.
- 19.1.7 Mitigation schemes were developed and tested to address the network congestion impacts at both the strategic and local road networks. 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. These schemes have only been developed in outline detail to inform viability and allocations policy.
- 19.1.8 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. The M60 Junction 19 / A576 Middleton Road junction proved particularly problematic in terms of providing a realistic representation in the local junction modelling. Further more detailed modelling of the roundabout and adjoining parts of the network – potentially using traffic simulation tools – is recommended at this location. Further more detailed work is also recommended at the M62 Junction 19 roundabout to better define the required mitigation.
- 19.1.9 In summary, this assessment gives an initial indication that the allocation is deliverable, however, significant further work will be needed to verify and refine these findings, particularly in relation to connections to the SRN, as the allocation moves through the planning process. The allocation would need to be supported by continuing wider transport investment across GM.

Illustrative Schematic Drawings for Mitigation Schemes

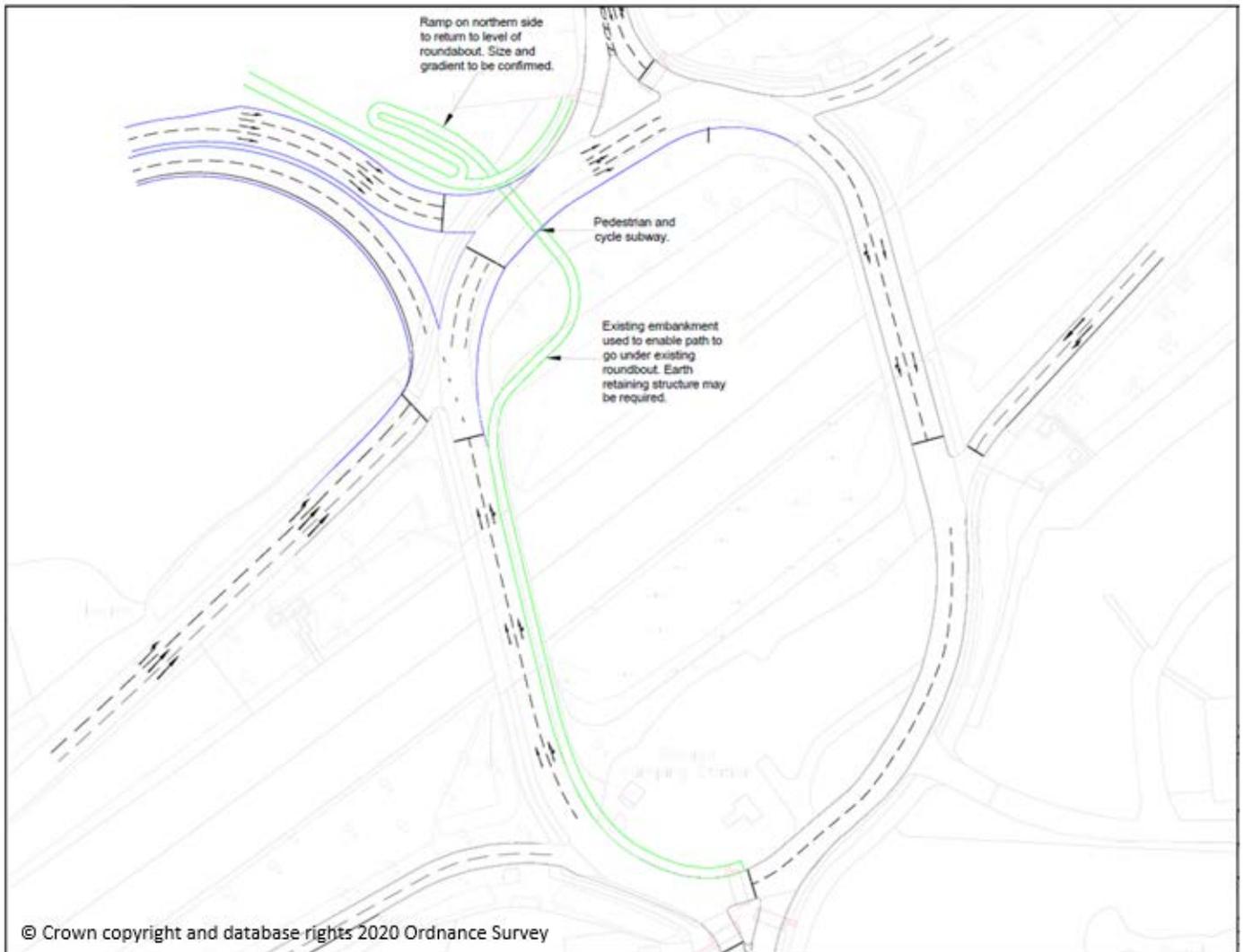
Scheme drawing: M60 Junction 19 / A576 Middleton Road (Junction 2)

[Illustrative/Typical Layout]



Scheme drawing: M62 J19 / A6046 Heywood Interchange (Junction 5)

[Illustrative/Typical Layout]



Greater Manchester Spatial Framework

Locality Assessment:

Northern Gateway (Stakehill) (GM2)

Identification Table	
Client	[Oldham/Rochdale/TfGM]
Allocation	Northern Gateway (Stakehill)
File name	GM2 Northern Gateway – Stakehill LA 021020
Reference number	GM2

Approval					
Version	Role	Name	Position	Date	Modifications
0	Author	A. Poltz Faggiani	WSP	01/07/2020	Base report
	Checked by	I. Hughes			
	Approved by	I. Hughes			
	Author	M. Cross	SCP		
	Checked by	M. Devenish			
	Approved by	M. Devenish			
1	Author	E Hayes	TfGM	29/09/2020	Consistency edits
	Checked By	R Chapman J Betts	Rochdale BC Oldham Council	30/09/2020	
	Approved by	P Moore E Dryden-Stuart	Rochdale BC Oldham Council	30/09/2020	

Table of contents

1. Site Location & Overview	8
2. Justification for Site Selection	8
3. Location Map	9
4. Key Issues from Consultation	9
5. Site Access	11
6. Multi-modal accessibility	17
7. Parking	33
8. Site Trip Generation and Distribution	35
9. Current Highway Capacity Review	38
10. Treatment of Cumulative Impacts	45
11. Transport Interventions to be tested	47
12. Impact of testing	51
13. Impact and mitigation on Strategic Road Network	53
14. Strategic Context – GM Transport Strategy Interventions	54
15. Final list of interventions	56
16. Phasing Plan	58
17. Summary & Conclusion	59

List of figures

Figure 1. Allocation Location	9
Figure 2. Site Location Context	12
Figure 3. A664 Rochdale Road	13
Figure 4. A627(M) / A664 Roundabout (top), Bentley Ave (left) and Whitbrook Way (right)	14
Figure 5. A627(M)	15
Figure 6. M62 Junction 20 (left) and 19 (right)	16
Figure 7. A627(M) / Broadway Roundabout	16
Figure 8. 2km Walk Accessibility Northern Site	18
Figure 9. Existing Pedestrian Crossing Locations	20
Figure 10. Cycling Accessibility 5km Northern Site	21
Figure 11. Extract of TfGM Cycle Map	22
Figure 12. Public Transport Accessibility Northern Site	23
Figure 13. Minor Arm Crossing Facilities	25

Figure 14. 2km Walk Accessibility Southern Site	26
Figure 15. Cycling Accessibility 5km Southern Site	28
Figure 16. Extract of TfGM Cycle Map	29
Figure 17. Public Transport Accessibility	30
Figure 18. Route between Southern Site and Mills Hill Railway Station	31
Figure 19. Identified Junctions	38
Figure 20. A627(M) / Broadway Northbound On-slip Road Merging Assessment	44
Figure 21. Junction 2 Proposed Indicative Layout	48
Figure 22. Signalised Junction 4 (Proposed Layout)	49
Figure 23. Junction 5 Proposed Layout	50

List of Tables

Table 1. Multi-modal Accessibility Significance	17
Table 2. Accessibility of Local Facilities from the Northern Development Site	19
Table 3. Bus Accessibility from Northern Site	24
Table 4. Accessibility of Local Facilities from Northern Site	27
Table 5. Rochdale Parking Standards	34
Table 6. Rochdale Disabled Parking Standards	35
Table 7. Allocation Traffic Generation: Stakehill	37
Table 8. Allocation Traffic Distribution: Stakehill	37
Table 9. Identified Junctions	38
Table 10. Maximum RFC / DoS (%)	40
Table 11. Junction 1 – M62 J19 PRC	42
Table 12. Junction 9 – A627(M) / Broadway PRC	43
Table 13. Results of Cumulative Local Junction Capacity Analysis Before Mitigation	45
Table 14. Junction 4 – A627(M) / A664 Rochdale (Slattocks) Roundabout PRC	52
Table 15. A664 Rochdale Road / Thornham Lane Road PRC	53
Table 16. M62 J20 PRC	54
Table 17. Interventions List: Stakehill	56
Table 18. Intervention phasing	58

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 Data	
Allocation Reference No.	GM2
Allocation Name	Northern Gateway (Stakehill)
Authority	Oldham / Rochdale
Ward	Oldham - Chadderton North Rochdale - Middleton North and Castleton
Modelling Analysis	1,950 houses & 154,219 sqm Industrial/Warehousing
Allocation Proposal	1,900 houses & 154,219 sqm Industrial/Warehousing
Allocation Timescale	0-5 years <input type="checkbox"/> 6-15 years <input type="checkbox"/> 16 + years <input type="checkbox"/>

1. Site Location & Overview

- 1.1. Stakehill is located between the towns of Oldham and Rochdale, as shown in Figure 1. Immediately south of the M62 and west of the A627(M), it provides a significant opportunity for both Oldham and Rochdale to contribute to the future economic growth of Greater Manchester, capitalising on its proximity and connectivity to the motorway and rail network.

2. Justification for Site Selection

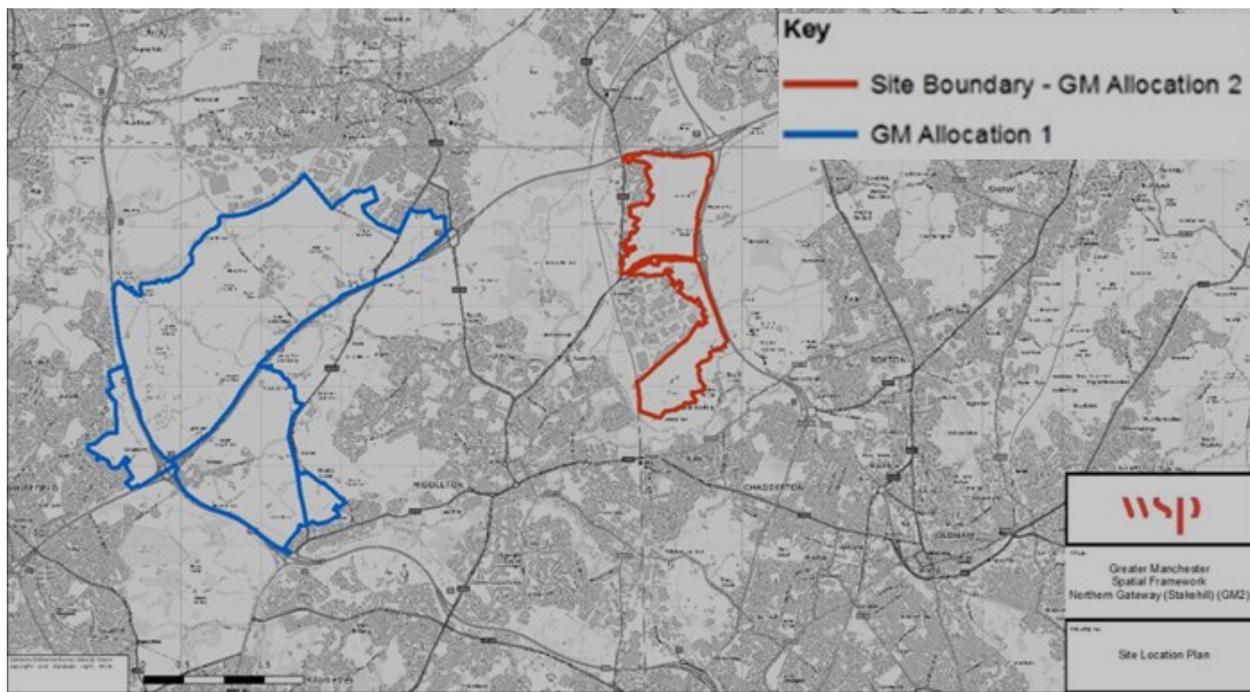
- 2.1. Stakehill provides a significant opportunity for both Oldham and Rochdale to contribute to the future economic growth of Greater Manchester, capitalising on its proximity and connectivity to the motorway and rail networks. It has the potential to provide a significant contribution to the sub-regional requirement for employment floorspace within key growth sectors and attract additional investment and economic activity to the area. The scheme will also generate a range of benefits for the local and wider economy. It would involve the loss of Green Belt, however, it offers an excellent location, as part of the Northern Gateway and Northern Powerhouse with connections through Liverpool and Leeds. The level of housing provided will contribute towards the delivery of our housing need, diversifying our housing stock and supporting the proposed employment opportunities across the Northern Gateway and elsewhere.
- 2.2. Stakehill Industrial Estate has a strong reputation as an employment location and has excellent access to the motorway network. This existing successful business park can provide a focus for a significantly expanded employment offer in this area which will complement the other opportunity areas within the Northern Gateway providing different types of premises and appeal to a wide range of uses and sectors.
- 2.3. As well as the expansion of the employment offer, an opportunity exists to deliver a significant amount of housing that will both support the new employment development and boost the supply of housing in this part of the sub-region. The site lies between the successful and attractive neighbourhoods of Chadderton and Slattocks. This area is characterised by good accessibility, a number of popular schools and proximity to a range of retail facilities and other services.
- 2.4. The development would involve the loss of an area of Green Belt but an area of Green Belt is to be retained between the A627(M) spur and Thornham Lane to provide some separation between the urban areas of Rochdale and Middleton. Whilst the development does not encroach into the areas

around Tandle Hill Country Park, the relative proximity of some development to the park means it is vital that development provides high quality landscaping and open spaces to create an attractive environment and increase opportunities for links between the site for both informal and formal recreation. The wider opportunity area is adjacent to and includes areas of existing development. Any proposed scheme should have full regard to these areas and consider them through the detailed masterplanning of the area.

3. Location Map

3.1. The site is located south of the M62 and west of the A627(M), between the towns of Rochdale and Oldham as shown in Figure 1. The site itself is divided in two by the A627(M) road link, creating a northern and southern site.

Figure 1. Allocation Location



Note: Since initial publication a number of allocations have undergone revision or withdrawal. All boundaries shown are illustrative. For definitive boundary information refer to the GMSF allocation mapping.

4. Key Issues from Consultation

- 4.1. The [Greater Manchester Spatial Framework Consultation Summary Report](#) (October 2019) sets out a summary of the responses received during consultation period.
- 4.2. The GM Allocation 2: Stakehill received 984 comments and an overwhelming objection to the proposal of building on a significant proportion of the Green Belt for additional employment and housing. In terms of employment the concern is that the majority of these jobs would be low paid and low skilled within warehousing and manufacturing. There is a lack of demand for further industrial warehousing/units within the area beyond the existing employment areas of Stakehill and Broadgate Industrial Park where a large number of units still remain unoccupied.
- 4.3. There are key concerns about how the new additional homes proposed north of Thornham St John's would place a considerable amount of pressure on existing, and in some instances inadequate infrastructure which could exacerbate issues around drainage, sewers and flooding measures.
- 4.4. There is support for providing adequate infrastructure such as schools, hospital and doctors before development can take place, in order to ensure that community facilities can accommodate and manage the additional capacity/subscription either through an expansion of the existing site or provision of a new facilities.
- 4.5. Concerns that the creation of higher value properties will price out local people who are not able to afford the new homes and benefit the wealthy – an imbalance is created between the low skilled/low paid jobs being offered through the proposal and the inability of local people being able to buy a property within their area.
- 4.6. A large number of residents raise concerns regarding existing heavy congestion, particularly during peak times, on A627M, A664, Mills Hill Lane, Elk Mill Retail Park, Middleton Road, Haigh Lane, Boarshaw Road and Boarshaw Lane. It was assumed by many that the development would result in an increase of 1400 cars on these local roads making the congestion much worse. Although the site can be accessed using public transport, an increase in cost of the train from Mills Hill is taking this mode of transport out of the option for a lot of working class people. The new charging tariffs on the Metro is also discouraging people from taking public transport.
- 4.7. The issue of air pollution was a concern for many residents. Sections of the A664 (Rochdale Road and Manchester Road) and A627M falls within an Air Quality Management Area and already exceeds air pollution guidelines. This development and the resulting increased number of cars will increase the level of pollution, impacting on people's health.

4.8. The industrial manufacturing of farming needs to be taken into account and considered for future growth including dairy pasteurising, bottling delivering fresh milk daily another using a milk tanker, another beef pigs turkey eggs. In addition, there are fields which are productive, and suitable for cereals, sugar beet, potatoes; this could be valuable especially as we may not be importing much produce from the EU.

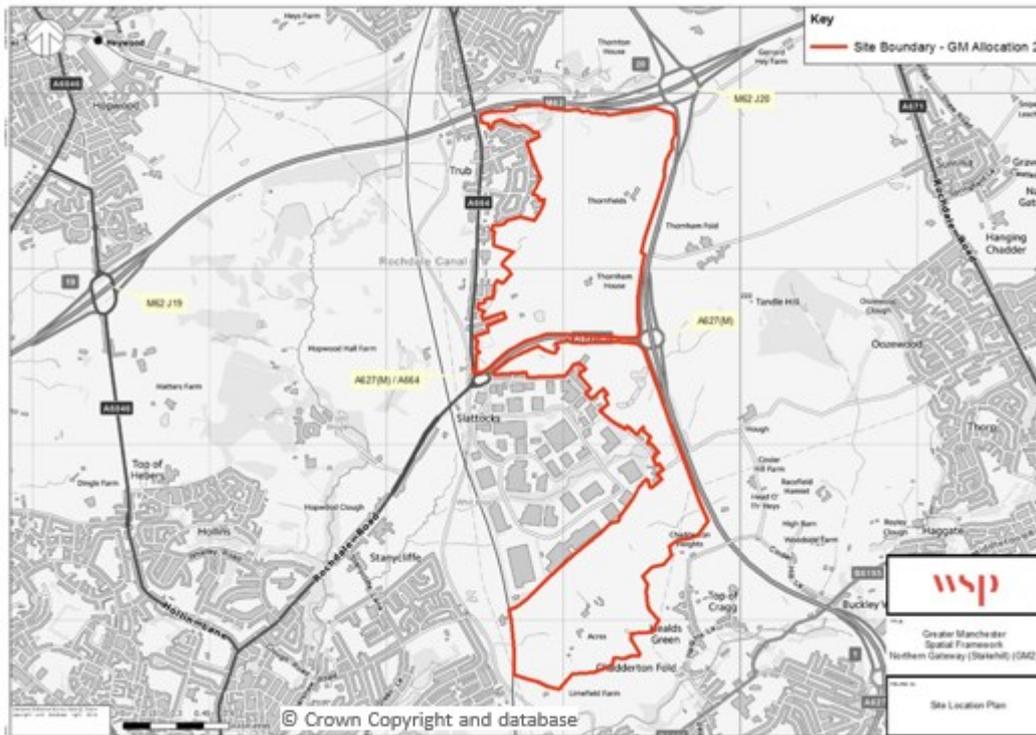
5. Site Access

Current

5.1. The site, as shown in Figure 2 below, is divided in two sections by the A627(M) link, effectively creating a northern and southern site.

5.2. Both the northern and southern sections of the allocation are undeveloped and do not currently have formal accesses. The northern section has frontages along the A627(M), Thornham New Road and Thornham Lane, whilst the southern section fronts the A627(M), A627(M) Spur, Bentley Avenue and Stakehill Lane. The southern section of the site is also traversed by Hough Lane along the more narrow section of the site to the east.

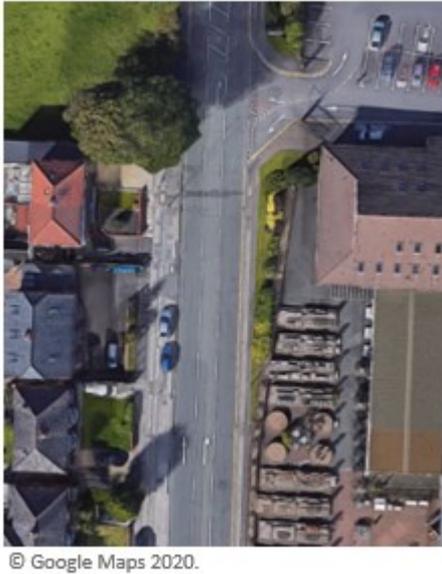
Figure 2. Site Location Context



Note: Since initial publication a number of allocations have undergone revision or withdrawal. All boundaries shown are illustrative. For definitive boundary information refer to the GMSF allocation mapping.

5.3. The northern portion of the site will be directly accessed by the A664 Rochdale. Figure 3 shows the existing configuration of the A664 Rochdale Road, which consists of a two-way carriageway inclusive of hatching, right turn pockets, footway along both sides and pedestrian crossing islands.

Figure 3. A664 Rochdale Road



- 5.4. The southern portion of the site is currently accessed via the A627(M) / A664 ‘Slattock’s’ roundabout. Residential traffic uses the Bentley Avenue whilst the majority of industrial traffic uses Whitbrook Way. The roundabout (Figure 4) is not signal-controlled and is formed by five different arms, three of which are A-roads. Although there are no internal lane markings, its width can accommodate two circulating traffic lanes. There are kerbed islands and uncontrolled pedestrian crossings on all five approaches with the exception of the northern A664 Rochdale Road arm, which lacks a pedestrian crossing.
- 5.5. Bentley Avenue is a residential street that gives access to multiple small residential developments in the area and a low number of industrial units that cannot be accessed from Whitbrook Way. Despite regular on-street parking in front of the residential areas, the carriageway width can accommodate existing residential and industrial traffic.
- 5.6. Whitbrook Way is the access point to the Stakehill Industrial Estate. It has a kerbed central reserved on the approach to the roundabout to segregate the two-way heavy traffic. By connecting with Finlan Road, a traffic loop is created giving quick and direct access to all industrial units in the estate.

Figure 4. A627(M) / A664 Roundabout (top), Bentley Ave (left) and Whitbrook Way (right)



5.7. The site is accessed from the Strategic Road Network (SRN) via the A627(M) as shown in Figure 5 below. The dual carriageway gives direct access to both M62 J20 and Oldham.

Figure 5. A627(M)



5.8. The M62 is the key west-east Trans-Pennine highway corridor in Northern England, connecting Liverpool and Hull via Manchester and Leeds. Junction 20 (Figure 6) is a typical motorway junction with all four approaches signalised, as well as the internal circulatory lanes. The junction gives access to the A627(M) northbound (Rochdale) and southbound (Oldham).

5.9. To the west, Junction 19 (Figure 6), is not signalised, with no circulatory lane markings provided, although two traffic lanes can be accommodated. The junction gives access to Middleton Road northbound (Heywood) and southbound (Middleton).

Figure 6. M62 Junction 20 (left) and 19 (right)



5.10. Another key access point from the SRN is the A627(M) / Broadway roundabout. Located to the southeast of the site, it acts as the primary access to the SRN, particularly the M62, from Oldham town centre and surrounding areas. It is also a key corridor from the M62 to Manchester city centre from the northeast of Greater Manchester. As shown in Figure 7, the roundabout is formed by 5 different arms, being partly signalised in the eastern side only to control traffic flows and improve capacity and performance.

Figure 7. A627(M) / Broadway Roundabout



Proposed

- 5.11. The existing garden centre site on the western boundary of the northern section of the allocation would provide access from the A664 Rochdale Road, whilst access to the southern section of the allocation will be provided via Bentley Avenue and Finlan Road.
- 5.12. Junction capacity modelling demonstrates that the junction is capable of serving 1,500 dwellings and this is the sole primary access to the development. A secondary emergency access is proposed via Thornham New Road.
- 5.13. The southern site is to be served via two access points along the Bentley Avenue / Stakehill Lane corridor; one from Bentley Avenue to serve the residential element of the proposals at the west of the site and the other from Stakehill Lane via Finlan Road to serve the industrial elements of the development.

6. Multi-modal accessibility

Current

- 6.1. This chapter presents a review of the accessibility of the site by walking, cycling and public transport modes. Given the large distance covered by the allocation and separation between the two sites which form it, the assessment has been separated by the two sections of land, although the interventions proposed are combined.

Table 1. Multi-modal Accessibility Significance

Threshold Distance	Significance
800m	Motorised modes are rarely used for trips of around 800m or less
2km	Walking offers the greatest potential to replace short car trips, particularly those under 2km
5km	Cycling also has potential to substitute for short car trips, particularly those under 5km and form part of a longer journey by public transport

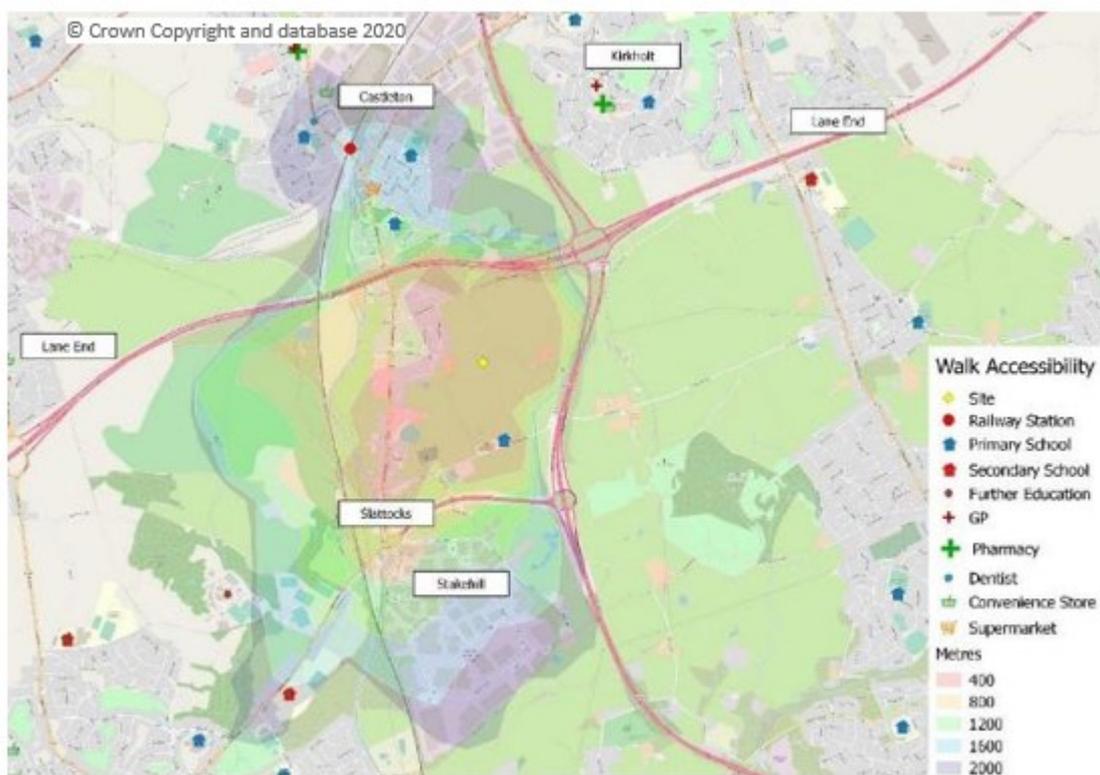
Northern Site Transport Appraisal

Pedestrian Accessibility

6.2. Manual for Streets states that walkable neighbourhoods are typically characterised by having a range of facilities within 10 minutes (up to about 2km) walking distance of residential areas which residents may access comfortably on foot. However, it goes on to state that this is not an upper limit and that walking offers the greatest potential to replace short car trips, particularly those under 2km.

6.3. The pedestrian accessibility of the development has been modelled using Geographical Information System (GIS) software to produce isochrones mapping. The purpose of the isochrones is to demonstrate the areas within an acceptable walk distance of the site, as shown on Figure 8.

Figure 8. 2km Walk Accessibility Northern Site



Note: Since initial publication a number of allocations have undergone revision or withdrawal. All boundaries shown are illustrative. For definitive boundary information refer to the GMSF allocation mapping.

6.4. The site is within a 2km distance of Castleton town centre and Stakehill Industrial. Table 2 demonstrates the facilities within a 2km walk distance of the site.

Table 2. Accessibility of Local Facilities from the Northern Development Site

Facility	Name/Location	Distance from the Site
Bus Stop	Rochdale Road	<200m
Bus Stop	Chesham Avenue	<200m
Petrol Station	BP A664 Manchester Road	550m
Primary School	St John’s CoE Primary School Thornham	1300m
Pharmacy	Well Castleton – Manchester Road	1300m
Convenience Store	The Cooperative Food, Grosvenor Street	1300m
Post Office	Castleton Post Office	1400m
Cafe	Annie’s Café, A664 Manchester Road	1400m
Gym	Evolution Physical Excellence, A664 Queensway	1600m

6.5. The development is accessible on foot via the proposed site access off the A664 Manchester Road.

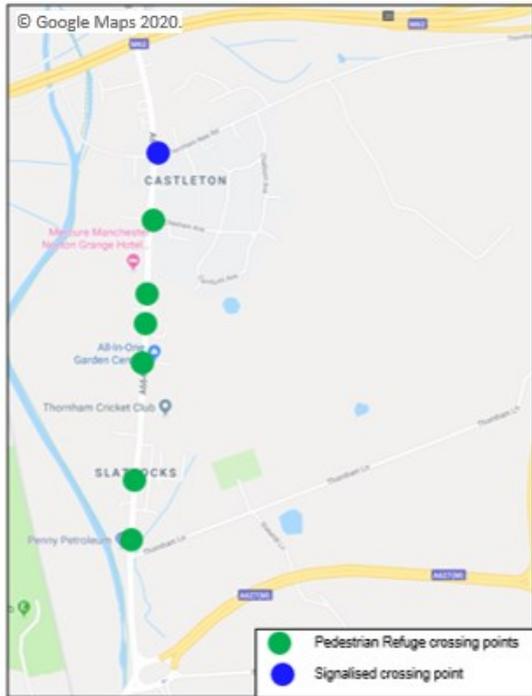
Footways and regularly spaced street lighting columns are present on both sides of the A664 Manchester Road and is subject to 30mph speed limit in the vicinity of the site.

6.6. A number of pedestrian refuge crossing points exist in the vicinity of the site as indicated on Figure 9.

6.7. Signalised crossings are included at the proposed signalised access junction, as detailed in the interventions section, whilst a pelican crossing exists to the north of the junction with Earl Street and Thornham New Road.

6.8. There may be the opportunity to offer pedestrian access between the northern and southern sections of the site using the north-south section of Stakehill Lane, which includes a bridge over the A627(M).

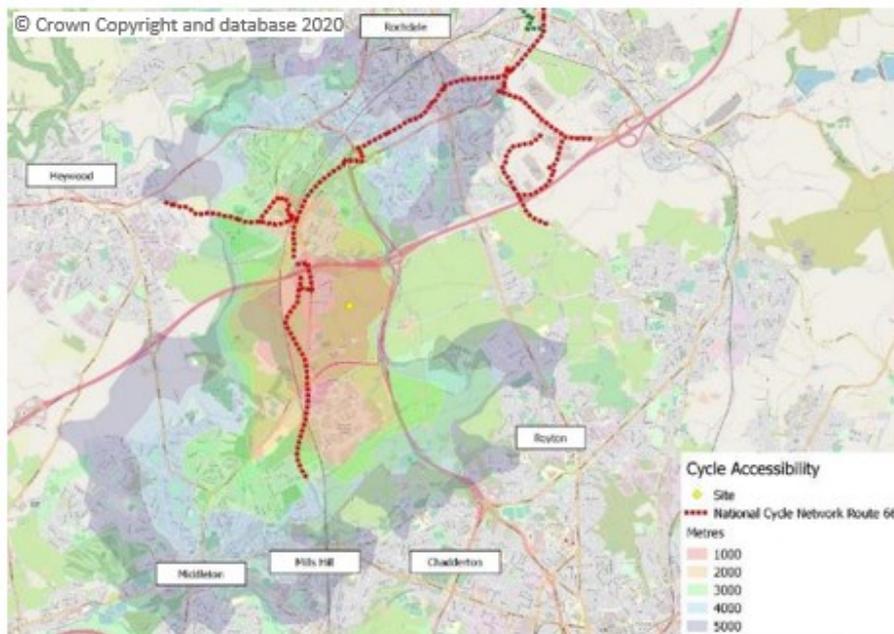
Figure 9. Existing Pedestrian Crossing Locations



Cycling Accessibility

6.9. Transport policy identifies that cycling represents a realistic and healthy option for making journeys up to 5km as a whole journey or as part of a longer journey by public transport. An isochrone illustrating the areas which lie within this distance can be seen on Figure 10.

Figure 10. Cycling Accessibility 5km Northern Site

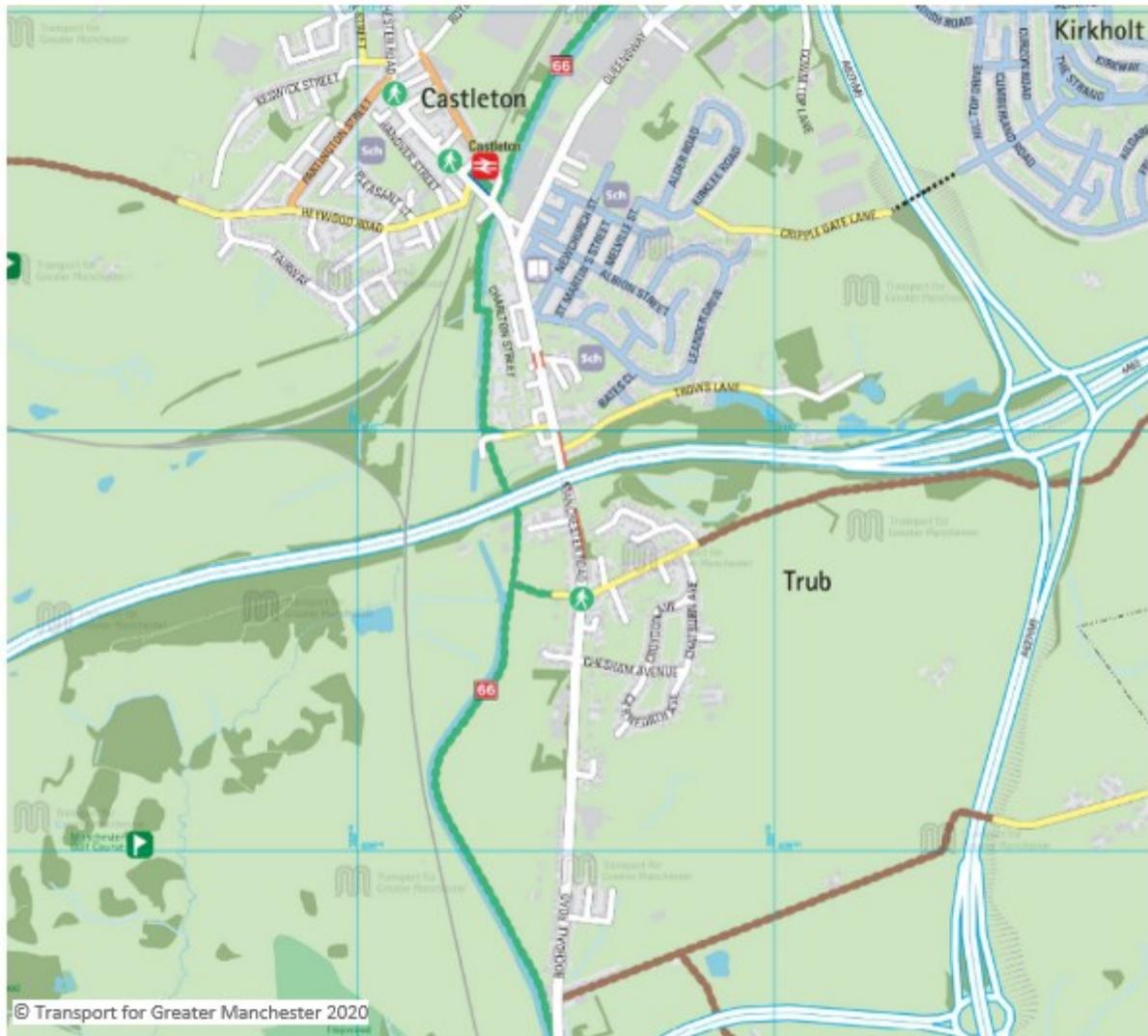


6.10. The plan demonstrates that the entirety of Middleton including areas such as Heywood, Rochdale, Royton, Mills Hill, Chadderton and Middleton can be reached within a 5km cycle distance of the site. Mills Hill and Castleton railway stations can also be accessed within 3-5km of the site.

6.11. Figure 10 shows the site's proximity to the National Cycle Network (NCN) Route 66. NCN 66 is partially located along the Rochdale Canal Towpath to the west of the site.

6.12. The Rochdale Canal Towpath and within the vicinity of the north site it can be accessed via Earl Street or the A664 Rochdale Road on the western arm of Slattocks roundabout. The Rochdale Canal Towpath provides an alternative link for pedestrian to access Castleton Town Centre to the north. The relevant extract of the TfGM Cycle Map is shown on Figure 11.

Figure 11. Extract of TfGM Cycle Map

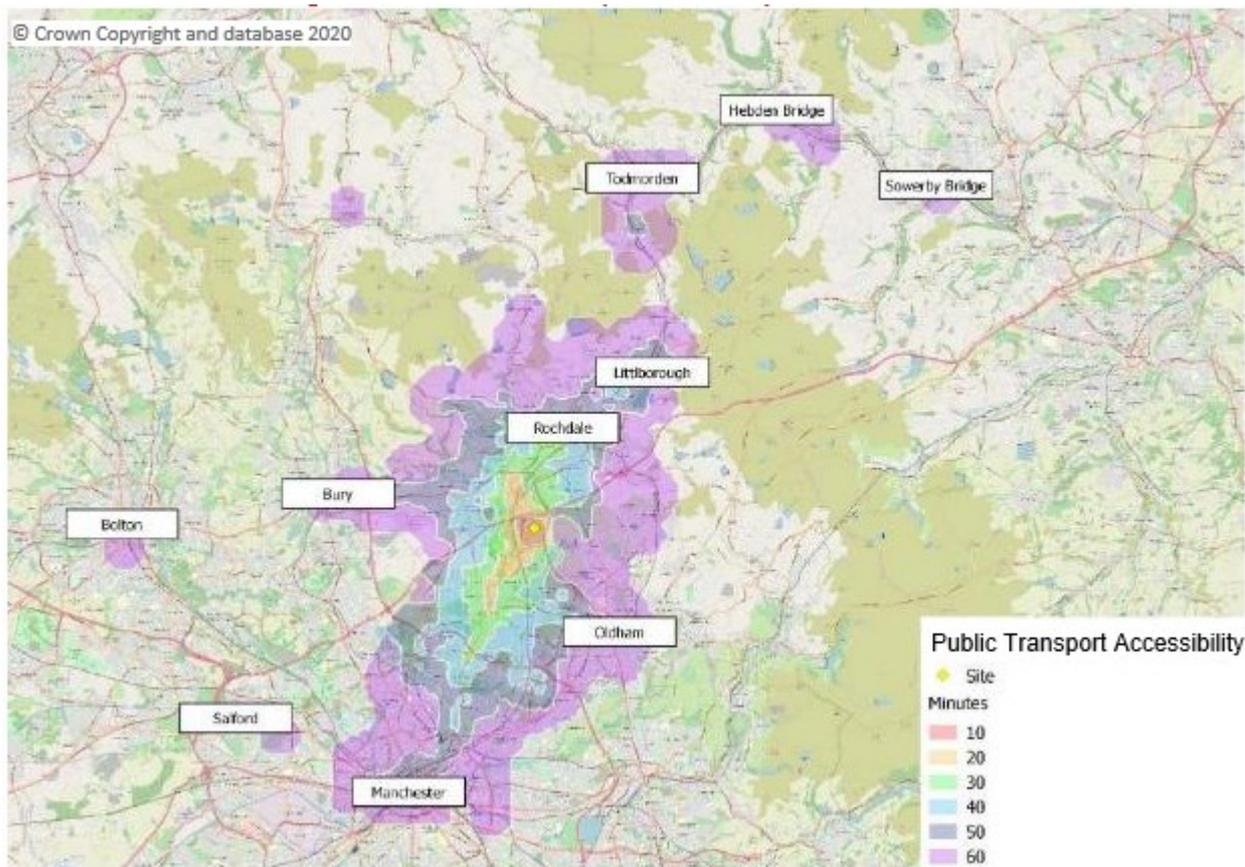


6.13. Most notably the cycle map identifies the canal towpath as a traffic free route with a good surface and that this connects to Castleton Railway Station.

Public Transport Accessibility

6.14. The level of accessibility by public transport has been analysed using GIS TRACC software, as shown on Figure 12. The figure illustrates that the distance that can be travelled within 60 minutes by public transport to and from the site, which includes the time taken to walk to the bus and railway stops.

Figure 12. Public Transport Accessibility Northern Site



6.15. Figure 12 demonstrates that the site is within a 60-minute journey on public transport to areas including Manchester, Salford, Bolton, Bury, Rochdale, Oldham, Littleborough, Todmorden, Hebden Bridge and Sowerby Bridge.

Bus

6.16. Guidance published by the IHT 'Planning for Public Transport in Developments' (1999), recommends that the maximum walking distance to a bus stop should be 400m, equating approximately to a five-minute walk.

6.17. The nearest bus stop in relation to the site is on the A664 Manchester Road within approximately 150m south of the proposed access of Manchester Road.

6.18. Table 3 shows a summary of the bus services, destinations and frequencies which run in the vicinity of the site.

Table 3. Bus Accessibility from Northern Site

Service Number	Route	Bus Stop Location	Operator	Mon Fri*	Sat*	Sun*
17	Rochdale – Sudden – Castleton – Middleton – Blackley – Harpurhey – Collyhurst – Manchester	A664 Manchester Road	Go North West	10	10	30
17A	Rochdale – Sudden – Castleton – Stakehill Industrial Estate – Middleton – Blackley – Harpurhey – Collyhurst – Manchester	A664 Manchester Road	Go North West	1 service at: 05:00	-	-

* Average service headway (mins) each direction of travel.

Rail

6.19. Castleton Railway Station is located approximately 1.6km to the north of the site and provides services to Manchester Victoria, Leeds, Rochdale, Blackburn and Clitheroe amongst others. Four services an hour, two per direction, call at the station throughout the day. With additional services in the morning and evening peak times.

6.20. Castleton Railway Station provides vehicle parking and cycle parking for up to 10 bikes.

6.21. The station is accessed directly from the east of the A664 and a continuous footway is provided along this side of the carriageway between the site access and station, whilst it can also be accessed via the canal towpath.

6.22. A number of the minor arms along the route do not have tactile paving and/or dropped kerbs and this would be provided where required. This is indicated on Figure 13.

6.23. There are also bus stops provided outside the station served by the no.17 service, also serving the site, whilst the canal towpath cycle route links the site and the station.

Figure 13. Minor Arm Crossing Facilities



Summary

6.24. The site is accessible by a range of active and passenger transport modes which provides sustainable travel to and from the proposed site, however crossing facilities are required to link the site to employment and wider public transport links, which are detailed in the proposed interventions section.

Southern Site Transport Appraisal

Pedestrian Accessibility

6.25. Manual for Streets states that walkable neighbourhoods are typically characterised by having a range of facilities within 10 minutes (up to about 2km) walking distance of residential areas which residents may access comfortably on foot. However, it goes on to state that this is not an upper limit and that walking offers the greatest potential to replace short car trips, particularly those under 2km.

6.26. The pedestrian accessibility of the development has been modelled using Geographical Information System (GIS) software to produce isochrones mapping. The purpose of the isochrones is to demonstrate the areas within an acceptable walk distance of the site, as shown on Figure 14.

Figure 14. 2km Walk Accessibility Southern Site



Note: Since initial publication a number of allocations have undergone revision or withdrawal. All boundaries shown are illustrative. For definitive boundary information refer to the GMSF allocation mapping.

6.27. Figure 14 demonstrates that the site is within a 2km walking distance of Stakehill industrial estate.

6.28. Table 4 demonstrates the facilities within a 2km walk distance of the site.

6.29. The Rochdale Canal towpath can be accessed to the west of Slattocks Roundabout. Uncontrolled pedestrian crossing points are provided on the Bentley Avenue, Whitbrook Way and A664 south arms of the roundabout between the site and west of the roundabout.

6.30. There may be the opportunity to offer pedestrian access between the northern and southern sections of the site using the north-south section of Stakehill Lane, which includes a bridge over the A627(M).

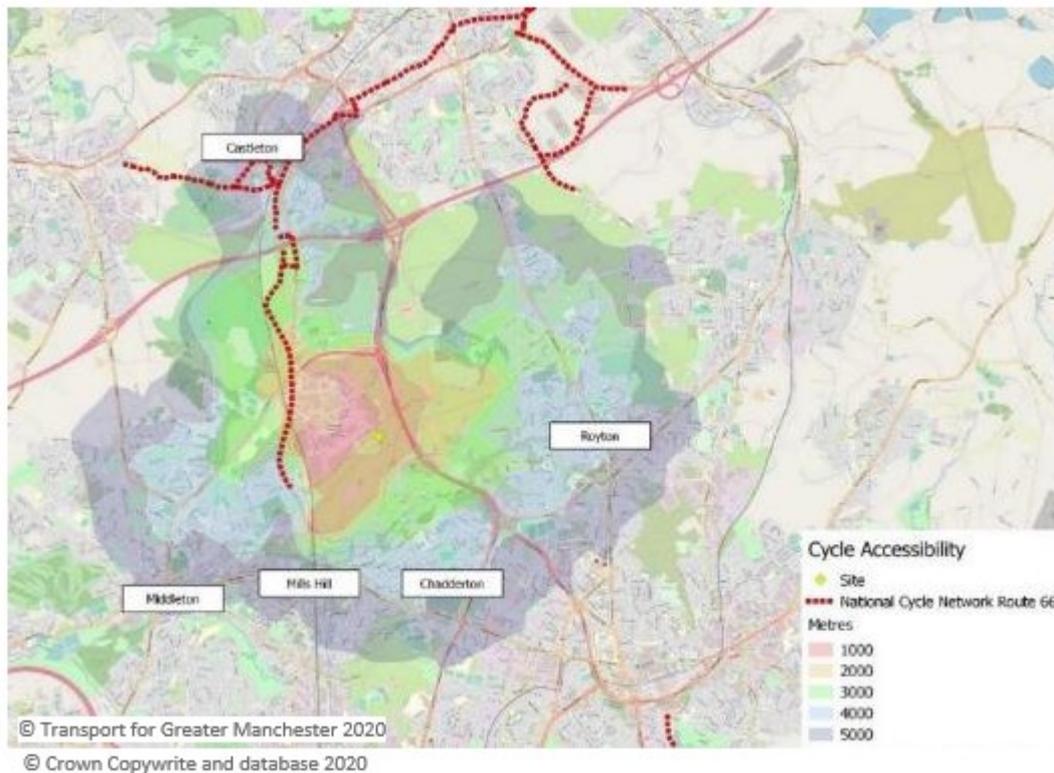
Table 4. Accessibility of Local Facilities from Northern Site

Facility	Name/Location	Distance from the Site
Bus Stop	Touchet Hall Rd	<200m
Petrol Station	BP A664 Manchester Road	550m
Primary School	St Matthews CoE Primary School, Chadderton Hall Road	800m
Pharmacy	Cathedral Pharmacy, Cathedral Road	1000m
Convenience Store	Cooperative Food – Cathedral Road	1000m
ATM	Cooperative Food – Cathedral Road	1000m
Sandwich Shop	Martins Bakers and Sandwich Makers, Cathedral Road	1000m
Convenience Store	The Cooperative Food, Grosvenor Street	1300m
Post Office	Burnley Lane Post Office	1600m

Cycling Accessibility

6.31. Transport policy identifies that cycling represents a realistic and healthy option for making journeys up to 5km as a whole journey or as part of a longer journey by public transport. An isochrone illustrating the areas which lie within this distance can be seen on Figure 15.

Figure 15. Cycling Accessibility 5km Southern Site



6.32. The plan demonstrates areas such as Middleton, Mills Hill, Chadderton, Royton and Castleton can be reached within a 5km cycle distance of the site. Mills Hill and Castleton railway stations can also be accessed within 3-5km of the site.

6.33. Figure 15 shows the site's proximity to the National Cycle Network (NCN) Route 66. NCN 66 is partially located along the Rochdale Canal Towpath approximately 400m west of the site.

6.34. The Rochdale Canal Towpath provides an alternative link for pedestrian to access Castleton Town Centre to the north. The relevant extract of the TfGM Cycle Map is shown on Figure 16.

Figure 16. Extract of TfGM Cycle Map

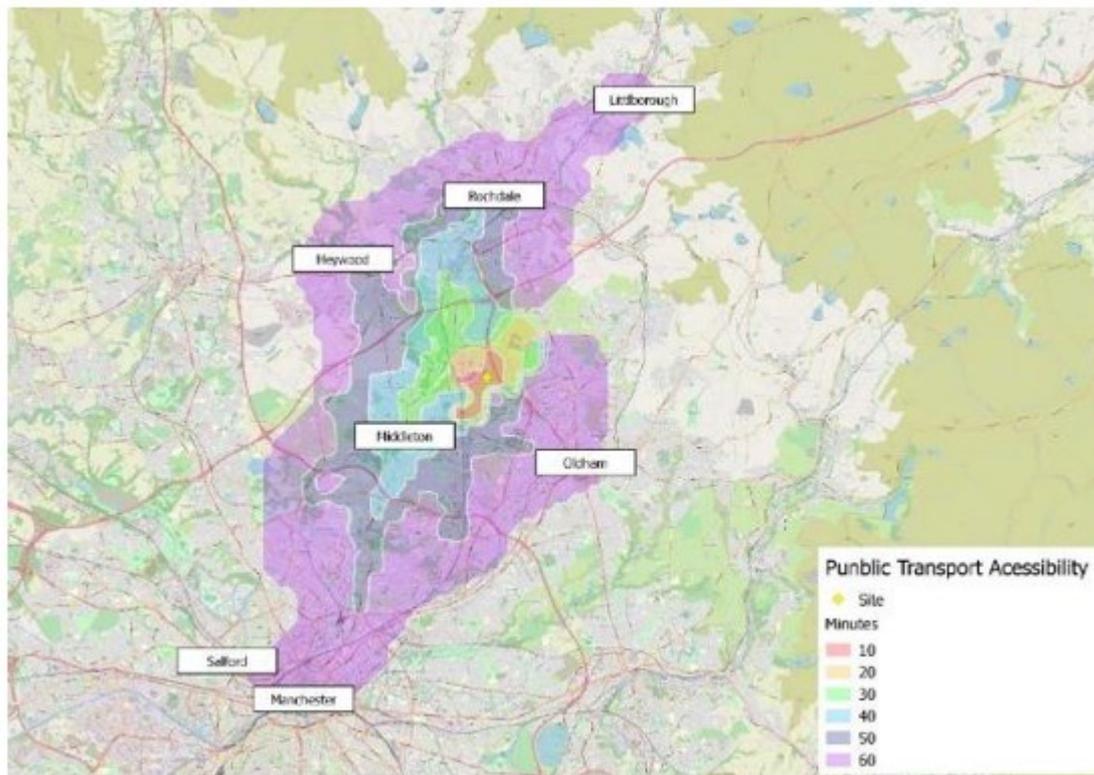


6.35. Most notably the cycle map identifies the canal towpath as a traffic free route with a good surface and that this connects to Mills Hill Railway Station, whilst Thornham Lane provides a rough surfaced route to the east towards Royton and Shaw, becoming good surfaced route to the east of the A627(M). Boarshaw's Lane is also identified as a traffic free route with a rough surface.

Public Transport Accessibility

6.36. The level of accessibility by public transport has been analysed using GIS TRACC software, as shown on Figure 17. The figure illustrates that the distance that can be travelled within 60 minutes by public transport to and from the site, which includes the time taken to walk to the bus and railway stops.

Figure 17. Public Transport Accessibility



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6.37. Figure 17 demonstrates that the site is within a 60-minute journey on public transport to areas including Manchester, Salford, Rochdale, Oldham, Littleborough, Heywood amongst others.

Bus

6.38. Guidance published by the IHT 'Planning for Public Transport in Developments' (1999), recommends that the maximum walking distance to a bus stop should be 400m, equating approximately to a five-minute walk.

6.39. The nearest bus stop in relation to the site is on Whitbrook Way approximately 300m west of the site, however this is only served by the early morning 17A service. The next nearest stops are on the A664 Rochdale Road either side of the Stakehill Roundabout some 600m from the site boundary on Bentley Avenue, which are served by the buses detailed earlier in Table 3.

6.40. Table 3 shows a summary of the bus services, destinations and frequencies which run in the vicinity of the site.

Rail

- 6.41. Mills Hill Railway Station is located approximately 1.5km to the south of the site and provides services to Manchester Victoria, Rochdale, Blackburn and Clitheroe amongst others. Four services an hour, two per direction, call at the station throughout the day. With additional services in the morning and evening peak times.
- 6.42. Mills Hill Railway Station provides 30 vehicle parking spaces and cycle parking for up to 10 bikes.
- 6.43. The station can be accessed via the canal towpath, accessed via Boarshaw Lane or to the west of the Slattocks Roundabout from the southern site, this is shown on Figure 18. There is no bus connection between the southern site and Mills Hill railway station. However from the north site, the bus service 17 can be used via the A664 to travel to Castleton Railway Station north of the allocation.

Figure 18. Route between Southern Site and Mills Hill Railway Station



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Summary

- 6.44. The site is accessible by a range of active and passenger transport modes which provides sustainable travel to and from the proposed site. Improvements to pedestrian routes

Proposed

- 6.45. The following interventions are proposed as part of the allocation developments. A full table summary of proposed interventions is available in Chapter 15.
- 6.46. Signalised controlled pedestrian crossings are proposed as part of the site access junction to the northern site as shown on , which will link the northern site to the canal towpath to the west and continue the route along the east of the A664.
- 6.47. Further junction and signalisation of major arm crossings of the A664 Queensway, running parallel to the site on the westerly edge should also be considered as supporting local infrastructure, as detailed in Table 15. This would be confirmed as part of any future detailed design work and planning application.
- 6.48. A signalised pedestrian crossing is proposed on the eastern arm of the A627(M) / A664 Rochdale (Slattocks) Roundabout as part of the connection between the two sections of land forming part of the allocation, as shown in Figure 22.
- 6.49. Dropped kerbs and tactile paving will be provided across the minor arms along the route between the northern site and Castleton Station.
- 6.50. Resurfacing is proposed of the rough surfaced section of Boarshaw Lane and Thornham Lane.
- 6.51. It will be necessary to provide a new bus route or divert an existing route to serve the southern site as particularly the southern section of the site is a long distance from the existing bus routes. The proposed bus route could prove a link to the nearest railway station. This could be provided through a new service to the site serving Oldham with approximately 4 services an hour and extension to already existing services within the area; 412 which serves the southern edge of the allocation and 17A, serving Stakehill in the peaks.
- 6.52. It is noted that the possibility of a new railway station is being considered to the west of the Slattocks Roundabout by TfGM and could potentially be delivered as part of the adjacent Manchester Zoo project. Whilst the allocation is already accessible by rail, this would reduce the travel distance between the sites and nearest when compared to the existing nearest stations, Castleton and Mills Hill.
- 6.53. Finally it is noted that there is a requirement to provide active transport infrastructure to promote the use of walking and cycling both within the allocation internal highways network

arrangement, alongside connecting to wider strategic walking and cycling ambitions in the vicinity of the allocation. The exact arrangement of these facilities will be identified as part of later detailed design work and planning application, however it is envisaged that these arrangements will be built to Bee Network standards.

7. Parking

7.1. The site is located within two different districts, therefore both Oldham and Rochdale parking standards have been considered in this section.

Oldham Joint Core Strategy and Development Plan Document (2011)

7.2. The Oldham Joint Core Strategy and Development management Policies Development Plan Document sets out the long-term vision and objectives for the Borough.

7.3. Policy 5 (Promoting Accessibility and Sustainable Transport Choices) states that in line with Planning Policy Statement 'Planning for Sustainable Economic Growth', "the council will apply the maximum car parking standards set out in Annex D of Planning Policy Guidance Note 13 'Transport' until locally-specific standards can be prepared". These are summarised in Appendix 11 of the document, but do not include standards for residential or employment use. The standards advise that where an application is for a land use not covered in the national guidance, the council will determine the level of parking provision on an individual basis taking account of local circumstances.

- The council will have regard to, amongst other things, the nature and scale of the development, the character and setting of its location, the current and future levels of public transport accessibility and opportunities for walking and cycling in the area, the safety of road users and pedestrians, the need to reduce congestion and carbon emissions, and improve air quality.
- Parking for disabled people should be additional to the maximum parking standards. Development proposals should provide adequate parking for disabled motorists, in terms of numbers and design.
- For mixed use development, the gross floorspace given over to each use should be used to calculate the overall total maximum parking figure.

Rochdale Core Strategy (2016)

7.4. The Rochdale Core Strategy sets out the long-term spatial strategy for future development of Rochdale Borough. Schedule of parking standards for the provision of car, cycle, motorcycle and disabled spaces

in new developments is summarised in Appendix 5 of the document. These are generally based on Greater Manchester standards developed with other GM authorities.

- Car parking standards comply with the maximum levels set out in National Guidance although for some use classes, the standards are slightly more restrictive to reflect local circumstances.
- Disabled car parking are based on recommendations in a Department of Transport Advisory Note on Parking for Disabled People.
- The cycle parking standards are slightly higher than the level of parking provision suggested in the National Cycling Strategy to reflect the high priority of cycle provision in the Council's Accessibility Hierarchy.
- Powered two-wheeled vehicles parking standards generally allow for 2.5% of maximum car parking provision.

Table 5. Rochdale Parking Standards

Development Type	Car (Maximum)	Cycle (Minimum)	Motorcycle (Minimum)
A1: Retail Warehouses	1 space per 45sqm GFA	1 space per 200sqm (min 2 spaces)	1 space per 900sqm (min 2 spaces)
B2: General Industry	1 space per 60sqm	1 space per 700sqm (min 2 spaces)	1 space per 2,800sqm (min 2 spaces)
B8: Storage / Distribution	1 space per 100sqm	1 space per 850sqm (min 2 spaces)	1 space per 4,000sqm (min 2 spaces)
C3: Single Bedroom Houses	1.25 spaces per dwelling	No Standard	No Standard
C3: 2+ Bedroom Houses	1.25 spaces per dwelling (Not including a garage)	No Standard	No Standard

Table 6. Rochdale Disabled Parking Standards

Total Number Of General Parking Spaces Provided	Minimum Standard of Disabled Car Parking Provision to be Provided
Below 12 spaces	10% of total capacity
12 to 200 spaces	3 bays or 6% of total capacity (whichever is the greater)
Over 200 spaces	4 bays plus 4% of total capacity

Summary

7.5. It is understood that both Councils will come to an agreement on parking standards for the development in due course. However, as Oldham do not have current published standards for the proposed uses, it is recommended at this stage that the Rochdale schedule is used.

8. Site Trip Generation and Distribution

Traffic Flows

8.1. For the purposes of the testing the impact of the allocation through the strategic model, a total of 1,950 dwellings and 170,000 sqm of industrial land have been assumed to be built out by 2040. In addition, a 2040 sensitivity test was undertaken to represent a 2040 build out of 1500 dwellings. 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.

8.2. 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 GM-wide trip rates to the agreed development quantum for each site. 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.

Trip Generation and Distribution

- 8.3. Normal and High flows include a development quantum of 1,950 dwellings and 170,000 sqm of industrial land. Whilst the Sensitivity Test includes a development quantum of 1,500 dwellings and 170,000 sqm of industrial land.
- 8.4. In the Ref flows, no trips were included to and from Bentley Ave at the A627(M) / A664 roundabout. As such, TRICS was used to derive the baseline trips to and from Bentley Ave for both AM and PM scenarios. These flows have been then proportionally distributed on the network.
- 8.5. The trip generation and trip distribution for the allocation are summarised in the tables below (assuming a development quantum of 1,950 dwellings and 170,000 sqm of industrial land by 2040).

Table 7. Allocation Traffic Generation: Stakehill

Year	AM Peak Hour Departures	AM Peak Hour Arrivals	PM Peak Hour Departures	PM Peak Hour Arrivals
2025 GMSF Constrained	264	79	132	288
2025 GMSF High-Side	276	110	168	288
2040 GMSF Constrained	873	637	731	792
2040 GMSF High-Side	1066	925	828	842

Table 8. Allocation Traffic Distribution: Stakehill

Route	AM Peak Hour	PM Peak Hour
M62 (West)	49%	50%
A664 Manchester Road (North)	8%	6%
A627 (M) (North)	3%	2%
M62 (East)	6%	6%
A627 (M) (South)	17%	16%
A664 Rochdale Road (West)	17%	20%

9. Current Highway Capacity Review

Overview

9.1. Figure 19 and Table 9 show the junctions identified for assessment.

Figure 19. Identified Junctions

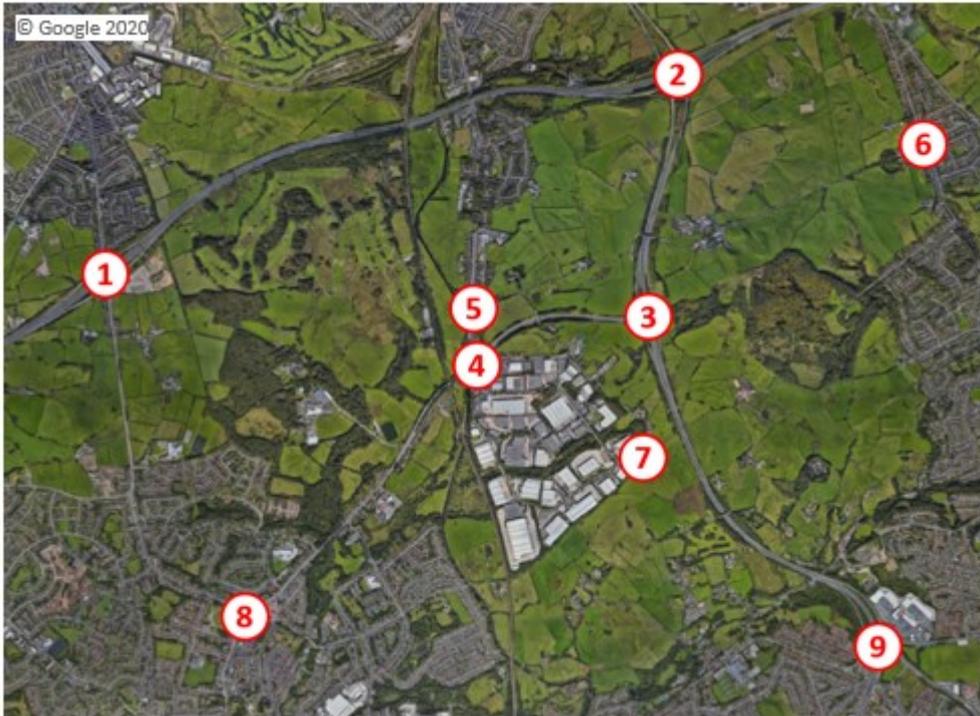


Table 9. Identified Junctions

Identified Junctions		
1. M62 J19	4. A627(M) / A664 (Slattocks)	7. Boarshaw Ln / Stakehill Ln
2. M62 J20	5. Rochdale Rd / Northern Access	8. A664 / A6046
3. A627(M)	6. Thornham Old Rd / Oldham Ln	9. A627(M) / Broadway

9.2. After reviewing the significance of junctions 6 and 7 within the wider highway network it was found to be unnecessary to model these junctions. Therefore, junctions 6 and 7 are not considered within the assessment further.

- 9.3. This chapter reviews the capacity assessment for all remaining junctions, including mitigation proposals identified.
- 9.4. Chapters 12 and 13 review the mitigation proposals identified.
- 9.5. Junction analysis was undertaken for single junctions using Junctions 9 software (for un-signalised junctions) and LinSig (for signalised junctions) to assess the traffic capacity.
- 9.6. For priority controlled junctions, operational performance is reported in terms of Ratio of Flow to Capacity (RFC). A junction for which an RFC value below 0.85 is considered to indicate satisfactory performance. A result between 0.85-1.00 RFC is considered to indicate a junction is close to capacity.
- 9.7. For signal controlled junctions, operational performance is reported in terms of Degree of Saturation (DoS). A DoS result of below 90% is considered to indicate satisfactory performance. A result between 90% and 100% DoS at signal controlled junction is considered to indicate a junction close to capacity.
- 9.8. The Mean Maximum Queue is the sum of the maximum back of uniform queue and the random and observation queue. It represents the maximum queue within a typical cycle averaged over all the cycles within the modelled time period.
- 9.9. All queues are reported in PCUs.
- 9.10. It should be noted that the purpose of the 2040 scenario assessment is to help assess the future resilience of the network.

Junction Highway Capacity Overview

- 9.11. Table 10 below shows the worst RFC / DoS (%) arm performance for each of the junctions assessed. Those highlighted in green are within theoretical capacity (85% for priority junctions, and 90% for signalised junctions). Highlighted in amber are those arms above theoretical capacity but under 100% practical capacity, and in red those above 100% practical capacity.

Table 10. Maximum RFC / DoS (%)

Scenario \ Junction	1 M62 J19	2 M62 J20	3 A627 (M)	4 Slattocks	5 Northern Access	8 A664 / A6046	9 Broadway
2025 Ref AM	97.0	109.2	46.0	86.0		62.9	134.4
2025 Ref PM	85.9	107.1	39.0	64.0		66.3	141.5
2025 High AM	107.2	109.6	47.0	73.6	32.0	67.7	131.0
2025 High PM	69.8	110.6	40.0	75.5	35.9	67.8	146.4
2040 Ref AM	101.1	125.4	51.0	98.0		67.3	140.5
2040 Ref PM	92.9	151.2	45.0	73.0		80.3	144.9
2040 High AM	113.2	123.6	70.0	113.2	71.3	89.5	148.4
2040 High PM	83.9	120.5	62.0	92.2	66.2	87.0	144.6
2040 High Sensitivity Test AM	110.8	121.4	68.0	112.0	65.1	88.7	142.9
2040 High Sensitivity Test PM	85.6	120.5	59.0	90.1	52.3	86.6	145.4

Junction 1 – M62 J19

9.12. As seen in Chapter 5, the M62 J19 is currently a 4-arm priority grade separated junction, however, in the strategic model M62 J19 has been modelled as a 5-arm signalised junction, due to the addition of the South Heywood Link Road.

- 9.13. WSP has extracted more detailed information such as traffic signal specification and saturation flows from the 16/01399/HYBR planning application on Rochdale Borough Council planning portal. The application, which has recently been approved, seeks full consent for the construction of a new link road (fifth arm) between Junction 19 of the M62 and Pilsworth Road.
- 9.14. The documents that have informed WSP modelling for these junctions are:
- Drawing A0/2001345/100/002 FROM 21st July 2016; and
 - The Proposed Minor Amendments to Link Road Layout Highways Technical Note (1962-01-HTN01a) prepared by Axis on 30th May 2017.
- 9.15. Modelling indicates the junction operates within capacity in the 2025 Ref scenarios, with a better performance in the PM peak. In the 2040 Ref scenarios the Middleton Rd southbound arm is slightly over capacity, with a slightly better performance in the PM peak than in the AM peak.
- 9.16. When assessing the 2040 Normal flows, the model indicates that the PM scenario is within capacity, with a significant improvement on practical reserve capacity (PRC). In the AM, the PRC is just circa 5 points worse than the Ref scenario.
- 9.17. When comparing the Sensitivity Test against the High scenario, the model indicates that the significant reduction of 450 dwellings (23%) does not have a proportional impact improvement on the M62 J19.

Table 11. Junction 1 – M62 J19 PRC

PRC (%)	2025 Ref	2025 High	2040 Ref	2040 Normal	2040 High	2040 ST
AM	-7.8	-19.1	-12.4	-17.9	-25.7	-23.1
PM	4.7	22.6	-3.2	25.6	-0.5	1.2

9.18. It should be noted that 25% of the employment land and 40% of the residential land will be developed by 2025. Consequently, when comparing the difference in junction capacity for the 2025 Ref and High scenarios, this indicates that the greater impact in the 2040 scenarios is not only caused by GM2, but by growth in traffic from other GMSF development sites and reference case developments. In fact, worst performance arms are those located at the north of the junction, not directly used by vehicles accessing the GM2 site.

9.19. Some traffic capacity issues are expected at M62 J19 in the 2040 With GMSF Allocations Scenario. These are forecast to occur as a result of the cumulative impact of several allocations including the Northern Gateway allocations i.e. Heywood / Pilsworth and Simister/Bowlee. Further investigation of the operation of this junction and possible mitigation measures is recommended.

Junction 3 – A627(M) Roundabout

9.20. The model, which has estimated internal circulatory flows, operates within capacity in all scenarios as shown in 0. Minimal queuing occurs and RFC values sitting well below the 0.85 threshold.

9.21. When comparing the Sensitivity Test against the High scenario, model indicates that the significant reduction of 450 dwellings (23%) does not have a proportional impact improvement on the A627(M) Roundabout.

Junction 8 – A664 Rochdale Road / A6046 Hollins Lane

9.22. The model indicates that this signalised junction operates within capacity in all scenarios as shown in Table 10. Queuing occurs as expected for a busy signalised junction. DoS values are

below the 90% threshold in all scenarios. The worst DoS occurs in the 2040 High AM scenario, where the junctions operates just below the 90% threshold.

9.23. When comparing the Sensitivity Test against the High scenario, model indicates that the significant reduction of 450 dwellings (23%) does not have a proportional impact improvement on the A664 Rochdale Rd / A6046 Hollins Ln.

Junction 9 – A627(M) / Broadway

9.24. There is a complex interplay between the operation of this roundabout and that of the northbound on-slip merge to the A627(M). Some adjustments were made, but it proved difficult to accurately represent this complex interplay in the strategic model. The results presented below should be viewed with this in mind. Further more detailed traffic modelling may be required to investigate these issues more thoroughly.

9.25. Modelling indicates the junction operates over capacity in all scenarios, including the Reference Case, with significant queuing on the A663 Broadway and A627 Chadderton Way arms.

9.26. When assessing the 2040 High flows, the model indicates that the PM scenario has a similar performance in PRC, with a detriment of circa 10 points in the AM. Both of which are still above capacity and with the worst performing arms being A663 Broadway and A627 Chadderton Way. Whilst the revised AM and PM scenario have a slightly worst performance in PRC, with a detriment of circa 14 points in the AM and 8 in the PM.

9.27. When comparing the Sensitivity Test against the High scenario, the model indicates that the significant reduction of 450 dwellings (23%) does not have a proportional impact improvement on the M62 J19. In fact, whilst the AM sees an improvement of circa 7 points, the PM experiences a detriment of just 1 point.

Table 12. Junction 9 – A627(M) / Broadway PRC

PRC (%)	2025 Ref	2025 High	2040 Ref	2040 High	2040 ST
AM	-49.3	-46.8	-56.1	-65.7	-58.8
PM	-57.2	-61.5	-60.9	-60.7	-61.5

PRC (%)	2025 Ref	2025 High	2040 Ref	2040 High	2040 ST
Revised AM			-59.1	-73.8	
Revised PM			-63.3	-71.0	

9.28. Figure 20 below shows the merging diagram from the DMRB CD 122 (Geometric design of grade separated junctions). This shows that the current layout does not provide enough capacity for the Ref scenario in 2040. And that the impact of the GMSF is minimal in both the AM and PM. Consequently, the merging should be mitigated because of existing traffic levels and growth generated from committed and reference case developments up to 2040. Not because of GMSF, nor GM2 in particular.

Figure 20. A627(M) / Broadway Northbound On-slip Road Merging Assessment



9.29. On the basis of this assessment, and considering the arms above capacity are not directly relevant to GM2, no directly associated mitigation is considered to be required. however, as mentioned above, further investigation of this junction may be needed and there is scope for

improvements at A627(M) / Chadderton Way / A663 Broadway Interchange to be promoted by the council as supporting strategic interventions for the area a whole.

10. Treatment of Cumulative Impacts

10.1. As detailed earlier, the traffic flows used in detailed capacity assessments are taken from the GM Strategic model for a 2025 and 2040 future assessment years. The transport impacts of the site therefore include a cumulative assessment of the following GMSF sites which is important in apportioning costs of any potential mitigation:

- GM1.1 - Northern Gateway (Heywood/Pilsworth)
- GM3 - Kingsway South
- GM29 – Trows Farm

10.2. However, Kingsway South allocation has been removed from the GMSF. This change came too later to be reflected in the strategic modelling. As such contribution to the identified junction interventions would need evaluation as part of any detailed design or planning work.

10.3. The junctions in Table 13 below are those which have been identified as requiring mitigation due to the cumulative impact.

Table 13. Results of Cumulative Local Junction Capacity Analysis Before Mitigation

Junction	Reference Case AM	Reference Case PM	GMSF High AM	GMSF High PM
A664 Queensway / A664 Manchester Road	65.6%	79.8%	83.6%	104.9%
A664 Queensway / A664 Edinburgh Way	0.83	0.79	0.99	0.90
A664 Queensway / A664 Edinburgh Way / A627 (M) / Sandbrook Way	83.2%	88.5%	100.8%	84.0%

A664 Queensway / A664 Manchester Road

10.4. The A664 Queensway / A664 Manchester Road junction is a signal controlled junction. As can be seen in Table 7, in the 2040 reference scenario, the A664 Queensway / A664 Manchester Road junction is predicted to operate within capacity in both the AM and PM peak hours, when

accommodating the traffic from all GMSF sites. In the 2040 high-side scenario, the junction is still forecast to operate within capacity in the AM peak hour, however, with DoS values in excess of 100% in the PM peak hour. A potential improvement scheme has been identified to mitigate all GMSF sites at this junction which involves amendments to the staging, to provide more green time to the critical traffic movements, as discussed later in this report.

A664 Queensway / A664 Edinburgh Way

10.5. The A664 Queensway / A664 Edinburgh Way junction is a priority controlled roundabout. As can be seen in Table 7, the junction is forecast to operate with an RFC of below 1 even in the very robust future assessment year of 2040 with all GMSF sites and unconstrained model scenario. On this basis, the cumulative impact of all GMSF sites on this junction cannot be considered severe and there is no requirement for mitigation measures. Notwithstanding this, a potential improvement scheme has been identified to mitigate the impact all draft GMSF sites, as discussed later in this report.

A664 Queensway / A664 Edinburgh Way / A627 (M) / Sandbrook Way

10.6. The A664 Queensway / A664 Edinburgh Way / A627 (M) / Sandbrook Way junction is a signal controlled crossroad junction. In the AM peak hour the junction is forecast to operate with a DoS of below 100% on all links with the GMSF sites in all scenarios, with the exception of the A664 Edinburgh Way link which is forecast to operate only slightly over the 100% (DoS 100.8%) in the very robust 2040 “high side” scenario. In the PM peak hour the junction is predicted to operate within capacity, even in the very robust 2040 “high side” scenario. On this basis, the cumulative impact of all GMSF sites on this junction cannot be considered severe and there is no requirement for mitigation measures at this location. Notwithstanding this, a potential improvement scheme has been identified to mitigate the impact of all draft GMSF sites, as discussed later in this report.

11. Transport Interventions to be tested

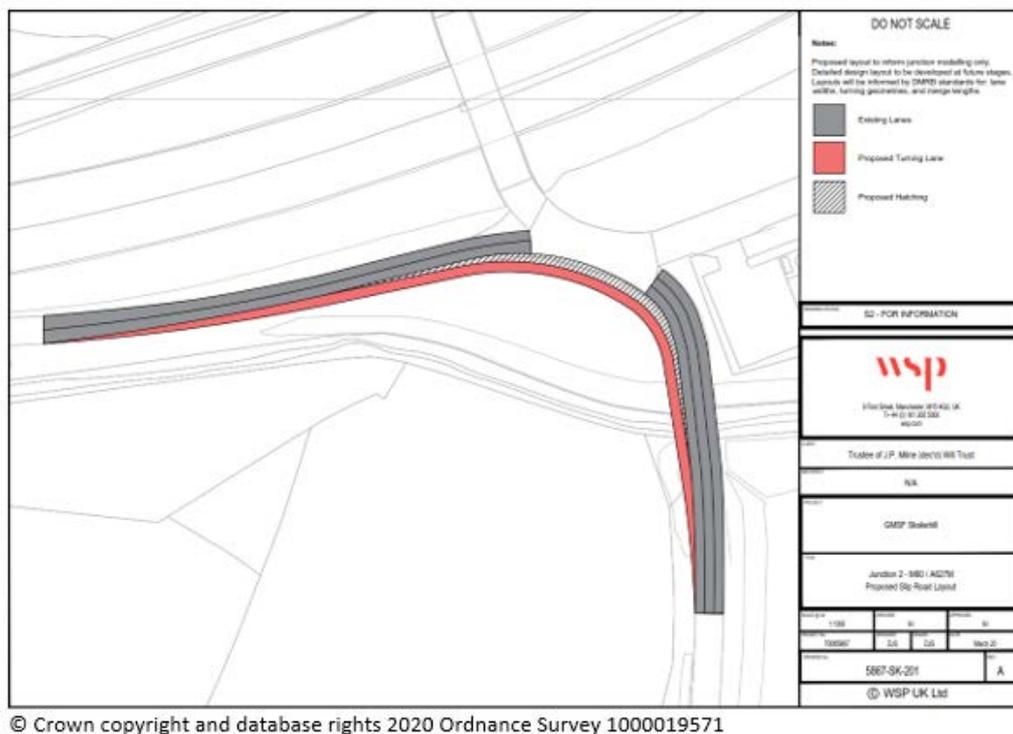
11.1. This chapter describes the mitigation proposals that have been included into the strategic traffic distribution model.

Junction 2 – M62 J20

11.2. Mitigation proposals include:

- Additional left turn only on the A627(M) northbound towards the M62 westbound off slip road; and
- Lane markings as shown and following DMRB Standards.

Figure 21. Junction 2 Proposed Indicative Layout

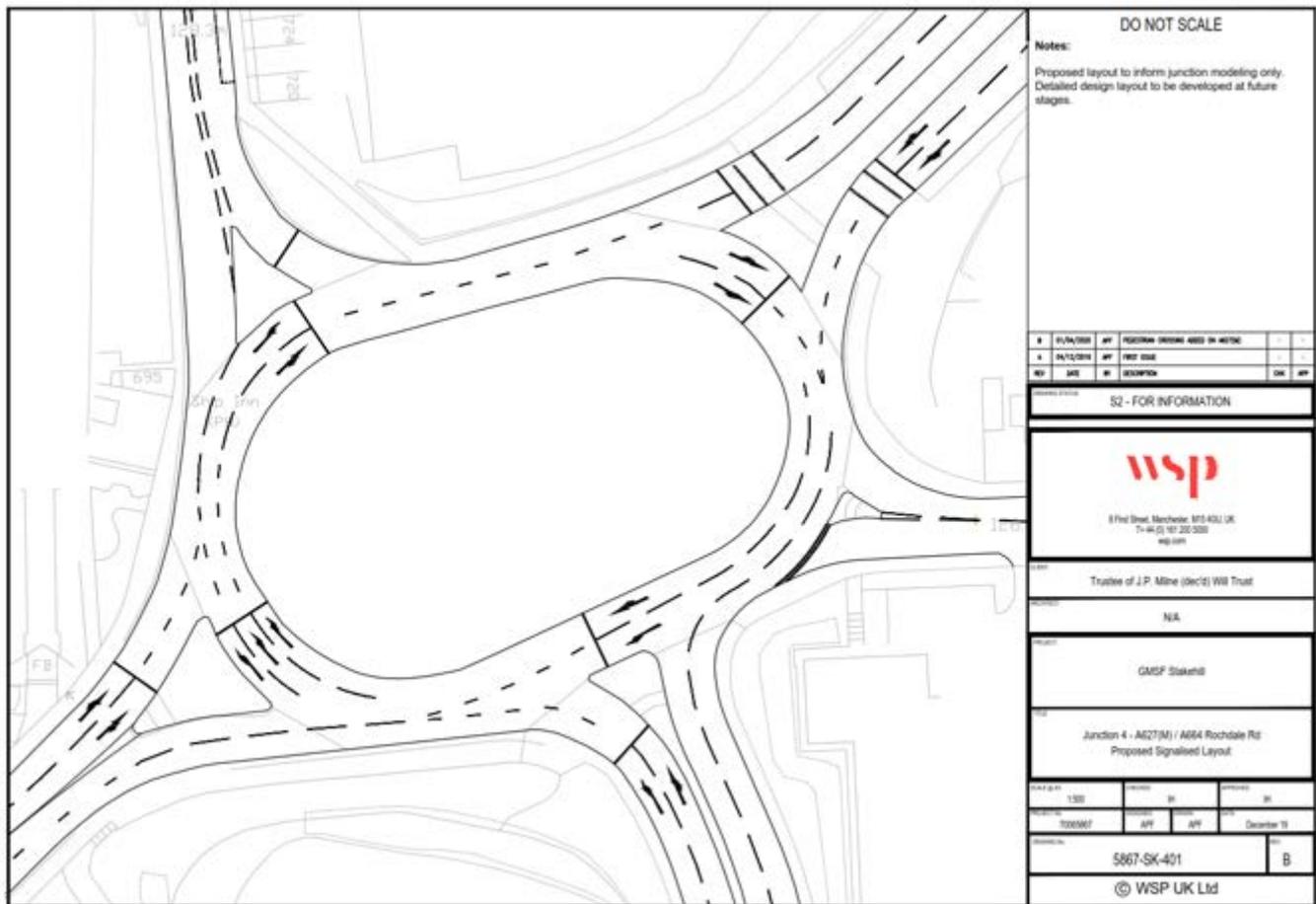


Junction 4 – A627(M) / A664 Rochdale Road Roundabout

11.3. Mitigation proposals include:

- Signalisation of the junction;
- Adding lane markings to the circulatory lanes to improve routing and capacity;
- Adding a third lane by reducing lane width within the existing carriageway in certain sections;
- Increasing the merge length of the A664 Rochdale Road (W) exit by replacing existing hatching with a traffic lane;
- Creating a two-lane system on both approach and exit of Whitbrook Way by utilising existing hatching space. The proposed system will run to the Finlan Road junction, where the existing layout will continue as one-lane per direction; and
- Upgrading A627(M) pedestrian and cycling crossing facilities.

Figure 22. Signalised Junction 4 (Proposed Layout)



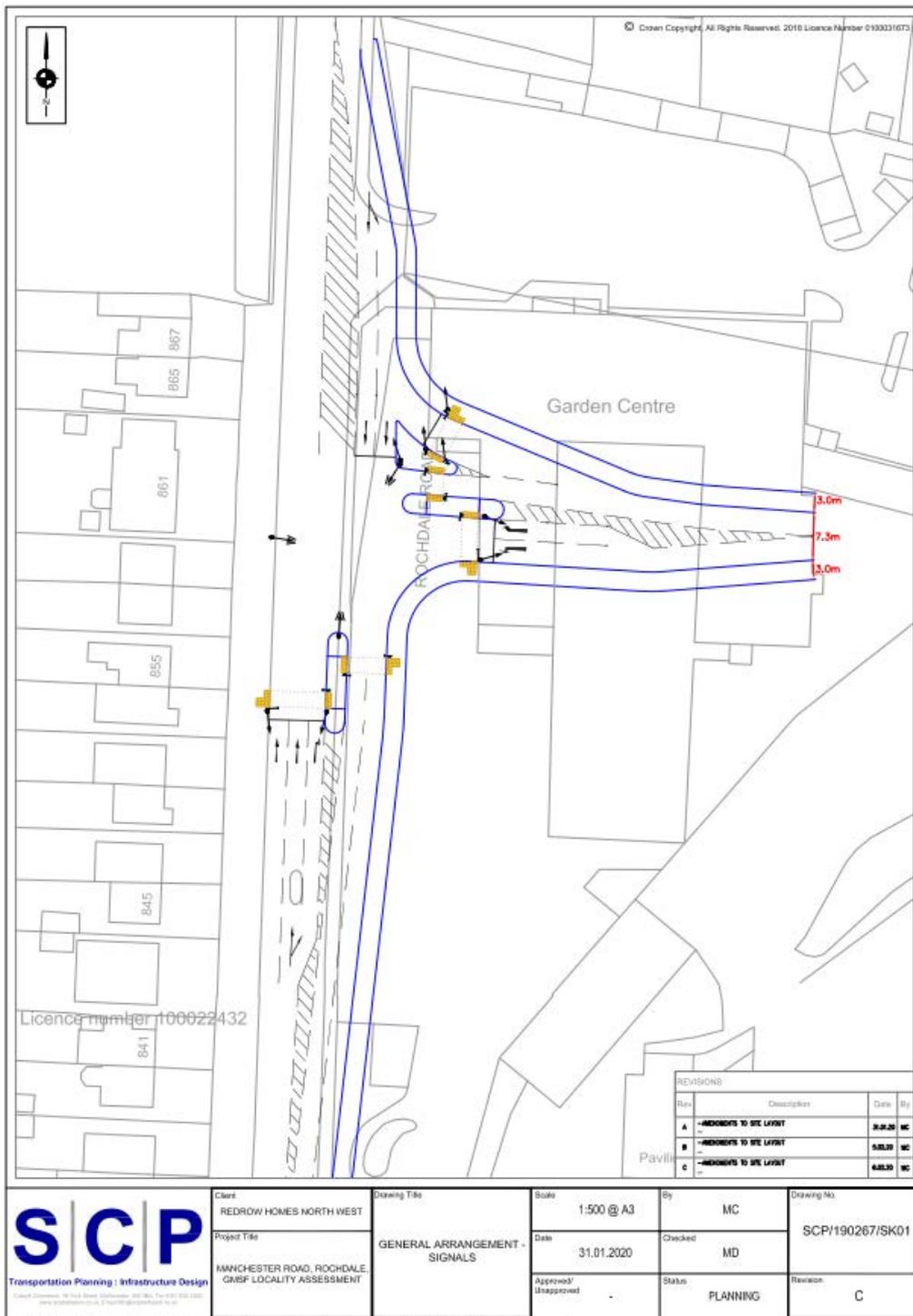
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Junction 5 – A664 Rochdale Rd / Northern Access

11.4. A new junction has to be built to guarantee safe access to the northern portion of GM2. As such, the proposals, tested include:

- Signalised junction;
- Right and left turn dedicated lanes on both major and minor arms; and
- Signalised pedestrian crossings.

Figure 23. Junction 5 Proposed Layout



12. Impact of testing

12.1. The proposals identified are analysed below. The purpose is to understand the potential impact of the mitigation proposals on the operation of the highway network.

Junction 4 – A627(M) / A664 Rochdale Road Roundabout

12.2. Mitigation was required at this junction, particularly for the 2040 scenarios, where some arms were above capacity, with a maximum RFC of 212% and a maximum queue of 564 PCUs (over 3,000 metres of queuing on a single arm).

12.3. The mitigation proposals do not allow comparison between base model (Ref) against do-something model (High) since the junction layout has significantly changed and these have been modelled with two different traffic modelling environments. However, it is possible to quantify and compare this positive impact.

12.4. Modelling indicates the junction operates within capacity in all 2025 High scenarios as shown in Table 10 and Table 13. In the 2040 Normal scenarios, PRC is negative but DoS remain well below the 90% threshold in all arms. On the northern side of the junction in the AM and the western side in the PM, the DoS is slightly greater than the theoretical capacity (90%).

12.5. Minimal queuing occurs in the 2040 scenarios. This is expected for a busy 5-arm roundabout that gives access to an industrial estate and a motorway link.

12.6. When comparing the Sensitivity Test against the High scenario, model indicates that the significant reduction of 450 dwellings (23%) does not have a proportional impact improvement on the Slattocks Roundabout. This negligible difference indicates that the mitigation proposals do not only have a positive impact on the performance of the junction, but are required for both Sensitivity Test and High development quantum scenarios.

Table 14. Junction 4 – A627(M) / A664 Rochdale (Slattocks) Roundabout PRC

PRC (%)	2025 High	2040 Normal	2040 High	2040 ST
AM	22.3	-20.9	-25.9	-25.8
PM	19.2	-9.0	-13.8	-12.7

12.7. The mitigation proposals include the signalisation of the junction and a better lane markings strategy, optimising as much as possible the existing junction capacity within reasonable scope whilst upgrading pedestrian and cycling facilities. The junction is located in what will be a local area next to residential developments, an industrial estate and a potential new train station. A larger junction could be designed, but this would involve third party land and the creation of a motorway-style junction in a residential area. A design that is not in line with current policy and environment trends, where promotion of sustainable transport and active travel is needed.

Junction 5 – A664 Rochdale Rd / Northern Access

12.8. Since this is a proposed new junction, it is not possible to compare the Reference with the High flows.

12.9. The model operates within capacity in all scenarios as shown in 0. Minimal queuing occurs and DoS values sitting well below the 0.90 threshold.

12.10. When comparing the Sensitivity Test against the High scenario, model indicates that the significant reduction of 450 dwellings (23%) has a proportional impact improvement on the A664 Rochdale Rd / Thornham Lane Rd. This is the only junction where the Sensitivity Test has a proportional positive impact in comparison with the High scenario. This is due to being the main access point to the majority of the residential development quantum. However, this positive impact does not have a direct impact in the performance of the junction since it operates well within capacity in all scenarios, including the 2040 High.

Table 15. A664 Rochdale Road / Thornham Lane Road PRC

PRC (%)	2025 High	2040 High	2040 ST
AM	174.0	25.8	37.1
PM	150.7	35.0	72.0

13. Impact and mitigation on Strategic Road Network

Junction 2 – M62 J20

- 13.1. Reference flows have been tested using the base model (existing layout) as per the initial Junction Capacity Assessment and mitigation was required for all scenarios.
- 13.2. Modelling indicates the junction operates above capacity in all scenarios, with a slightly better performance in the PM scenarios as shown in 0 and 0.
- 13.3. When assessing the 2040 Normal flows, the model indicates that the junction performs better than in the Ref scenario. Meaning that the mitigation proposals described above have a significant positive impact on the performance of the junction. By not only meeting the performance of the Ref scenario, but improving this. Particularly in the PM scenario.
- 13.4. When comparing the Sensitivity Test against the High scenario, the model indicates that the significant reduction of 450 dwellings (23%) does not have a proportional impact improvement on the M62 J20. This negligible difference indicates that the mitigation proposals do not only have a positive impact on the performance of the junction, but are required for both Sensitivity Test and High development quantum scenarios.
- 13.5. Should this allocation come forward, intervention on the SRN and M62 J20 would require further detailed design and analysis as part of any planning application.

Table 16. M62 J20 PRC

PRC (%)	2025 Ref	2025 Normal	2040 Ref	2040 Normal	2040 High	2040 ST
AM	-21.7	-21.8	-39.4	-35.1	-37.5	-36.1
PM	-19.3	-22.9	-32.6	-22.1	-34.2	-34.2

14. Strategic Context – GM Transport Strategy Interventions

14.1. In addition to the allocation-specific interventions set out in this Locality Assessment, there are a number of other measures already planned by RMBC and TfGM to support sustainable travel, and to contribute to the achievement of Greater Manchester’s ‘Right Mix’ ambition. These are summarised in the Introductory Note to the Locality Assessments and set out in more detail in the GM Transport Strategy 2040 and Our 5-Year Transport Delivery Plan.

14.2. TfGM is currently evaluating the feasibility of potential new rail stations and Metrolink stops in Greater Manchester, with a view to developing more detailed plans for a small number of stations that are likely to deliver the greatest value for money. One of these stations would potentially be on the Calder Valley Line close to the A664 Rochdale Road near the allocation. Some of the key priority transport project interventions identified for both Oldham and Rochdale Districts include:

Oldham

- Oldham Town Centre Regeneration and Connectivity Package: A £6 million grant to improve transport and the public realm in Oldham town centre.
- Cycling and Walking Infrastructure: Including refurbishing the King Street and Union Street foot and cycle bridges.
- New Metrolink Stop at Cop Road.
- Additional park and ride provision at Derker and/or other Metrolink Stops.

Rochdale

- New Station at Slattocks
- Calder Valley Line Improvements: New services enabled by line speed and signalling upgrades (delivered by Network Rail).
- Mills Hills station upgrade: To improve station accessibility (delivered by Network Rail).
- Cycling and Walking Infrastructure: Including improving cycling and walking infrastructure on the Castleton Local Centre Corridor.
- South Heywood Link Road: To improve connections to existing and future development sites.
- New express bus corridor from Manchester City Centre to Northern Gateway site via Middleton and Heywood.
- Additional park and ride provision at Rochdale rail station.

Greater Manchester's cycling and walking infrastructure proposal

14.3. The [Bee Network](#) is a vision for Greater Manchester to become the very first city region in the UK to have fully joined up cycling and walking network; the most comprehensive of Britain covering 1,000 miles. Plans for over 75 miles of segregated cycling and walking routes, plus 1,400 new crossings that will connect every community in Greater Manchester have been outlined. Bee Network and "Streets for All" design principles will be an integral part in the design layout of this GMSF allocation.

Summary

14.4. The identified transport interventions within these documents will play a part in limiting traffic growth from and to the development proposals. Indeed, the Greater Manchester Transport Strategy Delivery Plan, which supports GMSF, identifies key priority transport projects that will help this allocation to come forward.

15. Final list of interventions

Table 17. Interventions List: Stakehill

Mitigation	Description
Allocation Access	
Northern access	Signalised controlled pedestrian crossings are proposed as part of the site access junction to the northern site, which will link the northern site to the canal towpath to the west and continue the route along the east of the A664.
Necessary Strategic Interventions	
A627(M) / A664 Rochdale (Slattocks) Roundabout improvement	Signalisation of the junction: adding lane markings to the circulatory lanes to improve routing and capacity; Adding a third in certain sections; Increasing the merge length of the A664 Rochdale Road (W) exit by replacing existing hatching with a traffic lane; Creating a two-lane system on both approach and exit of Whitbrook Way by utilising existing hatching space. Upgrading A627(M) pedestrian crossing facilities.
Necessary Local Mitigations	
A664 Queensway / A664 Manchester Road (signalised junction)	A664 Queensway / A664 Manchester Road (signalised junction)
A664 Queensway / A664 Edinburgh Way (3-arm roundabout)	A664 Queensway / A664 Edinburgh Way (3-arm roundabout)
A664 Queensway / A664 Edinburgh Way / A627 (M) / Sandbrook Way (signalised junction)	A664 Queensway / A664 Edinburgh Way / A627 (M) / Sandbrook Way (signalised junction)
Bus Improvements	1412 serves southern edge and 17A serves Stakehill in peaks. New service Rochdale - serving Oldham every 15 minutes

Mitigation	Description
SRN Mitigations	
M62 Junction 20	Additional left turn only on the A627(M) northbound towards the M62 westbound off slip road
Supporting Strategic Interventions	
M62 Junction 19	5-arm signalised junction, in line with the Northern Gateway Masterplan Report.
A627(M) / Chadderton Way / A663 Broadway Interchange	Junction improvements
Potential New Rail Station	Potential for a new train station at Slattocks
Supporting Local Interventions	
Resurfacing of Thornham Lane	Resurfacing is proposed of the rough surfaced section of Boarshaw Lane and Thornham Lane.
Installation of Tactile Kerbing	Dropped kerbs and tactile paving will be provided across the minor arms along the route between the northern site and Castleton Station.

16. Phasing Plan

16.1. 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.

16.2. At this stage, it is envisaged that that 25% of the employment land and 40% of the residential land will be developed by 2025. The remaining development will be brought forward in an orderly manner by 2040.

Table 18. Intervention phasing

Mitigation	2020 2025	2025 2030	2030 2037
Site Access			
Northern access	✓		
Necessary Strategic interventions			
A627(M) / A664 Rochdale (Slattocks) Roundabout improvement	✓		
Supporting Strategic Interventions			
M62 Junction 19		✓	
A627(M) / Chadderton Way / A663 Broadway Interchange		✓	
Potential New Rail Station			✓
Supporting Local Interventions			
Resurfacing of Thornham Lane	✓		
Installation of Tactile Kerbing	✓		
Necessary Local Mitigations			

A664 Queensway / A664 Manchester Road Signal Junction Staging Amendments	✓		
A664 Queensway / A664 Edinburgh Way Roundabout Widening	✓		
A664 Queensway / A664 Edinburgh Way / A627 (M) / Sandbrook Way Signal Junction	✓		
Bus Improvements	✓		
SRN Interventions			
M62 Junction 20		✓	-

17. Summary & Conclusion

- 17.1. WSP and SCP have supported Rochdale Borough Council in the production of this Accessibility Assessment to provide transport and highways advice to support the Locality Assessment that will inform the opportunities and constraints of the Stakehill Industrial Estate site being developed and included in the Greater Manchester Spatial Framework.
- 17.2. The document has reviewed the existing and proposed highway network, and examined the existing and proposed multi-modal accessibility of the site, adding emphasis to sustainable and active travel. Chapter 7 has described both Rochdale and Oldham parking standards, recommending to prioritise and adopt the Rochdale schedule over Oldham standards.
- 17.3. Chapter 8 and 9 have reviewed the capacity assessments for key junctions associated with the allocation, concluding that the traffic impacts of the site on the GM network are less than severe for a number of nearby junctions.
- 17.4. Chapter 10 outlines potential cumulative impacts to the local road network when factoring in adjacent allocations and potential improvement schemes have been identified.
- 17.5. Chapter 11 has described the proposed mitigation proposals at different locations. Chapter 11 and 12 has assessed the capacity performance of these proposals at the different junctions, and Chapter 13 addresses the potential impact on the strategic road network.

- 17.6. Concluding that after mitigation interventions, the traffic impacts of the site on the GM network would not preclude the inclusion of the allocation in the GMSF, but that in some cases further work will be required to ensure impacts are satisfactorily addressed.
- 17.7. Chapter 14 has reviewed the relevant national and regional policies. Site location and proposals accord with the principles of national and regional planning policy, in which all modes of accessibility have been considered.
- 17.8. Chapter 15 sets out the final list of interventions and Chapter 16 sets out an indicative phasing plan for these interventions.

Greater Manchester Spatial Framework

Locality Assessment:

**Roundthorn Medipark Extension (GMA3.1) and
Timperley Wedge (GMA3.2)**

Publication Version 2: November 2020

Identification Table	
Client	Manchester City Council/Trafford Council/TfGM
Allocation	Roundthorn Medipark Extension and Timperley Wedge
File name	GMA3.1 Roundthorn Medipark Locality Assessment and GMA3.2 Timperley Wedge Locality Assessment
Reference number	GMA3.1 and GMA3.2 (2020 GMSF) previously GMA11 and GMA46 (2019 GMSF)

Approval					
Version	Role	Name	Position	Date	Modifications
0	Author	A Sykes	AD	16/09/20	Base report
	Checked by	D Kirkman	A	16/09/20	
	Approved by	S Heritage	AD	16/09/20	
1	Author	J Cookson	TfGM	25/09/20	Consistency edits
	Checked by	D McCorquoddale; L Franklin and Trafford Highways	Manchester City Council; Trafford Council	30/09/20	
	Approved by	C Morris	Trafford Council	30/09/20	

Table of contents

1.	Allocation Location & Overview	8
2.	Justification for Allocation Selection	13
3.	Key Issues from Consultation	13
4.	Existing Network Conditions and Allocation Access	14
5.	Proposed Allocation Access	15
6.	Multi-modal accessibility	19
7.	Parking	27
8.	Allocation Trip Generation and Distribution	28
9.	Current Highway Capacity Review	33
10.	Treatment of Cumulative Impacts	35
11.	Allocation Access Assessment	36
12.	Impact of Allocation Before Mitigation on the Local Road Network	37
13.	Transport Interventions Tested on the Local Road Network	46
14.	Impact of interventions on the Local Road Network (where appropriate)	49
15.	Impact and mitigation on Strategic Road Network	52
16.	Final list of interventions	57
17.	Strategic Context – GM Transport Strategy Interventions	61
18.	Phasing Plan	65
19.	Summary & Conclusion	69
	Appendix 1 – Indicative Spine Roads Plan	71
	Appendix 2 – Indicative M56 Junction 3 Plan	72
	Appendix 3 – Indicative Thorley Lane/Runger Lane Plan	73

List of figures

Figure 1.	Location map Roundthorn Medipark Extension and Timperley Wedge	12
Figure 2.	Timperley Wedge Access Arrangements	17
Figure 3.	Roundthorn Medipark Extension and Timperley Wedge Access Arrangements	18
Figure 4.	Roundthorn Medipark and Timperley Wedge Collision map	24
Figure 5.	Allocation Traffic Distribution, 2040 GMSF High-Side (Origin/Destination Combined): Timperley Wedge	

Figure 6.	Assessed junctions: Roundthorn Medipark Extension and Timperley Wedge	35
Figure 7.	Proposed road closures	40
Figure 8.	Junctions where mitigation is identified as required.	45

List of tables

Table 1.	Roundthorn Medipark Accessibility of and proximity to Public Transport.	19
Table 2.	Timperley Wedge (West) Accessibility of and proximity to Public Transport.	19
Table 3.	Timperley Wedge (East) Accessibility of and proximity to Public Transport.	21
Table 4.	Collision data within 1km of Roundthorn Medipark Extension 2016-2018	24
Table 5.	Collision data within 1km of Timperley Wedge 2016-2018	24
Table 6.	Development Quantum: Roundthorn Medipark Extension	29
Table 7.	Development Quantum: Timperley Wedge	29
Table 8.	Allocation Traffic Generation: Roundthorn Medipark Extension	29
Table 9.	Allocation Traffic Generation: Timperley Wedge	30
Table 10.	Allocation Traffic Distribution, 2040 GMSF High-Side (Origin/Destination Combined): Roundthorn Medipark Extension	31
Table 11.	Allocation Traffic Distribution, 2040 GMSF High-Side (Origin/Destination Combined): Timperley Wedge	31
Table 12.	Allocation Traffic Distribution, 2040 GMSF High-Side (Origin/Destination Combined): Roundthorn Medipark Extension	32
Table 13.	Results of Local Junction Capacity Analysis Before Mitigation: Roundthorn Medipark Extension and Timperley Wedge	41
Table 14.	Approach to Mitigation: Roundthorn Medipark Extension and Timperley Wedge	47
Table 15.	Results of Local Junction Capacity Analysis After Mitigation: Roundthorn Medipark Extension and Timperley Wedge	50
Table 16.	Results of strategic junction capacity analysis before mitigation – Year 2040 Roundthorn Medipark Extension and Timperley Wedge	53
Table 17.	Summary of SRN Junction Mitigation Measures	56
Table 18.	Results of Local Junction Capacity Analysis After Mitigation: Roundthorn Medipark Extension and Timperley Wedge	56
Table 19.	Final List of Interventions Roundthorn Medipark Extension and Timperley Wedge	57
Table 20.	Allocation Phasing: Roundthorn Medipark Extension (sq m)	66

Table 21. Indicative Allocation Phasing: Timperley Wedge (Residential units) 66

Table 22. Indicative intervention delivery timetable: Roundthorn Medipark Extension and Timperley Wedge 66

Allocation Data	
Allocation Reference No.	GMA3.1 and GMA3.2
Allocation Name	Roundthorn Medipark Extension and Timperley Wedge
Authority	Manchester City and Trafford
Ward	Baguley and Hale Barns
Allocation Proposal	86,000sqm employment land (GMA3.1) 2,500 residential dwellings (GMA3.2)
Allocation Timescale	0-5 years <input checked="" type="checkbox"/> 6-15 years <input checked="" type="checkbox"/> 16 + years <input checked="" type="checkbox"/>

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 conurbation that have been identified by each local planning authority in 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 not classified as Strategic Road Network (see below) 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 covers two allocations within the GMSF, namely Roundthorn Medipark Extension and Timperley Wedge. The allocations are located within the City of Manchester and the Borough of Trafford respectively. Roundthorn Medipark extension is located immediately to the North of Timperley Wedge allocation. This section provides an introduction to the allocations covering the location, make up of the allocations and key contextual information.
- 1.1.2 The Timperley Wedge allocation is situated between Timperley and Hale Barns in Trafford District. The allocation borders the urban fringe of Timperley to the north, Roundthorn Industrial Estate and the Newall Green residential area to the east, the M56 motorway and the Ringway Golf Club to the south, and the Well Green residential area to the west. Various parts of the allocation also face open land. The allocation is located west of the M56 at junction 5, with the motorway connecting Manchester and the M60 to the north-east with Cheshire, the M6 and Merseyside to the south-west. As well as bordering residential areas to the east and west, there are a number of existing pockets of residential development within the allocation, each containing locally distinctive design features. Therefore, the sensitive integration of new development with the existing residential areas are key considerations for this allocation.
- 1.1.3 To the south of the allocation, over the M56, is Manchester Airport and the GMSF allocation of GM10 – Global Logistics.
- 1.1.4 The land use status of the area is mainly greenfield, with a significant proportion of the allocation being Green Belt. As part of the development, the southern area of the land allocation adjacent to the proposed HS2 station will be removed from the Green Belt and allocated as Safeguarded land to enable the delivery of the wider Greater Manchester HS2 Growth strategy. However this land will be protected from development with Green Belt policies continuing to apply until such time as HS2 is built. A considerable area of Green Belt land in the allocation will remain, to the west of Timperley Brook and Clay Lane, with measures outlined to protect, enhance and minimise adverse effects on environmental assets including Sites of Biological Importance and ancient woodland within and adjacent to the allocation.

- 1.1.5 There are numerous road networks surrounding and within the allocation. Based on existing road links there are multiple points of access to the allocation, namely the A5144 Thorley Lane, Clay Lane (at its junction with Thorley Lane/Wood Lane), Dobbinetts Lane, Whitecarr Lane, Thorley Lane (across the M56) and Shay Lane. These roads are largely rural in character and a number are not suitable in their current form to support the allocation. The allocation will be supported by the delivery of new spine road to provide access and improve east west connections between Altrincham and Manchester Airport.
- 1.1.6 The Timperley Wedge allocation allows for approximately 2,500 residential units, with medium density development (35 dph) in the north and higher density development (70 dph) close to the proposed local centre and proposed Davenport Green Metrolink stop and HS2 Manchester Airport station. A minimum of 45% affordable housing is expected. The allocation also proposes to deliver a minimum of 60,000 sqm of employment for high quality office space to support the expansion of Manchester Airport and University Hospital South Manchester. The employment development will be located in the south-eastern area of the allocation at Davenport Green which is not in Green Belt. It is anticipated that some of this will come forward late in the plan period, following the completion of HS2, with the majority of the build-out extending beyond the GMSF plan period. The employment floor space is already accounted for by existing allocations within Trafford's Core Strategy (2012), therefore this locality assessment considers the transport impacts of the residential component of Timperley Wedge only.
- 1.1.7 The allocation lies predominantly within the 2011 Census mid-layer super output areas of Trafford 023 & 028. The scale of residential development proposed (2,500 homes) represents a significant increase relative to the existing number of homes in this area (~6,100 homes).
- 1.1.8 This locality assessment also considers Roundthorn Medipark Extension. The allocation comprises 86,000 square metres of B1 (Business Park) floorspace. It is located to the south of the existing University Hospital and the wider Roundthorn Industrial Estate/ Medipark Enterprise Zone within Manchester City Council boundary. To the east of the allocation is the residential area of Newall Green which connects to the M56 via junction 4. The Timperley Wedge allocation is located immediately to the south of the allocation. To the north east of the allocation is a large staff hospital car park.

1.1.9 The Roundthorn Medipark is located to the south of Floats Road and to the west of Clay Lane. With Dobbinetts Lane to the west of the allocation, Whitecarr Lane runs through the allocation to the south. Supporting this allocation will be new spine road running north south through the allocation and connecting in the south with the proposed new spine road through Timperley Wedge.

1.1.10 These allocations form part of the large number of development plans and aspirations in this part of Greater Manchester with a view to creating a diverse neighbourhood with homes, offices and hotels. Plans include:

- Completing the development of Airport City immediately around the airport, which will provide a total of around 500,000 sq m of office, logistics, hotel and advanced manufacturing space.
- Delivering approximately 60,000 sq m of office floorspace around the new HS2 station.
- Providing sufficient development opportunities to take full advantage of the introduction of HS2 and NPR into this location.

1.1.11 Manchester Airport Group (MAG) has a number of obligations in relation to the future local highway network as a result of previous planning applications. These improvements are known as the Rainbow works and include:

- Upgrading of Runger Lane and Thorley Lane to provide an extra west bound lane to the existing single carriageway road and an improved west bound on slip to M56 at J6. (Terminal 2 Phase 2 Planning condition)
- Blue works improvements at M56 junction 6 including the removal of the roundabouts, the installation of traffic signals and changes to the slip roads
- Yellow works – a new dual carriageway between Terminal 2 and M56 junction 6 replacing the existing Thorley Lane and Runger Lane, along with further work to the slip road improvements to the junction of Runger Lane and Avro Way.
- Red works – additional mainline capacity on the M56 J5-J6

HS2

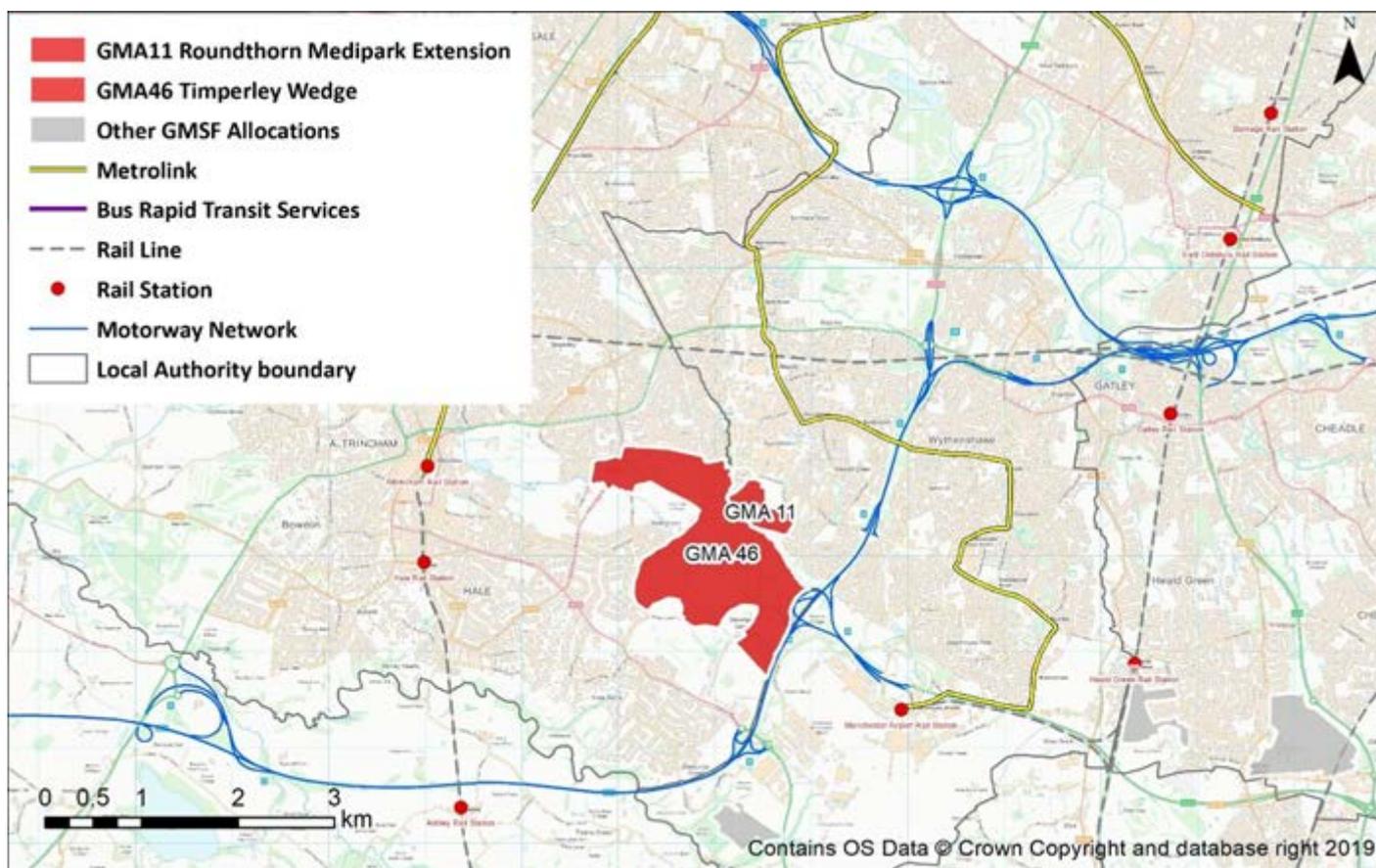
1.1.12 Phase 2b of High Speed Rail 2 is proposed to have a station at Manchester Airport. The station location is within Timperley Wedge to the west of the M56. It is anticipated that

Phase 2b of HS2 will begin operating trains around 2033 as part of the integrated HS2 network and with the rest of the UK rail network. In February 2020 the government announced its intention to proceed with HS2 Phase 2b and an Integrated Rail Plan is currently being prepared for the Midlands and the north. This will consider how to integrate HS2, Northern Powerhouse Rail (NPR) and other rail investments. The Oakervee Review concluded in early 2020 and the Government has signalled its intent to continue with HS2. The Hybrid Bill for Phase 2B has not been before parliament and it therefore is not yet considered to be a 'committed' scheme for the Locality Assessment work. Its impact has therefore not been included within the analysis. It is anticipated that further work will be undertaken in relation to these allocations and their interaction with HS2. A study is currently underway which aims to develop a strategic approach to mitigate the significant impacts of HS2, NPR and other major development including GMSF and Airport City in the vicinity of Manchester Airport. This multi modal Highway and Transport Study is required to manage access to the Manchester Airport area and develop an approach to mitigating the impact on the M56 which can be implemented in phases over a period of time as developments are realised but which provides a holistic solution.

- 1.1.13 Construction of HS2 requires part of the Timperley Wedge allocation (So while the implications of HS2 in terms of its traffic impact are not considered as part of this locality assessment, HS2s impact on the phasing of the development is implicit within the development profile of the site). The implications of this are that this element of the allocation could not be released until construction of HS2 has been completed (this is unlikely to be before 2033 and currently expected to closer to the end of the plan period). This may impact upon the ability to complete the Timperley Wedge Spine Road ahead of completion of HS2 in this area, the route of the spine road may also be subject to change as a result of HS2, however these risks are considered to be minimal as it is assumed that the existing local road network would remain in place throughout construction of HS2.
- 1.1.14 In Summary the impact of HS2 has not been included within this locality assessment as it is not yet a committed scheme at this location. It is however acknowledged that a HS2 / NPR station at this location would have a significant impact on the local and strategic road network. In the event of HS2 receiving confirmation a detailed piece of work would be required to look at the combine impact of these development allocations alongside the HS2 development.

- 1.1.15 The locations of the Timperley Wedge and Roundthorn Medipark allocations are illustrated in Figure 1 below. Note that all boundaries shown were correct at time of writing – for definitive boundary information refer to the GMSF allocation maps.
- 1.1.16 For the purposes of the testing the impact of the allocation through the strategic model, a total of 2,500 dwellings (Timperley Wedge) and 86,000sqm of employment land (Roundthorn Medipark) 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.
- 1.1.17 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.

Figure 1. Location map Roundthorn Medipark Extension and Timperley Wedge



Since the production of these images the reference numbers of the allocations have changed: GMA11 and GMA46 have been renamed to GMA3.1 and GMA3.2 respectively.

2. Justification for Allocation Selection

2.1.1 Together, Medipark and Timperley Wedge present one of the very best opportunities for a strategic location in the UK, offering outstanding potential to help the City Region to achieve its ambition. The allocation is already a well-connected location adjoining Manchester Airport and the M56 Motorway, on the edge of one of the UK's major growing and thriving cities, and close to the countryside of Cheshire.

3. Key Issues from Consultation

3.1.1 The comments made during the 2019 GMSF consultation relate to three key transport themes: roads, sustainable/active transport and HS2.

3.1.2 Roads comments note that existing roads, such as Ridgeway Road, Wood Lane, Park Road and Thorley Lane, are already congested and that rural lanes cannot cope with the level of traffic. Additionally, the surrounding roads will be impacted by the allocation and parking will become more of an issue. Whilst there is support from some consultees for the new spine road through the allocation, connecting Altrincham with Manchester Airport and Wythenshawe Hospital, other consultees are concerned that the Well Green residential area will be used as a rat-run.

3.1.3 Sustainable/active transport comments highlight that the volume of traffic is a safety concern for cyclists and that dedicated cycle lanes are needed. Whilst the need for more investment in the Metrolink network and other public transport is needed, some consultees note that whilst the new Metrolink stop proposed at Davenport Green will provide access to Manchester, there is no easy route to Altrincham.

3.1.4 HS2 comments raise concerns that the HS2 proposals and related construction traffic have not been given enough consideration within the development proposals at Timperley Wedge.

3.1.5 In discussions with representatives of Trafford Council, they noted that the alignment of the spine road was of interest to consultees and that generally there was support for not

using existing rural lanes to serve the allocation. The Thorley Lane bridge over the M56 motorway is also the likely route for the spine road motorway crossing and for HS2 construction traffic, rather than a new motorway crossing. They also indicated that the Manchester Airport Metrolink Line, Western Leg extension to Davenport Green could potentially be delivered early, with the remaining section to the Airport delivered following the completion of HS2 works. Representatives of Trafford Council also highlighted the potential for existing rural lanes to be designated as Quiet Lanes, with a bus rapid transit route incorporated into the spine road proposals. Deviations to the current spine road alignment could also be considered to reduce traffic impacts at key bottlenecks, such as the A5144 Thorley Lane/Clay Lane/Wood Lane junction.

3.1.6 Representatives of Highways England note that traffic impact associated with the scale of the allocation is likely to cause significant delay. They also highlight that significant impacts are likely to occur on the M56 motorway and the wider SRN.

3.1.7 There were specific comments in relation to the Roundthorn Medipark Extension relating to the impact on access to the hospital and the need to safeguard land for the Metrolink extension.

4. Existing Network Conditions and Allocation Access

4.1.1 The A5144 Thorley Lane connects the A560 to the north with Timperley Wedge, while the Thorley Lane bridge over the M56 motorway provides access to the south of the allocation and subsequently on to the M56 via either junction 5 or junction 6 via Runger Lane. The Thorley Lane bridge also provide access to the east of the allocation on to the A555.

4.1.2 Floats Road provides access from the north of Roundthorn Medipark Extension to University Hospital South Manchester, beyond this Hollyhedge Road or Southmoor Road provide access to the A560.

4.1.3 Whitecarr Lane through the Roundthorn Medipark allocation provides access to Junction 4 of the M56. Whitecarr Lane is rural in character with no street lighting and narrow width. Whitecarr Lane leads to the Newall Green residential area, there are a number of residential streets within Newall Green which lead to Junction 4 of the M56. These are standard residential streets with wide footways and street lighting. The junctions through

this area are priority junctions. The character and standard of highways including Whitecarr Lane and those within Newall Green mean they are unable to support the additional traffic from the proposed development.

4.1.4 A number of local roads lead from Thorley Lane towards the centre of Timperley Wedge including Shay Lane, Roaring Gate Lane, Clay Lane and Dobbinetts Lane. The junctions along these roads are priority controlled, with most as simple T-junction arrangements, with a compact roundabout at the A5144 Thorley Lane/Clay Lane/Wood Lane Junction.

4.1.5 All of these roads currently exist and provide access to Timperley Wedge, however they are largely rural in character with insufficient street lighting and narrow widths, mostly without footways, many within an approximate range of 6m wide, making them unable to support the proposed development in their current form.

4.1.6 The Roundthorn Medipark Extension is served by buses serving the hospital via Southmoor Rd, Hospital Rd, the northern part of Floats Road and Ledson Rd. Although there are bus stops on Floats Rd to the south of the hospital, these are not in use, as services have not used this route for many years. The hospital, and area to the north of it, is served by several services providing regular links to Stockport, Altrincham and the Trafford Centre. Timperley Wedge is served by a stop to the east of the allocation on Thorley Lane with one hourly service, to the south of the allocation on a stop on Shay lane and to the east of the allocation with stops on Runger Lane/Thorley Lane.

4.1.7 There is currently a traffic-free cycle route that passes through Timperley Wedge in a north-south direction, providing access to Timperley and beyond. While National Cycle Route 85 passes along Runger Lane, which is accessible from the Thorley Lane bridge over the M56 motorway. The allocation is therefore served by existing cycle infrastructure.

4.1.8 A number of rights of way provide walking links across the allocation, including a crossing of the M56 close to the proposed HS2 station.

5. Proposed Allocation Access

5.1.1 To the east of the Roundthorn Medipark and Timperley Wedge traffic would access the allocations via the M56 and the A555. To the north of the site the access routes are primarily Southmoor Road and Hollyhedge Road on to Floats Road adjacent to the

University Hospital South Manchester. To the west of the allocations access is via A5144 Thorley Lane.

- 5.1.2 The nature of existing wider strategic highway connections to Roundthorn Medipark Extension and Timperley Wedge are such that, future development traffic associated with the site would effectively be channelled towards a number of new access points created by the construction of two new spine roads. Few other access options exist, as the remaining local road links are rural in character meaning that they are unsuitable to accommodate significant future traffic levels associated with additional major employment and residential development. It is therefore clear that the future operational performance of these strategic connection points is critical to the allocations being fully realised.
- 5.1.3 A comprehensive concept Masterplanning exercise has been completed for Timperley Wedge allocation and Roundthorn Medipark is being considered alongside current proposals for the wider redevelopment of the University Hospital South Manchester site.
- 5.1.4 An allocation framework plan for Timperley Wedge was prepared in January 2019 . Whilst the connections to existing roads/lanes are shown, this plan shows a new spine road through the centre of the allocation, which runs from Clay Lane in the north, across the M56 motorway, to Runger Lane in the south. In addition, the allocation framework plan shows indicative connections from the A5144 Thorley Lane and Clay Lane to adjacent development parcels, where access would most likely take the form of priority controlled junctions.
- 5.1.5 The Timperley Wedge Masterplan (2020) retains the spine roads through the Timperley Wedge allocation and indicates improved pedestrian and cycle routes to the south of Timperley Wedge. Appendix A contains a plan of the proposed Spine Roads, the layout of this route is indicative at this stage and may be subject to change through the masterplanning process and has not yet been optimised to take account of emerging proposals including HS2 and Metrolink. Access from the individual development plots would most likely take the form of priority controlled junction with ghost islands onto the spine road and existing local road network. Figure 2 below indicates the preliminary assumptions on access points for Timperley Wedge. Again, note that all boundaries shown

were correct at time of writing – for definitive boundary information refer to the GMSF allocation maps.

Figure 2. Timperley Wedge Access Arrangements



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Note that the layout of the spine road and access points are indicative at this stage and may be subject to change through the masterplanning process and has not yet been optimised to take account of emerging proposals including HS2 and Metrolink.

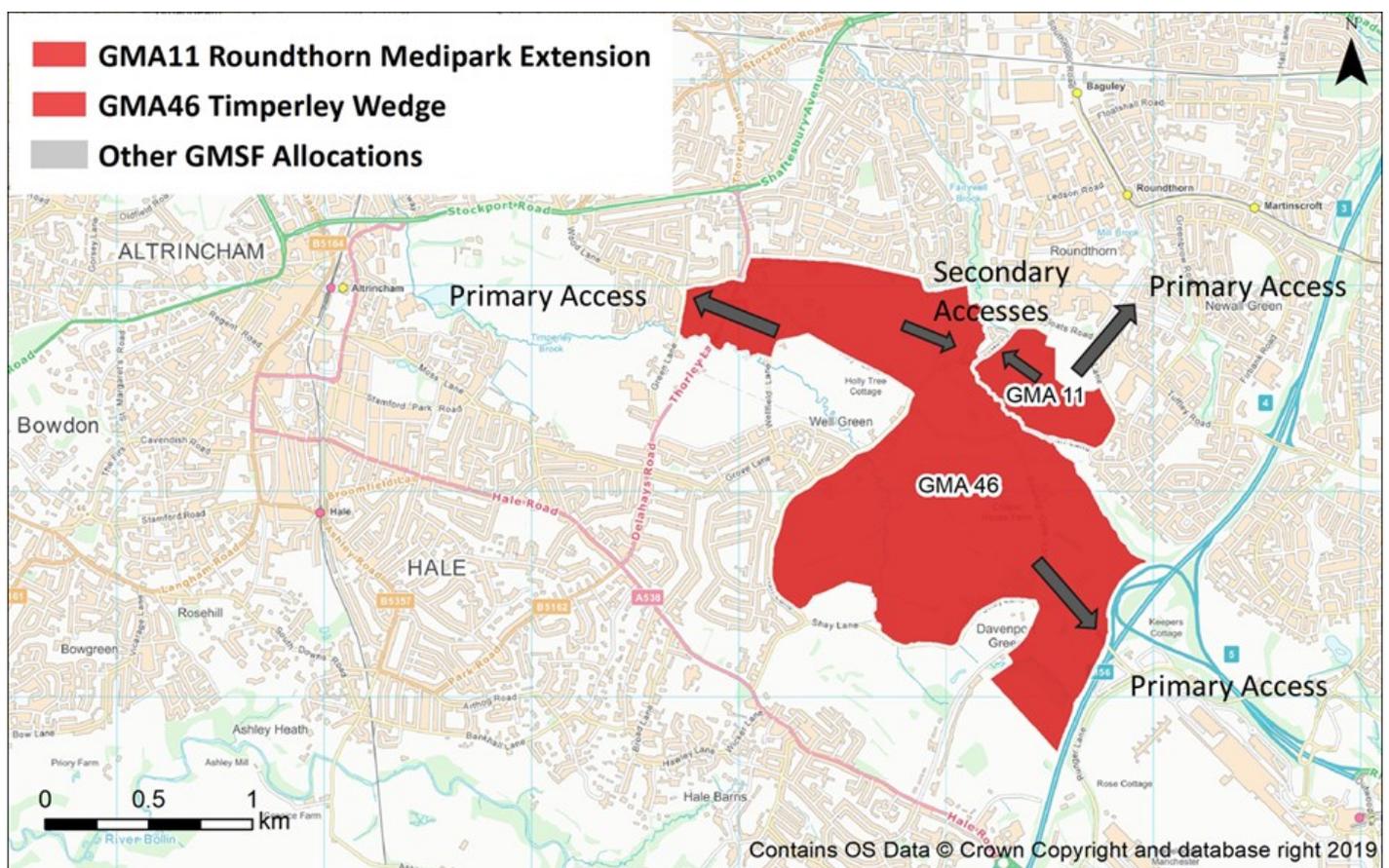
Source: Draft Timperley Wedge Masterplan 2020

- 5.1.6 Vehicular access from the existing road network to Roundthorn Medipark Extension would most likely be from Floats Road in the north, Dobbinetts Road to the west and via the Timperley Wedge and Roundthorn Medipark spine roads to the south from the M56 and A555.

5.1.7 In addition to the access provided by the existing strategic, primary and local road networks alongside the construction of a new spine road within both the Timperley Wedge allocation and the Roundthorn Medipark Extension allocation, access to the allocation will be delivered through a network of new safe cycle and walking routes, providing sustainable links through the allocation and to adjoining communities.

5.1.8 Figure 3 summarises the elements of the proposed access strategy for both Roundthorn Medipark and Timperley Wedge. Note that all boundaries shown were correct at time of writing – for definitive boundary information refer to the GMSF allocation maps.

Figure 3. Roundthorn Medipark Extension and Timperley Wedge Access Arrangements



Since the production of these images the reference numbers of the allocations have changed: GMA11 and GMA46 have been renamed to GMA3.1 and GMA3.2 respectively.

6. Multi-modal accessibility

6.1 Overview

6.1.1 The Timperley Wedge allocation has a Greater Manchester Accessibility Level (GMAL) of 1 to 3, which is low to mid-level accessibility and reflects both the size of the allocation and the current undeveloped nature of much of the allocation. Roundthorn Medipark Extension has a GMAL of 4 to 5 reflecting its proximity to both bus and Metrolink stops serving University Hospital South Manchester. Further explanation on GMAL can be found in the explanatory note.

Public Transport

6.1.2 Table 1 and 2 identifies the current accessibility of public transport for Roundthorn Medipark Extension and Timperley Wedge respectively, exploring the proximity and the frequency of travel during peak hours.

Table 1. Roundthorn Medipark Accessibility of and proximity to Public Transport.

Mode	Nearest Stop/ Station	Distance (Km)*	Peak Hour Frequency (Mins)
Bus	Greenbrow Road	0.6	15
Rail	Manchester Airport	2.6	12
Metrolink	Roundthorn	1.4	12

Table 2. Timperley Wedge (West) Accessibility of and proximity to Public Transport.

Mode	Nearest Stop/ Station	Distance (Km)*	Peak Hour Frequency (Mins)
Bus	Timperley Church	0.1	60
Rail	Hale	2.4	60
Metrolink	Roundthorn	1.8	12

Table 3. Timperley Wedge (East) Accessibility of and proximity to Public Transport.

Mode	Nearest Stop/ Station	Distance (Km)*	Peak Hour Frequency (Mins)
Bus	Thorley Lane	1	20
Rail	Manchester Airport	2.4	12
Metrolink	Roundthorn	1.8	12

6.1.3 For Roundthorn Medipark Extension the nearest bus stop is on Floats Road at the junction with Caldey Road. The bus stop is approximately 0.5km from the allocation and is served by 5 services providing connections to Stockport, Wythenshawe, Altrincham and the Trafford Centre.

6.1.4 For Timperley Wedge the nearest bus stop to the west of the allocation is Timperley Church on A5144 Thorley Lane which is served by one service with an hourly frequency serving Altrincham and Timperley. To the south of the allocation there are a number of stops on Shay Lane, Ash Lane and Grove Lane which are served by an hourly service between Altrincham and Hale Barns. To the east of the allocation the nearest stops are on Thornley Lane/Runger Lane which is served by 3 services providing linkages between Manchester airport and East Didsbury and the regional centre and between Stockport and the World Freight Centre.

6.1.5 The nearest Metrolink stop to Roundthorn Medipark Extension is Roundthorn, approximately 1 kilometre away, on the Manchester Airport to Victoria line, which is accessible via Dobbinetts Lane/Floats Road to the north of the allocations. There is currently no Metrolink stop within the vicinity of the Timperley Wedge allocation.

6.1.6 Timperley Wedge is equidistance between the rail station at Manchester airport to the west and Hale to the east. With the eastern edge of the allocation being approximately 2km from Manchester airport rail station and the western edge being 2 km from Hale railway station. Manchester airport station is the nearest rail station for Roundthorn Medipark Extension being approximately 2.5km away.

Walking and cycling

- 6.1.7 There is currently a traffic-free cycle route that passes through the Timperley Wedge allocation in a north-south direction, providing access to Timperley and beyond. The route connects with rural lanes and on-road advisory routes within the allocation, providing connections in all directions. There are dedicated on-road facilities on the A5144 Thorley Lane, which continues as off-road routes to the north and south. National Cycle Route 85 passes along Runger Lane, which is accessible from the Thorley Lane bridge over the M56 motorway. The allocation is therefore served by existing cycle infrastructure, although none of the on-road sections would be considered to be to current 'Bee Network' standard.
- 6.1.8 A number of rights of way provide walking links across the Timperley Wedge allocation, including a crossing of the M56 close to Junction 5.
- 6.1.9 There is scope to provide dedicated pedestrian and cycle facilities throughout both allocations and strengthen connections to neighbouring areas. There is the potential for existing rural lanes to be designated as Quiet Lanes, with a bus rapid transit route incorporated into the spine road proposals.
- 6.1.10 In terms of existing local amenities, there are education and employment opportunities within walking distance of the allocations, although it is noted that Newall Green School is closing in Summer 2021. When cycling is taken into account, health, retail and leisure amenities are also accessible in neighbouring urban areas. The Timperley Wedge allows for a new local centre with convenience shopping facilities, as well as a primary school and health and community facilities, to support the new community.
- 6.1.11 An analysis of existing cycling demand shows that the main concentration of cycling desire lines is across the M56 between Wythenshawe/Sharston and Newall Green/Wythenshawe, the Hospital and Timperley centre. This analysis is based on historic commuting trips which will alter significantly once new housing and employment is added. It is likely that routes across Davenport Green to Hale Barns and Thorley Lane currently attract local walking and cycling recreational journeys.
- 6.1.12 Manchester Airport plans to double the number of air passengers, in turn requiring up to 40,000 employees. The Airport developed a Sustainable Development Plan in 2016 which includes targets to increase staff numbers walking and cycling to work from 5% to 8%. This

includes plans for a potential cycle hub at the station. The Airport has worked with TfGM to develop the Airport City Enterprise Cycleway – a series of improved cycle links from the airport to residential areas in Wythenshawe, the hospital and town centre.

6.1.13 University Hospital South Manchester currently employs 5,500 staff and will be rebuilt over the next 10 years to include a specialist heart and lung centre for the north west. The Hospital Trust has published a Masterplan, Making Sense of Sustainable Healthcare 2018–2023 which includes a target to increase levels of active travel at all its allocations. The trust plans to invest in active travel infrastructure which can also be accessed by the local community and a programme of promotional events. The Trust has published route guidance for its students cycling from Fallowfield and Withington (up to 5 miles away), a sign of its commitment to its values and local cycling potential. A Wythenshawe Hospital Strategic Regeneration Framework is also being consulted on which supports improved opportunities for walking and cycling.

6.1.14 There are a number of primary schools located around the allocations which may supplement pupil places within any new education infrastructure. The closest secondary school is St Paul’s Catholic High school and Piper Hill High School located to the North East of the sites on Firbank Road, as Newall Green Secondary school closed in 2020.

Road Safety

6.1.15 In terms of road safety, there have been numerous road traffic collisions along Clay Lane, Thorley Lane, Hale Road and at the M56 Junction 6. Otherwise the safety record on roads within the allocations and at key local road links and junctions is generally good. Table 4 and 5 and Figure 4 shows the number of vehicle collisions between 2016 and 2018 within a kilometre area surrounding Timperley Wedge and Roundthorn Medipark respectively, this includes the allocations relevant junctions. There has been only two fatal incidents in this period.

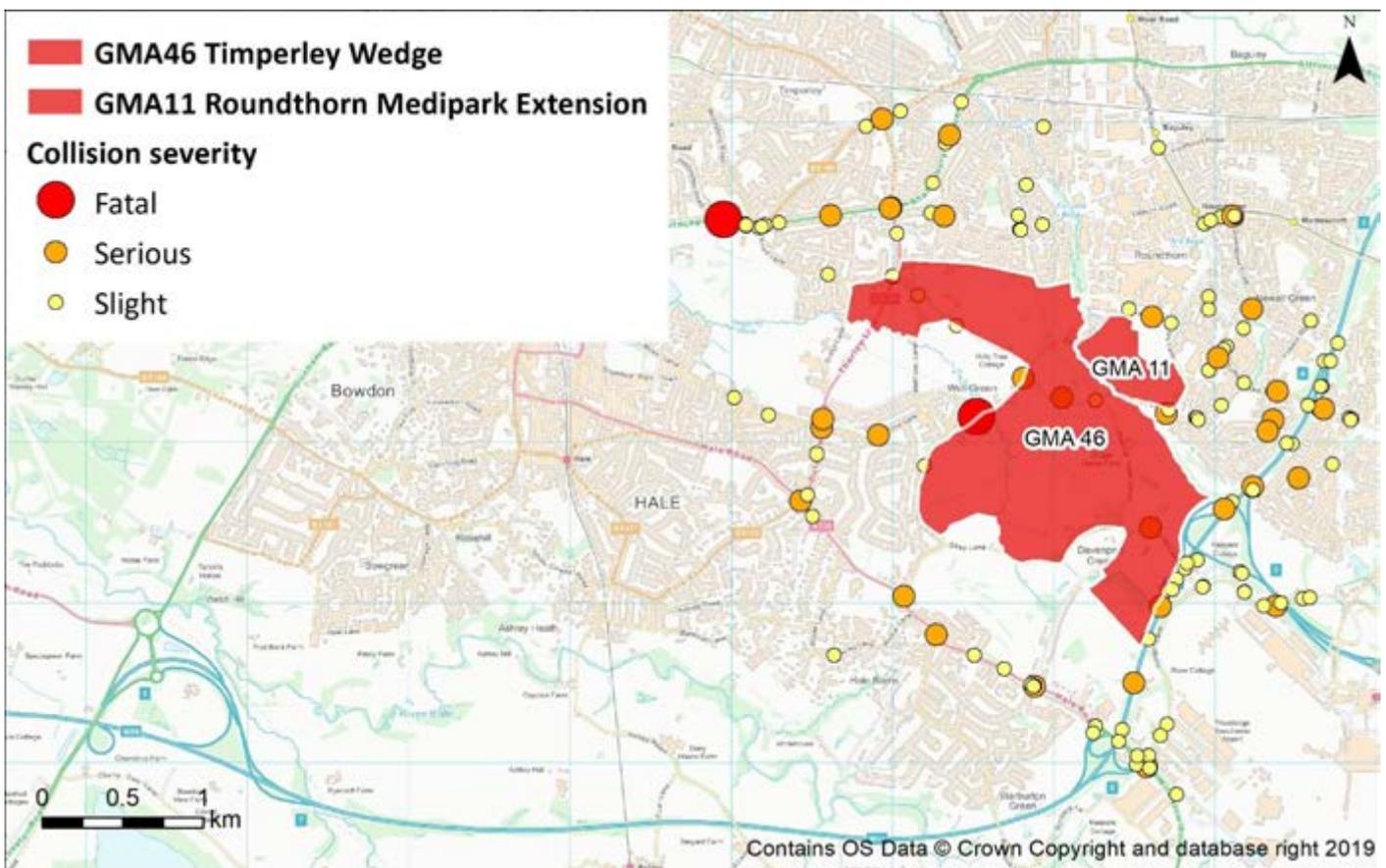
Table 4. Collision data within 1km of Roundthorn Medipark Extension 2016-2018

Fatal	Serious	Slight	Total
1	18	41	60

Table 5. Collision data within 1km of Timperley Wedge 2016-2018

Fatal	Serious	Slight	Total
2	21	65	88

Figure 4. Roundthorn Medipark and Timperley Wedge Collision map



All boundaries shown were correct at time of writing – for definitive boundary information refer to the GMSF allocation maps. Since the production of these images the reference numbers of the allocations have changed: GMA11 and GMA46 have been renamed to GMA3.1 and GMA3.2 respectively.

6.2 Proposed

- 6.2.1 The delivery of new transport infrastructure will contribute to the success of both Roundthorn Medipark Extension and Timperley Wedge. Two interventions are proposed to significantly enhance sustainable transport provision, namely the Manchester Airport Metrolink Line including the Western Leg extension and the Bus Rapid Transit route. These interventions will considerably improve the accessibility of Metrolink and other rail based services thereby encouraging sustainable travel and modal shift from car travel. They will also greatly improve access for existing and current residents to employment areas in the borough and in Manchester.
- 6.2.2 The Metrolink Western Leg is an extension of the Manchester Airport line linking to Manchester Airport Terminal 2 with proposed new stops in the Wythenshawe Hospital area, in the Newall Green area and in the Davenport Green area. TfGM have an established legal right to build and operate the extension through the powers granted by The Greater Manchester (Light Rapid Transit System) (Airport Extension) Order 1997. For this reason, the Timperley Wedge Masterplan (2020) has assumed to date that the Metrolink extension will follow the 1997 route.
- 6.2.3 However, the 1997 route could not anticipate the HS2 and NPR Manchester Airport station proposals which have now come forward. To comply with national, regional and local policy objectives – as well as HS2 Ltd’s Design Vision, which places an emphasis on connectivity, and Sustainability Policy that commits to “development of an integrated transport system” – TfGM are working with HS2 Ltd to make appropriate provisions in the HS2 Phase 2b Hybrid Bill for a variant of the Metrolink alignment to serve the HS2/NPR station.
- 6.2.4 The new HS2 Manchester Airport station is proposed on land within the south eastern corner of the allocation. This is unlikely to be operational until the latter stages of the GMSF plan period. Construction of the HS2 railway and station will greatly enhance the connectivity of the allocation, enabling denser residential development, a local centre and employment uses to be delivered close to the local centre of Timperley Wedge and the HS2 station.

- 6.2.5 Note that the traffic impact of HS2 has not been included within this locality assessment as it is not yet a committed scheme at this location. It is however acknowledged that a HS2 / NPR station at this location would have a significant impact on the local and strategic road network. In the event of HS2 receiving confirmation a detailed piece of work would be required to look at the combine impact of these development allocations alongside the HS2 development.
- 6.2.6 A BRT link between Altrincham and Manchester Airport, which will pass through and serve the site. This will enable frequent, rapid and reliable connections from the site to Altrincham and the Airport.
- 6.2.7 Alongside the Bus Rapid transit proposal there is potential to extend the existing 102 service which currently operates between Manchester city centre and University Hospital South Manchester to operate through both allocations.
- 6.2.8 There is scope to provide dedicated pedestrian and cycle facilities throughout the development allocation and strengthen connections to neighbouring areas. There is the potential for existing rural lanes to be designated as Quiet Lanes, with a bus rapid transit route incorporated into the spine road proposals.
- 6.2.9 Roundthorn Medipark and Timperley Wedge should meet the following requirements:
- Incorporate a route for cycling and BRT to improve east west connections between Altrincham, HS2 and the Airport
 - Deliver a network of new safe cycle and walking routes throughout the allocations
- 6.2.10 In addition to the employment and housing on the allocation, important local destinations which can be reached on foot and bike include the Hospital, the Airport, the proposed Davenport Green interchange, and local centres in Wythenshawe, Hale, Altrincham, Timperley, and the existing rail and tram links at Roundthorn and the Airport.
- 6.2.11 The proposed TfGM Bee network includes a fast Beeway between the allocation and Altrincham Town Centre plus a number of secondary Beeways connecting the area with residential areas to the south, west and north.
- 6.2.12 The following walking and cycling links are proposed:

- Fully segregated Cycle way to fast Beeway standards along the proposed Spine Road with integrated connections to Green Lane and Timperley in the west, and to Thorley Lane and the Airport in the east.
- Fully segregated Beeway linking Hale Road to the Spine Road via Brooks Drive (with a connection to the proposed HS2 interchange and Metrolink stop if progressed).
- Signalised crossings providing safe crossings of the Spine Road at key locations.
- Improved connection with proposed Beeway at Whitecarr Lane. This provides onward connections to the Hospital, Roundthorn employment allocations and Metrolink, Northenden (and the city centre), and Sale.
- Safe walking and cycling routes within the development which provide connectivity between the routes above and door to door sustainable transport options between residential areas, workplaces, planned schools and local centres.

6.2.13 The proximity of several large employment allocations, the proposed airport bike hub and multiple opportunities for integration with tram and rail services make this an ideal opportunity to trial a local bike share scheme in combination with improved cycling infrastructure.

7. Parking

7.1 Roundthorn Medipark Extension

7.1.1 The following parking standards for business park development are set out in Manchester City Council's Core Strategy Development Plan Document (Appendix B):

- 1 car parking space per 35 sq. metres.
- 1 cycle parking space per 200 sq. metres.

These standards are the starting point for discussions with developers.

7.2 Timperley Wedge

7.2.1 The following parking standards for residential development are set out in Trafford Council's Supplementary Planning Document 3: Parking Standards and Design, these are current standards and may change in future:

- Car parking - maximum 1 space (1 bed), 2 spaces (2-3 bed) and 3 spaces (4+ bed) per dwelling.
- Cycle parking - minimum 2 spaces (1 bed), 3 spaces (2-3 bed) and 6 spaces (4+ bed) per dwelling (if no garage).

8. Allocation Trip Generation and Distribution

8.1.1 Future trip generation to/from the allocations (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. (Note that this was based on an estimated development quantum and an indicative split between houses and apartments). 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.

Table 6. Development Quantum: Roundthorn Medipark Extension

Use	Use Sub Category	Development Quantum (sqm) 2025	Development Quantum (sqm) 2040
Office	B1a	0	86000
Total		0	86000

Table 7. Development Quantum: Timperley Wedge

Residential	Houses	64	1343
Residential	Apartments	16	1086
Total		80	2429

Table 8. Allocation Traffic Generation: Roundthorn Medipark Extension

Year	AM Peak Hour Departures	AM Peak Hour Arrivals	PM Peak Hour Departures	PM Peak Hour Arrivals
2025 GMSF Constrained	0	0	0	0
2025 GMSF High-Side	0	0	0	0
2040 GMSF Constrained	207	892	790	147
2040 GMSF High-Side	275	1045	790	185

Units are in PCU (passenger car units/hr)

Table 9. Allocation Traffic Generation: Timperley Wedge

Year	AM Peak Hour Departures	AM Peak Hour Arrivals	PM Peak Hour Departures	PM Peak Hour Arrivals
2025 GMSF Constrained	26	8	13	29
2025 GMSF High-Side	26	10	16	29
2040 GMSF Constrained	683	184	328	755
2040 GMSF High-Side	698	257	427	755

Units are in PCU (passenger car units/hr)

8.1.2 Tables 8 and 9 provide a summary of the development trips associated with Roundthorn Medipark Extension and Timperley Wedge allocations. It can be seen that the number of departures and arrivals between the constrained and high side scenarios varies in the AM peak hour for both arrivals and departures and departures in the PM at 2040 for Timperley Wedge and arrivals in the PM for Roundthorn Medipark.

8.1.3 Table 10 and 11 indicates the distribution of traffic on the network to and from the allocations.

8.1.4 Note that these distributions take account of the closure of Whitecarr Lane and Clay Lane/Barnacre Avenue, this mitigation is to prevent through traffic to prevent development traffic using these routes to access Simonsway and junction 4 of the M56. These measures are discussed in more detail in section 12.

**Table 10. Allocation Traffic Distribution, 2040 GMSF High-Side (Origin/Destination Combined):
Roundthorn Medipark Extension**

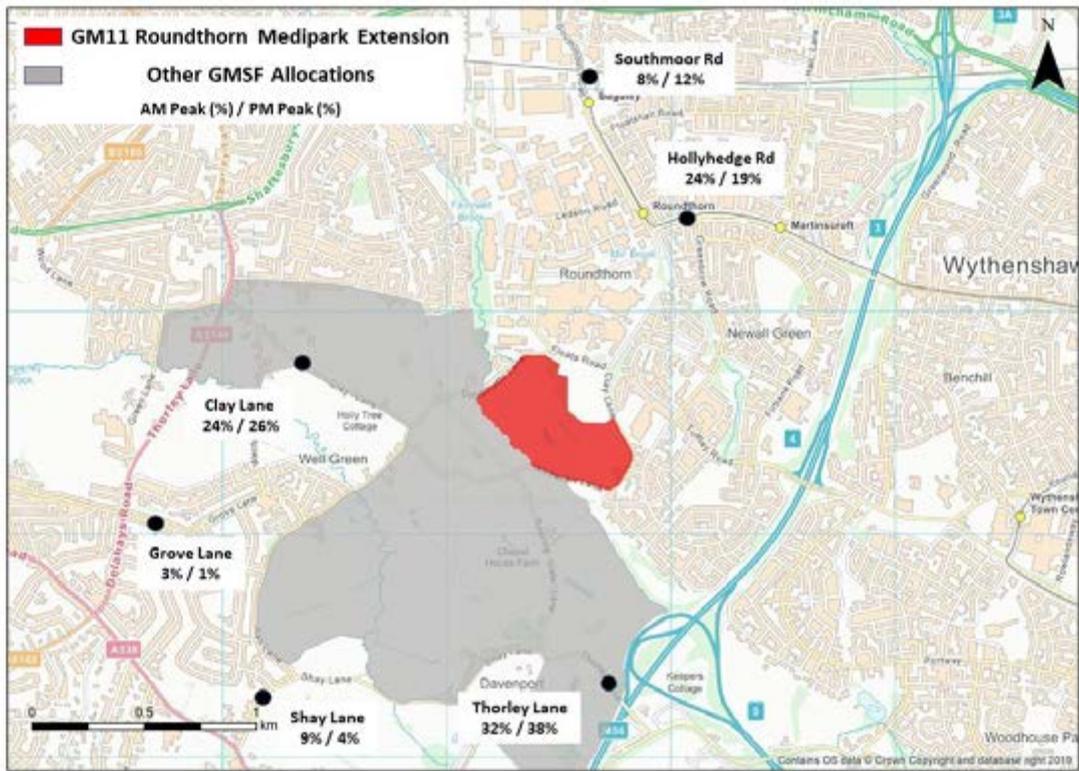
Route	AM Peak Hour	PM Peak Hour
Thorley Lane	32%	38%
Shay lane	9%	4%
Grove Lane	3%	1%
Clay Lane	24%	26%
Southmoor Road	8%	11%
Hollyhedge Road	24%	19%

**Table 11. Allocation Traffic Distribution, 2040 GMSF High-Side (Origin/Destination Combined):
Timperley Wedge**

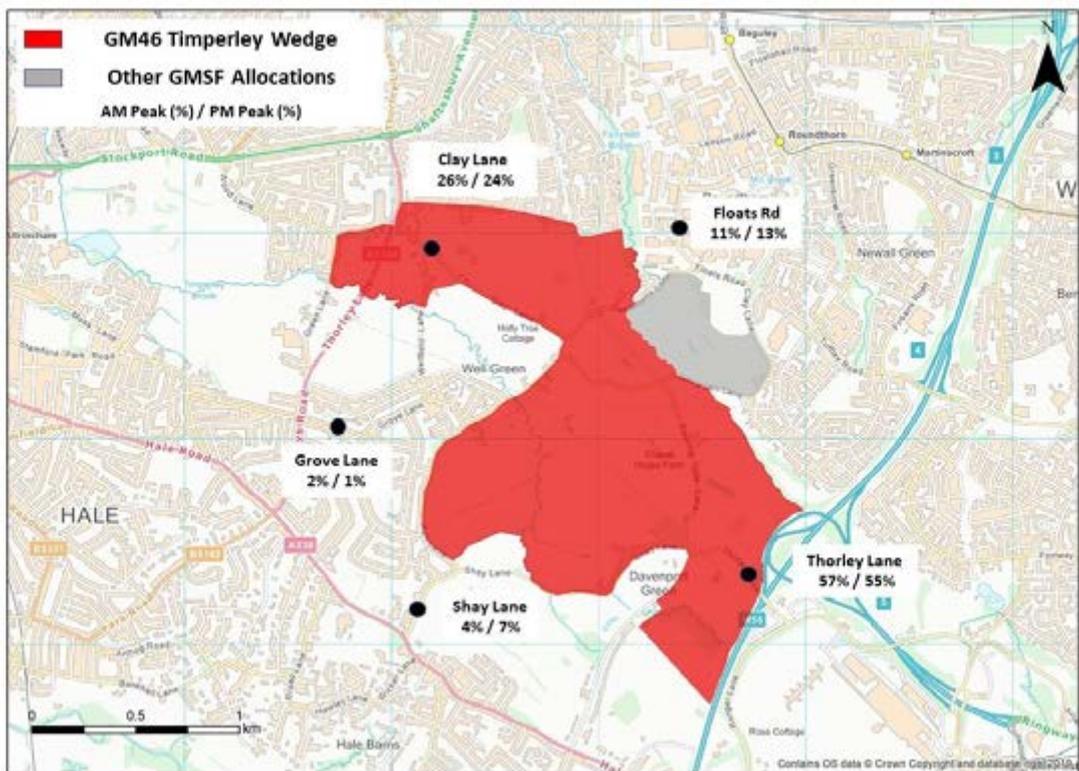
Route	AM Peak Hour	PM Peak Hour
Thorley Lane	57%	54%
Shay lane	4%	7%
Grove Lane	1%	1%
Clay Lane	26%	24%
Floats Road	11%	13%

8.1.5 Figures 5 and 6 provides a visual representation of the distribution across the network. (Note that site boundaries are correct at time of writing – for definitive boundary information please refer to the GMSF allocation maps.)

**Table 12. Allocation Traffic Distribution, 2040 GMSF High-Side (Origin/Destination Combined):
Roundthorn Medipark Extension**



**Figure 5. Allocation Traffic Distribution, 2040 GMSF High-Side (Origin/Destination Combined):
Timperley Wedge**



All boundaries shown were correct at time of writing – for definitive boundary information refer to the GMSF allocation maps. Since the production of these images the reference numbers of the allocations have changed: GMA11 and GMA46 have been renamed to GMA3.1 and GMA3.2 respectively.

9. Current Highway Capacity Review

9.1.1 The A5144 Thorley Lane is a single carriageway road subject to a 30-40mph speed limit with on-road cycle facilities. It passes through the north-west corner of Timperley Wedge and forms part of Trafford's Primary Resilient Network. It provides a key route from Timperley in the north to Hale and Hale Barns in the south with onward routes towards Altrincham and the M56 Junction 6. Outside of the allocation where it meets the A560, these sections of road currently suffer heavy congestion in the AM peak and minor congestion in the PM peak.

9.1.2 Other roads in the locality, including those within the allocations, are generally a lower classification. Clay Lane, Dobbinetts Road, Whitecarr Lane, Thorley Lane (across the M56 motorway) and Shay Lane are all rural in character and generally subject to the national speed limit. They all form part of Trafford's Secondary Resilient Network, suggesting they are well used and are important routes locally. Routes through the Newall Green residential area to the east of Roundthorn Medipark allocation are single carriageways with 20mph speed limit, they are residential in nature and suffer congestion in the peaks.

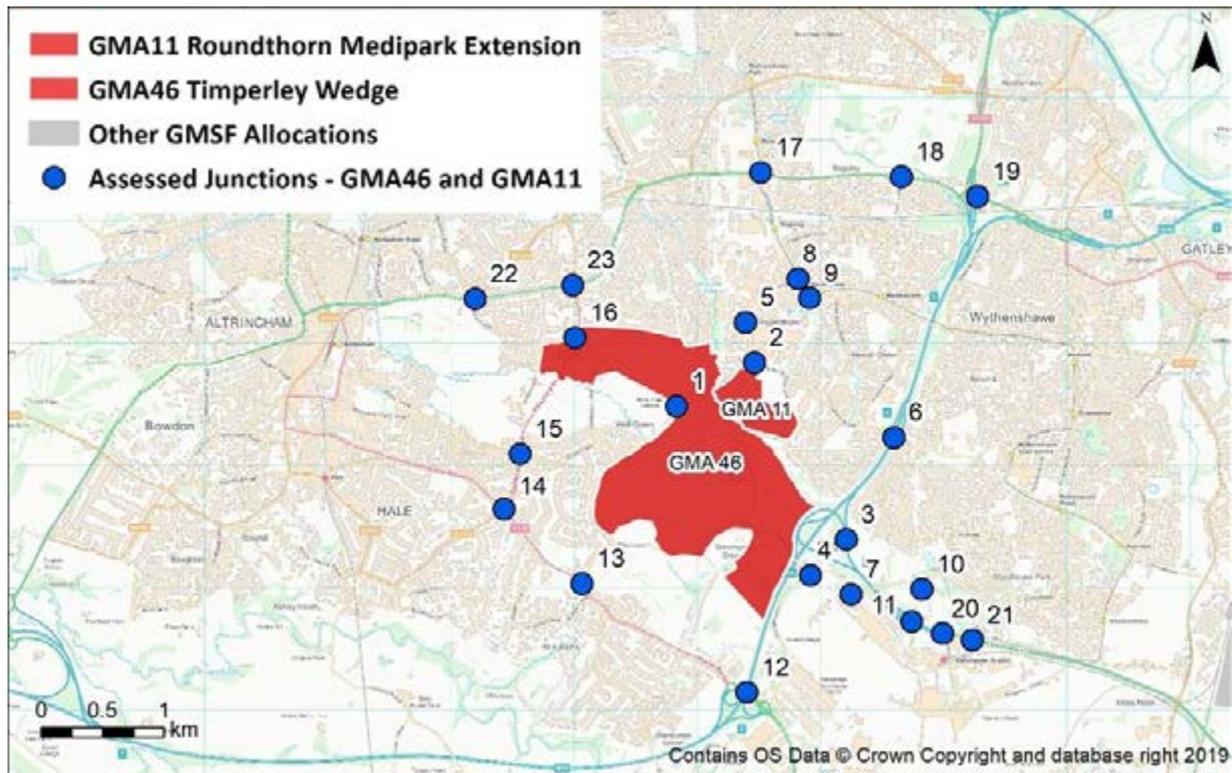
9.1.3 The M56 runs to the south of the allocation connecting Cheshire and Manchester. During the AM peak there is congestion, however at PM peak times there is heavy congestion and slow moving traffic in both directions. The Thorley Lane bridge over the M56 provides access into Timperley Wedge and on to Roundthorn Medipark Extension. This route suffers minor congestion during the PM peak. A Smart Motorway improvement is proposed for the M56 junction 6 – 8.

9.1.4 There are a number of junctions in proximity to the allocation where additional traffic could have an impact on their operation based on existing conditions. The following junctions have been modelled to understand the impact on the local road network. These junctions are shown in figure 7.

1. Clay Lane / Dobbinetts Lane

- 2.** Dobbinetts Lane / Floats Road
- 3.** M56 Junction 5
- 4.** Thorley Lane/Runger Lane
- 5.** Floats Road/Southmoor Road
- 6.** M56 Junction 4
- 7.** Thornley Lane/Palma Avenue
- 8.** Ledson Road/Southmoor Road
- 9.** Southmoor Road/Hollyhedge Road
- 10.** Thorley Lane/Enterprise Way
- 11.** Terminal 2 Roundabout
- 12.** M56 Junction 6
- 13.** Hale Rd/Shay Ln
- 14.** A538 Hale Road/A5144 Delahays Road/B5162 Park Road
- 15.** A5144 Delahays Road/Grove Lane
- 16.** A5144 Thorley Lane/Clay Lane/Wood Lane
- 17.** Southmoor Road/A560 Altrincham Road
- 18.** Hall Lane/A560 Altrincham Road
- 19.** M56 Junction 3a
- 20.** Ringway Road/Airport spur/Outwood Lane
- 21.** Enterprise Way/ A555 Ringway Road
- 22.** A560 Shaftesbury Avenue/B5165 Stockport Road/Wood Lane/Moss Lane
- 23.** A560 Shaftesbury Avenue/A5144 Thorley Lane

Figure 6. Assessed junctions: Roundthorn Medipark Extension and Timperley Wedge



All boundaries shown were correct at time of writing – for definitive boundary information refer to the GMSF allocation maps. Since the production of these images the reference numbers of the allocations have changed: GMA11 and GMA46 have been renamed to GMA3.1 and GMA3.2 respectively.

9.1.5 It can be seen therefore that a wide study area has been taken for the traffic modelling exercise due to the scale of the proposed development and potential traffic generation.

10. Treatment of Cumulative Impacts

10.1.1 The constrained and high side model runs take account of traffic associated with all GMSF allocations. Within 3km of the allocation is the GMA10 Global Logistics which is allocated for 25,000sqm of employment. Therefore, at a local level, the transport impacts of the GMA10 Global Logistics need to be considered cumulatively with the GMSF allocations Roundthorn Medipark Extension and Timperley Wedge. The cumulative impact is considered within this report, GMA10 is included within all the analysis within this report.

10.1.2 The Timperley Wedge allocation is forecast to generate approximately 955 to 1182 two-way vehicle trips during the morning and evening peak hours (GMSF High side); the

Roundthorn Medipark Extension allocation is forecast to generate approximately 975 to 1320 in two way vehicle trips during the morning and evening peak hours. The GMA10 Global logistics allocation is expected to generate approximately 110 to 155 two-way vehicle trips during the morning and evening peak hours (GMSF High side). The combined impact of these trips will have a more significant impact on the network than that of Roundthorn Medipark Extension and Timperley Wedge in isolation, hence the need to assess the cumulative impact.

11. Allocation Access Assessment

11.1.1 Vehicular access to the Roundthorn Medipark Extension and Timperley Wedge as a whole would be as per the access strategy set out in Chapter 5. In summary the following are the most suitable means of primary access/egress to and from the allocation.

- A5144 Thorley Lane/Timperley Wedge Spine Road
- Thorley Lane/Runger Lane
- Roundthorn Medipark Spine Road/ Floats Road
- Dobbinetts Lane

11.1.2 In order to achieve access using Dobbinetts Lane, the carriageway leading to the access points will be widened to a suitable standard.

11.1.3 For the Timperley Wedge allocation Individual parcels of land would feed out principally onto the spine road, apart from small parcels of land which accesses onto the following locations on the local road network:

- A5144 Thorley Lane,
- Clay Lane,
- Alder Drive and
- Dobbinetts Lane.

11.1.4 Assessment based on the number of dwellings in these land parcels has indicated that priority junctions with ghost islands would be appropriate to accommodate the level of traffic anticipated here (except in the case of Alder Drive where a priority junction would be more appropriate).

11.1.5 It is important to highlight that there are a number of other accesses within the development boundary of Timperley Wedge, these are not considered within this document as they are internal access and will be addressed separately as part of the masterplanning process. It is assumed that priority junctions with ghost islands will be used for land parcels accessing onto the Timperley Wedge Spine Road.

11.1.6 As the site is progressed site access arrangements should produce 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.

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 level of housing and employment in the existing urban land supply 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.

12.1.3 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 junctions on the ground. Junctions 9 software was used to assess priority and roundabout junctions. Table 12 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.

12.1.4 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.

The assessments included within this document for Roundthorn Medipark and Timperley Wedge have been based on the improvements known as the Rainbow works covering Junction 6 of the M56 and Runger Lane and the Smart Motorway improvement between junction 6 and junction 8 of M56 being provided. (The Rainbow works consists of the following:

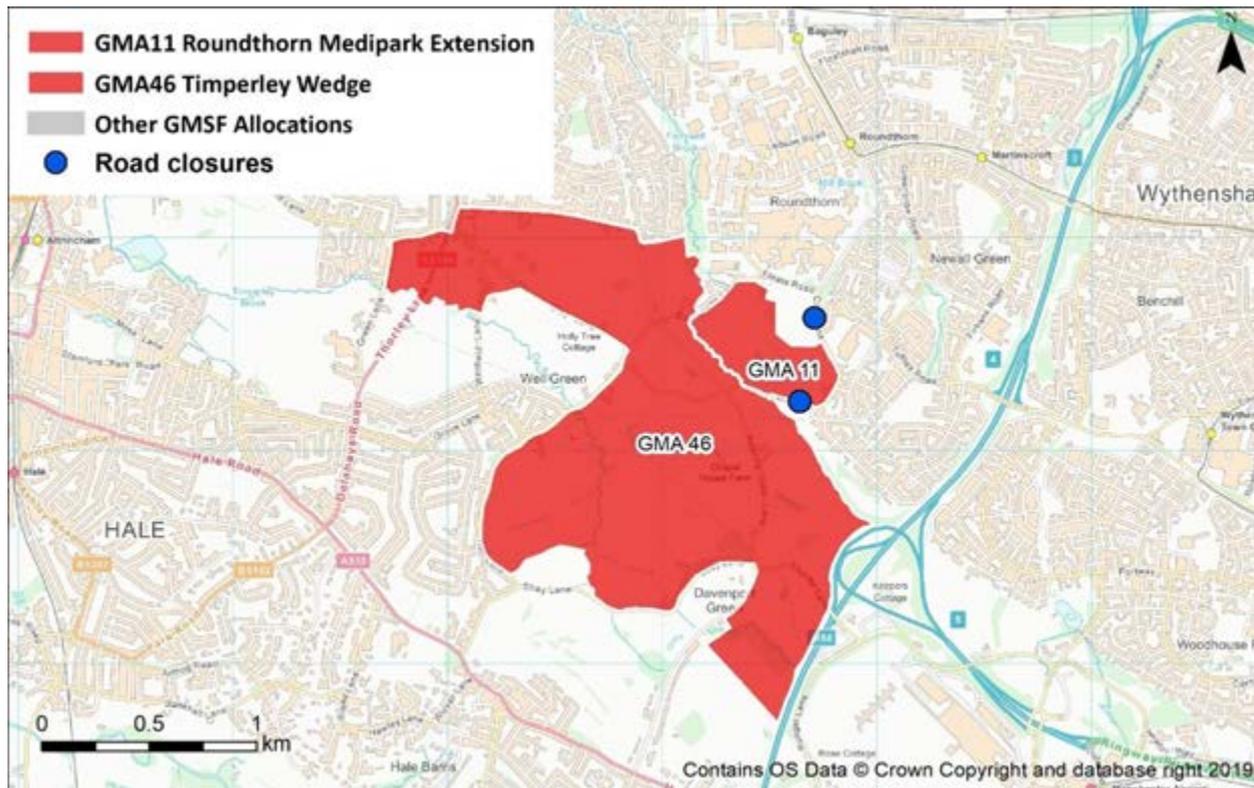
- Upgrading of Runger Lane and Thorley Lane to provide an extra west bound lane to the existing single carriageway road and an improved west bound on slip to M56 at J6. (Terminal 2 Phase 2 Planning condition.) See Appendix 3.
- Blue works improvements at M56 junction 6 including the removal of the roundabouts, the installation of traffic signals and changes to the slip roads
- Yellow works – a new dual carriageway between Terminal 2 and M56 junction 6 replacing the existing Thorley Lane and Runger Lane, along with further work to the slip road improvements to the junction of Runger Lane and Avro Way.
- Red works – additional mainline capacity on the M56 J5-J6.)

12.1.5 Following an initial modelling exercise it was apparent that a significant amount of traffic from both Roundthorn Medipark Extension and Timperley Wedges utilise routes including Whitecarr Lane, Newall Road and Greenbrow Road to access Simonsway and junction 4 of the M56. Whitecarr Lane is currently a narrow rural lane with no road markings. While Newall Road and Greenbrow Road are both residential streets with traffic calming measures incorporated. Greenbrow Road includes a school zone with measures to slow traffic down.

12.1.6 The local road network here is not appropriate for the level of development traffic which is forecast to use these routes. Given the nature of the routes and location of large amounts of residential properties and a school it is not proposed that improvements be made to these routes to accommodate the development traffic. Mitigation is proposed to

prevent development traffic using these routes. It is proposed that Whitecarr Lane and Clay Lane/Barnacre Avenue are both closed to through traffic to prevent development traffic using these routes to access Simonsway and junction 4 of the M56, access would still be provided for cyclists and pedestrians.

Figure 7. Proposed road closures



All boundaries shown were correct at time of writing – for definitive boundary information refer to the GMSF allocation maps. Since the production of these images the reference numbers of the allocations have changed: GMA11 and GMA46 have been renamed to GMA3.1 and GMA3.2 respectively.

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

12.1.8 Note that Junctions 9 is an empirical model based on numbers rather than exact real word behaviour. The 999% output is as result of the Ratio of Flow to Capacity (RFC) exceeding the models parameters. The model is telling us that it will be extremely difficult for traffic to make the movement in question. This is probably due to the volume of traffic which those vehicles will have to give way to. In effect the model is saying that no one can make the movement so the queue builds exponentially. In reality the junction will not be this bad, drivers will go for smaller gaps than the model accepts also the model takes no account for driver courtesy if the opposing flow is busy drivers will usually give way.

Table 13. Results of Local Junction Capacity Analysis Before Mitigation: Roundthorn Medipark Extension and Timperley Wedge

Junction	Reference Case AM	Reference Case PM	GMSF High AM	GMSF High PM	GM 3.1 Flows AM	GM 3.1 Flows PM	GM 3.2 Flows AM	GM 3.2 Flows PM
1. Clay Lane / Dobbinetts Lane	161	128	103	142	424	385	348	454
2. Dobbinetts Lane / Floats Road	148	124	999	170	599	93	393	150
3. M56 Junction 5	All merges and diverges over capacity	102	211	65	252			
M56 Junction Northbound Merge	E3 to 4	F3 to 5	E3 to 4	F3 to 5				
M56 Junction Southbound Merge	E4 to 5	E4 to 5	E4 to 5	E4 to 5				
M56 Junction Northbound Diverge	E5 to 3	D4 to 3	E5 to 3	D4 to 3				
M56 Junction Southbound Diverge	D5 to 4	D5 to 4	E6 to 4	D5 to 4				
4. Thorley Lane/Runger Lane	82	87	111	102	330	582	279	668
5. Floats Road/Southmoor Road	60	70	90	100	592	90	389	140

Junction	Reference Case AM	Reference Case PM	GMSF High AM	GMSF High PM	GM 3.1 Flows AM	GM 3.1 Flows PM	GM 3.2 Flows AM	GM 3.2 Flows PM
6. M56 Junction 4	87	85	64	70	33	4	40	14
7. Thornley Lane/Palma Avenue	64	82	86	94	155	345	195	343
8 Ledson Road/Southmoor Road	21	37	78	61	430	58	235	73
9. Southmoor Road/Hollyhedge Road	64	55	73	78	370	60	339	111
10. Thorley Lane/Enterprise Way	72	74	81	78	62	136	108	83
11. Terminal 2 Roundabout	96	106	108	113	40	205	57	207
12. M56 Junction 6	116	117	126	120	247	248	104	374
13. Hale Rd/Shay Ln	88	92	80	54	95	31	31	86
14. A538 Hale Road/A5144 Delahays Road/B5162 Park Road	108	169	105	184	23	25	49	36
15 A5144 Delahays Road/Grove Lane	136	110	100	99	82	43	93	60

Junction	Reference Case AM	Reference Case PM	GMSF High AM	GMSF High PM	GM 3.1 Flows AM	GM 3.1 Flows PM	GM 3.2 Flows AM	GM 3.2 Flows PM
16. A5144 Thorley Lane/Clay Lane/Wood Lane	137	132	157	167	194	183	146	208
17. Southmoor Road/A560 Altrincham Road	76	74	88	95	196	56	110	55
18. Hall Lane/A560 Altrincham Road	63	62	73	71	119	49	98	45
19 M56 Junction 3a	97	99	118	109	122	53	100	51
20 Ringway Road/Airport spur/Outwood Lane	87	84	97	90	80	30	10	51
21 Enterprise Way/ A555 Ringway Road	81	84	89	89	103	123	108	100
22. A560 Shaftesbury Avenue/B5165 Stockport Road/Wood Lane/Moss Lane	90	74	91	82	128	63	58	48
23. A560 Shaftesbury Avenue/A5144 Thorley Lane	151	152	147	146	79	141	89	162

12.1.9 As shown in the table above 12 of the 23 junctions assessed continue to operate within capacity in the 2040 AM and PM scenarios with GMSF High traffic on the network and so do not require any mitigation, these are:

- Floats Road/Southmoor Road
- M56 Junction 4
- Thornley Lane/Palma Avenue
- Ledson Road/Southmoor Road
- Southmoor Road/Hollyhedge Road
- Thorley Lane/Enterprise Way
- Hale Rd/Shay Ln
- Southmoor Road/A560 Altrincham Road
- Hall Lane/A560 Altrincham Road
- A560 Shaftesbury Avenue/B5165 Stockport Road/Wood Lane/Moss Lane
- Enterprise Way/ A555 Ringway Road
- Ringway Road/Airport spur/Outwood Lane

12.1.10 In addition four of the 23 junctions do not require any mitigation as the junction already operates over capacity in the reference case scenarios and the additional traffic generated in the GMSF High scenario does not detrimentally effect the capacity of the junction.

- Clay Lane / Dobbinetts Lane
- A5144 Delahays Road/Grove Lane
- A560 Shaftesbury Avenue/A5144 Thorley Lane
- M56 Junction 5

12.1.11 Of the remaining seven junctions the following are approaching capacity in the reference and are taken over capacity with the additional traffic generated in the GMSF High Scenario and therefore require mitigation:

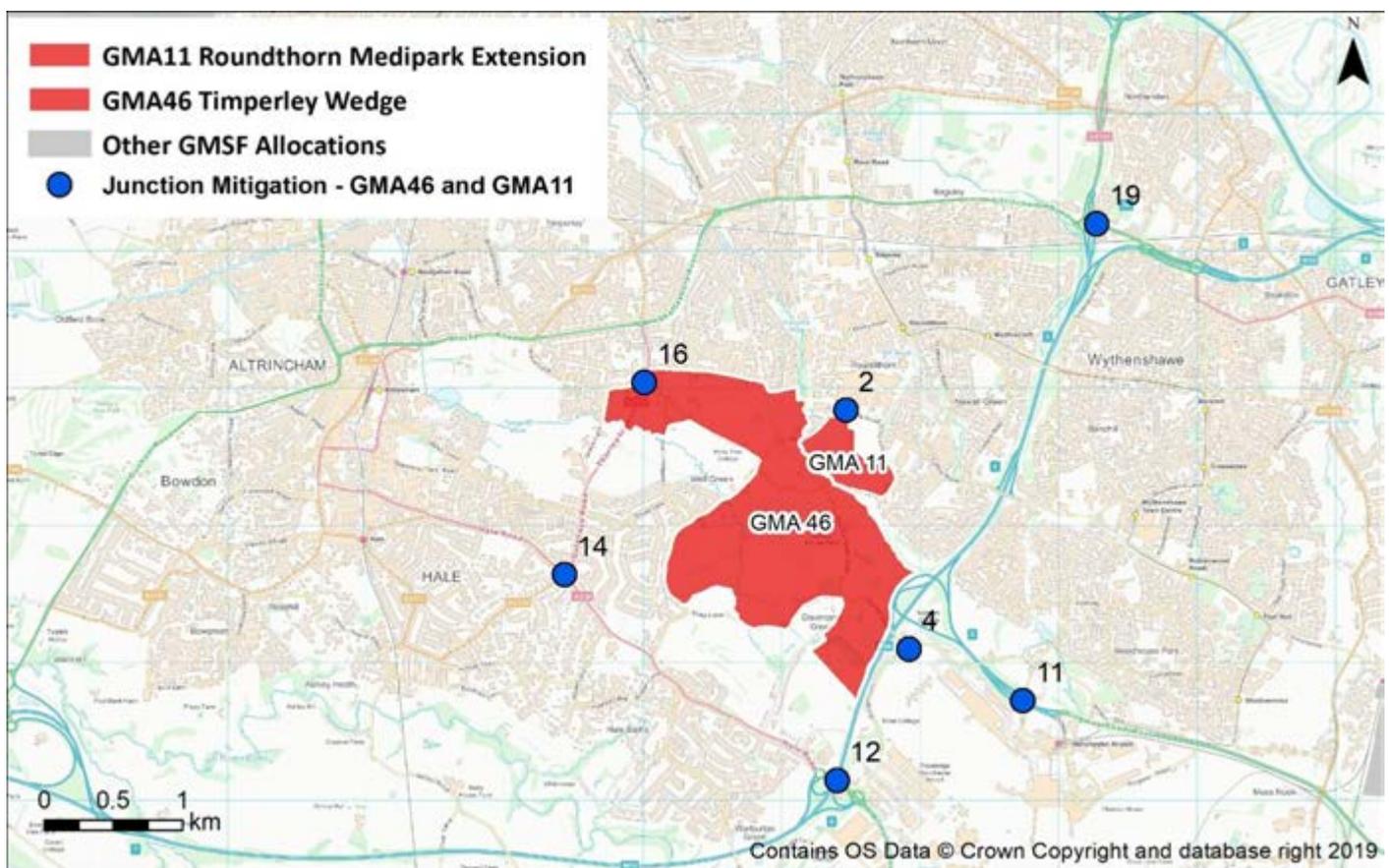
- Thorley Lane/Runger Lane
- Terminal 2 Roundabout
- M56 Junction 3a

12.1.12 While the following junctions are shown to operate significantly over capacity and worse than the reference scenarios with the additional traffic generated by GMSF in the 2040 scenarios and therefore mitigation will be required:

- Dobbinetts Lane / Floats Road.
- A5144 Thorley Lane/Clay Lane/Wood Lane
- M56 Junction 6

12.1.13 The mitigation proposals for these junctions will be discussed in the next section of this report. The location of these junctions is illustrated in figure 9 below.

Figure 8. Junctions where mitigation is identified as required.



All boundaries shown were correct at time of writing – for definitive boundary information refer to the GMSF allocation maps. Since the production of these images the reference numbers of the allocations have changed: GMA11 and GMA46 have been renamed to GMA3.1 and GMA3.2 respectively.

12.1.14 A538 Hale Road/A5144 Delahays Road/B5162 Park Road is operating significantly over capacity in the reference case and the local junction modelling indicated that with the additional GMSF traffic the junction operation was significantly impacted, however on closer examination of the flows in

this location the number of additional trips in this location from Roundthorn Medipark Extension and Timperley Wedge was minimal and the location of the junction is constrained, therefore no mitigation is proposed at this location. Further work is required to establish appropriate mitigation for this location.

13. Transport Interventions Tested on the Local Road Network

13.1.1 As highlighted in section 12 and Figure 8 it is proposed that Whitecarr Lane and Clay Lane/Barnacre Avenue are both closed to through traffic to prevent development traffic using these routes to access Simonsway and junction 4 of the M56. The local road network here is not appropriate for the level traffic from the allocations which is forecast to use these routes and the nature of the routes mean that it is not appropriate for improvements to be made to these routes to accommodate traffic from the allocations.

13.2 Specific Junction Mitigation

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

13.2.2 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.

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

Table 14. Approach to Mitigation: Roundthorn Medipark Extension and Timperley Wedge

Junction	Mitigation Approach
1. Clay Lane / Dobbinetts Lane	Reference and With GMSF results comparable – no mitigation proposed – to be addressed as part of internal site proposals
2. Dobbinetts Lane / Floats Road	Replace the three arm priority junction with a three arm signalised junction.
3. M56 Junction 5	Reference and With GMSF results comparable – no mitigation proposed
4. Thorley Lane/Runger Lane	Separate left turn stage from Thorley Lane to run with Thorley Lane North arm
5. Floats Road/Southmoor Road	Reference and With GMSF results comparable – no mitigation proposed
6. M56 Junction 4	Reference and With GMSF results comparable – no mitigation proposed
7. Thornley Lane/Palma Avenue	Reference and With GMSF results comparable – no mitigation proposed
8. Ledson Road/Southmoor Road	Reference and With GMSF results comparable – no mitigation proposed
9. Southmoor Road/Hollyhedge Road	Reference and With GMSF results comparable – no mitigation proposed
10. Thorley Lane/Enterprise Way	Reference and With GMSF results comparable – no mitigation proposed
11. Terminal 2 Roundabout	Replace the existing priority roundabout with a fully signalised roundabout.
12. M56 Junction 6	Both allocations impact on this junction. With the current tools available it has not been possible to identify mitigation at this location, further work is required in this location.
13. Hale Rd/Shay Ln	Reference and With GMSF results comparable – no mitigation proposed
14. A538 Hale Road/A5144 Delahays Road/B5162 Park Road	The highway is constrained in this location so appropriate on site mitigation is not possible. See paragraph 12.1.14.
15 A5144 Delahays Road/Grove Lane	Reference and With GMSF results comparable – no mitigation proposed

16. A5144 Thorley Lane/Clay Lane/Wood Lane	The link road access to the west of the site is proposed to create a new access onto Thorley Lane south of the junction with Clay Lane and Wood Lane. The new access would be a mini roundabout. The roundabout at Clay Lane and Wood lane would remain as it is and Clay lane will be changed to access only and blocked off at its junction with the new spine road.
17. Southmoor Road/A560 Altrincham Road	Reference and With GMSF results comparable – no mitigation proposed
18. Hall Lane/A560 Altrincham Road	Reference and With GMSF results comparable – no mitigation proposed
19 M56 Junction 3a	A new free flow bypass lane from the western local road arm to the M56 on slip and localised widening on the eastern arm.
20 Ringway Road/Airport spur/Outwood Lane	Reference and With GMSF results comparable – no mitigation proposed
21 Enterprise Way/ A555 Ringway Road	Reference and With GMSF results comparable – no mitigation proposed
22. A560 Shaftesbury Avenue/B5165 Stockport Road/Wood Lane/Moss Lane	Reference and With GMSF results comparable – no mitigation proposed
23. A560 Shaftesbury Avenue/A5144 Thorley Lane	Reference and With GMSF results comparable – no mitigation proposed

13.3 Dobbinetts Lane

13.3.1 It is proposed to widen Dobbinetts Lane to a suitable standard, along its length, this requires widening to certain sections of this route. The upgrading of this route is to provide a suitable standard to accommodate the level of traffic from both Roundthorn Medipark Extension and Timperley Wedge.

13.4 Timperley Wedge Spine Road

13.4.1 To support Timperley Wedge a new spine road through the centre of the allocation is proposed, which runs from Thorley Lane in the north, across the M56 motorway, to Runger Lane in the south. A plan of this indicative route is provided in Appendix A.

13.5 Roundthorn Medipark Spine Road

13.5.1 To support a new spine road through the centre of the allocation is proposed, which runs from Floats Road in the north, across Whitecarr Lane, to Timperley Wedge Spine Road in the south. A plan of this indicative route is provided in Appendix A.

13.6 Extension of bus service 102

13.6.1 It is proposed to extend service 102 through Roundthorn Medipark Extension and Timperley Wedge to Manchester Airport and increase the frequency to four buses per hour. Contributions would be sought from the development of the allocations to subsidise the additional services and route extension.

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

14.1.1 Further local junction modelling analysis was undertaken to confirm the satisfactory operation of the junctions.

14.1.2 The following table summarises the results of the junctions on the LRN with the proposed mitigation schemes in place.

Table 15. Results of Local Junction Capacity Analysis After Mitigation: Roundthorn Medipark Extension and Timperley Wedge

Junction	Reference Case AM	Reference Case PM	GMSF High AM	GMSF High PM
1. Clay Lane / Dobbinetts Lane	161	128	103	142
2. Dobbinetts Lane / Floats Road	148	124	88	88
3. M56 Junction 5*	All merges and diverges over capacity			
M56 Junction Northbound Merge	E3 to 4	F3 to 5	E3 to 4	F3 to 5
M56 Junction Southbound Merge	E4 to 5	E4 to 5	E4 to 5	E4 to 5
M56 Junction Northbound Diverge	E5 to 3	D4 to 3	E5 to 3	D4 to 3
M56 Junction Southbound Diverge	D5 to 4	D5 to 4	E6 to 4	D5 to 4
4. Thorley Lane/Runger Lane	82	87	99	88
5. Floats Road/Southmoor Road	60	70	90	100
6. M56 Junction 4	87	85	64	70
7. Thornley Lane/Palma Avenue	64	82	86	94
8 Ledson Road/Southmoor Road	21	37	78	61
9. Southmoor Road/Hollyhedge Road	64	55	73	78
10. Thorley Lane/Enterprise Way	72	74	81	78
11. Terminal 2 Roundabout	96	106	77	68
12. M56 Junction 6	116	117	126	120

13. Hale Rd/Shay Ln	88	92	80	54
14. A538 Hale Road/A5144 Delahays Road/B5162 Park Road	108	169	105	184
15 A5144 Delahays Road/Grove Lane	135.9	110	100	99
16. A5144 Thorley Lane/Clay Lane/Wood Lane	137	132	112	122
17. Southmoor Road/A560 Altrincham Road	76	74	88	95
18. Hall Lane/A560 Altrincham Road	63	62	73	71
19 M56 Junction 3a	97	99	94	86
20 Ringway Road/Airport spur/Outwood Lane	87	84	97	90
21 Enterprise Way/ A555 Ringway Road	81	84	89	89
22. A560 Shaftesbury Avenue/B5165 Stockport Road/Wood Lane/Moss Lane	90	74	91	83
23. A560 Shaftesbury Avenue/A5144 Thorley Lane	151	152	147	146

* Merge and diverge traffic flow assessments have been undertaken as per Figures 3.12 and 3.26 in DMRB CD 122 Geometric design of grade separated junctions. These have been used to determine the required merge and diverge layout for base traffic levels and base + GMSF traffic flows for the junction merges and diverges to operate safely and within capacity. The assessments have been completed for both the morning and evening peak traffic flows.

14.1.3 As shown in the table above the proposed mitigation schemes at the junctions listed below reduce the impact the of the additional traffic generated by GMSF at the following locations:

- 2. Dobbinetts Lane/Floats Lane
- 4. Thorley Lane/Runger Lane
- 11 Terminal 2 Roundabout
- 16 A5144 Thorley Lane/Clay Lane/Wood lane
- M56 Junction 3a

14.1.4 All the results reported above refer to the 2040 scenario. The level of GMSF development in this location by 2025 is considered to be minimal with no development anticipated on Roundthorn Medipark prior to 2025 and an estimated 80 dwellings anticipated on Timperley Wedge.

15. Impact and mitigation on Strategic Road Network

15.1 Overview

15.1.1 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.

15.1.2 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. Further discussion and transfer of information between TfGM, Highways England and the Local Authorities will be required to ensure points of agreement can be set out in a statement of common ground relating to the acceptability of GMSF allocations in advance of the Examination in Public (EiP).

15.2 Impact of the Allocation before Mitigation on the Strategic Road Network

15.2.1 The following tables summarize the results of the assessment of the SRN junctions which are impacted by the allocation.

15.2.2 The assessments included within this document for Roundthorn Medipark and Timperley Wedge have been based on the improvements known as the Rainbow works covering Junction 6 of the M56 and Runger Lane and the Smart Motorway improvement between junction 6 and junction 8 of M56 being provided.

Table 16. Results of strategic junction capacity analysis before mitigation – Year 2040 Roundthorn Medipark Extension and Timperley Wedge

Junction	Reference Case AM	Reference Case PM	GMSF High AM	GMSF High PM	GM 3.1 Flows AM	GM 3.1 Flows PM	GM 3.2 Flows AM	GM 3.2 Flows PM
3. M56 Junction 5*	All merges and diverges over capacity	102	211	65	252			
M56 Junction Northbound Merge	E3 to 4	F3 to 5	E3 to 4	F3 to 5				
M56 Junction Southbound Merge	E4 to 5	E4 to 5	E4 to 5	E4 to 5				
M56 Junction Northbound Diverge	E5 to 3	D4 to 3	E5 to 3	D4 to 3				
M56	D5 to 4	D5 to 4	E6 to 4	D5 to 4				

Junction	Reference Case AM	Reference Case PM	GMSF High AM	GMSF High PM	GM 3.1 Flows AM	GM 3.1 Flows PM	GM 3.2 Flows AM	GM 3.2 Flows PM
Junction Southbound Diverge								
6. M56 Junction 4	87	85	64	70	33	4	40	14
12. M56 Junction 6	116	117	126	120	247	248	104	374
19. M56 Junction 3a	97	99	118	109	122	53	100	51

* Merge and diverge traffic flow assessments have been undertaken as per Figures 3.12 and 3.26 in DMRB CD 122 Geometric design of grade separated junctions. These have been used to determine the required merge and diverge layout for base traffic levels and base + GMSF traffic flows for the junction merges and diverges to operate safely and within capacity. The assessments have been completed for both the morning and evening peak traffic flows.

- 15.2.3 As shown in the table above there are 4 junctions on the SRN which will be impacted by Roundthorn Medipark Extension and Timperley Wedge. Both M56 junction 5 and junction 6 are significantly over capacity in the reference scenario and development traffic from the allocations impacts on these junctions. With the current tools available it has not been possible to identify mitigation at this location, further work is required in this location. As highlighted in section 1 a study is currently underway which aims to develop a strategic approach to mitigate the significant impacts of HS2, NPR and other major development including GMSF and Airport City in the vicinity of Manchester Airport. This multi modal Highway and Transport Study is required to manage access to the Manchester Airport area and develop an approach to mitigating the impact on the M56 which can be implemented in phases over a period of time as developments are realised but which provides a holistic solution.
- 15.2.4 Junction 4 of the M56 is under capacity in the reference case and as discussed in section 12, following an initial modelling exercise it was apparent that a significant amount of traffic from both Roundthorn Medipark Extension and Timperley Wedge utilises routes including Whitecarr Lane, Newall Road and Greenbrow Road to access Simonsway and junction 4 of the M56. The local road network here is not appropriate for the level of development traffic which is forecast to use these routes. Given the nature of the routes and location of large amounts of residential properties it is not proposed that improvements be made to these routes to accommodate the development traffic. Mitigation is proposed to prevent development traffic using these routes. It is proposed that Whitecarr Lane and Clay Lane/Barnacre Avenue are both closed to through traffic to prevent development traffic using these routes to access Simonsway and junction 4 of the M56 (See Figure 8). Therefore the results above take account of the closure of these routes, which explains the improvement in conditions at junction 4 in the with GMSF scenario.
- 15.2.5 Junction 3a of the M56 is approaching capacity in the reference scenario and is shown to be significantly over capacity in the 2040 GMSF High Scenario.

15.3 Transport Interventions tested on the Strategic Road Network

- 15.3.1 Mitigation is proposed for M56 junction 3, the current layout is an unsignalised grade separated junction, the mitigation scheme involves a new free flow bypass lane from the western local road arm to the M56 on slip and localised widening on the eastern arm. An indicative outline design drawing of the mitigation is included in Appendix 2.

Table 17. Summary of SRN Junction Mitigation Measures

No.	Junction	Mitigation Approach
19	M56 Junction 3	A new free flow bypass lane from the western local road arm to the M56 on slip and localised widening on the eastern arm.

15.4 Impact of Interventions on the Strategic Road Network

15.4.1 The following table provides a summary of the capacity analysis results with the proposed mitigation schemes in place.

Table 18. Results of Local Junction Capacity Analysis After Mitigation: Roundthorn Medipark Extension and Timperley Wedge

Junction	Reference Case AM	Reference Case PM	GMSF High AM	GMSF High PM
4. M56 Junction 5	All merges and diverges overcapacity			
M56 Junction Northbound Merge	E3 to 4	F3 to 5	E3 to 4	F3 to 5
M56 Junction Southbound Merge	E4 to 5	E4 to 5	E4 to 5	E4 to 5
M56 Junction Northbound Diverge	E5 to 3	D4 to 3	E5 to 3	D4 to 3
M56 Junction Southbound Diverge	D5 to 4	D5 to 4	E6 to 4	D5 to 4
7. M56 Junction 4	87	85	64	70
13. M56 Junction 6	116	117	126	120
20 M56 Junction 3	97	99	94	86

15.4.2 As shown the free flow bypass lane and widening arrangement at junction 3 is shown to operate within capacity and is comparable with the reference case for 2040 in this location.

16. Final list of interventions

16.1.1 The proposed final list of interventions is summarised in Table 18. Figure 9 earlier in this document provides a plan of the junctions where local junction modelling has indicated mitigation is required. The mitigations address both issues identified through the local junction modelling exercise and the key points raised in the earlier consultation process.

Table 19. Final List of Interventions Roundthorn Medipark Extension and Timperley Wedge

	See below – Timperley Wedge and Roundthorn Medipark Spine Road
Alder Drive	T Junction
Dobbinetts Lane	Priority three arm junction
16. A5144 Thorley Lane/Clay Lane/Wood Lane	The link road access to the west of the site is proposed to create a new access onto Thorley Lane south of the junction with Clay Lane and Wood Lane. The new access would be a mini roundabout. The roundabout at Clay Lane and Wood lane would remain as it is and Clay lane will be changed to access only and blocked off at its junction with the new spine road.
Necessary Strategic Interventions	
Timperley Wedge Spine Road	To support the site a new spine road through the centre of the site is proposed, which runs from Thorley Lane in the north (new three arm roundabout), across the M56 motorway, to Runger Lane in the south See Appendix A for indicative outline design
Roundthorn Medipark Spine Road	To support the site a new spine road through the centre of the site is proposed, which runs from Floats Road in the north (new signalised junction), across Whitecarr Lane, to Timperley

	<p>Wedge Spine Road in the south (signalised junction). Including bridge over Fairywell Brook</p> <p>See Appendix A for indicative outline design</p>
Supporting Strategic Mitigations	
BRT	BRT link from Altrincham to Manchester Airport through Timperley Wedge allocation, running along spine road.
Metrolink Western Leg Extension	Metrolink western leg extension from Roundthorn to Newall Green/Timperley Wedge, including a turnback.
M56 Junction 5 and wider corridor improvement	Improvement to be determined
M56 Junction 6	Improvement to be determined
Necessary Local Mitigations	
Whitecarr Lane	Blocking access to through traffic (see Figure 8).
Clay Lane/Barnacre Avenue	Blocking access to through traffic (See Figure 8).
Clay Lane	Blocking access to through traffic. The new Timperley Wedge Spine Road will provide a new access on to Thornley Lane at the western end of the site south of the junction with Clay Lane and Wood Lane. It is proposed therefore to block access to through traffic at this point (also see mitigation at junction 17 A5144 Thornley Lane/Clay Lane/ Wood Lane).
2. Dobbinetts Lane / Floats Road	Replace the three arm priority junction with a three arm signalised junction (See Figure 9).
Dobbinetts Lane	It is proposed to widen Dobbinetts lane to a suitable standard, this will require widening of specific sections rather than the whole length. The upgrade will provide a route to a suitable standard to accommodate the level of traffic from both GM3.1

	and GM3.2.
5. Thorley Lane/Runger Lane	Separate left turn stage from Thorley Lane to run with Thorley Lane North arm See Appendix C for outline design drawing
12. Terminal 2 Roundabout	Replace the existing priority roundabout with a fully signalised roundabout.
Bus gate at Clay Lane	Bus gate giving priority to BRT services along Clay Lane
Provision for future BRT	BRT proofing Timperley Wedge Spine Road; also provision of BRT stops.
Bus service improvements	Extension of 102 through the site at current 2 buses per hour
Metrolink stop	Metrolink stop on Western Leg extension to serve allocation
SRN Interventions	
20. M56 Junction 3	A new free flow bypass lane from the western local road arm to the M56 on slip and localised widening on the eastern arm. See Appendix B for indicative outline design drawing*

* Note that this is just a concept that demonstrates mitigation in this location is possible. The final solution will need to be holistically developed in conjunction with the airport, HS2 and Highways England.

16.1.2 Two interventions are proposed to significantly enhance sustainable transport provision, namely the Manchester Airport Metrolink Line, Western Leg extension and a Bus Rapid Transit route running east west through the Timperley Wedge allocation, including cycle route, between Altrincham, HS2 and the Airport. These interventions will considerably improve the accessibility of Metrolink and other rail based services thereby encouraging sustainable travel and modal shift from car travel. They will also greatly improve access for existing residents to employment areas in Trafford and Manchester. Contributions towards these two interventions will be required as part of the development of these allocations for example the Metrolink station at Timperley Wedge and BRT Bus stops within the site.

- 16.1.3 There is also potential to take advantage of some of the proposed mitigation to enhance conditions for sustainable modes, for example the blocking off of Clay Lane to mitigate A5144 Thorley Lane/Clay Lane/Wood Lane, Clay Lane would be retained for access only but should also act as a bus gate into Timperley Wedge.
- 16.1.4 It is also proposed to extend the 102 bus service through the allocations and to the Airport.
- 16.1.5 Dedicated pedestrian and cycle facilities will be provided throughout the development allocation and connections to neighbouring areas will be strengthened. The allocation should meet the following requirements:
- Incorporate a route for cycling and BRT to improve east west connections between Altrincham, HS2 and the Airport
 - Deliver a network of new safe cycle and walking routes throughout the allocation
- 16.1.6 The proposed TfGM Beeway network includes a fast Beeway between the allocation and Altrincham Town Centre plus a number of secondary Beeways connecting the area with residential areas to the south, west and north. The following walking and cycling links are proposed:
- Fully segregated Cycle way to Fast Beeway standards along the proposed Spine Road with integrated connections to Green Lane and Timperley in the west, and to Thorley Lane and the Airport in the east.
 - Fully segregated Beeway linking Hale Road to the Spine Road via Brook Drive (Brooks Drive is not adopted and there is currently no PROW through onto Hale Road) with a connection to the proposed HS2 interchange and Metrolink stop
 - Signal crossings providing safe crossings of the Spine Road at key locations
 - Improved connection with proposed Beeway at along Whitecarr Lane and towards Newall Green. This provides onward connections to the Hospital, Roundthorn employment allocations and Metrolink, Northenden (and the city centre), and Sale.
 - Safe walking and cycling routes within the development which provide connectivity between the routes above and door to door sustainable transport options between residential areas, workplaces, planned schools and local centres.
- 16.1.7 The proximity of several large employment allocations including Davenport Green, the proposed airport bike hub and multiple opportunities for integration with tram and rail services make this an ideal opportunity to trial a local bike share scheme in combination with improved cycling

infrastructure. There is also potential for the local centre to become a mobility hub with interchange option between modes.

17. Strategic Context – GM Transport Strategy Interventions

- 17.1.1 TfGM, in conjunction with both Trafford and Manchester Councils' have developed a number of wider transport proposals which will support travel around the Allocations. These include the Metrolink Western Leg extension. TfGM are also currently developing options for Bus Rapid Transit (BRT) services which would cut through Timperley Wedge and surrounding towns to the Airport. These proposals taken together will make it easier to travel by public transport and reduce people's reliance on the private car. Further interventions are likely to be proposed by Highways England, including options to improve capacity and traffic flow on the M56.
- 17.1.2 Greater Manchester has established a 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, which are set out in TfGM's 2040 Strategy and which represent the goals of that strategy are:
- Supporting sustainable economic growth;
 - Protecting the environment;
 - Improving quality of life for all; and,
 - Developing an innovative city region.
- 17.1.3 To achieve these goals, Greater Manchester must address several challenges. It must support a forecast increase in population of three million by 2040, provide at least 200,000 new homes and the same number of new jobs; all whilst reducing carbon emission by 80% by 2050 (from 1990 levels).
- 17.1.4 In addition to supporting the GMSF, delivering on these four key elements will support an increasingly successful economy recognised as being at the heart of the Northern Powerhouse; help tackle congestion and enable efficient and effective movement of people and goods; ensure transport contributes to high-quality, liveable and healthy neighbourhoods; and create an inclusive and accessible transport network that enables access to opportunities.

- 17.1.5 Greater Manchester's task is to determine how this growth can be accommodated sustainably, and the 2040 Strategy details the City Region's commitment to providing a transport system capable of supporting its wider social, economic and environmental objectives.
- 17.1.6 Currently, approximately 60% of all trips in Greater Manchester are made by car, and the majority of these are under 2km. TfGM's 2020-2025 Delivery Plan sets out an aspiration and a plan, to improve the transport system to enable a reduction in car use to no more than 50% of daily trips, with the remaining 50% made by public transport, walking and cycling, an objective referred to as the 'Right Mix' vision.
- 17.1.7 Achieving this vision will mean a million more trips can be made each day in Greater Manchester by 2040 with no increase in overall motor traffic.
- 17.1.8 It will enable the City Region to deliver on its economic growth ambitions without increasing overall motor traffic. To achieve this aim, cycling and walking needs to be the natural choice for short trips, people across Greater Manchester will need genuine alternatives to the private car, improvements to the existing transport network will be needed to improve its frequency and reliability, arresting the decline in bus patronage and continuing the growth on rail and Metrolink. In addition, new developments need to be designed to support sustainable transport, and town and district centres need to be planned to make sure they are pleasant, thriving and well connected, to encourage shorter, sustainable journeys over longer distance trips to the Regional Centre.
- 17.1.9 Streets for All is Greater Manchester's overarching framework which sets out a new way of thinking about the role of streets in creating sustainable, healthy and resilient places. It focuses on balancing the movement of people and goods alongside the creation of more people-friendly streets and places, making areas more attractive for pedestrians and cyclists as well as for public transport. Work is underway on a Streets for All Strategy which will set out how this framework will be rolled out. To support application of this new approach, TfGM will work with Districts to produce a Streets for All Design Guide that will establish key principles for new street infrastructure, identify best practice to support design of schemes, and provide an audit tool to ensure proposals meet the needs of all people who travel on our streets.
- 17.1.10 Key to delivering this Streets for All vision will be encouraging growth in bus patronage. More than three quarters of all public transport journeys in Greater Manchester are made by bus, and the bus plays a vital role in tackling congestion and providing access to work, leisure and other destinations.

Patronage on the bus network has been in decline, with an approximate 10% reduction since 2010. Greater Manchester has invested in its bus network in recent years and has committed significant funding to a number of interventions to improve bus travel.

- 17.1.11 Following the introduction of the Bus Services Act 2017, GMCA is considering whether to make use of new powers to improve the bus market in GM. This includes considering a proposed bus franchising scheme for GM and other realistic courses of action.
- 17.1.12 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 and 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.
- 17.1.13 The Delivery Plan sets out a comprehensive programme of work across all modes and in all Districts which is 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.
- 17.1.14 In addition to the site-specific interventions set out in this Locality Assessment, there are a number of other measures already planned by Manchester City Council and Transport for Greater Manchester to support sustainable travel, and to contribute to the achievement of Greater Manchester's 'Right Mix' ambition.
- 17.1.15 Manchester City Council is awaiting Department for Transport approval for the Castlefield rail corridor improvements which will significantly improve the capacity of the line linking Manchester Piccadilly, Oxford Road, Deansgate as well as Victoria Stations, maximising the benefit from other Northern Hub schemes, and permitting increases in capacity and reductions in journey times for both passenger and freight services. This would be in addition to upgrades to Salford Central Station; including platform lengthening and both feasibility and operational works to

accommodate longer trains and which would open up new connections to Liverpool, Chester and Manchester Airport.

- 17.1.16 In addition, there is also an intention to provide increased Metrolink capacity and frequency between Piccadilly and Victoria Stations through the redevelopment of Piccadilly Station planned as part of the HS2 and Northern Powerhouse Rail proposals. This will allow for significant future growth and enable additional Metrolink/tram-train service development in the future.
- 17.1.17 Growth in demand on the rapid transit network will, in the future, need to be accommodated by a major increase in capacity through the Regional Centre. A city centre metro tunnel is being considered which would facilitate improved services throughout Greater Manchester and improved services on shorter distance suburban rail lines by conversion to tram-train.
- 17.1.18 In addition to the site-specific interventions set out in this Locality Assessment, there are a number of other measures already planned by Trafford Council and Transport for Greater Manchester to support sustainable travel, and to contribute to the achievement of Greater Manchester's 'Right Mix' ambition.
- 17.1.19 Over the next five years, work will be done to the Carrington Relief Road, which will support the proposed 3,000 homes and 1m sq ft of commercial space. Further phased work is anticipated on the Western Gateway Infrastructure Scheme (WGIS) to facilitate developments at Trafford Waters and Port Salford. Additionally, further phases are planned at the Trafford Road junction, which aims to assist in the continuing growth of Salford Quays development.
- 17.1.20 Transport for Greater Manchester is also currently leading a study to evaluate the feasibility of potential new rail and Metrolink stations and this could lead to a small number of stations being delivered, which could include Cornbrook, Sandhills and White City. Should the business cases prove viable, these would open up the possibility of new routes across Greater Manchester. In addition, Metrolink capacity improvements are planned on the Bury – Altrincham lines, which would support capacity increases brought about by the opening of the Trafford Park Line in April 2020 and which will provide six new tram stops, and offer links to jobs, leisure, shopping and housing opportunities.

18. Phasing Plan

- 18.1.1 This Locality Assessment identifies a comprehensive package of improvements, across both the strategic and local highway network, to support the full delivery of the plan period Roundthorn Medipark Extension and Timperley Wedge areas. 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.
- 18.1.2 As identified above, it is considered that opportunities exist to promote a development phasing strategy at the Roundthorn Medipark Extension and Timperley Wedge that could exploit existing / committed highway network capacity, to allow an initial quantum of development to be taken forward at the allocations without the need for immediate major strategic infrastructure interventions. Such an approach will allow for the build-up of development infrastructure contributions and deliver a sustainable approach for contributing to the funding of major strategic highway interventions.
- 18.1.3 Table 20 and 21 sets out a high level overview of the an indicative allocation phasing for Roundthorn Medipark Extension and Timperley Wedge. The expected 2025 development quanta were tested along with those for 2040 to assess their deliverability in terms of transport network capacity.
- 18.1.4 For the purposes of the testing the impact of the allocation through the strategic model, an indicative total of 2,430 dwellings (Timperley Wedge) and 86,000sqm of employment land (Roundthorn Medipark) have been assumed to be built out by 2040. The total of 2,430 dwellings (rather than 2,500 as has been referred to throughout this LA) reflects an earlier iteration of the masterplan and the basis on which the testing was done; however, the additional 70 dwellings are not expected to be material and in any case if they are achieved within the plan period would expect to occur very close to 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. It should be noted that in reality at this allocation a large proportion of the employment land is planned to be delivered between 2037 and 2040 – for the avoidance of doubt, the table below shows what has been modelled.

18.1.5 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 20. Allocation Phasing: Roundthorn Medipark Extension (sqm)

Allocation Phasing	2020 25	2025 30	2030 2037	2038+	Total
GM3.1 Employment uses	0	0	86,000	0	86,000
Total	0	0	86,000	0	86,000

Table 21. Indicative Allocation Phasing: Timperley Wedge (Residential units)

Allocation Phasing	2020 25	2025 30	2030 2037	2038+	Total
GM3.2 Residential	93	424	1233	680	2430

18.1.6 Table 21 provides an indicative delivery timetable for the identified mitigation measures. It is expected that a more precise implementation timeframe for these schemes being ascertained through a similar process to that detailed in Section 12 to 15 as part of the five-year review of the plan.

Table 22. Indicative intervention delivery timetable: Roundthorn Medipark Extension and Timperley Wedge

Mitigation	2020 2025	2025 2030	2030 2038
Allocation Access			
Alder Drive		✓	
Dobbinetts Lane		✓	
A5144 Thorley Lane/Clay Lane/Wood Lane		✓	
Necessary Strategic interventions			
Timperley Wedge Spine Road including access on to Thorley		✓*	

Lane			
Roundthorn Medipark Spine Road including access to Timperley Wedge Spine Road and Floats Road			✓
Supporting Strategic Interventions			
Altrincham – Manchester Airport BRT (assume BRT Lane along Timperley Wedge Spine Road)		✓	
Metrolink Western leg extension		✓	
M56 Junction 5 and wider corridor		✓	
M56 Junction 6		✓	
Necessary Local Mitigations			
Whitecarr Lane		✓	
Clay Lane/Barnacre Avenue		✓	
Clay Lane		✓	
2. Dobbinetts Lane / Floats Road		✓	
Dobbinetts Lane (widening)		✓	
5. Thorley Lane/Runger Lane		✓**	
12. Terminal 2 Roundabout		✓	
16. A5144 Thorley Lane/Clay Lane/Wood Lane		✓	
Fully segregated Cycle way to Fast Beeway standards along the proposed Spine Road with integrated connections to Green Lane and Timperley in the west, and to Thorley Lane and the Airport in the east.		✓	
Fully segregated Beeway linking Hale Road to the Spine Road			✓

via Brooks Drive with a connection to the proposed HS2 interchange and Metrolink stop			
Signal crossings providing safe for crossings pedestrians and cyclists of the Spine Road at key locations		✓	
Improved connection with proposed Beeway at Whitecarr Lane and towards Newall Green. This provides onward connections to the Hospital, Roundthorn employment allocations and Metrolink, Northenden (and the city centre), and Sale.		✓	✓
Safe walking and cycling routes within the development which provide connectivity between the routes above and door to door sustainable transport options between residential areas, workplaces, planned schools and local centres.		✓	✓
Bus gate at Clay Lane			✓
Provision for future BRT		✓	
Bus service improvements - Extend 102 through the site at current 2 buses per hour		✓	
Metrolink stop		✓	
SRN Interventions			
20 M56 Junction 3 improvements		✓	

*Could be delivered in two parts, with the second southern section delivered post 2030.

**Should be done in conjunction with rainbow works

18.1.7 The assessments included within this document for Roundthorn Medipark Extension and Timperley Wedge have been based on the improvements known as the Rainbow works covering Junction 6 of the M56 and Runger Lane (see section 1) and the Smart Motorway improvement

between junction 6 and junction 8 of M56 being provided. Phasing of this development is therefore linked to the delivery of these schemes.

19. Summary & Conclusion

19.1.1 This locality assessment covers two allocations within the GMSF namely Roundthorn Medipark and Timperley Wedge. Roundthorn Medipark comprises 86,000sqm of employment land and Timperley Wedge comprises approximately 2,500 residential dwellings. The allocation is located adjacent to the M56 to the south of University Hospital South Manchester.

19.1.2 The nature of existing wider strategic highway connections to Roundthorn Medipark Extension and Timperley Wedge are such that, future development traffic associated with the site would effectively be channelled towards a number of new access points created by the construction of two new spine roads. Few other access options exist, as the remaining local road links are rural or residential in character meaning that they are unsuitable to accommodate significant future traffic levels associated with additional major employment and residential development.

19.1.3 The locality assessment addresses the key points raised in the earlier consultation process (set out in section 3), specifically

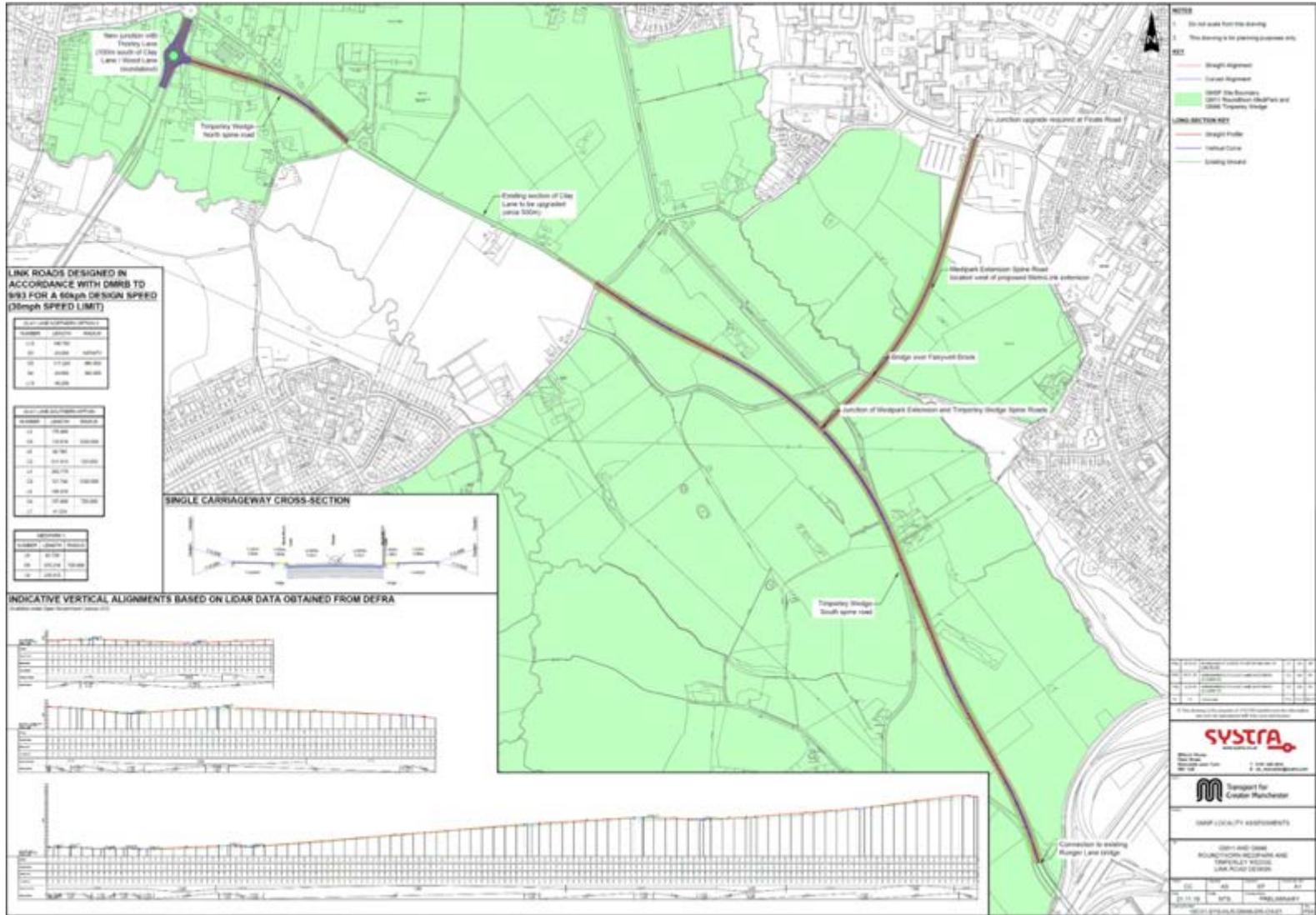
- New spine roads and stopping up of neighbouring roads where appropriate to ensure roads which cannot accommodate the levels of development are not used by through traffic.
- Timing of proposed transport mitigation measures is aligned with the phasing of the allocation
- Improvements to public transport and sustainable modes are proposed including segregated cycle links to address cycle safety issues.
- Access to the hospital has been carefully considered in the development of mitigation and proposed blocking of access for through traffic.

19.1.4 Following our assessment of the proposed trip generation and distribution of these sites, we have concluded that these developments, both in isolation and in consideration of the cumulative impacts with other nearby GMSF allocations is expected to materially impact both the strategic and local road networks. The SRN impact is expected to be concentrated at M56 between junction 3 and 6, while the LRN impacts mostly on the road network adjacent to Manchester Airport, the

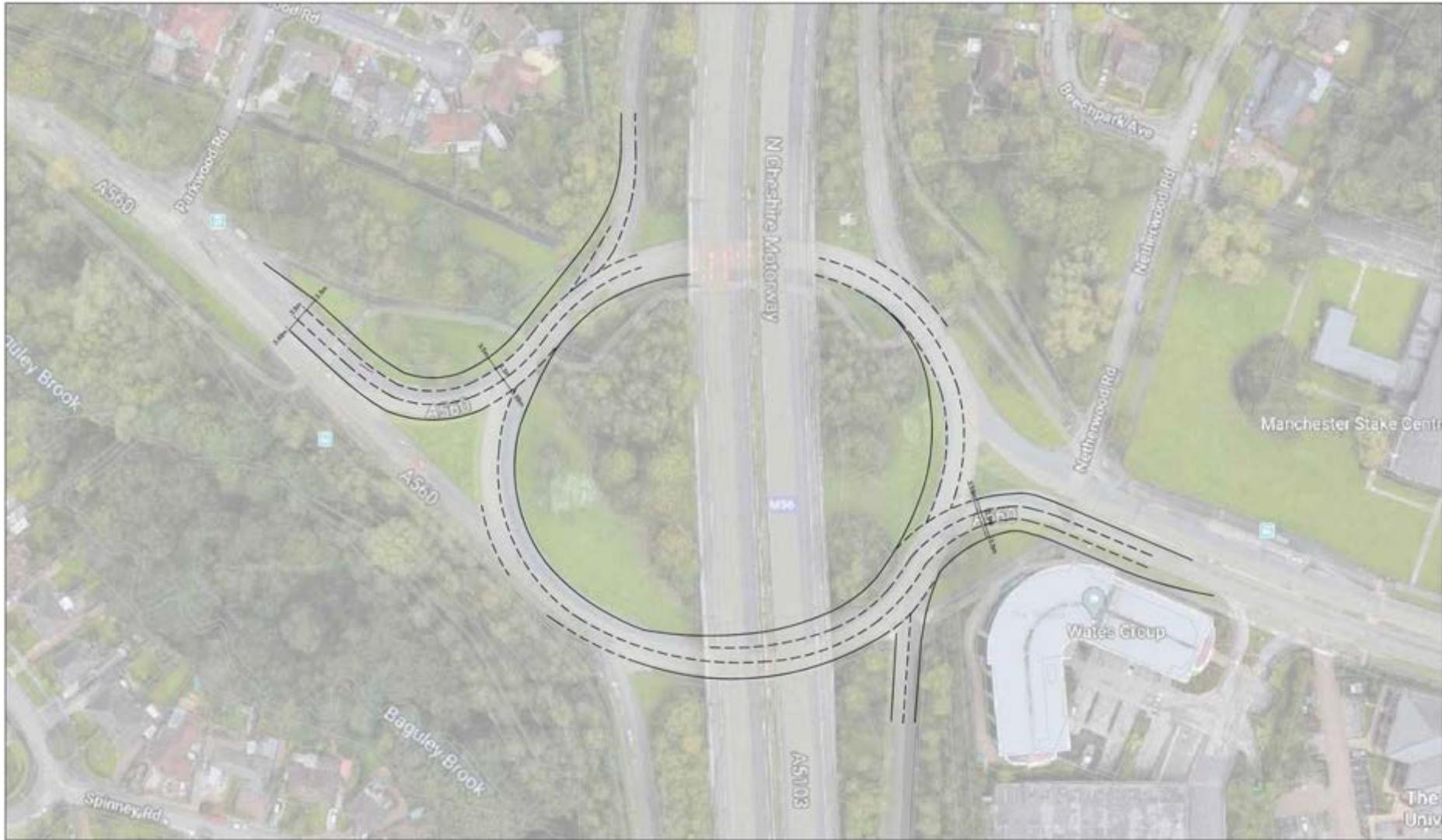
links immediately north of the site including Dobbinetts Lane and the routes to the west of the site for example Thornley Lane.

- 19.1.5 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.
- 19.1.6 Mitigation schemes were developed and tested to address the network congestion impacts at both the strategic and local road networks. 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. These schemes have only been developed in outline detail to inform viability. 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.
- 19.1.7 M56 Junctions 5 and 6 are overcapacity in the reference scenario and development traffic from Roundthorn Medipark and Timperley Wedge impacts on these junctions. It is important to note that the planned highway upgrading measures at the airport (Rainbow works) and Smart Motorway scheme between M56 junction 6 to 8 are already included within the reference case. With the current tools available it has not been possible to identify mitigation at this location, further work is required in this location. A study is currently underway which aims to develop a strategic approach to mitigate the significant impacts of HS2, NPR and other major development including GMSF and Airport City in the vicinity of Manchester Airport.
- 19.1.8 The road network in the vicinity of the allocations is already subject to significant congestion. The GMSF allocations are only part of the wider development picture in this part of Greater Manchester. There is a need for continuing assessment of the network in light of the evolving development and associated infrastructure at both the airport and the planned HS2 station. In particular SRN impacts at M56 Junctions 3 to 6 need to be considered holistically.
- 19.1.9 In summary there is an initial indication that the allocations are deliverable. Further work will be needed to substantiate these findings as the allocations moves through the planning process. The allocations would need to be supported by continuing wider transport investment across Greater Manchester.

Appendix 1 – Indicative Spine Roads Plan (Illustrative/Typical layout)



Appendix 2 – Indicative M56 Junction 3 Plan
(Illustrative/typical layout)



Please note that this design is based on indicative measurements taken from OS map in addition to guidelines from Google Maps. The design is subject to further measurement.

Appendix 3 – Indicative Thorley Lane/Runger Lane Plan
(Illustrative/typical layout)

