
10320 Land at Clapham

Local Plan Representation

29th July 2022

1 Introduction

- 1.1 Background Brookbanks is appointed by Hallam Land Management Limited to provide technical support in relation to the promotion of a development on land at Clapham, Bedfordshire and to consider the transport evidence submitted in support of the Bedford Borough Local Plan.
- 1.2 Bedford Borough Council (BBC) is currently preparing the next Local Plan for the region. Local Plan 2040 continues the Local Plan 2030 strategy and provides the planning framework for the Borough up to 2040. Local Plan 40 identifies the location for future homes and jobs.
- 1.3 Consultation is now taking place on the Local Plan 2040 for six weeks, ending on Friday 29 July 2022.
- 1.4 The purpose of this report is to review the evidence base that focuses on Transportation, to consider if the A421 is capable of facilitating the Councils strategic growth preferred strategy or alternatively whether a variation in that strategy would reflect a more robust approach.

2 Review of the Evidence Base

Background

- 2.1 Several transport studies have been produced to support the development of the local plan, as indicated below.
 - Bedford Borough Transport Model - Draft Local Plan Assessment – v1.1 dated 13th May 2021
 - Bedford Borough Transport Model - Assessment of Local Plan Options 2a-2d -v1.1 dated 6th September 2021
 - Bedford Borough Transport Model - New Settlements and the A6 – v1.3 dated 30th March 2022
 - Bedford Borough Transport Model - Assessment of Local Plan Options 2040 Preferred Strategy – v1.4 dated 5th May 2022

Draft Local Plan Assessment - 13th May 2021

- 2.2** BBC commissioned AECOM to develop the Bedford Borough Transport Model (BBTM) covering the borough and adjacent Local Authorities. The model has been developed to inform the development of the Local Plan and to assess transport network schemes. Brookbanks has reviewed the Aecom report Bedford Transport Model: Assessment of Local Plan 2040 Preferred Strategy.
- 2.3** The BBTM has been designed to understand the existing provision and constraints on transport, forecast the impacts of growth and then to develop schemes required to deliver the proposed level of growth.
- 2.4** As part of an initial assessment for the new Local Plan(May 2021), four development scenarios for growth have been assessed considering different distributions of growth. The four development scenarios for growth are:
- Grey (Dispersed growth): Includes all sites identified as part of the Local Plan 2040 call for sites consultation with the size of the proposed developments scaled uniformly to ensure that the overall growth is equivalent to the new Local Plan housing and employment targets. This scenario distributed development across the Borough in multiple sites.
 - Pink, Yellow & Brown (infrastructure focussed growth): Concentrates growth along the A421 corridor as well as within and adjacent to the Bedford urban area
 - Red & Orange(New Settlement focussed growth): Growth through the creation of one or more of four new settlements within the borough located to the east of the borough near the A1, to the south of St Neots, along the A6 corridor to the north of Bedford and near Sharnbrook.
 - Brown (Urban focussed growth): Growth in locations which are primarily located within Bedford or in parishes which adjoin the current urban area boundary near existing urban areas, including urban extensions. Scenario includes growth focused on Bedford, Bromham, Clapham, Ravensden, Duloe and Wymington,
- 2.5** The housing numbers assessed in each option is presented below.

Scenario	2018	2030	2040	2050
Reference Case	72,160	82,978	84,220	84,220
Grey	-	89,520	97,584	97,584
pink yellow brown	-	84,712	96,359	101,359
red orange	-	82,978	99,655	110,070
Brown	-	84,168	96,124	101,124

Table 2-1: Housing Trajectory

- 2.6** The results of the modelling is presented below.

Scenario	Morning	evening
Grey	3.4%	4.0%
pink yellow brown	2.1%	1.0%
red orange	3.3%	3.8%
Brown	2.4%	2.0%

Table 2-2: Average Positive Network Speed Changes with Mitigation

- 2.7** This indicates that the average speed changes across the four scenarios is generally consistent with benefits observed in all scenarios. The Pink, Yellow & Brown scenario which in generality concentrates a significantly higher proportion of growth along the A421 corridor provides the least level of improvement.

Assessment of Local Plan Options 2a-2d - 6th September 2021

- 2.8** Following the previous initial assessment, a more detailed assessment of the potential large developments considered as part of the draft Local Plan was undertaken in order to consider additional mitigation measures. This assessment considered potential developments along the A6 to the north of Bedford (Twinwoods and Colworth) and to the south of St Neots (Dennybrook and Little Barford).
- 2.9** Subsequently, in the summer of 2021, four more refined options for growth were assessed. Each were variants of the earlier 'Yellow' development scenario and were referred to as Options 2a to 2d:
- Option 2a: this option focusses growth in and around the urban area and to the south-west of Bedford.
 - Option 2b: this option includes growth in and around the urban area, to the south-west of Bedford, and a new settlement at either Little Barford or Wyboston.
 - Option 2c: this option includes growth in and around the urban area, in the Parishes of Kempston Hardwick, Stewartby and Wixams, and two new settlements at Little Barford and Wyboston.
 - Option 2d: this option includes growth in and around the urban area, to the south-west of Bedford, a new settlement at either Little Barford or Wyboston, and along the A421 corridor between Bedford and the A1.
- 2.10** A summary of the key findings are indicated below.
- In terms of the analysis of the transport modelling of the four emerging preferred options, there are limited differences in terms of the forecast additional traffic and the forecast impact that this has on the highway network
 - Forecast Congestion at A421 / Western Bypass (Marsh Leys) Junction is forecast on several approaches to this junction in all emerging preferred options.

- Forecast Congestion at B530 / Manor Road Junction is forecast to experience additional delays which forms a key access point to the proposed development to the south-west of Bedford in all emerging preferred options. To mitigate the impact, the access arrangements for proposed development in this area could be considered to spread the additional traffic over a greater number of locations
 - In all of the preferred options the forecasts show that there is an increase in delay on the A421 southbound off-slip to M1 Junction 13 via Salford Road. High levels of congestion are forecast in this area in the reference case forecasts and therefore any additional traffic at this location will lead to an increase in delay. The forecast increases in delay at this location in the emerging preferred options are likely to be predominately due to the additional traffic attracted to the corridor with the widening of the A421 to the south of Bedford.
 - The difference between the forecasts for the four emerging preferred options is limited.
- 2.11** This assessment does not provide a strong view of which of the four emerging preferred options could be the final preferred option for the Local Plan 2040.
- 2.12** However, following consultation (in the autumn of 2021) and assessment, Option 2b was selected as the basis for the preferred strategy for the Local Plan 2040.

New Settlements and the A6 - 30th March 2022

- 2.13** As part of the development of the new Local Plan potential new settlements to the north of Bedford along the A6 corridor have been identified, namely the proposed developments at Twinwoods. A technical note was produced to detail the modelling methodology and forecast results of an initial transport assessment of the proposed developments.
- 2.14** Three forecast scenarios considering different assumed combinations of growth at Twinwoods and Colworth by 2050:
- Scenario A: 5,940 dwellings at Twinwoods only
 - Scenario B: 4,500 dwellings at Colworth only
 - Scenario C: 5,940 dwellings at Twinwoods and 4,500 dwellings at Colworth
- 2.15** The forecast traffic on the network in the 'without mitigation' scenarios results in a decrease in average network speeds by 7.2% with the Colworth development only and by 9.2% with the inclusion of the proposed Twinwoods development.
- 2.16** Average network speeds improve with the addition of the proposed mitigation measures, with the forecast average speeds comparable with those forecast for the 2030 reference case.
- 2.17** In terms of the traffic generated by the proposed Twinwoods development, this is forecast to primarily use routes to the south towards Bedford along the A6 and to the north towards Rushden using Thurleigh Road to access the A6.

- 2.18** In terms of network performance there are significant delays forecast to the east of Milton Ernest with the inclusion of the proposed Twinwoods development without the potential Milton Ernest Bypass. In addition to this, all scenarios are forecast to generate additional delay along the A6 corridor. Additional mitigation measures along the route have been proposed to address these forecast issues. Within the A6 corridor, one impact of large scale growth at Twinwoods or Colworth (on the scale tested in the model) is the potential for delay and capacity constraints at the Clapham Road / Manton Lane roundabout in northern Bedford. The reference case includes improvements to this junction. However, further mitigation at this junction to alleviate the scale of development being tested was not identified due to physical constraints.. Without further capacity improvements or measures to reduce the forecast traffic in the A6 corridor and at this location, the assessment concludes congestion is likely to be a constraint on the delivery of growth at the scale tested (4,500 to 10,000+) along the A6 corridor to the north of the borough.

Assessment of Local Plan Options 2040 Preferred Strategy - dated 5th May 2022

- 2.19** The assessment of the new Local Plan included an additional 14,000 dwellings and 10,000 jobs by 2040. This additional population and employment results in additional traffic and, without mitigation, results in reductions in average speeds and increases junction delays.
- 2.20** Mitigation measures have been proposed to address locations where additional delay or high levels of congestion were forecast..
- 2.21** In terms of traffic flows, increases are forecast as a result of the preferred strategy along the A421, A1 and Western Bypass (para 8.2.6). In part this reflects the development strategy and the planned mitigation (the widening of these routes). Also traffic is forecast to grow around larger developments set out in the proposed site allocations – around Kempston Hardwick and around Little Barford and the A1 corridor (para 8.2.8). Growth in traffic, is therefore focussed south of Bedford.
- 2.22** In terms of delay and congestion, the preferred approach, unmitigated, will reduce average speeds (para 8.3.1). Once mitigated overall speeds are expected to increase from the 2030 base case.
- 2.23** In terms of junction delay, mitigated, in the AM peak, the transport model report indicates that “there is forecast to be limited change in average junction delays” but that that there are some junctions which will “experience an increase in average junction delay to the south of Bedford primarily along the A6 to the south of the A421”. [8.3.4]. In the PM peak similar increases in delay to the south of the Bedford along the A6 and in parts of the urban area are forecast [8.3.5]
- 2.24** Finally, in terms of volume capacity ratios, no location with development and mitigation is expected to exceed 100% as a result of the Preferred strategy n 2040. However in the AM peak, “the locations where volume capacity ratios are forecast to be highest are along the A421 corridor and within southern Bedford town”[8.3.11] In the PM peak vlume to capacity ratios are generally higher across the plan area including to the south of the borough (with Clapham Road/Manton Lane cited as being one of two junctions – the other to the south of Bedford – with forecast rations higher than 100%). Generally “there are several locations where forecast volume-capacity ratios are approaching 100% and these are located along the A421 corridor and in southern Bedford town” (8.3.12).

3 Development at Clapham

- 3.1** Clapham is located ideally to deliver a well connected development, both in relation to the sustainable benefits associated with the proximity to Bedford town centre and station, the availability of sustainable transport modes to the town centre and station and the wider strength in relation to the transport network connections. Appropriately scaled development at Clapham is wholly consistent with and contributes strongly towards the Plan vision to support and deliver and benefit from a new town centre railway and sustainable transport hub.
- 3.2** Clapham is located to the east of the A6 which delivers on the need for a key distributor road through the Bedford hinterland. The A6 connects to both the A428 and the A421, thus providing alternative routes for strategic trips, dispersing any potential loading of traffic across multiple locations. There are high quality sustainable modes that make both cycling and walking a feasible and attractive proposition when accessing Bedford. There are strong public transport links.
- 3.3** The Preferred Strategy modelling report identifies the Clapham Road / Manton Lane / Shakespeare Road junction as a location with residual traffic congestion presenting an issue in particular for new settlement scale development north of Bedford. The various modelling reports hint at a potential improvement but fails to confirm or review the potential improvement, not least as the preferred development strategy has directed growth in alternative locations.
- 3.4** Consequent upon the targeting of growth at Clapham in the adopted Local Plan (because of its strong sustainability credentials) the operation of Clapham Road / Manton Lane / Shakespeare Road junction has been considered in some detail by Hallam Land Management Ltd, including a careful review of the traffic profile through the junction. This highlighted that one of the main issues at this roundabout is the interaction with the upstream junction with the A6 and the traffic associated with the adjacent Bedford Modern School.
- 3.5** A potential signalisation scheme has been mooted but this falls short in responding to the interaction with the adjacent A6 roundabout. Various alternative mitigation options exist which were not included in the Transport Modelling Assessment as the development strategy meant there was no need to consider such options. One such scheme, which does provide benefit has been identified which involves altering the character of the junction to become a teardrop arrangement. This type of arrangement specifically responds to the interaction between closely associated junctions. This would not only facilitate the delivery of development at Clapham and can be delivered by the development within the current highway, but also provide wider benefits to the operation of the local road network as a whole. Indicative details are attached at Appendix A for illustrative purposes. The proposals would bring significant transport and traffic benefits and would be facilitated in their delivery of a suitable scale of development at the sustainable location at Clapham (of some 500 dwellings) in the Local Plan strategy.

4 Summary

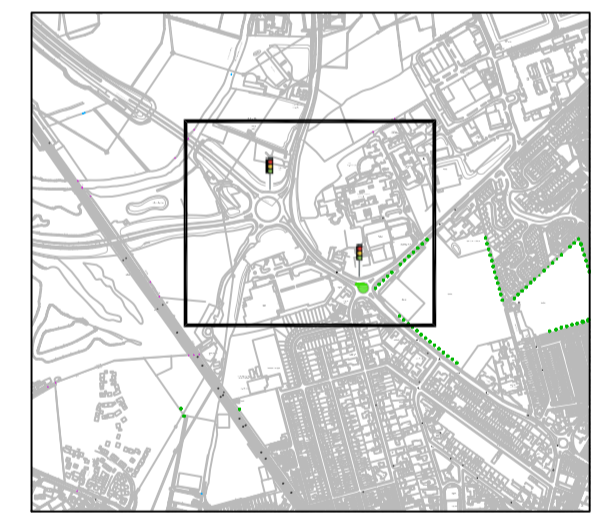
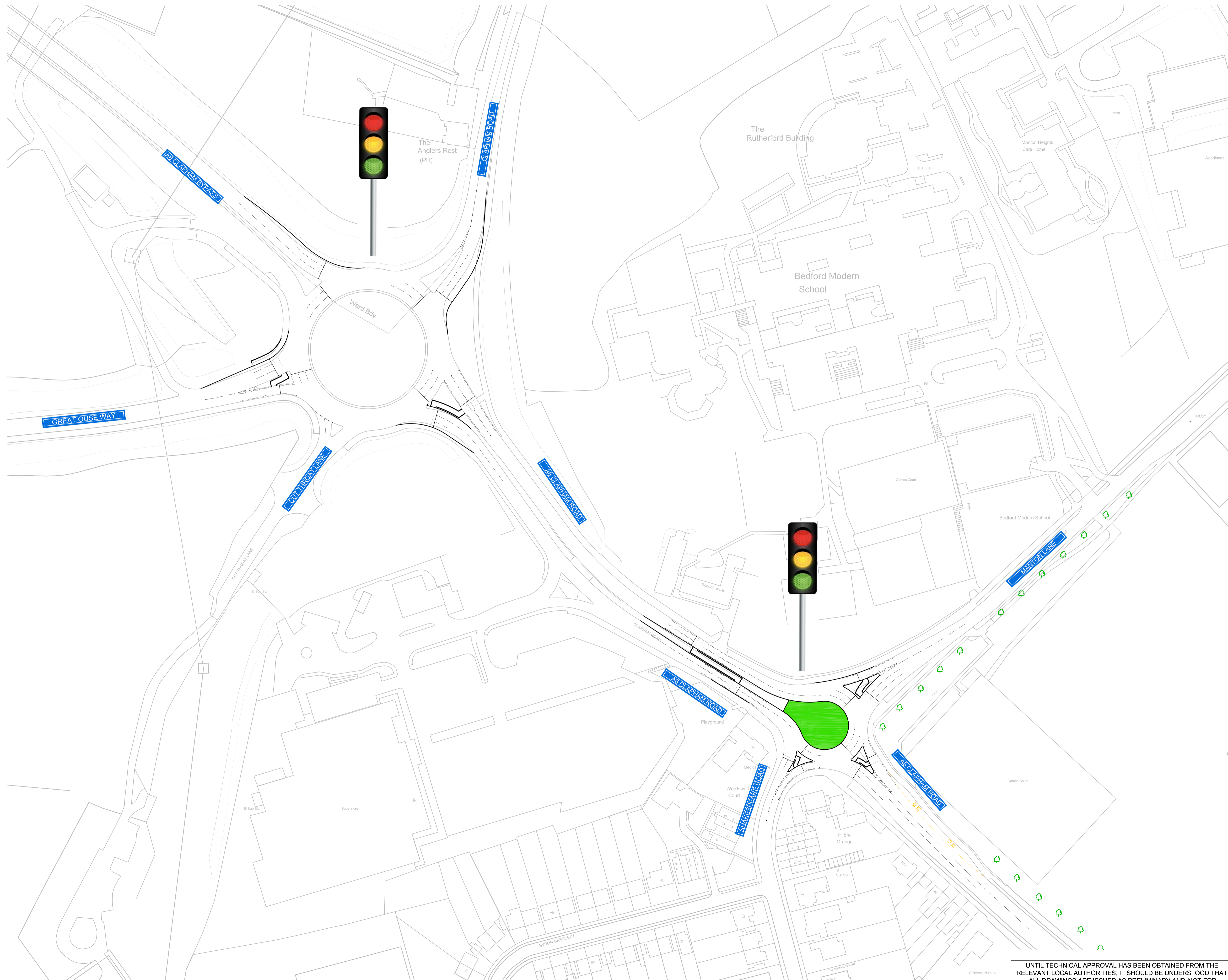
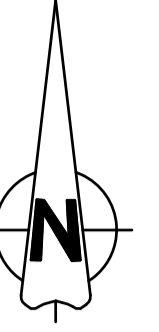
- 4.1** This identifies that there have been numerous assessments carried out to identify the impact of the new Local Plan, assessing a range of different options. The preferred option includes growth in and around the urban area, to the south-west of Bedford, and a new settlement at either Little Barford or Wyboston.
- 4.2** Typically, individual proposals for sites are supported by a Transport Assessment. Transport Assessments provide further detail on access arrangements, undertake a detailed assessment of the local impacts and confirm local mitigation measures which may be required.

- 4.3** For the reasons set out above the particular focus of the Preferred Strategy on the A421 and to the south of Bedford is shown to result in the most significant transport effects in terms of junction delay and volume to capacity ration, consequent upon the strategy, to be concentrated within the A421 corridor and to and in the southern part of the town of Bedford.
- 4.4** Options to include some development to the north of Bedford were largely rejected on the basis of the potential impacts arising from new settlement scale growth at Twinwoods or Colworth. No assessment was made of the potential of more limited opportunities for growth focussed on well located locations closely linked through sustainable modes to Bedford – most notably at Clapham.

The effective exclusion of even limited housing growth to the north of Bedford in close proximity to it – has the effect of adding to the transport impacts to the south and in the south of the town as a result of the Preferred Strategy. An appropriate scale of development at Clapham already capitalises on strong and planned sustainable transport links. As is shown in this report it is also capable of supporting the delivery of further benefits in the form of additional planned improvements to the Clapham Road / Manton Lane Junction that have not been considered (nor have need to be) in the Preferred Strategy.

- 4.5** A significant plan area benefit is that additional highway capacity headroom could be delivered.
- 4.6** The delivery of a development on land at Clapham can be delivered which will have the benefit of diluting the very concentrated impacts of the development strategy by allocating some 500 dwellings from the overconcentrated distribution to the south of the town. Such development will actively facilitate highway improvements that will bring about wider benefits and be wholly consistent with the vision for Bedford as a transport hub. It would help alleviate some of the impacts predicted to occur along the A421 and south of the town.

| Appendix A - XXXXX



Context Plan
Scale: 1:20000

First Issue 09.05.17



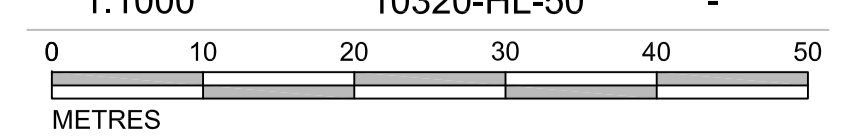
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Development at Clapham
Off-site Highway Improvements

Bedford School Roundabouts
Option 3: Signalised Roundabout and Signal-controlled Teardrop

Status	Approval	Checked	DS	Date	May 2017
Drawn	MDM	Number	10320-HL-50	Rev	-



UNTIL TECHNICAL APPROVAL HAS BEEN OBTAINED FROM THE RELEVANT LOCAL AUTHORITIES, IT SHOULD BE UNDERSTOOD THAT ALL DRAWINGS ARE ISSUED AS PRELIMINARY AND NOT FOR CONSTRUCTION. SHOULD THE CONTRACTOR COMMENCE SITE WORK PRIOR TO APPROVAL BEING GIVEN, IT IS ENTIRELY AT HIS OWN RISK.