November 2020

# Transport Locality Assessments

## Introductory Note and Assessments – Bury allocations

GMSF 2020

GREATER MANCHESTER
DOING THINGS DIFFERENTLY

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# 1. Background

## 1.1 Greater Manchester Spatial Framework (GMSF)

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

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

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

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

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

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

## 1.2 Policy Context – The National Planning Policy Framework

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

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

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

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

- appropriate opportunities to promote sustainable transport modes can be – or have been – taken up, given the type of development and its location;
- safe and suitable access to the site can be achieved for all users; and
- any significant impacts from the development on the transport network (in terms of capacity and congestion), or on highway safety, can be cost effectively mitigated to an acceptable degree.

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

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

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

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

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

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

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

## 1.3 Policy Context – Greater Manchester Transport Strategy 2040

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

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

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

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

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

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

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


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

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

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

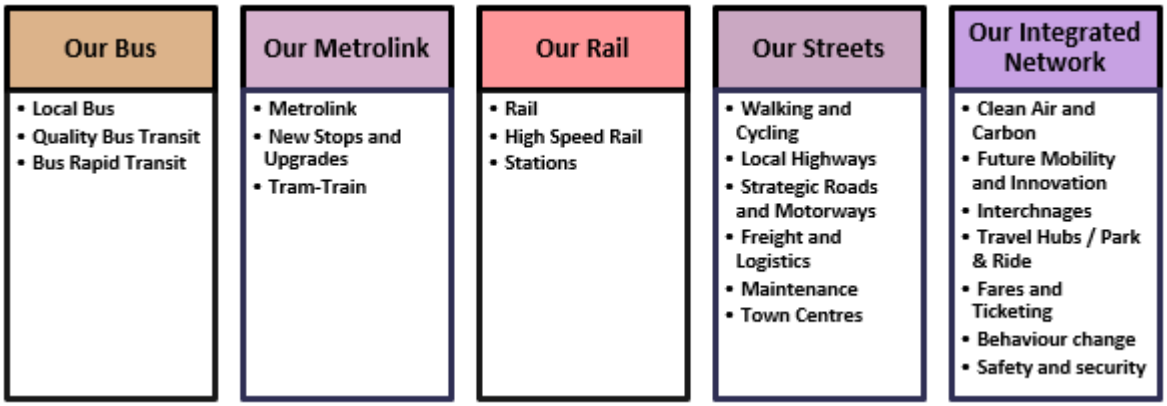
1.3.9 This will be one of the mechanisms used to grow bus patronage alongside:

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

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

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

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




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

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

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

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

## 1.4 Structure of this Note

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

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

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

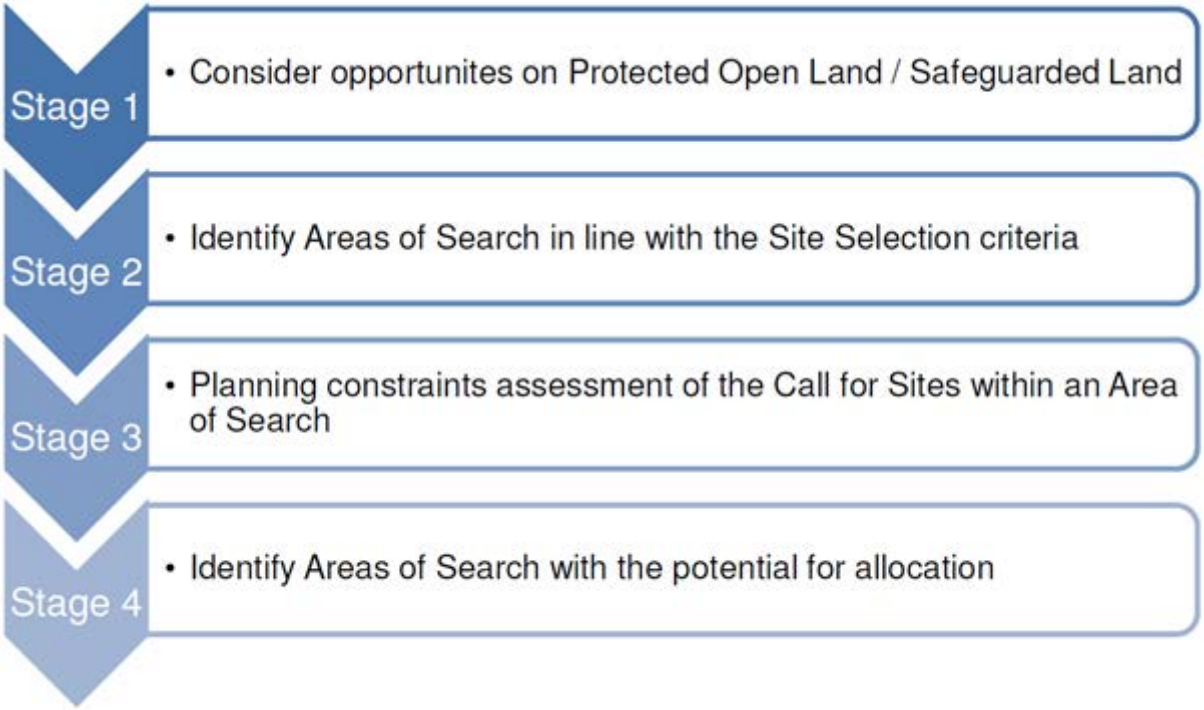
1.4.3 It then explains the approach to strategic modelling which was used to highlight the transport impacts of the Allocations on the transport network, and the process to identify, develop and categorise suggested mitigation schemes.

# 2. Site Selection

## 2.1 The Process

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

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




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

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

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

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

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

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

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

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

## 2.2 Greater Manchester Accessibility Levels

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

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

1.2.3 The GMAL measure reflects:

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

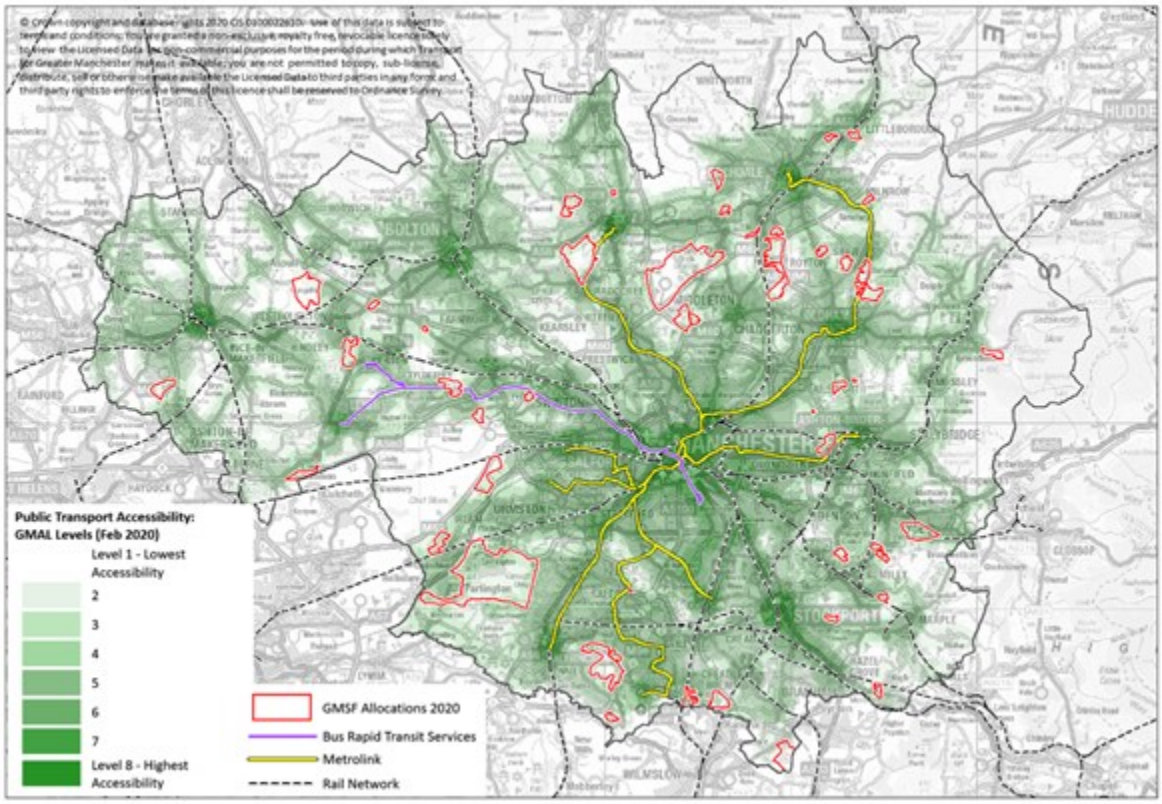
1.2.4 It does not consider:

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

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

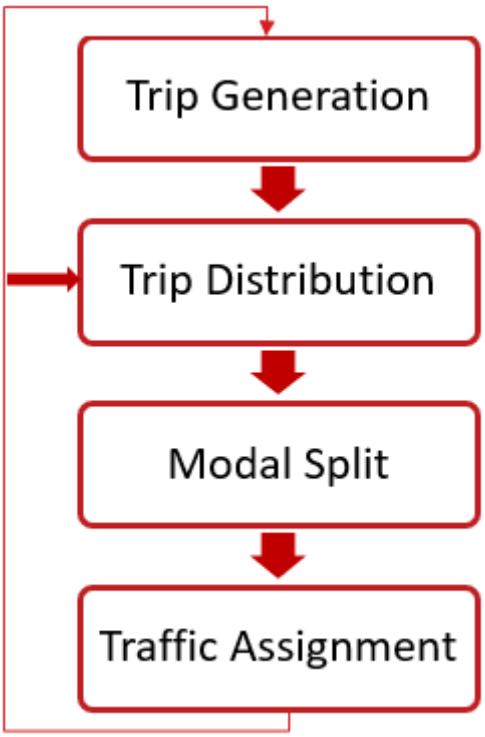
1.2.6 This accessibility data should be considered correct as of February 2020, providing a stable representation of the public transport network before changes in services associated with Covid-19. Since March 2020, public transport services have been under continuous review subject to the requirements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

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



# 3. Approach to Strategic Modelling

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




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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

# 4. Approach to Technical Analysis

## 4.1 Background

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

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

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

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

## 4.2 Approach to identifying Public Transport schemes

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

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

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

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

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

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

## 4.3 Mitigations and Scheme Development

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

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

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

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

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

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

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

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

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

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

**Necessary strategic interventions**

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

**Supporting strategic interventions**

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

**Necessary local interventions**

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

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

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

**Supporting local interventions**

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

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

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

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

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

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

# 5. Conclusion

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

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

## 6. GMSF Allocations List

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

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

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

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

# Greater Manchester Spatial Framework

## Locality Assessment:

### Elton Reservoir (GMA7)

Publication Version 2: November 2020

| Identification Table | |
|---|---|
| **Client** | Bury Metropolitan Borough Council and TfGM |
| **Allocation** | Elton Reservoir |
| **File name** | GMA07 Bury – Elton Reservoir LA 021020 |
| **Reference number** | GMA07 |

| Approval | | | | | |
|---|---|---|---|---|---|
| **Version** | **Role** | **Name** | **Position** | **Date** | **Modifications** |
| **0** | Author | Charlie Guille | Principal Consultant | 28/08/20 | Base report |
| | Checked | Morag Wilson | Principal Consultant | 28/08/20 | |
| | Approved | Mike Hibbert | Director | 28/08/20 | |
| **1** | Author | D Nixon | TfGM | 16/09/20 | Consistency edits |
| | Checked | N Blackston | Bury Council | 28/09/20 | |
| | Approved | C Logue | Bury Council | 29/09/20 | |

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| **Allocation Data** | |
|---|---|
| **Allocation Reference No.** | GMA7 |
| **Allocation Name** | Elton Reservoir |
| **Authority** | Bury |
| **Ward** | Radcliffe East |
| **Allocation Proposal** | 3,500 houses total (2,750 within Plan period) |
| **Allocation Timescale** | 0-5 years ✓ 6-15 years ✓ 16 + years ✓ |

## Glossary

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

**“2040 GMSF Constrained**” - as above, but for a 2040 forecast year

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

**“2040 GMSF High-Side”** - as above, but for a 2040 forecast year

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

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

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

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

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

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

**Greater Manchester Variable Demand Model (GMVDM)** - the multi-modal transport model for Greater Manchester. This transport model provides estimates of future year transport demand as well as the estimates of travel behaviour changes and new patterns that the Plan is likely to produce. These include changes in choices of routes, travel mode, time of travel and changes in journey destinations for some activities such as work and shopping.

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

**MCF** - Mayors Challenge Fund

**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.

**NCR** – National Cycle Route

**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
**Transport Strategy** – this is the strategy developed specifically in relation to consideration of the Elton Reservoir allocation. The key elements included within the package are new Metrolink stop, Link Road and Radcliffe town centre improvement works.

**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. Site Location & Overview

1.1.1 This Locality Assessment Report (LAR) provides an overview of the allocation consistent with other GM Framework sites.

1.1.2 The full site is expected to comprise around 3,500 dwellings of which circa 2,750 dwellings are expected to come forward by Year 2040. For robustness, and to design for full build out, it has been agreed between Bury Council and TfGM that this LAR is based on the full 3,500 units scenario.

1.1.3 The Elton Reservoir allocation ('the allocation') is situated to the south-west of Bury and north of Radcliffe, between the A58 Bury and Bolton Road and Bury Road. The allocation is bounded by Metrolink along the eastern boundary. In order to maximise sustainable access and permit new development to take place where the need for car travel will be significantly reduced, a new Metrolink stop is proposed within the allocation.

1.1.4 The allocation site is currently a mix of Other Protected Open Land and Green Belt. The River Irwell bounds part of the north eastern edge of the allocation, crossing over the Metrolink route. The Manchester, Bolton & Bury Canal and adjacent National Cycle Route (NCR) 6 runs through the eastern part of the allocation in close proximity to the Metrolink line. A disused railway line runs through the north western part of the allocation. This line has been identified as the route for completion of the Bolton-Bury Cycleway. The allocation is largely bound by existing residential development. The exception is the far north east of the allocation where there is open land, beyond which there is a mixture of uses south west of Bury town centre.

1.1.5 In respect of this particular allocation, it has been assumed from the outset that significant infrastructure would be delivered in conjunction with the development of the allocation. Included within this Transport Strategy was a new Metrolink stop and a Link Road to provide a strategic north-south connection between the A58 Bury and Bolton Road in the north and Bury Road to the south east (and later with an additional spur further south to connect more directly with Radcliffe town centre). This Link Road would both serve the proposed allocation and provide an alternative route for traffic to avoid the Bury Bridge area and other local roads. Both the new Metrolink stop and the new Link Road are identified in the Greater Manchester Transport Strategy 2040 Draft Delivery Plan 2020 – 2025 for the development of supporting business cases.

1.1.6 In respect of the transport modelling for the allocation, this Link Road (including the southern spur) has been assumed from the outset and is 'in-built' to every model scenario which includes

development (rather than added in once the impact of development traffic has first been established). It is important to note that as the Link Road provides a strategic function serving other traffic, and not just that generated by the allocation, this makes it more difficult to establish the impacts specifically relating to the allocation, and those relating to the wider benefits delivered by the link road. Consequently, in following the LAR template, it has been necessary to present the information based on the model output and to make additional judgements relating to impact based on traffic flow information provided.

1.1.7 The modelling work has identified significant rerouting of traffic on to the Link Road, and this in turn has led to a review of the Radcliffe town centre highway network in order to improve the movement of traffic to and from the south. An improvement package has also been developed for Radcliffe town centre.

1.1.8 The assessment of the allocation and the development of a transport infrastructure package, including substantial mitigation measures (Metrolink stop, Link Road and Radcliffe town centre improvements), have been undertaken in liaison with Bury Council and TfGM. Key elements within the Transport Strategy package serve both development and wider strategic functions. The comprehensive mitigation measures have been developed to provide additional capacity within the transport network to reduce impacts at congested locations within Bury and Radcliffe.

1.1.9 Development will be set within enhanced and accessible parkland. In addition to the comprehensive Transport Strategy, the allocation will include affordable housing; a green infrastructure setting; leisure and recreational facilities; new schools; and local centres.

1.1.10 In the case of the allocation (and the nearby GMA9 Walshaw allocation) additional detailed modelling work (AIMSUN modelling) has been, and is continuing to be, undertaken and the findings of that work, once complete, will also inform further refinement of mitigation prior to and during the planning process, should these allocations be approved.

## 2. Location Map

2.1.1 **Figure 1** plan below shows the location of the allocation and the surrounding highway and transport network. The nearby GMA9 Walshaw allocation for around 1,250 homes is also indicated. This allocation will impact on a similar area to Elton Reservoir, and will also benefit from delivery of the new Link Road. For completeness the Northern Gateway employment allocation next to M62/M66 is also indicated.

2.1.2 The modelling work takes full account of all allocations. All boundaries shown were correct at time of writing – for definitive boundary information refer to the GMSF allocation maps.

**Figure 1. Allocation location map: Elton Reservoir**


2.1.3 The plan shows the locational benefits of the allocation, with the town centres of Bury and Radcliffe being nearby. It also shows the Metrolink line and the approximate position of the

proposed new Metrolink stop. The potential to provide a new Metrolink stop gives the allocation a major locational benefit as this provides real potential for a significant public transport modal share, and therefore less reliance on the car.

## 3. Justification for Site Selection

3.1.1 The Elton Reservoir allocation is almost entirely surrounded by the existing urban area and is well-connected to existing infrastructure. However, the delivery of residential development on this site will require the provision of significant levels of new and improved transport and other supporting infrastructure.

3.1.2 Fundamental to the delivery of the proposed allocation will be the provision of major highway infrastructure. This will include the need to incorporate a strategic north-south Link Road connecting Bury and Bolton Road (A58) to Bury Road, Radcliffe in order to provide an alternative to Bury Bridge and other local roads for traffic travelling south towards Manchester from the west and north Bury areas. Furthermore, in order to improve linkages to and assist in the physical and social regeneration of inner Radcliffe and Radcliffe town centre, there is a need to provide a significant spur road connecting the allocation to Spring Lane via the former Coney Green High School site.

3.1.3 The Bury to Manchester Metrolink line runs along the eastern edge of the allocation. In order to reduce reliance on the car, development on the allocation will be required to incorporate a new Metrolink stop and any associated Park & Ride facilities in the Warth area. It could be a real game-changer. This new stop is identified in the Greater Manchester Transport Strategy 2040 Draft Delivery Plan. Direct walking and cycling connections to the Metrolink stop will also be necessary.

3.1.4 The GMSF Site Selection Paper (January 2019) and Bury's Local Plan Topic Paper 8 (October 2018) set out the justification for the release and allocation of the allocation for residential development in the GMSF. Given the above, this includes the ability of the allocation to support the delivery of long-term viable sustainable travel options and significant wider community benefits, including to address a major existing problem/issue (Criteria 6 and 7 in the allocation Selection Paper).

## 4. Key Issues from Consultation

4.1.1 The Greater Manchester Plan for Homes, Jobs and Environment (Spatial Framework) consultation ran from 14 January to 18 March 2019. During the consultation the following transport issues were raised by the public:

- Road capacity through Radcliffe, outbound from Manchester and Junction 17 at Prestwich are congested.
- Congestion issues at the M60/M66 and M62.
- Local road congestion at Ainsworth Road, Spring Lane, Water Street and Grindsbrook Road.
- Concern that Link Road will not solve the traffic problem.
- Tram capacity and the impact of Park & Ride proposals on Hinds Lane cause roads to be congested.
- Concern that school provision will exacerbate traffic issues.
- Lack of parking needs to be addressed in the proposals.

4.1.2 A full summary of all consultation responses is available on the GMCA GMSF website.

## 5. Existing Network Conditions and Site Access

5.1.1 There are currently a number of single-track lanes providing access into the allocation site, although in order to serve the future development of the allocation comprehensive new access arrangements are proposed. There are numerous public rights of way which will be retained and enhanced under the allocation proposals, and new connections will be made to NCR6 and the Bolton-Bury Cycleway which route through the allocation. Further details are provided on these routes within **Chapter 6** CrashMap official accident data has been obtained for the five years from 2015 to 2019.

5.1.2 This is indicated in **Figure 2** and summarised by route in **Table 1** below. 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. Accident Location Plan: Elton Reservoir**

**Table 1. Accident Data: Elton Reservoir**

| Total Accidents 2015 2019 | Distance | Slight | Serious | Fatal |
|---|---|---|---|---|
| A58 Bolton Road/ Bolton Street from Starling Rd to Peel Way | 2 miles | 40 | 7 | 0 |
| Starling Road from Bolton Road to Ainsworth Road | 0.6 miles | 1 | 0 | 0 |
| Watling Street from Bolton Road to Ainsworth Road | 0.5 miles | 1 | 0 | 0 |
| Higher Ainsworth Road from Bolton Rd to Water Street | 1.3 miles | 6 | 2 | 1 |
| Water Street from Ainsworth Road via Pilkington Way to Stand Lane | 0.8 miles | 3 | 0 | 0 |
| A6053 Spring Lane / Dumers Lane from Water Road to Manchester Road | 1.8 miles | 14 | 0 | 0 |
| Bury Road from Spring Lane via Radcliffe Road to Manchester Road | 1.7 miles | 11 | 5 | 0 |
| A58 Jubilee Way and A56 Manchester Road as far as Radcliffe Road | 0.9 miles | 16 | 5 | 0 |
| Eton Hill Road from Cross Lane to Bury Road | 0.4 miles | 1 | 0 | 0 |

5.1.3 The accident locations are evenly distributed over the above routes, and there are no clusters to suggest that any locations are particularly hazardous.

## 5.2 Proposed Site Access

5.2.1 The draft masterplan for the allocation is shown in **Figure 3** below. There are alternative proposals for the Coney Green area (southern portion of the site) but these do not affect the traffic generation and impact, and therefore irrespective of the final layout, the conclusions of this report do not change.

**Figure 3. Illustrative Masterplan: Elton Reservoir**


5.2.2 The Link Road will provide a new strategic north-south corridor connecting the A58 Bury and Bolton Road to Bury Road. It will also include a spur towards Radcliffe to meet Spring Lane near the Radcliffe Metrolink stop. Within current plans, this spur is shown to route along the eastern edge of the Coney Green site. However, there is also the option to route this spur along the western edge of that site.

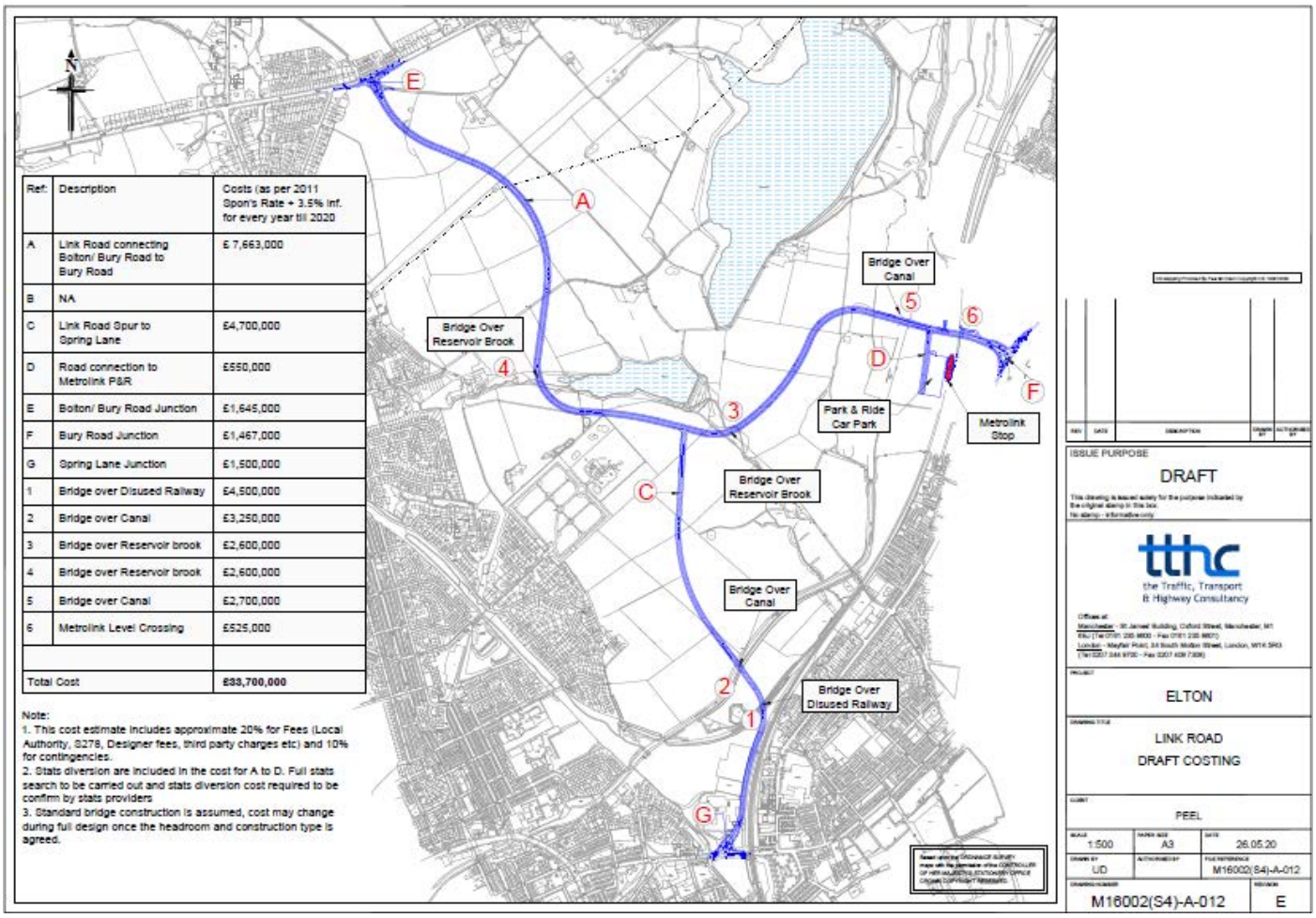
5.2.3 In addition to serving the development of the allocation, the proposed Link Road will provide an important new strategic function of Borough-wide significance which is expected to alleviate congestion on the A58 and Bury Bridge as well as other local roads, thereby improving network resilience and air quality and assisting with delivery of other development (such as the GMA9 Walshaw allocation).

5.2.4 The alignment of the proposed Link Road and the location of the three connecting points to A58, Bury Road and A6053 Spring Lane are shown in the Transport Strategy Context Plan at **Figure 4** below**.** The plan also shows the proposed new Metrolink stop, and the Radcliffe town centre works and how they connect to the Link Road. Further details are provided later in this report.

**Figure 4. Transport Strategy Context Plan: Elton Reservoir**

5.2.5 **Figure 5** shows the alignment of the Link Road through the allocation.

**Figure 5. Link Road: Elton Reservoir**



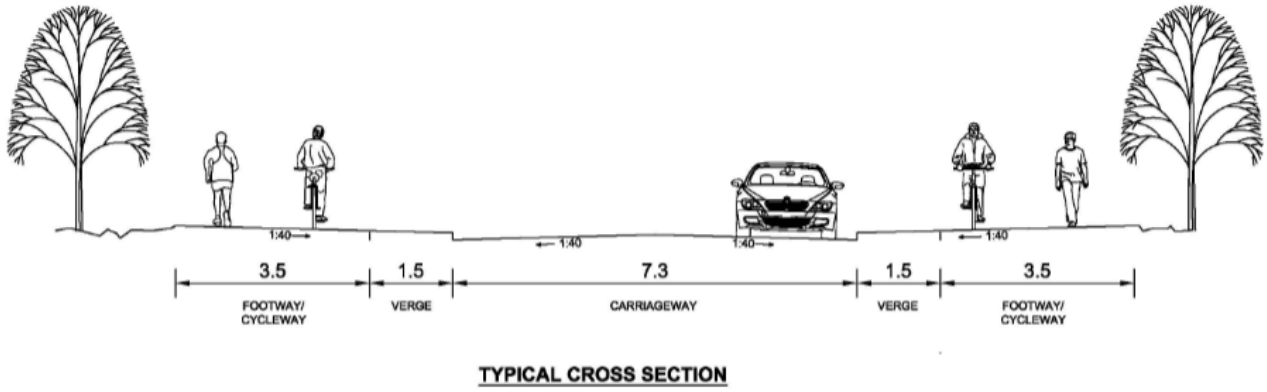

| Ref: | Description | Costs (as per 2011 Spon's Rate + 3.5% inf. for every year till 2020 |
|---|---|---|
| A | Link Road connecting Bolton/ Bury Road to Bury Road | £ 7,663,000 |
| B | NA | |
| C | Link Road Spur to Spring Lane | £4,700,000 |
| D | Road connection to Metrolink P&R | £550,000 |
| E | Bolton/ Bury Road Junction | £1,645,000 |
| F | Bury Road Junction | £1,467,000 |
| G | Spring Lane Junction | £1,500,000 |
| 1 | Bridge over Disused Railway | £4,500,000 |
| 2 | Bridge over Canal | £3,250,000 |
| 3 | Bridge over Reservoir brook | £2,600,000 |
| 4 | Bridge over Reservoir brook | £2,600,000 |
| 5 | Bridge over Canal | £2,700,000 |
| 6 | Metrolink Level Crossing | £525,000 |
| | | |
| Total Cost | | £33,700,000 |

Note:
1. This cost estimate includes approximate 20% for Fees (Local Authority, S278, Designer fees, third party charges etc) and 10% for contingencies.
2. Stats diversion are included in the cost for A to D. Full stats search to be carried out and stats diversion cost required to be confirm by stats providers
3. Standard bridge construction is assumed, cost may change during full design once the headroom and construction type is agreed.



5.2.6 **Figure 6** below provides a typical cross-section for the Link Road. This shows a standard 7.3 metre carriageway. A shared footway/cycleway is provided on both sides, separated from traffic with a grass verge. This will be provided in accordance with Local Transport Note (LTN) 1/20 Cycle Infrastructure Design.

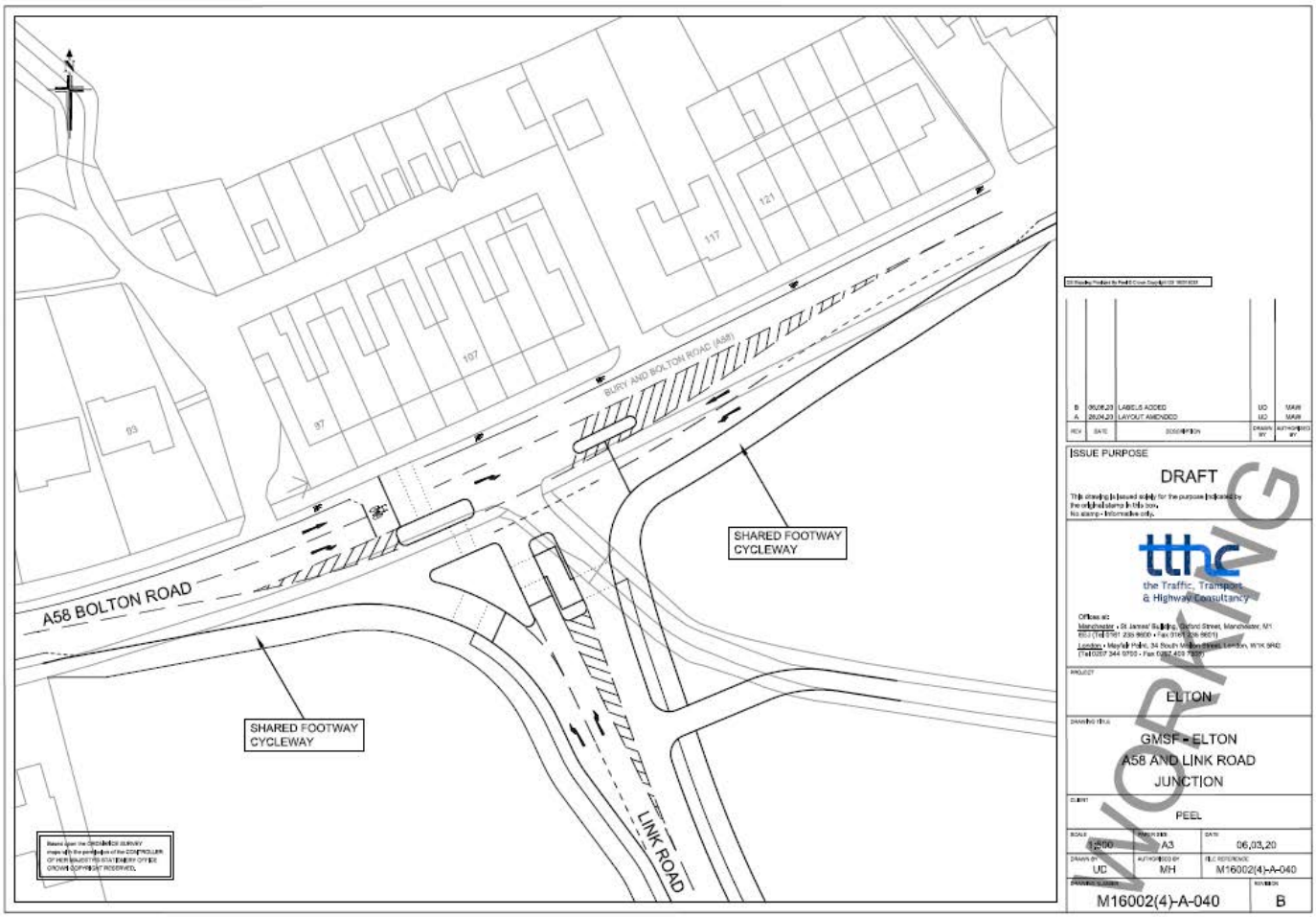
**Figure 6. Illustrative/Typical Link Road cross-section: GMA07 Elton Reservoir**




5.2.7 As discussed, the Link Road provides three access points into the allocation. The plans provided at **Figures 7 – 9** below show signalised layout arrangements for these three access junctions, to show how these might be delivered. The design of these junctions has been informed by the design flows extracted from the transport model to show that suitable access arrangements can be achieved. The final layouts for these will be subject to a detailed review at the planning application stage.

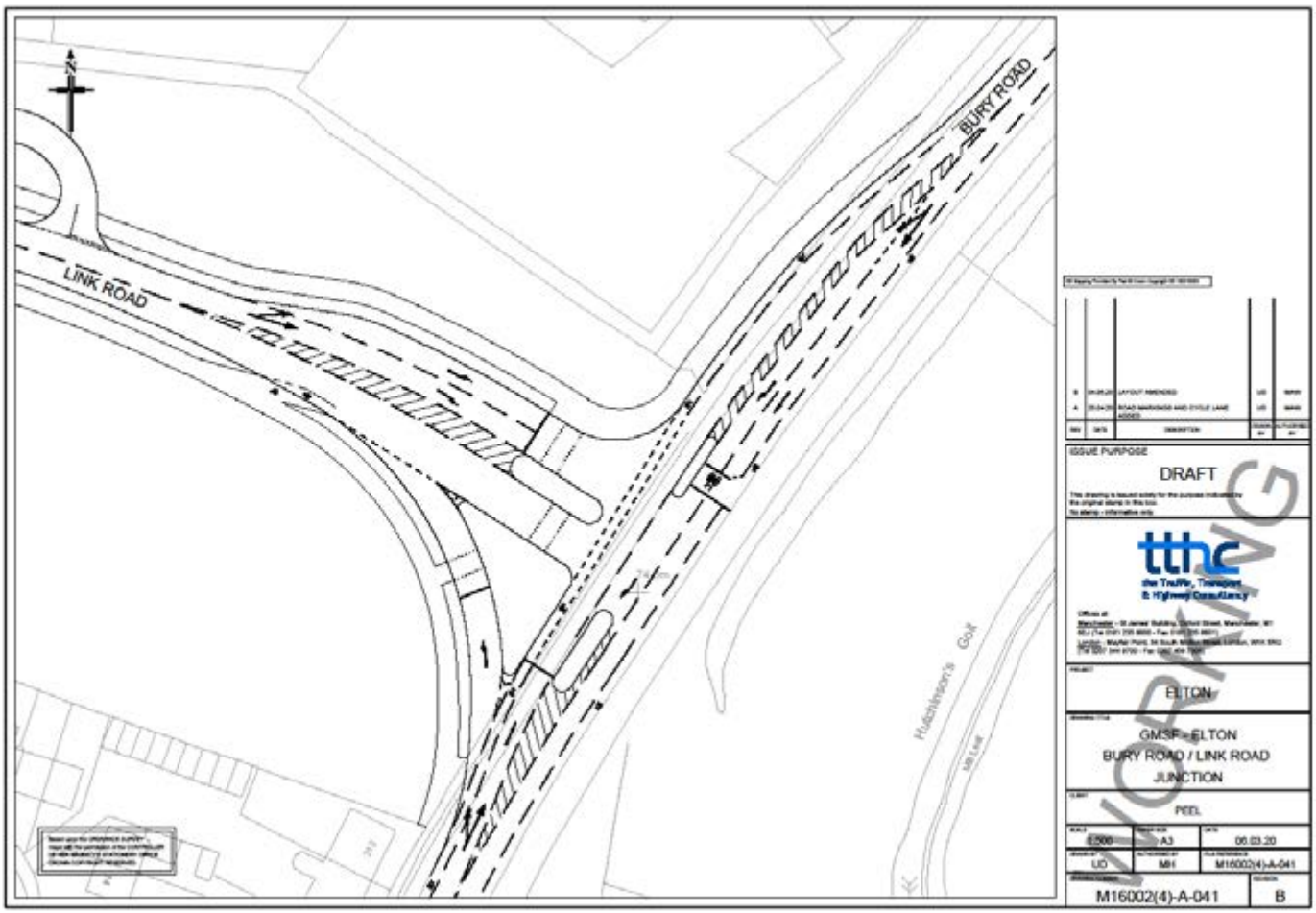
5.2.8 The A58 Bury and Bolton Road is part of the UK's Major Road Network and Primary Route Network. As the name suggests, it connects Bolton and Bury and it is a single carriageway in the vicinity of the proposed Link Road junction. The Link Road junction is likely to take the form of a signal-controlled junction as shown in **Figure 7**. The design incorporates the existing cycle lane provision along the A58. With the introduction of the new access point, the westbound cycle lane is taken off road as a shared footway/cycleway facility. Operational testing provided within **Chapter 13** of this report confirms that this arrangement provides suitable capacity for the demand flows.

**Figure 7. Illustrative/Typical Layout - A58/Link Road Junction**



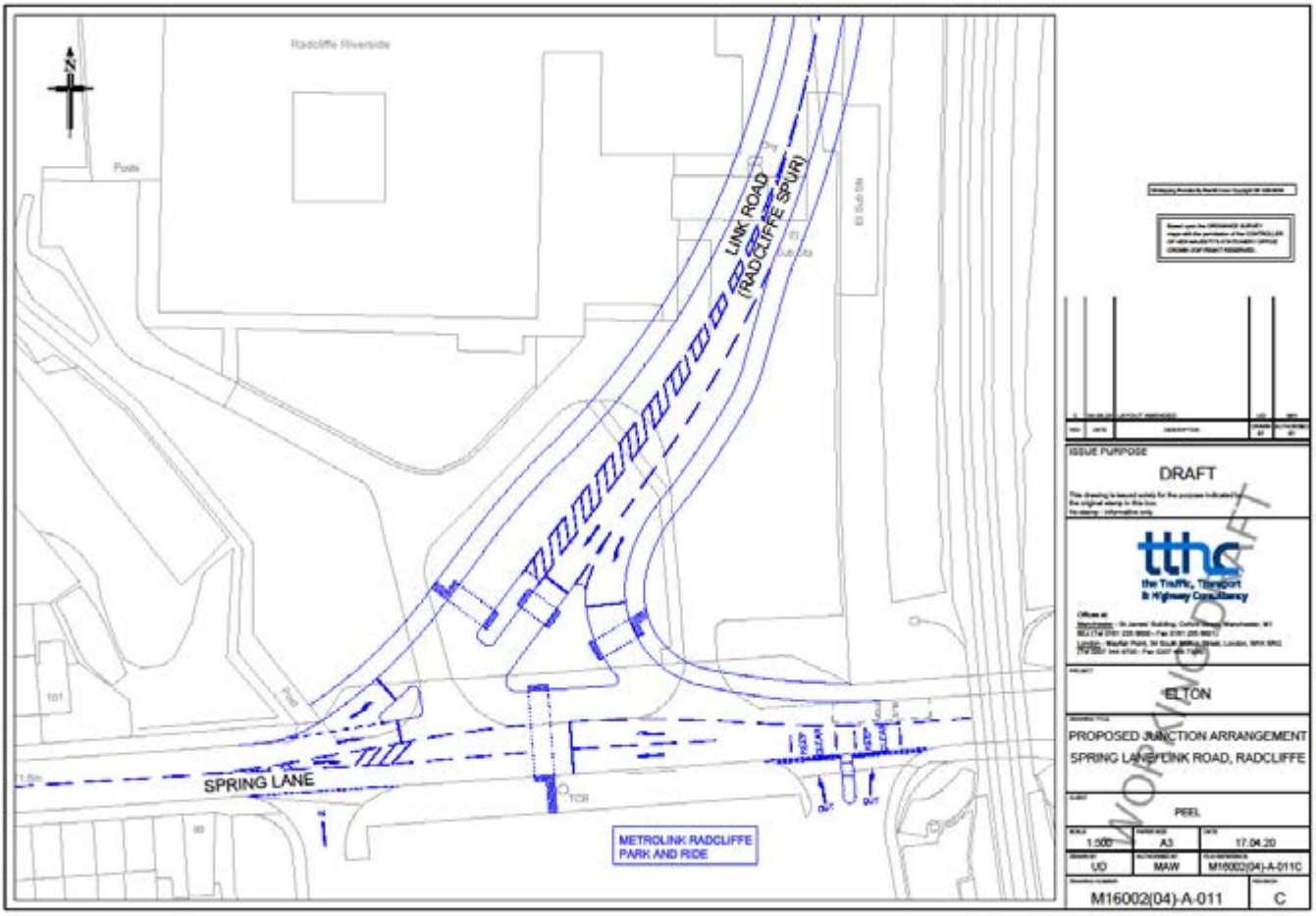

5.2.9 Bury Road is a main road which connects Radcliffe and Bury; it connects to A56 Manchester Road just south of Bury town centre. The access here is likely to take the form of a signal-controlled junction, as shown in **Figure 8**. This layout incorporates existing cycle lanes on Bury Road. As there is currently no footway on the eastern side of Bury Road, no pedestrian crossing point is indicated on Bury Road. However, should this change in the future, a pedestrian crossing facility can be incorporated into the design. Operational testing provided within chapter 13 of this report confirms that this arrangement provides suitable capacity for the demand flows.

**Figure 8. Illustrative/Typical Layout - Bury Road/Link Road Junction: Elton Reservoir**




5.2.10 In Radcliffe, the access will connect at Spring Lane in the vicinity of the existing Metrolink stop and Park & Ride facility. The layout of the Link Road access on Spring Lane (opposite the existing Metrolink station and adjacent to the railway bridge) is influenced by these features, as shown in **Figure 9**. Operational testing provided within **Chapter 11** of this report confirms that this arrangement provides suitable capacity for the demand flows.

**Figure 9. Illustrative/Typical Layout - Spring Lane/Link Road Junction: Elton Reservoir**




5.2.11 Improvements are also proposed to the highway network within Radcliffe town centre which, in conjunction with the Link Road, will provide an enhanced north-south corridor between the A58 and the A665. This proposed mitigation is described later.

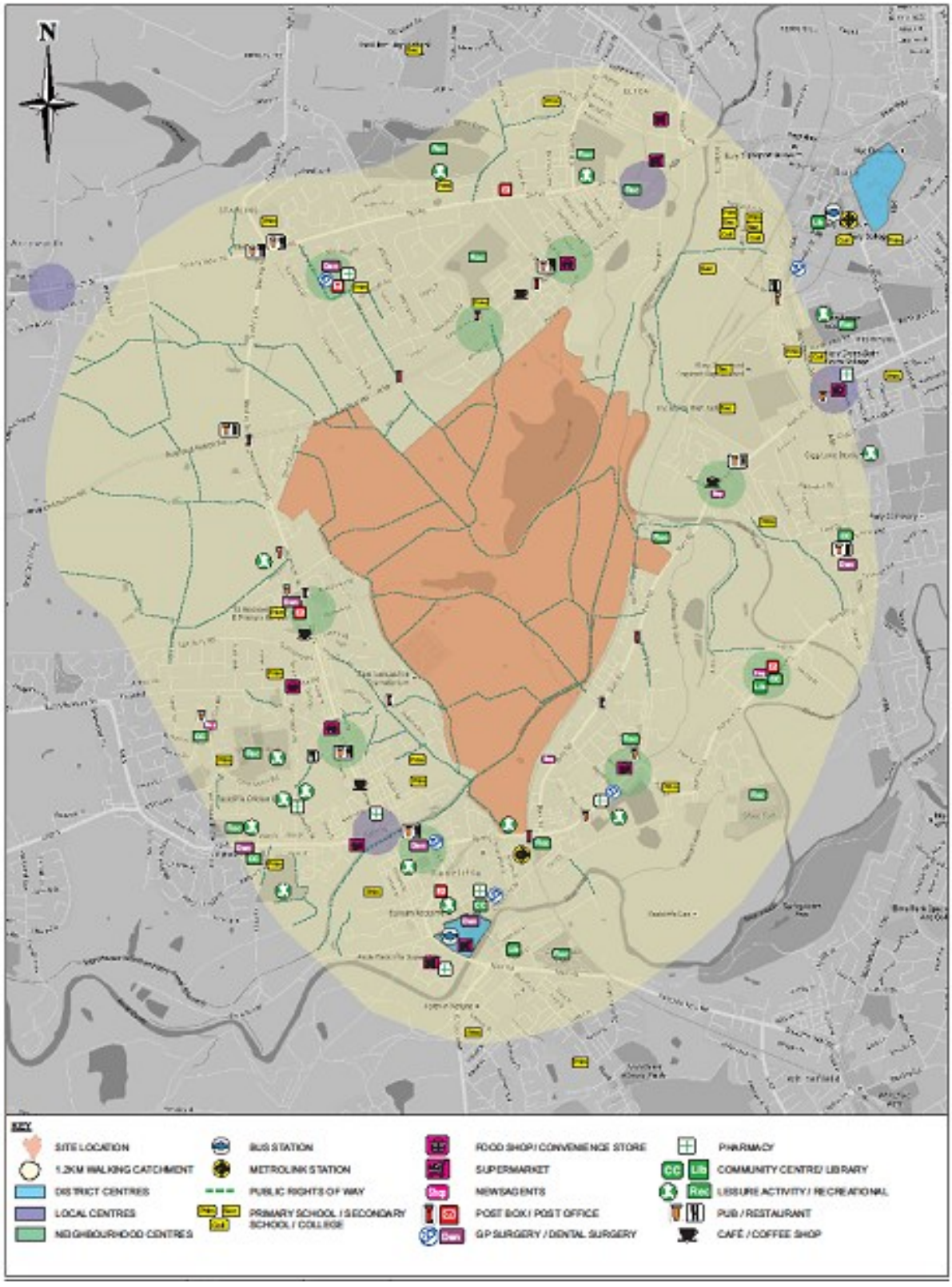
## 6. Multi-modal accessibility

6.1.1 Details of the allocation's current and proposed multi-modal accessibility are provided in the series of plans below.

**Active Travel**

6.1.2 In relation to local trip making, the allocation is well placed for local trips to be carried out on foot and by cycle. There are a number of local shops and facilities located nearby, as well as schools. These are indicated in **Figure 10** below, which also shows a 1.2km (15 minutes) walking catchment around the site. Of course, distances will be greater for those living in the centre of the allocation, but the plan shows existing nearby provision, and this will be enhanced by local facilities provided within the allocation. The plan shows that in particular, the western side of the allocation, where much of the new housing will be located, is well served with a concentration of shops and facilities along Ainsworth Road, Water Street and Spring Lane, and of course, Radcliffe town centre lies just south of the allocation.

**Figure 10. Existing Local Amenities Plan: Elton Reservoir**






6.1.3 Although less permeable to the north and east, there are footpath connections available to connect through to Bury town centre and Bury Road respectively, and these will be enhanced where necessary in accordance with current GM standards. The allocation proposals include for

good quality pedestrian routes through the allocation to facilitate safe and convenient connections to local shops, facilities and schools, and to the existing and potential future bus stops. Pedestrian and cycle links from Radcliffe town centre into the allocation are also important in linking key uses together and assisting the regeneration of Radcliffe.

6.1.4 The plan above also shows a concentration of primary schools lying on the western side of the allocation (seven within the 1.2km catchment). Several others lie to the north of the allocation and two to the east. There are several more beyond within the 2km walk threshold for education and further primary school provision is factored into the masterplan.

6.1.5 There is also a concentration of secondary schools in Bury, particularly to the north east of the allocation, including grammar schools. The Derby High and St Gabriel's Roman Catholic High both lie within 2km walk, and the schools are served by school buses. There is currently no secondary school in Radcliffe, but the allocation provides the opportunity for delivery of one (most likely at Coney Green), and Bury Council are actively pursuing this.

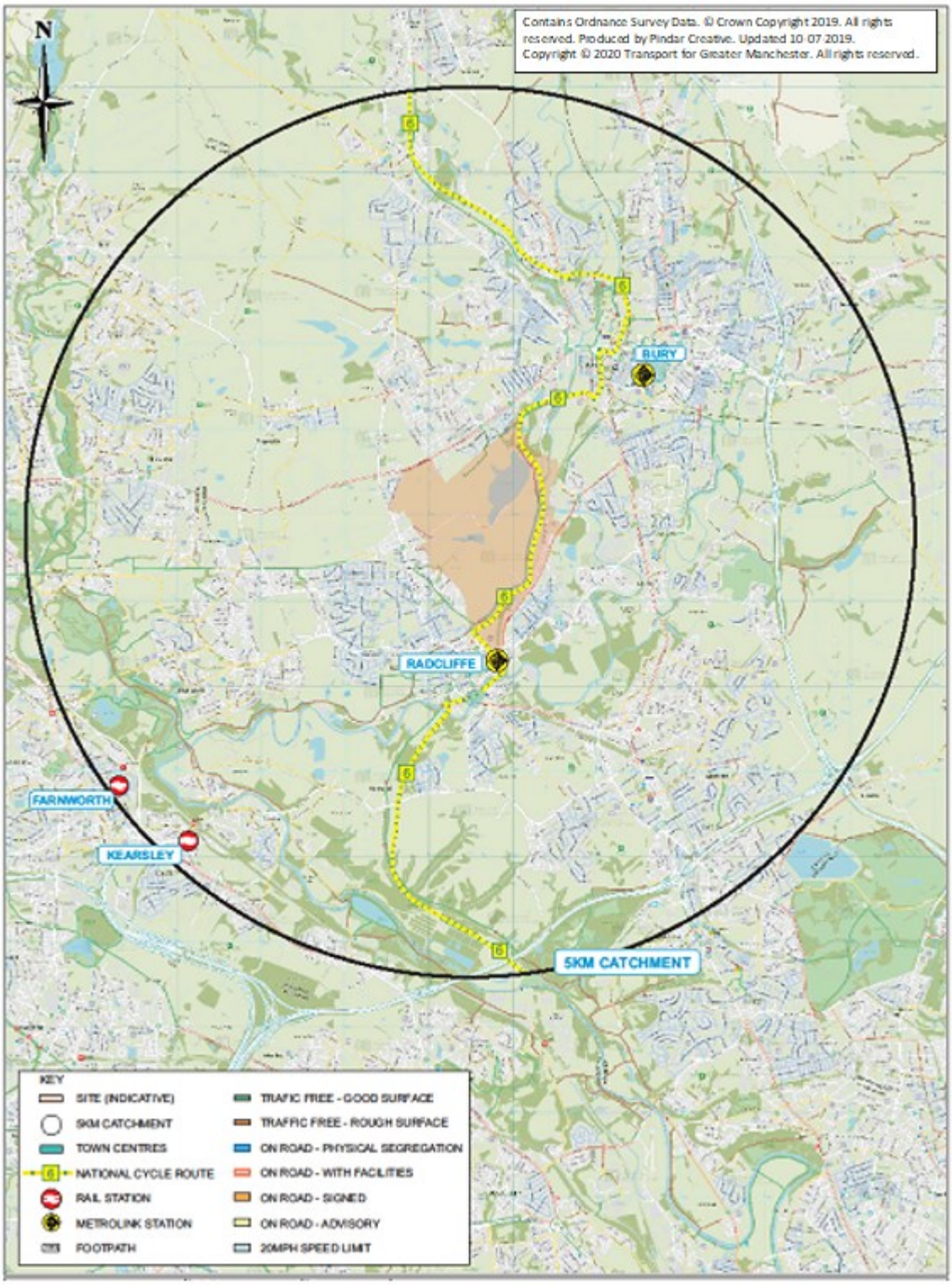
6.1.6 With regard to cycling as a mode of transport, it is generally recognised that cycling can substitute car trips, particularly for journeys up to 5km. With much greater emphasis and investment in cycling in recent years, and the recent increased take-up of cycling, many cyclists will be willing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

6.1.7 **Figure 11** below shows existing cycle routes within 5km of the allocation. More detailed plans are also shown for Radcliffe and Bury town centres. The most notable route NCR6 which runs through the allocation alongside the canal and connects to both Radcliffe and Bury town centres.

6.1.8 The northern portion of the allocation sits on the line of the Bolton to Bury Cycleway which uses the former railway alignment. This route is complete except for where it crosses the allocation, and the missing section will be delivered as part of the allocation.

6.1.9 There is also on-road cycle lane provision both to the north and south of the allocation on A58 and Bury Road connecting all the way from the allocation into Bury town centre.

**Figure 11. Existing Local Cycle Network Plan: Elton Reservoir**




**Radcliffe town centre**


**Bury town centre**




6.1.10 There are a number of public rights of way and other footpaths that cross the allocation, and so these would be enhanced and made a key part of the proposals.

**Public Transport**

6.1.11 Bury and Radcliffe are served by Metrolink connections to the Regional Centre and the wider Metrolink Network. These stops are located 2km to the north-east and just 100 metres to the south of the allocation respectively. The Metrolink line runs along the eastern edge of the allocation, which provides the ideal opportunity for a new Metrolink stop which would serve the allocation (as well as the existing community to the east of the allocation and the surrounding area).

6.1.12 The nearest rail station is at Kearsley on the Bolton – Manchester line; located 4.9 kilometres to the south-west of the allocation, but of course for trips into Manchester, Metrolink would be the obvious choice for residents of the allocation.

6.1.13 The allocation is surrounded on all three sides by important bus corridors: A58 Bury and Bolton Old Road to the north; Ainsworth Road to the west; and Bury Road to the east. There is also a nearby high frequency service on Spring Lane (south east of site). These bus routes and the location of bus stops are indicated in **Figure 12** below. **Table 2** below provides a summary of the destinations served and the frequency of services.

**Figure 12. Public Transport Connections: Elton Reservoir**

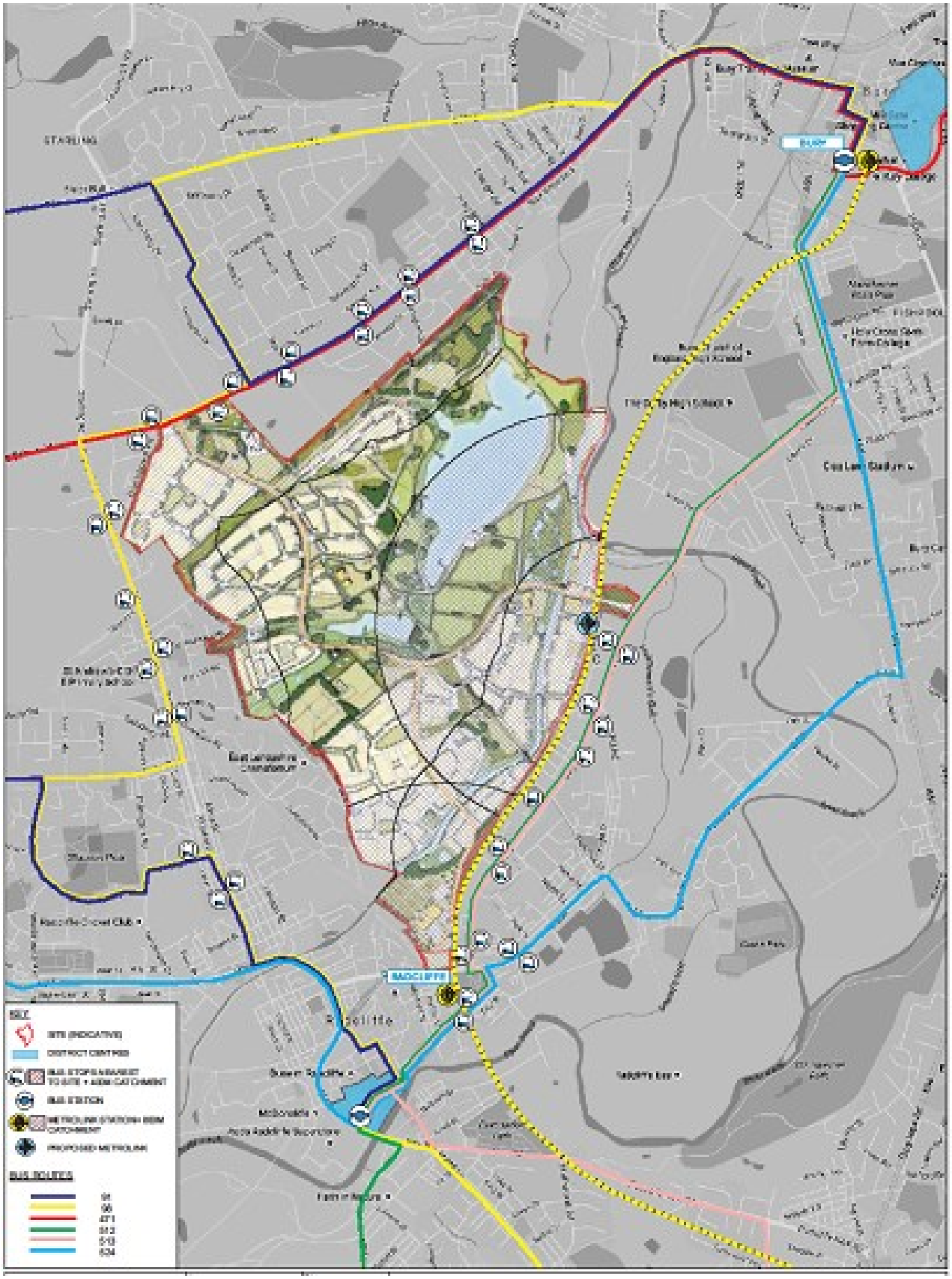


**Table 2. Local Bus Services: Elton Reservoir - Bus Services Operating in the vicinity of the Allocation (Number Of Buses In Stated Time Period)**

| No. | Route | Mon Fri 0700 0900 | Mon Fri 1600 1800 | Typical Daytime Frequency | Mon Fri Daily Total | Sat Daily Total | Sun Daily Total |
|---|---|---|---|---|---|---|---|
| **A58** | | | | | | | |
| 91 | Bury – Ainsworth – Radcliffe | 0<br>0 | 2<br>2 | hourly | 9<br>9 | 9<br>9 | 0<br>0 |
| 98 | Manchester – Whitefield – Radcliffe - Bury | 5<br>5 | 5<br>5 | 20 mins | 44<br>45 | 40<br>41 | 26<br>27 |
| 471 | Bolton – Bury – Heywood – Rochdale | 14<br>11 | 12<br>13 | 10 mins | 92<br>93 | 81<br>80 | 32<br>33 |
| **Ainsworth Road** | | | | | | | |
| 98 | (Details above) | | | | | | |
| **Bury Road** | | | | | | | |
| 512 | Royal Bolton Hospital – Farnworth – Radcliffe – Bury | 2<br>2 | 2<br>2 | hourly | 12<br>13 | 11<br>11 | 0<br>0 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 513 | Farnworth – Whitefield – Radcliffe – Bury | 2<br>2 | 2<br>2 | hourly | 12<br>12 | 10<br>10 | 0<br>0 |
| **A6053 Spring Lane** | | | | | | | |
| 524 | Bolton – Radcliffe – Bury | 12<br>12 | 12<br>12 | 10 mins | 84<br>85 | 72<br>71 | 30<br>29 |

6.1.14 In particular, the A58 corridor has nine buses per hour in each direction passing immediately adjacent to the allocation. These all connect to Bury. There are three services per hour to Manchester (which provides a good alternative to Metrolink for those residents living further away from a Metrolink stop), and six buses per hour to Bolton, Heywood and Bury providing well for cross-district trips. These services operate seven days a week.

6.1.15 To the west Ainsworth Road has three buses per hour connecting Bury, Radcliffe and Manchester seven days a week.

6.1.16 To the east and south east there are two hourly services on Bury Road connecting Bury, Radcliffe and Farnworth, including Royal Bolton Hospital (six days per week). And on Spring Lane, approximately 250 metres east of the allocation access junction, there are six buses per hour connecting Bury, Radcliffe and Bolton (seven days per week).

6.1.17 The plan above shows 400 metre (5 minute) walk catchments from the bus stops, and 800 metres from the Metrolink stops. Many people are willing to walk much further than this to access services, particularly high frequency ones, but nevertheless, given the size of the allocation, for those living in the centre of it, walking distances to access these existing services will be greater than desirable. However, the provision of a through Link Road provides scope for new bus services (and diversion of existing ones) which would penetrate the area.The area surrounding the allocation has a good network of established public transport on which to build in enhancements specifically to serve the allocation.

## 6.2 Proposed multi-modal measures

### Active Travel

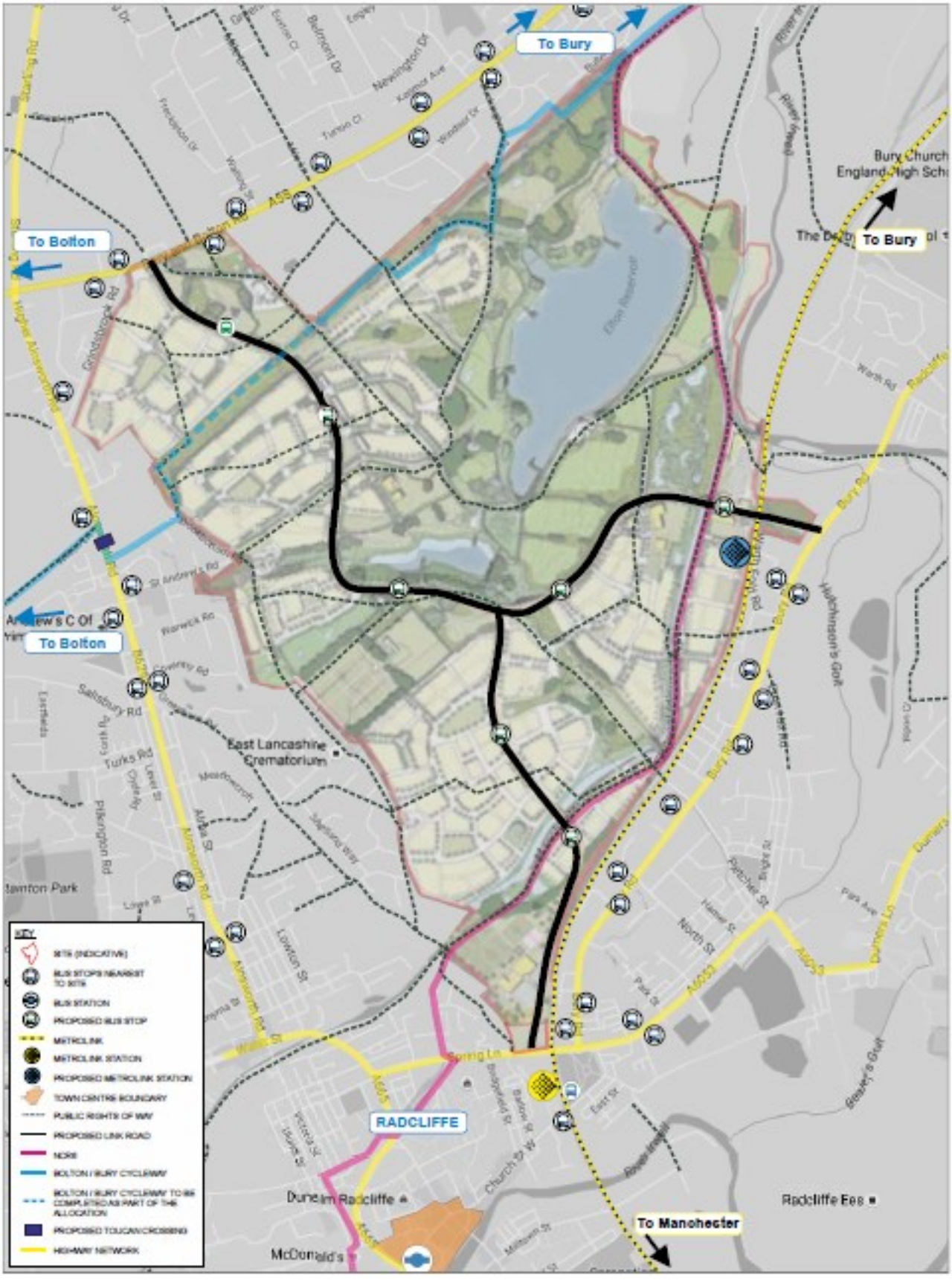
6.2.1 As highlighted above, there are existing and proposed walk and cycle connections which pass through the allocation, and the development proposals will provide enhancements to these where necessary, and ensure new connections are made to these which provide for direct walk routes. In particular, development will ensure strong connections south towards Radcliffe town centre, and north east towards Bury town centre. **Figure 13** below shows how the existing and proposed active and public transport networks come together.

6.2.2 As shown in **Figure 6**, the Link Road will include cycle lanes to provide connectivity and will connect with NCR6.

6.2.3 Funding has been secured via the Mayor's Challenge Fund (MCF) to upgrade National Cycle Route 6 through the allocation. The upgrade will include surfacing, solar studs along the canal towpath, landscaping, gateway enhancements, access controls and signing. The route upgrade includes from Summerseat to the north of Elton to the Regional Centre.

6.2.4 The Bolton to Bury Cycleway will be completed as part of the development of the allocation connecting to Hardman Street, which in turn leads to Ainsworth Road. The route continues to Bolton on the opposite side of Ainsworth Road. As part of the Bee Network of improved crossing facilities, funding for the provision of a Toucan crossing on Ainsworth Road has been identified to connect these two sections. Once complete, there will be a continuous route on motor-free or quiet roads from Bury to Bolton.

**Figure 13. Active and Public Transport Connections: Elton Reservoir**



6.2.5 As part of the proposed highway works on Darbyshire Street (described later in the report) which is part of NCR6 (as shown within the Radcliffe town centre insert at **Figure 10**), enhancements will be made to provide off-carriageway facilities and improved crossing arrangements to connect to the existing Toucan crossing on Spring Lane.

6.2.6 Whilst the allocation is well located in relation to existing shops, facilities and schools, it is expected that its development will also deliver two new local centres, new sports facilities, playing fields and play areas, and land for new schools if required (or contributions to school places) and expanded health facilities. The proposed Elton Parkland also opens up the area to the general public with nature parks and other green infrastructure.

6.2.7 These will not only enhance the sustainability of the allocation, but also provide benefits for the existing surrounding residential community.

**Public Transport**

6.2.8 The GMA7 Elton Reservoir allocation sits within an area which benefits from established public transport connections with both the Bury to Manchester Metrolink line running adjacent to the allocation, and numerous bus routes serving the corridors which surround the allocation. This presents the opportunity to feed into this public transport network and enable new residential development to take place where the need for car travel will be significantly reduced. As the public transport network expands, and passenger demand with it, new trams and buses will be required to provide sufficient capacity.

6.2.9 TfGM have investigated the strategic outline business case for a new Metrolink station stop in the Warth area at the eastern boundary of the allocation, between Radcliffe and Bury. TfGM report that this work yielded positive results, with a future development at Elton Reservoir in place with the link road crossing the Metrolink tracks on a bridge structure. The tram stop would include a Park & Ride/travel hub facility to encourage commuters to switch from private cars and access the Metrolink network by sustainable travel modes such as cycling and walking. It will also ease pressure on Radcliffe Metrolink station stop and provide the capacity for additional passengers. The tram stop and Park & Ride facility is a key component in the delivery of the allocation.

6.2.10 The Park & Ride car park will serve the wider community as well as future residents of the allocation. It will also help relieve pressure on the existing car park at Radcliffe station. This

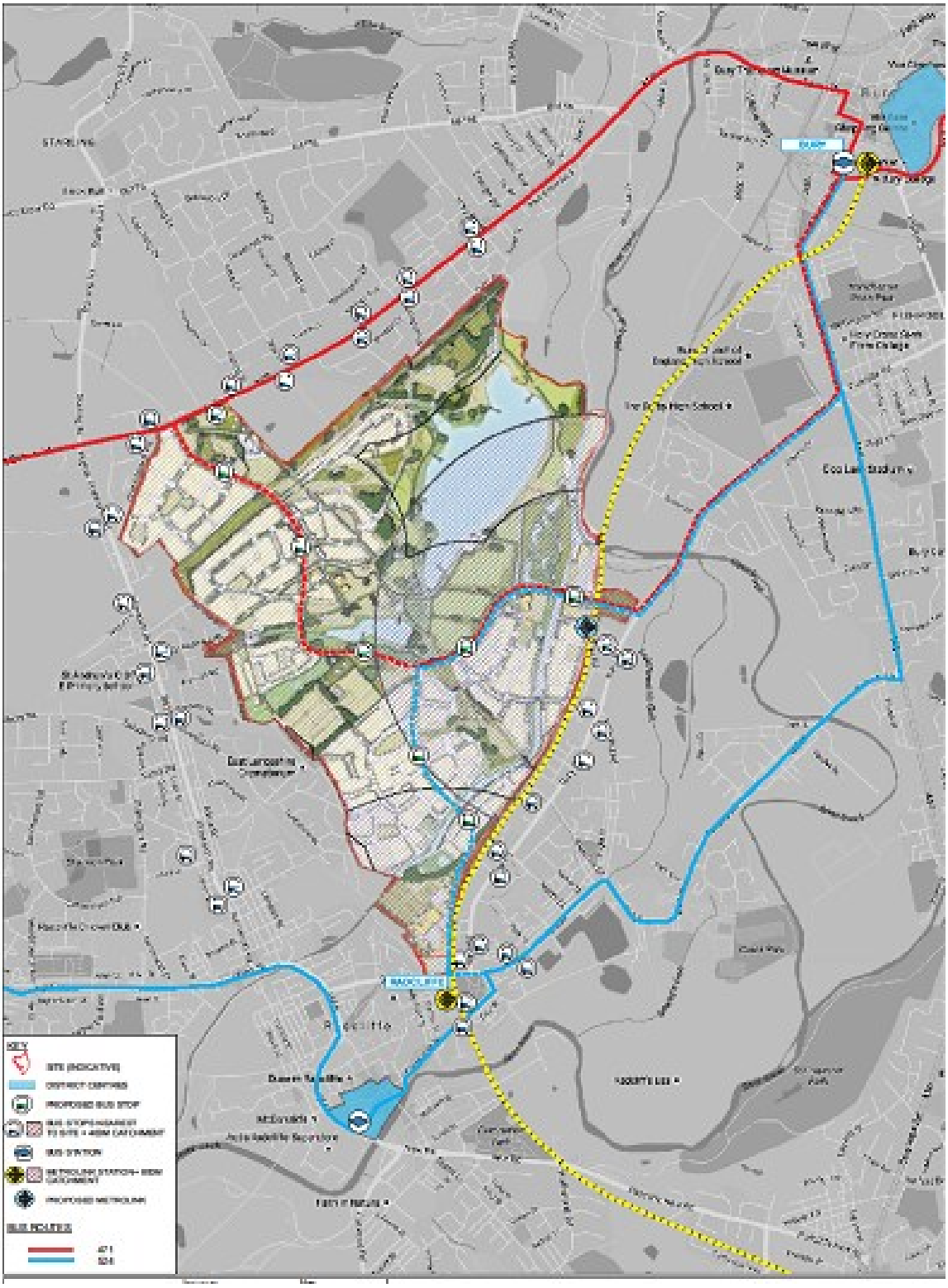
facility has the potential to provide around 350 car parking spaces and a Cycle Hub. The number of spaces provided will be informed by further studies with the aim of meeting demands. If necessary, Traffic Regulation Orders can be implemented to prohibit users from parking on local streets. Details of the stop and car park will need to be agreed with TfGM.

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

6.2.12 Whilst the above research indicates that a wider catchment area is appropriate**, Figure 11** shows 400 metre walk catchments to the bus stops, and 800 metres for the rail based Metrolink. This shows that the centre of the allocation is less well served. However, the Link Road will be designed to accommodate buses, including the provision of feeder services to the new Metrolink stop.

6.2.13 Given the high frequency of bus services in the surrounding area, and the routes that they take, this then presents the opportunity for some service diversions (or new services) through the allocation once the Link Road is open. In particular, the 471 and 524 services which both run on a 10-minute frequency present such opportunities for some of these buses to be diverted through the allocation. In both cases this would result in very little difference in route mileage. **Figure 14** below shows how these services could route through the allocation.

**Figure 14. Potential Bus Routes through the Allocation: Elton Reservoir**





6.2.14 Both routes provide connections to the new Metrolink stop and would therefore also provide bus-Metrolink mode opportunities. If they are both implemented then this would serve all three branches of the Link Road enhancing accessibility for all parts of the allocation.

6.2.15 Of course, there is also the opportunity for new services, and the preferred package of services will be established with TfGM at the appropriate time, depending on the existing services in place at that time. However, the above review confirms that it should be possible to provide bus penetration into the allocation in a cost effective and sustainable manner. As indicated in the plan above, the allocation has the potential to be entirely served by public transport in the future.

6.2.16 There is also the opportunity for feeder Metrolink bus services from other areas to route via the Link Road and access the new Metrolink stop.

## 7 Parking

7.1.1 Bury Council's parking standards for residential development are set out in Development Control Policy Guidance Note 11. The standards differ for 'High' or 'Low' accessibility areas. Whilst the majority of the allocation currently sits within the Low accessibility area, the introduction of a new Metrolink stop and bus services running through the allocation will improve the accessibility of the allocation.

7.1.2 For car parking, the maximum standards for Low accessibility areas are:

- 1-bedroom unit - 2 spaces
- 2-bedroom unit – 2.5 spaces
- 3-4-bedroom unit – 3 spaces

7.1.3 There are currently no cycle parking standards for residential units, other than flats.

7.1.4 Car and cycle parking provision at the allocation will be provided in accordance with Bury Council's standards that are in place at the time any future planning application is made.

## 8 Site Trip Generation and Distribution

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

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

8.1.3 The 'With GMSF' scenario includes traffic from all allocation sites. It should be noted that in respect of Elton Reservoir no specific regard is made to the full mode choice potential of a new Metrolink stop within the allocation.

8.1.4 It should also be noted that as this locality assessment was being finalised a decision was made to remove the GMA1.3 Whitefield allocation which would have provided 600 new homes in 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 GMA1.3. Likely changes would be a modest reduction in traffic levels in the vicinity of this allocation. However, it is not considered that the impact would be sufficiently significant to materially affect the scope and form of the mitigation set out for the Elton allocation.

8.1.5 The allocation proposals for Elton Reservoir are for 3,500 units, although only 2,750 units would be built by the assessment year of 2040. The initial modelling work for the 'With GMSF' development scenario has been based on an assumed 2005 residential units for the GMA7 Elton Reservoir allocation. This under-representation only came to light during the second round of modelling (once mitigation schemes are added in), and a further 3,500 units test was undertaken in order to understand the implications of the full build out of the site. It is this latter test which has been agreed with Bury Council as being the appropriate test for junction assessments i.e. the design goes well beyond the 2040 test year.

8.1.6 GMSF-wide trip rates for residential development would result in the Elton site generating approximately 1200 two-way vehicular trips in the AM peak hour and 1310 in the PM peak (this is based on 2,750 units by the year 2040). However, as previously noted, beyond year 2040 the allocation is capable of accommodating up to 3,500 units which will help provide funding for the new infrastructure being considered, and it is the full 3,500 units which have been considered for junction design purposes.

8.1.7 It should be noted that there are no model runs for the allocation which exclude highway mitigation as the Link Road has always been assumed to be required. As such, the findings of the modelling work are bespoke to this particular LAR.

8.1.8 Only a small quantum of development will take place by 2025 (100 units), and therefore the assessment work contained in this report focuses on the full 3,500 unit build out of the allocation.

8.1.9 Table 3 below details the peak hour vehicular trips associated with the GMA7 Elton Reservoir allocation for both the 2750 units at Year 2040, and the full 3,500 unit build out. Whilst the traffic model includes for 'Constrained' and 'High Side' scenarios, only the worst 'High Side' information is available for the 2,750 and 3,500 units scenarios. This will contribute to ensuring the robustness of the estimated vehicle traffic generation.

**Table 3. Development Traffic: Elton Reservoir - Traffic Volumes For Plan Period 2,750 Units (Full Development 3,500 Units)**

| PCUs | AM Peak Hour Departures | AM Peak Hour Arrivals | PM Peak Hour Departures | PM Peak Hour Arrivals |
|---|---|---|---|---|
| High Side | 864 (1100) | 332 (423) | 528 (672) | 782 (995) |

8.1.10 The Full Development scenario contains around 27% additional development trips than that which is expected to be completed in the Plan Period.

8.1.11 The distribution of allocation site trips onto the surrounding highway network is undertaken on a GMSF consistent basis (based on the distribution of trips from nearby residential zones). Traffic is assigned to the network within the GMVDM taking account of the proposed new highway infrastructure (the new Link Road).

8.1.12 The resulting assignment of trips varies by time of day. The impacts on the key routes are as detailed below. This traffic assignment is based on the inclusion of the Link Road.

**Table 4. Peak Traffic Distribution: GMA7 Elton Reservoir**

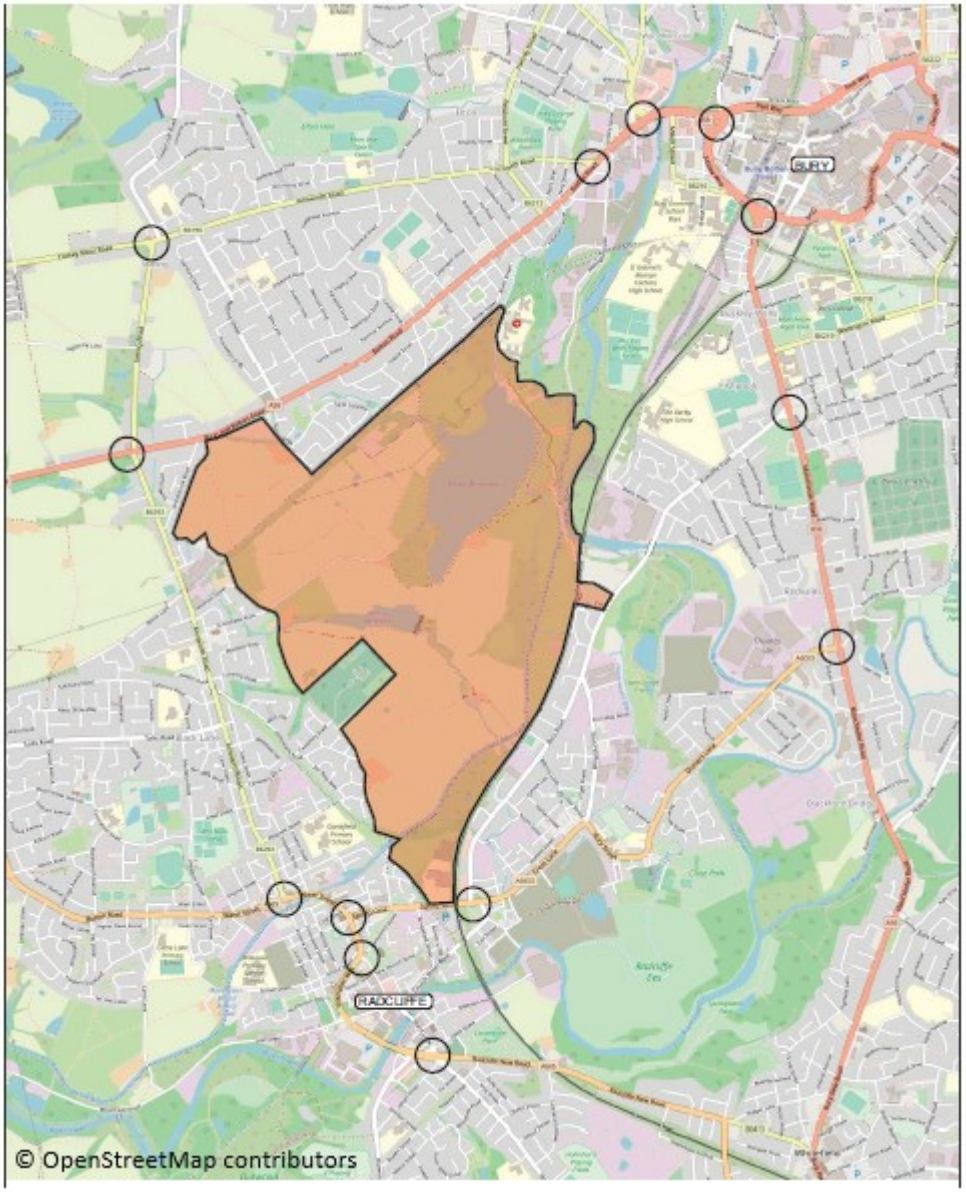
| Route | AM Peak Hour | PM Peak Hour |
|---|---|---|
| South - A6053 Spring Lane west | 19% | 15% |
| South - A6053 Spring Lane east | 24% | 30% |
| East - Bury Road south | 0% | 1% |
| East - Radcliffe Road north | 29% | 28% |
| North – A58 Bury and Bolton Road west | 21% | 23% |
| North – A58 Bury and Bolton Road east | 7% | 4% |

8.1.13 In terms of the wider distribution, the most significantly affected routes are south through Radcliffe, west along A58, and east to/from M66 via both Parkhills Road – Junction 2, and Manchester Road – Hollins Lane – Junction 3. Elsewhere development traffic routeing is much lighter with very little travelling through Bury Bridge and the town centre. The dispersal of traffic in three different directions from the allocation helps minimise the impact of development traffic. Of course, the creation of a new link will also result in some rerouting of background traffic too, and other GMSF traffic will route via the new Link Road. This is fully taken account of in the modelling work.

## 9 Current Highway Capacity Review

9.1.1 **Figure 15** below shows the highway network surrounding the allocation. This also indicates the junctions of interest within this LAR as detailed **in Chapter 11.**

**Figure 15. Local Highway Network: Elton Reservoir**




9.1.2 The existing key constraint areas on the highway network are:

- AM peak: A58 at Bury Bridge/Jubilee Way west of Bury town centre, the A56 south of the town centre, and A665 around Ainsworth Road and Spring Lane in Radcliffe in the AM peak, and
- PM peak: around A665, A56 and Hollins Lane, and Rochdale Road/Wash Lane to the east of Bury town centre

9.1.3 Congestion is commonly experienced in these locations during weekday peaks. Congestion at Bury Bridge can be severe and contributes to local air quality problems.

9.1.4 The capacity constraints in these locations have had a significant bearing on the transport strategy for the Elton site in terms of both public transport provision and highway mitigation.

9.1.5 It is not appropriate to adopt a 'predict and provide' approach, particularly for peak period journey to work trips. As the population grows, and the road network becomes more constrained, future travel habits will adapt. This will include changing mode of travel, time of travel, or even suppressing the trip. Bury Council's ambition is to be carbon neutral by 2030, and therefore an appropriate balance needs to be struck on infrastructure spending, with greater emphasis on sustainable transport mitigation.

9.1.6 Nevertheless, whilst the development will add traffic to the network, the provision of the Link Road and associated improvements around Radcliffe town centre provide alternative routes for many existing trips which will avoid two of the key constraint areas: A58 at Bury Bridge/Jubilee Way; and A665 Water Street / Ainsworth Road junction.

9.1.7 Given that such significant highway infrastructure provision results in these strategic re-routeing effects, it is necessary to consider the surrounding network in the future with both GMSF development and the transport strategy package in place.

## 10 Cumulative Impacts

10.1.1 The GMA9 Walshaw allocation is located to the north of GMA7 Elton Reservoir allocation. The two allocations' traffic will impact partly on the same highway network as GMA7 Elton Reservoir site, and will also depend on the delivery of the new Link Road. Further details of the GMA9 Walshaw allocation impact on the Link Road are contained within the Locality Assessment for that site.

10.1.2 The modelled flows take account of these cumulative impacts from both sites as all GMSF allocations are included in the traffic model, as is of course the Link Road. It is expected that further modelling will be needed to determine the respective contributions towards some of the infrastructure to be delivered, and the phasing of it.

## 11 Allocation Access Assessment

11.1.1. The site access arrangements (Link Road connections to the existing highway network) have been developed to illustrate that there are practical options for access and to develop indicative cost estimations.

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

11.1.3 Capacity assessments have been undertaken to confirm that the proposed access arrangements are suitable. The assessments are based on the worst-case modelled traffic flows.

11.1.4 Signalised layouts have been assumed and tested for all three Link Road terminating junctions (A58 North, Bury Road and A6053 Spring Lane) as shown in **Figures 6 - 8**.

11.1.5 Junction arrangements have been tested using LINSIG, the industry standard modelling tool for signalised junctions. This assessment work has resulted in modifications to the layouts of all three Link Road junctions in order to better accommodate the forecast flows, although as discussed, these are robust testing flows. A summary of the operational performance of the junctions is detailed below in **Table 5**.

11.1.6 The table shows the worst-case degree of saturation on any of the approach lanes at each junction. A degree of saturation of around 90% is generally taken as the practical 'design' capacity of a junction.

**Table 5. Summary Link Road Junction Performance (Run 2 After Mitigation Flows - 2040 GMSF High Side Flows (Up To 3,500 Units At Elton Reservoir): Elton Reservoir**

| Junction | AM Peak Hour | PM Peak Hour |
|---|---|---|
| A58 (north junction) | 72% | 70% |
| Bury Road (east junction) | 69% | 86% |
| Spring Lane (south junction) | 71% | 75% |

11.1.7 The LINSIG results show that all three Link Road connections to the external highway network would be operating well within the 90% practical capacity limit, and therefore still with reserve capacity during the peak hours. It is emphasised that this is for up to 3,500 units i.e. development beyond the GMSF plan period.

## 12 Impact of the Allocation Before Mitigation

12.1.1. The GMVDM traffic modelling has firstly assessed the impact of GMSF 'Before Mitigation' (although as noted, the Elton Reservoir Link Road has been assumed as being delivered alongside the development) and was therefore included within this 'Before Mitigation' model run. Generally across the allocations the following process has been followed:

- the impacts from this modelling run have been considered through detailed junction assessments;
- potential mitigation schemes developed where impacts are significant;
- the mitigation schemes have been fed into a second round of modelling ('With Mitigation'); and finally
- a repeat of the detailed junction assessments in order to consider the changes in traffic routeing which might result from these mitigation schemes.

12.1.2 However, in the case of Elton Reservoir allocation, as discussed in chapter 8, the 'Before Mitigation' model run was based on the allocation being just 2005 units. Any assessment work based on these model flows will therefore underestimate the overall impacts. It is therefore not possible to present these outputs as per the other allocation LARs.

12.1.3 The 'With Mitigation' model run was corrected (for the High Side scenario) to contain the full 3,500 units allocation, and as agreed with Bury Council, this is the worst-case test adopted within the assessment. The 'With Mitigation' model run includes both the Link Road and the Radcliffe town centre improvements. The results of this assessment are reported in chapter 13.

12.1.4 As noted in Section 2, the strategic Link Road through the allocation was considered to be fundamental to the delivery of the proposed allocation and formed part of the mitigation strategy from the outset.

12.1.5 TfGM AIMSUN modelling identified that with the Link Road provision through the allocation, but prior to any other highway or Metrolink mitigation, significant development traffic would travel to/from the south through Radcliffe. This early modelling helped to inform the wider transport and mitigation strategy for the GMA7 Elton allocation, including the need to mitigate junctions which were not included within the initially identified area of interest.

12.1.6 In 2019, SYSTRA issued advice in respect of the draft Locality Assessment work which included a list of 9 junctions which should be considered within the assessment work. This list was expanded in early 2020 to the 11 Junctions as listed below.

- A6053 Spring Lane/A665 Water Street
- B6292 Ainsworth Road/A665 Water Street
- A56 Manchester Road/A6053 Dumers Lane
- A56 Manchester Road/Radcliffe Road
- A56 Manchester Road/A58 Jubilee Way
- A58 Jubilee Way/A58 Bolton Street
- A58 Bolton Street/Crostons Road
- A58 Bolton Road/B6196 Ainsworth Road
- B6292 Starling Road/B6196 Cockey Moor Lane
- Bury Road / Spring Lane
- A58/Ainsworth Road/Starling Road

12.1.7 Whilst this list has been considered in conjunction with the work undertaken in preparing this LAR, it should be noted that as a consequence of the Transport Strategy developed for the allocation (which includes works around Radcliffe town centre which coordinate with strategic alternative route provided by the Link Road), the additional junctions listed below have also been considered and included within the overall highway mitigation package:

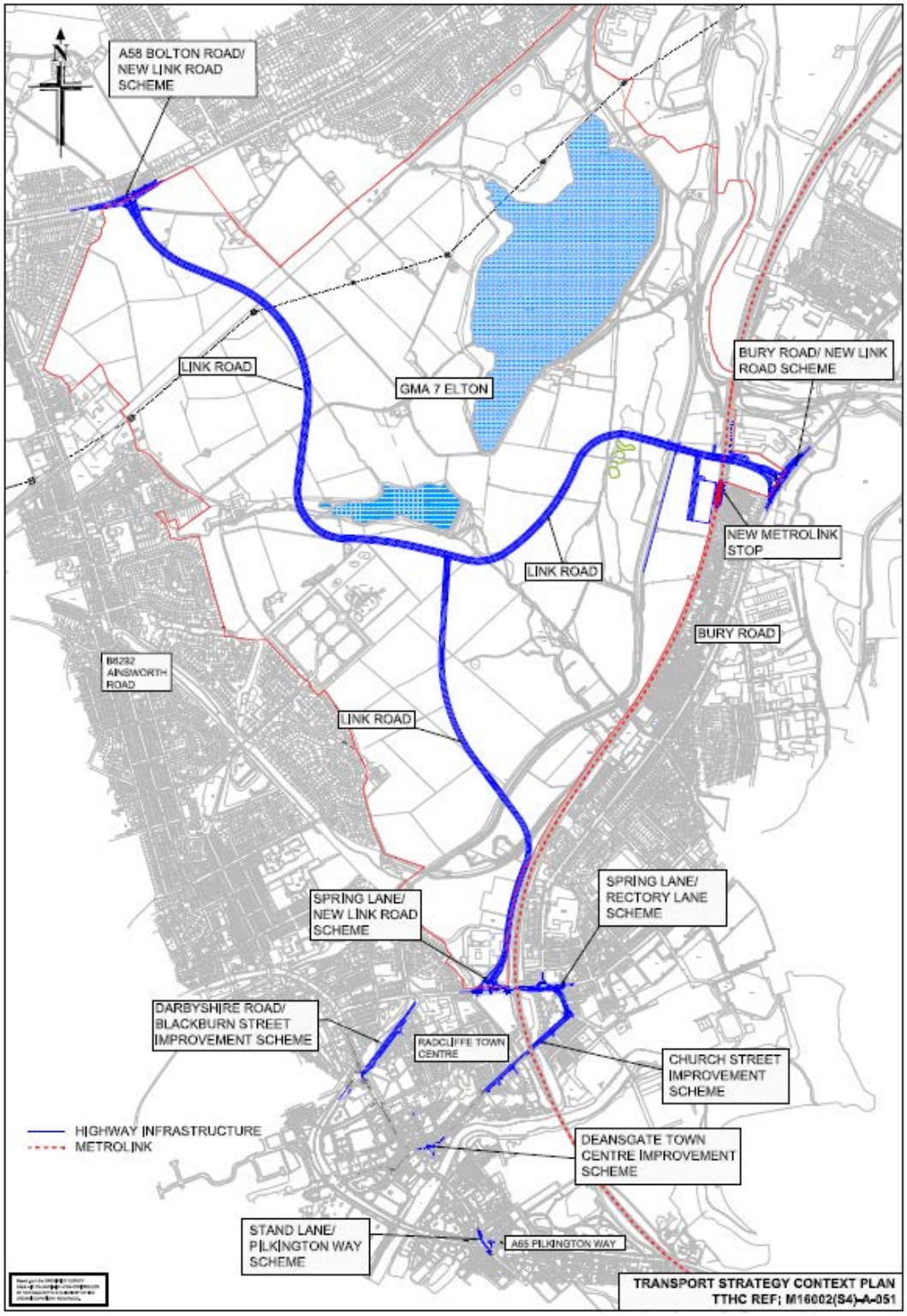
- A665/Stand Lane
- A665/Darbyshire Street/Blackburn Street

12.1.8 In combination, the Link Road and Radcliffe town centre improvements reduce the pressures on existing infrastructure within Bury, including Bury Bridge and other town centre junctions.

12.1.9 Consequently, in consultation with Bury Council, a package of highway mitigation around Radcliffe town centre (which would coordinate strategically in conjunction with the Link Road provisions) was developed at an early stage in the assessment work.

12.1.10 The combination of the Link Road and Radcliffe improvement works which were developed from this work are presented on the plan in **Figure 16**. With the exception of works to the A665/Stand Lane junction, this highways strategy for the allocation was incorporated within the 'With Mitigation' model GMVDM run.

**Figure 16. Overall Transport Strategy (Illustrative): Elton Reservoir**






12.1.11It should be noted that in the case of the GMA7 Elton Reservoir allocation and its delivery of a new Link Road in particular, mitigation needs to consider the wider highway impacts, including traffic rerouting, rather than just the development-specific impacts. Although it is assumed that GMA07

Elton Reservoir will deliver the Link Road, given the strategic nature of trips which will use it and the wider benefits it is anticipated to bring, opportunities will be sought to explore the potential for some funding of the infrastructure from other revenue streams.

## 13 Transport Interventions to be tested

13.1.1 The test adopted for detailed junction assessment purposes is the 'With GMSF' scenario which considers all GMSF traffic rather than allocation-specific impacts. Furthermore the 'High Side' development flows have been adopted. As previously discussed, the GMA7 Elton Reservoir allocation is ultimately capable of accommodating up to 3,500 units, so the assessment includes additional development beyond the plan period. These worst-case flows have been adopted for assessment/design purposes.

13.1.2 However, it is important to note that some allocations, including the GMA7 Elton Reservoir allocation, will also be supported by significant public transport and active travel interventions, which will result in a higher mode share for sustainable modes and a corresponding reduction to the 'High Side' development traffic forecasts.

13.1.3 **Figure 15** shows the overall Transport Strategy and Mitigation tested in conjunction with the development of this LAR. As shown, most of the highway mitigation was included within the SYSTRA modelling.

13.1.4 With reference to the highway capacity constraints identified and the primary areas of impact, the main highways mitigation scheme adopted within the second model run 'with mitigation' includes the full Link Road provision and all of the Radcliffe town centre proposals as indicated on the plan in **Appendix 1.**

13.1.5 The Radcliffe measures focus on providing two improved routes between Spring Lane and the A665: one via Rectory Lane, Church Street West and Stand Lane; and the other providing a one-way connection (southbound) from Darbyshire Street on to A665. The specific modifications are listed below.

13.1.6 **Church Street West:** Traffic management scheme and creation of dedicated parallel parking bays.

13.1.7 **A665 / Darbyshire Street / Blackburn Street**: Extension of dead end Darbyshire Street to allow traffic into the junction (one-way only). Provision of shared footway/cycleway along Darbyshire

Street, and surface treatment to highlight connection to Toucan crossing on Spring Lane as part of National Cycle Route 6. Controlled pedestrian crossing on Darbyshire Street arm. Formalisation of on-street parking on Darbyshire Street.

13.1.8 **Deansgate/Church Street:** Realignment to create Church Street as major arm and Deansgate as minor arm. Thomas Street converted to one-way to reduce conflicting movements at junction. Formalisation of on-street parking on Church Street and Thomas Street.

## 14 Impact of testing

14.1.1. **Table 6** below provides details of the allocation impact in the context of the 2040 Reference Case flows. It should be noted that these off-site impacts are derived from the model output which includes the Transport Strategy improvements developed for the allocation and the wider network (i.e. the improvements shown in **Figure 15** with the exception of the A665/Stand Lane junction).

14.1.2 In order to determine which junctions from the list set out in Section 11 were taken forward for further testing and potential mitigation (beyond that already assumed within the model), the absolute and proportional impacts have been considered.

**Table 6. Off-site Junction Impacts (PCUs)**

| | Junction | Allocation Traffic Full Development 3,500 Units (Plan Period 2,750 Units Estimate) | % Increase From Ref Case Due To Allocation |
|---|---|---|---|
| A | A665 / Stand Lane | 446 (350) | 14% (11%) |
| | Bury Road / A6053 Spring Lane* | 369 (290) | 27% (21%) |
| | A6053 Spring Lane / Rectory Lane* | 365 (287) | 22% (18%) |
| | A665 / Darbyshire St / Blackburn St* | 225 (177) | 10% (8%) |
| B | A56 Manchester Road / Radcliffe Road | 421 (331) | 12% (10%) |
| | A58 / Ainsworth Road / Starling Road | 304 (239) | 16% (12%) |
| C | A56 Manchester Road / A6053 Dumers Lane | 145 (114) | 4% (3%) |
| | A6053 Spring Lane / A665 Water Street | 131 (103) | 4% (3%) |
| | B6292 Ainsworth Road / A665 Water Street | 89 (70) | 3% (2%) |
| | B6292 Starling Road / B6196 Cockey Moor Road | 84 (66) | 5% (4%) |
| | A56 Manchester Road / A58 Jubilee Way | 52 (42) | 2% (1%) |
| D | A58 Bolton Street / Crostons Road | 22 (17) | <1% |
| | A58 Jubilee Way / A58 Bolton Street | 14 (11) | <1% |
| A | A58 Bolton Road / B6196 Ainsworth Road | 12 (9) | 1% (<1%) |
| | A665 / Stand Lane | 557 (438) | 16% (13%) |
| | Bury Road / A6053 Spring Lane* | 529 (416) | 37% (29%) |

| | | | |
|---|---|---|---|
| | A6053 Spring Lane / Rectory Lane* | 526 (413) | 35% (27%) |
| | A665 / Darbyshire St / Blackburn St* | 181 (142) | 7% (6%) |
| B | A56 Manchester Road / Radcliffe Road | 478 (376) | 14% (11%) |
| | A58 / Ainsworth Road / Starling Road | 421 (331) | 18% (14%) |
| C | A6053 Spring Lane / A665 Water Street | 132 (104) | 4% (3%) |
| | A56 Manchester Road / A58 Jubilee Way | 123 (97) | 4% (3%) |
| | A56 Manchester Road / A6053 Dumers Lane | 90 (71) | 3% (2%) |
| | B6292 Ainsworth Road / A665 Water Street | 88 (69) | 2% (2%) |
| | B6292 Starling Road / B6196 Cockey Moor Road | 44 (35) | 3% (2%) |
| D | A58 Bolton Street / Crostons Road | 33 (26) | 1% |
| | A58 Jubilee Way / A58 Bolton Street | 28 (22) | 1% |
| | A58 Bolton Road / B6196 Ainsworth Road | 11 (9) | <1% |

14.1.3 Based on the impacts (absolute and percentage), the junctions have been subdivided into four categories.

14.1.2 The first four junctions listed in **Table 7** (category A) form part of the Transport Strategy for the site, and detailed junction assessments have been undertaken for these as part of the development of the Rochdale town centre improvements.

14.1.3 The remaining junctions are listed in descending order of absolute impact. From further consideration of these impacts, category B junctions were selected as those showing significant impacts, and these have also been subject to detailed junction assessments. The remaining junctions in the list all show significantly lower impacts. For category C junctions, further consideration has been made to the operational performance of these junctions with reference to the volume/capacity values extracted from the traffic model. The last three junctions on the list all

show minimal impacts, which would not be perceptible, and therefore have not been considered further.

14.1.4 The category C worst case volume/capacity values are detailed below for each junction. This presents a comparison of Reference Case performance against With GMSF performance in order to consider the net change in operational performance as a consequence of GMSF development. It is emphasised that the With GMSF scenario includes traffic from all GMSF site; and not just Elton Reservoir. The volume/capacity data has only been made available for the model run which assumed 2005 units, and not the final test which is based on full build out at 3,500 units. Nevertheless, it still provides an indication of the degree of change.

14.1.5 The results of this comparison are summarised in **Table 7**, and further commentary provided below.

**Table 7. Volume/Capacity Junction Performance - Worst Case V/C at Junction**

| Junction | Reference Case AM | 2040 with GMSF (2005 Units) AM | Reference Case PM | 2040 with GMSF (2005 Units) PM |
|---|---|---|---|---|
| Manchester Road / Dumers Lane | 97% | 102% | 90% | 105% |
| Spring Ln/Water Street | 101% | 105% | 102% | 107% |
| Ainsworth Road/Water Street | 100% | 95% | 99% | 89% |
| Starling Road /Cockey Moor Road | 77% | 101% | 69% | 103% |
| Manchester Road/Jubilee Way | 71% | 76% | 57% | 96% |

14.1.6 At Manchester Road/Dumers Lane junction, the worst-case volume/capacity values increase as a consequence of GMSF traffic, although the junction performance remains at around capacity (100%) which for peak hour conditions in 2040 is considered acceptable. The additional trips through the junction resulting from full development build-out (from 2,005 units to 3,500 units) is estimated at an additional 62 movements in the AM peak and 39 in the PM peak. These flows would not materially change the performance. Consideration of all the volume/capacity values for each movement at the junction suggests that there is scope for re-optimisation of the signal timings for an improved performance. Overall, the scale of impact at this junction is considered acceptable and need not be considered further.

14.1.7 At Spring Lane/Water Street the worst-case volume/capacity values are just over capacity, and the increase as a consequence of GMSF traffic, is minimal. The additional trips through the junction resulting from full development build-out (from 2005 units to 3,500 units) is estimated at an additional 58 movements in either peak, which again would not materially change the performance of the junction. Overall, given the proposed mitigation at A665 / Stand Lane junction (which isn't included within the junction modelling) and that this provides the potential for some

traffic to switch to that route, thus providing some relief at the Spring Lane/Water Street junction, the scale of impact at this junction is considered acceptable and need not be considered further.

14.1.8 At Ainsworth Road / Water Street the worst-case volume/capacity values reduce as a consequence of GMSF. This is a direct result of the provision of the Link Road allowing traffic to reroute. The additional trips through the junction resulting from full development build-out is estimated at an additional 38 movements in either peak, which would not change this conclusion. As the impact at this junction is beneficial, it need not be considered further.

14.1.9 At Starling Road/Cockey Moor Road a more significant step change impact can be seen. The additional trips through the junction resulting from full development build-out is estimated at an additional 36 movements in the AM peak and 14 in the PM peak. However, this junction is impacted on to a much greater extent by the nearby Walshaw site (176 and 198 movements respectively in the AM an PM peak hours), and further consideration is given to the junction within that report.

14.1.10 At Manchester Road/Jubilee Way a significant step change impact is noted in the PM peak hour. The additional trips through the junction resulting from full development build-out is estimated at an additional 20 movements in the AM peak and 52 in the PM peak, which would not materially change the performance of the junction. It is noted from the consideration of all volume/capacity values at this junction that an improved performance at this junction should be achieved through re-optimisation of the signal timings. On this basis further detailed consideration of this junction is not considered necessary.

14.1.11 From the consideration of the volume/capacity values at these five junctions, it is concluded that none of them would warrant a mitigation scheme associated with the Elton Reservoir allocation (particularly so given the overall package of mitigation which comes with this allocation), and therefore more detailed operational assessments are not required.

14.1.12 Detailed junction assessments have been undertaken for all of the category A and B junctions described above in **Table 7**.

14.1.13 In conjunction with the Transport Strategy which had been developed, improvement schemes for the Radcliffe town centre junctions marked by an asterisk in **Table 7** were included within the 'High Side After Mitigation' model run. Improvement schemes for other junctions (where necessary)

were developed from further analysis and more detailed modelled assessment. Given that all junctions are signal controlled, the modelled assessments have been undertaken using LINSIG.

14.1.14 All of the junctions have been tested using the same robust assessment flows. This is for full build-out at 3,500 units.

14.1.15 **Table 8** below show the maximum Degrees of Saturation for the Radcliffe Town Centre improvements included within GMVDM, as tested using LINSIG. The illustrative layouts of these junctions are provided in the detailed plans contained at **Appendix 1**.

**Table 8. Summary of Radcliffe Town Centre Improved Junctions Performance (GMVDM)**

| Junction / Max DoS | 2040 Ref Case Existing Layout AM | 2040 Ref Case Existing Layout PM | Run 2 2040 GMSF High Side Flows (3,500 Units) With Mitigation AM | Run 2 2040 GMSF High Side Flows (3,500 Units) With Mitigation PM |
|---|---|---|---|---|
| Spring Lane / Bury Road | 78% | 53% | 78% | 102% |
| Spring Lane / Rectory Lane | 97% | 48% | 89% | 98% |
| A665 / Darbyshire Street / Blackburn Street | 56% | 83% | 78% | 94% |

14.1.16 The first two junctions in **Table 8** above are priority controlled and would be operating with significant reserve capacity under Reference Case PM peak flows. With the addition of the Link Road the function of this route would change, and hence their current layouts are not of a form suitable to carry traffic to/from the Link Road. The signalisation scheme was developed through discussions with Bury Council and TfGM. In designing these layouts, given the change in function of the route, it would not be appropriate to mitigate back to the Reference Case level where significant reserve capacity is indicated, and indeed in practical terms, it is a case of providing the best layout which can be achieved within the constraints of the surrounding built environment.

14.1.17 The LINSIG results show that signalisation schemes would be operating at around or just beyond their practical capacity. This is considered to represent acceptable operating conditions for the

peak hours in 2040 based on the worst-case model assumptions which have been tested, which includes for up to 3,500 units for the allocation. At other times of the day, traffic demands would be lower and the junctions would be operating with reserve capacity.

14.1.18 In the case of opening up the Darbyshire Street connection to the A655/Blackburn Street junction, this will result in reduced operational performance at the junction, but will still be operating below capacity in both peak hours.

14.1.19 The other junctions did not have mitigation schemes included within the GMVDM. The results reported in **Table 9** below therefore include results for With GMSF flows Before Mitigation, and then where relevant, with improvements.

**Table 9. Summary of Junction Performance**

| Junction / Max DoS | 2040 Ref Case Existing Layout AM | 2040 Ref Case Existing Layout PM | Run 2 2040 GMSF High Side Flows (3,500 Units) Existing Layout AM | Run 2 2040 GMSF High Side Flows (3,500 Units) Existing Layout PM | Run 2 2040 GMSF High Side Flows (3,500 Units) With Mitigation AM | Run 2 2040 GMSF High Side Flows (3,500 Units) With Mitigation PM |
|---|---|---|---|---|---|---|
| A665 / Stand Lane | 86% | 102% | 102% | 150% | 106% | 98% |
| A56 Manchester Rd/ Radcliffe Rd | 100% | 88% | 143% | 115% | 120% | 108% |
| A58/ Ainsworth Rd/Starling Rd | 97% | 105% | 115% | 124% | 97% | 95% |

**A665 / Stand Lane**

14.1.20 As shown from the flows in **Table 6,** the allocation would result in a significant volume of additional traffic at the junction of A665/Stand Lane. In addition, as a consequence of the Link Road and Radcliffe town centre improvements adopted within the 'With Mitigation' model scenario, there is a strategic transfer of predominantly north/south traffic which routes via the new infrastructure.

14.1.21 As shown in **Table 9**, the existing A665/Stand Lane junction layout would not perform well with the additional demands which would be placed on it under the With GMSF flows, particularly in the PM peak hour. Whilst this model scenario assumes the full 3,500 units for the allocation, it has nevertheless been necessary to include an improvement scheme for this location. The improvement has been developed through examination of the turning demands in the 2040 With GMSF run and with consideration of existing crossing provision of the A665. To the west, at the junction of Outwood Road, the controlled pedestrian crossing is situated on the western side of the junction. Given this provision, at the Stand Lane junction, the improved layout includes a controlled crossing on the eastern side of the junction. In conjunction with revisions to the lane provisions on some approaches, the crossing on the eastern side of the junction enables significant improvement to be made in the PM peak hour. The AM peak hour would be made marginally worse as a consequence.

**A56 Manchester Road/Radcliffe Road**

14.1.22 With regard to the existing junction, the GMSF impact (net increase in degree of saturation) would be around 45% in the AM peak hour and 26% in the PM peak hour. The allocation component of this impact would be around half in both peaks.

14.1.23 Whilst no physical improvement is proposed for this junction, there are improvements to be gained by way of revisions to some of the signal settings which better suit the future turning volumes. The measures tested comprise the switching of the Indicative Green Arrow for the A56 southbound right turn from the end of the phase to the start and reallocating the turning demand on the eastern Parkhills Road arm to make better use of the existing lane provision. As shown in **Table 9**, whilst these improvements don't address all of the GMSF demand, it would broadly mitigate the effects of the allocation (which equates to around half of the impact based on the full 3,500 units for the allocation).

**A58/Higher Ainsworth Road/Starling Road**

14.1.24 With regard to the existing junction, the GMSF impact would be around 18% in the AM Peak hour and around 19% in the PM peak hour. Whilst the majority of this impact would be a consequence of the allocation component in the PM Peak Hour, it would only equate to around half of the impact in the AM Peak Hour.

14.1.25 In connection with this junction, a scheme has been investigated which would provide improved alignments for the northern and southern approach arms, which would enable staging

improvements and the conversion of the existing pedestrian refuge on the southern arm with a controlled pedestrian crossing. This improvement scheme is shown in **Appendix 2.**

14.1.26As shown in **Table 9**, this improvement would address all of the impacts of the Run 2 GMSF test, including the worst case 3,500 units development total for the allocation.

## 15 Impact and mitigation on Strategic Road Network

15.1.1 The M66 lies to the east of the Elton Reservoir allocation, and the M60 lies to the south. This means that the impact of development traffic on the Strategic Road Network (SRN) would be dispersed across a number of junctions rather than focused on one. The distribution of development traffic shows that more traffic would route to M66 Junction 2 (Bury) than to Junction 3 (Pilsworth). Traffic would also route to and from the M60 at Junction 17.

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. This 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).

## 16 Final list of interventions

**Table 10. Final Interventions: Elton Reservoir**

| Mitigation | Description |
|---|---|
| **Site Access** | |
| Access junctions (A58, Bury Road and Spring Lane) | These are part of the Link Road scheme described below. |
| **Necessary Strategic Interventions** | |
| Metrolink stop and Park & Ride facility | New Metrolink stop in the Warth area |
| Link Road and three access junctions | Link road with three access junctions |
| **Supporting Strategic Interventions** | |
| None | |
| **Necessary Local Interventions** | |
| Radcliffe Town Centre improvements | Signalisation of Bury Road and Rectory Lane junctions with Spring Lane. Traffic management and parking bays on Church Street West.<br>Providing Darbyshire Street connection onto A665 (one way) including improvements to NCR6. Junction realignment to create Church Street as major arm and Deansgate as minor arm. Thomas Street converted to one-way to reduce conflicting movements at junction. Formalisation of on-street parking on Church Street and Thomas Street. Junction improvement A665/Stand Lane. |
| New bus routes through the allocation | |

| | |
|---|---|
| Bus stops along the Link Road | |
| Delivery of missing section of Bolton-Bury Cycleway | Delivery of missing section through site to Hardman Street |
| **Supporting Local Mitigations** | |
| A56/Radcliffe Road and<br>A58/Ainsworth Road/ Starling Road signals improvements | Small-scale layout improvements |
| **SRN Interventions** | |
| Not required at this stage | |

**Necessary Strategic Interventions**

16.1.1 The Elton allocation provides a significant opportunity in respect of Metrolink, with a new stop situated within the allocation.

16.1.2 In addition to this strategic public transport intervention, based on the traffic modelling work undertaken and the assessment work to date, the Link Road through the allocation is also considered to be a necessary strategic intervention to deliver the full development.

16.1.3 There are a number of stress points on the local highway network, in particular A58 at Bury Bridge/Jubilee Way, and A665 around Ainsworth Road junction. Significant new development cannot take place without new highway infrastructure to relieve these junctions. The proposed Link Road through the allocation is necessary in order to deliver the full Elton Reservoir and Walshaw allocation sites and to avoid significant impacts at some of the critical locations around Bury town centre. The Link Road will not only serve the Elton and Walshaw developments, but will also serve existing trips on the highway network. It also provides the opportunity for new bus routes.

**Necessary Local Interventions**

16.1.4 In conjunction with the new Link Road infrastructure, additional improvements around Radcliffe town centre (as outlined in Chapter 12) would be provided.

16.1.5 Maximum benefit from the new Link Road will be achieved through the delivery of the junction modifications associated with the Radcliffe town centre highway improvements which provide improved connections to the A665.

16.1.6 As the population grows, and the road network becomes more constrained, future travel habits will adapt. This will include changing mode of travel, time of travel, or even suppressing the trip. There is significant potential for a future modal switch to non-car modes, particularly in the case of the GMA7 Elton Reservoir where the provision of a new Metrolink stop provides significant opportunity for modal switch. This modal switch is not only limited to development traffic. Residents in the Bury Road area will benefit from the new stop, and the provision of a Park & Ride site extends these modal switch opportunities to a much wider population.

16.1.7 In addition to the Metrolink stop and Park & Ride facilities, development should also be supported by new bus routes which penetrate the allocation. There are a number of high frequency services between Bury, Radcliffe and Bolton, and there is the opportunity for some of these services to divert through the allocation. It is also anticipated that Metrolink feeder services would route through the allocation.

16.1.8 It is essential that the allocation itself provides on-site bus stops along the Link Road. The allocation will also require walk and cycle routes to link to the new Metrolink stop and to ensure sufficient permeability for existing nearby residents. Pedestrian and cyclist priority within the development, minimal car parking provision, and sufficient secure cycle parking for all dwellings should also be provided on site.

**Supporting Local Interventions**

16.1.9 In considering the wider GMSF impacts, there are additional junctions which have been assessed for improvement which would help to support the more strategic interventions. These relate to modifications and improvements to the A56/Radcliffe Rd signals and the A58/Ainsworth Rd/Starling Rd signals.

16.1.10 Strong walk and cycle connections would be built into the site layout, and included within the overall development costs, and therefore these have not been explicitly listed.

## 17 Strategic Context – GM Transport Strategy Interventions

17.1.1 The Greater Manchester Transport Strategy 2040 and Our 5-Year Transport Delivery Plan set out a long-term investment plan to support growth across the city region.

17.1.2 it includes the 'Bee Network' which aims to increase walking and cycling across Greater Manchester. In Bury, 71 new or upgraded crossings are proposed for pedestrians and cyclists. Five miles of Beeways on are proposed on busier roads in Bury.

17.1.3 The Bee Network includes additional cycle parking at Radcliffe Metrolink Stop. This would enable local residents to cycle to the tram stop, and then continue their journey by Metrolink. There is also a proposed local network focused on Fishpool, and crossing upgrades on the A56 corridor to the south of Bury town centre.

17.1.4 The Transport Strategy 2040 Delivery Plan also contains a proposal to improve east-west public transport provision along the A58 corridor between Bolton and Bury and onwards to Rochdale through a Quality Bus Transit scheme. In respect of Bury itself, the town's Interchange would be upgraded to improve its attractiveness and efficiency and enhance connections to/from Bury town centre, in line with similar successful projects at Rochdale, Bolton and Altrincham.

17.1.5 Metrolink capacity was identified as a potential issue during earlier consultations. £72m has been allocated from the Transforming Cities Fund for 27 new tram sets and associated infrastructure. This will increase the overall capacity of the network by 15%, including services on the Bury Line through the proposed Elton Reservoir tram stop.

17.1.6 Investigations are in progress into the case for the reopening of the Bolton-Bury railway line under the Government's Restoring Your Railway programme.

17.1.7 The M66 is a key corridor between Bury and the Regional Centre. Highways England has recently consulted on options for a junction improvement scheme at Simister Island, where the M66 to/from Bury meets the M60 orbital motorway around Greater Manchester. Work on this scheme is expected to start in 2024-25.

## 18 Phasing Plan and Summary of Mitigations

18.1.1 For the purposes of the testing the impact of the allocation through the strategic model, a total of 3,500 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 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.

18.1.3 The allocation phasing as assumed within the modelling is detailed in **Table 11**.

**Table 11. Allocation Phasing Assumed Within Model**

| Allocation Phasing | 2020 2025 | 2025 2030 | 2030 2037 | 2038+ | Total |
|---|---|---|---|---|---|
| Overall allocation | 0 | 820 | 1485 | 1195 | 3500 |
| **Total** | **0** | **820** | **1485** | **1195** | **3500** |

18.1.4 However, the developer anticipates a faster build out rate in line with current building practices as per **Table 12** below. However, as it is the full build-out scenario of 3,500 units which has been assessed, there are no changes to the conclusions of this report.

**Table 12. Expected Allocation Phasing: Elton Reservoir**

| Allocation Phasing | 2020 2025 | 2025 2030 | 2030 2037 | 2038+ | Total |
|---|---|---|---|---|---|
| Overall allocation | 117 | 984 | 2176 | 223 | 3500 |
| **Total** | **117** | **984** | **2176** | **223** | **3500** |

18.1.5 The new Metrolink stop is critical to achieving a modal switch and corresponding reduction in car travel. It is important that this is operational from an early stage in development. The delivery of the Link Road also brings wider public transport benefits. TfGM has stated a desire to see Metrolink feeder services connecting Tottington and Walshaw through the allocation site to

connect with the new Metrolink stop and Bury or Radcliffe. Clearly delivery of the Link Road will help facilitate this.

18.1.6 The Link Road is Bury Council's top priority infrastructure to aid delivery of the allocation. If no public revenue is available to aid funding of this infrastructure then it would need to be 100% funded by development

18.1.7 Although it is assumed that the allocation will deliver the Link Road, some funding for it, and the Radcliffe town centre improvements, may come from a number of different sources. This means a balance will need to be struck between permitting some element of development in advance of the Link Road (to provide the necessary release of funds), whilst still setting a sensible cap on development quantum in order to ensure that there are no severe impacts at this interim stage.

18.1.8 It is therefore envisaged that small pockets of development will come forward in advance of the entire Link Road works.

18.1.9 With regard to residential delivery, it is expected that between 500 and 700 units could be delivered by around 2026-2027. Although this would be subject to further testing, it is anticipated that this would be deliverable in conjunction with some local highway mitigation.

18.1.10 The trigger point for delivery of the highway works will not solely depend on the Elton Reservoir allocation. The precise timeframes/trigger points for delivery of this infrastructure will be informed later in the process depending on the finalised group of allocations and any refinements to them. It is envisaged that the works will be delivered in a phased manner. **Table 13** below provides best estimates of when the works might be delivered based on the anticipated phased delivery of unit numbers. As discussed, this will be reviewed and updated throughout the planning process.

**Table 13. Indicative Intervention Delivery Timetable: Elton Reservoir**

| MITIGATION | 2020 2025 | 2025 2030 | 2030 2037 | 2037+ |
|---|---|---|---|---|
| **Site Access** | | | | |
| Access junctions (A58, Bury Road and Spring Lane) | ✓ | ✓ | | |
| **Necessary Strategic Interventions** | | | | |

| MITIGATION | 2020 2025 | 2025 2030 | 2030 2037 | 2037+ |
|---|---|---|---|---|
| Metrolink stop and Park & Ride facility | | ✓ | | |
| Link Road | ✓ | ✓ | | |
| **Supporting Strategic Interventions** | | | | |
| None | | | | |
| **Necessary Local Interventions** | | | | |
| Radcliffe Town Centre improvements | | ✓ | ✓ | |
| New bus routes through the allocation:<br>Bus route diversions possible | | ✓ | | |
| Bus stops along the Link Road | | ✓ | | |
| Delivery of missing section of Bolton-Bury Cycleway and other active travel improvements (to be determined) beyond allocation boundary | | ✓ | | |
| **Supporting Local Interventions** | | | | |
| A56/Radcliffe Road signals improvement | | ✓ | | |
| A58/Ainsworth Road/Starling Road signals improvements | | ✓ | ✓ | |
| **SRN Interventions** | | | | |
| None | | | | |

## 19 Summary & Conclusion

19.1.1. The Elton Reservoir allocation is capable of accommodating up to 3,500 residential units, although some of this development (around 22%) will extend beyond the Plan period. Development will be set within enhanced and accessible parkland. In addition to the comprehensive Transport Strategy, the allocation will include affordable housing; a green infrastructure setting; leisure and recreational facilities; new schools; and local centres.

19.1.2 The allocation sits between Radcliffe and Bury town centres. Radcliffe lies approximately 600 metres to the south of the allocation and Bury approximately 3km to the north east of the proposed housing. The allocation is well located for access on foot to shops, facilities and schools.

19.1.3 The Bury – Manchester Metrolink tram line runs along the eastern edge of the allocation, and there is the opportunity to create a new tram stop midway between Bury and Radcliffe stops which is supported by TfGM. This new tram stop would serve the allocation and other nearby residents, and the proposed provision of an adjacent Park & Ride facility within the allocation would allow the new stop to serve the wider community and relieve pressure on the existing Park & Ride car park at Radcliffe Station.

19.1.4 There is also a well-established network of bus services in the area with important bus corridors running on all three sides of the allocation. With a new highway connection through the allocation linking up A58, Bury Road and Spring Lane there is the opportunity to route new or diverted bus services through the allocation.

19.1.5 Existing walk and cycle routes which run through the allocation will be enhanced. This includes National Cycle Route 6 (which runs alongside the Manchester, Bury and Bolton Canal), and also the Bury – Bolton Cycleway. This will tie in with TfGM's Bee Network proposals to provide an improved cycle route through the allocation between Bury and Radcliffe. The allocation layout will provide for new direct walk and cycle routes which connect well with the existing network and open up the proposed Parkland setting to the public.

19.1.6 These sustainable transport features form the basis of the allocation proposals with non-car access being at the heart of the allocation in order to achieve a modal switch away from car travel, particularly for the journey to work.

19.1.7 There are capacity constraints on the highway network during the AM and PM peaks, and therefore the allocation proposals not only seek to reduce car travel, but to provide some traffic relief. The proposals include for a Link Road through the allocation connecting A58 Bury and Bolton Road to Bury Road to the east and A6053 Spring Lane in Radcliffe to the south. This Link Road will not only serve the allocation, but provide a strategic function taking traffic away from key areas of constraint such as Bury Bridge in Bury and A665 Water Street / Ashworth Road in Radcliffe, and providing greater network resilience.

19.1.8 Highway improvement works are also proposed in Radcliffe town centre to compliment the Link Road proposals, and help feed traffic through from Spring Lane to the A665.

19.1.9 The above described proposals (public transport, walk, cycle, and highway infrastructure) provide a significant package of mitigation.

19.1.20 Modelling work has been undertaken using the Greater Manchester Variable Demand Model (GMVDM) with a constrained and high side scenario. The constrained and high side model runs take account of traffic associated with all GMSF sites and has included the full development of the allocation. This report has considered the allocation in isolation and the allocation in context with other nearby sites.

19.1.21 In the case of the GMA7 Elton Reservoir allocation (and GMA9 Walshaw) additional detailed modelling work (AIMSUN modelling) has been, and is being undertaken, for Bury Council and the findings of that work, once complete, will also feed into the planning process should this allocation be approved.

19.1.22 For Elton, it has been assumed from the outset within the modelling that significant infrastructure would be delivered in conjunction with the development of the allocation and highway mitigation is 'in-built' to every model scenario which includes development. Consequently, in following the LAR template, it has been necessary to present the information based on the model output and to make additional judgements relating to impact based on traffic flow information provided.

19.1.23 The assessment of Elton Reservoir and the development of a transport infrastructure package, including substantial mitigation measures (Metrolink stop, Link Roads and Radcliffe town centre improvements), have been developed in liaison with TfGM and Bury Council. The transport strategy package serves both a development and strategic function. The comprehensive mitigation measures have been developed to provide additional capacity within the transport network to reduce impacts at congested locations within Bury and Radcliffe.

19.1.24 Detailed assessment work of the highway infrastructure has been based on the With GMSF high side scenario and including for the full 3,500 residential units at Elton Reservoir. This shows that the Link Road junctions would all be operating with spare capacity, even during the peak hours. The Radcliffe town centre junction improvement works would be operating at around or just beyond their practical capacity, but this is considered an acceptable level of performance for the peak hours of the day, particularly given the robust nature of the assessment work.

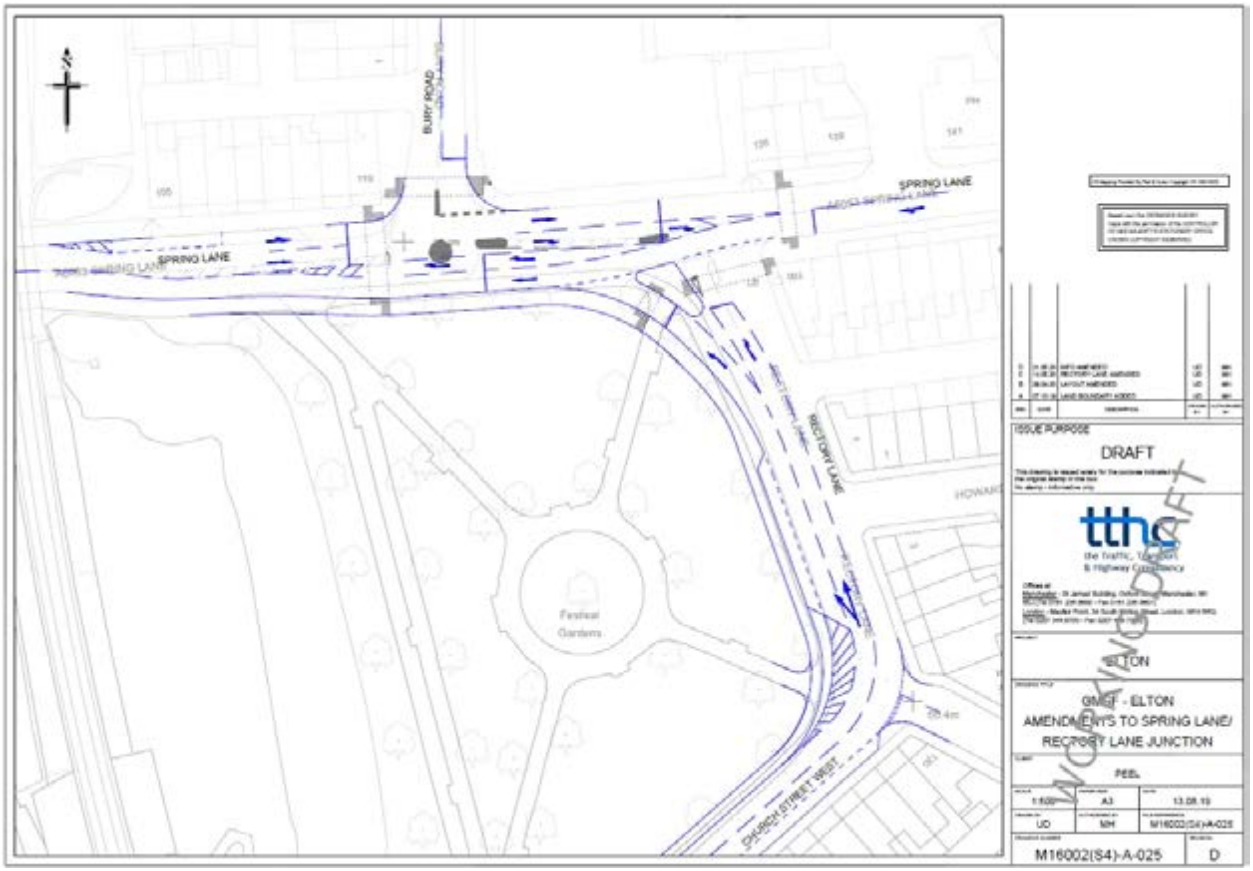
19.1.25 In the case of the Elton Reservoir allocation and its delivery of a new Link Road in particular, mitigation needs to consider the wider highway impacts, including traffic rerouting, rather than just the development-specific impacts. Although it is assumed that GMA07 Elton Reservoir will deliver the Link Road, given the strategic nature of trips which will use it and the wider benefits it is anticipated to bring, opportunities will be sought to explore the potential for some funding of the infrastructure from other revenue streams.

19.1.26 Based on the information contained within this report, the traffic impacts of the allocation would not be severe. At this stage, the modelling work is considered to be a 'worst case' scenario as it based on the full development of the allocation (i.e. beyond the Plan Period) and does not take full account of the extensive opportunities for active travel and public transport improvements in the local area, particularly given the proposed new Metrolink stop.

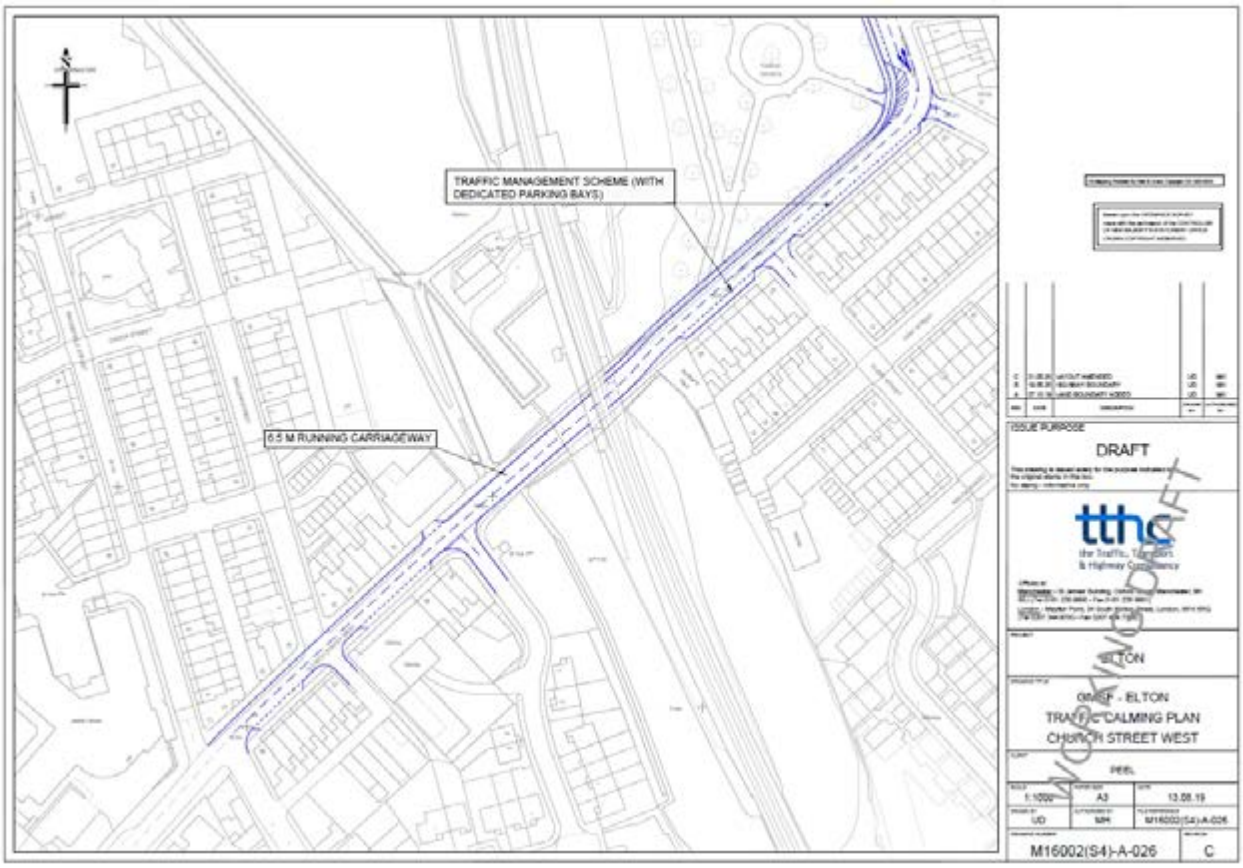
19.1.27 On this basis, the Elton Reservoir allocation is considered deliverable from a transport perspective however, should the allocation be approved, further work will be needed to verify and refine these conclusions, during a future planning process. All final design solutions will be consistent with Greater Manchester's best practice Streets for All highway design principles. The allocation would need to be supported by continuing wider transport investment across GM.

**Appendix 1 – Radcliffe Town Centre Works - Illustrative/Typical Layouts**

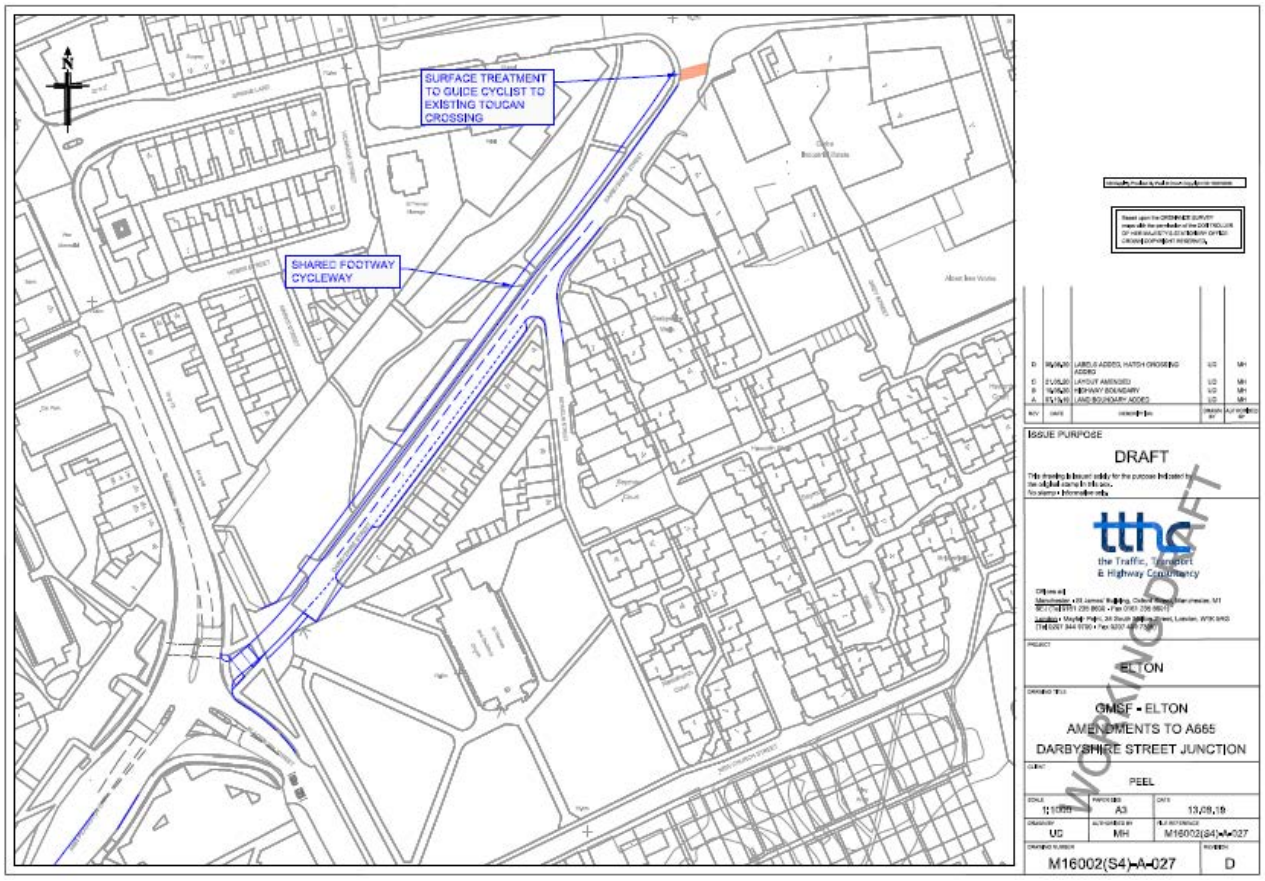
**Spring Lane / Rectory Lane**



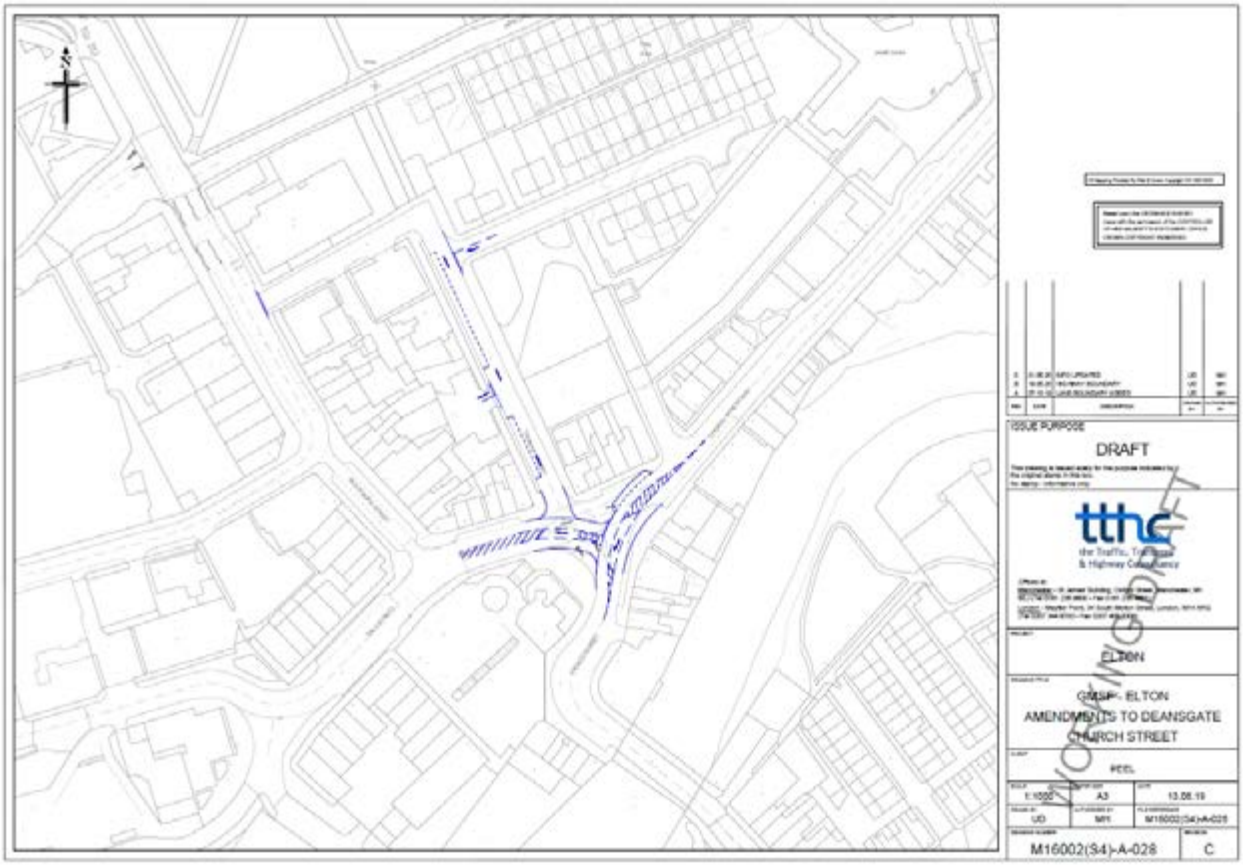
**Church Street West**



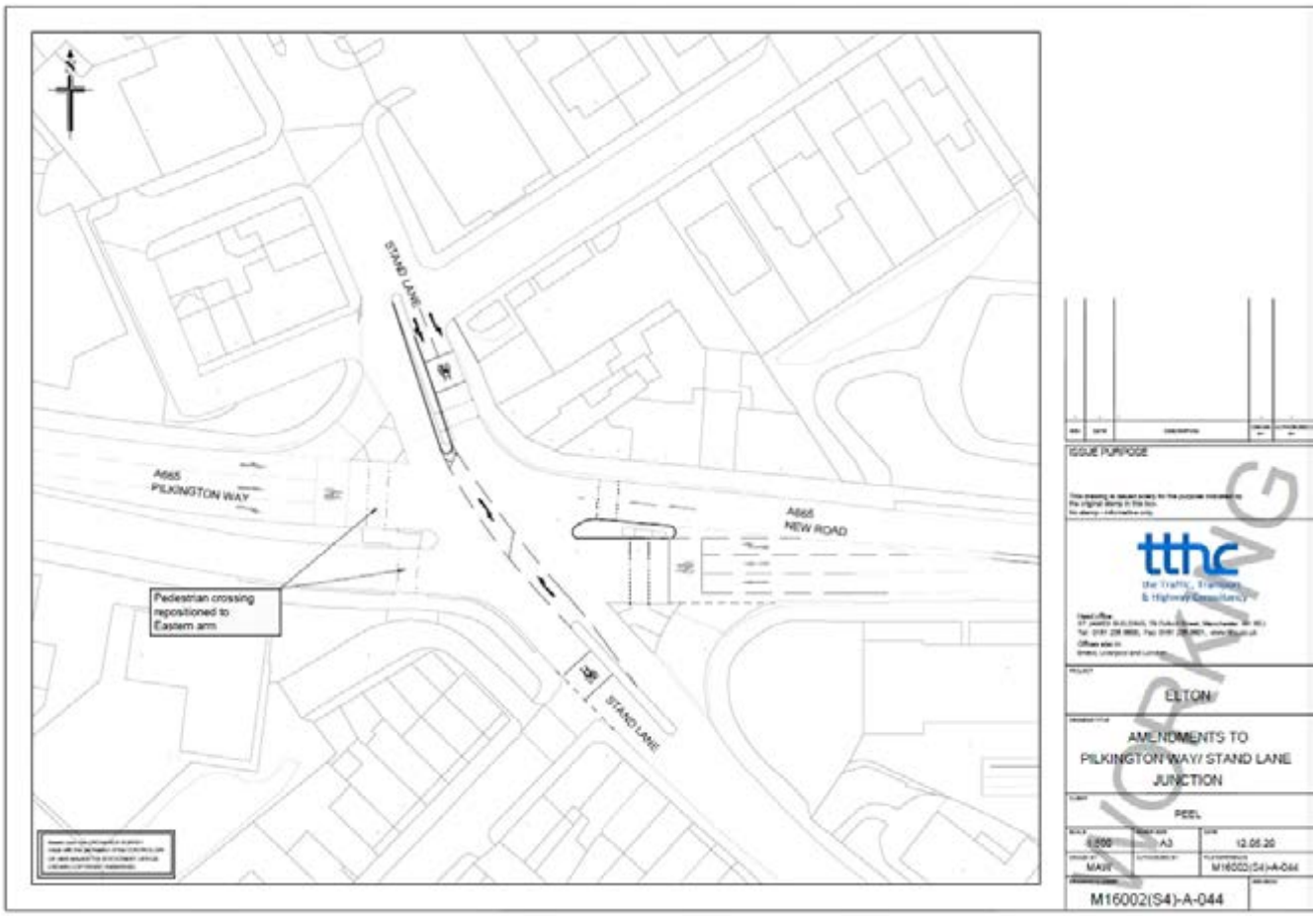
**A667 / Darbyshire Street**



**Deansgate / Church Street**

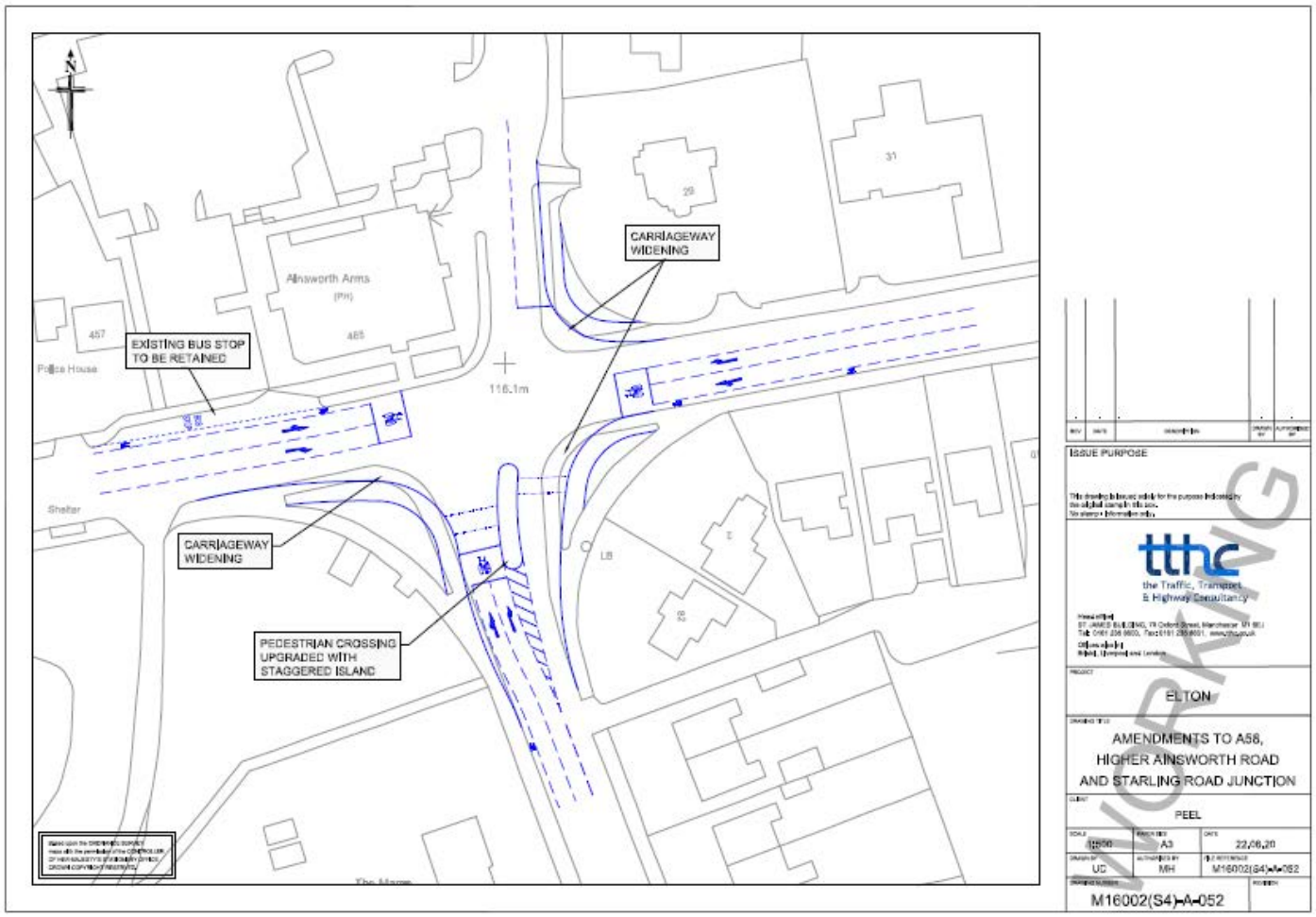


**A665 Pilkington Way / Stand Lane**



**Appendix 2 – Other Highway Mitigation Plans – Illustrative/Typical Layout**

**A58 / Higher Ainsworth Road / Starling Road**



# Greater Manchester Spatial Framework

## Locality Assessment:

### Walshaw (GMA9)

Publication Version 2: November 2020

| Identification Table | |
|---|---|
| **Client** | Bury Council TfGM |
| **Allocation** | Walshaw |
| **File name** | GMA09 Bury – Walshaw LA 021020 |
| **Reference number** | GMA09 |

| Approval | | | | | |
|---|---|---|---|---|---|
| **Version** | **Role** | **Name** | **Position** | **Date** | **Modifications** |
| **0** | Author | Oliver McLaughlin | Senior Transport Planner - Vectos | 19/08/2020 | Base report |
| | Checked by | Adam Smith | Director - Vectos | 19/08/2020 | |
| | Approved by | Adam Smith | Director - Vectos | 19/08/2020 | |
| **1** | Author | D Nixon | TfGM | 28/09/20 | Consistency edits |
| | Checked by | N Blackston | Bury Council | 29/09/20 | |
| | Approved by | C Logue | Bury Council | 29/09/20 | |

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| **Allocation Data** | |
|---|---|
| **Allocation Reference No.** | GMA9 |
| **Allocation Name** | Walshaw |
| **Authority** | Bury |
| **Ward** | Tottington/Church |
| **Allocation Proposal** | 1,250 |
| **Allocation Timescale** | 0-5 years ☐ 6-15 years **x** 16 + years **x** |

## Glossary

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

## 1. Allocation Location & Overview

1.1.1 The allocation is located to the north-west of Bury and is bounded by Lowercroft Road to the west, Scobell Street to the north, residential dwellings and industrial units to the east accessed from Tottington Road. Walshaw Road travels east to west through the centre of the allocation. Elton High School is located to the south-east of the allocation, to the south of Walshaw Road.

1.1.2 Walshaw Road provides access to Walshaw Village Centre, which is also served by bus services.

1.1.3 The allocation is planned to comprise 1,250 dwellings to deliver a range of dwelling types and sizes. The allocation will also need to make provision for affordable homes in line with local planning policy requirements.

1.1.4 The allocation will also make provision within the site to accommodate a new single form primary school.

1.1.5 The allocation includes the provision of a link road, running north to south between Lowercroft Road and Scobell Street. This will provide for development traffic and existing through traffic, reducing flows of traffic passing through Walshaw. The link road will also permit buses to pass through the site, providing flexibility in terms of service provision and routeing. A number of other vehicular accesses to the development will also be provided across the local road network.

1.1.6 A microsimulation model (Aimsun) of the allocation and wider study area has been developed for Bury Council to inform its consideration of this allocation. This model will be used to progress detailed design of interventions at applications stage.

1.1.7 The location of the proposed allocation is shown in **Figure 1** below. **Figure 2** shows the site at a more strategic level and includes the nearby Elton Reservoir Allocation. All boundaries shown were correct at time of writing – for definitive boundary information refer to the GMSF allocation maps.

**Figure 1. Allocation Plan**

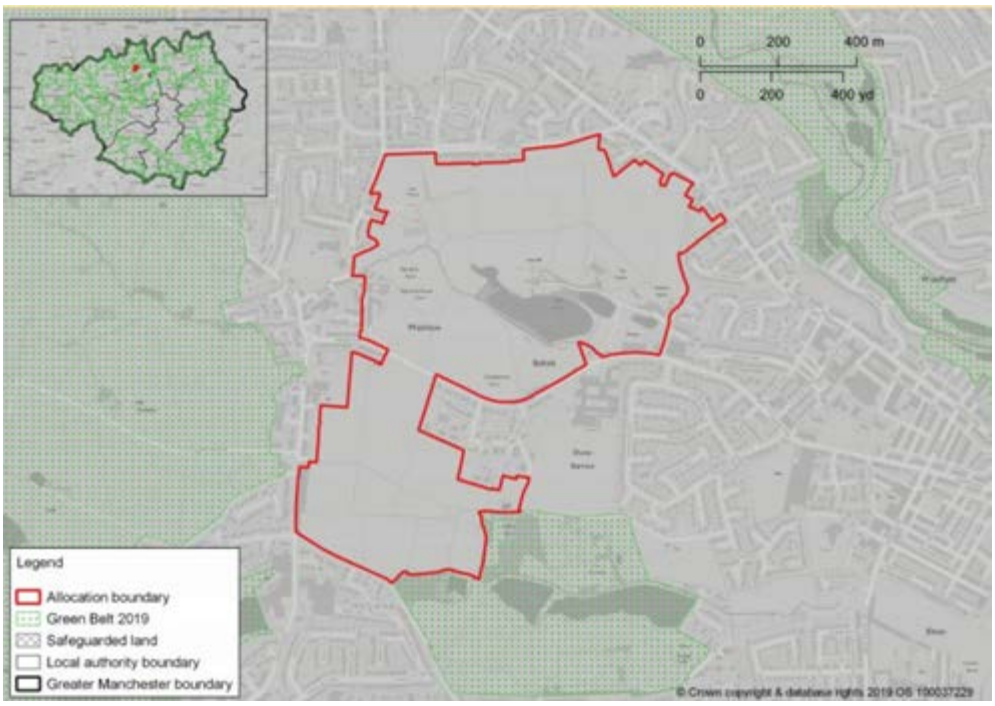
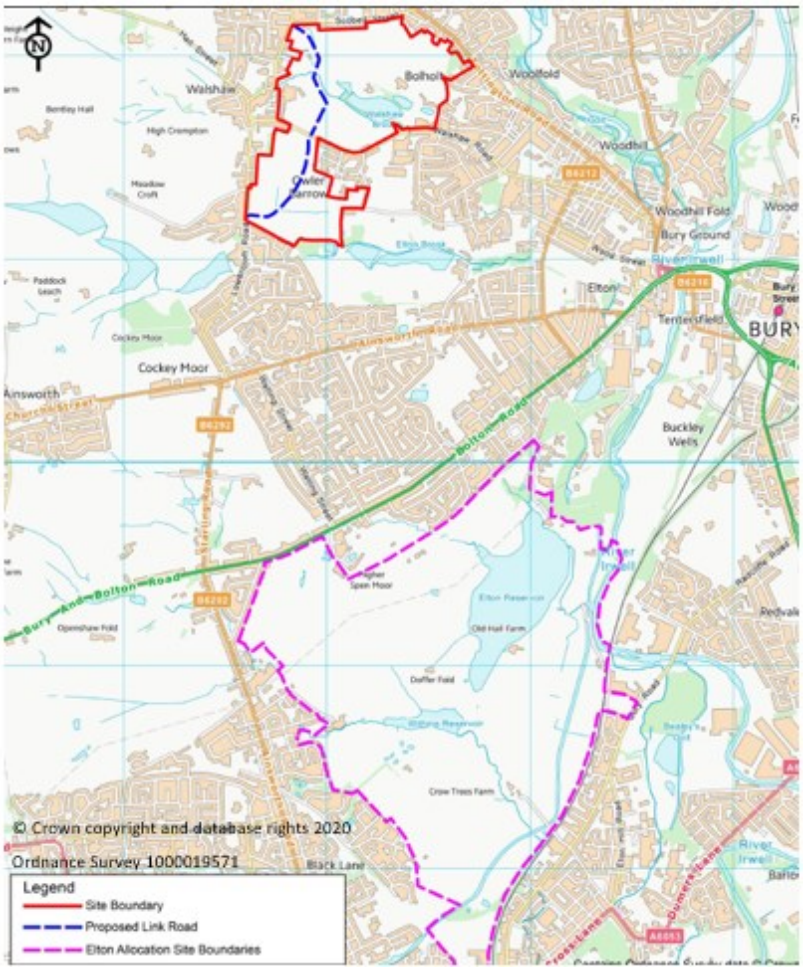
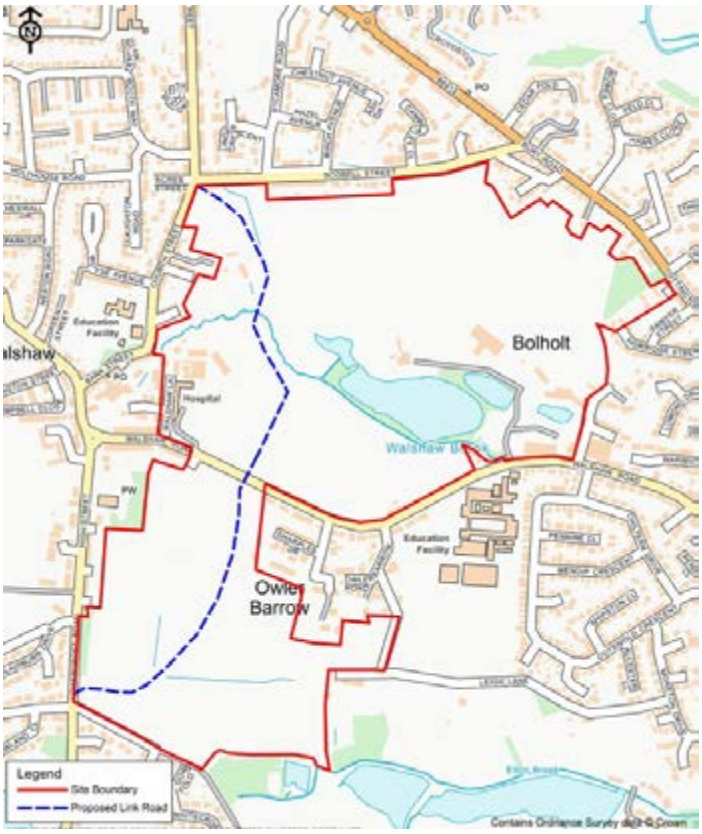



**Figure 2. Walshaw and Elton Site Allocation Locations**



1.1.8 The Development Framework proposes a key spine road running north to south through the allocation, linking Lowercroft Road in the south west corner of the allocation with Scobell Street and Booth Street to the north. This road would form the through-route from Lowercroft Road to Booth Street, reducing the level of through-traffic that currently passes along the High Street/Church Street corridor. It would be designed such that it could take a frequent bus service, providing flexible routeing for potential services between Scobell Street, Walshaw Road and Lowercroft Road. The alignment of this link road through this site is shown in **Figure 3**.

**Figure 3. Allocation Plan with Link Road**




1.1.9 A further priority-controlled access would be provided on Scobell Street to the east, near the junction with the B6213 Tottington Road. It is also proposed that a new priority-controlled junction be provided on Tottington Road, to the south of the junction with Scobell Street and near to the junction with Darlington Close.

1.1.10 The existing allocation access junction that serves the Bolholt Country Park Hotel would remain on Walshaw Road. In addition, a new 4-arm junction, envisioned to be a roundabout, would be created on Walshaw Road where the proposed link road crosses it. This junction at Walshaw Road would provide access to the northern and southern sections of the allocation. Further junctions onto Walshaw Road could also be provided, serving specific development parcels and spreading the load of traffic across the local road network.

1.1.11 An illustrative masterplan for the proposed allocation has been provided as **Appendix 1** of this report.

## 2. Justification for Allocation Selection

2.1.1 The Walshaw allocation is located within the existing urban area loosely bounded by Tottington to the north, Woolfold and Elton to the east, Lowercroft to the south and Walshaw to the west. The allocation has the potential to deliver a diverse mix of house types and affordable housing provision for the local area.

2.1.2 The provision of a new route through the allocation which provides an alternative to the use of the existing highway network through Walshaw, will deliver significant highway improvements. These will help to resolve existing congestion issues in the wider Bury North area. The development will also facilitate improvements to public transport and active travel into and around the allocation in order to allow for more sustainable transport choices.

2.1.3 Given the above, the site was selected for inclusion within the GMSF on the basis of Criteria 7 (land that would deliver significant local benefits by addressing a major local problem/issue). Further detail is provided within in the GMSF Site Selection Paper (August 2020) and Bury's Walshaw Topic Paper (August 2020).

## 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 for this allocation relate to the following key transport themes; roads, congestion, public transport, air quality and active travel. In particular, respondents were concerned that:

- Existing roads are at capacity and are in poor condition.
- There is pressure on Bury Bridge.
- The proposed highway solution does not alleviate the situation.
- There are concerns over the collective impact on the existing road network and on motorways from both Walshaw and Elton Reservoir allocations.
- Public transport is poor and new bus routes will not work.
- Current walking routes are not safe and cycling plans will not work.

3.1.2 A full summary of all consultation responses is available on the GMCA GMSF website.

## 4. Existing Network and Allocation Access

4.1.1 There is currently limited vehicular access to the allocation, due to its predominantly agricultural nature. There is an existing priority-controlled access onto Walshaw Road, which provides access to Bolholt Country Park Hotel and other businesses to the north.

4.1.2 However, there are a number of adopted highways that bound the allocation, including Scobell Street, Church Street, Walshaw Road, Tottington Road and Lowercroft Road, and the development strategy has incorporated a number of routes into and out of the allocation in order to spread traffic more efficiently across the network.

## 5. Multi-modal accessibility

### 5.1 Current

**Public Transport**

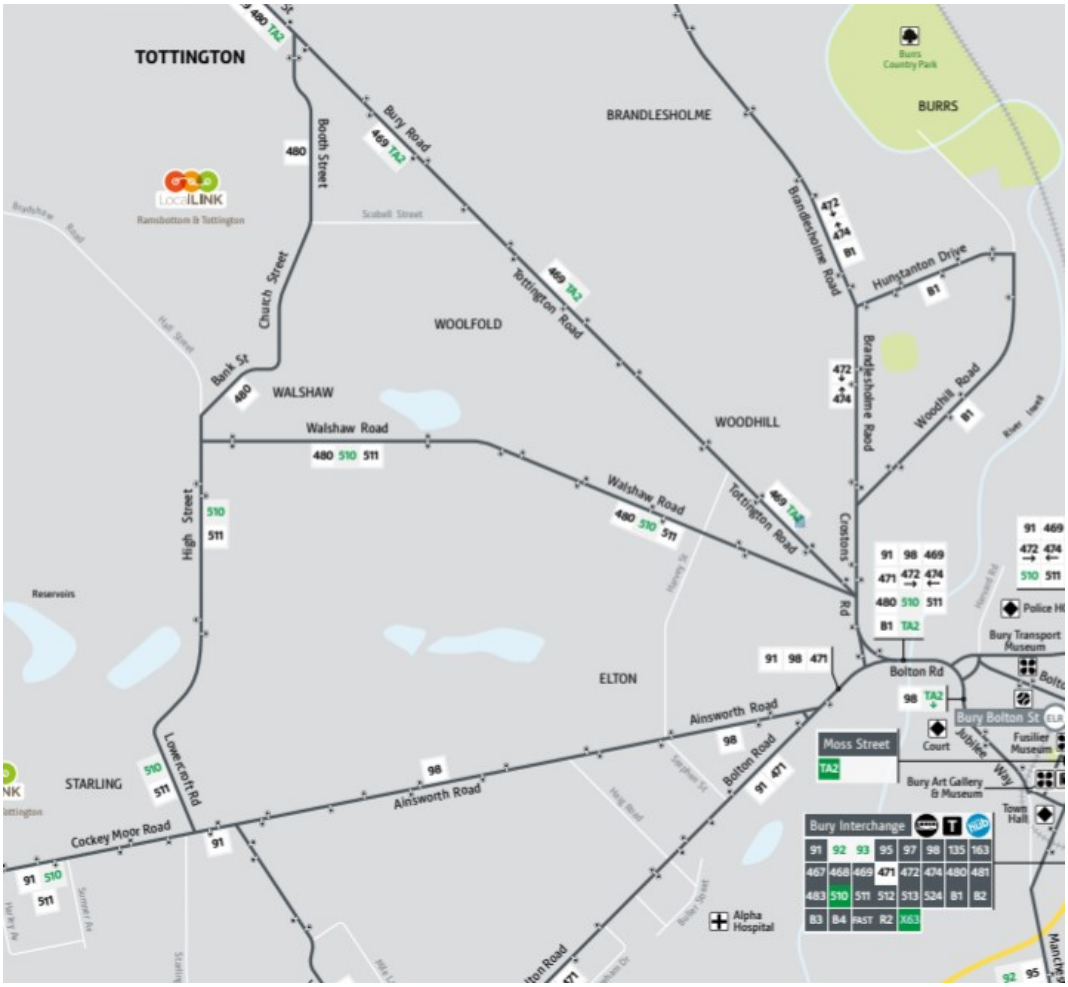
5.1.1 There are two existing bus services, serving the Walshaw area, which offer local links to Bury town centre and Interchange (for Metrolink services) and links to Bolton. **Figure 4** is an extract of the Transport for Greater Manchester (TfGM) route map showing these services, in proximity to the development allocation.

5.1.2 A Greater Manchester Accessibility Level (GMAL) value of 4 applies to the northern part of the proposed site indicating a good level of accessibility. GMAL values of 2 or 3 apply to the remainder of the site indicating some gaps in accessibility. It should be noted that these values are for the

existing site, which is currently open, undeveloped land. The development of the proposed site would deliver considerable improvements to public transport accessibility.

5.1.3 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.

**Figure 4. Bus Map**






5.1.4 A summary of the services shown in **Figure 4** has been included in **Table 1** below.

**Table 1. Existing Bus Services**

| Route No. | Route | Mon Sat AM | Mon Sat Daytime | Mon Sat PM | Sun |
|---|---|---|---|---|---|
| 469 | Bury - Tottington | 10 mins | 10 mins | 10 mins | 30 mins |
| 480 | Bury – Bolton Interchange | - | 60 mins | 60 mins | - |
| 510 | Bolton – Bury | - | - | - | 60 mins |
| 511 | Bury- Bolton via Walshaw, Withins, Breightmet, Leverhulme Park | 60 mins | 60 mins | 60 mins | - |
| TA02 | Darwen/Harwood – Turton – Tottington – Tottington Rd - Bury | | 3 jnys e/w Wed/Fri/Sat only | - | - |
| Local Link | Ramsbottom & Tottington areas | DRT | | DRT | DRT |

5.1.5 The 469 service provides a high frequency connection between the site and Bury town centre with a service every 10 minutes in either direction on weekdays and Saturdays. A frequency of two services per hour is provided on a Sunday.

5.1.6 Services 480, 510 and 511 provide connections from the allocation to the centres of Bury and Bolton. This includes connecting the allocation to Bury and Bolton Interchange which would facilitate links with wider public transport opportunities.

5.1.7 In addition, service TA2 provides an occasional weekday daytime link between communities in Blackburn with Darwen and Bury via Tottington.

5.1.8 The Greater Manchester Metrolink network is accessible from Bury Interchange. The network provides high frequency connections within Greater Manchester, including Manchester City Centre. As outlined above, Bury Interchange can be accessed via various bus services, including the 469, 480, 510 and 511. It is therefore considered that there is a high level of potential for multi-modal travel from the allocation which includes both bus and light rail.

5.1.9 The bus connectivity between the allocation and Bury Interchange also offers linkages with other bus services offering a wider array of destinations including Rochdale and Manchester City Centre.

**Walking and Cycling**

5.1.10 The allocation is well served by an extensive network of pedestrian routes. These routes include pavements, street lighting and crossing points.

5.1.11 There is a network of public rights of way (PRoW) that currently cross the allocation and are used by residents for leisure purposes. This includes an existing bridleway that runs in an east-west alignment through the southern portion of the allocation site as well as numerous footpaths.

5.1.12 There are several cycle friendly routes in the vicinity of the allocation, including along Dow Lane and Leigh Lane, which provides a route towards Bury town centre and Interchange. Bury town centre is an approximate 10-minute cycle ride away from the allocation site with a network of shared footway/ cycleway provision available. Signalised crossing points are provided along this route and a subway is provided to assist cycles/ pedestrians seeking to cross between the northern and southern sides of the Bolton Street carriageway.

5.1.13 A Cycle Hub is operated by TfGM at Bury Interchange which provides high quality secure storage for bicycles for a low-cost membership fee. The Cycle Hub at Bury Interchange has been introduced with the specific goal of encouraging cycle journeys into the centre of Bury and to further encourage multi-modal travel between cycling and public transport. The proposed allocation is well positioned to take advantage of this provision in the future.

5.1.14 SUSTRANS cycle route 6 also passes close to the allocation, to the east of Tottington Road. This route passes between London and the Lake District, linking Manchester, Prestwich, Bury and Ramsbottom as well as numerous local destinations.

**Road Safety**

5.1.15 Information on road traffic accidents in the vicinity of the site has been sourced from crashmap.co.uk which holds a database of recorded injury accidents on the UK's highway network. An extract from the database's mapping tool has been provided in Figure 5 and shows the highway network in the immediate vicinity of the proposed allocation site. These accidents have been recorded in the latest available five-year period.

**Figure 5. CrashMap Extract (Copyright: crashmap.co.uk)**




5.1.16 A summary of the accidents shown in Figure 5 is provided in Table 2 along with the year in which they occurred.

**Table 1. Accident data**

| Year | Slight | Serious | Fatal | Total |
|---|---|---|---|---|
| 2015 | 0 | 1 | 0 | 1 |
| 2016 | 0 | 2 | 0 | 2 |
| 2017 | 0 | 2 | 0 | 2 |
| 2018 | 1 | 0 | 0 | 1 |
| 2019 | 2 | 1 | 0 | 3 |
| Total | 3 | 6 | 0 | 9 |

5.1.17 A total of nine injury accidents have been recorded in the last five years. Of these, six are classified as serious in severity and three as slight. No fatal accidents have been recorded.

5.1.18 The recorded accident rate is less than two accidents per annum across the network. While all accidents are regrettable, an accident rate of this level is not considered to be indicative of any underlying safety issues particularly considering the levels of traffic that use this network daily.

**5.2 Proposed**

5.2.1 A review of public transport provision and opportunities for enhancing bus services to the allocation has been undertaken by specialists Agito Transport Planning LLP. They have developed a number of alternative options to either alter existing services or to create new services. The basic principal is to ensure that a regular bus service is provided to serve Bury town centre and Bury Interchange as a minimum, providing access to the Metrolink network. The majority, if not all the houses, will be located within 400m of a bus stop, once the internal road infrastructure has been completed.

5.2.2 This assessment has been considered by TfGM and their comments incorporated into the potential options that could be available to enhance the accessibility of the site by bus.

5.2.3 The link road through the allocation has been designed such that it can cater for buses and additional bus stop facilities would be created along it.

5.2.4 A number of options for bus services have been considered and these will be reviewed further in any future planning process. These interventions will be subject to costs and considered in the context of viability for the site. However, TfGM Bus have concluded that for the purposes of this locality assessment two potential services should be considered - re-instatement of an hourly 481 Bury to Holcombe, Hare & Hounds service, which would mean 3 buses per hour along Walshaw Road (possibly with re-route through the north part of the Walshaw development); and an increase in the frequency of the 511 service to half hourly giving Walshaw Road a bus every 15 minutes.

5.2.5 In addition, there may be potential for a new bus service linking Tottington-Walshaw-Elton-New Elton Metro Stop-Bury (or Radcliffe). This could be up to a 5 buses per hour service if linked to Metrolink. This would need to be explored further and in the context of the status of, and delivery timetable for, the Elton Allocation and associated infrastructure. The potential introduction of this service will be subject to further detailed assessment and viability work and considered in the context of requirements as set out in the National Planning Policy Framework.

5.2.6 The development masterplan provides a good network of pedestrian and cycle routes within the allocation and key external linkages including to bus stops and Walshaw Village Centre. The development also provides opportunities to improve external links, such as Dow Lane and Leigh Lane, which provides a direct, quiet route towards Bury Town Centre. These routes have been identified as part of the Bee Network of cycle routes across Greater Manchester. Opportunities for enhancing these routes will be explored as the proposals for the allocation emerge and through any future planning process and could include improvements to signage, lighting or surfacing. This will be subject to further detailed assessment and viability work in the future.

5.2.7 As a result of the above, it can be concluded that the allocation is in keeping with national and local transport policies which seek to ensure that development maximises opportunities for people to use more sustainable modes of transport.

## 6. Parking

6.1.1 The allocation is currently located in a 'low' accessible area as defined within Bury Council's SPD 11. The maximum residential parking standards are therefore taken to be:

- 2 spaces per 1-bedroom unit.
- 2.5 spaces per 2-bedroom unit.
- 3 spaces per 3-bedroom unit.
- 3 spaces per 4+ bedroom units.

6.1.2 No specific cycle parking or EV parking are detailed within the Council's parking standards for residential houses. It is expected that cycle parking will be found within the curtilage of each property.

6.1.3 The above information has been provided as a guide based on currently adopted parking standards. Clearly however, the proposals at the allocation will reflect the adopted cycle and car parking standards which are current at the time that a planning application is submitted.

## 7. Allocation Trip Generation and Distribution

7.1.1 For the purposes of the testing the impact of the allocation through the strategic model, a total of 1,250 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.

7.1.2 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.

7.1.3 **Table 3** summarises the quantum of development that has been allowed for in the 2025 and 2040 assessment year scenarios.

**Table 2. Quantum of Assumed Development**

| | | | |
|---|---|---|---|
| Residential | Houses | 0 | 1,250 |
| Residential | Apartments | 0 | 0 |
| Industrial | e.g. B2/B8 etc. | 0 | 0 |
| **Total** | | **0** | **1250** |

7.1.4 As indicated in **Table 3**, the modelling assessment work undertaken assumes no build out of the Walshaw allocation in 2025 with 100% of the site built out by 2040. Shortly before completion of this Locality Assessment the promoters of the allocation confirmed that they now envisage 255 of the 1,250 units being completed by 2025. This decision came too late to rerun the modelling or amend the outcomes reported in the following sections of this report. However, despite this discrepancy, it is not considered that the build out of the site predicted for 2025 would not have any material impact on the form and scope of the mitigation set out in this assessment. It would though in all likelihood require some or all of this mitigation to be brought forward before 2025. The exact impacts of this change in phasing will be assessed at the planning stage should the allocation be approved.

7.1.5 **Table 4** summarises the peak hour traffic flows that have been predicted for the development for each scenario.

**Table 3. Peak Hour Traffic Estimation**

| 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 | 372 | 111 | 190 | 413 |
| 2040 GMSF High-Side | 399 | 154 | 243 | 413 |

Units are in PCU (passenger car units/hr)

7.1.6 **Table 5** highlights the distribution pattern that has been used in the model to determine the routeing of traffic.

**Table 4. Traffic Distribution Assumptions**

| Route | AM Peak Hour | PM Peak Hour |
|---|---|---|
| 213 Market St | 14% | 14% |
| Hall Street | 19% | 15% |
| B6196 Cockey Moor Road | 7% | 21% |
| Starling Rd | 24% | 11% |
| B6213 Tottington Road | 34% | 38% |
| Watling Street | 2% | 0% |

## 8. Current Highway Capacity Review

8.1.1 The highway network in the vicinity of the allocation site is well developed and provides a range of connections to Bury and other areas of Greater Manchester and beyond. As is typical of urban environments, demand on the highway network is at its highest level during the weekday AM and PM peaks.

8.1.2 The demand placed on the network during these periods can lead to some areas of localised traffic congestion that has been observed to lead to delays to journeys. The Ring Road which encircles Bury town centre is one such area which can lead to a degree of queuing and delay at the Crostons Road/ Tottington Road signalised junction as it joins the Ring Road.

8.1.3 Blocking back of traffic from the Inner Ring Road is known to sometimes impact on the operation of adjoining junctions and create congestion at these locations. This includes the Crostons Road/ Tottington Road and Bury Bridge West junctions.

8.1.4 To the west, the Cockey Moor signalised junction experiences high demand from traffic, particularly during the AM peak. Queuing on the northern Lowercroft Road arm of the junction usually reaches it maximum extent during this period.

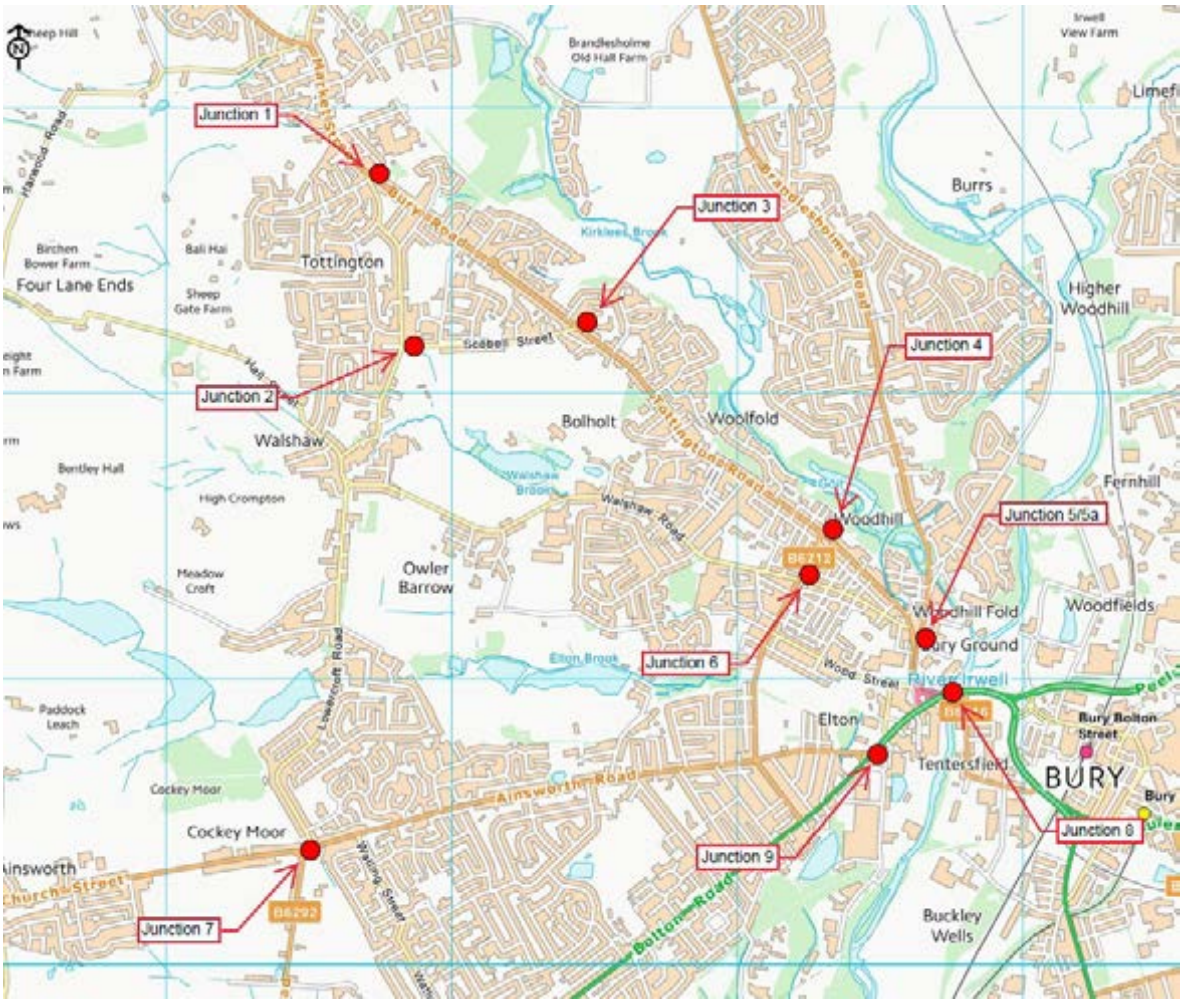
8.1.5 Overall, the highway network serving the Walshaw allocation site operates with some queueing and delay at certain locations during the AM and PM peaks. In this regard the operation of the network does not materially differ from other comparable urban areas.

8.1.6 In order to establish the baseline operation of the highway network in the vicinity of the proposed allocation, a number of key junctions have been subject to detailed capacity assessments:

- Junction 1: Bury Rd/ Booth Street mini-roundabout junction
- Junction 2: Scobell Street/ Booth Street mini-roundabout junction
- Junction 3: Bury Road/ Scobell Street priority junction;
- Junction 4: Tottington Road/ Fenton Street priority junction
- Junction 5: Crostons Road/ Tottington Road signalised junction
- Junction 5a: Tottington Road/ Walshaw Road priority junction
- Junction 6: Walshaw Road/ Fenton Street mini-roundabout junction
- Junction 7: Cockey Moor Road signalised junction
- Junction 8: Bury Bridge West signalised junction
- Junction 9: A58 Bolton Road/Ainsworth Road signalised junction

8.1.7 The locations of the above junctions are shown in **Figure 6.**

**Figure 6. Off-Site Junction Locations**






8.1.8 A total of five scenarios have been considered within the GM VDM and associated GM SATURN Model which are summarised below:

- 2040 Reference Case
- 2040 with GMSF (Constrained)
- 2040 with GMSF + Mitigation (Constrained)
- 2040 with GMSF (High Side)
- 2040 with GMSF + Mitigation (High Side)

8.1.9 The GM SATURN model has been used to generate the traffic flows for these scenarios. These have been used in further detailed capacity assessments using smaller scale junction models of junctions within the identified study network.

8.1.10 As this locality assessment was being finalised a decision was made to remove the GMA1.3 Whitefield allocation which would have provided 600 new homes in 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 GMA1.3. Likely changes would be a modest reduction in traffic levels in the vicinity of this allocation. However, it is not considered that the impact would be sufficiently significant to materially affect the scope and form of the mitigation set out.

8.1.11 The junctions included within the scope of the assessment have firstly been tested using 2040 Reference Case traffic flows. The Reference Case flows include background traffic that has been growthed to a 2040 baseline using TEMPro. The data from the model has been taken and detailed junction model assessments completed using the relevant software for each junction type.

## 9. Treatment of Cumulative Impacts

9.1.1 The GMSF assessments included in this report allow for the development of the Walshaw allocation site as well as the adjacent Elton Reservoir allocation. It is important to assess these sites cumulatively in order to robustly establish the future operation of the highway network and to understand what mitigation is required individually and collectively.

## 10. Allocation Access Assessment

10.1.1 The allocation access strategy has been developed to achieve two things. Firstly, the creation of a link road between Lowercroft Road and Scobell Street via Walshaw Road will provide routing flexibility for new and existing residents as well as providing a new through route, taking traffic away from the High Street/Church Street corridor through the centre of Walshaw to the west.

10.1.2 Secondly, the creation of numerous access points onto Lowercroft Road, Walshaw Road, Tottington Road and Scobell Street will assist by spreading traffic across the local network, reducing any local impacts.

10.1.3 The proposals set out have been developed to illustrate that there is a practical option for site access in this location and to develop indicative cost estimations. It is assumed that a detailed

design consistent with Greater Manchester's best practice Streets for All highway design principles will be required at the more detailed planning application stage.

10.1.4 The safe and efficient operation of the proposed site access junctions have been tested and confirmed as part of the Aimsun modelling work completed for Bury Council.

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

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

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

11.1.3 These assessments were then used to identify the junctions where there was considered to be a substantial impact, relative to the operation of the junction in the 2040 reference case, and hence where mitigation was considered to be required in order to bring GMSF sites forward. For the purposes the locality assessments for GMSF, it was agreed that where mitigation is required, it should mitigate the impacts back to the reference case scenario. It should be noted that mitigating back to this level of impact may not mean that the junction operates within capacity by 2040.

11.1.4 This section looks at the impact on the network at the junctions highlighted in Section 8. 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 junction s on the ground. Junctions 9 software was used to assess priority and roundabout junctions.

11.1.5 **Table 6** provides a comparison between the operation of the in-scope junctions in the 2040 reference case and the 2040 'high side' scenarios, as well as the allocation development flows through each respective junction. The table shows a comparison between the ratio of flow to capacity on the worst-case arm at each junction as well as the total development flows through the junction.

11.1.6 It is recognised that the results presented show some changes in v/c ratios which may appear in some instances to be considered counter intuitive. These are a function of how local traffic is represented as accessing the road network within the GM VDM Strategic model. In this model, some of the zones in which trips are assumed to start and finish are quite large, especially towards the relatively less-urbanised northern boundary of Greater Manchester where Walshaw is located. For forecasting purposes, zones are connected to the road network at only one or two points. The effect of this, and a relatively sparse local road network, can be to magnify the impact of any network changes (such as the Walshaw allocation's access roads and mitigation) on traffic flow, particularly in later years when the road network is in some cases forecast to be near capacity. Consequently, when flow is extracted at specific junctions, they can show quite significant changes from the reference case.

11.1.7 For consistency purposes, all the GMSF Locality Assessments have primarily utilised GM VDM outputs. However, in the case of Walshaw, additional forecasting work has been undertaken using a more detailed modelling package (Aimsun) commissioned by the promoters at Bury Council's request, to further explore and confirm the mitigation requirements. The Aimsun model will continue to be used to refine the mitigation package and address any issues arising in advance of, and during, any subsequent planning process.

**Table 5. Results of Local Junction Capacity Analysis Before Mitigation**

| Junction | Reference Case AM | Reference Case PM | GMSF High AM | GMSF High PM | Allocation Flows AM | Allocation Flows PM |
|---|---|---|---|---|---|---|
| 1. Bury Road/ Booth St | 116% | 89% | 67% | 81% | 79 | 86 |
| 2. Scobell St/ Booth St | 100% | 102% | 51% | 48% | 81 | 87 |
| 3. Bury Road/ Scobell St | 105% | 121% | 3% | 9% | 0 | 1 |
| 4. Tottington Rd/ Fenton St | 31% | 21% | 20% | 24% | 190 | 201 |
| 5. Crostons Rd/ Tottington Rd | 104% | 75% | 108% | 76% | 246 | 200 |
| 5a. Tottington Rd/ Walshaw Rd | 55% | 41% | 59% | 38% | 246 | 200 |
| 6.Walshaw Rd/ Fenton St | 120% | 37% | 12% | 24% | 67 | 73 |
| 7. Cockey Moor Rd signals | 73% | 75% | 115% | 114% | 176 | 198 |
| 8. Bury Bridge West | 75% | 59% | 76% | 64% | 217 | 255 |
| 9. Bolton Rd/ Ainsworth Rd | 60% | 74% | 71% | 80% | 13 | 22 |

11.1.8 As shown in **Table 6**, the proposed development is forecast to have a net benefit to the operation of the Bury Road/ Booth Street, Scobell Street/ Booth Street and Bury Road/ Scobell Street junctions to the north of the allocation. This is primarily the result of the "reassignment" of background traffic arising from the introduction of the proposed link road (access road) through the development allocation, which creates opportunities for drivers to take new routes through the network.

11.1.9 Whilst the Crostons Road/Tottington Road junction is forecast see a small increase in the ratio of flow to capacity from 104% to 108% in the weekday morning peak period, this would result in an additional 18 vehicles queuing on Tottington Road, which would materially impact on drivers using Tottington Road and Walshaw Road.

11.1.10 The operation of the Walshaw Road/Fenton Street junction is forecast to improve with the introduction of GMSF traffic.

11.1.11 The Cockey Moor Road junction is forecast to operate overcapacity with the addition of traffic from GMSF allocations during both the weekday morning and evening peak periods.

11.1.12 From the above it can be concluded that mitigation schemes are likely to be required at the Crostons Road/Tottington Road junction, the adjacent Tottington Road/Walshaw Road junction and the Cocky Moor Road signalised junction.

## 12. Transport Interventions Tested on the Local Road Network

12.1.1 As outlined previously, a new link road will be provided through the proposed Walshaw development allocation and will reduce traffic flow along High Street/Church Street. This will benefit residents living in Walshaw village by diverting traffic through the proposed development and away from this part of the existing highway network.

12.1.2 In addition to the above, the proposed allocation may benefit from the provision of the proposed Elton Link Road, which will support access to the Elton Reservoir allocation, should that allocation be approved. The Elton Link Road could provide an alternative route for traffic which may be not have a need to travel into or through Bury Town Centre, thereby avoiding the network around Bury Bridge, and provide added resilience to the surrounding local network. It will also provide a link between Walshaw and both the existing Metrolink Stop and park and ride facility at Radcliffe

and the proposed new stop and park and ride which would serve the Elton allocation. The benefits of this link road to the Walshaw allocation are not yet established and will be the subject of further assessment using the Aimsun model which will determine whether the scheme meets the tests set out in the National Planning Policy Framework as well as further viability work. However, for robustness this locality assessment has assumed that the link road is a potential mitigation measure that the Walshaw allocation may provide a contribution towards.

12.1.3 A range of preliminary mitigation schemes have been considered for the purpose of this locality assessment at junctions on the wider highway network. The interventions have been informed by the outcomes of the junction modelling undertaken in the previous section of this report and have been developed to an initial stage alongside Bury Council and TfGM UTC. Additional work will be undertaken using the Aimsun model and local junction models to further refine the mitigation and ensure that any measures eventually brought forward through the planning process is appropriate in scope and form and meets prevailing design standards. The junctions in question are summarised below along with a brief description of the form of the proposed improvements considered for this assessment.

**Junction 5: Crostons Road/ Tottington Road Signalised Junction**

12.1.4 To maximise the discharge of traffic from the Crostons Road arm of the junction as far as possible, it is proposed that the existing two-lane approach is extended to around 100m back from the stop line.

**Junction 5a: Tottington Road/ Walshaw Road Priority Junction**

12.1.5 As part of the improvement works at the adjacent Crostons Road/ Tottington Road junction, it is proposed that the existing arrangement at the Tottington Road/ Walshaw Road junction could also be altered. This may involve reconfiguring the Walshaw Road approach to provide a wider lane and greater corner radii at the junction bell mouth. This will assist traffic egressing this arm of the junction by improving efficiency.

12.1.6 The improvement scheme as currently proposed will be subject to further refinement and consideration as part of the planning process. However, the principles set out as part of the preliminary package of mitigation works are considered appropriate to deliver the required capacity improvements at this location.

**Junction 7: Cockey Moor Road/ Lowercroft Road Signalised Junction**

12.1.7 Several alterations to the existing configuration of the Cockey Moor Road junction are proposed for the purposes of this Locality Assessment to improve its operational performance.

12.1.8 Measures could include extending the existing two-lane approach on the Cockey Moor Road arm of the junction to provide greater right turn capacity. This would be delivered by widening the carriageway through the realignment of the southern kerbline. This would enable a dedicated right turn lane of approximately 60m in length.

12.1.9 The approach on the northern Lowercroft Road arm of the junction could be widened to allow for additional stacking capacity for left turners.

12.1.10 The above measures can be delivered within the existing highway boundary and will be subject to further detailed consideration as part of the planning process.

**Junction 9: A58 Bolton Road/Ainsworth Road Signalised Junction**

12.1.11 An initial review of the highway network to establish where improvements may be required highlighted the A58 Bolton Road/Ainsworth Road junction as a junction that may require mitigation.

12.1.12 Under a package of mitigation works at this location, the exit lane of the Ainsworth Road arm could be relocated approximately 15m to the north east of its current location. This alteration would be facilitated by reducing the size of the central pedestrian island on this arm. The movement of this exit lane could enable the stop line of the western Bolton Road approach of the junction to be moved forward. They will act to reduce the distance between stop lines in the junction and improve the efficiency of the junction's operational performance.

12.1.13 Within the mitigating works outlined, the alteration of the Arthur Street arm from a signal control to priority control is proposed. This will enable the reallocation of green time from this arm to other arms of the junction and result in an increased level of performance across the junction.

12.1.14 However, the results of this Locality Assessment in the 'without mitigation' scenarios have not demonstrated that the development would create a significant and severe impact at this junction.

Furthermore, the results of the Aimsun modelling undertaken to date are also inconclusive and do not demonstrate that the improvement proposed is necessary for the allocation site to progress.

12.1.15 However, whilst an improvement at this junction is not currently deemed to be necessary, it can be confirmed that a scheme that has been developed that could be implemented should it be required as a result of further modelling undertaken as the site progresses through the planning process.

**Junction: A58 Bury and Bolton Road/ Starling Road/Ainsworth Road**

12.1.16 Discussions around this allocation and its impacts have suggested that it may be necessary to implement a mitigation scheme at the Bury and Bolton Rd/Starling Road junction, which was not one of the junctions initially identified for consideration of impacts. As with the junction above, the modelling undertaken to date has not confirmed the need for or form of this mitigation. However, it is considered appropriate to include this junction in the list of locations potentially requiring mitigation at this stage. As above, further work will be done using Aimsun and other modelling as appropriate to confirm the need for and precise nature of this mitigation.

**Table 6. Approach to Mitigation**

| | | |
|---|---|---|
| 5 | Crostons Rd/ Tottington Rd | Extension of existing two-lane approach on Crostons Road |
| 5A | Tottington Road/ Walshaw Road | Reconfiguration of the Walshaw Road approach |
| 7 | Cockey Moor Road/ Lowercroft Road | Adjustments to signalised junction to improve entry capacities and improve efficiency of signal operation. |
| 9 | A58 Bolton Road/Ainsworth Road | Adjustments to signalised junction to improve operation. Requirement/form to be confirmed – not included in modelling at this stage. |
| | A58 Bolton & Bury Road/Starling Road | Adjustments to signalised junction to improve operation. Requirement/form to be confirmed – not included in modelling at this stage. |

## 13. Impact of interventions on the Local Road Network

13.1.1 **Table 8** below provides a comparison between the operation of the junctions in the 2040 reference case and the 2040 'high side' scenarios, as well as the allocation development flows through each respective junction. It should be noted that no assessment has been carried out for 2025, when only a limited amount of development is expected.

13.1.2 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. It is recognised that the results presented show some changes in v/c ratios which may in some instances be considered counter intuitive. The reasons for this are set out in **Section 11**. As noted in that section, additional modelling work will be progressed to test the robustness of the mitigation and further explore and confirm the exact mitigation requirements.

**Table 7. Results of Local Junction Capacity Analysis After Mitigation**

| Junction | Reference Case AM | Reference Case PM | GMSF High AM | GMSF High PM | Allocation Flows AM | Allocation Flows PM |
|---|---|---|---|---|---|---|
| 1. Bury Road/ Booth St | 116% | 89% | 74% | 65% | 68 | 94 |
| 2. Scobell St/ Booth St | 100% | 102% | 1% | 1% | 70 | 96 |
| 3. Bury Road/ Scobell St | 105% | 121% | 0% | 0% | 0 | 0 |
| 4. Tottington Rd/ Fenton St | 31% | 21% | 11% | 24% | 172 | 247 |
| 5. Crostons Rd/ Tottington Rd | 104% | 75% | 60% | 88% | 176 | 227 |
| 5a. Tottington Rd/ Walshaw Rd | 55% | 41% | 46% | 61% | 176 | 227 |
| 6.Walshaw Rd/ Fenton St | 120% | 37% | 120% | 122% | 45 | 51 |
| 7. Cockey Moor Rd signals | 73% | 75% | 98% | 86% | 172 | 214 |
| 8. Bury Bridge West | 75% | 59% | 62% | 79% | 202 | 246 |
| 9. Bolton Rd/ Ainsworth Rd | 60% | 74% | 77% | 60% | 6 | 13 |

13.1.3 The capacity assessment results summarised in **Table 8** demonstrate that the mitigation works have a very positive benefit on the operation of the highway network.

13.1.4 In the AM peak Reference Case, the Crostons Road/Tottington Road junction is predicted to operate overcapacity. However, the introduction of mitigating works across the network changes traffic patterns and relieves this junction ensuring that with the addition of GMSF traffic the junction operates well within capacity. In the PM peak, the performance of the junction worsens marginally but it is still forecast to operate with spare capacity.

13.1.5 The mitigation will also assist with the future operation of the Tottington Road/Walshaw Road junction, as there will be less queuing on Tottington Road to interfere with traffic leaving Walshaw Road.

13.1.6 The operation of the Walshaw Road/ Fenton Street junction in AM peak does not materially change with the introduction of traffic from GMSF allocations when compared to the Reference Case.

13.1.7 However, in the evening peak the junction is predicted to operate over capacity, despite the Walshaw development only adding a further 51 cars through the junction (less than 1 per minute).

13.1.8 It is considered that this finding may be a consequence of the structure of the VDM model (as set out in **Section 11**). The need for mitigation will therefore be explored further with the aid of Aimsun. However, it is considered that a mitigation scheme is deliverable should that work confirm that one is required.

13.1.9 **Table 8** also highlights that a mitigation scheme of the form identified at the Cocky Moor Road signalised junction would be sufficient to mitigate the impact of GMSF traffic.

13.1.10 The results of the 2040 GMSF with mitigation assessment suggest that appropriate intervention could be made at the Bolton Road/Ainsworth Road junction which would ensure that the performance of that junction could be maintained at a similar level to that of the reference case.

## 14. Impact and mitigation on Strategic Road Network

### 14.1 Overview

14.1.1 This section covers those impacts where traffic generated by the GMSF allocations meets the Strategic Road Network (SRN). Where necessary, 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.

14.1.2 SYSTRA is currently consulting with Highways England on behalf of TfGM and the Combined Authority in relation to the wider impacts of the GMSF allocations on the Strategic Road Network (SRN). This consultation is ongoing and it is expected that it will allow Highways England to gain a strategic understanding of where there is an interaction between network stress points and GMSF allocation demand which will facilitate further discussion and transfer of information between TfGM and Highways England (yet to be defined) in reaching agreement and/or common ground relating to the acceptability of GMSF allocations in advance of Examination in Public (EiP).

14.1.3 The Walshaw allocation is not situated in close proximity to the SRN operated and maintained by Highways England. The closest SRN node is Junction 2 of the M66, approximately three miles to the east and on the opposite side of Bury town centre from the allocation.

14.1.4 The allocations location within an existing urban environment offers multiple route choices to wider destinations and as such it is expected that the traffic impact of the allocation will be diluted to a very significant degree. This will minimise the impact of development traffic on the SRN. As such, a detailed assessment of the impact of the development proposals on the SRN has not been considered necessary.

## 15. Strategic Context- GM Transport Strategy Interventions

15.1.1 The site masterplan provides significant improvements to pedestrian and cycle routes and facilitates east-west connections between the existing residential areas in Walshaw with the rest of Bury. In addition to the allocation-specific interventions set out in this Locality Assessment, there are a number of other measures already planned by Bury Council and TfGM to support sustainable travel, and to contribute to the achievement of Greater Manchester's 'Right Mix' ambition. These are set out in the GM Transport Strategy 2040 and Our 5-Year Transport Delivery Plan, and summarised in the Locality Assessments Introductory Note.

15.1.2 As detailed within this document, as part of the Walshaw allocation coming forward, further investigation will be undertaken into providing contributions towards enhancements to the identified Bee Network routes of Dow Lane and Leigh Lane. The 'Bee Network' aims to increase walking and cycling across Greater Manchester. In Bury, 71 new or upgraded crossings are proposed for pedestrians and cyclists. Five miles of Beelines on busy roads are proposed on busier roads in Bury. These routes will not only benefit the future residents of Walshaw but residents in the surrounding areas. These sustainable linkages will act to encourage a mode shift away from single occupancy car travel and assist in limiting traffic growth on the highway network. This work will be subject to more detailed assessment work and examination of viability.

15.1.3 The potential enhancements to bus service provision will provide improvements to overall public transport accessibility and assist in achieving many of the goals set out in Bury Council's Infrastructure Delivery Plan. The Transport Strategy 2040 Delivery Plan contains a proposal to improve east-west public transport provision along the A58 corridor between Bolton and Bury and onwards to Rochdale through a Quality Bus Transit scheme. In respect of Bury itself, the town's Interchange would be upgraded to improve its attractiveness and efficiency and enhance connections to/from Bury town centre, in line with similar successful projects at Rochdale, Bolton and Altrincham.

15.1.4 £72m has been allocated from the Transforming Cities Fund for 27 new tram sets and associated infrastructure. This will increase the overall capacity of the network by 15%, including services on the Bury Line through the proposed Elton Reservoir tram stop.

15.1.5 Investigations are in progress into the case for the reopening of the Bolton-Bury railway line under the Government's Restoring Your Railway programme.

15.1.6 The M66 is a key corridor between Bury and the Regional Centre. Highways England has recently consulted on options for a junction improvement scheme at Simister Island, where the M66 to/from Bury meets the M60 orbital motorway around Greater Manchester. Work on this scheme is expected to start in 2024-25.

## 16. Final list of interventions

16.1.1 The potential interventions to assist in the delivery of the proposed allocation are summarised in the following table. As detailed previously in the report, these schemes have been adopted for the purposes of this assessment and may be subject to change in the future as further detailed assessment and viability work is undertaken.

**Table 8. List of Mitigation Schemes**

| Mitigation | Description |
|---|---|
| **Allocation Access** | |
| Junctions onto Walshaw Road/ Lowercroft Road/ Tottington Road and Scobell Street | Junctions onto Walshaw Road/ Lowercroft Road/ Tottington Road and Scobell Street |
| Link Road Though Allocation | Link road providing bus penetration through the allocation between Lowercroft Road and Scobell Street, via Walshaw Road. |
| **Supporting Strategic Mitigation** | |
| Elton Link Road | New link road between the A58 Bolton and Bury Road and Radcliffe Road, providing access to the Metrolink Stops and associated park and ride facilities at Radcliffe (existing) and Elton (proposed) |
| **Necessary Local Mitigations** | |
| New Allocation Link Road | Link road providing bus penetration through the allocation between Lowercroft Road and Scobell Street, via Walshaw Road. |

| | |
|---|---|
| Junction 5: Crostons Road/ Tottington Road Junction | Extension of existing two-lane approach on Crostons Road |
| Junction 5a: Tottington Road/ Walshaw Road Priority Junction | Reconfiguration of the Walshaw Road approach |
| Junction 7: Cockey Moor Road Junction | Adjustments to signalised junction to improve entry capacities and improve efficiency of signal operation. |
| Junction 9: A58 Bolton Road/Ainsworth Road | Adjustments to signalised junction to improve operation. Requirement/form to be confirmed. |
| A58 Bolton & Bury Road/Starling Road | Adjustments to signalised junction to improve operation. Requirement/form to be confirmed. |
| Provision of bus services | |
| Provision of off-site active-travel infrastructure | |

## 17. Phasing Plan

17.1.1 The predicted phasing of the development is currently unknown, although it is predicted that there would be a minimum of 3 outlets for development occurring at any time. It is likely that these outlets would start at the proposed access points around the periphery of the allocation and work inwards, with the link road being joined up and providing a direct link between Lowercroft Road and Scobell Street from between the mid to late plan period. The predicted timescales for delivery are shown in **Tables 10** and **11**.

17.1.2 Note that as mentioned in **7.1.3** the promoters of the allocation have now indicated that that they envisage 255 of the 1,250 units being completed by 2025. This may require some or all the mitigation to be brought forward before 2025. The exact impacts of this change in phasing will be assessed at the planning stage should the allocation be approved. As such, all phasing plan 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 9. Allocation Phasing

| Allocation Phasing | 2020 25 | 2025 30 | 2030 2037 | 2037+ | Total |
|---|---|---|---|---|---|
| Total | 0 | 780 | 470 | | **1250** |

### Table 10. Indicative intervention delivery timetable

| Mitigation | 2020 2025 | 2025 2030 | 2030 2037 |
|---|---|---|---|
| **Allocation Access** | | ✓ | |
| Junctions onto Walshaw Road/ Lowercroft Road/ Tottington Road and Scobell Street | | ✓ | |
| Link Road Though Allocation | | ✓ | ✓ |
| **Supporting Strategic interventions** | | | |
| Elton Link Road | | | ✓ |
| **Necessary Local Mitigations** | | | |
| Crostons Rd/ Tottington Rd Signalised Junction | | ✓ | ✓ |
| Tottington Road/ Walshaw Road Priority Junction | | ✓ | ✓ |
| Cockey Moor Road Signalised Junction | | ✓ | ✓ |
| A58 Bolton Road/Ainsworth Road Signalised Junction | | ✓ | ✓ |
| A58 Bolton & Bury Road/Starling Road Signalised Junction | | ✓ | ✓ |
| Provision of bus services | | ✓ | ✓ |
| Provision of off-site active-travel infrastructure | | ✓ | ✓ |

## 18. Summary & Conclusion

18.1.1 The Walshaw allocation has been tested in detail using a variety of methodologies. The GM VDM model has been used to assess the impact of proposed GMSF allocations upon the operation of roads in Bury and the surrounding area. The model results suggest that the local highway network can accommodate cumulative traffic generated by GMSF allocations as well as growth in background traffic flows.

18.1.2 However, further detailed capacity assessments using a more detailed local model and smaller scale junction models have been undertaken to ensure the robustness of junctions within the identified study network and to supplement the VDM outputs. This detailed local modelling will continue to be used to further refine the scope, form and costs of mitigation required for this allocation.

18.1.3 This Locality Assessment addresses most of the key points raised in the earlier consultation process (as set out in **Section 3**), specifically:

- Timing of the proposed transport mitigation measures are aligned with the phasing of the allocation
- Improvements to public transport and active travel measures are proposed
- Mitigation schemes to alleviate local congestion

18.1.4 An initial assessment confirmed that certain parts of the network would be constrained in 2040 without any GMSF related traffic. In the morning, this consisted of half of the junctions tested and, in the evening, two of the ten junctions.

18.1.5 Whilst the creation of a link road through the Walshaw allocation eased traffic conditions to the north, additional congestion was predicted to occur at the Crostons Road/Tottington Road junction towards Bury town centre and at the Cocky Moor Road signalised junction to the south as a result of additional GMSF traffic.

18.1.6 Following the development of a package of highway mitigation schemes, further testing demonstrated that it would be possible to satisfactorily mitigate the additional GMSF traffic, with improvements at the:

- Crostons Road/Tottington Road junction;
- Tottington Road/Walshaw Road junction; and
- Cockey Moor Road signalised junction.

18.1.7 Implementation of schemes at these locations would be sufficient to mitigate the GMSF traffic so that the highway network within the study area either operated at the same level or better than the 2040 Reference Case, or with spare capacity. There was one exception to this, being the Walshaw Road/Fenton Street junction. It was predicted that this would operate over capacity in the evening peak hour, despite there only being an additional 51 vehicles passing through the junction.

18.1.8 However, when you consider the overall performance of the network, it can be concluded that the worsening traffic conditions at this junction are more than balanced by the benefits elsewhere, with three additional junctions operating with spare capacity in the weekday morning peak hour. Furthermore, there are further opportunities to consider improvements at this junction, such as converting the mini-roundabout to a priority-controlled crossroads junction or providing additional traffic calming measures to discourage through traffic.

18.1.9 In addition to the junctions above two further junctions are considered to possibly require mitigation:

- A58 Bolton Road/Ainsworth Road; and
- A58 Bolton & Bury Road/Starling Road.

18.1.10 While the need for improvement at these locations is recognised in this locality assessment to ensure its robustness, the modelling undertaken does not at this stage confirm the need for and form of any mitigation. Further work will therefore be undertaken to assess the requirement for and nature of any improvements

18.1.11 In summary, this assessment gives an initial indication that the Walshaw allocation is deliverable, however, should the allocation be approved, further work will be needed to verify and refine these findings, during a future planning process. The potential improvement works will be subject to further detailed assessment and viability work. All final design solutions will be consistent with Greater Manchester's best practice Streets for All highway design principles. The allocation would need to be supported by continuing wider transport investment across GM.

**Appendix 1 – Concept Masterplan**

[Indicative/Typical Layout]