

Land North And East Of Stakehill Industrial Estate, Middleton Transport Assessment Review

Technical Note 01

National Highways / WSP

Project number: 60659693

23rd May 2025

Quality information

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Revision History

Revision	Revision date	Details	Authorized	Name	Position
V0.1	23/05/25	Issue	JS	Jen Searle	Associate Director

Distribution List

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Table of Contents

1.	Introduction	5
	National Highways.....	5
	Background	5
	Review Structure	6
2.	Existing Road Network Conditions.....	7
	Highway Network	7
	Baseline Traffic Conditions	7
	Collisions	7
3.	Trip Rate and Trip Generation	10
	Residential Trip Rates and Trip Generation	10
	Employment Trip Rates and Trip Generation	10
	Trip Distribution	11
4.	Traffic Capacity Assessment.....	13
	Assessment Scenarios	13
	Cumulative Assessment	14
	Junction Capacity Assessment	14
	Summary	16
5.	Summary and Recommendations.....	17

1. Introduction

1.1 AECOM have been commissioned by National Highways to undertake a review of the following document in support of Land North and East Of Stakehill Industrial Estate, Middleton (Planning Application Ref: 25/00381/OUT) (referred to herein as the Proposed Development):

- Transport Assessment dated March 2025

1.2 Any items requiring clarification have been classified into three levels:

- **MINOR** – Observations that could have a minimal impact on modelling results;
- **MEDIUM** – Observations that could have a medium impact on modelling results; and
- **SIGNIFICANT** – Observations that raise substantial concern and are likely to materially affect the modelling outcomes.

National Highways

1.3 National Highways have been appointed by the Secretary of State as a strategic highway company under the provisions of the Infrastructure Act 2015. National Highways is responsible for operating, maintaining, and improving the Strategic Road Network (SRN) in England, in accordance with the License issued by the Secretary of State for Transport (April 2015) and Government policies and objectives.

1.4 This review will therefore only comment on any issues relating to the impact on the SRN. National Highways' approach to planning applications is guided by the Department for Transport's Circular 01/22: *The Strategic Road Network and the Delivery of Sustainable Development* (the Circular). This review has been prepared in the context of National Highways' statutory responsibilities, taking into account relevant government policy and regulation, and informed by the National Planning Policy Framework (NPPF).

Background

1.5 The Proposed Development is located in close proximity to the M62, south of Junction 20 and directly off the A627(M), as shown in Figure 1.

Figure 1 Development Site Location



(Source: Figure 1-1, Transport Assessment, WSP, March 2025)

- 1.6 The Proposed Development extends over around 25.3ha and includes proposals for 140,000 sq. ft of B2/B2 land use with a 25/75% split respectively, alongside an approximate provision of 314 dwellings (mix of 2,3 and 4 bed houses).

Review Structure

- 1.7 The review will comprise the following structure:
- Section 2 – review of the existing highway conditions presented in the TA;
 - Section 3 – review of the trip rate and generation;
 - Section 4 – review of the junction capacity assessments; and
 - Section 5 – summary of the findings.

2. Existing Road Network Conditions

Highway Network

2.1 The TA provided a summary of the surrounding road network. From National Highways perspective, the following road links are of primary interest:

- A627(M)
- A627(M) Slattocks Link,
- M62 between Junction 19 and Junction 20; and
- M62 Junctions 19, 20 and 21.

Baseline Traffic Conditions

2.2 The Environmental Impact Assessment (EIA) scoping [*EIA Scoping Opinion Review, NW018 Land North and East of Stakehill, May 2024*] identified that National Highways would require a robust existing/baseline conditions assessment, including the following:

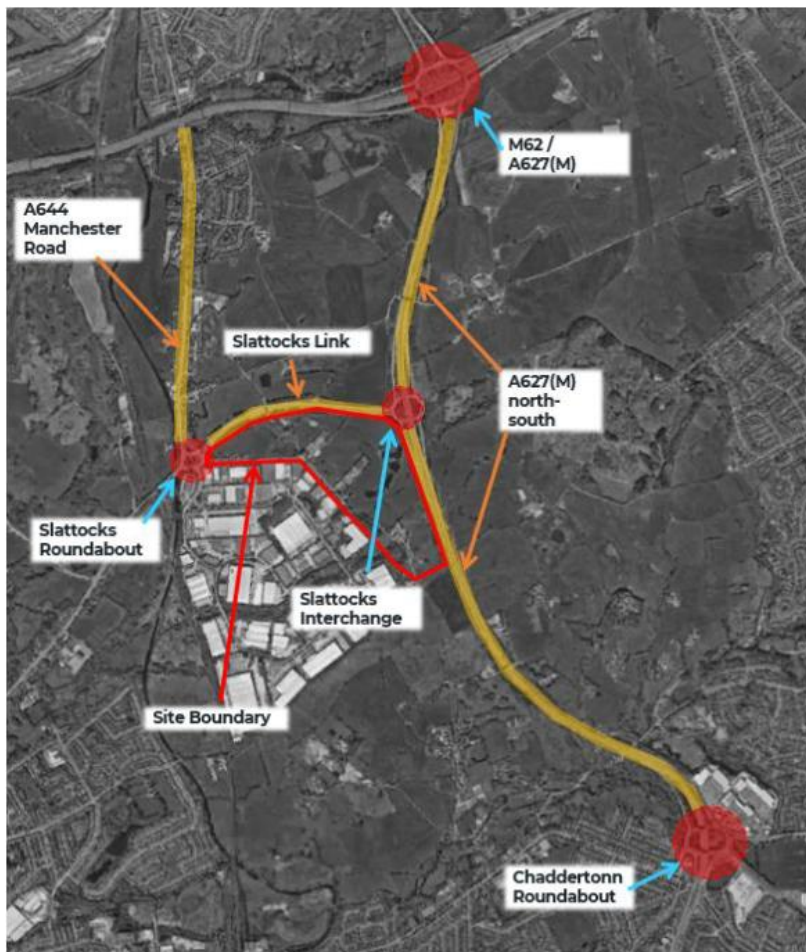
- A267(M); the A664/A627(M) Slattocks roundabout;
- A627(M)/A627(M) Spur junction (Slattocks Interchange);
- A627(M)/A663 Broadway/A627 Chadderton
- Way/Burnley Way junction (Chadderton roundabout); and
- M62 Junction 20.

2.3 The TA currently does not include any existing/baseline traffic flow data or information on congestion levels. This omission is considered **MEDIUM**, and AECOM would advise National Highways to request further information to be provided. This can be provided through commissioning traffic counts or using up-to-date Department for Transport (DfT) data.

Collisions

2.4 The TA undertook a “Road Safety” analysis for the surrounding road network, as shown in Figure 2.

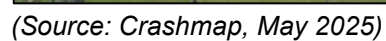
Figure 2 Transport Assessment, Safety Assessment, Study Area



(Source: Figure 2-1, Transport Assessment, WSP, March 2025)

- 2.5 The TA reported on Personal Injury Collisions from Crashmap covering a five-year period (2018, 2019, 2020, 2021, and 2022).
- 2.6 AECOM advises that the COVID-19 pandemic should be taken into account, and the years affected by the pandemic are removed from the assessment (2020 and 2021). This is because these years are considered inappropriate and not representative of typical road conditions. This is considered **MINOR**.
- 2.7 AECOM would therefore recommend that 2017 and 2023 (the latest available on Crashmap) be added to the assessment.
- 2.8 AECOM also note that the defined road network extent does not include the slip roads approaching the SRN junctions, namely Junction 19, 20, and the Slattocks Interchange. Collision data along these slip roads is critical for understanding existing safety conditions, particularly in relation to traffic queues potentially extending back onto the SRN mainline carriageways. This is especially relevant given the potential for increased future traffic demand to exacerbate such conditions. This is considered **MINOR**.
- 2.9 AECOM has undertaken a high-level review of collision data sourced from Crashmap for the years 2017, 2018, 2019, 2022 and 2023 (the most recent data available). This review identified several collisions at both Junction 19 and Junction 20, while no collisions were reported at Slattocks Interchange during this period. These are demonstrated in Figure 3 and Figure 4.

AECOM |



This aerial map shows a section of the M62 motorway in the north of England. The road is highlighted in yellow, and numerous orange and red markers indicate areas of traffic congestion or delays. The map includes labels for various roads and locations, such as Cripple Gate Ln, Thornham New Rd, A627(M), and Kirkcaldy. The surrounding area is a mix of green fields and residential developments.

(Source: Crashmap, May 2025)

3. Trip Rate and Trip Generation

- 3.1 Trip rates were calculated using the TRICS v7.9.2 database for both residential and employment sites.

Residential Trip Rates and Trip Generation

- 3.2 The calculations within the TA were based on 314 dwellings.
- 3.3 The residential vehicle TRICS output presented in Appendix D has been reviewed by AECOM. These trip rates are outlined below in Table 1.

Table 1 Proposed Residential Development Vehicle Trip Rates and Trip Generation

Peak		IN	OUT	2-Way
AM	Rate (per dwelling)	0.148	0.394	0.542
	Trips	46	124	170
PM	Rate (per dwelling)	0.359	0.166	0.525
	Trips	113	52	165

Source: Reproduced from 'Table 6-1, Transport Assessment, WSP, March 2025

- 3.4 The methodology used does not fully align with best practice. For example, the selection includes non-recommended combinations of main location types, such as suburban area, edge of town, and free-standing. This is considered **MINOR**.
- 3.5 Additionally, while the TA states that “sites in Greater London and Ireland are excluded.” However, the vehicle trip rate outputs indicate that such sites have, in fact, been included.
- 3.6 Notwithstanding these issues, AECOM has recalculated the vehicle trip rates in accordance with TRICS best practice guidance. The variation in site selection does not result in a material difference in the overall vehicle trip rate output.
- 3.7 It is also noted that only vehicle trip rates have been used to assess the residential element of the Proposed Development. AECOM has therefore run TRICS using ‘people’ trip rates, which is generally considered a more robust method at residential sites. The derived people trip rates are outlined in Table 2.

Table 2 Proposed Residential Development People Trip Rates

Peak	Arrivals	Departures	Total
AM	0.224	0.775	0.999
PM	0.558	0.270	0.828

- 3.8 Therefore, AECOM advises that *people* trip rates should be considered as an alternative potential worst-case scenario. These rates should be applied to Census-derived mode share data to determine the likely distribution of travel modes for residents commuting to work in the local area. Both vehicle- and people-based trip generation outputs should then be compared, with the worst-case scenario taken forward in the assessment. This is considered **SIGNIFICANT**.

Employment Trip Rates and Trip Generation

- 3.9 The calculations within the TA are based on a 13,000 sq. m industrial development, equivalent to the 140,000 sq. ft described in the Proposed Development description.

- 3.10 The employment TRICS output presented in Appendix D has been reviewed by AECOM. The methodology does not fully align with best practice. For example, the site selection includes non-recommended combinations of main location types, such as suburban area, edge of town, and free-standing.
- 3.11 Nevertheless, AECOM have recalculated the trip rates using TRICS best practice guidance. The variation in site selection does not materially affect the resulting trip rate outcomes. This is considered **MINOR**.
- 3.12 The employment vehicular trip rates and trip generation reported in the TA are reproduced in Table 3.

Table 3 Proposed Employment Development Trip Rates and Trip Generation

Peak		IN	OUT	2-Way
AM	Rate (per dwelling)	0.323	0.058	0.381
	Trips	42	8	50
PM	Rate (per dwelling)	0.082	0.233	0.317
	Trips	11	30	41

Source: Reproduced 'Table 6-2, Transport Assessment, WSP, March 2025

- 3.13 It is noted that the trip generation calculation within the TA shows slight discrepancies with the numbers reproduced within this review, with around 5 vehicles different in each peak. This is considered **MINOR**.

Trip Distribution

- 3.14 According to the TA, residential development traffic has been distributed using 2021 census journey to work data, for the Middle Super Output Area (MSOA) 'Rochdale 021'. Furthermore, it is stated that "trips have been assigned to the road network using the nearest vehicle access point and using the most logical routes".
- 3.15 The resulting distribution is reproduced in Table 4.

Table 4 Development Trip Distribution

Location	Work trips to Rochdale 021 MSOA
Middleton	82%
Rochdale	7%
Oldham	5%
Manchester	4%
Bury	2%

Source: 'Table 6-4, Transport Assessment, WSP, March 2025

- 3.16 Upon review of the 2021 census, the following work trips in Table 5 have been derived by AECOM from the MSOA 'Rochdale 021'.

Table 5 2021 Census AECOM Findings

Destination MSOA	Work Trips	% Overall Share
Rochdale	1,079	39.24%
Manchester	516	18.76%

Destination MSOA	Work Trips	% Overall Share
Oldham	409	14.87%
Bury	217	7.89%
Salford	101	3.67%

- 3.17 The TA assigns an 82% distribution share to the area of Middleton. However, Middleton spans both Rochdale and Manchester MSOAs, and as shown in Table 5, it is not possible for Middleton alone to account for such a high proportion of trip distribution.
- 3.18 The TA does not provide sufficient detail on how these percentages were calculated. Furthermore, it lacks clear information on traffic distribution across the Strategic Road Network (SRN), instead presenting only traffic flow figures. The applicant must provide evidence to demonstrate the basis for the trip distribution assumptions. This issue is considered **SIGNIFICANT**.
- 3.19 While 2021 Census data can offer insights into journey-to-work patterns, it is important to acknowledge that this data may not fully reflect pre-pandemic travel behaviours. The COVID-19 pandemic significantly altered commuting patterns, including increased levels of home working and changes in mode choice. The 'Greater Manchester Spatial Framework Locality Assessment: Northern Gateway (Stakehill) (GM2) (2020)' document provides an alternative traffic distribution profile for Stakehill (including Stakehill South). This is presented below in Table 6.

Table 6 Traffic Distribution for Stakehill Development (PfE)

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

Source: 'Table 8, Greater Manchester Spatial Framework, Locality Assessment: Northern Gateway (Stakehill) (GM2), Publication Version 2, November 2020

- 3.20 Of these routes, the M62 (both westbound and eastbound) is of particular interest to National Highways. The TA should clearly demonstrate how this route and the associated factors have been considered in the trip distribution methodology.
- 3.21 Additionally, the TA does not provide clear evidence to support the approach described as "using the nearest vehicle access point and the most logical routes" for assigning trips to the network. It is therefore recommended that the applicant take into account the methodology outlined in the *Greater Manchester Spatial Framework Locality Assessment* when distributing and assigning development-generated trips.

4. Traffic Capacity Assessment

- 4.1 The TA undertook a traffic capacity assessment for the following junctions:
1. M62 J19;
 2. M62 J20;
 3. A627(M) Slattocks Interchange;
 4. A664 Rochdale Road / A661 (Slattocks Roundabout);
 5. A664 Rochdale Road / A6046 Hollin Lane; and
 6. A627(M) / Broadway.
- 4.2 The TA stated that these locations were based on the PfE locality assessment. This was cross-checked by AECOM, and the selection ties in with the PfE assessment. The TA conducted the assessment using the industry software, LinSig 3 for signalised junctions and Junctions 10 for priority and roundabout junctions.
- 4.3 For National Highways SRN, Junctions 1, 2, and 3 in the list above are of main interest due to their direct interaction with the SRN.

Assessment Scenarios

- 4.4 In relation to the scenarios assessed, the TA reported the following three scenarios:
1. 2025 “Base” (PfE LA Scenario)
 2. 2040 Do-Minimum (without Proposed Development) (PfE LA minus proposed development trip generation); and
 3. 2040 Do-Something (with Proposed Development) (PfE LA)

2025 Base

- 4.5 AECOM have concerns regarding the definition of the “Base” scenario, as the TA indicates this is derived from the 2025 “forecast” scenario set out in the PfE locality assessment, rather than a new baseline assessment through traffic counts.
- 4.6 As a result, the base junction models are built on forecasted traffic data, and no calibration or validation exercise appears to have been undertaken to confirm whether the base junction models are fit for purpose or representative of on-ground conditions. This issue is considered **SIGNIFICANT**.
- 4.7 AECOM requests a calibration/validation to be undertaken for the “Base” year junctions. With queue comparison to be completed against queue data and/or site observations.

2040 Do-Minimum

- 4.8 AECOM note that in accordance with DfT Circular 01/2022, National Highways requires an assessment scenario for the development Opening year.
- 4.9 The TA does not clearly specify the first year of full development or provide justification for the selection of 2040 as the assessment year. This is considered **SIGNIFICANT**.
- 4.10 AECOM therefore recommends that, in line with the DfT Circular 01/2022, the opening year of the development, assuming full build-out and occupation, is assessed through junction modelling. The TA should either confirm that 2040 is the proposed opening year or provide further information and justification for the selection of assessment years.

Do Something

- 4.11 The Transport Assessment (TA) does not clearly identify the source of the traffic flows used in the junction assessments, nor does it specify whether the scenario includes the proposed mitigation measures. This lack of clarity may affect the interpretation of traffic impacts and is therefore considered **SIGNIFICANT**.
- 4.12 AECOM recommends that the TA be updated to clearly outline the assumptions underpinning each assessment scenario, including the source of the traffic flow data and whether mitigation measures have been incorporated.

Cumulative Assessment

- 4.13 The TA does not clearly report on the cumulative impact assessment. Specifically, it lacks information on committed developments within the study area that may have a direct impact on the Strategic Road Network (SRN). This omission is considered **SIGNIFICANT**.
- 4.14 The TA must assess the potential cumulative impacts of other developments on the SRN. In accordance with DfT Circular 01/2022, all *relevant* developments should be considered. This includes those that are either consented to or allocated, and which have a reasonable degree of certainty of progressing to a planning application within the next three years. The full extent of such development should be assumed for assessment purposes. AECOM recommends that, consistent with National Highways' previous comments on planning application 23/00650/HYBR, the TA for this Proposed Development should incorporate the full JPA2 allocation. This will enable the identification of any mitigation measures necessary to support the whole allocation.
- 4.15 The assessment should also include the other relevant developments listed in the table above, as well as any additional schemes identified in consultation with the local planning authority. Furthermore, the TA's approach should be informed by the *Places for Everyone* (PfE) transport evidence base developed by SYSTRA, which identified several sites likely to have a cumulative impact on this part of the SRN, particularly at M62 Junction 20. Clarification is requested on how this evidence base has been incorporated into the TA.

Junction Capacity Assessment

- 4.16 This review will focus on junctions that are either located on the SRN or expected to have an impact on its operation.
- 4.17 At this stage, there are underlying issues with the base traffic flows and trip generation assumptions. There are also concerns regarding the calibration and validation of the base traffic models. This is considered **SIGNIFICANT**.
- 4.18 It is therefore recommended that National Highways seek agreement with the applicant on these matters before undertaking a full review of the junction capacity assessments..
- 4.19 For the purposes of this review, a high-level summary of the modelling results for each junction is presented below.

M62 J19

- 4.20 The TA includes a junction modelling exercise using LinSig. According to the results presented in Table 7-1 of the TA, the junction operates at capacity in the AM peak in the Base scenario and overcapacity in both the 2040 Do-Minimum and Do Something scenarios. During the PM, the junction operates below capacity in the Base scenario but exceeds capacity in both future scenarios.
- 4.21 AECOM also undertook a review of the modelled geometry. Middleton Road North was modelled with a storage length of 60 Passenger Car Units (PCUs). However, site measurements indicate a maximum length of approximately 10 PCUs between the give-

way line and Worthington Avenue. The model should be updated to reflect the actual on-ground geometry. This discrepancy is considered **SIGNIFICANT**.

M62 J20

- 4.22 The TA includes a junction modelling exercise using LinSig. The results presented in the TA (Table 7-2) indicate that the junction is expected to operate over capacity, with excessive queuing forecast under all assessment scenarios.
- 4.23 Notably, the TA presents identical results for the 2040 Do-Minimum (without the Proposed Development) and Do-Something (with the Proposed Development) scenarios. This appears to be due to only 11 development trips being assigned to the junction during the AM peak, and 10 during the PM peak, equating to a negligible increase of fewer than three vehicles per arm.
- 4.24 As a result, the reported impact of the Proposed Development appears minimal or non-existent. AECOM requests that further evidence be provided to justify the trip distribution and assignment assumptions applied to the Proposed Development. The absence of any change in modelled results between scenarios raises questions about the robustness of the assumptions. A flow diagram should be provided showing the development trips on the SRN network. This is considered **SIGNIFICANT**.

Mitigation Measures

- 4.25 The TA assessed the junction with the proposed PfE mitigation, which consists of an additional left-turn on the A627(M) northbound onto the M62 westbound off-slip and lane marking changes. However, the TA does not clearly explain the specific impact of the proposed lane marking changes. It is recommended that further clarification and supporting evidence be provided to demonstrate the operational benefits of this mitigation.

A627(M) Slattocks Interchange

- 4.26 The TA includes a junction modelling exercise for this location using Junctions 10 software. The results within the TA (Table 7-3) show that the junction would operate within its capacity, with no excessive queuing or delays.

A664 Rochdale Road / A661 (Slattocks Roundabout)

- 4.27 The TA includes a junction modelling exercise for this location using Junctions 10 software. The results presented in Table 7-4 of the TA indicate that, under the 2040 Do-Minimum scenario, the junction is expected to operate over capacity in the AM and close to capacity in the PM. Under the Do-Something scenario, the results indicate increased pressure on approach arm capacities and higher delays in the AM and no change in the PM.

Mitigation Measures

- 4.28 The TA assessed the A664 Rochdale Road / A661 (Slattocks Roundabout) with the proposed PfE mitigation, which consists of:
- Signalisation of the junction;
 - Adding lane markings to the circulatory lanes to improve routing and capacity;
 - Adding a third lane by reducing lane width within the existing carriageway in certain sections;
 - Increasing the merge length of the A664 Rochdale Road (W) exit by replacing the existing hatching with a traffic lane;
 - Creating a two-lane system on both approaches and exits of Whitbrook Way by using the existing

- Hatching space. The proposed system will run to the Finlan Road junction, where the existing
- The layout will continue as one lane per direction, and
- Upgrading A627(M) pedestrian crossing facilities to improve active travel connectivity.

4.29 The TA states that the proposed mitigation measures would result in significant improvements compared to the existing junction arrangement. However, AECOM does not fully agree with this conclusion, and the junction continues to operate over capacity.

4.30 This is considered **SIGNIFICANT**.

A627(M) / Broadway

4.31 The TA includes a junction modelling exercise for this location using LinSig. The results reported in Table 7-6 of the TA indicate that the junction operates above capacity in call scenarios.

Summary

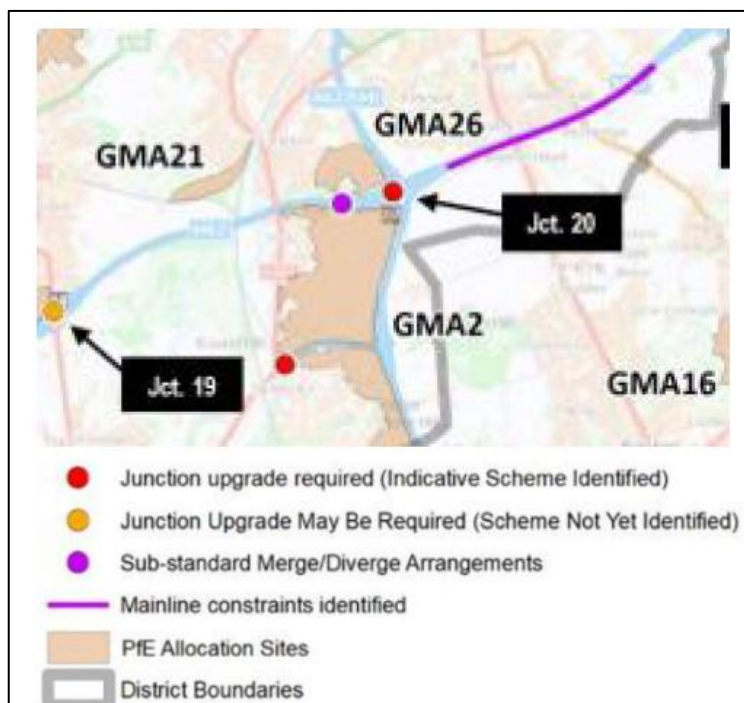
4.32 The high-level summary of modelling results presented is subject to pending the resolution of current issues related to base flows, trip generation, distribution and concerns about model calibration and validation.

4.33 AECOM recommends that National Highways engage with the applicant to address these matters before progressing with a full junction capacity assessment.

5. Summary and Recommendations

- 5.1 AECOM notes that, as outlined in the EIA Scoping Review, National Highways requested that a TA scoping exercise be undertaken with the appointed TA consultant to agree on the assessment methodology. However, the TA provides no evidence that such an exercise took place. Furthermore, the TA does not appear to have been developed in accordance with DfT Circular 01/2022, as there is no reference to the Circular or to a number of its specific requirements.
- 5.2 While the TA suggests that a form of cumulative impact assessment has been undertaken, it does not clearly set out the methodology used or provide details of the committed developments considered, particularly those agreed with the Local Planning Authority (LPA). Additionally, there is no reference to the Statement of Common Ground (SoCG) between National Highways and the Greater Manchester authorities, which outlines the expectations for the development of the Stakehill sites. The absence of a comprehensive, coordinated approach to assessing the various Stakehill sites, especially the components of the JPA2 allocation (formerly GMA2), is a significant concern. This results in a lack of clarity regarding the overall impact on the Strategic Road Network (SRN), as well as uncertainty over the responsibilities for delivering mitigation measures and the phasing of such interventions. This is considered **SIGNIFICANT**.
- 5.3 The EIA Scoping Review states that the TA should identify any necessary mitigation measures. AECOM understands that National Highways agreed to the interventions identified in the *Places for Everyone* (PfE) assessment (as shown in Figure 5) should be used as a starting point to develop more detailed mitigation proposals and delivery requirements.

Figure 5 M62 and A627(M) potential improvements locations



Source: 'Figure 3, EIA Scoping Opinion Review, WSP May 2025'

- 5.4 Nonetheless, the TA does not meet the requirements of the scoping agreement. The assessment demonstrates that the initially proposed mitigation measures would be insufficient to address the impact on the Strategic Road Network (SRN). Furthermore, no assessment has been provided regarding the suitability of the M62 Junction 20 merge and diverge layouts, as required under the Design Manual for Roads and Bridges (DMRB). This is considered **SIGNIFICANT**.

- 5.5 The TA, in its current form, contains fundamental deficiencies in methodology, traffic-capacity analysis, and the proposed mitigation strategy. AECOM therefore recommends that the developer and their transport consultant engage with National Highways to resolve the issues highlighted in this review before a definitive position can be reached on the planning application.

