Project:	**Highways England Spatial Planning Arrangement 2016-2020**	Job No:	**60506522 DM014.001**
Subject:	**South Caldecotte Scoping Material Review**		
Prepared by:	**Chris Denton**	Date:	**10th January 2018**
Checked by:	**Liz Judson**	Date:	**12th January 2018**
Verified & Approved by:	**John Alderman**	Date:	**19th January 2018**

1 Introduction

1.1.1 BWB Consulting (BWB) have been appointed to provide transportation advice in support of a proposed B2/B8 employment development at South Caldecotte in Milton Keynes. The site is bordered by the A5 to the southwest, the Bletchley-Bedford branch railway line to the north and Brickhill Street to the East. The proposed development includes 195,000m² B2/B8 employment space across multiple buildings. A new roundabout junction on Brickhill Street will provide access.

1.1.2 This Technical Note (TN) has been prepared by AECOM, on behalf of Highways England (HE), as a response to scoping material prepared by BWB for a forthcoming Transport Assessment (TA), relating to the proposed development. The scoping material was provided to HE via an email dated 1st November 2017. AECOM are not aware of a formal planning application being submitted for the proposed development at time of writing this TN.

1.1.3 The purpose of this TN is to conduct a review of the scoping material to determine whether the potential impact of the proposed development on the strategic road network (SRN) will be reasonably assessed within the TA.

1.1.4 HE is responsible for the monitoring, management and maintenance of the strategic road network (SRN). The nearest point of access to the existing SRN is the A5/A4146/Brickhill Street roundabout, also known as the Kelly's Kitchen roundabout. This junction is located on the southern edge of the proposed development, approximately 1km from the site access junction on Brickhill Street.

1.1.5 The A5 runs adjacent to the southwest edge of the site and is part of the SRN, running northwest-southeast through the west of Milton Keynes with four junctions providing access, of which the Kelly's Kitchen roundabout is one. Also of interest to HE may be the A5 Bletcham, Little Brickhill and Redmoor grade separated junctions, located approximately 1km, 2.5km and 3km from the proposed development respectively.

1.1.6 In addition, the M1 is a strategic north-south route, linking London, the Midlands and the north of England and passes Milton Keynes to the northeast. M1 Junctions 13 and 14 are both located approximately 7km respectively from the proposed development via the local highway network and have the potential to provide access to the SRN for strategic, long distance trips to the west and north respectively. For trips to/from the south, the A5, via Sheep Lane Roundabout, Hockcliffe and the recently opened A5 – M1 Link to Junction 11a may provide the quickest and most attractive route.

2 Policy Context

2.1.1 AECOM notes that no policy material has been discussed by BWB in the scoping material reviewed. To ensure that the forthcoming TA meets the appropriate national, regional and local criteria, AECOM recommends that the following policy documents are referred to in the context of the proposed development.

- The National Planning Policy Framework (NPPF);
- National Planning Practice Guidance;
- Milton Keynes Core Strategy (2013);
- Milton Keynes Proposed Submission Local Plan (2017);
- Local Transport Plan 3 for Milton Keynes;
- Milton Keynes Residential Development Design Guide;
- Manual for Streets;
- DfT Circular 02/13 The Strategic Road Network and the Delivery of Sustainable Development; and
- The Strategic Road Network. Planning for the Future. A guide to working with Highways England on planning matters.

2.1.2 This list is not intended to be exhaustive and it is encouraged that the TA also refers to further policy documents if deemed appropriate.

2.1.3 The Plan:MK Proposed Submission document identifies land south of Milton Keynes (South Caldecotte) for 195,000m² of employment development (policy SD16), which is consistent with the proposals for this site. Therefore if the Proposed Submission document is adopted as currently drafted the proposed development will have a solid standing within local planning policy.

3 Baseline Conditions

3.1 Overview

3.1.1 Limited information has been provided in the scoping material regarding a summary of the existing conditions of the local and strategic road networks surrounding the proposed development, as well as the existing provision of public transport and walk/cycle facilities. AECOM recommend that the TA includes a general summary of the site's location in relation to the Milton Keynes urban area, including Brickhill Street, the A5 and Kelly's Kitchen roundabout.

3.1.2 AECOM also recommend, dependent upon the trip generation, distribution and assignment adopted, consideration be given to the potential impact upon the strategic road network, identifying those junctions and links which will suffer a material impact and require assessment.

3.1.3 Furthermore, if junction assessments are to be undertaken then observed turning counts at the junctions in combination with ATC counts covering the same time period but over a longer duration should be obtained within a neutral month and referenced within the TA. Observed queue data should also be obtained and utilised to determine whether base models of the junctions are reasonably reflecting the existing junction operation.

3.2 Walking, Cycling and Public Transport

3.2.1 The scoping material suggests the TA will study opportunities to access the site using sustainable modes of transport.

3.2.2 In doing so, the TA should refer to existing walking and cycling provision and public rights of way in the vicinity of the proposed development. Existing public transport services, including details on distances, frequencies and routes of services should be included, along with exploring opportunities to extend existing services to serve the site. AECOM would welcome the commitment to maximise the sustainable transport options made available for future employees, especially with a rail station in close proximity.

3.2.3 Because of the location of the site, on the outer edge of the built-up area and accessible to strategic routes, it will be important to ensure that the sustainable mode offer is attractive and well-promoted if the development is to avoid high levels of car-dependency.

3.2.4 AECOM note that a Travel Plan is mentioned within the scoping material. The DfT Circular 02/2013 states that " *The preparation and implementation of a robust travel plan that promotes use of sustainable transport modes such as walking, cycling and public transport is an effective means of managing the impact of development on the road network, and reducing the need for major transport infrastructure".*

3.2.5 Further discussion regarding the contents of a forthcoming travel plan will take place later within this TN.

3.3 Road Safety

3.3.1 The scoping material states that Personal Injury Accident (PIA) data for the local highway network will be analysed. AECOM recommend that data covering at least the last five years available is reviewed. It is also recommended that the area intended to be assessed includes the A5 Kelly's Kitchen roundabout, in addition to any other junctions on the SRN where there is expected to be a material impact with regards to development trips.

3.4 Committed Developments

3.4.1 The scoping material does not mention any developments as committed regarding background flows. The TA makes reference to a consented development within their scoping material. AECOM therefore recommend that the TA considers the following development in the vicinity of the proposed development as committed for the purpose of traffic flows.

- *Land at Eaton Leys Reference 15/0533/OUTEIS*
  This is a planning application for a residential led development of up to 1,800 homes distributed between Aylesbury Vale and Milton Keynes. The application has been permitted and it is expected that Conditions will be attached that require significant alterations to be made to the A5/A4146 Kelly's Kitchen Roundabout.

3.4.2 In addition to the additional background flows arising from the proposed development consideration should be given to whether improvements to the A5/A4146 roundabout have been secured and hence can also be considered to be committed. Consideration however should also be given to the potential scenarios that could arise in the event if these improvements are considered to be committed and reliance placed upon them by the proposed South Caldecotte development, but they are not delivered by others in advance of being required by the South Caldecotte development.

3.4.3 In addition to the site identified above by AECOM, it is recommended that BWB identify any other committed developments that could have a point impact at junctions in the vicinity of the proposed development and include these within any future year traffic impact assessments. Details of these committed developments and the flows associated with them should be included within the TA.

3.4.4 It is recommended that BWB check whether any infrastructure changes on the SRN have been identified to support the committed developments and include these within any junction assessments that are undertaken.

3.5 Study Area

3.5.1 The scoping material provides details regarding the study area and the junctions for which operational assessments will be undertaken. These are summarised below:

- Site Access from V10 Brickhill Street;
- V10 Brickhill Street / Station Road;
- V10 Brickhill Street / Caldecotte Lake Drive;
- V10 Brickhill Street / H10 Bletcham Way; and
- V10 Brickhill Street / A5 (Kelly's Kitchen roundabout).

3.5.2 AECOM consider that due to the size and nature of the proposed development and the likelihood that the site will generate significant numbers of light vehicle and HGV trips, consideration should be given to widening the study area to include any junctions of the SRN that are expected to experience a material increase in trip numbers as a result of the development, including other junctions on the A5 and the M1. Evidence should be provided which demonstrates the scope of the material impact assumed.

3.5.3 AECOM will conduct a high level impact analysis later in this review, following consideration of the proposed trip generation and distribution and may provide further commentary on the proposed study area at that time.

4 Development Proposals

4.1.1 Vehicular access to and from the development will be solely via a roundabout on Brickhill Street, between Bletcham Way and the A5. The scoping material states that the development proposals will be summarised within the TA, which will also provide details of the vehicular and pedestrian accesses, servicing and the level of parking with reference to Milton Keynes Council's standards.

4.1.2 AECOM notes that the proposed development is separated from the rest of the Milton Keynes urban area by the Bedford-Bletchley branch rail line. This could isolate the site from the residential areas to the north and encourage single occupancy car trips. Provision of improved pedestrian and cyclist connections between the site and the Milton Keynes urban area and Bow Brickhill station for future employees is encouraged by AECOM and HE.

4.1.3 AECOM note that the site may be subject to additional constraints with reference to the East West Rail and potential aspirations for an Oxford to Cambridge Expressway.

5 Trip Generation, Distribution and Assignment

5.1 Trip Generation

5.1.1 The TRICS database (version 7.4.2) was used by BWB to extract employment trip rates for the B2 (industrial estate) and B8 (storage and distribution centre) employment land uses, for overall vehicles and HGVs. These trip rates were per 100m² floorspace. BWB state that an assumption has been made of a 20/80 split between B2 and B8 use for robustness. Whilst this may be considered reasonable at this stage, it is important that when an application is made that the application is consistent with this 20/80 split, to ensure that the trip generation associated with the site is reasonable. If the ratio of the land uses changes then the trip generation and impact of development trips on the highway network should be reassessed.

5.1.2 AECOM has undertaken checks on the vehicle trip rates presented by BWB for the proposed development using TRICS (version 7.4.4). A comparison of the resulting total trip generation is summarised in the table below.

Table 1: Comparison between scoping material and AECOM total vehicle trips generated.

Land Use	Time Period	TA			AECOM			Difference		
		In	Out	2-Way	In	Out	2-Way	In	Out	2-Way
B2	AM	126	39	165	124	64	188	-2	25	23
	PM	14	131	145	38	108	145	23	-23	0
B8	AM	128	36	164	95	58	153	-33	22	-11
	PM	14	62	76	42	76	119	28	14	42

5.1.3 The comparison shows that AECOM's trip generation generally resulted in slightly more trips generated for the B2 land use and significantly more trips generated for the B8 land use in the PM peak. The table below compares the TA and AECOM trip generation predicted for HGVs only.

Table 2: Comparison between scoping material and AECOM HGV trips generated.

Land Use	Time Period	TA			AECOM			Difference		
		In	Out	2-Way	In	Out	2-Way	In	Out	2-Way
B2	AM	14	14	29	6	8	14	-8	-6	-14
	PM	0	0	0	3	4	7	3	4	7
B8	AM	14	14	28	27	30	56	12	16	28
	PM	9	17	27	30	31	61	20	14	34

5.1.4 The HGV comparison shows that AECOM's figures generated similar trip numbers for the B2 land use. However, the comparison indicates that the BWB trip rates may be underestimating the HGV trip rates for the B8 land use.

5.1.5 AECOM consider that the trip rates and subsequent trip totals presented in the scoping material could potentially underestimate the overall impact of the proposed development on the SRN, which could carry the risk that the mitigation proposed may not be adequate for future levels of traffic. Therefore, AECOM recommends that the TA updates the trip generation to better reflect the average number of vehicle trips anticipated to be generated by the proposed development.

5.1.6 The scoping material notes the Eaton Leys residential development to the south, consisting of 600 dwellings. A 5% reduction in light vehicle trips has been proposed to account for the linked trips in close proximity to the proposed development. Whilst AECOM acknowledge the reference by BWB to the proposed sustainable transport connections between the two sites, there is concern that the 5% reduction could underestimate the total number of trips that could route through the A5/A4146 junction.

5.1.7 The TRICs sites selected by AECOM to calculate their trip rates were broadly located within or on the edge of a town, in order to use sites in similar types of locations to the proposed development. These sites have substantial residential areas within close proximity to the employment site and therefore already include the potential for linked trips. AECOM do not consider that the additional Eaton Leys site would increase the possibility of linked trips and therefore AECOM do not consider this 5% reduction to be reasonable.

5.2 Distribution and Assignment

5.2.1 The scoping material has used 2011 Census Journey to Work (JTW) Data for the MSOA Milton Keynes 022 to distribute the employment light vehicle trips, an approach AECOM agrees with in principle. The proportional splits of residential origins for those driving to Milton Keynes 022 for work were obtained to be applied to the vehicle trips generated by the proposed development.

5.2.2 AECOM note that the development is located within MSOA Milton Keynes 024. However this encompasses a predominately rural zone outside of the Milton Keynes urban area. MSOA Milton Keynes 022 is located directly to the north of the development and covers an area more suburban in nature. AECOM consider MSOA 022 is likely to reflect the distribution of the proposed development better than the rural area covered by the Milton Keynes MSOA 024 and therefore accept this approach.

5.2.3 AECOM have checked the light vehicle trip distribution analysis using the same Census JTW dataset. The route distribution splits from Figure 2 of the scoping material have been checked and confirmed as broadly in line with AECOM's estimates.

5.2.4 <u>However, the details of the wider distribution of trips is limited and AECOM therefore recommend that this is provided to determine whether a wider scope of junction assessments is required.</u>

5.2.5 The scoping material reasons that HGVs would not be expected to follow the same travel patterns as commuting trips and are anticipated to use principle roads to and from the proposed development. A HGV only assignment has been provided based off DfT traffic count data.

5.2.6 Whilst AECOM agree that using a separate assignment for HGVs is a reasonable approach, the DfT data has not been included within the scoping material. <u>AECOM recommend that this data is provided so that the HGV distribution can be reviewed. Furthermore, AECOM recommend that a wider distribution across the A5 and M1 is provided as HGV trips are likely to be more strategic and therefore have a wider impact on the SRN junctions.</u>

6 Traffic Impact

6.1 Study Area Assessment

6.1.1 The scoping material proposes the TA will conduct an operational assessment of the links and junctions within the study area outlined in Section 3.5 of this review.

6.1.2 As discussed in the previous section, in order to provide an independent estimate, AECOM has conducted a separate trip distribution analysis using Census Journey to Work data. Trip destinations were grouped according to which junctions could be used to enter or exit the SRN. The proportions of trips routing via SRN junctions were applied to the vehicle trips to calculate the potential impact on the SRN.

6.1.3 The A5/A4146 Kelly's Kitchen roundabout shows the highest peak hour impact from commuting trips, with over half of trips to and from the proposed development using this junction.

6.1.4 The AECOM trip distribution also predicted that there could be a material impact at a number of other junctions, including the A5 Redmoor roundabout, A5/Sheep Lane roundabout and M1 Junction 14. AECOM recommend that consideration be given to the need for assessment of these junctions and other junctions within the TA. If it is agreed that a traffic capacity assessment is not to be undertaken, increases in traffic flows at these junctions as a result of development should at least be calculated so that so that the impact to these junctions can be identified.

6.1.5 Where is it agreed that individual junction capacity assessments should be undertaken these assessments should be used to establish whether the junction is predicted to operate over capacity in the identified forecast year and whether the additional development traffic is predicted to have a severe impact and worsen this operation. If this situation arises then it is recommended that measures are identified to mitigate the impact of the development and enable the junction to operate within capacity. Reference should be made to DfT Circular 02/2013 for further guidance on this process.

6.2 Growth Factors and Assessment Years

6.2.1 The scoping material states a base year of 2018 and an assessment year of 2023 have been assumed for the proposed development.

6.2.2 AECOM note that the DfT Circular 02/13 states *"Where insufficient capacity exists to provide for overall forecast demand at the time of opening, the impact of the development will be mitigated to ensure that at that time, the strategic road network is able to accommodate existing and development generated traffic"*. It is considered unclear by AECOM if 2023 is intended to represent the opening year for the full build out of the proposed development and it is recommended that confirmation regarding this is provided. If an alternative opening year is identified this should be included within the forthcoming TA.

6.2.3 The scoping material did not provide details regarding any other proposed future assessment years. DfT Circular 02/13 also states that *"The overall forecast demand should be compared to the ability of the existing network to accommodate traffic over a period up to ten years after the date of registration of a planning application or the end of the relevant Local Plan whichever is the greater."*

6.2.4 The adopted Milton Keynes Local Plan covers a period running to 2031. Therefore AECOM consider that 2031 as a minimum could be used for a future assessment year in addition to the opening year. The relevant Local Plan is however considered to be the forthcoming Plan:MK document, which is intended to be submitted for Examination in Public shortly. Whilst not yet adopted Plan:MK specifically identifies the proposed site, giving an assessment year of 2035 as the end year Local Plan period.

6.2.5 BWB indicate that TEMPro version 7.2 growth factors for 2017-2018 and 2017-2023 will be used. AECOM considers that the factors presented within the scoping material are reasonable, however HE will need to review any additional factors that are presented within the TA for alternative forecast years.

6.2.6 AECOM reiterate the point made in Section 3.4 regarding the inclusion of committed development traffic flows.

6.2.7 The scoping material does not indicate whether adjustments will be made to the TEMPro growth factors to take into account committed developments. If these adjustments are not made then the factors may be considered to be reasonable, however if any adjustments are made, details of this should be provided within the TA for checking purposes.

7 Framework Travel Plan

7.1.1 The scoping material provides limited details of the contents of a forthcoming Framework Travel Plan (FTP), which are summarised below:

- Summarise the aims, objectives and methodology of the FTP;
- Summarise overall targets proposed to minimise the number of vehicular trips and increase the proportion travelling by sustainable modes of transport;
- Summarise indicative travel plan measures to encourage staff and visitors to travel by walking, cycling, public transport and car sharing; and
- Identify the administration process for monitoring and reviewing the travel plan.

7.1.2 AECOM broadly consider these elements to be reasonable for inclusion within the FTP and welcome any attempts to reduce the single occupancy car use at the site. Further details regarding the potential measures that could be implemented have not been provided within the TA. It is recommended that a combination of 'carrot' and 'stick' measures are considered, with some financial benefits included, to encourage as many people and possible to make use of sustainable transport.

7.1.3 AECOM consider that public transport use and car sharing are likely to be the measures that most likely encourage the largest shift away from long distance car trips that make use of the SRN. AECOM therefore welcome a focus on these measures within the FTP, however due to the proximity of the A5 to the proposed development site, walking and cycling could also remove car trips from the SRN and therefore the need to identify these types of measures is also welcomed by AECOM.

7.1.4 <u>The scoping material does not indicate whether a reduction in the proposed trip generation will be undertaken to take into account the FTP measures. Whilst AECOM consider that if this reduction is not applied then a robust assessment will be undertaken, if a reduction is applied then the measures identified need to be comprehensive enough to justify the reduction.</u>

8 Conclusion

8.1.1 This TN has documented AECOM's review, on behalf of Highways England (HE) of the scoping material relating to the proposed development of South Caldecotte. The scoping material, dated November 2017, has been prepared by BWB Consulting in support of a forthcoming Transport Assessment (TA).

8.1.2 The purpose of this note was to conduct a review of the relevant sections of the scoping material and associated documents to determine whether the potential impact of the proposed development on the strategic road network (SRN) will be reasonably assessed within the forthcoming TA.

8.1.3 AECOM has made a number of further comments and recommendations throughout this note, which should be addressed in order to ensure the impact of the proposed development on the SRN is fully assessed. These comments and recommendations have been identified by use of underlined text for ease of reference and are summarised below.

- The TA should be guided by and make reference to the list of policy documents provided in Section 2.

- The TA should include a general summary of the site's location in relation to the Milton Keynes urban area, including Brickhill Street, the A5 and Kelly's Kitchen roundabout.

- Where junction assessments are to be undertaken then observed turning counts at the junctions in combination with ATC counts covering the same time period but over a longer duration should be obtained, within a neutral month and referenced within the TA to demonstrate the turning counts obtained are typical. Observed queue data should also be obtained and utilised to determine whether base models of the junctions are reasonably reflecting the existing junction operation.

- The TA should refer to existing walking and cycling provision and public rights of way in the vicinity of the proposed development. Existing public transport services, including details on distances, frequencies and routes of services should be included, along with exploring opportunities to extend existing services to serve the site. AECOM would welcome the commitment to maximise the sustainable transport options made available for future employees, especially with a rail station in close proximity.

- Personal Injury Accident (PIA) data should be reviewed for the A5 Kelly's Kitchen. Other junctions on the SRN that are identified as having a material impact from the development then the PIA data at those junctions should also be reviewed.

- A summary of AECOM's understanding of committed developments in the vicinity of the proposed development is included in Section 3.4 as no details were provided within the scoping material. This information should be considered by BWB when preparing the TA, in addition to any other committed developments that BWB are aware of in the area. Committed infrastructure to support the committed development should also be considered and included in the assessments if considered relevant.

- The internal site layout design should be in accordance with the Manual for Streets and in line with the general principles set out in the Milton Keynes Residential Development Design Guide, in order to encourage sustainable travel where possible.

- AECOM considered that the trip rates and trip totals presented by the scoping material were an underestimation of the proposed development's potential traffic impact.

- Whilst AECOM broadly consider the light vehicle distribution presented within the scoping material to be reasonable, it is considered limited in its scope and AECOM therefore recommend that this is provided to determine whether a wider scope of junction assessments is required.

- Whilst AECOM accept the approach of using a separate trip distribution and assignment for HGVs, the traffic count data this was based on was not included within the scoping material. It was recommended that this was provided so use of this separate distribution can be checked fully. Furthermore, a wider scope of impact should be considered and presented within the TA.

- AECOM consider that due to the size and nature of the proposed development and the likelihood that the site will generate significant numbers of light vehicle and HGV trips, consideration should be given to widening the study area to include any junctions of the SRN that are expected to experience a material increase in trip numbers as a result of the development, including other junctions on the A5 and M1. Evidence should be provided which demonstrates the scope of the material impact assumed.

- Should the predicted increase in traffic be expected to have a material impact on the operation of a junction within the study area, AECOM recommend that a detailed operational assessment involving local junction modelling is carried out within the TA.

- These assessments should be used to establish whether the junction is predicted to operate over capacity in the identified forecast year and whether the additional development traffic is predicted to have a severe impact and worsen this operation. If this situation arises then it is recommended that measures are identified to mitigate the impact of the development and enable the junction to operate within capacity.

- It is recommended that the TA make clear what the opening year is and that an appropriate ‘review year’ future year is used in line with guidance from DfT Circular 02/2013.

- AECOM consider that as a minimum the 2031 could be used as future assessment year in addition to the opening year, in line with the adopted Local Plan. Consideration should also be given to assessing 2035 as this is the end year of the forthcoming Plan:MK document, which is intended to be submitted for Examination in Public shortly.

- The scoping material does not indicate whether adjustments will be made to the TEMPro growth factors to take into account committed developments. If these adjustments are not made then the factors may be considered to be robust, however if any adjustments are made, details of this should be provided within the TA for checking purposes.