

NOTE ON THE REASONABLE ALTERNATIVES

Introduction

The aim of this note is to re-present Appendix V of the SA Report, with some minor amendments made, in response to a request made by the Inspector within his letter of June 8th (Examination Document INS1-2). Appendix V of the SA Report presents the appraisal of reasonable spatial strategy alternatives.

Specifically, the aim of this Note is to re-present Appendix V with the following updates –

- 1) Improvement to the description of the alternatives
- 2) Presentation of the alternatives graphically
- 3) Re-presentation of the alternatives appraisal findings, to reflect the updated descriptions.

This note addresses matters 1, 2 and 3 in turn.

1) Description of the alternatives

The Inspector, within his letter of June 8th, requests “clarity on coding/labelling the options so they can be discussed with some consistency...”

In response, **Table A** presents an update to Table 6.6 (“The reasonable alternatives”) of the SA Report. Two main changes are made to the table –

- 1) Rather than simply labelling the eight alternatives as options 1 to 8, the eight alternatives are relabelled as 1, 2, 3a, 3b, 4a, 4b, 5a, 5b. This serves to highlight the spread of growth quanta.
- 2) Detail is added to the descriptions within rows 3 to 5, thereby negating the need to cross-refer to another table (Table 6.5 of the SA Report) to fully understand the distribution of housing.

Table A: The reasonable alternatives

		Opt 1	Opt 2	Opt 3a	Opt 3b	Opt 4a	Opt 4b	Opt 5a	Opt 5b	
Supply of homes	Completions/ commitments	21,850								
	Windfall	1,330								
	Allocations	Urban area	2,900	3,500	2,900	2,900	3,500	3,500	2,900	2,900
		SE MK	1,500	1,500	1,500	3,000	1,500	3,000	1,500	3,000
East of M1				1,500		1,500		3,000	1,500	
Total supply		27,580	28,180	29,080	29,080	29,680	29,680	30,580	30,580	
% > 26,500 target		4%	6%	10%	10%	12%	12%	15%	15%	
Employment allocation		S. C'decotte	S. C'decotte	E of M1	S. C'decotte	E of M1	S. C'decotte	E of M1	E of M1	

N.B. the reasonable alternatives are concerned with the number of homes delivered *within the plan period*.

2) Maps of the reasonable alternatives

Whilst not requested by the Inspector, the step has been taken to supplement Table A by presenting each of the eight reasonable spatial strategy alternatives graphically. The eight maps are presented below.

N.B. the map does not show all recent completions (i.e. completions more recent than the latest update to the basemap), nor does it show committed sites. Please see Figure 3.1 of the SA Report in order to gain a full appreciation of the current and committed extent of the urban area.

OPTION 1: Allocations for 27,580 homes in the plan period



c.50 urban sites of 10-300 home capacity

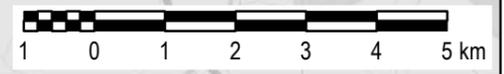


South East MK strategic urban extension (housing only)

South Caldecote strategic employment site

LEGEND

-  Milton Keynes boundary
-  Development of site to **less than half** full capacity, within the plan period
-  Development of site to **at least half** full capacity, within the plan period
-  Development of site to **full capacity**, in the plan period



OPTION 2: Allocations for 28,180 homes in the plan period



c.80 urban sites of 10-300 home capacity

South East MK strategic urban extension (housing only)

South Caldecote strategic employment site

LEGEND

-  Milton Keynes boundary
-  Development of site to **less than half** full capacity, within the plan period
-  Development of site to **at least half** full capacity, within the plan period
-  Development of site to **full capacity**, in the plan period



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OPTION 3a: Allocations for 29,080 homes in the plan period - Distribution A



c.50 urban sites of
10-300 home capacity

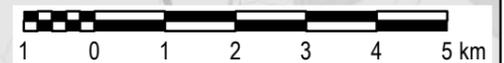
East MK strategic urban extension (housing and employment)

South East MK strategic urban extension (housing only)



LEGEND

-  Milton Keynes boundary
-  Development of site to **less than half** full capacity, within the plan period
-  Development of site to **at least half** full capacity, within the plan period
-  Development of site to **full capacity**, in the plan period



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OPTION 3b: Allocations for 29,080 homes in the plan period - Distribution B



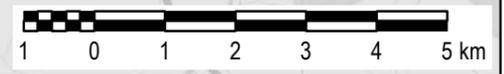
c.50 urban sites of 10-300 home capacity

South East MK strategic urban extension (housing only)

South Caldecote strategic employment site

LEGEND

-  Milton Keynes boundary
-  Development of site to **less than half** full capacity, within the plan period
-  Development of site to **at least half** full capacity, within the plan period
-  Development of site to **full capacity**, in the plan period



OPTION 4a: Allocations for 29,680 homes in the plan period - Distribution A



c.80 urban sites of
10-300 home capacity

East MK strategic urban extension (housing and employment)

South East MK strategic urban extension (housing only)



LEGEND

-  Milton Keynes boundary
-  Development of site to **less than half** full capacity, within the plan period
-  Development of site to **at least half** full capacity, within the plan period
-  Development of site to **full capacity**, in the plan period



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OPTION 4b: Allocations for 29,680 homes in the plan period - Distribution B



c.80 urban sites of
10-300 home capacity

South East MK strategic urban extension (housing only)

South Caldecotte strategic employment site

LEGEND

-  Milton Keynes boundary
-  Development of site to **less than half** full capacity, within the plan period
-  Development of site to **at least half** full capacity, within the plan period
-  Development of site to **full capacity**, in the plan period



OPTION 5a: Allocations for 30,580 homes in the plan period - Distribution A



c.50 urban sites of
10-300 home capacity

East MK strategic urban extension (housing and employment)

South East MK strategic urban extension (housing only)



LEGEND

-  Milton Keynes boundary
-  Development of site to **less than half** full capacity, within the plan period
-  Development of site to **at least half** full capacity, within the plan period
-  Development of site to **full capacity**, in the plan period



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OPTION 5b: Allocations for 30,580 homes in the plan period - Distribution B



c.50 urban sites of
10-300 home capacity

East MK strategic urban extension (housing and employment)

South East MK strategic urban extension (housing only)



LEGEND

-  Milton Keynes boundary
-  Development of site to **less than half** full capacity, within the plan period
-  Development of site to **at least half** full capacity, within the plan period
-  Development of site to **full capacity**, in the plan period



3) Re-presenting appraisal findings

Introduction

This section re-presents the alternatives appraisal findings presented within Appendix V of the SA Report, with the names/labels of the alternatives updated to reflect those assigned within Table A, above. No other changes have been made to the appraisal.

The appraisal methodology (as presented within Appendix V of the SA Report) is also re-presented here.

Appraisal methodology

For each of the options, the assessment examines 'likely significant effects' on the baseline, drawing on the sustainability objectives identified through scoping (see Table 4.1 of the SA Report) as a framework.

Green is used to indicate significant positive effects, whilst **red** is used to indicate significant negative effects. Every effort is made to predict effects accurately; however, this is inherently challenging given the high level nature of the policy approaches under consideration. The ability to predict effects accurately is also limited by understanding of the baseline (now and in the future under a 'no plan' scenario). In light of this, there is a need to make considerable assumptions regarding how scenarios will be implemented 'on the ground' and what the effect on particular receptors will be.¹ Where there is a need to rely on assumptions in order to reach a conclusion on a 'significant effect' this is made explicit in the appraisal text.

Where it is not possible to predict likely significant effects on the basis of reasonable assumptions, efforts are made to comment on the relative merits of the alternatives in more general terms and to indicate a **rank of preference**. This is helpful, as it enables a distinction to be made between the alternatives even where it is not possible to distinguish between them in terms of 'significant effects'.

Finally, it is important to note that effects are predicted taking into account the criteria presented within Regulations.² So, for example, account is taken of the duration, frequency and reversibility of effects. Cumulative effects are also considered (i.e. where the effects of the plan in combination with the effects of other planned or on-going activity that is outside the control of Plan:MK).

Appraisal findings

Appraisal findings are presented below within 17 separate tables (each table dealing with a specific sustainability objective, or combination of objectives) with a final table drawing conclusions.

The appraisal methodology is explained above, but to reiterate: For each sustainability topic the performance of each scenario is categorised in terms of 'significant effects (using **red** / **green**) and also ranked in order of preference. Also, '=' is used to denote instances of all alternatives performing on a par.

¹ Considerable assumptions are made regarding infrastructure delivery, i.e. assumptions are made regarding the infrastructure (of all types) that will come forward in the future alongside (and to some extent funded through) development.

² Schedule 1 of the Environmental Assessment of Plans and Programmes Regulations 2004.

Reduce levels of crime and create vibrant communities

	Opt 1	Opt 2	Opt 3a	Opt 3b	Opt 4a	Opt 4b	Opt 5a	Opt 5b
Rank	2	3	2	2	3	3	★ 1	3
Significant effects?	No							
Discussion	<p>A primary consideration is the need to support larger schemes, which are able to deliver strategic community infrastructure. This in turn leads to a suggestion that there is merit to focusing growth to the greatest extent. In particular, a focus of growth involving a large mixed use scheme to the east of the M1 (Option 5a would involve 3,000 in the plan period, with the likelihood of further growth beyond the plan period) could well secure a new secondary school.</p> <p>Another important consideration relates to access to open space in the urban area. Options 3, 5 and 6 would all involve development of a number of greenspaces within the urban area, which whilst arguably ‘underused’ by some measures, will tend to be valued by local communities nonetheless.</p> <p>One other consideration is the need to manage the pace of growth to the east of MK, recognising the scale of recent and committed growth at the Eastern Expansion Area and at the Strategic Land Allocation. Construction works, and associated traffic, will have an impact on amenity, and there is also a need to enable new services and facilities to ‘bed in’. This factor potentially serves as an argument for supporting a phasing of growth at South East MK; however, this is very uncertain.</p> <p>In conclusion, on balance there is support for a concentration of growth to the East of the M1; however, there is some uncertainty regard, given distance to CMK and severance caused by the M1). As such, significant positive effects are not predicted. Options involving high growth within the urban area are judged to perform less well; however, significant negative effects are not predicted.</p>							

Reduce the gap between the most deprived areas of Milton Keynes and the average.

	Opt 1	Opt 2	Opt 3a	Opt 3b	Opt 4a	Opt 4b	Opt 5a	Opt 5b
Rank	=	=	=	=	=	=	=	=
Significant effects?	No							
Discussion	<p>The Index of Multiple Deprivation (2015) dataset shows a band over more deprived areas running through MK, from north to south, with Bletchley and Wolverton being two established regeneration priority areas at either end of this ‘band’. However, neither the SE MK or East of M1 strategic urban extensions would have a direct bearing on these areas. Similarly, it is difficult to conclude that higher growth in the urban area would have an effect. In conclusion, the alternatives are judged to perform broadly on a par.</p>							

Improve education attainment and qualification...so that everyone can find and stay in work

	Opt 1	Opt 2	Opt 3a	Opt 3b	Opt 4a	Opt 4b	Opt 5a	Opt 5b
Rank	2	3	2	2	3	3		3
Significant effects?	No							
Discussion	<p>The matter of delivering new schools - both primary and secondary - is discussed above, under the 'Communities' heading, with it noted that East of M1 strategic urban extension (delivery not certain at this stage) would deliver a secondary school, whilst there is no equivalent proposal for the SE MK strategic urban extension. Initial indications are that a new (relatively small) secondary school would be needed at SE MK, as it is unlikely there are opportunities to expand existing secondary schools in the area to accommodate the approximately 5FE of pupils the development would generate. There will be a need for further work to confirm ability to deliver the necessary schools capacity (and it is noted that policy is proposed, through INF1 & SD11).</p> <p>In conclusion, the performance of the alternatives is broadly as per the discussion above, under 'Communities'. With regards to effect significance, there could feasibly be a risk of significant negative effects; however, there is no certainty at this stage. It may well prove possible to deliver the required secondary school capacity as part of a SE MK development.</p>							

Protect and improve residents' health and reduce health inequalities

	Opt 1	Opt 2	Opt 3a	Opt 3b	Opt 4a	Opt 4b	Opt 5a	Opt 5b
Rank	2	3	2	2	3	3		3
Significant effects?	No							
Discussion	<p>The matter of delivering new community infrastructure is discussed above, under the 'Communities' heading, with the conclusion reached that there is a strong argument for supporting larger scale new developments, which will deliver community infrastructure.</p> <p>Both of the urban extension site options under consideration would be of a scale sufficient to deliver a local centre, as part of which there could potentially be a doctor's surgery; however, any decision to deliver a new surgery would need to be made in consultation with the Milton Keynes Clinical Commissioning Group (CCG).</p> <p>Matters of access to open space - which have been discussed above, including under the 'Communities' heading, are also of relevance, as access to open space is an important determinant of health.</p> <p>In conclusion, the alternatives perform broadly as per the discussion above, under the 'Communities' heading. Significant effects are not predicted, recognising the wide ranging nature of health determinants.</p>							

Ensure that everyone has the opportunity to live in an affordable, sustainably constructed home

	Opt 1	Opt 2	Opt 3a	Opt 3b	Opt 4a	Opt 4b	Opt 5a	Opt 5b
Rank	7	6	4	5	2	3	★1	★1
Significant effects?	Yes							
Discussion	<p>Options 7 and 8 perform well in the sense these are the high growth options. Either option would involve providing for 30,579 homes, i.e. a figure 15% above the 26,500 home target. Provision of this 'buffer' would help to ensure that Objectively Assessed Housing Needs (OAHN) are met in practice, recognising the likelihood of unforeseen deliverability issues, i.e. one or more sites not delivering at the anticipated rate. Providing for a contingency is an important element of Local Plan-making. As stated within the National Planning Policy Framework (NPPF): <i>"Local Plans should meet objectively assessed needs, with sufficient flexibility to adapt to rapid change."</i></p> <p>Indeed, with a large (15%) buffer it is possible to assume that the effect would be to make provision for delivering above the OAHN figure. None of MK's neighbouring authorities have requested that Plan MK provide for unmet needs (the typical reason for providing for 'above OAHN', e.g. this is the reason why the Vale of Aylesbury and Central Beds Local Plans are proposing to provide for above OAHN); however, providing for above OAHN could have merit as an option, nonetheless. Specifically, there is an argument for providing for a 'above OAHN' in order to ensure that the need for affordable housing is met. The SHMA identifies a need for 8,200 affordable homes, not taking account of any losses from the current stock (such as demolition or clearance, or sales through Right to Buy). Were Plan MK to provide for the 26,500 home OAHN figure, then 31% of homes delivered would need to be affordable; however, there are concerns regarding the ability to achieve above 30%, given viability issues.</p> <p>Of the 1,246 completions in the 2016/2017 monitoring year, only 20.1% were affordable; and the 16,734 permissions are set to deliver only 27.7%. The implication is that there could be a need to provide for 'above OAHN' in order to meet the 8,200 affordable homes target. Much depends on the findings of detailed viability work to examine the financial burdens placed on house-builders, including the need to provide for other types of housing (Starter Homes, Build to Rent, Self-build) that impact the ability to provide for affordable housing.</p> <p>A second, equally important consideration is the need to provide for a good mix of housing sites, recognising the need to ensure not only the delivery of 26,500 homes within the plan period, but also a steady 'trajectory' of housing delivery across the entire plan period (such that there is a rolling 'five year housing land supply'). Linked to this, there is a need to support smaller housing sites that are in turn suited to development by small/medium sized housebuilders, as this diversity can add resilience and in turn help to prevent unforeseen dips in the housing trajectory.</p> <p>This being the case, there is an argument for allocating both of the urban extension options and/or supporting higher growth in the urban area. There is a need to avoid over-reliance on either of the urban extension options, given the deliverability risks that exist –</p> <ul style="list-style-type: none"> • East of M1 - is inherently associated with delivery risks, given the likely need for costly major infrastructure upgrades (albeit the site benefits from proximity to M1 J14, two existing road bridges and a footbridge). 							

<ul style="list-style-type: none"> • South East MK - there is the potential for a new dual carriageway road to be delivered through the site, as part of the Oxford to Cambridge Expressway. There is no certainty, as the preferred route for the Expressway is yet to be selected; however, it is apparent that if either of the two northern broad route options was to be selected (there are three options in total), then there could well be a need for a new road through the site. Were there to be a need for a new road through the site, then it would need to be delivered ahead of housing, and there could be a risk of delay to the road in turn leading to delay to the housing. <p>In conclusion, an overriding consideration relates to the extent of the contingency / buffer that is put in place, recognising the need to ensure that OAHN is provided for in practice, and also the objective of providing for ‘above OAHN’ in order to more fully meet affordable housing needs. Housing mix is a very important, but secondary consideration. On this basis, the order of preference assigned to the alternatives primarily reflects the quantum of homes provided for.</p> <p>With regard to effect significance, it is fair to conclude that all alternatives would result in significant positive effects, as the Local Plan would provide for the District’s OAHN figure, plus a contingency.</p>

Ensure all section of the community have good access to services and facilities

	Opt 1	Opt 2	Opt 3a	Opt 3b	Opt 4a	Opt 4b	Opt 5a	Opt 5b
Rank	2	3	2	2	3	3	★ 1	3
Significant effects?	No							
Discussion	<p>The matter of delivering new community infrastructure is discussed above, under the ‘Communities’ heading, with the conclusion reached that there is a strong argument for supporting larger scale new developments, which will deliver community infrastructure.</p> <p>Both of the urban extension site options under consideration would be of a scale sufficient to deliver a local centre, as part of which there could potentially be a range of services / facilities.</p> <p>In conclusion, the alternatives perform broadly as per the discussion above, under the ‘Communities’ heading. Significant effects are not predicted, ahead of further detailed work on masterplanning etc.</p>							

Maintain and improve the air quality in the borough

	Opt 1	Opt 2	Opt 3a	Opt 3b	Opt 4a	Opt 4b	Opt 5a	Opt 5b
Rank	★ 1	★ 1	2	★ 1	2	★ 1	2	2
Significant effects?	No							
Discussion	<p>There are no designated Air Quality Management Areas (AQMA) within Milton Keynes; however, there is nonetheless a need to minimise the number and distance of trips by non-electric private car, in order to avoid worsened air pollution, and the risk of poor air quality hotspots developing (such that an AQMA might need to be designated). See further discussion below, under ‘Transportation’.</p>							

Conserve and enhance the borough's biodiversity.

	Opt 1	Opt 2	Opt 3a	Opt 3b	Opt 4a	Opt 4b	Opt 5a	Opt 5b
Rank	=	=	=	=	=	=	=	=
Significant effects?	No							
Discussion	<p>Neither of the urban extension sites in question could be described as highly constrained in biodiversity terms, although both are associated with certain issues -</p> <ul style="list-style-type: none"> • South East MK – the site is in close proximity to the extensive woodlands associated with the Greensand Ridge, much of which is ancient woodland designated as a Local Wildlife Site (LWS); however, it is not clear that this is necessarily a significant constraint. Residents would benefit from ‘access to nature’ (there are footpath links), and the woodlands are not known to be at risk of impacts from an increase in recreational pressure. • East of the M1 (north) – the River Ouzel passes north/south through the site, which is associated with some mature trees and other riparian habitat. It forms part of the MK green infrastructure network (although it is noted that there is no footpath along the river). <p>There is also a need to consider the biodiversity value of the additional urban openspace sites that would be allocated under Options 2, 5 and 6. The general view is that most, if not all, will have limited biodiversity value; however, there is some uncertainty at the current time, ahead of the completion of current work to examine the contribution of open space sites to green infrastructure at the Milton Keynes scale. An initial view is that the open space sites in question (i.e. those that would be allocated under Options 2, 5 and 6) tend to be isolated patches, not likely to function as part of an ecological network.</p> <p>In conclusion, it is difficult to differentiate the alternatives in respect of biodiversity. The sites in question are all relatively unconstrained, and so it is difficult to conclude that supporting higher growth is a ‘negative’, from a biodiversity perspective. Significant effects are not predicted.</p>							

Combat climate change by reducing levels of carbon dioxide.

	Opt 1	Opt 2	Opt 3a	Opt 3b	Opt 4a	Opt 4b	Opt 5a	Opt 5b
Rank	=	=	=	=	=	=	=	=
Significant effects?	No							
Discussion	<p>There is a need to minimise per capita CO₂ emissions from transport, and the built environment. In respect of the former, this is a focus of discussion below, under ‘Transportation’. In respect of the latter, a key consideration is the need to support larger developments – in excess of 500 homes – where there will be the economies of scale that make delivery of decentralised heat and power generation a possibility.</p> <p>Policy CS14 (Community Energy Networks and Large Scale Renewable Energy Schemes) of the adopted Core Strategy states: <i>“Proposals for over 100 homes will be encouraged to consider the use of community energy networks in their development.”</i> However, in practice viability considerations can be prohibitive, recognising the need to fund/deliver affordable housing and a range of other costly infrastructure (e.g. roads and schools). Neither of the Expansion Areas are delivering an energy network, and whilst Policy CS5 (Strategic Land Allocation, SLA) of the Core Strategy, which allocated the SLA, established policy - <i>“Consider the use of community energy networks”</i> – in practice the entire site now has outline planning permission, with no energy network(s) having been proposed.</p>							

This being the case, there is only like to be an opportunity to deliver low carbon heat or energy / energy networks as part of the East of M1 scheme.

In **conclusion**, options involving the East of M1 are supported. The assumption is that this would negate the need to allocate the Caldecotte South site; however, it is recognised that there would be the option to allocate this site as well, in order to ensure sufficient flexibility in the employment land supply. Significant positive effects are not predicted, recognising that climate change mitigation is a global issue (i.e. local actions can have only a limited effect).

Conserve and enhance the borough's **heritage** and cultural assets.

	Opt 1	Opt 2	Opt 3a	Opt 3b	Opt 4a	Opt 4b	Opt 5a	Opt 5b
Rank	=	=	=	=	=	=	=	=
Significant effects?	No							
Discussion	<p>Neither of the urban extension sites in question could be described as highly constrained in heritage terms, an East of M1 scheme could encroach upon Moulsoe (and would include one listed building). Moulsoe is associated with a cluster of listed buildings, but no conservation area. In general, given the amount of land area available, there can be confidence in the ability to mitigate heritage impacts through masterplanning.</p> <p>There is also a need to consider the heritage value of the additional urban openspace sites that would be allocated under Options 2, 5 and 6. The general view is that most, if not all, will have limited heritage value; however, there is some uncertainty at the current time, ahead of the completion of current work to examine the contribution of open space sites to green infrastructure at the Milton Keynes scale. An initial view is that the open space sites in question (i.e. those that would be allocated under Options 2, 5 and 6) will have been established at the time of residential areas being built-out, rather than at the time of high level planning for MK.</p> <p>In conclusion, it is difficult to differentiate the alternatives in respect of heritage. The sites in question are all relatively unconstrained, and so it is difficult to conclude that supporting higher growth is a 'negative', from a heritage perspective. Significant effects are not predicted.</p>							

Conserve and enhance the borough's **landscapes**.

	Opt 1	Opt 2	Opt 3a	Opt 3b	Opt 4a	Opt 4b	Opt 5a	Opt 5b
Rank	=	=	=	=	=	=	=	=
Significant effects?	No							
Discussion	<p>Neither of the urban extension sites in question could be described as highly constrained in landscape terms. South East MK has 'low' sensitivity, according to the Landscape Capacity Study (2016), and whilst the study does not examine all of the East of M1 site, the general view is that the landscape in this area is relatively non-sensitive.</p> <p>Another consideration is sensitivity associated with the 'South of Caldecotte' site, which would be delivered for employment under Options 1, 2, 5 and 6. The Landscape Sensitivity Study identifies this site as falling within a parcel of land with 'medium' sensitivity; however, this conclusion may relate more to land to the south (Eaton Leys, which is now a committed housing site), rather than to the Caldecotte South site. The study explains that: <i>"Residential development could not be accommodated without affecting key characteristics and/or values in the landscape. The area suffers from visual and auditory intrusion from the transport network."</i></p>							

There is also a need to consider the landscape value of the additional urban openspace sites that would be allocated under Options 2, 5 and 6. The general view is that most, if not all, will have limited landscape value, albeit it is recognised that some (if not all) may have a considerable amenity value.

In **conclusion**, it is difficult to differentiate the alternatives in respect of landscape. The sites in question are all relatively unconstrained, and so it is difficult to conclude that supporting higher growth is a 'negative', from a heritage perspective. Significant effects are not predicted.

Encourage efficient use of **natural resources** (inc. land/soils).

	Opt 1	Opt 2	Opt 3a	Opt 3b	Opt 4a	Opt 4b	Opt 5a	Opt 5b
Rank	=	=	=	=	=	=	=	=
Significant effects?	Yes							
Discussion	<p>A significant consideration is the need to take into account the value of 'best and most versatile' (BMV) agricultural land, which the NPPF defines as that which is classified as either grade 1, grade 2 or grade 3a, according to the national agricultural land classification.</p> <p>The 'Agricultural Land Classification Provisional (England)' dataset, available at magic.gov.uk, shows the majority of agricultural land around the edge of MK to be 'grade 3'. However, this data-set is of a very low resolution (e.g. not all of MK is recognised as being 'urban' on the map), and hence is not suitable for differentiating sites. Also, the dataset does not distinguish between 'grade 3a' and 'grade 3b'.</p> <p>The most reliable dataset is the 'Post 1988 Agricultural Land Classification (England) dataset, also available at magic.gov.uk, which is suitable for differentiating site options, and does distinguish between grade 3a and grade 3. However, because surveying land using the 'post 1988' criteria involves fieldwork, the data is very patchy. Findings are -</p> <ul style="list-style-type: none"> • South East of MK comprises mostly BMV land (including some grade 2); • Caldecotte South has been surveyed and found to comprise non BMV (grade 4) land • Land adjacent to the East of M1 site has been surveyed, with some evidence of BMV. <p>In conclusion, the main issue relates to the South East MK site, but this site would eventually be developed in full under all alternatives. Given allocation of the South East MK site, all alternatives are predicted to result in significant negative.</p>							

Limit **noise pollution**.

	Opt 1	Opt 2	Opt 3a	Opt 3b	Opt 4a	Opt 4b	Opt 5a	Opt 5b
Rank	★ 1	★ 1	2	★ 1	2	★ 1	2	2
Significant effects?	No							
Discussion	<p>It is fair to conclude that sites adjacent to the M1 could be constrained by noise pollution, albeit there will be good potential to avoid/mitigate effects, through bunds/barriers and also building design measures; and the South East MK site could also be similarly constrained, if not more so, recognising the existing railway (along which the frequency of trains will increase significantly, over the course of the plan period), and the possibility of the Oxford to Cambridge Expressway passing through the site (N.B. this is highly uncertain).</p>							

In **conclusion**, options involving the East of M1 (in addition to South East MK) site are judged to perform relatively poorly; however, this conclusion is reached with considerable uncertainty. Significant negative effects are not predicted.

Limit and reduce road congestion and encourage sustainable **transportation.**

	Opt 1	Opt 2	Opt 3a	Opt 3b	Opt 4a	Opt 4b	Opt 5a	Opt 5b
Rank	★ 1	★ 1	2	★ 1	2	★ 1	2	2
Significant effects?	No							
Discussion	<p>Modelling work has been completed (AECOM, 2017) to examine the effect of Plan:MK housing growth on the traffic baseline in 2031 (recognising that the baseline, or ‘reference case’, will involve significant housing growth, given the commitments that are in place). Several scenarios are examined, primarily varying in respect of the approach to growth at South East MK and East of the M1. The model assumes that key infrastructure would be delivered at each urban extension site – notably bridges over the railway and M1 respectively – but otherwise assumes nil mitigation, i.e. does not assume investment in offsite infrastructure upgrades over-and-above upgrades that are already committed. Notable conclusions are –</p> <ul style="list-style-type: none"> • South East MK – the conclusions reached for Scenario 2a are of particular note, as this scenario involves maximum growth here (relative to Scenario 1, which involves lower growth). The conclusion is reached that: <i>“Although there is significant extra housing growth, the impacts are mitigated by the new link between H10 and Bow Brickhill Road bridging the railway line just to the west of Woburn Sands, and the additional road network linking H10 through to A5130 (Newport Road).”</i> Another notable conclusion is that: <i>“Scenario 2a has little impact on Bow Brickhill level crossing, in terms of flow and delay with a maximum flow circa 900 PCU using the crossing which is within an acceptable volume for the crossing to accommodate given the train service frequency assumed.”</i> • East of the M1 - the conclusions reached for Scenario 2b are of particular note, as this scenario involves maximum growth here (relative to other scenarios, which involve nil or lower growth). The conclusion is reached that: <i>“The new road bridge is predicted to take a significant volume of flow (1500-1700 PCU in the direction of peak tidal flow), which helps mitigate the impact of the East of M1 development. In the AM Peak there is still an increase in flow crossing J14 towards Milton Keynes of around 250 PCU, however the model is showing little impact in delay at J14, partly due to addition of the dual carriageway link on southbound approach alleviating a current pinch point.”</i> <p>Focusing on the potential East of M1 scheme, it is noted that there is the potential to support delivery of a fast mass-transit system connecting CMK and Cranfield University. Also, the scale of the site should also mean excellent potential to deliver mixed communities, to include shops, services/facilities and employment, in addition to housing, leading to a degree of self-containment. <i>However</i>, in other respects it is fair to conclude that growth to the East of the M1 is less than ideal, from a perspective of wishing to minimise car dependency / distance travelled by car, and also minimise traffic congestion. The site would be some distance from CMK, with clear barriers to movement (the M1).</p> <p>As for South East MK, this is an accessible location, including on the basis of proximity to an existing train station at Bow Brickhill. Similarly, the additional urban open space sites that would be allocated under Options 2, 5 and 6 are broadly supported.</p> <p>In conclusion, options involving the East of M1 (in addition to South East MK) site are judged to perform relatively poorly; however, this conclusion is reached with considerable uncertainty. Significant negative effects are not predicted.</p>							

Maintain and improve **water** quality and minimise the risk of flooding.

	Opt 1	Opt 2	Opt 3a	Opt 3b	Opt 4a	Opt 4b	Opt 5a	Opt 5b
Rank	★ 1	★ 1	2	★ 1	2	★ 1	2	2
Significant effects?	No							
Discussion	<p>The East of M1 site is significantly constrained by the River Ouzel, which flows through the centre of the site. The representation received from the site promoter, through the Draft Plan MK consultation (2017) states: “The development proposals do include new roads across the flood plain of the River Ouzel. Subject to appropriate design and mitigation these are acceptable uses within Flood Zones 2 and 3. With appropriate designs for clear spans, flood relief culverts and associated earthworks the roads would not impede flood flow or increase flood levels within the flood plain. On this basis the EA has previously confirmed that it has no objection in principle.”</p> <p>The matter of ‘wastewater services’ is another ‘water’ issue of relevance to the spatial strategy. In particular, there is a need to direct growth to locations where there is capacity at Wastewater Treatment Works (WwTWs), or where there is confidence regarding the potential to generate capacity through upgrade works. A recent Water Cycle Study (2017) establishes that the MK urban area drains to the Cotton Valley WwTW, to the east, which has headroom capacity, but to a limited extent. The conclusion is reached that, in order to ensure that the use of available permitted headroom does not impact on downstream water quality objectives (ammonia, BOD and phosphate are key considerations), changes to the quality permit are required, and upgrades may be required, which may have phasing implications.</p> <p>In conclusion, options involving the East of M1 (in addition to South East MK) site are judged to perform relatively poorly; however, this conclusion is reached with considerable uncertainty. Significant negative effects are not predicted.</p>							

Reduce **waste** generation and encourage sustainable waste management.

	Opt 1	Opt 2	Opt 3a	Opt 3b	Opt 4a	Opt 4b	Opt 5a	Opt 5b
Rank	N/a	N/a	N/a	N/a	N/a	N/a	N/a	N/a
Significant effects?	No							
Discussion	<p>This objective is not applicable to the current appraisal. It should be possible to manage waste sustainably under any reasonably foreseeable scenario. It is noted that the MK North and East of M1 (north) sites would benefit from being in proximity to a household waste recycling centre; however, this is not thought to have a significant bearing on the achievement of sustainable waste management objectives.</p>							

Encourage the creation of new **businesses**; Sustain economic **growth** and enhance competitiveness; Ensure high and stable levels of **employment**.

	Opt 1	Opt 2	Opt 3a	Opt 3b	Opt 4a	Opt 4b	Opt 5a	Opt 5b															
Rank	2	2	★1	2	★1	2	★1	★1															
Significant effects?	Yes																						
Discussion	<p>The three headings above are considered together, recognising that a key consideration is the potential to deliver new employment land alongside housing.</p> <p>The Council's Employment Land Study (2017) considers requirements and then existing supply, in order to inform a decision on whether / how much employment land must be allocated through Plan MK in order to meet requirements. The table below summarises the requirements. One requirement is calculated by Experian and the using the East of England Forecasting Model (EEFM).</p> <p>Employment Land Requirements in the Borough of Milton Keynes 2016-2031.</p> <table border="1"> <thead> <tr> <th>Category of Floorspace</th> <th>Experian (ha)</th> <th>EEFM (ha)</th> </tr> </thead> <tbody> <tr> <td>Office</td> <td>17</td> <td>18</td> </tr> <tr> <td>Industrial</td> <td>12</td> <td>2</td> </tr> <tr> <td>Warehouse</td> <td>104</td> <td>66</td> </tr> <tr> <td>Total</td> <td>132</td> <td>87</td> </tr> </tbody> </table>								Category of Floorspace	Experian (ha)	EEFM (ha)	Office	17	18	Industrial	12	2	Warehouse	104	66	Total	132	87
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<p>As can be seen, the need for warehousing is considerably higher than the need for office space or industrial space. The need for office space and industrial space is met by the existing supply.</p> <p>Focusing on warehousing, the existing supply totals 56.5 ha (Eagle Farm North, 35.8 ha; Pineham, 10.9 ha; and Glebe lands, 9.8 ha), which means that Plan MK must allocate between 9.5ha (66-56.5 ha) and 47.5 ha (104-56.5). MK is a pro-growth authority, and so the higher figure is broadly supported.</p> <p>East of M1 would deliver warehousing. The site is accessible from the M1, and therefore an attractive location for warehousing.</p> <p>However, warehousing could also be delivered under spatial strategy options not involving growth to the East of the M1. This is on the basis that Caldecotte South is being promoted for, and could deliver this type of housing. The site is not as well linked to the M1, but on a strategic transport corridor nonetheless, and indeed a transport corridor that is a national focus of growth (the Oxford to Cambridge Corridor).</p> <p>In conclusion, higher growth options involving the East of M1 are supported. The assumption is that this would negate the need to allocate the Caldecotte South site; however, it is recognised that there would be the option to allocate this site as well, in order to ensure sufficient flexibility in the employment land supply. Significant positive effects are predicted for all alternatives, recognising that targets would be met.</p>																							

Summary spatial strategy alternatives appraisal findings

Topic	Rank of performance / categorisation of effects							
	Opt 1	Opt 2	Opt 3a	Opt 3b	Opt 4a	Opt 4b	Opt 5a	Opt 5b
Communities	2	3	2	3	3	3	★1	3
Deprivation	=	=	=	=	=	=	=	=
Education	2	3	2	3	3	3	★1	3
Health	2	3	2	3	3	3	★1	3
Homes	7	6	4	5	2	3	★1	★1
Services	2	3	2	3	3	3	★1	2
Air quality	★1	★1	2	★1	2	★1	2	2
Biodiversity	=	=	=	=	=	=	=	=
Climate change	=	=	=	=	=	=	=	=
Heritage	=	=	=	=	=	=	=	=
Landscapes	=	=	=	=	=	=	=	=
Nat resources	=	=	=	=	=	=	=	=
Noise	★1	★1	2	★1	2	★1	2	2
Transport	★1	★1	2	★1	2	★1	2	2
Water	★1	★1	2	★1	2	★1	2	2
Business/ Economy/ Employment	2	2	★1	2	★1	2	★1	★1

Topic	Rank of performance / categorisation of effects							
	Opt 1	Opt 2	Opt 3a	Opt 3b	Opt 4a	Opt 4b	Opt 5a	Opt 5b
Conclusion								
<p>The first point to note is that ‘significant positive’ effects are predicted for all alternatives in respect of ‘Housing’ and ‘Business/Economy/Employment’. This is because targets established by the Strategic Housing Market Assessment (SHMA) and Employment Land Needs Assessment (ELNA) would be met under all options. Conversely, all alternatives would result in ‘significant negative’ effects in respect of ‘Natural resources’. This is because all alternatives would involve growth at the South East MK site, which mostly comprises ‘best and most versatile’ agricultural land.</p> <p>Focusing on the relative merits of the alternatives, the first point to note is that Option 5a performs well in terms of a range of socio-economic objectives. This is because it would involve a high growth strategy, with a focus of growth to the east of the M1, where the assumption is that there would be the potential to deliver a ‘sustainable’ new community, to include a secondary school and employment delivered alongside housing. Options involving growth to the east of the M1 (Options 3a, 4a, 5a and 5b) are also judged to perform well in terms of ‘Business/Economy/Employment’ objectives, recognising the potential to deliver significant new employment land (and in particular warehousing, for which there is a need locally).</p> <p>However, options involving growth to the east of the M1 perform poorly in other respects. In particular, issues/impacts are predicted in terms of ‘Transportation’, ‘Air quality’ and ‘Noise’, given that the site’s relationship with the M1, which would inevitably act as a barrier to movement, and be a source of pollution. Also, flood risk is a constraint to development of the site, given the river Ouzel.</p> <p>Aside from the matter of growth to the east of the M1, the other variables across the reasonable alternatives are: growth at South East MK (all within the plan period, or phased growth); allocation of urban open space sites (a restrained approach, or a more permissive approach) and the matter of the South of Caldecotte employment site (allocation assumed only under options not involving growth East of the M1). The appraisal highlights a number of issues/impacts, in respect of these variables/options; however, these tend to be secondary to those associated with growth to the East of the M1. Notably–</p> <ul style="list-style-type: none"> • South East MK – this site is relatively unconstrained, although there is an argument to suggest that growth should be phased, such that some delivery is post 2031, recognising the quantum of committed growth to the east of MK, at the Eastern Expansion Area and the Strategic Land Allocation. This issue/impact is uncertain, and hence does not have a bearing on the ranking of alternatives presented above. Also, there is arguably merit to progressing the whole site (3,000 homes) within the plan period as it will enable delivery of new road infrastructure (a bridge over the railway) to the benefit of the wider transport network. <ul style="list-style-type: none"> – Secondary school delivery is another important issue for the SE MK site. Initial indications are that a new (relatively small) secondary school would be needed, as it is unlikely there are opportunities to expand existing secondary schools in the area to accommodate the approximately 5FE of pupils the development would generate. There will be a need for further work to confirm ability to deliver the necessary schools capacity (and it is noted that Policy is proposed, through INF1 and SD11). • Urban area – it is recognised that loss of urban open space would impact on the amenity of residents. This issue/impact has a bearing on the ranking of the alternatives (i.e. Options 2, 4a and 4b perform poorly in terms of several objectives); however, it is difficult to conclude on impact significance. • South of Caldecotte employment allocation – this site is relatively unconstrained, although it is noted that it falls within a broader area identified as having ‘medium’ landscape sensitivity (in comparison, South East MK has ‘low’ sensitivity). <p>Finally, there is a need to highlight the higher growth options as performing well from a ‘Housing’ perspective. An overriding consideration relates to the extent of the contingency/buffer, over-and-above the 26,500 objectively assessed housing need (OAHN) figure, that is put in place, recognising: A) the need to ensure that OAHN is provided for in practice; and B) the possibility of providing for ‘above OAHN’ in order to more fully meet affordable housing needs. This consideration dictates the order of preference assigned to the alternatives. However, another important objective relates to providing for a good mix of housing sites (e.g. in respect of size), with a view to ensuring a robust ‘trajectory’ of housing delivery.</p> <p>In conclusion, it is clear that all of the spatial strategy alternatives are associated with ‘pros and cons’. The Council must consider how best to ‘trade-off’ between competing objectives.</p>								