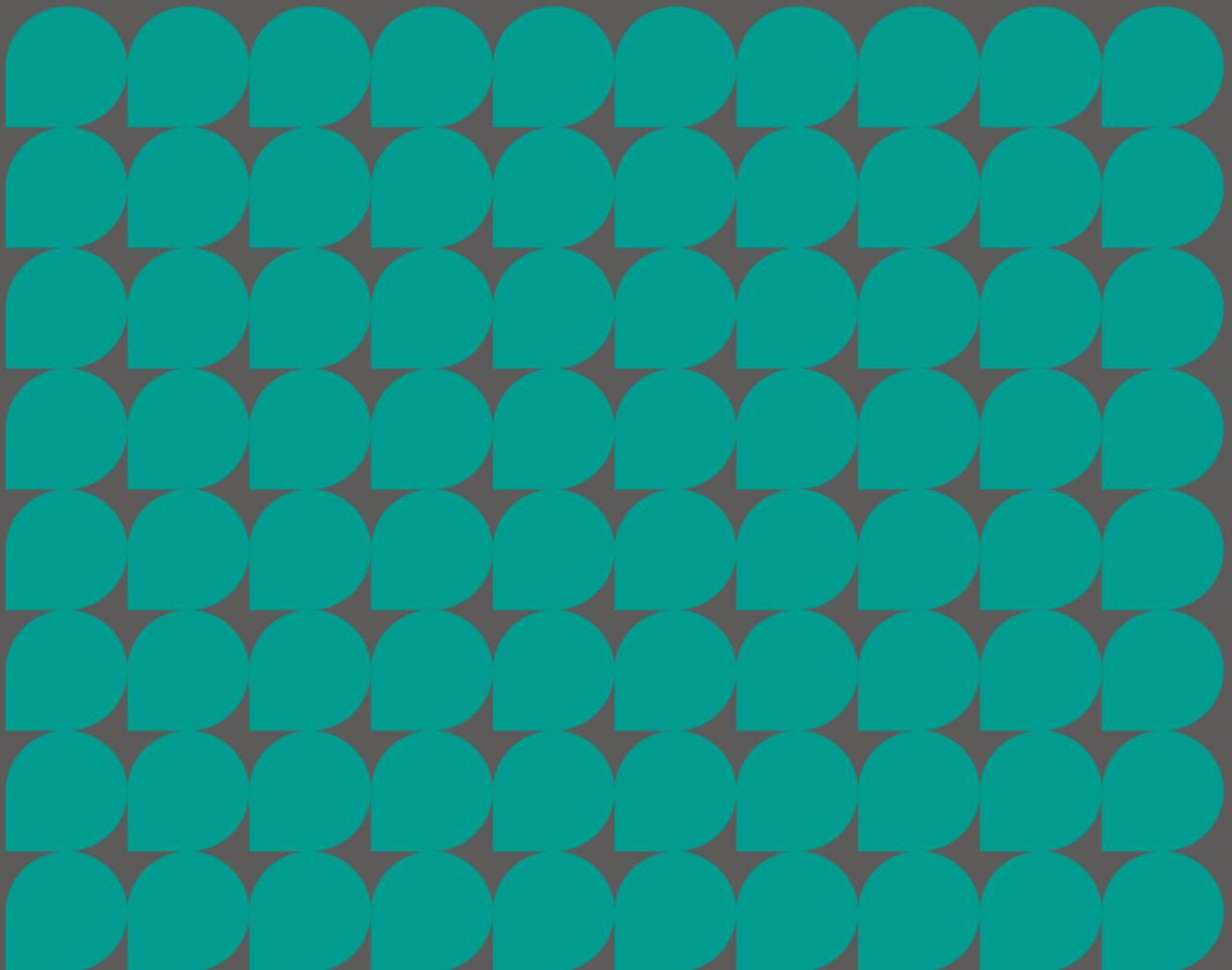


Transport Locality Assessments Addendum

Cross-boundary allocations (1): Northern Gateway

(Heywood/Pilsworth and Simister & Bowlee)

Places for Everyone – July 2021



Northern Gateway (GM1.1 & GM1.2) Locality ASSESSMENT UPDATE NOTE

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1. Executive Summary

- 1.1.1 The conclusions of the GMA1.1 and 1.2 Locality Assessments, November 2020, remain robust. The 2020 assessments gave an initial indication that the traffic impacts of the allocations can be sufficiently mitigated and that the allocations are deliverable with the proposed mitigations in place.
- 1.1.2 These conclusions have been tested again, using updated modelling where necessary, to reflect recent change – such as Stockport’s withdrawal from GMSF and the implementation of the Simister Island improvements. The Simister Island improvements are particularly beneficial to the GMA1.1 and 1.2 allocations in that appear to improve the performance of the strategic road network and correspondingly reduce the volume of traffic diverting to the local road network. The review has not identified any significant changes and, on this basis, the conclusions arrived at in the 2020 Locality Assessments are still considered to be valid.
- 1.1.3 However, further work and a full Transport Assessment will be necessary to ensure that potential mitigation measures are designed in more detail and remain appropriate as the allocations move through the planning process. The allocations will also need to be supported by continuing wider transport investment across Greater Manchester.



2. Introduction

1.1. Background

1.1.1. Since April 2019, SYSTRA Ltd has been leading, on behalf of the nine Places for Everyone Local Authorities and Transport for Greater Manchester, on the assessment and mitigation of the transport impacts of the development Allocations identified in the Places for Everyone joint development plan (formerly the Greater Manchester Spatial Framework). This work resulted in the publication of a series of Locality Assessments which:

- Forecast the pattern of traffic movement in 2025 and 2040 on the Greater Manchester transport network, both before and after the addition of traffic resulting from the delivery of the PfE Allocations;
- Assessed the impact of that additional traffic on existing transport infrastructure;
- Identified measures which would mitigate the impact of the additional traffic by examining enhancements to the public transport, active travel and highway network;
- Priced those enhancements on a consistent basis to support the evaluation of the viability of the Plan; and,
- On the basis of the above, confirmed whether or not the Allocation was appropriate from a transport perspective.

1.1.2. Following the withdrawal of Stockport Council from the original Greater Manchester Spatial Framework 2020 Joint Development Plan Document (Joint DPD) preparations, the nine remaining Local Authorities have agreed to use the GMSF as the basis for a new Places for Everyone Plan Joint DPD. This new plan has been prepared on the basis that it will have ‘substantially the same effect’ as the GMSF. Full details of the processes, dates of consultations and key decision meetings are set out in the Topic Papers.

1.1.3. The “Transport Locality Assessments – Cross Boundary Allocations – GMSF 2020” document formed part of the original evidence base which was assembled to support the policies and proposals in the GMSF 2020. Given the basis on which the PfE has been prepared, the GMSF evidence base remains valid in relation to the PfE 2021. That said, the



original Locality Assessment for the cross-boundary allocations has been reviewed in the light of the change from GMSF 2020 to the PfE2021 and this addendum report has been produced to identify any minor amendments. This addendum should therefore be read in conjunction with “Transport Locality Assessments – Cross Boundary Allocations – GMSF 2020” document made available in October 2020.

1.1.4. Since then a number of factors have necessitated a review of the conclusions of those Locality Assessments and revision or confirmations to those findings as appropriate. Those factors include:

- The removal of some Allocations from the Plan;
- Changes to the quantum of development proposed within some Allocations;
- Changes to the scale or type of transport supply (also known as transport mitigation schemes or interventions) proposed close to or within some Allocations;
- The withdrawal of Stockport Council and their associated Allocations from the Greater Manchester Spatial Framework; and,
- Modifications to the reference transport network to include newly committed schemes on the strategic road network (SRN).

1.1.5. These are factors which, taken together, may alter the pattern of traffic movements close to the remaining Allocations and impact on wider traffic movements across the conurbation. As such, it was considered necessary to check that the conclusions of the original assessments remain robust. This note sets out the processes behind, and conclusions of, the review for Northern Gateway. This note identifies whether any of these changes are likely to significantly impact on the conclusions of the original assessments and where needed it sets out an updated technical assessment of the impact of the Allocations in Northern Gateway on the operation of the transport network, and where necessary reviews and revises the transport infrastructure necessary to mitigate the impacts of the site.

1.2. Approach to the production of the Locality Assessment Addendum

1.2.1. Since the completion of the original Locality Assessments in September 2020, a number of factors have necessitated a review of the original conclusions. These include the decision of



Stockport Council to withdraw from GMSF 2020, resulting in a number of Allocations and supporting infrastructure schemes being removed from the Plan. Other local authorities have chosen for various reasons to either remove Allocations or to make changes to the amount of development, the development type, its phasing, or the type of supporting infrastructure, all of which may have an impact on the operation of the Allocation and its impact it may generate on the transport network. As a result of this SYSTRA Ltd were asked to look again at the assumptions and conclusions of their original work to reassess its validity.

1.2.2. This work began with an update to the to the transport model to reflect the changes summarised above in order to obtain a more relevant forecast of likely trip generation and distribution in the two forecast years of 2025 and 2040.

1.2.3. At the outset of the review process it became clear that the level of detail required would vary between allocations. Some would require only a fairly high-level qualitative review while others would require a more detailed quantitative review. There are a number of reasons for this distinction; some of which are Allocation-specific and some related to regional / GM-wide changes.

1.2.4. In terms of the allocation-specific changes, the key considerations in adopting a quantitative review approach were as follows:

- A material change in development quantum as compared to that which was assessed in Summer 2020 (either an increase or a decrease)
- Proposed changes to the transport interventions serving an allocation made after the core assessment in Summer 2020
- Requested changes relating to the analytical approach; e.g modified trip generation rates, increased spatial extent of the study area, sensitivity tests of alternative networks etc.

1.2.5. In terms of the regional / GM-wide changes, the key considerations in adopting a quantitative review approach were as follows:

- The removal of all of the Stockport allocations and the associated reduction in transport demand; most directly relevant to the neighbouring districts



- Changes in the status of major transport infrastructure; for example, the confirmation of the Simister Island highway network improvements was expected to change traffic distribution and flow patterns in the NE area of GM

1.2.6. The outputs of the strategic modelling at the small number of sites which were considered suitable for a qualitative review were compared to the outputs from the previous round of modelling which was used to inform the production of the original Locality Assessment, in those instances where the outputs were considered to be comparable no further work was deemed necessary.

1.2.7. In the majority of cases however, changes between the model outputs indicated that a quantitative review would be necessary. The scope for this was discussed and agreed with officers of the relevant Local Authority and Transport for Greater Manchester before work began.

1.2.8. The outputs from the strategic modelling exercise were inputted into the local junction models developed for the original Locality Assessment work. Where the strategic modelling indicated that new junctions were likely to come under strain in either of the two future year scenarios, these were built using industry standard 'Linsig v3' or 'Junctions 9' software. Traffic signal information, including signal phasing and timings, and lane geometry (alignment, profile and lane position) was obtained from TfGM in order to replicate the junctions as closely as possible.

1.2.9. In a manner which replicates the method originally used for the Locality Assessment work, junction performance was tested in both the Reference and PfE Scenarios and, assessed to confirm if the mitigations originally developed for the Allocations remained adequate, needed to be expanded, or in fact could be de-scoped or removed all together as a result of changes in traffic flow and distribution. As with the original work the objective here was to mitigate back to the Reference Case, rather than to reduce traffic flow back to the Base Case. This means that the mitigation may not result in the junction operating within capacity in the forecast year.



1.2.10. In a limited number of instances, the updated Locality Assessment work has indicated that traffic flow and distribution may be lower than originally forecast, but the decision has been made not to de-scope or remove a mitigation. This is in order to provide robustness and to future proof the PfE recommendations, recognising that further, more detailed work will be done on a site-by-site basis as part of the planning application process.

1.2.11. In addition to reviewing highways scheme, the non-highway and sustainable transport proposals were also reviewed. These included proposals for new or extended bus services, Metrolink extensions and cycling and walking. The transport evidence documents produced for the GMSF/PfE Plan refer to the Bee Network as Greater Manchester's walking and cycling network. Moving forward the Mayor's intention is for trams, buses, trains, taxis and private hire combined with walking and cycling in Greater Manchester to be branded under the terminology of the Bee Network.

1.2.12. Whilst this analysis considered primarily the local highway network, SYSTRA is undertaking a separate, parallel exercise in conjunction with TfGM and Highways England to examine wider impacts on the strategic road network (SRN). This parallel exercise is investigating cumulative PfE impacts on the SRN mainline links and is expected to deliver key findings in late Summer 2021. Any allocation-specific impacts, such as those occurring at SRN junctions, have been set out in the Locality Review documentation.

1.3. Conclusion

1.3.1. The Locality Assessment review exercise has confirmed the Transport Locality Assessment work published in October 2020 as robust in the light of recent changes and that the Allocations remain viable from a transport perspective. However, further work, including a full transport Assessment will need to be carried out on each Allocation as it comes forward for planning permission, which will ensure that the mitigation measure are revised in more detail and remain appropriate for the size and type of development.



3. Changes since the publication of the locality assessment

3.1 Broad changes

- 3.1.1 In January 2021 Highways England issued a Preferred Route Announcement for the M60 / M62 / M66 Simister Island Interchange Improvements. In brief, the scheme comprises a comprehensive redesign of the existing Simister interchange which will introduce a free-flow grade separated link between the M62 (W) and the M60 (S), and other improvements. Construction is scheduled to commence in 2024 for completion in 2026.
- 3.1.2 Congestion at the Simister Island Interchange currently causes significant traffic issues in adjacent parts of the road network. These impacts were forecast to worsen over time. The inclusion of the improvement scheme in the latest assessment may improve traffic flow in and around the GMA 1.1 allocation.
- 3.1.3 The previously identified Whitefield allocation (GMA1.3) located to the west of the M66 corridor has now been removed from PfE. The removal of this allocation is expected to lessen the cumulative traffic impact of the PfE allocations in the area to the west of the GMA1.1 allocation.

3.2 Allocation specific changes

Table 1. Allocation Specific Changes

Allocation	Change	Notes
GMA1.1	Quantum: 2025: Previous employment & residential quantum removed 2040: Unchanged Infrastructure: No significant change to the previously proposed interventions	Some reduction in trips expected in 2025 No change in 2040

Allocation	Change	Notes
	Other: Addition of committed Simister Island improvements	No change Potentially significant impact – more detailed review of changes in traffic patterns required.
GMA1.2	<p>Quantum: 2025: 126 fewer homes 2040: 200 fewer homes</p> <p>Infrastructure: No significant change to the previously proposed interventions</p> <p>Other: Addition of committed Simister Island improvements</p>	<p>Some reduction in trips expected in both 2025 and 2040.</p> <p>No change</p> <p>Potentially significant impact – more detailed review of changes in traffic patterns required.</p>

3.2.1 In the case of both GMA1.1 and GMA1.2, some modification of the previously proposed bus routes serving the allocations has been implemented to align more closely with the latest planning.

3.2.2 The inclusion of the M60 / M62 / M66 Simister Island Interchange Improvements is expected to impact upon the distribution of traffic to/from the allocations.



4. GMA1.1: Heywood / Pilsworth

4.1 Changes to the quantum of development

4.1.1 The latest agreed development quantum is shown in the table below.

Table 2. Updated Development Quantum: GMA1.1 - Heywood / Pilsworth

Use	Use Sub-Category	Development Quantum 2025	Development Quantum 2040
Residential	Houses	0	190
Residential	Apartments	0	10
	Total	0	200
Industrial	B2/B8 m ²	0	700,000

4.1.2 No development of any kind is now proposed for the year 2025. The quantum of B2/B8 space is unchanged from the previous Locality Assessment. The overall quantum of residential units is unchanged, although the split has been modified to include more houses and fewer apartments.

4.2 Transport infrastructure changes

4.2.1 There were no specific changes to the highway mitigation measures for the GM1.1 allocation at the commencement of this review. There was some minor modification of the proposed bus routes serving the allocation.

4.3 Updated trip generation and distribution

4.3.1 The estimated traffic generation for the high with allocation scenario is shown in Table 3. This corresponds to a robust, high-side assessment of likely road traffic impacts.

Table 3. Updated Allocation Traffic Generation (High Scenario): GMA1.1 - Heywood / Pilsworth

Year	Am Peak Hour DEPARTURES	Am Peak Hour ARRIVALS	Pm Peak Hour DEPARTURES	Pm Peak Hour ARRIVALS
2025	0	0	0	0
2040	844	1277	939	521

Units are in PCU (passenger car units/hr)

4.3.2 Table 4 and Figure 1 indicate the distribution of traffic on the network to and from the allocation. The primary movements are to/from M60 (West), M66 (North) and the South Heywood Link Road leading to M62 Junction 19.

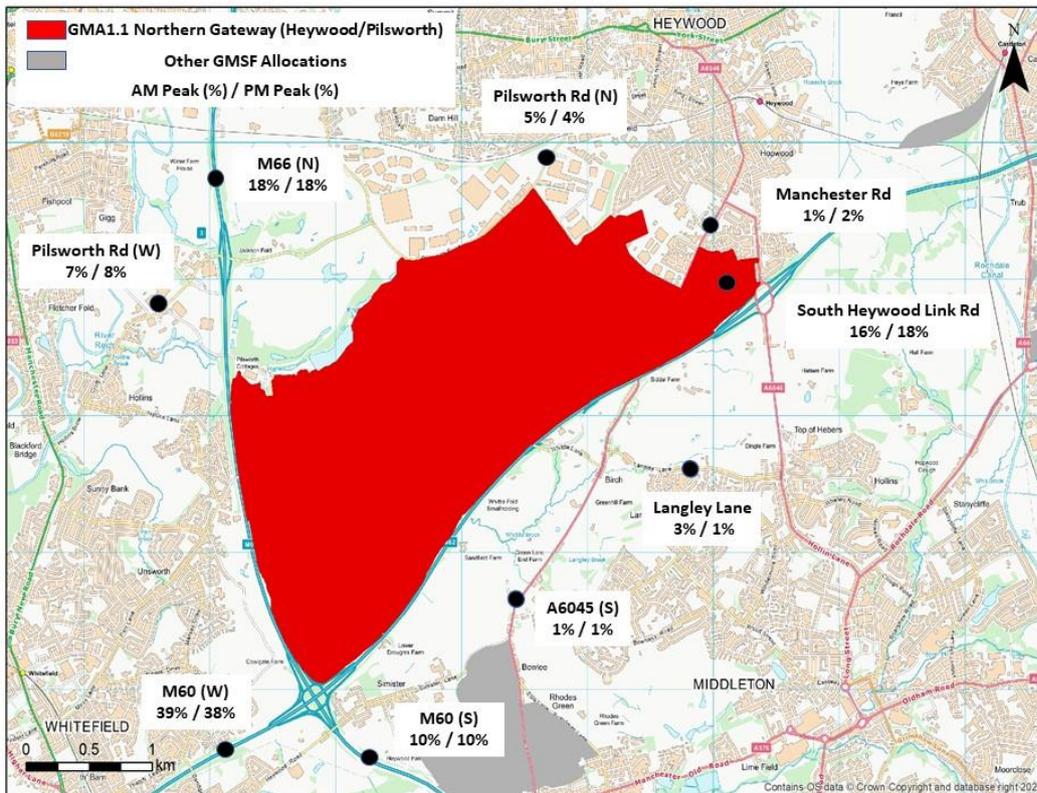


Table 4. Updated Allocation Traffic Distribution, 2040 PfE High-Side (Origin/Destination Combined)

Route	Am Peak Hour	Pm Peak Hour
M60 (West)	39%	38%
Pilsworth Road (West)	7%	8%
M66 (North)	18%	18%
Pilsworth Road (North)	5%	4%
Manchester Road	1%	2%
South Heywood Link Rd	16%	18%
Langley Lane	3%	1%
A6045 (South)	1%	1%
M60 (South)	10%	10%



Figure 1. Updated Allocation Traffic Distribution, 2040 PfE High-Side (Origin/Destination Combined)

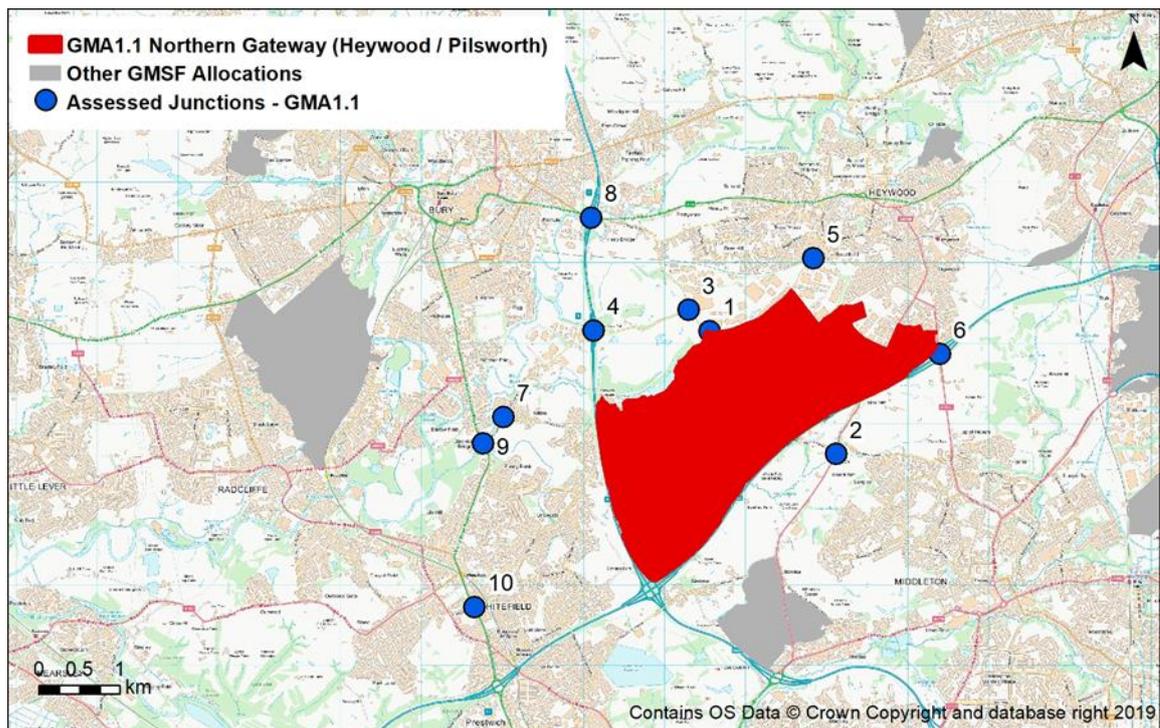


4.4 Impact of Allocation before mitigation on the local road network

- 4.4.1 The expected significant changes in traffic routings and volumes in and around the GMA1.1 allocation as a result of the Simister Island improvements necessitate the reassessment of all of the previously assessed junctions (see Figure 2). Furthermore the removal of the GMA1.3 Whitefield allocation may reduce traffic volumes in the area to the west of the M66.
- 4.4.2 The assessment below is based on outputs from Greater Manchester’s Variable Demand Model (GMVDM). While every effort has been made to accurately reflect the existing and planned road networks, it remains a strategic model. It may be the case that subsequent planning applications, utilizing more detailed traffic models / tools, may arrive at slightly different outcomes.



Figure 2. Assessed Junctions



4.4.3 The removal of all development quantum for this allocation in 2025 renders reassessment of the 2025 situation unnecessary. The remainder of this review will focus on the 2040 situation.

4.4.4 Table 5 below provides a comparison between the operation of the in scope junctions in the 2040 reference case and the 2040 'high side' scenarios, as well as the allocation development flows through each respective junction. The table shows a comparison between the ratio of flow to capacity on the worst case arm at each junction as well as the total development flows through the junction. For reference, a figure of between 85% and 99% illustrates that the junction is nearing its operational capacity, and a figure of 100% or over illustrates that flows exceed the operational capacity at the junction and increased vehicle queuing and delay are likely to occur.

Table 5. Results of Local Junction Capacity Analysis Before Mitigation – Year 2040

No	Junction	Ref Case Am	Ref Case Pm	PfE High Am	PfE High Pm	Allocation Flows Am	Allocation Flows Pm
1	Moss Hall Road / Pilsworth Road (South)	51%	34%	999%	999%	1734	1191
2	A6045 Heywood Old Rd / Whittle Lane	37%	25%	30%	34%	83	42
3	Moss Hall Road / Pilsworth Road (North)	122%	111%	291%	202%	1565	1066
5	Pilsworth Road / Railway Bridge	79%	64%	82%	62%	96	59
7	Hollins Lane/Hollins Brow	119%	95%	163%	103%	149	112
9	A56 / Hollins Brow	120%	113%	121%	117%	99	76
10	A56 Bury New Road / Moss Lane	72%	73%	65%	80%	13	12

4.4.5 As shown in the table above, three of the seven junctions on the LRN continue to operate within capacity in the 2040 AM and PM scenarios with PfE High traffic on the network and so do not require any mitigation. These are:

- A6045 Heywood Old Rd / Whittle Lane
- Pilsworth Road / Railway Bridge;
- A56 Bury New Road / Moss Lane

4.4.6 The junction of A56 / Hollins Brow is already forecast to be over capacity in the Reference Scenario. The delivery of GM1.1 will result in a small increase in queuing and

delay at this junction and improvement works will be required at this junction as supporting mitigation. However, the precise details of such improvement works will be considered in the future as further detailed modelling work is undertaken to support any detailed masterplanning and/or planning applications that come forward.

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

- Moss Hall Road / Pilsworth Road (South)
- Moss Hall Road / Pilsworth Road (North)
- Hollins Lane/Hollins Brow

4.4.8 The results of “999%” for Moss Hall Road / Pilsworth Road (South) indicate that the junction is well over capacity and beyond the parameters of the local junction modelling software.

4.4.9 The previously identified mitigation schemes at these locations are set out in Table 6 below. The effectiveness of these schemes has been tested with the revised traffic flows, as shown in Table 7.

Table 6. Previously Identified Mitigation Schemes

No	Junction	Mitigation Approach
1	Moss Hall Road / Pilsworth Road (South)	Replace existing three arm priority junction with a three arm roundabout. New roundabout with 56m (inscribed circle diameter) with two circulating lanes
3	Moss Hall Road / Pilsworth Road (North)	Replace existing three arm signalised junction with a three arm unsignalised roundabout including a free flow-left turn ‘bypass lane’ from Moss Hall Road northbound to Pilsworth Road eastbound.



No	Junction	Mitigation Approach
7	Hollins Brow / Hollins Lane	Remove mini roundabout arrangement and replace with a 3 arm signalised junction

Table 7. Results of Local Junction Capacity Analysis After Mitigation – Year 2040

No.	Junction	Ref Case Am	Ref Case Pm	PfE High Am	PfE High Pm
1	Moss Hall Road / Pilsworth Road (South)	51%	34%	65%	72%
3	Moss Hall Road / Pilsworth Road (North)	122%	111%	90%	70%
7	Hollins Lane/Hollins Brow	119%	95%	94%	88%

4.4.10 The previously identified mitigation schemes at all three junctions were found to still be effective with the latest traffic flows.

4.4.11 In the case of the junction of Moss Hall Road / Pilsworth Road (North), a signalised layout could be developed as a possible alternative. Both the roundabout and signalised layouts at Moss Hall Road / Pilsworth Road (North) have their advantages and disadvantages. The roundabout layout may induce less traffic delay, whereas the signalised layout would offer the potential for better pedestrian and cycle facilities. The final junction form at this location merits further investigation as the allocation moves through the statutory planning process.



4.5 Impact of the allocation on the strategic road network

4.5.1 The inclusion of the M60 / M62 / M66 Simister Island Interchange Improvements was found to materially alter the pattern of traffic travelling to and from the allocation via the strategic road network. Specifically, more traffic is forecast to travel to/from the west via M66 Junction 3 rather than from the east via M62 Junction 19. Furthermore, there appears to be a reduction in traffic “rat-running” via the South Heywood Link Road / Pilsworth Road corridor to avoid Simister Island. These effects are reflected in the junction capacity results set out below.

4.5.2 The same caveats regarding the use of GMVDM model outputs, as set out in Section 4.4, also apply here. That is, it may be the case that subsequent planning applications, utilizing more detailed traffic models / tools, may arrive at slightly different outcomes.

SRN Junctions

4.5.3 Table 8 below provides a comparison between the operation of the SRN junctions in the 2040 reference case and the 2040 ‘high side’ scenarios, as well as the allocation development flows through each respective junction.

Table 8. Results of Strategic Junction Capacity Analysis Before Mitigation – Year 2040

No	Junction	Ref Case Am	Ref Case Pm	PfE High Am	PfE High Pm	Allocat ion Flows Am	Alloca tion Flows Pm
4	M66 Junction 3 / Pilsworth Road (New Junction)	n/a	n/a	n/a	n/a	1542	1045
6	M62 Junction 19/ A6046	83%	79%	87%	78%	328	258
8	M66 Junction 2 / A58	110%	104%	112%	114%	128	89

- 4.5.4 Although the performance of M62 Junction 19 is found to worsen in the With PfE Scenario relative to the Reference Scenario, its operation is now found to be acceptable. Based on this latest assessment, no further improvements are required beyond the committed improvements relating to the South Heywood Link Road. However, this finding should be reviewed at planning application stage, once more detailed modelling has been carried out, to deliver a more definitive view as to whether improvements are needed at this location.
- 4.5.5 Based on the latest set of forecasts, the impact of the GM1.1 allocation on M66 Junction 2 is modest compared to the previous results. Given this and the distance between the allocation and the junction, arguably the previously identified mitigation at this location (addition of a fourth lane to the circulating carriageway) is no longer needed.
- 4.5.6 A new junction layout is proposed at M66 Junction 3, comprising a 4-arm grade separated signalised configuration has been developed and tested including widened slip road approaches from the M66 and a 3 lane circulatory carriageway. The results shown in Table 9 indicate that this layout performs satisfactorily.

Table 9. Results of Strategic Junction Capacity Analysis After Mitigation – Year 2040

No.	Junction	Ref Case Am	Ref Case Pm	PfE High Am	PfE High Pm
4	M66 Junction 3 / Pilsworth Road (New Junction)	n/a	n/a	82%	87%

M66 Junction 3 Link Road

- 4.5.7 The previous locality assessment contained analysis of the future M66 Link Road, comprising the section of Pilsworth Road between M66 Junction 3 and Moss Hall Road. This road will serve as the primary access route for the GM1.1 allocation of the Northern Gateway development from a new grade separated roundabout with the M66.



4.5.8 Table 10 below shows the updated forecast traffic flow (in pcu's) for the M66 Link Road in the 2040 High Scenario.

Table 10. Updated Traffic Forecasts – M66 Link Road

Peak Hour	Direction	Reference Case 2040	With PFE 2040 HIGH
AM	Eastbound	776	1939
	Westbound	700	1366
PM	Eastbound	821	1423
	Westbound	597	1389

Units: pcu/hr

Table 11. Traffic Demand Converted to Vehicles

Peak Hour	Direction	Demand (Pcu/Hr)	Hgv Proportion (%)	Demand (Vehicles/Hr)
AM	EB	1939	7.76%	1761
	WB	1366	10.60%	1201
PM	EB	1423	10.88%	1246
	WB	1389	5.86%	1291

4.5.9 As shown the total number of vehicles which will use the road in the 2040 AM peak is 2962 as a two-way flow, while the highest single direction flow is 1761 vehicles/hr.

4.5.10 According to the relevant highway design standards, the typical capacity for a 3.65m wide single lane is from a minimum value of 1350 to a maximum value 1700 vehicles per hour per lane. As the maximum forecast one-way traffic flow is in excess of 1,750



vehicles per hour, it appears that a road configuration of one lane per direction is not sufficient and that upgrading of this link is required. (This issue is discussed further in Section 4.7)

4.6 Sensitivity Test

4.6.1 The estimated traffic generation for the GM1.1 allocation set out in Section 4.3 above, is based on a specific set of assumptions regarding how the site would be utilized. An alternative trip generation scenario for the B2/B8 elements of the allocation comprising a 15% uplift on the previously estimated trip generation figure has been undertaken as a sensitivity test. The estimated traffic generation for this sensitivity test is set out below.

Table 12. Updated Allocation Traffic Generation (High Scenario): GMA1.1 - Heywood / Pilsworth Sensitivity Test

Year	Am Peak Hour DEPARTURES	Am Peak Hour ARRIVALS	Pm Peak Hour DEPARTURES	Pm Peak Hour ARRIVALS
2025	0	0	0	0
2040	961	1464	1070	590

4.6.2 The local junction modelling analysis has been re-run for critical junctions. The results are tabulated below. The sensitivity test results suggest that the results are broadly similar to the core assessment with only a small increase to the Maximum Degree of Saturation. All mitigation previously proposed is shown to still operate in a satisfactory manner under the conditions of the sensitivity test.



Table 13. Sensitivity Test Results of Local Junction Capacity Analysis After Mitigation – Year 2040

No.	Junction	Ref Case Am	Ref Case Pm	PfE High Am	PfE High Pm
1	Moss Hall Road / Pilsworth Road (South)	51%	34%	75%	73%
3	Moss Hall Road / Pilsworth Road (North)	122%	111%	93%	68%
7	Hollins Lane/Hollins Brow	119%	95%	94%	87%

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

No.	Junction	Ref Case Am	Ref Case Pm	PfE High Am	PfE High Pm
4	M66 Junction 3 / Pilsworth Road (New Junction)	n/a	n/a	86%	88%
6	M62 Junction 19/ A6046	83%	79%	89%	78%

4.6.3 The previously identified requirement for the M66 Link Road (as set out in Section 4.5) has been checked. With the sensitivity test, the maximum forecast one-way traffic flow is 1865 vehicles per hour. The previous finding that upgrading of this link is required is further endorsed by the sensitivity test.

4.7 Review of interventions

Highways

- 4.7.1 No new highway mitigation requirements have been identified as a result of the analytical review, set out above in Sections 4.3 to 4.6. In fact, based on the latest set of traffic forecasts some of the previously identified highway interventions – such as those at M60 Junction 19 and M66 Junction 2 - may no longer be required. The improvements at M60 Junction 19 have been retained pending further investigation at the planning application stage (Section 4.8 provides an updated list of interventions).
- 4.7.2 The latest assessment indicates that forecast 2040 traffic on the M66 Link Road will exceed the capacity of a 7.3 m single carriageway, although by a relatively small margin and in one direction only. The previous recommendation to upgrade the link to a configuration of four lanes (two per direction) could be considered an over-design. However, it is relevant to consider the beyond plan period development at this allocation which will add further traffic loadings although these have not been quantified.
- 4.7.3 Possible road configurations for the M66 Link Road are:
- Wide single carriageway (10.0m) – one lane in each direction
 - Four-lane single carriageway – two traffic lanes in each direction, no central reservation
 - Dual Carriageway - two traffic lanes in each direction, with a central reservation.
- 4.7.4 The Wide single carriageway option may provide sufficient capacity to accommodate the 2040 traffic volumes, but may not be sufficient for the further post plan period development. As a prudent long term planning measure, SYSTRA’s recommendation is to adopt one of the four-lane configurations. Given that the extra land required to construct a central reservation would be minimal and considering the safety benefits of a dual carriageway arrangement this configuration may be preferable. The M66 Link Road would be implemented with appropriate cycle /footway provision.

Public Transport



4.7.5 The previous Locality Assessment set out a range of public transport interventions in the vicinity of the GM1.1 allocation. The majority of these are still being progressed. The latest status, as per TfGM's Delivery Plan is set out below.

Business Case to be Developed in Next Five Years

- M62 North-East Corridor (Northern Gateway) local bus corridor

Options to be Developed in Next Five Years

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

Active Modes

4.7.6 The changes to the quantum of development set out above does not affect need for the active mode interventions previously proposed. It should be noted that, since the publication of the Locality Assessments, an Active Travel Design Guide has been published by Greater Manchester Combined Authority and Transport for Greater Manchester. This Design Guide identifies design principles for the Bee Network that should be followed, and encompasses aspects such as segregated and shared infrastructure, crossing facilities and junction design. Any active mode interventions that are implemented in support of this allocation will follow this Design Guide.

4.8 Impact of the changes

4.8.1 The previously adopted accessibility strategy for the allocation is retained; comprising primary access from the west via an upgraded M66 Junction 3 and with secondary access being from the south via the M62 Junction 19. The inclusion of the M60 / M62 / M66 Simister Island motorway junction improvements has resulted in some alterations to the expected traffic flow patterns. Specifically, more traffic utilizes the western approach via M66 Junction 3 and less traffic utilizes the southern approach via M62 Junction 19. Furthermore, less traffic seems to divert from the strategic road network to the local



road network as a result of the congestion in the vicinity of Simister Island. This results in a forecast improvement in the performance of the local road network.

4.8.2 Some minor alterations to the defined transport interventions have been proposed as a result of this review. These are set out below:

- Proposed highway improvements at M62 J19 / A6046 Heywood Interchange may no longer be required
- Proposed highway improvements at M66 Junction 2 / A58 may no longer be required
- Upgrading the existing Pilsworth Road to form the M66 Link Road

Table 15. Final List of Interventions

Mitigation	Description
Site Access	
	<i>See below – M66 New Junction 3 and M66 Link Road</i>
Supporting Strategic Interventions	
Bus Rapid Transit (BRT) corridor to Manchester city centre	Bus Rapid Transit (BRT) corridor to Manchester city centre and Rochdale via Heywood Old Road/ Manchester Road
Necessary Local Mitigations	
Permeable network for pedestrian and cyclist priority to/from/ within the development	Assumed new or upgraded cycle and pedestrian access, linked to PROWs and the Bee Network, providing connectivity to adjacent local areas and employment/educational opportunities, supported by high quality design for active travel within the allocation area. These will be consistent with Bee Network design standards.



Mitigation	Description
Introduction of local bus services to/from/ within the allocation	Assumed local bus services to link the allocation with Metrolink and Rail interchanges and key local centres such as Bury, Heywood, Rochdale and Middleton, supported by permeable design of future development to support bus services within the allocation area.
1. Moss Hall Road / Pilsworth Road (South)	Replace existing three arm priority junction with a three arm roundabout. New roundabout, including a 56m (inscribed circle diameter) with two circulating lanes
2. A6045 Heywood Old Rd / Whittle Lane	Additional traffic management measures on Whittle Lane
3. Moss Hall Road / Pilsworth Road (North)	Replace existing three arm signalised junction with a three arm unsignalised roundabout. New roundabout will include a 56m (inscribed circle diameter) with two circulating lanes and a left turn bypass from Pilsworth Road South
7. Hollins Brow / Hollins Lane	Remove mini roundabout arrangement and replace with a 3 arm signalised junction
Pilsworth Road (Between M66 Link Road and "3-Arrows" Junction)	Upgrading to dual carriageway standard – two lanes in each direction with a central reserve
SRN Interventions	
4. M66 Junction 3 / Pilsworth Road	Upgrading to a 4-arm grade separated signalised configuration including widened slip road approaches from the M66 and a 3 lane circulating carriageway



Mitigation	Description
6. M62 J19 / A6046 Heywood Interchange	<i>Required improvements not yet known; subject to further study</i>
M66 Link Road	Upgrading existing Pilsworth Road between M66 Junction 3 and Moss Hall Lane to dual carriageway - two traffic lanes in each direction, with a central reservation & cycle/pedestrian provision

4.9 GMA1.1 Heywood / Pilsworth - Concluding Remarks

- 4.9.1 The development quantum for GMA1.1 Heywood / Pilsworth is largely unchanged from that set out in the previous Locality Assessment. It comprises 700,000sqm of industrial, advanced manufacturing and warehousing space and 200 residential dwellings.
- 4.9.2 The modelling and analysis work is considered to be a ‘worst case’ scenario as it focuses on the high scenario forecasting results. Furthermore, it does not take full account of the extensive opportunities for active travel and public transport improvements in the wider GM area. To further enhance the robustness of the analysis a sensitivity test assuming a higher trip generation rate for employment uses has also been undertaken.
- 4.9.3 There are a number of planned public transport interventions in the vicinity of the GM1.1 allocation which should facilitate sustainable travel to and from the allocation.
- 4.9.4 In summary, the previously identified initial indication that the allocation is deliverable remains valid. Further work will be needed to substantiate these findings as the allocation moves through the planning process including taking forward the identified transport interventions for further development. The allocation would need to be supported by continuing wider transport investment across GM.



5. GMA1.2: Simister and Bowlee

5.1 Changes to the quantum of development

5.1.1 The latest agreed development quantum is shown in the table below.

Table 16. Updated Development Quantum: GMA1.2 – Simister and Bowlee

Use	Use Sub-Category	Development Quantum 2025	Development Quantum 2040
Residential	Houses	40	1482
Residential	Apartments	0	68
Total		40	1550

5.1.2 For the year 2025, the number of residential units has been significantly reduced from 166 to 40. For the year 2040, the number of residential units has also been reduced from 1750 to 1550. The reduction in overall quantum of residential units mainly comprises fewer apartments.

5.2 Transport infrastructure changes

5.2.1 There were no specific changes to the highway mitigation measures for the GM1.2 allocation at the commencement of this review. There was some minor modification of the proposed bus routes serving the allocation.

5.3 Updated trip generation and distribution

5.3.1 The estimated traffic generation for both the constrained and high scenarios is shown in Table 17.

Table 17. Updated Allocation Traffic Generation (High Scenario): GMA1.2 – Simister and Bowlee

Year	Am Peak Hour DEPARTU RES	Am Peak Hour Hour ARRIVALS	Pm Peak Hour DEPARTU RES	Pm Peak Hour Hour ARRIVALS
2025	14	5	8	16
2040	526	208	321	576

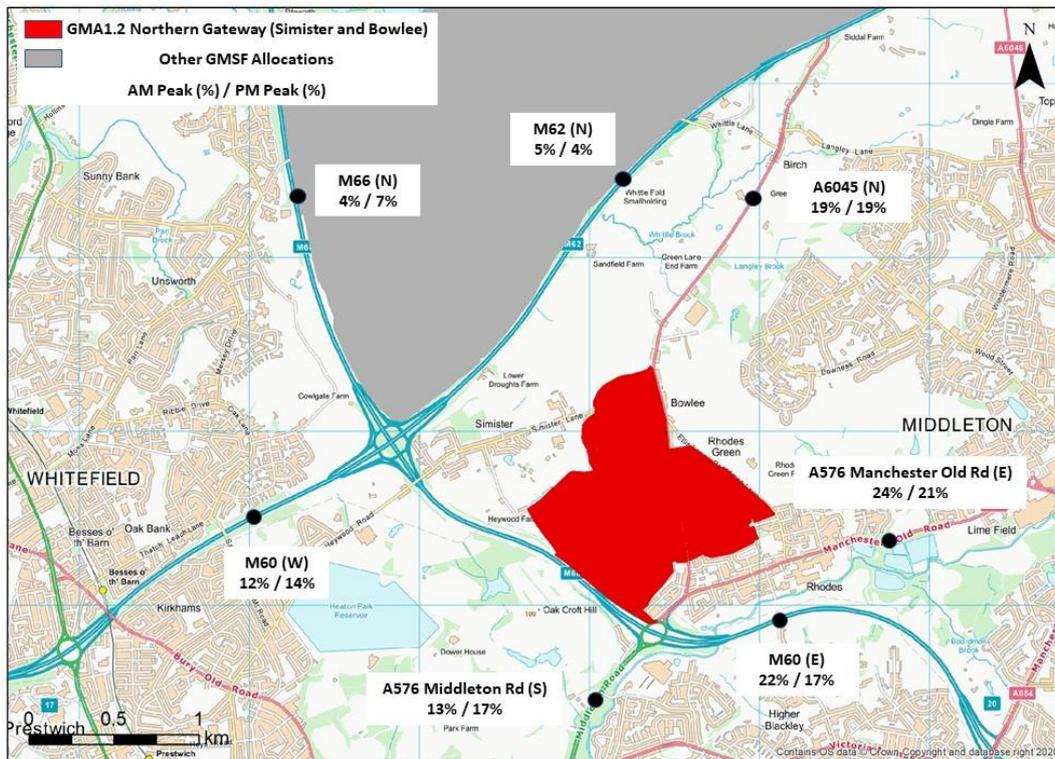
Units are in PCU (passenger car units/hr)

5.3.2 Table 18 and Figure 3 indicate the distribution of traffic on the network to and from the allocation. The primary movements are to/from M60 (East), A576 Manchester Old Road (East) and A6045 (North).

Table 18. Updated Allocation Traffic Distribution, 2040 PfE High-Side (Origin/Destination Combined)

Route	Am Peak Hour	Pm Peak Hour
A576 Middleton Road (South)	13%	17%
M60 (West)	12%	14%
M66 (North)	4%	7%
M62 (North)	5%	4%
A6045 (North)	19%	19%
A576 Manchester Old Road (East)	24%	21%
M60 (East)	22%	17%

Figure 3. Updated Allocation Traffic Distribution, 2040 P/E High-Side (Origin/Destination Combined)

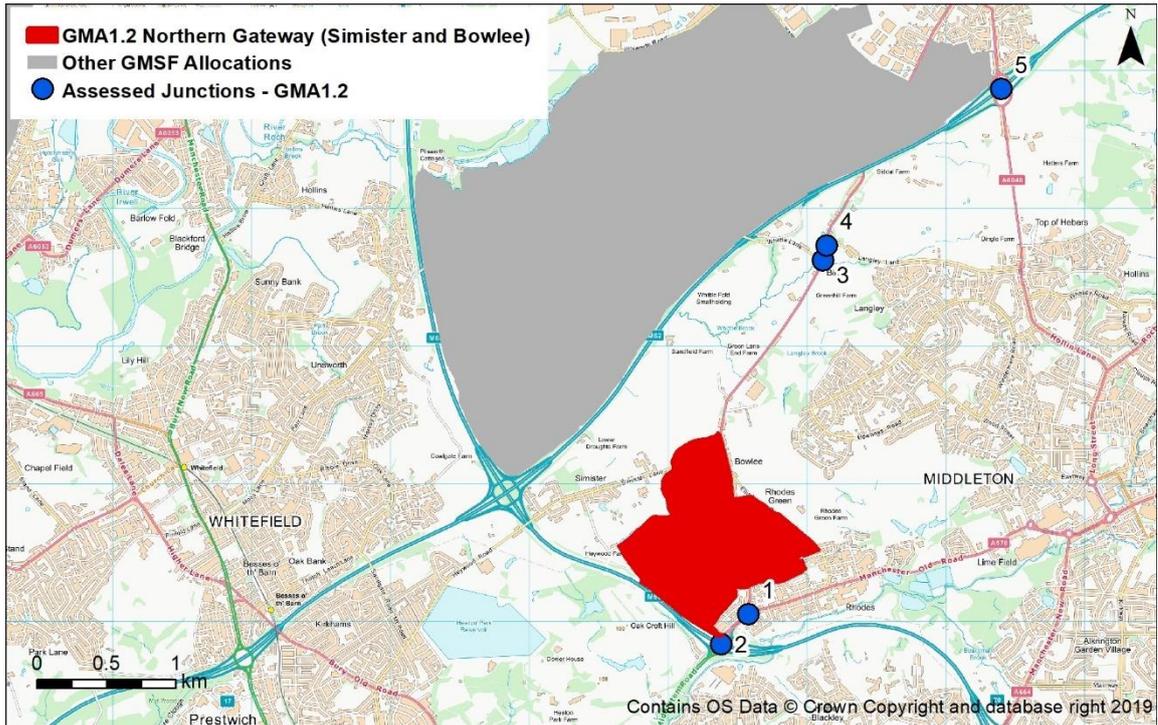


5.4 Impact of Allocation before mitigation on the local road network

5.4.1 The reduced development quantum and the expected significant changes in traffic routings and volumes in and around the GMA1.2 allocation as a result of the Simister Island improvements necessitate the reassessment of all of the previously assessed junctions (see Figure 4).

5.4.2 The assessment below is based on outputs from Greater Manchester’s Variable Demand Model (GMVDM). While every effort has been made to accurately reflect the existing and planned road networks, it remains a strategic model. It may be the case that subsequent planning applications, utilizing more detailed traffic models / tools, may arrive at slightly different outcomes.

Figure 4. GMA1.2 – Assessed Junctions



5.4.3 Table 19 below provides a comparison between the operation of the in scope junctions in the 2040 reference case and the 2040 ‘high side’ scenarios, as well as the site development flows through each respective junction. The table shows a comparison between the ratio of flow to capacity on the worst case arm at each junction as well as the total development flows through the junction. For reference, a figure of between 85% and 99% illustrates that the junction is nearing its operational capacity, and a figure of 100% or over illustrates that flows exceed the operational capacity at the junction and increased vehicle queuing and delay are likely to occur.

Table 19. Results of Local Junction Capacity Analysis Before Mitigation – Year 2040

No	Junction	Ref Case Am	Ref Case Pm	PfE High Am	PfE High Pm	Allocat ion Flows Am	Alloca tion Flows Pm
1	A6045 Heywood Old Road / A576	72%	88%	85%	93%	530	614

No	Junction	Ref Case Am	Ref Case Pm	PfE High Am	PfE High Pm	Allocation Flows Am	Allocation Flows Pm
3	A6045 Heywood Old Rd / Whittle Lane	38%	53%	40%	44%	152	170
4	A6045 Heywood Old Road/Langley Lane	96%	84%	94%	70%	102	139

5.4.4 All three of the local junctions are now found to perform satisfactorily based on the latest assessment. The results for A6045 Heywood Old Road / A576 and A6045 Heywood Old Road/Langley Lane indicate that they are approaching capacity. Mitigation requirements at these locations may need to be reviewed at planning application stage.

5.5 Impact of the allocation on the strategic road network

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

5.5.2 The same caveats regarding the use of GMVDM model outputs, as set out in Section 5.4, also apply here. That is, it may be the case that subsequent planning applications, utilizing more detailed traffic models / tools, may arrive at slightly different outcomes.

Table 20. Results of Strategic Junction Capacity Analysis Before Mitigation – Year 2040

No	Junction	Ref Case Am	Ref Case Pm	PfE High Am	PfE High Pm	Allocation Flows Am	Allocation Flows Pm
2	M60 Junction 19 / A576 Middleton Road	115%	135%	120%	140%	399	523

No	Junction	Ref Case Am	Ref Case Pm	PfE High Am	PfE High Pm	Allocation Flows Am	Allocation Flows Pm
5	M62 Junction 19 / A6406 Heywood Interchange	83%	79%	87%	78%	46	36

5.5.1 As stated in relation to the GM1.1 allocation, although the performance of M62 Junction 19 is found to slightly worsen in the With PfE Scenario relative to the Reference Scenario, its operation is now found to be acceptable. No further improvements are proposed beyond the committed improvements relating to the South Heywood Link Road.

5.5.2 The operation of the M60 Junction 19 / A576 Middleton Road junction is well over capacity in both peak hours in the Reference Scenario. The junction exhibits a modest worsening of performance in both peak hours relative to the Reference Scenario.

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

5.5.4 The results shown in Table 20 are considered to be a reasonable approximation of the likely traffic situation in 2040 before mitigation. However, in the light of the issue set out above, further more detailed modelling of the roundabout and adjoining parts of the network – potentially using more sophisticated traffic simulation tools – is recommended to confirm these findings.

5.5.5 The previously proposed mitigation at M60 Junction 19 consists of signalling the Northern and Eastern Arms (A576 N and the M60 West Bound off Slip) but leaving the



southern arm un-signalised. This scheme has been re-test as part of the latest assessment. The results are tabulated below. These indicate a modest improvement in performance back to the equivalent of the Reference Scenario.

Table 21. Results of Strategic Junction Capacity Analysis After Mitigation – Year 2040

No.	Junction	Ref Case Am	Ref Case Pm	PfE High Am	PfE High Pm
2	M60 Junction 19 / A576 Middleton Road	115%	135%	116%	133%

5.6 Review of interventions

Highways

5.6.1 No new highway mitigation requirements have been identified as a result of the analytical review, set out above in Sections 5.3 to 5.5. Further investigation of the M60 Junction 19 / A576 Middleton Road junction, the A576 / A6045 Heywood Old Road junction and the wider A576 corridor is recommended. The previously identified scheme at M62 Junction 19 may no longer be required, although this is subject to confirmation at the planning application stage.

Public Transport

5.6.2 The previous Locality Assessment set out a range of public transport interventions in the vicinity of the GM1.2 allocation. The majority of these are still being progressed. The latest status, as per TfGM’s Delivery Plan is set out below.

Business Case to be Developed in Next Five Years

- M62 North-East Corridor (Northern Gateway) local bus corridor
- M62 North-East Corridor (Northern Gateway) express bus corridor

Options to be Developed in Next Five Years

- Bus Rapid Transit from M62 North-East Corridor (Northern Gateway) and surrounding towns to the Regional Centre
- Metrolink Connection to Middleton
- Rochdale Line electrification

Active Modes

5.6.3 The changes to the quantum of development set out above does not affect need for the active mode interventions previously proposed. It should be noted that, since the publication of the Locality Assessments, an Active Travel Design Guide has been published by Greater Manchester Combined Authority and Transport for Greater Manchester. This Design Guide identifies design principles for the Bee Network that should be followed, and encompasses aspects such as segregated and shared infrastructure, crossing facilities and junction design. Any active mode interventions that are implemented in support of this allocation will follow this Design Guide.

5.7 Impact of the changes

- 5.7.1 Proposed vehicular access arrangements to the allocation remain unchanged; access would be via new junctions on the A6045.
- 5.7.2 Based on the latest assessment, no interventions are required for the local road network. The previously identified traffic capacity issues at A6045 Heywood Old Road / A576 are now reduced to an acceptable level. Mitigation measures at this location and at A6045 Heywood Old Road/Langley Lane may need to be reviewed at planning application stage.
- 5.7.3 In terms of the strategic road network, the previously identified scheme at M62 Junction 19 may no longer be required, although this is subject to confirmation at the planning application stage.
- 5.7.4 It is proposed that the previously identified mitigation at M60 Junction 19 – comprising signalisation of the Northern and Eastern Arms (A576 N and the M60 West Bound off Slip) but leaving the southern arm un-signalised – should be retained. This scheme delivers a modest improvement in performance back to the equivalent of the Reference



Scenario. However, wider network problems still negatively impact the performance of this junction. The previous recommendation for further detailed investigation at this location is retained.

5.7.5 Table 22 sets out the updated list of interventions.

Table 22. Final List of Interventions

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



Mitigation	Description
Introduction of local bus services to/from/within the allocation	Assumed local bus services to link the allocation with Metrolink and Rail interchanges and key local centres such as Prestwich and Middleton, supported by permeable design of future development to support bus services within the allocation area.
Supporting Local Mitigations	
1. Improvement of A6045 Heywood Old Road / A576 junction	<i>Required improvements not yet known; subject to further study</i>
4. A6045 Heywood Old Road/Langley Lane	<i>Possible signalisation of the junction; subject to further study</i>
SRN Interventions	
2. M60 Junction 19/A576 Middleton Road	Signalisation of the Northern and Eastern Arms (A576 N and the M60 West Bound off Slip)
5. M62 J19 / A6046 Heywood Interchange	<i>Required improvements not yet known; subject to further study</i>
Possible corridor improvements on A576 Middleton Road / Manchester Old Road in vicinity of M60 J19	<i>Required improvements not yet known; subject to further study</i>



5.8 GMA1.2 - Concluding Remarks

- 5.8.1 The development quantum for GMA1.2 Simister and Bowlee has been reduced by some 200 dwellings as compared to that set out in the previous Locality Assessment. It now comprises 1550 dwellings, most of which are houses. The allocation is located south of the M62 and east of the M60, and north-west of Middleton.
- 5.8.2 In summary, the previously identified initial indication that the allocation is deliverable remains valid. Further work will be needed to substantiate these findings as the allocation moves through the planning process including taking forward the identified transport interventions for further development. In particular, further investigation of congestion on the A576 corridor towards Cheetham Hill and the Regional Centre and the associated impacts on M60 Junction 19 is needed. The allocation would need to be supported by continuing wider transport investment across GM.

6. Overall Conclusion

- 6.1.1 The overall conclusions of the Locality Assessments for the GMA1.1 & 1.2 allocations remain robust. The changes in the latest assessment do not necessitate additional forms of intervention at any of the allocations. Furthermore, the latest assessment indicates that the surrounding transport network appears capable of accommodating both GM1.1 & GM1.2 allocations, in parallel, if supported by the proposed comprehensive package of mitigation works. Some further work is needed, particularly in relation to the GM1.2 allocation and M60 Junction 19.



Approval

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	Checked by	D Kirkman	Associate	29/06/2021	
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