

## Tamworth Future Development and Infrastructure Study Sustainability Matrix for Testing of Growth Options

### 1. Physical and Community Infrastructure

Appraisal Criteria	Indicator	Score	Scoring Criteria
<b>Physical Infrastructure Capacity and Impact</b>	Capacity of / impact on existing highways infrastructure, Accessing Tamworth Centre  <i>(based on: volume over capacity results extracted from the Tamworth Traffic Model, 2007 base data. Assessment based on the most direct access to Tamworth Town Centre from the Area where the Option is located)</i>	0	<b>There is a known constraint that will prevent improvement of capacity in the lifetime of the core strategy</b>
		1	Traffic generated by a significant percentage of development would impact on key links and junctions with limited spare capacity and significant improvement to the existing highways network likely to be required. This is defined by the option impacting on 2 or more links or junctions with a volume of capacity that goes over 100% in the PM peak
		2	Traffic generated by a significant percentage of development would impact on key links and junctions with limited spare capacity and significant improvement to the existing highways network likely to be required This is defined by the option impacting on link or junction with a volume over capacity that exceeds 100% in the PM peak
		3	Moderate level of available capacity but some improvement to the existing highways network likely to be required (likely limited investment constraint / risk to securing necessary infrastructure). This is defined by the option impacting on only 2 or more link or junction with a volume of capacity between 90% and 100% in the PM peak, and no links over 100%
		4	Moderate level of available capacity but some improvement to the existing highways network likely to be required (likely limited investment constraint / risk to securing necessary infrastructure). This is defined by the option impacting on only 1 link or junction with a volume over capacity of between 90% and 100% in the PM peak.
	Capacity of / impact on existing highways infrastructure, Accessing the Strategic Road Network  <i>(based on: volume over capacity results extracted from the Tamworth Traffic Model, 2007 base data. Assessment</i>	1	Traffic generated by a significant percentage of development would impact on key links and junctions with limited spare capacity and significant improvement to the existing highways network likely to be required. This is defined by the option impacting on links or junctions with a volume of capacity that goes over 100% in the PM peak
		2	Traffic generated by a significant percentage of development would impact on key links and junctions with limited spare capacity and significant improvement to the existing highways network likely to be required This is defined by the option impacting on 2 or more links or junctions with a volume of capacity that reaches between 90% and 100% in the PM peak

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Appraisal Criteria	Indicator	Score	Scoring Criteria
	<i>based on the most direct access to the Strategic Road Network from the Area where the Option is located)</i>	3	Moderate level of available capacity but some improvement to the existing highways network likely to be required (likely limited investment constraint / risk to securing necessary infrastructure). This is defined by the option impacting on only 1 link or junction with a volume of capacity between 90% and 100% in the PM peak.
		4	Large levels of available capacity and no or minimal improvements to the highways network likely to be required (minimal investment constraint / risk to securing necessary infrastructure). This is defined by the option having access to the strategic road network where all links and junctions are below 90% at peak flows
	Availability of / impact on potable water supply facilities	1	High impact, need for substantial new / enhanced infrastructure and capacity (e.g. limited physical ability for necessary improvement, high investment constraint / high risk to securing necessary infrastructure)
		2	Medium impact, need for new / enhanced infrastructure and capacity (potential investment constraint / risk to securing necessary infrastructure)
		3	Low impact, low need for new / enhanced infrastructure and capacity (likely limited investment constraint / limited risk to securing necessary infrastructure)
		4	Minimal impact, no need for new / enhanced infrastructure and capacity (minimal investment constraint / minimal risk to securing necessary infrastructure)
	Availability of / impact on waste water treatment facilities	1	High impact, need for substantial new / enhanced infrastructure and capacity (e.g. limited physical ability for necessary improvement, high investment constraint / high risk to securing necessary infrastructure)
		2	Medium impact, need for new / enhanced infrastructure and capacity (potential investment constraint / risk to securing necessary infrastructure)
		3	Low impact, low need for new / enhanced infrastructure and capacity (likely limited investment constraint / limited risk to securing necessary infrastructure)

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Appraisal Criteria	Indicator	Score	Scoring Criteria
	Availability of / impact on waste treatment infrastructure	4	Minimal impact, no need for new / enhanced infrastructure and capacity (minimal investment constraint / minimal risk to securing necessary infrastructure)
		1	High impact, need for substantial new / enhanced infrastructure and capacity (e.g. limited physical ability for necessary improvement, high investment constraint / high risk to securing necessary infrastructure)
		2	Medium impact, need for new / enhanced infrastructure and capacity (potential investment constraint / risk to securing necessary infrastructure)
		3	Low impact, low need for new / enhanced infrastructure and capacity (likely limited investment constraint / limited risk to securing necessary infrastructure)
		4	Minimal impact, no need for new / enhanced infrastructure and capacity (minimal investment constraint / minimal risk to securing necessary infrastructure)
	Availability of / impact on energy infrastructure	1	High impact, need for substantial new / enhanced infrastructure and capacity (e.g. limited physical ability for necessary improvement, high investment constraint / high risk to securing necessary infrastructure)
		2	Medium impact, need for new / enhanced infrastructure and capacity (potential investment constraint / risk to securing necessary infrastructure)
		3	Low impact, low need for new / enhanced infrastructure and capacity (likely limited investment constraint / limited risk to securing necessary infrastructure)
		4	Minimal impact, no need for new / enhanced infrastructure and capacity (minimal investment constraint / minimal risk to securing necessary infrastructure)

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Appraisal Criteria	Indicator	Score	Scoring Criteria
<b>Community Infrastructure Accessibility</b>  (Strategic Public Transport Facilities)	Proximity to key existing public transport hubs (i.e. bus and rail stations within Tamworth Town Centre)	1	The option can only access an existing regional public transport hub by car (i.e. outside of the walking, cycling and public transport criteria)
		2	The area is located within 15 minutes of a key existing public transport hub
		3	The area is located within 15 minutes cycle distance of a key existing public transport hub
		4	The area is located within 15 minutes walk distance of a key existing public transport hub
	Accessibility to main bus routes  <i>(i.e. a route that has a frequency of 2 per hour or more in the AM peak period, between 07:00 – 09:00)</i>	1	New development is within 800m walking distance of a bus route with a service less than 2 per hour
		2	New development is within 400m walking distance of a bus route with a service less than 2 per hour
		3	New development is within 800m walking distance of a bus route with a service more than 2 per hour
		4	New development is within 400m walking distance of a bus route with a service more than 2 per hour
<b>Community Infrastructure Accessibility</b>  (Education)	Accessibility to Nurseries / Pre-School facilities	1	Majority of new development is up to or exceeding 45 minutes walking and / or public transport travel time of a nursery. Outside core indicator accessibility travel time, new facilities likely to be required
		2	Majority of new development is within 30 minutes walking and / or public transport travel time of a nursery. Within the upper threshold of DfT accessibility standard
		3	Majority of new development is within 15 minutes walking and / or public transport travel time of a nursery. Within the lower threshold of DfT accessibility standard
		4	Majority of new development is within 10 minutes walking and / or public transport travel time of a nursery. Significantly under the lower threshold of DfT accessibility standard
	Accessibility to Primary Schools	1	Majority of new development is up to or exceeding 45 minutes walking and / or public transport travel time of a primary school. Outside core indicator accessibility travel time, new facilities likely to be required

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Appraisal Criteria	Indicator	Score	Scoring Criteria
		2	Majority of new development is within 30 minutes walking and / or public transport travel time of a primary school. Within the upper threshold of DfT accessibility standard
		3	Majority of new development is within 15 minutes walking and / or public transport travel time of a primary school. Within the lower threshold of DfT accessibility standard
		4	Majority of new development is within 10 minutes walking and / or public transport travel time of a primary school. Significantly under the lower threshold of DfT accessibility standard
	Accessibility to Secondary Schools  <i>(assessment based on walk times along the road network using 'Geoconcept' software and 'Accession' software to define public transport accessibility)</i>	1	Majority of new development is up to or exceeding 60 minutes walking and / or public transport travel time of a secondary school. Outside core indicator accessibility travel time, new facilities likely to be required
		2	Majority of new development is within 40 minutes walking and / or public transport travel time of a secondary school. Within the upper threshold of DfT accessibility standard
		3	Majority of new development is within 20 minutes walking and / or public transport travel time of a secondary school. Within the lower threshold of DfT accessibility standard
		4	Majority of new development is within 10 minutes walking and / or public transport travel time of a secondary school. Significantly under the lower threshold of DfT accessibility standard
	Accessibility to existing / planned Higher Education Centres  <i>(assessment based on walk times along the road network using 'Geoconcept' software and 'Accession' software to define public transport accessibility)</i>	1	Majority of new development is up to or exceeding 75 minutes walking and / or public transport travel time of a Higher Education Centre. Outside core indicator accessibility travel time, new facilities likely to be required
		2	Majority of new development is within 60 minutes walking and / or public transport travel time of a Higher Education Centre. Within the upper threshold of DfT accessibility standard

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Appraisal Criteria	Indicator	Score	Scoring Criteria
		3	Majority of new development is within 30 minutes walking and / or public transport travel time of a Higher Education Centre. Within the lower threshold of DfT accessibility standard
		4	Majority of new development is within 15 minutes walking and / or public transport travel time of a Higher Education Centre. Significantly under the lower threshold of DfT accessibility standard
<b>Community Infrastructure Accessibility (Health)</b>	<p>Accessibility to GP Surgeries</p> <p><i>(assessment based on walk times along the road network using 'Geoconcept' software and 'Accession' software to define public transport accessibility)</i></p>	1	Majority of new development is up to or exceeding 45 minutes walking and / or public transport travel time of a GP Surgery. Outside core indicator accessibility travel time, new facilities likely to be required
		2	Majority of new development is within 30 minutes walking and / or public transport travel time of a GP Surgery. Within the upper threshold of DfT accessibility standard
		3	Majority of new development is within 15 minutes walking and / or public transport travel time of a GP Surgery. Within the lower threshold of DfT accessibility standard
		4	Majority of new development is within 10 minutes walking and / or public transport travel time of a GP Surgery. Significantly under the lower threshold of DfT accessibility standard
	<p>Accessibility to Hospitals</p> <p><i>(assessment based on walk times along the road network using 'Geoconcept' software and 'Accession' software to define public transport accessibility)</i></p>	1	Majority of new development is up to or exceeding 75 minutes walking and / or public transport travel time of a Hospital. Outside core indicator accessibility travel time, new facilities likely to be required
		2	Majority of new development is within 60 minutes walking and / or public transport travel time of a Hospital. Within the upper threshold of DfT accessibility standard
		3	Majority of new development is within 30 minutes walking and / or public transport travel time of a Hospital. Within the lower threshold of DfT accessibility standard
		4	Majority of new development is within 15 minutes walking and / or public transport travel time of a Hospital. Significantly under the lower threshold of DfT accessibility standard

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Appraisal Criteria	Indicator	Score	Scoring Criteria
<b>Community Infrastructure Accessibility</b>  <b>(Retail, leisure and Employment)</b>	Accessibility to Tamworth Town Centre  <i>(assessment based on walk times along the road network using 'Geoconcept' software and 'Accession' software to define public transport accessibility)</i>	1	Majority of new development is up to or exceeding 75 minutes walking and / or public transport travel time of Tamworth town centre. Outside core indicator accessibility travel time, new facilities likely to be required
		2	Majority of new development is within 60 minutes walking and / or public transport travel time of Tamworth town centre. Within the upper threshold of DfT accessibility standard
		3	Majority of new development is within 30 minutes walking and / or public transport travel time of Tamworth town centre. Within the lower threshold of DfT accessibility standard
		4	Majority of new development is within 15 minutes walking and / or public transport travel time of Tamworth town centre. Significantly under the lower threshold of DfT accessibility standard
	Accessibility to Local Centre Facilities  <i>(assessment based on walk times along the road network using 'Geoconcept' software and 'Accession' software to define public transport accessibility)</i>	1	Majority of new development is up to or exceeding 45 minutes walking and / or public transport travel time of a Supermarket / District Centre / Local Centre. Outside core indicator accessibility travel time, new facilities likely to be required
		2	Majority of new development is within 30 minutes walking and / or public transport travel time of a Supermarket / District Centre / Local Centre. Within the upper threshold of DfT accessibility standard
		3	Majority of new development is within 15 minutes walking and / or public transport travel time of a Supermarket / District Centre / Local Centre. Within the lower threshold of DfT accessibility standard
		4	Majority of new development is within 10 minutes walking and / or public transport travel time of a Supermarket / District Centre / Local Centre. Significantly under the lower threshold of DfT accessibility standard
	Accessibility to existing recreation and leisure facilities (i.e. formal built sport and	1	Majority of new development is up to or exceeding 45 minutes walking and / or public transport travel time of an existing leisure facility. Outside core indicator accessibility travel time, new facilities likely to be required

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Appraisal Criteria	Indicator	Score	Scoring Criteria
	leisure facilities)  <i>(assessment based on walk times along the road network using 'Geoconcept' software and 'Accession' software to define public transport accessibility)</i>	2	Majority of new development is within 30 minutes walking and / or public transport travel time of an existing leisure facility. Within the upper threshold of DfT accessibility standard
		3	Majority of new development is within 15 minutes walking and / or public transport travel time of an existing leisure facility. Within the lower threshold of DfT accessibility standard
		4	Majority of new development is within 10 minutes walking and / or public transport travel time an existing leisure facility. Significantly under the lower threshold of DfT accessibility standard
	Accessibility to existing / planned major employment facilities  <i>(assessment based on walk times along the road network using 'Geoconcept' software and 'Accession' software to define public transport accessibility)</i>	1	Majority of new development is up to or exceeding 60 minutes walking and / or public transport travel time of a major employment facility / centre. Outside core indicator accessibility travel time, new facilities likely to be required
		2	Majority of new development is within 40 minutes walking and / or public transport travel time of a major employment facility / centre. Within the upper threshold of DfT accessibility standard
		3	Majority of new development is within 20 minutes walking and / or public transport travel time of a major employment facility / centre. Within the lower threshold of DfT accessibility standard
		4	Majority of new development is within 10 minutes walking and / or public transport travel time of a major employment facility / centre. Significantly under the lower threshold of DfT accessibility standard
	<b>Community Infrastructure Accessibility (Green Space)</b>	Accessibility to existing major formal open space facilities (including sports pitches / school playing fields, formal parks and allotments)  <i>(assessment based on walk times along the road network using 'Geoconcept' software and 'Accession' software to define public transport accessibility)</i>	1
		2	Majority of new development is within 30 minutes walking and / or public transport travel time of major formal open space facilities. Within the upper threshold of DfT accessibility standard



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Appraisal Criteria	Indicator	Score	Scoring Criteria
	<i>software to define public transport accessibility)</i>	3	Majority of new development is within 10 minutes walking and / or public transport travel time of major formal open space facilities. Within the lower threshold of DfT accessibility standard but there is a quantitative and / or qualitative deficiency in existing supply.
		4	Majority of new development is within 10 minutes walking and / or public transport travel time of major formal open space facilities. Significantly under the lower threshold of DfT accessibility standard
<b>Community Infrastructure Capacity</b> <b>(Education)</b>	Capacity of accessible Primary Schools  <i>(note – ‘accessible’ is defined as a facility scoring either 2,3 or 4 against the criteria applied to measure accessibility)</i>	1	No or minimal available capacity and necessary improvements to existing facilities would likely be difficult to achieve
		2	Some available capacity but significant improvement to existing facilities would likely be required
		3	Moderate level of available capacity but some improvement to existing facilities would likely be required
		4	Large levels of available capacity and no or minimal improvements to existing facilities would likely be required
	Capacity of accessible Secondary Schools  <i>(note – ‘accessible’ is defined as a facility scoring either 2,3 or 4 against the criteria applied to measure accessibility)</i>	1	No or minimal available capacity and necessary improvements to existing facilities would likely be difficult to achieve
		2	Some available capacity but significant improvement to existing facilities would likely be required
		3	Moderate level of available capacity but some improvement to existing facilities would likely be required
		4	Large levels of available capacity and no or minimal improvements to existing facilities would likely be required
	Capacity of accessible existing / planned Higher Education Centres  <i>(note – ‘accessible’ is defined as a</i>	1	No or minimal available capacity and necessary improvements to existing facilities would likely be difficult to achieve
		2	Some available capacity but significant improvement to existing facilities would likely be required

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Appraisal Criteria	Indicator	Score	Scoring Criteria
	<i>facility scoring either 2,3 or 4 against the criteria applied to measure accessibility)</i>	3	Moderate level of available capacity but some improvement to existing facilities would likely be required
		4	Large levels of available capacity and no or minimal improvements to existing facilities would likely be required
<b>Community Infrastructure Capacity (Health)</b>	Capacity of accessible GP Surgeries  <i>(note – ‘accessible’ is defined as a facility scoring either 2,3 or 4 against the criteria applied to measure accessibility)</i>	1	No or minimal available capacity and necessary improvements to existing facilities would likely be difficult to achieve
		2	Some available capacity but significant improvement to existing facilities would likely be required
		3	Moderate level of available capacity but some improvement to existing facilities would likely be required
		4	Large levels of available capacity and no or minimal improvements to existing facilities would likely be required

## 2. Impact on Environmental Resources

Appraisal Criteria	Indicator	Score	Scoring Criteria
Effective Protection and Enhancement of the Environment	Degree of Flood Risk	0	Wholly within an area subject to high risk of flooding (Flood Risk Category 3a or 3b)
		1	Limited part of site within an area subject to high risk of flooding (Flood Risk Category 3a or 3b)
		2	Wholly within an area of medium risk of flooding (Flood Risk Category 2)
		3	Part within an area subject to medium risk of flooding (Flood Risk Category 2), part within an area of low risk of flooding (Flood Risk Category 1)
		4	Within an area of low risk of flooding (Flood Risk Category 1)
	Impact on Nature Conservation Resources and Objectives	0	Within an international or nationally designated area of nature conservation importance
		1	Adjacent to / potential for impact on international or nationally designated sites of nature conservation importance or within an area identified for local nature conservation importance
		2	Adjacent to / potential for impact on areas identified for local nature conservation importance
		3	Potential for impact on other non-designated nature conservation features identified through the Phase 1 Habitat Survey undertaken for Tamworth
		4	Minimal / no potential for impact on identified nature conservation resources
	Impact on Green Belt and Landscape	1	Direct impact on the openness of the Green Belt (i.e. development would be located on land currently included in the Green Belt)
		2	Potential for indirect impact on the openness of the Green Belt (development would be located immediately adjacent to but not within the Green Belt)

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Appraisal Criteria	Indicator	Score	Scoring Criteria
		3	Likely neutral impact on Green Belt aims and objectives
		4	Potential for a positive impact on landscape resources and objectives (e.g. through the improvement of an existing degraded landscape)
	Impact on Major Open Space Facilities (including sports pitches / school playing fields, formal parks and allotments)	1	Direct loss of one or more existing major open space facilities which would significantly exacerbate an existing open space deficiency (as revealed through an existing open space assessment for the area)
		2	Direct loss of existing major open space facilities which would provide a moderate decrease in existing open space deficiency (as revealed through an existing open space assessment for the area)
		3	Direct loss of existing major open space facilities but loss would not lead to a deficiency in provision (i.e. there is an existing surplus of open space provision as revealed through an existing open space assessment for the area)
		4	No impact on existing major open space facilities
	Impact on Heritage Resources (e.g. conservation areas, listed buildings, scheduled ancient monuments and, historic parks and gardens)	1	Direct impacts on / loss of identified heritage resources
		2	Potential for indirect impacts on heritage resources (e.g. the setting of identified features)
		3	Likely neutral impact on heritage resources
		4	Potential for a positive impact on heritage resources
<b>Prudent Use of Natural Resources</b>	Land Classification	1	Direct loss of the Best and Most Versatile Agricultural Land (Grades 1, 2 and 3) and potential for sterilisation of important mineral reserves as identified in relevant Minerals Development Plans
		2	Potential for sterilisation of important mineral reserves as identified in relevant Minerals Development Plans only

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Appraisal Criteria	Indicator	Score	Scoring Criteria
		3	Direct loss of the Best and Most Versatile Agricultural Land (Grades 1, 2 and 3) only
		4	Minimal / no potential for impact on the Best and Most Versatile Agricultural Land or important mineral reserves
	Renewable and Low-Carbon Forms of Energy Supply	1	<p>No potential to readily and viably draw upon decentralised and renewable / low-carbon forms of energy supply systems.</p> <p>[Average wind speed too low for turbines; AND solar shading from tall buildings and geological features prohibits use of solar collectors; AND constraints on drilling or pipe-laying make geothermal extraction unviable; AND lack of water resources in close proximity prohibits use of hydropower or Water Source Heat Pumps. In addition, access necessary to supply enough biomass for a community CHP system is severely constrained, AND sources of biomass are not located within acceptable proximity (&gt;50miles)].</p>
		2	<p>Limited potential to readily and viably draw upon decentralised and renewable / low-carbon forms of energy supply systems.</p> <p>[Average wind speed is at lower end of turbine efficiency; AND/OR some solar shading from tall buildings and geological features may limit use of solar collectors; AND/OR constraints on drilling or pipe-laying make geothermal extraction difficult; AND/OR limited water resources in close proximity limits use of hydropower or Water Source Heat Pumps. In addition, access necessary to supply enough biomass for a community CHP system is constrained, AND/OR sources of biomass are not located within tolerable proximity (between 25 and 50 miles)]</p>
		3	<p>Moderate potential to readily and viably draw upon decentralised and renewable / low-carbon forms of energy supply systems.</p> <p>[Average wind speed makes turbines viable; OR limited solar shading from tall buildings and geological features allows use of solar collectors; OR few constraints on drilling or pipe-laying make geothermal extraction possible; OR adequate water resources in close proximity could support use of hydropower or Water Source Heat Pumps. In addition, access necessary to supply enough biomass for a community CHP system is not constrained, OR sources of biomass are located within reasonable proximity (between 5 and 25 miles)].</p>

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Appraisal Criteria	Indicator	Score	Scoring Criteria
		4	<p>High potential to readily and viably draw upon decentralised and renewable / low-carbon forms of energy supply systems.</p> <p>[Average wind speed is at upper end of turbine efficiency; OR lack of solar shading from tall buildings and geological features allows use of solar collectors; OR no constraints on drilling or pipe-laying make geothermal extraction possible; OR adequate water resources in close proximity could support use of hydropower or Water Source Heat Pumps; OR location can tie into and improve the efficiency of existing decentralised/renewable energy infrastructure. In addition, access necessary to supply enough biomass for a community CHP system is not constrained, OR sources of biomass are located within acceptable proximity (&lt;5miles)].</p>

### 3. Deliverability

Appraisal Criteria	Indicator	Score	Scoring Criteria
Deliverability	Ownership	1	There is no prospect that housing and related growth will be delivered in an appropriate timescale [e.g. current landowner(s) known to be actively pursuing non-residential use]
		2	There is a low prospect that housing and related growth will be delivered in an appropriate timescale (e.g. land is in unknown or multiple ownership, no extant planning permissions, recent discussions or LDF representations promoting residential development, owner aspirations unknown)
		3	There is a reasonable prospect that housing and related growth will be delivered in an appropriate timescale (e.g. land is in known multiple/single ownership and owner aspirations for development appear neutral)
		4	There is a good prospect that housing and related growth will be delivered in an appropriate timescale [e.g. landowner(s) known to positively support / are actively pursuing housing development]
	Physical Constraints  <i>(including an assessment of landform, potential for pollution or contamination, drainage ditches, pylons, known underground utilities infrastructure requiring safeguarding / re-routing etc)</i>  <i>(note – other site suitability indicators such as policy and other environmental restrictions and impacts are considered separately above)</i>	1	Area likely to be significantly constrained by physical site features
		2	Area likely to be moderately constrained by physical site features
		3	Area may have some limited constraining physical site features
		4	No apparent evidence of constraining physical site features
	Environmental Conditions  <i>(including quality of surrounding environment, nature of surrounding uses and associated potential for amenity impacts such as noised, dust and smell)</i>	1	Development likely to be significantly constrained by environmental conditions (potential for prospective residents to experience significant negative amenity impacts)
		2	Development likely to be moderately constrained by environmental conditions (potential for prospective residents to experience moderate negative amenity impacts)

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Appraisal Criteria	Indicator	Score	Scoring Criteria
		3	Development likely to be relatively unconstrained by environmental conditions (limited potential for prospective residents to experience negative amenity impacts)
		4	Existing Environmental Conditions likely to be a positive attraction for development.



## Appendix 8: Approach Towards Infrastructure Requirements

### Introduction

- 1.1 This Appendix outlines our approach to the identification and broad budget costing of main infrastructure requirements associated each Option considered as part of the study. In broad terms, the purpose of this analysis is to identify the main development contribution requirements likely to be sought as part of any development proposals.
- 1.2 It should be noted that given the high level nature of the study, the costings and requirements should be regarded as indicative. They also only relate to an estimate of broad budget construction costs and do take into account issues such as land acquisition, ownership or land title considerations. In addition, in a number of circumstances detailed consultation responses from the relevant infrastructure providers have not been able to be obtained. In such circumstances, assumptions in relation certain infrastructure requirements potentially arising from each option have had to be made.
- 1.3 Where necessary, assumptions and costs have been based on a range of considerations including:
  - n Industry standard construction cost rates such as those set out in the current Quarterly Review of Building Prices;
  - n The Planning Obligations Supplementary Planning Document adopted by Tamworth Borough Council in July 2007;
  - n Relevant approaches to infrastructure requirements set out in relevant SHLAAs applying to the study area;
  - n Approaches adopted to education costing and provision standards and requirements by Staffordshire County Council; and
  - n Approaches proposed by other Local Authorities elsewhere in the Country.
- 1.4 The purpose of the assessment of infrastructure requirements is to provide a broad picture of the nature, scale, indicative budget construction cost of likely required improvements associated with the different development options. Further detailed work would be required to further test and refine the requirements associated with any chosen option or combination of options progressed through the Council's respective Local Development Frameworks.

### Assessing the Potential Residential Yield of Growth Options

- 1.5 A key starting point to the calculation of many of the anticipated development contributions is to define the likely residential yield of sites. This requires the application of an appropriate:
- n Gross to net site area ratio (i.e. the percentage of the site which could realistically be developed for housing once those parts of the site required for other purposes such as schools, open space, landscape buffers, main roads etc are discounted); and
  - n Housing density figure to be applied to the net site area.
- 1.6 With regards to defining an appropriate gross to net site area ratio, for the purposes of this assessment it has been assumed that 60% of the gross site area will be available for housing development (also see comments regarding employment provision below). This approach follows the approach adopted for a number of larger sites in the Lichfield SHLAA and has also had regard to '*Tapping the Potential*' produced by the former DETR in December 2000.
- 1.7 As part of the identification of development requirements such as schools and open space, it is also possible to identify associated land requirements (and this approach has been adopted in the Tamworth SHLAA through the preparation of a sample number of residential schemes for different types of site within the Borough). That said, due to the high level nature of this study (and the resultant fact that, for example, indicative site Master Plans have not been prepared or other site-specific investigations such as ground conditions surveys undertaken), not all site requirements such as landscape buffers or other 'undevelopable' areas have been able to be identified. As such, for the purposes of this study, the application of a 60% developable net site area figure is considered appropriate.
- 1.8 For larger sites, it is also assumed that part of the Growth Option will be required for employment purposes. The application of a net site density is normally appropriate where only residential development proposed. As such, any employment requirement has first been identified and discounted from the gross site area prior to applying the gross to net area ratio for the purposes of defining the amount of land available for housing.
- 1.9 Given the nature and location of the Growth Options considered, and in line with an approach set out in the Lichfield SHLAA, for the purposes of this assessment a density of 40 dwellings per hectare has been applied to the net site area to derive the residential yield or capacity of sites.

## Community Infrastructure

### Primary Schools

- 1.10 The starting point for assessing primary school requirements has first been to examine the capacity of existing accessible facilities. In the case of primary schools, this includes all facilities within 30 minute walk / public transport time of particular growth option sites. Once all accessible schools are identified, their existing available capacity has been investigated.
- 1.11 Where capacity information has not been able to be obtained from the Local Education Authority, we have sought to rely on secondary published data sources where this is available.
- 1.12 Even if capacity in existing schools does currently exist however, given the overall position across the study area that primary school places are often limited and to reflect the fact that other future housing developments within the urban area will likely take up currently available capacity in any event, the following approach has been applied:
- n For those development options able to accommodate the minimum number of dwellings able to entirely support a new primary school from its resident population (say 1,000 units), a new school of an appropriate size would be provided on site as part of the development; and
  - n For development options smaller than this minimum threshold, an extension / extensions to existing accessible primary schools would be provided of a scale to fully accommodate the additional primary school places generated by the development.
- 1.13 In assessing the required scale of school provision associated with different Development Options, we have applied an average pupil product ratio (i.e. the number of pupils expected to be generated per new dwelling) and also an appropriate scale of facility in terms of the number of pupils it should cater for, as illustrated in the following table:

School Type	Pupil Product Ratio	Facility Size [Site Area] <sup>(4)</sup>	Associated Dwelling No Size Range
Primary School (1FE)	0.21 <sup>(1)</sup>	210 pupils <sup>(2)</sup> [1 ha]	1,000 dwellings
Primary School (2FE)		420 pupils <sup>(3)</sup> [2 ha]	2,000 dwellings

<sup>(1)</sup> Pupil Product Ratio figure taken from Tamworth Council Planning Obligations SPD (July 2007) and Annex 1 to the Staffordshire County Council Education Planning Obligations Policy Annual Update 2008/09

<sup>(2)</sup> 1 Form Entry School consists of 1 class of 30 pupils for each of the 7 years catered for the by school

<sup>(3)</sup> 2 Form Entry School consists of 2 classes of 30 pupils for each of the 7 years catered for the by school

<sup>(4)</sup> Associated site area requirement based on experience elsewhere and identified as a broad guide only

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- 1.15 The following cost rate has been applied to the cost of construction of new primary schools and also to the cost of extending existing facilities, employing the cost multiplier per pupil

included at Annex 1 to the Staffordshire County Council Education Planning Obligations Policy Annual Update 2008/09.

School Type	Assumed Construction Cost Per Pupil	Facility Size Range	Associated Cost Range (Based on Facility Size)
Primary School (New Build)	£11,031	210 – 420 pupils	£2.32M - £4.64M
Primary School (Extension)		Extension size will depend on existing provision and guidance from provider	

### Secondary Schools (Excluding 6<sup>th</sup> Form Provision)

1.16 Further to meetings held with the Local Authority’s commissioning this study, we have been advised that in light of the planned improvements to secondary school provision within the Tamworth area, there will likely be available capacity in secondary school provision across the study area and hence, further enhancements as part of additional housing growth will unlikely be required. As such, no cost or site area has normally been applied within the assessment for secondary school facilities.

1.17 If secondary school provision was required however (such as if a very large scale of development was proposed to also accommodate some of the development needs of Lichfield or North Warwickshire which could exceed available capacity) the following table sets out main costs and site areas to be applied, similar in approach to that identified for primary schools.

School Type	Pupil Product Ratio	Facility Size Range [Site Area] <sup>(2)</sup>	Associated Dwelling No Size Range
Secondary School (4 FE)	0.15 <sup>(1)</sup>	600 Pupils (absolute minimum) <sup>(3)</sup> [5 ha]	4,000
Secondary School (6 FE)		900 Pupils (optimum – min) <sup>(4)</sup> [7 ha]	6,000
Secondary School (8 FE)		1,200 Pupils (optimum – max) <sup>(5)</sup> [8.5 ha]	8,000

<sup>(1)</sup> Pupil Product Ratio figure taken from Tamworth Council Planning Obligations SPD (July 2007) and Annex 1 to the Staffordshire County Council Education Planning Obligations Policy Annual Update 2008/09

<sup>(2)</sup> Associated site area requirement based on experience elsewhere and identified as a broad guide only

<sup>(3)</sup> 4 Form Entry School consists of 4 class of 30 pupils for each of the 5 years catered for the by school

<sup>(4)</sup> 6 Form Entry School consists of 6 classes of 30 pupils for each of the 5 years catered for the by school

<sup>(5)</sup> 8 Form Entry School consists of 8 classes of 30 pupils for each of the 5 years catered for the by school

School Type	Assumed Construction Cost Per Pupil	Facility Size Range	Associated Cost Range (Based on Facility Size)
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Secondary School (New Build)		600 – 1,200 pupils	£10M - £20M
Secondary School (Extension)	£16,622*	Extension size will depend on existing provision and guidance from provider	

\* cost multiplier per pupil included at Annex 1 to the Staffordshire County Council Education Planning Obligations Policy Annual Update 2008/09.

### Local and District Centre Facilities

- 1.18 For developments exceeding 500 units, in line with the existing Tamworth SHLAA it has been assumed that a local centre of approximately 0.75 hectares should be accommodated within the development.
- 1.19 As part of the development, and based on a combination of the approaches proposed by certain other local authorities and also Annex 1 to the Staffordshire County Council Education Planning Obligations Policy Annual Update 2008/09, it is assumed that the following items would be provided as part of a local centre:

Facility	Size (Sq m)	Cost (per Sq m)	Total Construction Cost
Local Health Centre (GP)	500 sq m	£1200 per sq m <sup>(2)</sup>	Circa £600,000
Community Hall	200 sq m		Circa 240,000
Local Sports Hall	300 sq m	£1250 per sq m <sup>(2)</sup>	Circa £375,000
Pre School / Nursery	100 sq m (per each 500 dwellings) <sup>(1)</sup>	£11,031 per pupil <sup>(3)</sup>	Circa £165,500 (per each 500 dwellings)
Local retail facilities	-	No construction cost to development	
Local employment facilities	-	No construction cost to development	

- (1) Based on pupil product ratio of 0.03 children per dwelling as set out in Annex 1 to the Staffordshire County Council Education Planning Obligations Policy Annual Update 2008/0, generating a requirement for 15 nursery spaces per each 500 dwellings
- (2) Based on assessment of current construction costs set out in the BCIS Quarterly Review of Building Prices
- (3) Cost multiplier per pupil included at Annex 1 to the Staffordshire County Council Education Planning Obligations Policy Annual Update 2008/09.

- 1.20 The following table identifies other types of social and community facilities which would likely be provided, together with the associated triggers for provision, based on approaches proposed by certain other local authorities. Site areas are identified as a guide to indicate the required increase in the 0.75 local centre area assumed above.

Facility	Size Trigger (No. of Dwellings)	Facility Size [Floor space (Site area)]	Cost (per Sq m)	Total Construction Cost
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Place of Worship	1,250	200 sq m (0.1 ha)	£1,500 per sq m	£300,000
Library	1,670	200 sq m (0.1 ha)	£1,400 per sq m	£280,000
District Shopping Facilities	750 sq m	0.5 ha	No construction cost to development	

### Open Space

- 1.21 As with school provision, the starting point for assessment has been an examination of the nature and availability of existing open space provision. In general terms however, it is understood that the majority of the study area is currently deficient in one way or another. Therefore, for the purposes of this element of the study, it has been assumed that all sites would provide for on-site open space facilities of a type and scale related to the scale of development identified so that it can service its own open space requirements.
- 1.22 The following table outlines the open space size and cost assumptions applied. Size requirements per population have been based on requirements included in Policy ENV 14 of the adopted Tamworth Local Plan, which applies the (former) NPFA Six Acre Standard. In terms of the cost applied for open space provision (and maintenance), as an estimate we have used a figure of £2,000 per dwelling which we consider to be a reasonable mid-range contribution figure based on a review of various SPDs across the Country undertaken by Sport England.

Open Space Type	Size (per 400 dwellings / 1,000 population)	Cost Applied per Dwelling
Children's Play Space	0.8 hectares	£1,250*
Outdoor sports space (pitches, greens, courts etc)	1.6 hectares	£750*

\* [http://www.sportengland.org/index/get\\_resources/planning\\_for\\_sport\\_front\\_page/kitbag\\_front\\_page/kitbag\\_examples-2/kitbag\\_examples\\_spd\\_details.htm](http://www.sportengland.org/index/get_resources/planning_for_sport_front_page/kitbag_front_page/kitbag_examples-2/kitbag_examples_spd_details.htm)

- 1.23 For the purposes of this assessment, no allowance has been made for the provision of other forms of open space such as allotments and formal parks and gardens as this falls outside of the requirements set out in the Local Plan Policy ENV 14.

### Affordable Housing

- 1.24 In line with adopted Tamworth Local Plan policy, it is assumed that 30% of housing provided as part of any Development Option would be in the form of Affordable Housing (with the precise nature of provision to be agreed on a case by case basis).

**Major Employment Provision**

- 1.25 As noted under local centre facilities, for developments exceeding 500 dwellings, it is anticipated that local centre facilities would be provided, which could include small-scale employment opportunities.
- 1.26 For development options with a potential capacity exceeding 500 dwellings but which do not have reasonable access to any existing main employment areas (i.e. achieving an accessibility score of 2 or lower), it is assumed that further on-site employment provision should be made of a scale commensurate to the resident working population likely to be generated by the new residential development.
- 1.27 In order to calculate the size of employment (floorspace) required, as a broad guide it is assumed that each new dwelling would create 1.25 economically active persons and that each economically active person would require 21sq m of employment floor space. In terms of translating the resultant floorspace requirement to a site area, it is assumed that 4,000 sq m of floorspace would require 1 hectare of employment land. As a proxy guide to take account of the employment land requirement, we have reduced the initial gross development area by 20% before applying a gross to net area ratio to calculate dwelling capacity.
- 1.28 Even where major accessible employment facilities exist, for development options with a dwelling capacity of more than 1,000 units (applying a similar minimum dwelling number size threshold trigger to on-site primary school provision for consistency) for the purposes of this assessment it is assumed that on-site employment provision would be made applying the above approach to define the scale of required employment land. It should be noted that given the high level nature of the study only a relatively simple formulaic approach has been applied and this does not seek to pre-empt or run counter to any more specific guidance or conclusions as may be set out in Employment Land Reviews for example.

**Physical Infrastructure****Main Highways Improvements**

- 1.29 As a broad approach towards highways infrastructure requirements, we have sought to define likely improvements based on the outputs of the existing transport model and also through discussions with the Highways Authority and the commissioning Local Authorities for this study (for example, to define the suggested extent and cost of major highways works associated with Anker Valley and other developments to the north of the Tamworth urban area).
- 1.30 The nature of anticipated highways improvements for each option is listed in associated completed Growth Option matrices. The approach towards the broad budget costing of

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different types of localized junction and / or lane width improvement which may be likely is summarised in the following table:

Capacity Restraint Scenario	Improvement			Total Cost
	Extra 3.5m Lane (Length in metres)	Signal Improvement (Type)	Improved 10m Width Link (Length in metres)	
1	£145,750 (100m)	£46,370 (improved 3 arm signals)	£485,430 (33m)	£677,550
2	£233,200 (160m)			£233,200
3	£145,750 (100m)			£145,750
4	£167,612.50 (115m)	£46,370 (improved 3 arm signals)		£213,982.50
5	£396,440 (27m)	£139,110 (3 simple signal controlled junction)		£535,550
9	£354,172.50 (243m)	£65,480 (improved 4 arm signals)		£419,652.50
10	£131,175 (90m)			£131,175

1.31 In relation to the three strategic highways schemes within the study area as set out in the LTP, based on a combination of information supplied by the commissioning Local Authorities and also the Highways Authority, the following table outlines potential broad costs and associated triggers for provision:

Highways Scheme	Estimated Cost	Trigger	Potentially Affected Growth Options
Anker Valley Link	£20M	Above 250 dwellings	A, C, G
Anker Valley Link & Amington Link	£30M	Above 1,300 dwellings	A, C, G
Dosthill Bypass	£5M	No trigger defined	B (Dosthill)

1.32 The Highways Authority has indicated that it is anticipated that the above strategic highways schemes will be 'mainly developer funded'. For the purposes of this assessment, and in the absence of other information, it has therefore been assumed that the above schemes would require to be entirely funded via the affected Growth Option(s) listed in the above table.



- 1.33 Notwithstanding the above details, unlike other infrastructure requirements, the precise nature and cost of highways improvements will vary on a site by site basis and cannot be derived through the application of a generic formulae. In a number of instances, we have sought to define the broad construction cost (through the application of industry standard costs or existing costing where these are available) to reflect the general nature of works which would be necessary to theoretically improve relevant junctions and approaches operating at or over capacity. Due to the strategic nature of this study, it has not been possible to consider ownership issues or to confirm if sufficient highways land exists to provide the optimum improvement solution. This would require further examination as part of more detailed work to underpin any selected preferred option.
- 1.34 The precise requirements of a particular transport scheme cannot be quantified at such an early stage, as the impact is influenced by many factors which are unquantifiable until both the level and type of development is decided upon. The off site nature of this development mitigation leads to a wider possibility of solutions, and variation in the level of impact caused, depending on the level of impact predicted, which almost certainly will not be from 100% of the site for any particular highway constraint. In addition, a deliberate policy to restrict highway capacity could be followed, to encourage a shift in trip patterns, and therefore 100% mitigation for the impact may not always be the desired outcome for any design associated with the development. This policy aspect is likely to vary over the lifetime of the study.
- 1.35 This is significantly different to other infrastructure, which is often provided on site to cater for the whole development. The mitigation of travel impacts also does not have a single solution, for example 'construction of a primary school' as solutions other than highway construction can be proposed to mitigate trip impact.
- 1.36 In addition to this, the capacity provided to cater for development impact is not set by any national body, for example class sizes triggering construction of a primary school. Therefore any solution is open to interpretation by different parties, and can often be provided in various off site locations, all of which could have significantly different costs.

#### **Other Infrastructure Improvements**

- 1.37 Further to consultation with the main utility providers, costs and requirements arising are likely in general likely to be relatively limited in the context of other infrastructure requirements. Where particular requirements have been identified by the provider, such as in relation to required lengths of new water mains to connect particular development options the existing network, these have been estimated applying generic industry construction standards (for example, £300 per linear meter for the laying of a 300mm water main).

- 1.38 As with highways infrastructure, issues such as ownership, easements etc are excluded from any budget cost calculation.

Growth Option Assessment Scores

		Options														
Section 1		A	A- Future	B	B-Future	C	C- Future	D	D- Future	E	E- Future	F	F- Future	G	G- Future	
Physical Infrastructure Capacity and Impact	Capacity of / impact on existing highways infrastructure, Town Centre Access	1	1	3	3	1	1	3	3	3	3	3	3	1	1	
	Capacity of / impact on existing highways infrastructure, Strategic Network Access	1	1	3	3	1	1	3	3	4	4	4	4	1	1	
	Availability of / impact on potable water supply facilities	2	2	3	3	2	2	3	3	3	3	4	4	2	2	
	Availability of / impact on waste water treatment facilities	4	4	4	4	4	4	4	4	4	4	4	4	4	4	
	Availability of/impact on waste treatment infrastructure	3	3	3	3	3	3	3	3	3	3	3	3	3	3	
	Availability of / impact on energy infrastructure	4	4	4	4	4	4	4	4	4	4	4	4	4	4	
Community Infrastructure Accessibility	Proximity to key existing public transport hubs (i.e. bus and rail stations within Tamworth Town Centre)	3	3	3	3	3	3	3	3	3	3	2	2	3	3	
	Accessibility to main bus routes	2	2	2	2	2	2	3	3	4	4	2	2	3	3	
	Accessibility to Nurseries / Pre-School facilities	2	4	2	4	2	4	2	4	3	4	3	4	4	4	
	Accessibility to Primary Schools	3	4	4	4	3	4	4	4	3	4	4	4	4	4	
	Accessibility to Secondary Schools	3	3	3	3	4	4	4	4	4	4	2	2	4	4	
	Accessibility to existing / planned Higher Education Centres	3	3	2	2	4	4	2	2	3	3	3	3	3	3	
	Accessibility to GP Surgeries	2	4	2	4	2	4	3	4	3	4	4	4	2	4	
	Accessibility to Hospitals	2	2	2	2	2	2	1	1	1	1	1	4	2	2	
	Accessibility to Tamworth Town Centre	3	3	2	2	3	3	2	2	3	3	3	3	3	3	
	Accessibility to a Local Centre	4	4	3	4	4	4	3	4	3	4	3	4	4	4	
	Accessibility to existing recreation and leisure facilities (i.e. formal built sport and leisure facilities)	3	4	3	4	3	4	2	4	3	4	2	4	4	4	
	Accessibility to existing / planned major employment facilities	2	4	4	4	2	4	3	4	4	4	3	3	2	4	
	Accessibility to existing formal major open space facilities	3	4	3	4	3	4	3	4	3	4	3	4	3	4	
	Capacity of accessible Primary Schools	2	4	2	4	2	4	2	4	2	4	2	4	2	4	
	Capacity of accessible Secondary Schools	3	3	3	3	3	3	3	3	3	3	3	3	3	3	
	Capacity of accessible existing / planned Higher Education Centres	3	3	3	3	3	3	3	3	3	3	3	3	3	3	
	Capacity of accessible GP Surgeries	2	4	2	4	2	4	2	4	2	4	2	4	2	4	
	<b>Section 1 Sub Total</b>	<b>60</b>	<b>73</b>	<b>65</b>	<b>76</b>	<b>62</b>	<b>75</b>	<b>65</b>	<b>77</b>	<b>71</b>	<b>81</b>	<b>70</b>	<b>79</b>	<b>66</b>	<b>75</b>	
	<b>Section 2</b>	<b>Degree of Flood Risk</b>	4	4	4	4	4	4	4	4	4	4	4	4	4	4
	Effective Protection and Enhancement of the Environment	Impact on Nature Conservation Resources and Objectives	3	3	2	2	4	4	4	4	4	4	4	4	4	4
Impact on Green Belt and Landscape		3	3	1	1	3	3	3	3	3	3	1	1	3	3	
Impact on Major Open Space		4	4	4	4	4	4	4	4	4	4	4	4	4	4	
Impact on Heritage Resources		2	2	2	2	4	4	3	3	3	3	2	2	2	2	
Prudent Use of Natural Resources	Agricultural Land Classification	3	3	3	3	3	3	3	3	3	3	3	3	3	3	
	Renewable and Low-Carbon Forms of Energy Supply	3	3	3	3	3	3	3	3	3	3	3	3	3	3	
<b>Section 2 Sub Total</b>	<b>22</b>	<b>22</b>	<b>19</b>	<b>19</b>	<b>25</b>	<b>25</b>	<b>24</b>	<b>24</b>	<b>24</b>	<b>24</b>	<b>21</b>	<b>21</b>	<b>23</b>	<b>23</b>		
<b>Section 3</b>	<b>Ownership</b>	4	4	3	3	4	4	3	3	3	3	4	4	3	3	
Deliverability	Physical Constraints	3	3	3	3	3	3	4	4	4	4	4	4	3	3	
	Environmental Conditions	3	3	2	2	3	3	3	3	2	2	3	3	2	2	
<b>Section 3 Sub Total</b>	<b>10</b>	<b>10</b>	<b>8</b>	<b>8</b>	<b>10</b>	<b>10</b>	<b>10</b>	<b>10</b>	<b>9</b>	<b>9</b>	<b>11</b>	<b>11</b>	<b>9</b>	<b>9</b>		
<b>Overall Total (Sections 1, 2 and 3)</b>	<b>92</b>	<b>105</b>	<b>92</b>	<b>103</b>	<b>97</b>	<b>110</b>	<b>99</b>	<b>111</b>	<b>104</b>	<b>114</b>	<b>102</b>	<b>111</b>	<b>98</b>	<b>107</b>		

## Tamworth Development and Infrastructure Study: Sustainability Assessment

### Option A: Land North Tamworth Urban Area (Anker Valley Area)

#### Physical and Community Infrastructure

Appraisal Criteria	Indicator	Score	Scoring Criteria
<b>Physical Infrastructure Capacity and Impact</b>	Capacity of / impact on existing highways infrastructure, Accessing Tamworth Centre  <i>(based on Assessing the most direct route to Tamworth Town Centre from development Option A using volume over capacity results extracted from the Tamworth Traffic Model, 2007 base data.</i>	0	<p><u>Scoring</u></p> <p>Option A scores 1 on this assessment. This Option impacts A513 and the B5493 Ashby Road junction (Plan A1 ref. 1). The impact would result in an over capacity of 100% during the peak period. This junction will require upgrading, or alternative solution implemented, should development Option A be taken forward. This junction will likely be difficult to improve however, being surrounded by existing development with limited space.</p> <p><u>Solution Required for Development of this Option</u></p> <p>A new route, which would have to cross the railway, or a difficult junction improvement at the junction of the A513 and B5493 Ashby Road, will be required for the development of this Option. Within the LTP there is a crossing of the railway (the Anker Valley link), which would provide a solution to the capacity problem, although the cost of providing a solution to this is high.</p>
		1	
		2	
		3	
		4	
	Capacity of / impact on existing highways infrastructure, Accessing the Strategic Road Network  <i>(based on: volume over capacity results extracted from the Tamworth Traffic Model, 2007 base data. Assessment based on the most direct access to the Strategic Road Network from the Area</i>	1	<p><u>Scoring</u></p> <p>This Option scores 1 on this assessment. This Option impacts on the A513 and the B5493 Ashby Road junction (Plan A1 ref. 1), the A453 and A4091 Fazeley Road junction (Plan A1 ref. 4) and the access to Ventura Park from Bittercote Drive (Plan A1 ref. 5). The resultant impact would result in an over capacity of 100% during peak period and would be difficult to improve.</p> <p>The A513 and B5493 junction is surrounded by existing development, with limited space. This junction will however require upgrading, or alternative solution implemented, should Development Option A be</p>
		1	
		2	
		3	
		4	

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Appraisal Criteria	Indicator	Score	Scoring Criteria
	<i>where the Option is located)</i>	3	<p>taken forward. The junctions at Map ref. 4 and Map ref. 5 are further from Option A, on the opposite side of the town centre from the development. Therefore while the quickest route to the strategic road network leads to an impact on these constraint points, there are several alternative routes, and therefore the impact on these critical junctions is likely to be less, due to the potential for traffic distribution across the network when accessing the strategic network.</p> <p>The fact that traffic may have to cross the Town Centre to access the strategic road network is a significant dis-benefit to development to the immediate north of Tamworth Centre. Development Option A falls into this category.</p>
		4	<p><u>Solution Required for Development of this Option</u></p> <p>A new route, which would have to cross the railway, or a difficult junction improvement at the junction of the A513 and B5493 Ashby Road, will be required for the development of this Option. Within the LTP there is a crossing of the railway (the Anker Valley link), which would provide a solution to the capacity problem, although the cost of providing a solution to this is high.</p>
	Availability of / impact on potable water supply facilities	1	<u>Scoring</u>
		2	Option A scores 2 on this assessment due to the level of new and enhanced infrastructure required if this site is developed. Compared with a number of other Growth Options, the extent of new potable water supply infrastructure required is on a slightly larger scale.
		3	<u>Solution Required for Development of this Option</u>
		4	South Staffordshire Water would provide the potable water facilities for site A. The infrastructure provider advises that this option would require approximately 1.1km of new 300mm diameter water main and 1km of 180mm water main to be laid off site.
	Availability of / impact on waste water treatment facilities	1	<u>Scoring</u>
		2	All Growth Options have been given a score of 4 due to the level of available strategic waste water treatment infrastructure capacity and resultant likely limited impact the development would have on these facilities. Severn Trent Water deals with waste water treatment for the whole of the study area.
		3	The infrastructure provider advises that there will likely be sufficient capacity in existing waste water

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Appraisal Criteria	Indicator	Score	Scoring Criteria
		4	<p>treatment facilities to serve this Development Option.</p> <p><u>Solution Required for Development of this Option</u></p> <p>None identified</p>
	Availability of / impact on waste treatment infrastructure	1	<p><u>Scoring</u></p>
		2	<p>This Option is within Staffordshire Waste Authority's catchment. The nearest transfer station is outside the study boundary but currently serves Tamworth and Lichfield and the provider has identified that existing facilities will be able to accommodate this Option. Due to the large catchment of this transfer station, all Growth Options within the study area have been given a score of 3.</p>
		3	<p><u>Solution Required for Development of this Option</u></p> <p>None specifically required although a planning application has recently been submitted for a new transfer station at Lower House Farm (North Warwickshire) which will serve both the Warwickshire and Staffordshire Authority areas and will further enhance available capacity to accommodate additional dwellings throughout the study area.</p>
		4	
	Availability of / impact on energy infrastructure	1	<p><u>Scoring</u></p>
		2	<p>All Growth Options score 4 due to its minimal impact on the energy infrastructure and there being adequate capacity to accommodate the level of growth anticipated. E-on (the main electricity provider within the study area) identifies that the level of growth anticipated in any single Growth Options would, in relative terms, not represent a very substantial load in terms of electricity supply. The provider advises that there would be no major electricity infrastructure problems in any of the Growth Option locations identified.</p>
		3	
		4	<p><u>Solution Required for Development of this Option</u></p> <p>None identified</p>

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Appraisal Criteria	Indicator	Score	Scoring Criteria
<b>Community Infrastructure Accessibility</b>  (Strategic Public Transport Facilities)	Proximity to key existing public transport hubs (i.e. bus and rail stations within Tamworth Town Centre)	1	<u>Scoring</u>  Option A scores 3 as it is less than 15 minute cycle / public transport and private vehicle travel time from Tamworth station. Walk time is higher than 15 minutes and the station is accessed via the B5493.
		2	Although this Option is located in close proximity to Tamworth rail station, currently the station cannot be accessed from the north east side of the station. Therefore with the current situation walking and cycling is only accessible via the B5493.
		3	<u>Solution Required for Development of this Option</u>
		4	Providing access to the station via the north east corner of the station would provide a significant improvement for cycle and walking access, and offers a good opportunity to create development next to a significant transport hub. Satisfactory walk and cycle provision along the B5493 will be required to allow access to the station.
	Accessibility to main bus routes  <i>(i.e. a route that has a frequency of 2 per hour or more in the AM peak period, between 07:00 – 09:00)</i>	1	<u>Scoring</u>  Option A scores 2. The more frequent services (greater than 4 services per hour) that operate around the Tamworth area currently do not operate to the north of the town centre (see Plan B1). This is due to the smaller level of housing and employment situated to the north of Tamworth Centre
		2	Solution Required for Development of this Option
		3	Significant levels of housing growth could increase the potential to extend bus services within this part of the study area. In order to achieve this, bus facilities such as stops and shelters would need to be provided. A contribution to subsidise new / extended services may also need to be considered, to be agreed with the relevant bus operator.
4		Significant levels of housing growth could increase the potential to extend bus services within this part of the study area. In order to achieve this, bus facilities such as stops and shelters would need to be provided. A contribution to subsidise new / extended services may also need to be considered, to be agreed with the relevant bus operator.	
<b>Community Infrastructure Accessibility</b>  (Education)	Accessibility to Nurseries / Pre-School facilities	1	<u>Scoring</u>  The accessibility for Nursery facilities for this Option A scores 2. Plan B2 shows the public transport accessibility for Nurseries. This represents the public transport access time, including wait time. The walk time has also been calculated from the walk distance to the closest destination of this type from Option A. The lowest access time was the time that was used for the assessment score.
		2	

APPENDIX 9

Appraisal Criteria	Indicator	Score	Scoring Criteria	
		3	The closest current facilities are located to the south along the B5493 and to the north at Wigginton. The closest facility is a distance of 1514m, which is a walk access time of over 15 minutes. While these are reasonably close to this Option, access is limited by the barrier of the railway line between Option A and the closest provision, with the only major access across the railway via the B5493.	
		4	<p><u>Solution Required for Development of this Option</u></p> <p>Satisfactory walk links along the B5403 should be provided. In addition, this destination type has the potential to be provided on site. Implementation of on-site nursery provision as part of the delivery of this Development Option would elevate the assessment score to 4.</p>	
	Accessibility to Primary Schools	1	<p><u>Scoring</u></p> <p>The accessibility for Primary School facilities for this Option scores 3. Plan B3 shows the public transport accessibility for Primary Schools. This represents the public transport access time, including wait time. The walk time has also been calculated from the walk distance to the closest destination of this type from this Option. The lowest access time was the time that was used for the assessment score.</p>	
		2		
		3	The closest current facilities are located to the south along the B5493 and to the north at Wigginton. The closest facility is a distance of 1088m, which is a walk access time of 13 minutes. While these are reasonably close to this Option, access is limited by the barrier of the railway line between Option A and the closest provision, with the only major access across the railway via the B5493.	
		4	<p><u>Solution Required for Development of this Option</u></p> <p>Satisfactory walk links along the B5403 should be provided. In addition, this destination type has the potential to be provided on site. Implementation of on-site primary school provision as part of the delivery of this Development Option would elevate the assessment score to 4.</p>	
	Accessibility to Secondary Schools	1	<p><u>Scoring</u></p> <p>The accessibility for Secondary School facilities for this Option scores 3. Plan B4 shows the public transport accessibility for Secondary Schools. This represents the public transport access time, including wait time. The walk time has also been calculated from the walk distance to the closest destination of this type from this Option. The lowest access time of either public transport or walking was the value that was used for the assessment score.</p>	
		2		
	<p>(assessment based on walk times along the road network using 'Geoconcept' software and 'Accession' software to define public transport accessibility)</p>			



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Appraisal Criteria	Indicator	Score	Scoring Criteria	
		3	The closest current facility is located to the south along the B5493. The closest facility is a distance of 1309m, which is a walk access time of 16 minutes. While this is reasonably close to Option A, access is limited by the barrier of the railway line between Option A and the closest provision, with the only major access across the railway via the B5493.	
		4	<u>Solution Required for Development of this Option</u> Satisfactory walk links along the B5403 should be provided.	
	Accessibility to existing / planned Higher Education Centres	1	<u>Scoring</u> The accessibility for Higher Education facilities for this Option scores 3. Plan B5 shows the public transport accessibility for Higher Education. This represents the public transport access time, including wait time. The walk time has also been calculated from the walk distance to the closest destination of this type from this Option. The lowest access time of either public transport or walking was the value that was used for the assessment score.	
		2		
		3	The closest current facility is located to the south along the B5493. The closest facility is a distance of 1309m, which has a walk access time of 16 minutes. While this is reasonably close to Option A, access is limited by the barrier of the railway line between Option A and the closest provision, with the only major access across the railway via the B5493.	
		4	<u>Solution Required for Development of this Option</u> Satisfactory walk links along the B5403 should be provided.	
	Community Infrastructure Accessibility (Health)	Accessibility to GP Surgeries	1	<u>Scoring</u> The accessibility for GP facilities for this Option scores 2. Plan B6 shows the public transport accessibility for GP surgeries. This represents the public transport access time, including wait time. The walk time has also been calculated from the walk distance to the closest destination of this type from this Option. The lowest access time of either public transport or walking was the value that was used for the assessment score.
			2	

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Appraisal Criteria	Indicator	Score	Scoring Criteria
		3	The closest current facility is located to the south along the B5493, to the south of the West Coast Main Line. The closest GP is a distance of 1735m, which has a walk access time of 22 minutes. While not outside DfT accessibility standards, the lack of GP facilities to the north of the West Coast Main Line limits accessibility to the north of Tamworth.
		4	<p><u>Solution Required for Development of this Option</u></p> <p>The lack of a regular public transport service along the B5493 restricts the access to the nearest GP. Improving connections to services will improve the situation. This destination type has the potential to be provided on site. Provision on Option A would provide additional benefit for nearby existing residential development to the north of Tamworth. Implementation of on-site GP surgery provision as part of the delivery of this Development Option would elevate the assessment score to 4.</p>
	Accessibility to Hospitals	1	<u>Scoring</u>
		2	The accessibility for Hospital facilities for this Option scores 2. Plan B7 shows the public transport accessibility for local hospital facilities. This represents the public transport access time, including wait time. The walk time has also been calculated from the walk distance to the closest destination of this type from this Option. The lowest access time of either public transport or walking was the value that was used for the assessment score.
		3	The closest current facility is located to at Mile Oak, to the west of Tamworth, and is located in Lichfield District. This hospital is a distance of 5391m from option A, which translates to a walk access time of 67 minutes, making public transport the only realistic option. The public transport access time is within the DfT recommended time; however this will require access across the town centre, requiring interchange at the town centre between services. In addition, the existing hospital facilities within Tamworth are limited, meaning that it is likely a hospital trip may require a more strategic level trip, limiting the viability of using public transport.
		4	<p><u>Solution Required for Development of this Option</u></p> <p>The lack of a regular public transport service along the B5493 restricts the access. Improving connections to services will improve the situation.</p>

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Appraisal Criteria	Indicator	Score	Scoring Criteria
<b>Community Infrastructure Accessibility</b>  (Retail, leisure and Employment)	Accessibility to Tamworth Town Centre	1	<u>Scoring</u>  The accessibility for access to the town centre for this Option scores 3. Plan B8 shows the public transport accessibility for the Town Centre. This represents the public transport access time, including wait time. The walk time has also been calculated from the walk distance to the closest destination of this type from this Option. The lowest access time of either public transport or walking was the value that was used for the assessment score.
		2	
		3	The town centre is accessed via the B5493, to the south of the West Coast Main Line. The walk distance is 1872m, which leads to a walk access time of 23 minutes. The proximity of Option A to the town centre leads a high level of accessibility. Public transport access time is less than 20 minutes.
		4	<u>Solution Required for Development of this Option</u>  The walk and cycle time has the potential to be improved, should a walk and cycle link be provided at Tamworth Station linking into the south of this Development Option.
	Accessibility to Local Centre Facilities	1	<u>Scoring</u>  The accessibility for access to a local centre for this Option scores 4. Plan B9 shows the public transport accessibility for Local Centres. This represents the public transport access time, including wait time. The walk time has also been calculated from the walk distance to the closest destination of this type from Option A. The lowest access time of either public transport or walking was the value that was used for the assessment score.
		2	
		3	The nearest area with local centre facilities is located to the west of the this Option, accessed along the B5493. The walk distance is 838m, which leads to a walk access time of 10 minutes.
		4	<u>Solution Required for Development of this Option</u>  Satisfactory walk links along the B5403 should be provided. This destination type has the potential to be provided on site. Implementation of on-site provision of local centre facilities would enhance accessibility (to the entirety of the development option) but the assessment score would remain as 4.

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Appraisal Criteria	Indicator	Score	Scoring Criteria
	Accessibility to existing recreation and leisure facilities (i.e. formal built sport and leisure facilities)	1	<u>Scoring</u>
2		The accessibility for access to a leisure centre for this Option scores 3. Plan B10 shows the public transport accessibility to Leisure Centres. This represents the public transport access time, including wait time. The walk time has also been calculated from the walk distance to the closest destination of this type from this Option. The lowest access time of either public transport or walking was the value that was used for the assessment score.	
3		The nearest area with leisure and recreation facilities is located to the south along the B5493 at the Queen Elizabeth School (Tamworth Sports Campus). The walk distance is 1309m, which leads to a walk access time of 13 minutes.	
4		<u>Solution Required for Development of this Option</u> Satisfactory walk links along the B5403 should be provided. This destination type has the potential to be provided on site. Implementation of on-site leisure and recreation provision as part of the delivery of this Development Option would elevate the assessment score to 4.	
	Accessibility to existing / planned major employment facilities	1	<u>Scoring</u>
2		The accessibility for access to employment sites for this Option scores 2. Plan B11 shows the public transport accessibility to employment centres. This represents the public transport access time, including wait time. The walk time has also been calculated from the walk distance to the closest destination of this type from this Option. The lowest access time of either public transport or walking was the value that was used for the assessment score.	
3		The walk distance to the closest major employment provision is 2572m, which leads to a walk access time of 32 minutes. Employment facilities tended to be located to the south of the West Coast Rail Line, and close to the strategic road network. This leads to a disconnect between this development option and existing employment provision.	
4		<u>Solution Required for Development of this Option</u> The lack of a regular public transport service along the B5493 restricts the access. Improving connections to services will improve the situation. This destination type has the potential to be provided on site. Implementation of on-site employment provision as part of the delivery of this Development	

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Appraisal Criteria	Indicator	Score	Scoring Criteria
			Option would elevate the assessment score to 4.
<b>Community Infrastructure Accessibility</b>  <b>(Green Space)</b>	Accessibility to existing major formal open space facilities (including sports pitches / school playing fields, formal parks and allotments)  <i>(assessment based on walk times along the road network using 'Geoconcept' software and 'Accession' software to define public transport accessibility)</i>	1	<u>Scoring</u>
		2	The accessibility for access to major formal open space facilities for all Growth Options scores 3, with all having good accessibility to at least one type of existing formal open space facilities. Conversely however, it is understood that all Growth Options are deficient in terms of the quantitative and / or qualitative capacity of existing accessible open space facilities.
		3	<u>Solution Required for Development of this Option</u>  Improvements required to enhance the capacity of open space provision to serve this Development Option. This destination type has the potential to be provided on site. Implementation of on-site major open space provision provided as part of the delivery of this Development Option would elevate the assessment score to 4.
		4	
<b>Community Infrastructure Capacity</b>  <b>(Education)</b>	Capacity of accessible Primary Schools  <i>(note – 'accessible' is defined as a facility scoring either 2,3 or 4 against the criteria applied to measure accessibility)</i>	1	<u>Scoring</u>
		2	Option A scores 2 due to the likely need for a new primary school to be provided should this Option be developed. The general capacity of primary schools within the area is limited. Due to this being a changing variable, it is difficult to assess the capacity at each school and all the primary schools in the Tamworth area are therefore scored equally.
		3	<u>Solution Required for the Development of this Option</u>  Staffordshire County Council Children and Lifelong Learning Directorate's current generic approach is that a development of circa 1,000 houses would trigger the need for a new primary school to serve the development. This destination type has the potential to be provided on site. Implementation of on-site provision of a new primary school would elevate the assessment score to 4.
		4	

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Appraisal Criteria	Indicator	Score	Scoring Criteria
	<p>Capacity of accessible Secondary Schools</p> <p><i>(note – ‘accessible’ is defined as a facility scoring either 2,3 or 4 against the criteria applied to measure accessibility)</i></p>	1	<u>Scoring</u>
		2	All Growth Options score 3 due to the likely available capacity across the study area to accommodate additional secondary school place requirements arising from this Option. Due to this being a changing variable however, it is difficult to assess the capacity at each school and all the secondary schools in the study area are therefore scored equally.
		3	<u>Solution Required for the Development of this Option</u>
		4	None specifically identified although Staffordshire has made a successful bid for early entry into the Building Schools for the Future Programme. Capacity of secondary schools across the county is low at present. However, a £100M bid to transform secondary education in Tamworth was approved by the DCSF in June 2008. Five secondary schools will remain open in Tamworth.
	<p>Capacity of accessible existing / planned Higher Education Centres</p> <p><i>(note – ‘accessible’ is defined as a facility scoring either 2,3 or 4 against the criteria applied to measure accessibility)</i></p>	1	<u>Scoring</u>
		2	All Growth Options score 3 due to the likely available capacity across the study area to accommodate additional Higher Education place requirements arising from this Option. Due to this being a changing variable, it has been advised that it is difficult to assess the likely future capacity of Tamworth and Lichfield College.
		3	<u>Solution Required for the Development of this Option</u>
		4	None identified. The successful bid to the Building Schools for the Future Programme will lead to the creation of a post 16 centre and a new academy.
<p><b>Community Infrastructure Capacity</b></p> <p><b>(Health)</b></p>	<p>Capacity of accessible GP Surgeries</p> <p><i>(note – ‘accessible’ is defined as a facility scoring either 2,3 or 4 against the criteria applied to measure accessibility)</i></p>	1	<u>Scoring</u>
		2	For the purposes of this study, and in the absence of other available information, all Growth Options have been given an assessment score of 2. Although it is understood that GP surgeries within the study area currently have some available capacity, Staffordshire Primary Care anticipates that these facilities will need to be enhanced and new facilities provided given the scale of development proposed.
		3	<u>Solution Required for the Development of this Option</u>
		4	This destination type has the potential to be provided on site. Implementation of on-site GP Surgery provision could be provided as part of the delivery of this Development Option and would elevate the

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Appraisal Criteria	Indicator	Score	Scoring Criteria
			assessment score to 4.

## 2. Impact on Environmental Resources

Appraisal Criteria	Indicator	Score	Scoring Criteria
Effective Protection and Enhancement of the Environment	Degree of Flood Risk	0	<u>Scoring</u>
		1	Option A is scored 4 due to its location outside of flood risk zones (i.e. it is within Flood Zone 1 which is at low risk of flooding)
		2	<u>Solution for the Development of this Option</u>
		3	Although outside of a flood risk zone, this Option is adjacent to Flood Zones 2 / 3 associated with the River Anker and detailed flood modelling may need to be undertaken to assess the exact boundary of the flood plain.
		4	
	Impact on Nature Conservation Resources and Objectives	0	<u>Scoring</u>
		1	Option A is scored 3 due to its location outside of any national or local nature conservation designations but by being in reasonably close proximity to an existing site of local nature conservation importance.
		2	However, indirect impacts arising from this Option are likely to be limited given the distance between this Option and the designation.
		3	<u>Solution for the Development of this Option</u>
		4	None identified although a strategy to maintain and enhance nature conservation and biodiversity should be progressed as part of all Growth Options.
	Impact on Green Belt and Landscape	1	
		2	<u>Scoring</u>
		3	Option A is scored 3 due to it not creating any direct or indirect impacts on the Green Belt but with no ability to improve a currently degraded landscape. The site is located outside the Green Belt. To the west and south of the site is the urban area of Tamworth and development of this Option could form a natural extension to the urban Area.
4		<u>Solution for the Development of this Option</u> None identified	



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Appraisal Criteria	Indicator	Score	Scoring Criteria
	Impact on Major Open Space Facilities (including sports pitches / school playing fields, formal parks and allotments)	1	<u>Scoring</u>
		2	Option A is scored as 4. Although part of the land included in this Option is identified in the adopted Tamworth Local Plan as Greenspace / Open Space Network, this Option would not result in the direct loss of any defined formal open space facilities considered under this assessment criteria.
		3	<u>Solution Required for the Development of this Option</u>
		4	See comments regarding potential on-site improvements to major open space provision under assessment of accessibility to major open space facilities.
	Impact on Heritage Resources (e.g. conservation areas, scheduled ancient monuments and, historic parks and gardens)	1	<u>Scoring</u>
		2	Option A is scored 2 due to potential for indirect impacts on heritage resources. The site lies outside of any identified heritage resources but is adjacent to the Amington Hall Conservation Area (north east of the site).
		3	<u>Solution Required for the Development of this Option</u>
		4	The site would need to be sensitively designed and developed to maintain the setting of the adjacent conservation area.
<b>Prudent Use of Natural Resources</b>	Land Classification	1	<u>Scoring</u>
		2	Option A is scored 3. In terms of Impact on agricultural land quality, the northern part of the land is agricultural grades 2 and 3. As with all Growth Options, this Option lies outside of any proposed mineral extraction areas.
		3	<u>Solution for the Development of this Option</u>
		4	None identified

Appraisal Criteria	Indicator	Score	Scoring Criteria
	Renewable and Low-Carbon Forms of Energy Supply	1	<p><u>Scoring</u></p> <p>Option A is scored as 3 with moderate potential to readily and viably draw upon decentralised and renewable / low-carbon forms of energy supply systems.</p>
2		<p>Most wind turbines start generating electricity at wind speeds of around 4-5 metres per second (m/s), (10 miles per hour); generate maximum 'rated' power at around 15 m/s (30mph); and shut down to prevent storm damage at 25 m/s or above (50mph). The BERR Windspeed Database indicates that this site has average windspeeds of: 6.2 m/s at 45m above ground level (agl); 5.6 m/s at 25m agl; and 4.9 m/s at 10m agl. This suggests that turbines on this site, particularly those smaller than 45m agl will be performing at the bottom of their operating range, and may therefore not be viable for this site. This would obviously be subject to more detailed analysis.</p>	
3		<p>The site is currently undeveloped, and capture of solar energy is not constrained by shading from surrounding buildings.</p> <p>The agricultural nature of the site suggests that constraints on laying horizontal or vertical pipework for Ground Source Heat Pumps is unlikely. In addition, the British Geological Survey identifies the area as having bedrocks of mudstone, siltstone and sandstone, which should not preclude the drilling of boreholes if necessary, though further detailed analysis is required.</p>	
4		<p>The River Anker runs in close proximity to a large section of the site, and could potentially support some form of hydropower generation or Water Source Heat Pumps.</p> <p>Access for the supply of biomass for community CHP systems is not constrained as the site is readily accessible via the B5493 (Ashby Road), and the extensive surrounding agricultural land could potentially provide a source of biomass (e.g. willow or switch grass) within 5 miles of the development.</p> <p>There is no known existing infrastructure for decentralised/renewable energy for the development to connect to.</p> <p><u>Solution for the Development of this Option</u></p> <p>Given the scale of this Development Option, consideration should be given to the potential for the incorporation of renewable and low-carbon forms of energy supply as part of this Option.</p>	

### 3. Deliverability

Appraisal Criteria	Indicator	Score	Scoring Criteria
Deliverability	Ownership	1	<u>Scoring</u>
		2	Option A is scored as 4. It is assumed that landowners positively support / are actively pursuing housing development given the existing Local Plan residential allocation over the majority of the site and recent owner / developer discussions with the Council regarding the development and associated infrastructure requirements.
		3	
		4	<u>Solution for the Development of this Option</u> None identified
	Physical Constraints <i>(including an assessment of landform, potential for pollution or contamination, drainage ditches, pylons, known underground utilities infrastructure requiring safeguarding / re-routing etc)</i>  <i>(note – other site suitability indicators such as policy and other environmental restrictions and impacts are considered separately above)</i>	1	<u>Scoring</u>
		2	Option A scores 3 as it has limited constraining physical site features. It is relatively flat and comprises open agricultural fields. There are no electricity pylons within the site and the site is at present agricultural land so there is minimal potential for contamination issues. There is however, a watercourse runs along the southern boundary of the site and the Environment Agency would likely need access (a 20m buffer zone) to it.
		3	
		4	<u>Solution for the Development of this Option</u> Maintenance of a 20 metre buffer zone to the adjacent watercourse.
	Environmental Conditions <i>(including quality of surrounding environment, nature of surrounding uses and associated potential for amenity impacts such as noise, dust and smell)</i>	1	<u>Scoring</u>
		2	Due to the limited constraining physical site features, this Option scores 3. Growth Option A is situated to the north of Tamworth urban area. The site is adjacent to open fields to the north and east of the site. To the west and south of the site is residential development. The existing Birmingham – Derby railway line may cause noise disturbance to any resultant development although impacts may be limited due to the railway being in a cutting in the vicinity of this Growth Option.
		3	
		4	<u>Solution Required for the Development of this Option</u> Consider need for screening/buffering the site from the railway line to mitigate any potential noise impact if necessary.

## Tamworth Development and Infrastructure Study: Sustainability Assessment

### Option B: Land South of Tamworth Urban Area (Green Belt)

#### 1. Physical and Community Infrastructure

Appraisal Criteria	Indicator	Score	Scoring Criteria
<b>Physical Infrastructure Capacity and Impact</b>	Capacity of / impact on existing highways infrastructure, Accessing Tamworth Centre  <i>(based on: volume over capacity results extracted from the Tamworth Traffic Model, 2007 base data. Assessment based on the most direct access to Tamworth Town Centre from the Area where the Option is located)</i>	0	<p><u>Scoring</u></p> <p>Option B scores 3 on this assessment. This Option impacts on the junction of the A5 and B5404 at Two Gates (Plan A2 ref. 9). The resultant impact would result in an over capacity of 100% during the peak period. This constraint point does not have severe limiting factors on its improvement, therefore Option B scores 3.</p> <p><u>Solution Required for Development of this Option</u></p> <p>The junction of the A51 and B5404 has existing development around it, however there is potential for alternative routes, as well as the ability to provide some additional capacity by upgrading of the junction layout of this signalised junction. This junction will require upgrading should Option B be developed. The Dosthill bypass is included as part of the LTP, which would provide capacity in the immediate vicinity of the western element of Option B.</p>
		1	
		2	
		3	
		4	
	Capacity of / impact on existing highways infrastructure, Accessing the Strategic Road Network  <i>(based on: volume over capacity results extracted from the Tamworth Traffic</i>	1	<p><u>Scoring</u></p> <p>This Option impacts on the junction of the A51 and B5404 at Two Gates (Plan A2 ref. 9). The resultant impact would result in an over capacity of 100% during the peak period. This constraint point does not have severe limiting factors on its improvement, therefore Option B scores 3.</p>
2			

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Appraisal Criteria	Indicator	Score	Scoring Criteria
	<i>Model, 2007 base data. Assessment based on the most direct access to the Strategic Road Network from the Area where the Option is located)</i>	3	<p><u>Solution Required for Development of this Option</u></p> <p>The junction between the A51 and B5404 has existing development around it, however there is potential for alternative routes, as well as the ability to provide some additional capacity by upgrading of the junction layout of this signalised junction. This junction will therefore require upgrading, should Option B be developed. The Dosthill bypass is included as part of the LTP, which would provide capacity in the immediate vicinity of Option B.</p>
		4	
	Availability of / impact on potable water supply facilities	1	<p><u>Scoring</u></p> <p>Option B scores 3 on this assessment due to the low impact this development would have on potable water supplies. Enhanced facilities will be needed but not in a large scale as compared with the other Growth Options.</p>
		2	
		3	<p><u>Solution Required for the Development of this Option</u></p> <p>South Staffordshire Water provides the potable water facilities for this site which would require approximately 600m of new 300m diameter water main to be laid off-site as well as possibly refurbishing/upgrading the existing booster plans and associated mechanical/electrical kit at Two Gates booster site.</p>
		4	
	Availability of / impact on waste water treatment facilities	1	<p><u>Scoring</u></p> <p>All Growth Options have been given a score of 4 due to the level of available strategic waste water treatment infrastructure capacity and resultant likely limited impact the development would have on these facilities. Severn Trent Water deals with waste water for the whole of the study area. The infrastructure provider advises that there will likely be sufficient capacity in waste existing water treatment facilities to serve development.</p>
		2	<p><u>Solution Required for the Development of this Option</u></p>
		3	None identified

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Appraisal Criteria	Indicator	Score	Scoring Criteria
		4	
	Availability of / impact on waste treatment infrastructure	1	<p><u>Scoring</u></p> <p>This Option is within Staffordshire Waste Authority’s catchment. The nearest transfer station is outside the study boundary but currently serves Tamworth and Lichfield and the provider has identified that existing facilities will be able to accommodate this Option. Due to the large catchment of this transfer station, all Growth Options within the study area have been given a score of 3.</p> <p><u>Solution Required for Development of this Option</u></p> <p>None specifically required although a planning application has recently been submitted for a new transfer station at Lower House Farm (North Warwickshire) which will serve both the Warwickshire and Staffordshire Authority areas and will further enhance available capacity to accommodate additional dwellings throughout the study area.</p>
		2	
		3	
		4	
	Availability of / impact on energy infrastructure	1	<p><u>Scoring</u></p> <p>All Growth Options score 4 due to its minimal impact on the energy infrastructure and there being adequate capacity to accommodate the level of growth anticipated. E-on (the main electricity provider within the study area) identifies that the level of growth anticipated in any single Growth Options would, in relative terms, not represent a very substantial load in terms of electricity supply. The provider advises that there would be no major electricity infrastructure problems in any of the Growth Option locations identified.</p> <p><u>Solution Required for Development of this Option</u></p> <p>None identified</p>
		2	
		3	
		4	

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Appraisal Criteria	Indicator	Score	Scoring Criteria
<b>Community Infrastructure Accessibility</b>  (Strategic Public Transport Facilities)	Proximity to key existing public transport hubs (i.e. bus and rail stations within Tamworth Town Centre)	1	<u>Scoring</u>
		2	Site B is located in close proximity to Wilnecote rail station. This station is located on the Birmingham to Nottingham line. Option B is less than 15 minute cycle / public transport and private vehicle travel time from Wilnecote station. Walk time is higher than 15 minutes.
		3	<u>Solution Required for Development of this Option</u>
		4	Improving the level of access to the other main transport hubs, particularly Tamworth Rail station, will provide a wider choice for strategic trips.
	Accessibility to main bus routes  <i>(i.e. a route that has a frequency of 2 per hour or more in the AM peak period, between 07:00 – 09:00)</i>	1	<u>Scoring</u>
		2	The more frequent services (greater than 4 services per hour) that operate around the Tamworth area currently operate in the south of the Tamworth area (see plan B1), however due to the significant level of developed land next to the B5404, where the closest high frequency route is, the access distance to the main routes is considerable, and therefore Option B scores 2.
		4	<u>Solution Required for Development of this Option</u>  The improvement of service frequency in the Dosthill area would improve main bus route accessibility for land west of the A51. Significant levels of housing would increase the potential to extend bus services within this part of the study area. In order to achieve this, bus facilities such as stops and shelters would need to be provided. A contribution to subsidise new / extended services may also be need to be considered, in consultation with the relevant bus operator. The split nature of the Option B sites will limit the improvements that can be achieved with funding of new services.
<b>Community Infrastructure Accessibility</b>  (Education)	Accessibility to Nurseries / Pre-School facilities	1	<u>Scoring</u>
		2	The accessibility for Nursery facilities for this Option scores 2. Plan B2 shows the public transport accessibility for Nurseries. This represents the public transport access time, including wait time. The walk time was calculated from the walk distance to the closest destination of this type from Option B. The lowest access time was the time that was used for the assessment score.

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Appraisal Criteria	Indicator	Score	Scoring Criteria	
		3	The closest current facilities are located to the north at Wilnecote. The closest facility is a distance of 2929m, which is a walk access time of over 36 minutes. Therefore public transport access is required to allow access within 30 minutes.	
		4	<p><u>Solution Required for Development of this Option</u></p> <p>The closest provision is a considerable distance from Option B, so improvements to public transport would most likely to required to improve access time. In addition, this destination type has the potential to be provided on site, should Option B permit this to be a feasible option. Provision on site would benefit the surrounding existing development. Implementation of on-site nursery provision as part of the delivery of this Development Option would elevate the assessment score to 4. Implementation of on-site provision of nursery facilities would enhance accessibility (to the entirety of the development option) but the assessment score would remain as 4.</p>	
	Accessibility to Primary Schools	1	<p><u>Scoring</u></p> <p>The accessibility for Primary School facilities for Option B scores 4. Plan B3 shows the public transport accessibility for Primary Schools. This represents the public transport access time, including wait time. The walk time was also calculated from the walk distance to the closest destination of this type from the site. The lowest access time was the time that was used for the assessment score.</p>	
		2		
		3	<p>The closest current facilities are located in Dosthill and Hockley. The closest facility is a distance of 435m, which is a walk access time of 6 minutes.</p> <p><u>Solution Required for Development for this Option</u></p>	
		4	Ensuring good walk links exist between the site and the local provision would give a high level of accessibility, in a sustainable form, for this option. In addition, this destination type has the potential to be provided on site, should the development site permit this to be a feasible option.	
	Accessibility to Secondary Schools	1	<p><u>Scoring</u></p> <p>The accessibility for Secondary School facilities for Option B scores 3. Plan B4 shows the public</p>	
	<i>(assessment based on walk times)</i>			



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Appraisal Criteria	Indicator	Score	Scoring Criteria
	<p><i>along the road network using 'Geoconcept' software and 'Accession' software to define public transport accessibility)</i></p>	2	<p>transport accessibility for Secondary Schools. This represents the public transport access time, including wait time. The walk time was also calculated from the walk distance to the closest destination of this type from the site. The lowest access time of either public transport or walking was the value that was used for the assessment score.</p>
		3	<p>The closest current facility is located to the south along the B5493. The closest facility is a distance of 1923m, which is a walk access time of 24 minutes. Therefore the score of 3 relates to public transport access.</p>
		4	<p><u>Solution Required for Development of this Option</u></p> <p>The split nature of option B affects the scoring of this option, as the western element of the option is considerably closer to the school, and has the opportunity for good walk links to the school. Improvements to public transport in the Dosthill area will benefit this development option with regards to access to secondary schools.</p>
	<p>Accessibility to existing / planned Higher Education Centres</p> <p><i>(assessment based on walk times along the road network using 'Geoconcept' software and 'Accession' software to define public transport accessibility)</i></p>	1	<p><u>Scoring</u></p> <p>accessibility for Higher Education facilities for Option B scores 2. Plan B5 shows the public transport accessibility for Higher Education. This represents the public transport access time, including wait time. The walk time was also calculated from the walk distance to the closest destination of this type from Option B. The lowest access time of either public transport or walking was the value that was used for the assessment score.</p>
		2	
		3	<p>The closest current facility is located to the south along the B5493. The closest facility is a distance of 6172m, which has a walk access time of 77 minutes. This leads to public transport being the only viable option.</p>
		4	<p><u>Solution Required for Development of this Option</u></p> <p>Improvement of the public transport provision, particularly with regards to the connection between Dosthill and Tamworth town centre.</p>
<p><b>Community Infrastructure Accessibility (Health)</b></p>	<p>Accessibility to GP Surgeries</p> <p><i>(assessment based on walk times along the road network using 'Geoconcept' software and 'Accession' software to define public transport accessibility)</i></p>	1	<p><u>Scoring</u></p>
		2	<p>The accessibility for GP facilities for Option B score. s 2Plan B6 shows the public transport accessibility for GP surgeries. This represents the public transport access time, including wait time. The walk time was also calculated from the walk distance to the closest destination of this type from</p>

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Appraisal Criteria	Indicator	Score	Scoring Criteria
	<i>accessibility)</i>	3	Option B. The lowest access time of either public transport or walking was the value that was used for the assessment score.
		4	<p>The closest current facility is located At Wilnecote and in Dosthill, to the north of the proposed development sites. The closest GP is a distance of 935m, which has a walk access time of 12 minutes.</p> <p><u>Solution Required for Development of this Option</u></p> <p>Ensuring good walk links between Option B and the existing facilities will provide a high level of sustainable provision for this site. This destination type has the potential to be provided on site, should the development size permit this to be a feasible option. Implementation of on-site GP surgery provision as part of the delivery of Option B would elevate the assessment score to 4.</p>
	<p>Accessibility to Hospitals</p> <p><i>(assessment based on walk times along the road network using 'Geoconcept' software and 'Accession' software to define public transport accessibility)</i></p>	1	<p><u>Scoring</u></p> <p>The accessibility for Hospital facilities for Option B scores 2. Plan B7 shows the public transport accessibility for local hospital facilities. This represents the public transport access time, including wait time. The walk time was also calculated from the walk distance to the closest destination of this type from the site. The lowest access time of either public transport or walking was the value that was used for the assessment score.</p>
		2	
		3	<p>The closest current facility is located to at Mile Oak, to the south of Tamworth, and is located in Lichfield District. This hospital is a distance of 6172m from option B, which translates to a walk access time of 77 minutes, making public transport the only realistic option. The public transport access time is within the DfT recommended time; however there is limited direct service provision, non-central location of the hospital services. In addition, the existing hospital facilities within Tamworth are limited, meaning that it is likely a hospital trip may require a more strategic level trip, limiting the viability of using public transport.</p>
		4	<p><u>Solution Required for Development of this Option</u></p> <p>Improvement of public transport connections from Dosthill will improve access, with cross town services serving the Fazeley area being of particular benefit.</p>
<p><b>Community Infrastructure Accessibility</b></p>	<p>Accessibility to Tamworth Town Centre</p> <p><i>(assessment based on walk times along the road network using</i></p>	1	<p><u>Scoring</u></p> <p>The accessibility for access to the town centre for Option B scores 2. Plan B8 shows the public transport accessibility for the Town Centre. This represents the public transport access time,</p>

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Appraisal Criteria	Indicator	Score	Scoring Criteria
<b>(Retail, leisure and Employment)</b>	<i>'Geoconcept' software and 'Accession' software to define public transport accessibility)</i>	2	including wait time. The walk time was also calculated from the walk distance to the closest destination of this type from Option B. The lowest access time of either public transport or walking was the value that was used for the assessment score.
		3	The town centre is accessed via the B5493, to the south of the West Coast Main Line. The walk distance is 5090m, which leads to a walk access time of 64 minutes. Public transport access time is over 30 minutes access time.
		4	<u>Solution Required for Development of this Option</u> Improved public transport access to the town centre from the Dosthill area will improve the accessibility of Option B.
	Accessibility to Local Centre Facilities  <i>(assessment based on walk times along the road network using 'Geoconcept' software and 'Accession' software to define public transport accessibility)</i>	1	<u>Scoring</u> The accessibility for access to a local centre for Option B scores 3. Plan B9 shows the public transport accessibility for Local Centres. This represents the public transport access time, including wait time. The walk time was also calculated from the walk distance to the closest destination of this type from the site. The lowest access time of either public transport or walking was the value that was used for the assessment score.
		2	
		3	The nearest local centre facilities are provided at Dosthill Highstreet. The walk distance is 1856m, which leads to a walk access time of 23 minutes.  <u>Solution Required for Development of this Option</u>
		4	Improvement of public transport in the Dosthill area. The split nature of the site affects the scoring, as the site south of Dosthill is considerably closer than the site to the east. Implementation of on-site provision of local centre facilities as part of the delivery of this development option would elevate the assessment score to 4.
	Accessibility to existing recreation and leisure facilities (i.e. formal built sport and leisure facilities)  <i>(assessment based on walk times along the road network using</i>	1	<u>Scoring</u> The accessibility for access to a leisure centre for Option B scores 3. Plan B10 shows the public transport accessibility to Leisure Centres. This represents the public transport access time, including wait time. The walk time was also calculated from the walk distance to the closest destination of this type from Option B. The lowest access time of either public transport or walking was the value that was used for the assessment score.
		2	

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Appraisal Criteria	Indicator	Score	Scoring Criteria
	<i>'Geoconcept' software and 'Accession' software to define public transport accessibility)</i>	3	The nearest area with leisure centre facilities is located in Wilnecote. The walk distance is 2134m, which leads to a walk access time of 27 minutes. Therefore public transport access gives this destination its score.
		4	<p><u>Solution Required for Development of this Option</u></p> <p>Improvement of public transport connections around the Dosthill / Wilnecote area will improve this accessibility measure. This destination type has the potential to be provided on site, should the development size permit this to be a feasible option. Implementation of on-site provision of recreation and leisure facilities as part of the delivery of Option B would elevate the assessment score to 4.</p>
	<p>Accessibility to existing / planned major employment facilities</p> <p><i>(assessment based on walk times along the road network using 'Geoconcept' software and 'Accession' software to define public transport accessibility)</i></p>	1	<p><u>Scoring</u></p> <p>The accessibility for access to employment sites for Option B scores 4. Plan B11 shows the public transport accessibility to employment centres. This represents the public transport access time, including wait time. The walk time was also calculated from the walk distance to the closest destination of this type from Option B. The lowest access time of either public transport or walking was the value that was used for the assessment score.</p>
		2	
		3	The walk distance to the closest major employment provision is 483m, which leads to a walk access time of 6 minutes. There are significant employment areas to the south of Tamworth, which is in close proximity to Option B.
		4	<p><u>Solution Required for Development of this Option</u></p> <p>Provide high quality walk and cycle links in the Dosthill area.</p>
<p><b>Community Infrastructure Accessibility</b></p> <p><b>(Green Space)</b></p>	<p>Accessibility to existing major formal open space facilities (including sports pitches / school playing fields, formal parks and allotments)</p> <p><i>(assessment based on walk times along the road network using</i></p>	1	<p><u>Scoring</u></p> <p>The accessibility for access to major formal open space facilities for all Growth Options scores 3, with all having good accessibility to at least one type of existing formal open space facilities. Conversely however, it is understood that all Growth Options are deficient in terms of the quantitative and / or qualitative capacity of existing accessible open space facilities.</p>
		2	

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Appraisal Criteria	Indicator	Score	Scoring Criteria
	<i>'Geoconcept' software and 'Accession' software to define public transport accessibility)</i>	3	<p><u>Solution Required for Development of this Option</u></p> <p>Improvements required to enhance the capacity of open space provision to serve this Development Option. This destination type has the potential to be provided on site. Implementation of on-site major open space provision provided as part of the delivery of this Development Option would elevate the assessment score to 4.</p>
<p><b>Community Infrastructure Capacity</b> <b>(Education)</b></p>	<p>Capacity of accessible Primary Schools</p> <p><i>(note – 'accessible' is defined as a facility scoring either 2,3 or 4 against the criteria applied to measure accessibility)</i></p>	1	<p><u>Scoring</u></p> <p>Option A scores 2 due to the likely need for a new primary school to be provided should this Option be developed. The general capacity of primary schools within the area is limited. Due to this being a changing variable, it is difficult to assess the capacity at each school and all the primary schools in the Tamworth area are therefore scored equally.</p> <p><u>Solution Required for the Development of this Option</u></p> <p>Staffordshire County Council Children and Lifelong Learning Directorate's current generic approach is that a development of circa 1,000 houses would trigger the need for a new primary school to serve the development. This destination type has the potential to be provided on site. Implementation of on-site provision of a new primary school would elevate the assessment score to 4.</p>
	<p>Capacity of accessible Secondary Schools</p> <p><i>(note – 'accessible' is defined as a facility scoring either 2,3 or 4 against the criteria applied to measure accessibility)</i></p>	1	<p><u>Scoring</u></p> <p>All Growth Options score 3 due to the likely available capacity across the study area to accommodate additional secondary school place requirements arising from this Option. Due to this being a changing variable however, it is difficult to assess the capacity at each school and all the secondary schools in the study are therefore scored equally.</p> <p><u>Solution Required for the Development of this Option</u></p> <p>None specifically identified although Staffordshire has made a successful bid for early entry into the Building Schools for the Future Programme. Capacity of secondary schools across the county is low at present. However, a £100M bid to transform secondary education in Tamworth was approved by the</p>
		2	
		3	
		4	

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Appraisal Criteria	Indicator	Score	Scoring Criteria
			DCSF in June 2008. Five secondary schools will remain open in Tamworth.
	Capacity of accessible existing / planned Higher Education Centres  <i>(note – ‘accessible’ is defined as a facility scoring either 2,3 or 4 against the criteria applied to measure accessibility)</i>	1	<u>Scoring</u>
2		All Growth Options score 3 due to the likely available capacity across the study area to accommodate additional Higher Education place requirements arising from this Option. Due to this being a changing variable, it has been advised that it is difficult to assess the likely future capacity of Tamworth and Lichfield College.	
3		<u>Solution Required for the Development of this Option</u>	
4		None identified. The successful bid to the Building Schools for the Future Programme will lead to the creation of a post 16 centre and a new academy.	
<b>Community Infrastructure Capacity</b>  <b>(Health)</b>	Capacity of accessible GP Surgeries  <i>(note – ‘accessible’ is defined as a facility scoring either 2,3 or 4 against the criteria applied to measure accessibility)</i>	1	<u>Scoring</u>
2		For the purposes of this study, and in the absence of other available information, all Growth Options have been given an assessment score of 2. Although it is understood that GP surgeries within the study area currently have some available capacity, Staffordshire Primary Care anticipates that these facilities will need to be enhanced and new facilities provided given the scale of development proposed.	
3		<u>Solution Required for the Development of this Option</u>	
4		This destination type has the potential to be provided on site. Implementation of on-site GP Surgery provision could be provided as part of the delivery of this Development Option and would elevate the assessment score to 4.	

## 2. Impact on Environmental Resources

Appraisal Criteria	Indicator	Score	Scoring Criteria
	Degree of Flood Risk	0	<p><u>Scoring</u></p> <p>This Option scores 4 due to its location outside of flood risk zones (i.e. it is within Flood Zone 1 which is a low risk of flooding)</p> <p><u>Solution for the Development of this Option</u></p> <p>The western boundary of site 'B' is adjacent to Flood Zones 2 / 3 associated with the River Anker and detailed flood modelling may need to be undertaken to assess the exact boundary of the flood plain.</p>
		1	
		2	
		3	
		4	
	Impact on Nature Conservation Resources and Objectives	0	<p><u>Scoring</u></p> <p>This Options scores 2 due to the land parcel west of the A51 at Dosthill being located adjacent to an area of Local Nature Conservation Importance.</p> <p><u>Solution for the Development of this Option</u></p> <p>The site should be sensitively constructed with particular regard to the impact noise and dust levels may have on the Local Nature Conservation Importance area. A strategy to maintain and enhance nature conservation and biodiversity should be progressed as part of all growth options.</p>
		1	
		2	
		3	
		4	
	Impact on Green Belt and Landscape	1	<p><u>Scoring</u></p> <p>This Option scores 1 due to being directly in the Greenbelt with no ability to improve a currently degraded landscape.</p> <p><u>Solution for the Development of this Option</u></p>
		2	

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Appraisal Criteria	Indicator	Score	Scoring Criteria
		3	Sensitive design should be considered to ensure minimal impact on the landscape.
		4	
	Impact on Major Open Space Facilities (including sports pitches / school playing fields, formal parks and allotments)	1	<u>Scoring</u>
		2	Growth Option B scores 4. Although the site is located adjacent to Greenspace/the Open Space Network, the development of this site would not lead to any direct loss of defined open space facilities considered under this assessment criteria.
		3	<u>Solution Required for the Development of this Option</u> See comments regarding potential on-site improvements to major open space provision under assessment of accessibility to major open space facilities.
		4	
	Impact on Heritage Resources (e.g. conservation areas, listed buildings, scheduled ancient monuments and, historic parks and gardens)	1	<u>Scoring</u>
		2	This Option is scored 2 due to the potential for indirect impact on heritage resources. The site lies outside any identified heritage resources but to the north of the land west of the A51 is a conservation area within Dosthill.
		3	<u>Solution Required for the Development of this Option</u>
		4	The site would need to be sensitively designed and developed to maintain the setting of the nearby conservation area.
<b>Prudent Use of Natural Resources</b>	Land Classification	1	<u>Scoring</u> This Option is scored 3. In terms of agricultural land quality, the western 'B' Option is classified as Grade 3 Agricultural land and the eastern 'B' Option is classified as Grade 2 agricultural land
		2	As with all Growth Options, this Option lies outside of any proposed mineral extraction areas.



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Appraisal Criteria	Indicator	Score	Scoring Criteria
		3	<p><u>Solution Required for Development of this Option</u></p> <p>None identified</p>
		4	
	Renewable and Low-Carbon Forms of Energy Supply	1	<p><u>Scoring</u></p>
		2	<p>This Option scores 3 with moderate potential to readily and viably draw upon decentralised and renewable/ low carbon forms of energy supply systems.</p>
		3	<p>Most wind turbines start generating electricity at wind speeds of around 4-5 metres per second (m/s), (10 miles per hour); generate maximum 'rated' power at around 15 m/s (30mph); and shut down to prevent storm damage at 25 m/s or above (50mph). The BERR Windspeed Database indicates that this site has average windspeeds of: 6.2 m/s at 45m above ground level (agl); 5.6 m/s at 25m agl; and 4.8 m/s at 10m agl at the Dosthill portion of the site, and 6.5 m/s at 45m agl; 5.9 m/s at 25m agl; and 5.3 m/s at 10m agl at the Hockley portion of the site. This suggests that turbines on this site, particularly those smaller than 25m agl will be performing at the bottom of their operating range, and may therefore not be viable for this site. This would obviously be subject to more detailed analysis.</p>
		4	<p>The site is currently undeveloped, and capture of solar energy is not constrained by shading from surrounding buildings. However, the steep gradients of the site may cause overshadowing of parts of the site throughout the day.</p>
			<p>The clear site suggests that constraints on laying horizontal or vertical pipework for Ground Source Heat Pumps is also unlikely. In addition, the British Geological Survey identifies the area as having bedrocks of mudstone, siltstone and sandstone, which should not preclude the drilling of boreholes if necessary, though further detailed analysis is required.</p>
			<p>The site is in close proximity to several man-made lakes, which could potentially support the use of Water Source Heat Pumps for heating and cooling.</p>
<p>Access for the supply of biomass for community CHP systems is not constrained as the site is readily accessible via the A51 (Tamworth Road). The site is also located at the edge of the existing conurbation, and the extensive surrounding agricultural land could potentially provide a source of biomass (e.g. willow or switch grass) within 5 miles of the development.</p>			
<p>There is no known existing infrastructure for decentralised/renewable energy for the development to</p>			

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Appraisal Criteria	Indicator	Score	Scoring Criteria
			<p>connect to.</p> <p><u>Solution Required for the development of this Option</u></p> <p>Given the scale of this Development Option, consideration should be given to the potential for the incorporation of renewable and low-carbon forms of energy supply as part of this Option.</p>

### 3. Deliverability

Appraisal Criteria	Indicator	Score	Scoring Criteria
Deliverability	Ownership	1	<u>Scoring</u> This Option scores 3. An outline planning application for the western parcel of land was submitted in December 2008 comprising residential development, construction of access roads, associated works and landscaping but this was subsequently withdrawn. Information was unable to be obtained regarding the owner aspirations of the eastern parcel of the Growth Option. <u>Solution Required for the Development of this Option</u> Owner aspirations should be obtained for the eastern parcel of the Growth Option
		2	
		3	
		4	
	Physical Constraints  <i>(including an assessment of landform, potential for pollution or contamination, drainage ditches, pylons, known underground utilities infrastructure requiring safeguarding / re-routing etc)</i>  <i>(note – other site suitability indicators such as policy and other environmental restrictions and impacts are considered separately above)</i>	1	<u>Scoring</u> This Growth Option scores 3 as it has generally limited constraining physical site features. That said, part of the site at Hockley is quite undulating and pylons run across the south eastern section of the this land parcel. For land west of the A51 at Dosthill, part of the land appears to consist of made ground. <u>Solution Required for this Development</u> Careful siting and design of development to address impacts arising from the routing of Pylons across part of the site.
		2	
		3	
		4	
	Environmental Conditions  <i>(including quality of surrounding environment, nature of surrounding uses and associated potential for amenity impacts such as noised, dust and smell)</i>	1	<u>Scoring</u> The Growth Option comprises two parcels of land. The eastern parcel adjoins Dosthill to the north. To the east is a clay pit, to the west are multiple bodies of water within the Local Nature Resrve and to the south is open agricultural fields. The second parcel of land adjoins Hockley to the north. To the west
		2	

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Appraisal Criteria	Indicator	Score	Scoring Criteria
		3	<p>of the site are agricultural fields and a clay pit and to the south and east are open fields and the M5 motorway.</p>
		4	<p>Due to the location of both parcels of land to constraining features, this Option scores 2. The western parcel of land is situated adjacent to a clay pit (separated by the A51, Tamworth Road).</p> <p>The eastern parcel of land is situated to the east of the clay pit but is separated by Whateley Lane and open fields. To the east of the parcel of land is the M5 motorway. There is a potential clay extraction site located adjacent to the eastern parcel of land and this could cause negative amenity impacts if it becomes operational in the future.</p> <p><u>Solution Required for this Growth Option</u></p> <p>The nearby clay pit and M5 motorway could detrimentally affect the amenity of the site at Hockley. Screening/Buffering the two parcels of land could mitigate any noise dust and the visual impact of the clay pit and motorway.</p>

## Tamworth Development and Infrastructure Study: Sustainability Assessment

### Option C: Lichfield (Land North of Anker Valley)

#### 2. Physical and Community Infrastructure

Appraisal Criteria	Indicator	Score	Scoring Criteria
<b>Physical Infrastructure Capacity and Impact</b>	Capacity of / impact on existing highways infrastructure, Accessing Tamworth Centre  <i>(based on: volume over capacity results extracted from the Tamworth Traffic Model, 2007 base data. Assessment based on the most direct access to Tamworth Town Centre from the Area where the Option is located)</i>	0	<u>Scoring</u>  This Option scores 1 on this assessment. This Option impacts on the A513 and the B5493 Ashby Road junction (Plan A3 ref. 1). The impact would result in an over capacity of 100% during the peak period and would be difficult to improve.
		1	This junction is surrounded by existing development, with limited space. In addition, the constraints imposed by the railway lines lead to a situation where there are no viable alternative routes. This junction will therefore require upgrading, or an alternative junction solution implemented, should Option C be taken forward.
		2	<u>Solution Required for Development of this Option</u>
		3	A new route, which would have to cross the railway, or a difficult junction improvement at the junction of the A513 and B5493 Ashby Road, will be required for the development of this Option. Within the LTP there is a crossing of the railway (the Anker Valley link), which would provide a solution to the capacity problem, although the cost of providing a solution to this is high. In addition the link would require to cross land not part of development option C, and therefore making implementation of the link harder.
		4	
Capacity of / impact on existing highways infrastructure, Accessing the Strategic Road Network  <i>(based on: volume over capacity results extracted from the Tamworth Traffic</i>	1	<u>Scoring</u>  This Option scores 1 on this assessment. This Option impacts on the A513 and the B5493 Ashby Road junction (Plan A1 ref. 1), the A453 and A4091 Fazeley Road junction (Plan A1 ref. 4) and the access to Ventura Park from Bittercote Drive (Plan A1 ref. 5). The impact would result in an over capacity of 100% during peak period and would be difficult to improve.	
	2		

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Appraisal Criteria	Indicator	Score	Scoring Criteria
	<i>Model, 2007 base data. Assessment based on the most direct access to the Strategic Road Network from the Area where the Option is located)</i>	3	<p>Capacity Constraints - The junction of the A513 and B5493 (Plan A3 ref.1) is surrounded by existing development, with limited space. In addition, the constraints imposed by the railway lines lead to a situation where there are no viable alternative routes. This junction will therefore require upgrading, should Option C be developed. The junctions at Map ref. 4 and Map ref. 5 are further from Option C, on the opposite side of the town centre from the development. Therefore while the quickest route to the strategic road network leads to an impact on these constraint points, there are several alternative routes, and therefore the impact on these critical junctions is likely to be less, due to the potential for traffic distribution across the network when accessing the strategic network.</p> <p>The fact that traffic is likely to have to cross the Town Centre to access the strategic road network is a significant dis-benefit to development to the immediate north of Tamworth Centre. Development Option C falls into this category.</p> <p><u>Solution Required for Development of this Option</u></p> <p>A new route, which would have to cross the railway, or a difficult junction improvement at the junction of the A513 and B5493 Ashby Road, will be required for the development of this Option. Within the LTP there is a crossing of the railway (the Anker Valley link), which would provide a solution to the capacity problem, although the cost of providing a solution to this is high. In addition the link would require to cross land not part of development option C, and therefore making implementation of the link harder.</p>
		4	
	Availability of / impact on potable water supply facilities	1	<u>Scoring</u>
		2	This Option scores 2 on this assessment de to the level of new and enhanced infrastructure required if the site is developed. Compared with a number of other Growth Options, the extent of new potable water supply infrastructure required is on a slightly larger scale.
		3	<u>Solution Required for the Development of this Option</u>
		4	This site would require approximately 1.1KM of new 300mm diameter water main to be laid off-site as well as possibly refurbishing/upgrading the existing booster plans and associated mechanical/electrical kit at Two Gates booster site.

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Appraisal Criteria	Indicator	Score	Scoring Criteria
	Availability of / impact on waste water treatment facilities	1	<u>Scoring</u>
		2	All Growth Options have been given a score of 4 due to the level of available strategic waste water treatment infrastructure capacity and resultant likely limited impact the development would have on these facilities. Severn Trent Water deals with waste water treatment for the whole of the study area. The infrastructure provider advises that there will likely be sufficient capacity in existing waste water treatment facilities to serve this Development Option.
		3	<u>Solution Required for Development of this Option</u>
		4	None identified
	Availability of / impact on waste treatment infrastructure	1	<u>Scoring</u>
		2	This Option is within Staffordshire Waste Authority's catchment. The nearest transfer station is outside the study boundary but currently serves Tamworth and Lichfield and the provider has identified that existing facilities will be able to accommodate this Option. Due to the large catchment of this transfer station, all Growth Options within the study area have been given a score of 3.
		3	<u>Solution Required for Development of this Option</u>
		4	None specifically required although a planning application has recently been submitted for a new transfer station at Lower House Farm (North Warwickshire) which will serve both the Warwickshire and Staffordshire Authority areas and will further enhance available capacity to accommodate additional dwellings throughout the study area.

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Appraisal Criteria	Indicator	Score	Scoring Criteria
	Availability of / impact on energy infrastructure	1	<p><u>Scoring</u></p> <p>All Growth Options score 4 due to its minimal impact on the energy infrastructure and there being adequate capacity to accommodate the level of growth anticipated. E-on (the main electricity provider within the study area) identifies that the level of growth anticipated in any single Growth Options would, in relative terms, not represent a very substantial load in terms of electricity supply. The provider advises that there would be no major electricity infrastructure problems in any of the Growth Option locations identified.</p> <p><u>Solution Required for Development of this Option</u></p> <p>None identified</p>
2			
3			
4			
<b>Community Infrastructure Accessibility</b>  (Strategic Public Transport Facilities)	Proximity to key existing public transport hubs (i.e. bus and rail stations within Tamworth Town Centre)	1	<p><u>Scoring</u></p> <p>Option C is located in close proximity to Tamworth rail station. Currently the station cannot be accessed from the north east side of the station. Therefore with the current situation walking and cycling is only accessible via the B5493.</p> <p>Option C is less than 15 minute cycle / public transport and private vehicle travel time from Tamworth station. Walk time is higher than 15 minutes. The station is accessed via the B5493.</p> <p><u>Solution Required for Development of Option</u></p> <p>Satisfactory walk and cycle provision along the B5493 will be required to allow access to the station.</p>
		2	
		3	
		4	
	Accessibility to main bus routes  <i>(i.e. a route that has a frequency of 2 per hour or more in the AM peak period, between 07:00 – 09:00)</i>	1	<p><u>Scoring</u></p> <p>This Option scores 2 for this assessment. The more frequent services (greater than 4 services per hour) that operate around the Tamworth area currently do not operate to the north of the town centre. This is due to the smaller level of housing and employment situated to the north of Tamworth Centre.</p> <p><u>Solution Required for Development of this Option</u></p> <p>Significant levels of housing growth could increase the potential to extend bus services within this part of the study area. In order to achieve this, bus facilities such as stops and shelters would need to be</p>
2			
3			
4			

Option C: Lichfield (Land North of Anker Valley)



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Appraisal Criteria	Indicator	Score	Scoring Criteria
			provided. A contribution to subsidise new / extended services may also need to be considered, in consultation with the relevant bus operator.
<b>Community Infrastructure Accessibility</b>  (Education)	Accessibility to Nurseries / Pre-School facilities	1	<u>Scoring</u>  The accessibility for Nursery facilities for Option C scores 2. Plan B2 shows the public transport accessibility for Nurseries. This represents the public transport access time, including wait time. The walk time was calculated from the walk distance to the closest destination of this type from Option C. The lowest access time was the time that was used for the assessment score.
		2	The closest current facilities are located to the south along the B5493 and to the north at Wigginton. The closest facility is a distance of 1140m, which is a walk access time of 14 minutes. While these are reasonably close to Option C, access is limited by the barrier of the railway line between Option C and the closest provision, with the only major access across the railway via the B5493.
		3	<u>Solution Required for Development of this Option</u>  Satisfactory walk links along the B5403 should be provided. In addition, this destination type has the potential to be provided on site, should the development site permit this to be a feasible option. Implementation of on-site nursery provision as part of the delivery of this Development Option would elevate the assessment score to 4.
		4	
	Accessibility to Primary Schools	1	<u>Scoring</u>  The accessibility for Primary School facilities for Option C scores 3. Plan B3 shows the public transport accessibility for Primary Schools. This represents the public transport access time, including wait time. The walk time was also calculated from the walk distance to the closest destination of this type from Option C. The lowest access time was the time that was used for the assessment score.
		2	The closest current facilities are located to the south along the B5493 and to the north at Wigginton. The closest facility is a distance of 1013m, which is a walk access time of 13 minutes. While these are reasonably close to Option C, access is limited by the barrier of the railway line between Option C and the closest provision, with the only major access across the railway via the B5493.
		3	

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Appraisal Criteria	Indicator	Score	Scoring Criteria
		4	<p><u>Solution Required for Development of this Option</u></p> <p>Satisfactory walk links along the B5403 should be provided. In addition, this destination type has the potential to be provided on site, should the development site permit this to be a feasible option. Implementation of on-site primary school provision as part of the delivery of this Development Option would elevate the assessment score to 4.</p>
	<p>Accessibility to Secondary Schools</p> <p><i>(assessment based on walk times along the road network using 'Geoconcept' software and 'Accession' software to define public transport accessibility)</i></p>	1	<p><u>Scoring</u></p> <p>The accessibility for Secondary School facilities for Option C scores 4. Plan B4 shows the public transport accessibility for Secondary Schools. This represents the public transport access time, including wait time. The walk time was also calculated from the walk distance to the closest destination of this type from Option C. The lowest access time of either public transport or walking was the value that was used for the assessment score.</p>
		2	<p>The closest current facility is located to the south along the B5493. The closest facility is a distance of 1234m, which is a walk access time of 15 minutes. While this is reasonably close to Option C, access is limited by the barrier of the railway line between Option C and the closest provision, with the only major access across the railway via the B5493.</p>
		3	<p><u>Solution Required for Development of this Option</u></p> <p>Satisfactory walk links along the B5403 should be provided.</p>
		4	
	<p>Accessibility to existing / planned Higher Education Centres</p> <p><i>(assessment based on walk times along the road network using 'Geoconcept' software and 'Accession' software to define public transport accessibility)</i></p>	1	<p><u>Scoring</u></p> <p>The accessibility for Higher Education facilities for Option C scores 4. Plan B5 shows the public transport accessibility for Higher Education. This represents the public transport access time, including wait time. The walk time was also calculated from the walk distance to the closest destination of this type from Option C. The lowest access time of either public transport or walking was the value that was used for the assessment score.</p>
		2	<p>The closest current facility is located to the south along the B5493. The closest facility is a distance of 1234m, which has a walk access time of 15 minutes. While this is reasonably close to Option C, access is limited by the barrier of the railway line between the site and the closest provision, with the</p>
		3	

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Appraisal Criteria	Indicator	Score	Scoring Criteria
		4	<p>only major access across the railway via the B5493.</p> <p><u>Solution Required for Development of this Option</u></p> <p>Satisfactory walk links along the B5403 should be provided.</p>
<p><b>Community Infrastructure Accessibility (Health)</b></p>	<p>Accessibility to GP Surgeries</p> <p><i>(assessment based on walk times along the road network using 'Geoconcept' software and 'Accession' software to define public transport accessibility)</i></p>	1	<p><u>Scoring</u></p>
		2	<p>The accessibility for GP facilities for Option C scores 2. Plan B6 shows the public transport accessibility for GP surgeries. This represents the public transport access time, including wait time. The walk time was also calculated from the walk distance to the closest destination of this type from Option C. The lowest access time of either public transport or walking was the value that was used for the assessment score.</p>
		3	<p>The closest current facility is located to the south along the B5493, to the south of the West Coast Main Line. The closest GP is a distance of 1660m, which has a walk access time of 21 minutes. While not outside DfT accessibility standards, the lack of GP facilities to the north of the West Coast Main Line limits accessibility to the north of Tamworth.</p>
		4	<p><u>Solution Required for Development of this Option</u></p> <p>The lack of a regular public transport service along the B5493 restricts the access to the nearest GP. Improving connections to services will improve the situation. This destination type has the potential to be provided on site, should the development size permit this to be a feasible option. Provision on this site would provide additional benefit for nearby existing residential development to the north of Tamworth. Implementation of on-site GP provision as part of the delivery of this Development Option would elevate the assessment score to 4.</p>
	<p>Accessibility to Hospitals</p> <p><i>(assessment based on walk times along the road network using 'Geoconcept' software and 'Accession' software to define public transport accessibility)</i></p>	1	<p><u>Scoring</u></p>
		2	<p>The accessibility for Hospital facilities scores 2. Plan B7 shows the public transport accessibility for local hospital facilities. This represents the public transport access time, including wait time. The walk time was also calculated from the walk distance to the closest destination of this type from Option C. The lowest access time of either public transport or walking was the value that was used for the assessment score.</p>
		3	<p>The closest current facility is located to at Mile Oak, to the south of Tamworth, and is located in Lichfield District. This hospital is a distance of 5316m from option C, which translates to a walk access time of 66 minutes, making public transport the only realistic option. The public transport access time</p>

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Appraisal Criteria	Indicator	Score	Scoring Criteria
		4	<p>is within the DfT recommended time; however this will require access across the town centre, requiring interchange at the town centre between services. In addition, the existing hospital facilities within Tamworth are limited, meaning that it is likely a hospital trip may require a more strategic level trip, limiting the viability of using public transport.</p> <p><u>Solution Required for Development of this Option</u></p> <p>The lack of a regular public transport service along the B5493 restricts the access. Enhanced connections to services will improve the situation.</p>
<p><b>Community Infrastructure Accessibility</b></p> <p>(Retail, leisure and Employment)</p>	<p>Accessibility to Tamworth Town Centre</p> <p><i>(assessment based on walk times along the road network using 'Geoconcept' software and 'Accession' software to define public transport accessibility)</i></p>	<p>1</p> <p>2</p> <p>3</p> <p>4</p>	<p><u>Scoring</u></p> <p>The accessibility for access to the town centre for Option C scores 3. Plan B8 shows the public transport accessibility for the Town Centre. This represents the public transport access time, including wait time. The walk time was also calculated from the walk distance to the closest destination of this type from Option C. The lowest access time of either public transport or walking was the value that was used for the assessment score.</p> <p>The town centre is accessed via the B5493, to the south of the West Coast Main Line. The walk distance is 1797m, which leads to a walk access time of 23 minutes. The proximity of Option A to the town centre leads a high level of accessibility. Public transport access time is less than 20 minutes.</p> <p><u>Solution Required for Development of this Option</u></p> <p>The walk and cycle time has the potential to be improved by providing improved facilities along the B5493.</p>
	<p>Accessibility to Local Centre Facilities</p> <p><i>(assessment based on walk times along the road network using 'Geoconcept' software and 'Accession' software to define public transport accessibility)</i></p>	<p>1</p> <p>2</p> <p>3</p>	<p><u>Scoring</u></p> <p>The accessibility for access to a local centre for Option C scores 4. Plan B9 shows the public transport accessibility for Local Centres. This represents the public transport access time, including wait time. The walk time was also calculated from the walk distance to the closest destination of this type from Option C. The lowest access time of either public transport or walking was the value that was used for the assessment score.</p> <p>The nearest area with local centre facilities is located to the west of the development option C, accessed along the B5493. The walk distance is 763m, which leads to a walk access time of 10 minutes.</p>

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Appraisal Criteria	Indicator	Score	Scoring Criteria
		4	<p><u>Solution Required for Development of this Option</u></p> <p>Satisfactory walk links along the B5403 should be provided. This destination type has the potential to be provided on site, should the development size permit this to be a feasible option. Implementation of on-site provision of local centre facilities would enhance accessibility (to the entirety of the development option) but the assessment score would remain as 4.</p>
	<p>Accessibility to existing recreation and leisure facilities (i.e. formal built sport and leisure facilities)</p> <p><i>(assessment based on walk times along the road network using 'Geoconcept' software and 'Accession' software to define public transport accessibility)</i></p>	1	<p><u>Scoring</u></p> <p>The accessibility for access to a leisure centre for Option C scores 3. Plan B10 shows the public transport accessibility to Leisure Centres. This represents the public transport access time, including wait time. The walk time was also calculated from the walk distance to the closest destination of this type from Option C. The lowest access time of either public transport or walking was the value that was used for the assessment score.</p>
		2	
		3	<p>Scoring - The nearest area with local centre facilities is located to the south along the B5493. The walk distance is 1013m, which leads to a walk access time of 13 minutes.</p>
		4	<p><u>Solution Required for Development of this Option</u></p> <p>Satisfactory walk links along the B5403 should be provided. This destination type has the potential to be provided on site, should the development size permit this to be a feasible option. Implementation of on-site leisure and recreation facilities as part of the delivery of this Development Option would elevate the assessment score to 4.</p>
	<p>Accessibility to existing / planned major employment facilities</p> <p><i>(assessment based on walk times along the road network using 'Geoconcept' software and 'Accession' software to define public transport accessibility)</i></p>	1	<p><u>Scoring</u></p> <p>Plan B11 shows the public transport accessibility to employment centres. This represents the public transport access time, including wait time. The walk time was also calculated from the walk distance to the closest destination of this type from Option C. The lowest access time of either public transport or walking was the value that was used for the assessment score.</p>
		2	
		3	<p>Scoring - The accessibility for access to employment sites for Option C scores 2. The walk distance to the closest major employment provision is 2497m, which leads to a walk access time of 31 minutes. Employment facilities tended to be located to the south of the West Coast Rail Line, and close to the strategic road network. This leads to a disconnect between this development option and existing employment provision.</p>
		4	<p><u>Solution Required for Development of Option C</u></p>

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Appraisal Criteria	Indicator	Score	Scoring Criteria
			The lack of a frequent public transport service along the B5493 restricts the access. Improving connections to services will improve the situation. Implementation of on-site major employment facilities as part of the delivery of this Development Option would elevate the assessment score to 4.
<b>Community Infrastructure Accessibility</b>  (Green Space)	Accessibility to existing major formal open space facilities (including sports pitches / school playing fields, formal parks and allotments)  <i>(assessment based on walk times along the road network using 'Geoconcept' software and 'Accession' software to define public transport accessibility)</i>	1	<u>Scoring</u>  The accessibility for access to major formal open space facilities for all Growth Options scores 3, with all having good accessibility to at least one type of existing formal open space facilities. Conversely however, it is understood that all Growth Options are deficient in terms of the quantitative and / or qualitative capacity of existing accessible open space facilities.  <u>Solution Required for Development of this Option</u>  Improvements required to enhance the capacity of open space provision to serve this Development Option. This destination type has the potential to be provided on site. Implementation of on-site major open space provision provided as part of the delivery of this Development Option would elevate the assessment score to 4.
		2	
		3	
		4	
<b>Community Infrastructure Capacity</b>  (Education)	Capacity of accessible Primary Schools  <i>(note – 'accessible' is defined as a facility scoring either 2,3 or 4 against the criteria applied to measure accessibility)</i>	1	<u>Scoring</u>  This Option scores 2 due to the likely need for a new primary school to be provided should this Option be developed. The general capacity of primary schools within the area is limited. Due to this being a changing variable, it is difficult to assess the capacity at each school and all the primary schools in the Tamworth area are therefore scored equally.  <u>Solution Required for the Development of this Option</u>  Staffordshire County Council Children and Lifelong Learning Directorate's current generic approach is that a development of circa 1,000 houses would trigger the need for a new primary school to serve the development. This destination type has the potential to be provided on site. Implementation of on-site provision of a new primary school would elevate the assessment score to 4.
		2	
		3	
		4	

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Appraisal Criteria	Indicator	Score	Scoring Criteria
	<p>Capacity of accessible Secondary Schools</p> <p><i>(note – ‘accessible’ is defined as a facility scoring either 2,3 or 4 against the criteria applied to measure accessibility)</i></p>	1	<u>Scoring</u>
		2	All Growth Options score 3 due to the likely available capacity across the study area to accommodate additional secondary school place requirements arising from this Option. Due to this being a changing variable however, it is difficult to assess the capacity at each school and all the secondary schools in the study are therefore scored equally.
		3	<u>Solution Required for the Development of this Option</u>
		4	None specifically identified although Staffordshire has made a successful bid for early entry into the Building Schools for the Future Programme. Capacity of secondary schools across the county is low at present. However, a £100M bid to transform secondary education in Tamworth was approved by the DCSF in June 2008. Five secondary schools will remain open in Tamworth.
	<p>Capacity of accessible existing / planned Higher Education Centres</p> <p><i>(note – ‘accessible’ is defined as a facility scoring either 2,3 or 4 against the criteria applied to measure accessibility)</i></p>	1	<u>Scoring</u>
		2	All Growth Options score 3 due to the likely available capacity across the study area to accommodate additional Higher Education place requirements arising from this Option. Due to this being a changing variable, it has been advised that it is difficult to assess the likely future capacity of Tamworth and Lichfield College.
		3	<u>Solution Required for the Development of this Option</u>
		4	None identified. The successful bid to the Building Schools for the Future Programme will lead to the creation of a post 16 centre and a new academy
<p><b>Community Infrastructure Capacity</b></p> <p><b>(Health)</b></p>	<p>Capacity of accessible GP Surgeries</p> <p><i>(note – ‘accessible’ is defined as a facility scoring either 2,3 or 4 against the criteria applied to measure accessibility)</i></p>	1	<u>Scoring</u>
		2	For the purposes of this study, and in the absence of other available information, all Growth Options have been given an assessment score of 2. Although it is understood that GP surgeries within the study area currently have some available capacity, Staffordshire Primary Care anticipates that these facilities will need to be enhanced and new facilities provided given the scale of development proposed.
		3	
		4	<p><u>Solution Required for the Development of this Option</u></p> <p>This destination type has the potential to be provided on site. Implementation of on-site GP Surgery</p>

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Appraisal Criteria	Indicator	Score	Scoring Criteria
			provision could be provided as part of the delivery of this Development Option and would elevate the assessment score to 4.



**2. Impact on Environmental Resources**

Appraisal Criteria	Indicator	Score	Scoring Criteria
<b>Effective Protection and Enhancement of the Environment</b>	Degree of Flood Risk	0	<p><u>Scoring</u></p> <p>This Option scores 4 due to its location outside of flood risk zones (i.e. it is within Flood Zone 1 which is a low risk of flooding)</p> <p><u>Solution for Development of this Option</u></p> <p>None identified.</p>
		1	
		2	
		3	
		4	
	Impact on Nature Conservation Resources and Objectives	0	<p><u>Scoring</u></p> <p>This Option scores 4 due to its location outside of any national or local nature conservation designation.</p> <p><u>Solution for the Development of this Option</u></p> <p>None identified although a strategy to maintain and enhance nature conservation and biodiversity should be progressed as part of all Growth Options.</p>
		1	
		2	
		3	
		4	
	Impact on Green Belt and Landscape	1	<p><u>Scoring</u></p> <p>Option A is scored 3 due to it not creating any direct or indirect impacts on the Green Belt but with no ability to improve a currently degraded landscape. The site is located outside the Green Belt.</p> <p><u>Solution for the Development of this Option</u></p>
		2	

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Appraisal Criteria	Indicator	Score	Scoring Criteria
		3	None identified
		4	
	Impact on Major Open Space Facilities (including sports pitches / school playing fields, formal parks and allotments)	1	<u>Scoring</u>
		2	Growth Option C scores 4. The development of this site would not lead to any direct loss of defined open space facilities considered under this assessment criteria.
		3	<u>Solution Required for the Development of this Option</u> See comments regarding potential on-site improvements to major open space provision under assessment of accessibility to major open space facilities.
		4	
	Impact on Heritage Resources (e.g. conservation areas, listed buildings, scheduled ancient monuments and, historic parks and gardens)	1	<u>Scoring</u>
		2	This Option scores 4 due to having no impact on Heritage Resources
		3	<u>Solution Required for the Development of this Option</u>
		4	None identified
<b>Prudent Use of Natural Resources</b>	Land Classification	1	<u>Scoring</u>
		2	This Option scores 3 on this assessment. In terms of impact on agricultural land quality, the site comprises of agricultural grade 2 land. As with all Growth Options, this Option lies outside any proposed mineral extraction areas.

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Appraisal Criteria	Indicator	Score	Scoring Criteria
		3	<u>Solution for the Development of this Option</u>
		4	None identified
	Renewable and Low-Carbon Forms of Energy Supply	1	<u>Scoring</u>
		2	<p>This Option scores 3 on this assessment. This site is adjacent to site A, and therefore also has moderate potential to readily and viably draw upon decentralised and renewable / low-carbon forms of energy supply systems:</p> <p>Most wind turbines start generating electricity at wind speeds of around 4-5 metres per second (m/s), (10 miles per hour); generate maximum 'rated' power at around 15 m/s (30mph); and shut down to prevent storm damage at 25 m/s or above (50mph). The BERR Windspeed Database indicates that this site has average windspeeds of: 6.2 m/s at 45m above ground level (agl); 5.6 m/s at 25m agl; and 4.8 m/s at 10m agl. This suggests that turbines on this site, particularly those smaller than 25m agl will be performing towards the bottom of their operating range, and may therefore not be viable for this site. This would obviously be subject to more detailed analysis.</p>
		3	<p>The site is currently undeveloped, and capture of solar energy is not constrained by shading from surrounding buildings.</p> <p>The agricultural nature of the site suggests that constraints on laying horizontal or vertical pipework for Ground Source Heat Pumps is unlikely. In addition, the British Geological Survey identifies the area as having bedrocks of mudstone, siltstone and sandstone, which should not preclude the drilling of boreholes if necessary, though further detailed analysis is required.</p>
		4	<p>Access for the supply of biomass for community CHP systems is not constrained as the site is readily accessible via the B5493 (Ashby Road), and the extensive surrounding agricultural land could potentially provide a source of biomass (e.g. willow or switch grass) within 5 miles of the development.</p>
			<p>Unlike site A, however, this site does not have access to a body of water, making hydropower generation and Water Source Heat Pumps unviable.</p> <p>There is no known existing infrastructure for decentralised/renewable energy for the development to connect to.</p>

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Appraisal Criteria	Indicator	Score	Scoring Criteria
			<p><u>Solution for the Development of this Option</u></p> <p>Given the scale of this Development Option, consideration should be given to the potential for the incorporation of renewable and low carbon forms of energy supply as part of this Option.</p>

### 3. Deliverability

Appraisal Criteria	Indicator	Score	Scoring Criteria
Deliverability	Ownership	1	<p><u>Scoring</u></p> <p>Option C scores 4 due to the sites submission to the SHLAA recently undertaken by Lichfield Council. It is therefore assumed that the landowners positively support/are actively pursuing housing development.</p> <p><u>Solution for the Development of this Option</u></p> <p>None identified</p>
		2	
		3	
		4	
	Physical Constraints <i>(including an assessment of landform, potential for pollution or contamination, drainage ditches, pylons, known underground utilities infrastructure requiring safeguarding / re-routing etc)</i>  <i>(note – other site suitability indicators such as policy and other environmental restrictions and impacts are considered separately above)</i>	1	<p><u>Scoring</u></p> <p>This Option scores 3 on this assessment due to its generally flat form and comprising of open agricultural fields. There are no electricity pylons within the site and the site is at present agricultural land so there is minimal potential for contamination issues. There is a minor watercourse running along the north eastern boundary of the site and the Environment Agency may need access to the watercourse. Also, ridgeline runs through the site and in order to minimise landscape impacts, an overall reduced dwelling capacity may be required.</p> <p><u>Solution Required for the Development of this Option</u></p> <p>The Environment Agency may need access (a 20m buffer zone) to the watercourse.</p>
		2	
		3	
		4	
	Environmental Conditions <i>(including quality of surrounding environment, nature of surrounding uses and associated potential for amenity impacts such as noised, dust and smell)</i>	1	<p><u>Scoring</u></p> <p>This Option scores 3 on this assessment. The Option is situated to the north of Tamworth urban area. The site is adjacent to open fields to the north and east of the site. The existing Birmingham – Derby railway line may cause noise disturbance to any resultant development although impacts may be</p>
		2	

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Appraisal Criteria	Indicator	Score	Scoring Criteria
		3	limited due to the railway being in a cutting in the vicinity of this Growth Option. <u>Solution required for the Development of this Option</u>
		4	Consider need for screening/buffering the site from the railway line to mitigate any potential noise impact if necessary.

## Tamworth Development and Infrastructure Study: Sustainability Assessment

### Option D: North Warwickshire (Land West of Polesworth)

#### Physical and Community Infrastructure

Appraisal Criteria	Indicator	Score	Scoring Criteria
<b>Physical Infrastructure Capacity and Impact</b>	Capacity of / impact on existing highways infrastructure, Accessing Tamworth Centre  <i>(based on: volume over capacity results extracted from the Tamworth Traffic Model, 2007 base data. Assessment based on the most direct access to Tamworth Town Centre from the Area where the Option is located)</i>	0	<u>Scoring</u>
		1	This Option scores 3 on this assessment. This Option impacts the A500 and Abbey Road roundabout junction (Plan A4 ref. 3). The resultant impact would result in an over capacity of 100% during the evening peak period. This junction will require upgrading, or alternative solution implemented, should development of this Option be taken forward. This junction will likely be difficult to improve however, being surrounded by existing development with limited space.
		2	The junction of the A500 and Abbey Road has the potential for improvements in capacity. In addition, the road network in the area leads to the potential of alternative routes being taken. This junction may require upgrading, should Option D be developed.
		<b>3</b>	<u>Solution Required for Development of this Option</u>
		4	Some capacity improvement may be required at the A500 / Abbey Road Junction. The cost of providing a solution is likely to be of a medium level.
	Capacity of / impact on existing highways infrastructure, Accessing the Strategic Road Network  <i>(based on: volume over capacity results extracted from the Tamworth Traffic</i>	1	<u>Scoring</u>
		2	This Option scores 3. This Option impacts on junction 10 of the M42 (Plan A4 ref. 10). The resultant impact would result in an over capacity of 100% during the peak period. This constraint point does not have severe limiting factors on its improvement.

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Appraisal Criteria	Indicator	Score	Scoring Criteria
	<i>Model, 2007 base data. Assessment based on the most direct access to the Strategic Road Network from the Area where the Option is located)</i>	3	The junction is a major access point to the strategic road network, and caters for a wide range of traffic, and will be considered an access point where capacity will need to be maintained by the Highways Agency. Junction 10 may therefore require assessment and potential upgrading, should Option D be developed.
		4	<p><u>Solution Required for Development of this Option</u></p> <p>Some capacity improvement may be required at junction 10. The cost of providing a solution is likely to be of a medium level, although any major capacity improvements would be costly.</p>
	Availability of / impact on potable water supply facilities	1	<u>Scoring</u>
		2	Option D scores 3 due to the low level requirement for new/enhanced infrastructure.
		3	<p><u>Solution Required for Development Option</u></p> <p>A booster plant refurbishment/upgrade to the existing booster plant and associated mechanical/electrical kit at Glascote booster site. There may also be a requirement for some minor offsite main-laying.</p>
		4	
	Availability of / impact on waste water treatment facilities	1	<u>Scoring</u>
		2	<p>All Growth Options have been given a score of 4 due to the level of available strategic waste water treatment infrastructure capacity and resultant likely limited impact the development would have on these facilities. Severn Trent Water deals with waste water treatment for the whole of the study area. The infrastructure provider advises that there will likely be sufficient capacity in existing waste water treatment facilities to serve this Development Option.</p>
		3	<u>Solution Required for Development of this Option</u>
			None identified



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Appraisal Criteria	Indicator	Score	Scoring Criteria
		4	
	Availability of / impact on waste treatment infrastructure	1	<p><u>Scoring</u></p> <p>This Option is within the Warwickshire Waste Authority’s catchment. The nearest transfer station is outside the study boundary but currently serves Tamworth and Lichfield and the provider has identified that existing facilities will be able to accommodate this Option. Due to the large catchment of this transfer station, all Growth Options within the study area have been given a score of 3.</p> <p><u>Solution Required for Development of this Option</u></p> <p>None specifically required although a planning application has recently been submitted for a new transfer station at Lower House Farm (North Warwickshire) which will serve both the Warwickshire and Staffordshire Authority areas and will further enhance available capacity to accommodate the additional dwellings throughout the study area.</p>
		2	
		3	
		4	
	Availability of / impact on energy infrastructure	1	<p><u>Scoring</u></p> <p>All Growth Options score 4 due to its minimal impact on the energy infrastructure and there being adequate capacity to accommodate the level of growth anticipated. E-on (the main electricity provider within the study area) identifies that the level of growth anticipated in any single Growth Options would, in relative terms, not represent a very substantial load in terms of electricity supply. The provider advises that there would be no major electricity infrastructure problems in any of the Growth Option locations identified.</p> <p><u>Solution Required for Development of this Option</u></p> <p>None identified</p>
		2	
		3	
		4	

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Appraisal Criteria	Indicator	Score	Scoring Criteria
<b>Community Infrastructure Accessibility</b>  (Strategic Public Transport Facilities)	Proximity to key existing public transport hubs (i.e. bus and rail stations within Tamworth Town Centre)	1	<u>Scoring</u>
		2	The closest key existing public transport hub to Option D is Wilnecote Station. This station is located on the Birmingham to Nottingham line. Option D is less than 15 minute cycle / public transport and private vehicle travel time from Wilnecote station, and therefore scores 3. Walk time is higher than 15 minutes.
		3	<u>Solution Required for Development of this Option</u>
		4	Improving the level of access to the other main transport hubs, particularly Tamworth Rail station, will provide a wider choice for strategic trips.
	Accessibility to main bus routes  <i>(i.e. a route that has a frequency of 4 per hour or more in the AM peak period, between 07:00 – 09:00)</i>	1	<u>Scoring</u>
		2	The accessibility to main bus routes for this Option scores 3. Frequent services (greater than 4 services per hour) currently operate along the B5000 Tamworth road, and could potentially be extended to serve Option D.
		3	<u>Solution Required for Development of Option D</u>
		4	The improvement of access to public transport in the Polesworth area, building on the existing higher frequency services that operate near Option D, would improve the current situation. In order to achieve this, bus facilities such as stops and shelters would need to be provided. A contribution to subsidise new / extended services may also need to be considered, to be agreed with the relevant bus operator.
<b>Community Infrastructure Accessibility</b>  (Education)	Accessibility to Nurseries / Pre-School facilities	1	<u>Scoring</u>
		2	The accessibility for Nursery facilities for Option D scores 2. Plan B2 shows the public transport accessibility for Nurseries. This represents the public transport access time, including wait time. The walk time was calculated from the walk distance to the closest destination of this type from Option D. The lowest access time was the time that was used for the assessment score.
		3	<u>Solution Required for the Development of this Option</u>  The closest current facilities are located to the east of Option D in the Stoneydelph area. The closest

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Appraisal Criteria	Indicator	Score	Scoring Criteria
		4	<p>facility is a distance of 1917m, which is a walk access time of over 30 minutes. Therefore public transport access is required to allow access within 24 minutes.</p> <p>The current provision is located on the opposite side of the M42 to Option D, which represents a considerable barrier. Improvements to public transport in the Polesworth area would be required to improve access time. In addition, this destination type has the potential to be provided on site, should the development site permit this to be a feasible option. Provision on site would benefit the surrounding existing development. Implementation of on-site nursery provision as part of the delivery of this Development Option would elevate the assessment score to 4.</p>
	Accessibility to Primary Schools	1	<p><u>Scoring</u></p> <p>The accessibility for Primary School facilities for Option D scores 4. Plan B3 shows the public transport accessibility for Primary Schools. This represents the public transport access time, including wait time. The walk time was also calculated from the walk distance to the closest destination of this type from Option D. The lowest access time was the time that was used for the assessment score. The closest facility is a distance of 742m, which is a walk access time of 9 minutes.</p>
		2	
		3	<p><u>Solution Required for Development of this Option</u></p> <p>Ensuring good walk links exist between Option D and the local provision would give a high level of accessibility, in a sustainable form, for this option. In addition, this destination type has the potential to be provided at Option D, should the development site permit this to be a feasible option. Implementation of on-site provision of primary school facilities would enhance accessibility (to the entirety of the development option) but the assessment score would remain as 4.</p>
		4	
	Accessibility to Secondary Schools	1	<p><u>Scoring</u></p> <p>The accessibility for Secondary School facilities for Option D scores 4. Plan B4 shows the public transport accessibility for Secondary Schools. This represents the public transport access time, including wait time. The walk time was also calculated from the walk distance to the closest destination of this type from Option D. The lowest access time of either public transport or walking was the value that was used for the assessment score. The closest current facility is located in</p>
		2	

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Appraisal Criteria	Indicator	Score	Scoring Criteria	
		3	Polesworth with a distance of 542m, which is a walk access time of 7 minutes. <u>Solution Required for Development of this Option</u>	
		4	Ensuring good walk links exist between Option D and the local provision would give a high level of accessibility, in a sustainable form, for this option.	
	Accessibility to existing / planned Higher Education Centres	1	<u>Scoring</u> The accessibility for Higher Education facilities for Option D scores 2. Plan B5 shows the public transport accessibility for Higher Education. This represents the public transport access time, including wait time. The walk time was also calculated from the walk distance to the closest destination of this type from Option D. The lowest access time of either public transport or walking was the value that was used for the assessment score.	
		2		
		3	The closest facility is a distance of 5866m, which has a walk access time of 73 minutes. This leads to public transport being the only viable option. <u>Solution Required for this Option</u>	
		4	Improvement of the public transport provision, particularly with regards to the connection between Polesworth and Tamworth town centre.	
	Community Infrastructure Accessibility (Health)	Accessibility to GP Surgeries	1	<u>Scoring</u>
			2	The accessibility for GP facilities for Option D scores 3. Plan B6 shows the public transport accessibility for GP surgeries. This represents the public transport access time, including wait time. The walk time was also calculated from the walk distance to the closest destination of this type from Option D. The lowest access time of either public transport or walking was the value that was used for the assessment score.
3			The closest current facility is located at Polesworth, to the east of Option D. The closest GP is a distance of 767m, which has a walk access time of 10 minutes.	
4			<u>Solution Required for Development of this Option</u> Ensuring good walk links between the site and the existing facilities will provide a high level of sustainable provision for Option D. This destination type has the potential to be provided on site,	

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Appraisal Criteria	Indicator	Score	Scoring Criteria
			should the development size permit this to be a feasible option. Implementation of on-site GP provision as part of the delivery of this Development Option would elevate the assessment score to 4.
	Accessibility to Hospitals	1	<p><u>Scoring</u></p> <p>Plan B7 shows the public transport accessibility for local hospital facilities. This represents the public transport access time, including wait time. The walk time was also calculated from the walk distance to the closest destination of this type from Option D. The lowest access time of either public transport or walking was the value that was used for the assessment score.</p>
		2	
		3	<p>The accessibility for Hospital facilities for Option D scores 1. The closest current facility is located to at Mile Oak, to the south of Tamworth, and is located in Lichfield District. This hospital is a distance of 6501m from option D, which translates to a walk access time of 81 minutes, making public transport the only realistic option. The public transport access time is outside DfT recommended time; due to the requirement to interchange at Tamworth centre, and the non-central location of the hospital services to the west of Tamworth. In addition, the existing hospital facilities within Tamworth are limited, meaning that it is likely a hospital trip may require a more strategic level trip, limiting the viability of using public transport.</p>
4	<p><u>Solution Required for Development of this Option</u></p> <p>Improvement of public transport connections from Polesworth will improve access, with cross town services serving the Fazeley area being of particular benefit.</p>		
<p><b>Community Infrastructure Accessibility</b></p> <p>(Retail, leisure and Employment)</p>	Accessibility to Tamworth Town Centre	1	<p><u>Scoring</u></p> <p>The accessibility for access to the town centre for Option D scores 2. Plan B8 shows the public transport accessibility for the Town Centre. This represents the public transport access time, including wait time. The walk time was also calculated from the walk distance to the closest destination of this type from Option D. The lowest access time of either public transport or walking was the value that was used for the assessment score.</p>
		2	
		3	<p>The town centre is accessed via the A5000, across the M42. The walk distance is 4964m, which leads</p>

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Appraisal Criteria	Indicator	Score	Scoring Criteria
		4	<p>to a walk access time of 62 minutes. Public transport access time is over 60 minutes access time for the majority of Option D.</p> <p><u>Solution Required for Development of this Option</u></p> <p>Improved public transport access to the town centre from the Polesworth area will improve the accessibility of Option D.</p>
	Accessibility to Local Centre Facilities	1	<p><u>Scoring</u></p> <p>Plan B9 shows the public transport accessibility for Local Centres. This represents the public transport access time, including wait time. The walk time was also calculated from the walk distance to the closest destination of this type from Option D. The lowest access time of either public transport or walking was the value that was used for the assessment score. The accessibility for access to a local centre for Option D scores 3. The nearest local centre facilities are provided at Polesworth. The walk distance is 974m, which leads to a walk access time of 12 minutes.</p> <p><u>Solution Required for Development of this Option</u></p> <p>Improvement of public transport in the Polesworth area, as well as providing good walk links from the site. Implementation of local centre provision as part of the delivery of this Development Option would elevate the assessment score to 4.</p>
		2	
		3	
		4	
	Accessibility to existing recreation and leisure facilities (i.e. formal built sport and leisure facilities)	1	<p><u>Scoring</u></p> <p>Plan B10 shows the public transport accessibility to Leisure Centres. This represents the public transport access time, including wait time. The walk time was also calculated from the walk distance to the closest destination of this type from Option D. The lowest access time of either public transport or walking was the value that was used for the assessment score.</p> <p>The accessibility for access to a leisure centre for Option D scores 2. The nearest area with leisure centre facilities is located in Glascote Heath. The walk distance is 2559m, which leads to a walk access time of 31 minutes. Public transport and walk times are similar for this measure.</p> <p><u>Solution Required for Development of this Option</u></p> <p>Improvement of public transport connections around the Polesworth area will improve this accessibility measure. This destination type has the potential to be provided on site, should the development size</p>
		2	
		3	
		4	

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Appraisal Criteria	Indicator	Score	Scoring Criteria
			<p>permit this to be a feasible option. Implementation of on-site formal recreation and leisure facility provision as part of the delivery of this Development Option would elevate the assessment score to 4.</p>
	<p>Accessibility to existing / planned major employment facilities</p>	1	<p><u>Scoring</u></p>
		2	<p>Plan B11 shows the public transport accessibility to employment centres. This represents the public transport access time, including wait time. The walk time was also calculated from the walk distance to the closest destination of this type from Option D. The lowest access time of either public transport or walking was the value that was used for the assessment score.</p>
		3	<p>The accessibility for access to employment sites for Option D scores 3. The walk distance to the closest major employment provision is 1214m, which leads to a walk access time of 16 minutes. There are significant employment areas to the south east of Tamworth, which is in close proximity to Option D. The Amington industrial estate is also to the west of Option D.</p>
		4	<p><u>Solution Required for Development of this Option</u></p> <p>Provide high quality walk and cycle links in the Polesworth area, particularly around junction 10 of the M42. Improvement of public transport to the from Polesworth to the south at the A5 will improve access to employment areas. Implementation of on-site major employment provision as part of the delivery of this Development Option would elevate the assessment score to 4.</p>
<p><b>Community Infrastructure Accessibility</b> <b>(Green Space)</b></p>	<p>Accessibility to existing major formal open space facilities (including sports pitches / school playing fields, formal parks and allotments)</p> <p><i>(assessment based on walk times along the road network using 'Geoconcept' software and 'Accession' software to define public transport accessibility)</i></p>	1	<p><u>Scoring</u></p>
		2	<p>The accessibility for access to major formal open space facilities for all Growth Options scores 3, with all having good accessibility to at least one type of existing formal open space facilities. Conversely however, it is understood that all Growth Options are deficient in terms of the quantitative and / or qualitative capacity of existing accessible open space facilities.</p>
		3	<p><u>Solution Required for Development of this Option</u></p> <p>Improvements required to enhance the capacity of open space provision to serve this Development Option. This destination type has the potential to be provided on site. Implementation of on-site major open space provision provided as part of the delivery of this Development Option would elevate the assessment score to 4.</p>

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Appraisal Criteria	Indicator	Score	Scoring Criteria
		4	
<b>Community Infrastructure Capacity</b>  (Education)	Capacity of accessible Primary Schools  <i>(note – ‘accessible’ is defined as a facility scoring either 2,3 or 4 against the criteria applied to measure accessibility)</i>	1	<u>Scoring</u>  This Option scores 2 due to the likely need for a new primary school to be provided should this Option be developed. The general capacity of primary schools within the area is limited (although this Option is within the Priority Area of Dordon Community Primary School where some capacity could be available). Due to this being a changing variable, it is difficult however to assess the capacity at each school and all the primary schools in the study area are therefore scored equally.
		2	
		3	
		4	<u>Solution Required for the Development of this Option</u>  As a current generic approach, it is understood that a development of circa 1,000 houses would trigger the need for a new primary school to serve the development. This destination type has the potential to be provided on site. Implementation of on-site provision of a new primary school would elevate the assessment score to 4.
	Capacity of accessible Secondary Schools  <i>(note – ‘accessible’ is defined as a facility scoring either 2,3 or 4 against the criteria applied to measure accessibility)</i>	1	<u>Scoring</u>
		2	All Growth Options score 3 due to the likely available capacity across the study area to accommodate additional secondary school place requirements arising from this Option (although the most accessible secondary school to this Option in Polesworth is currently at capacity). Due to this being a changing variable however, it is difficult to assess the capacity at each school and all the secondary schools in the study area are therefore scored equally.
		3	
		4	<u>Solution Required for the Development of this Option</u>  None specifically identified although Staffordshire has made a successful bid for early entry into the Building Schools for the Future Programme. Capacity of secondary schools across the county is low at present. However, a £100M bid to transform secondary education in Tamworth was approved by the DCSF in June 2008. Five secondary schools will remain open in Tamworth.
	Capacity of accessible existing / planned Higher Education Centres	1	<u>Scoring</u>  All Growth Options score 3 due to the likely available capacity across the study area to accommodate



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Appraisal Criteria	Indicator	Score	Scoring Criteria
	<p><i>(note – ‘accessible’ is defined as a facility scoring either 2,3 or 4 against the criteria applied to measure accessibility)</i></p>	2	additional Higher Education place requirements arising from this Option. Due to this being a changing variable, it has been advised that it is difficult to assess the likely future capacity of Tamworth and Lichfield College.
3		<u>Solution Required for the Development of this Option</u>	
4		None identified. The successful bid to the Building Schools for the Future Programme will lead to the creation of a post 16 centre and a new academy.	
<p><b>Community Infrastructure Capacity</b> <b>(Health)</b></p>	<p>Capacity of accessible GP Surgeries</p> <p><i>(note – ‘accessible’ is defined as a facility scoring either 2,3 or 4 against the criteria applied to measure accessibility)</i></p>	1	<u>Scoring</u>
		2	For the purposes of this study, and in the absence of other available information, all Growth Options have been given an assessment score of 2. Although it is understood that GP surgeries within the study area currently have some available capacity, Staffordshire Primary Care anticipates that these facilities will need to be enhanced and new facilities provided given the scale of development proposed.
		3	<u>Solution Required for the Development of this Option</u>
		4	This destination type has the potential to be provided on site. Implementation of on-site GP Surgery provision could be provided as part of the delivery of this Development Option and would elevate the assessment score to 4.

**2. Impact on Environmental Resources**

Appraisal Criteria	Indicator	Score	Scoring Criteria
Effective Protection and Enhancement of the Environment	Degree of Flood Risk	0	<p><u>Scoring</u></p> <p>This Option is scored 4 due to its location outside of flood risk zones (i.e. it is within Flood Zone 1 which is at low risk of flooding)</p> <p><u>Solution Required for the Development of this Option</u></p> <p>None identified.</p>
		1	
		2	
		3	
		4	
	Impact on Nature Conservation Resources and Objectives	0	<p><u>Scoring</u></p> <p>This Option scores 4 as it is located outside of any national or local nature conservation designations. It is also not adjacent to or in close proximity to any nature conservation designations.</p> <p><u>Solution for the Development of this Option</u></p> <p>None identified although a strategy to maintain and enhance nature conservation and biodiversity should be progressed as part of all Growth Options.</p>
		1	
		2	
		3	
		4	
	Impact on Green Belt and Landscape	1	<p><u>Scoring</u></p> <p>Option A is scored 3 due to it not creating any direct or indirect impacts on the Green Belt but with no ability to improve a currently degraded landscape. The site is located outside the Green Belt.</p> <p><u>Solution for the Development of this Option</u></p>
		2	

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Appraisal Criteria	Indicator	Score	Scoring Criteria
		3	None identified
		4	
	Impact on Major Open Space Facilities (including sports pitches / school playing fields, formal parks and allotments)	1	<u>Scoring</u>
		2	This Option scores 4. This Option would not result in the direct loss of any defined formal open space facilities considered under this assessment criteria.
		3	<u>Solution Required for the Development of this Option</u> See comments regarding potential on-site improvements to major open space provision under assessment of accessibility to major open space facilities.
		4	
	Impact on Heritage Resources (e.g. conservation areas, listed buildings, scheduled ancient monuments and, historic parks and gardens)	1	<u>Scoring</u>
		2	This Option scores 3 as it would not directly or indirectly impact on heritage resources. The site lies outside any identified heritage resources.
		3	<u>Solution Required for the Development of this Option</u>
		4	None identified
<b>Prudent Use of Natural Resources</b>	Land Classification	1	<u>Scoring</u>
		2	This Option scores 3. In terms of impact on agricultural land quality, the site is comprised partially of Grade 3 agricultural land. As with all Growth Options this Option lies outside of any proposed mineral extraction areas.

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Appraisal Criteria	Indicator	Score	Scoring Criteria
		3	<u>Solution Required for the Development of this Option</u>
		4	None identified
	Renewable and Low-Carbon Forms of Energy Supply	1	<u>Scoring</u>
		2	<p>Option D is scored 3 with moderate potential to readily and viably draw upon decentralised and renewable/low-carbon forms of energy supplies.</p> <p>Most wind turbines start generating electricity at wind speeds of around 4-5 metres per second (m/s), (10 miles per hour); generate maximum 'rated' power at around 15 m/s (30mph); and shut down to prevent storm damage at 25 m/s or above (50mph). The BERR Windspeed Database indicates that this site has average windspeeds of: 6.5 m/s at 45m above ground level (agl); 6 m/s at 25m agl; and 5.4 m/s at 10m agl. This suggests that turbines on this site, particularly those smaller than 25m agl will be performing towards the bottom of their operating range, and may therefore not be viable for this site. This would obviously be subject to more detailed analysis.</p>
		3	<p>The site is currently undeveloped, and capture of solar energy is not constrained by shading from surrounding buildings or geographical features.</p> <p>The agricultural nature of the site suggests that constraints on laying horizontal or vertical pipework for Ground Source Heat Pumps is unlikely. In addition, the British Geological Survey identifies the area as having a mixture of bedrocks including mudstone, siltstone and sandstone, which should not preclude the drilling of boreholes if necessary, though further detailed analysis is required.</p>
		4	<p>Access for the supply of biomass for community CHP systems is not constrained as the site is readily accessible via the B5000 (Tamworth Road) and the A5 (Watling Street), and the extensive surrounding agricultural land could potentially provide a source of biomass (e.g. willow or switch grass) within 5 miles of the development.</p> <p>The Coventry Canal runs in close proximity to the north eastern border of the site, making Water Source Heat Pumps a potentially viable prospect, subject to access for pipework across neighbouring land.</p> <p>There is no known existing infrastructure for decentralised/renewable energy for the development to connect to.</p>

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Appraisal Criteria	Indicator	Score	Scoring Criteria
			<p><u>Solution for the Development of this Option</u></p> <p>Given the scale of this Development Option, consideration should be given to the potential for the incorporation of renewable and low-carbon forms of energy supply as part of this Option</p>

## 3. Deliverability

Appraisal Criteria	Indicator	Score	Scoring Criteria
Deliverability	Ownership	1	<p><u>Scoring</u></p> <p>This Option is scored 3 due to being unable to obtain developer aspiration information for the all land included in the Option.</p> <p><u>Solution for this Development Option</u></p> <p>Obtain developer aspiration information.</p>
		2	
		3	
		4	
	Physical Constraints <i>(including an assessment of landform, potential for pollution or contamination, drainage ditches, pylons, known underground utilities infrastructure requiring safeguarding / re-routing etc)</i>  <i>(note – other site suitability indicators such as policy and other environmental restrictions and impacts are considered separately above)</i>	1	<p><u>Scoring</u></p> <p>This Option scores 4 due to there being no apparent site-constraining features. Site D comprises 3 parcels of land which are relatively flat open fields. There are no electricity pylons within the site and the site is at present agricultural land so there is minimal potential for contamination issues.</p> <p><u>Solution Required for Development of this Option</u></p> <p>None Identified</p>
		2	
		3	
		4	
	Environmental Conditions <i>(including quality of surrounding environment, nature of surrounding uses and associated potential for amenity impacts such as noise, dust and smell)</i>	1	<p><u>Scoring</u></p> <p>This Option scores 3. The three parcels of land are separated from the M42 motorway by minor roads and fields. Beyond this is the Tamworth built up area. To the north, east and south of the Option are open fields and existing residential development. There does not appear to be any major constraining features, however the northern parcel is intersected with an area of woodland.</p>
		2	

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Appraisal Criteria	Indicator	Score	Scoring Criteria
		3	<u>Solution Required for the Development of this Option</u> Consideration will need be given to the area of woodland intersecting the northern parcel of land.
		4	

## Tamworth Development and Infrastructure Study: Sustainability Assessment

### Option E: North Warwickshire (Land between Stoneydelph and M42)

#### Physical and Community Infrastructure

Appraisal Criteria	Indicator	Score	Scoring Criteria
<b>Physical Infrastructure Capacity and Impact</b>	Capacity of / impact on existing highways infrastructure, Accessing Tamworth Centre  <i>(based on: volume over capacity results extracted from the Tamworth Traffic Model, 2007 base data. Assessment based on the most direct access to Tamworth Town Centre from the Area where the Option is located)</i>	0	<u>Scoring</u>
		1	This Option scores 3 on this assessment. This Option impacts the A500 and Abbey Road roundabout junction (Plan A5 ref. 3). The resultant impact would result in an over capacity of 100% during the evening peak period. This constraint point does not have severe limiting factors on its improvement.
		2	The junction of the A500 and Abbey Road has the potential for improvements in capacity. In addition, the road network in the area leads to the potential of alternative routes being taken. This junction may require upgrading, should Option E be developed.
		<b>3</b>	<u>Solution Required for the Development of this Option</u>  Some capacity improvement may be required at the A500 / Abbey Road Junction. The cost of providing a solution is likely to be of a medium level.
		4	
	Capacity of / impact on existing highways infrastructure, Accessing the Strategic Road Network  <i>(based on: volume over capacity results extracted from the Tamworth Traffic</i>	1	<u>Scoring</u>  Option E scores 4 on this assessment. The A5 can be accessed via B5080. There are currently no over capacity elements on this connection to the strategic network.
	2	The A5 can be accessed at the junction of the A5 and the B5080 Pennine Way.	



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Appraisal Criteria	Indicator	Score	Scoring Criteria
	<i>Model, 2007 base data. Assessment based on the most direct access to the Strategic Road Network from the Area where the Option is located)</i>	3	<p><u>Solution Required for Development of this Option</u></p> <p>In accessing the strategic network there is limited impacts on known capacity constraints. Impacts on the strategic network at the access to the A5 and M42 may have to be mitigated.</p>
		4	
	Availability of / impact on potable water supply facilities	1	<p><u>Scoring</u></p> <p>Option E scores 3 due to the low requirement for new/enhanced infrastructure.</p> <p><u>Solution Required for the Development of this Option</u></p> <p>South Staffordshire Water provides the potable water facilities for this site which would require a booster plant refurbishment/upgrade to the existing booster plan and associated mechanical /electrical; kit at Glascote booster site. There may also be a requirement for some minor off-site main laying.</p>
		2	
		3	
		4	
	Availability of / impact on waste water treatment facilities	1	<p><u>Scoring</u></p> <p>All Growth Options have been given a score of 4 due to the level of available strategic waste water treatment infrastructure capacity and resultant likely limited impact the development would have on these facilities. Severn Trent Water deals with waste water treatment for the whole of the study area. The infrastructure provider advises that there will likely be sufficient capacity in existing waste water treatment facilities to serve this Development Option.</p> <p><u>Solution Required for Development of this Option</u></p> <p>None identified</p>
		2	
		3	

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Appraisal Criteria	Indicator	Score	Scoring Criteria
		4	
	Availability of / impact on waste treatment infrastructure	1	<p><u>Scoring</u></p> <p>This Option is within the Warwickshire Waste Authority’s catchment. The nearest transfer station is outside the study boundary but currently serves Tamworth and Lichfield and the provider has identified that existing facilities will be able to accommodate this Option. Due to the large catchment of this transfer station, all Growth Options within the study area have been given a score of 3.</p> <p><u>Solution Required for Development of this Option</u></p> <p>None specifically required although a planning application has recently been submitted for a new transfer station at Lower House Farm (North Warwickshire) which will serve both the Warwickshire and Staffordshire Authority areas and will further enhance available capacity to accommodate the additional dwellings throughout the study area.</p>
		2	
		3	
		4	
	Availability of / impact on energy infrastructure	1	<p><u>Scoring</u></p> <p>All Growth Options score 4 due to its minimal impact on the energy infrastructure and there being adequate capacity to accommodate the level of growth anticipated. E-on (the main electricity provider within the study area) identifies that the level of growth anticipated in any single Growth Options would, in relative terms, not represent a very substantial load in terms of electricity supply. The provider advises that there would be no major electricity infrastructure problems in any of the Growth Option locations identified.</p> <p><u>Solution Required for Development of this Option</u></p> <p>None identified</p>
		2	
		3	
		4	

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Appraisal Criteria	Indicator	Score	Scoring Criteria
<b>Community Infrastructure Accessibility</b>  (Strategic Public Transport Facilities)	Proximity to key existing public transport hubs (i.e. bus and rail stations within Tamworth Town Centre)	1	<u>Scoring</u>
		2	Option E is less than 15 minute cycle / public transport and private vehicle travel time from Tamworth station, and therefore scores 3. Walk time is higher than 15 minutes. The closest key existing public transport hub to Option E is Tamworth Station. This station is located on the Birmingham to Nottingham line and West Coast Main line.
		3	
		4	<u>Solution Required for Development of this Option</u>  Improving the cycling walking and public transport along the B5000 corridor will improve the access to transport hubs in the town centre.
	Accessibility to main bus routes  <i>(i.e. a route that has a frequency of 4 per hour or more in the AM peak period, between 07:00 – 09:00)</i>	1	<u>Scoring</u>
		2	Option E scores 4. Frequent services (greater than 4 services per hour) currently operate along the B5000 Tamworth road, and could potentially be re-routed to serve Option E.
		3	<u>Solution Required for Development of this Option</u>
		4	Ensuring there is good access to the public transport network from this Option. In order to achieve this, bus facilities such as stops and shelters would need to be provided. A contribution to extended services into Option E may also need to be considered, and will need to be agreed with the relevant bus operator.
<b>Community Infrastructure Accessibility</b>  (Education)	Accessibility to Nurseries / Pre-School facilities	1	<u>Scoring</u>
		2	This Option scores 3 for this assessment. The accessibility for Nursery facilities for Option E scores 3. Plan B2 shows the public transport accessibility for Nurseries. This represents the public transport access time, including wait time. The walk time was calculated from the walk distance to the closest destination of this type from Option E. The lowest access time was the time that was used for the assessment score.
		3	The closest current facilities are located to the east of Option E in the Stoneydelph area. The closest facility is a distance of 1051m, which is a walk access time of over 13 minutes.
		4	<u>Solution Required for Development of this Option</u>  Improvements to public transport in the Stoneydelph area would be required to improve access time,

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Appraisal Criteria	Indicator	Score	Scoring Criteria
			<p>particularly with regards to services accessing through the stoneydelph area. In addition, this destination type has the potential to be provided on site, should Option E permit this to be a feasible option. Provision on site would benefit the surrounding existing development. Implementation of on-site nursery provision as part of the delivery of this Development Option would elevate the assessment score to 4.</p>
	<p>Accessibility to Primary Schools</p>	<p>1</p>	<p><u>Score</u></p> <p>The accessibility for Primary School facilities for Option E scores 3. Plan B3 shows the public transport accessibility for Primary Schools. This represents the public transport access time, including wait time. The walk time was also calculated from the walk distance to the closest destination of this type from Option E. The lowest access time was the time that was used for the assessment score.</p>
		<p>2</p>	<p>The closest current facility is located in Stoneydelph. The closest facility is a distance of 1295m, which is a walk access time of 16 minutes. The score represent access by public transport.</p>
		<p><b>3</b></p>	<p><u>Solution Required for Development of this Option</u></p>
		<p>4</p>	<p>Ensuring good walk links exist between Option E and the local provision would give a high level of accessibility, in a sustainable form, for this option. Improvement of public transport around the Stoneydelph area would also benefit the accessibility to this destination. In addition, this destination type has the potential to be provided on site, should Option E permit this to be a feasible option. Implementation of on-site primary school provision, as part of the delivery of this Development Option would elevate the assessment score to 4.</p>
	<p>Accessibility to Secondary Schools</p>	<p>1</p>	<p><u>Scoring</u></p> <p>The accessibility for Secondary School facilities for Option E scores 3. Plan B4 shows the public transport accessibility for Secondary Schools. This represents the public transport access time, including wait time. The walk time was also calculated from the walk distance to the closest destination of this type from Option E. The lowest access time of either public transport or walking was the value that was used for the assessment score.</p>
		<p>2</p>	<p>The closest current facility is located in Glascote Heath. The closest facility is a distance of 1538m, which is a walk access time of 19 minutes.</p>
		<p>3</p>	

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Appraisal Criteria	Indicator	Score	Scoring Criteria
		4	<p><u>Solution Required for Development of this Option</u></p> <p>Ensuring good walk links exist along the B5000 would give a high level of accessibility, in a sustainable form, for this option. Public transport improvements along the B5000 corridor would also improve access to this destination</p>
		1	<p><u>Scoring</u></p> <p>The accessibility for Higher Education facilities for Option E scores 3. Plan B5 shows the public transport accessibility for Higher Education. This represents the public transport access time, including wait time. The walk time was also calculated from the walk distance to the closest destination of this type from Option E. The lowest access time of either public transport or walking was the value that was used for the assessment score.</p>
		2	
		3	<p>The closest facility is a distance of 5085m, which has a walk access time of 64 minutes. This leads to public transport being the only viable option.</p>
		4	<p><u>Solution Required for Development of Option E</u></p> <p>Improvement of the public transport provision, particularly with regards to the connection between Stoneydelph and Tamworth town centre and interchange options in the town centre.</p>
<b>Community Infrastructure Accessibility (Health)</b>	Accessibility to GP Surgeries	1	<p><u>Scoring</u></p>
		2	<p>The accessibility for GP facilities for Option E scores 3. Plan B6 shows the public transport accessibility for GP surgeries. This represents the public transport access time, including wait time. The walk time was also calculated from the walk distance to the closest destination of this type from Option E. The lowest access time of either public transport or walking was the value that was used for the assessment score.</p>
		3	<p>The closest current facility is located at Stoneydelph, to the east of Option E. The closest GP is a distance of 1184m, which has a walk access time of 15 minutes.</p>
		4	<p><u>Solution Required for Development of this Option</u></p> <p>Ensuring good walk links between Option E and the existing facilities will provide a high level of sustainable provision for Option E. Improvement of public transport around the Stoneydelph area would also benefit the accessibility to this destination. This destination type has the potential to be provided on site, should the development size permit this to be a feasible option. Implementation of</p>

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Appraisal Criteria	Indicator	Score	Scoring Criteria
			on-site primary GP provision, as part of the delivery of this Development Option would elevate the assessment score to 4.
	Accessibility to Hospitals	1	<u>Scoring</u> The accessibility for Hospital facilities for Option E scores 1. Plan B7 shows the public transport accessibility for local hospital facilities. This represents the public transport access time, including wait time. The walk time was also calculated from the walk distance to the closest destination of this type from Option E. The lowest access time of either public transport or walking was the value that was used for the assessment score.
		2	
		3	The closest current facility is located to at Mile Oak, to the south of Tamworth, and is located in Lichfield District. This hospital is a distance of 7371m from option E, which translates to a walk access time of 92 minutes, making public transport the only realistic option. The public transport access time is outside DfT recommended time; due to the requirement to interchange at Tamworth centre, and the non-central location of the hospital services to the west of Tamworth. In addition, the existing hospital facilities within Tamworth are limited, meaning that it is likely a hospital trip may require a more strategic level trip, limiting the viability of using public transport.
		4	<u>Solution Required for Development of this Option</u> Improvement of public transport connections from Stoneydelph will improve access, with cross town services serving the Fazeley area being of particular benefit.
<b>Community Infrastructure Accessibility</b> (Retail, leisure and Employment)	Accessibility to Tamworth Town Centre	1	<u>Scoring</u> The accessibility for access to the town centre for Option E scores 3. Plan B8 shows the public transport accessibility for the Town Centre. This represents the public transport access time, including wait time. The walk time was also calculated from the walk distance to the closest destination of this type from Option E. The lowest access time of either public transport or walking was the value that was used for the assessment score.
2			
3	The town centre is accessed via the A5000, across the M42. The walk distance is 3962m, which leads to a walk access time of 50 minutes. Public transport access time is under 30 minute's access time for the majority of Option E, utilising the services along the B5000.		

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Appraisal Criteria	Indicator	Score	Scoring Criteria
		4	<p><u>Solution Required for Development of this Option</u></p> <p>Improved public transport access to the town centre from the Stoneydelph area will improve the accessibility of the development site.</p>
		1	<p><u>Scoring</u></p> <p>The accessibility for access to a local centre for Option E scores 3. Plan B9 shows the public transport accessibility for Local Centres. This represents the public transport access time, including wait time. The walk time was also calculated from the walk distance to the closest destination of this type from Option E. The lowest access time of either public transport or walking was the value that was used for the assessment score.</p>
	Accessibility to Local Centre Facilities	2	<p>The nearest local centre facilities are provided at Ellerbeck. The walk distance is 1190m, which leads to a walk access time of 15 minutes.</p>
		3	<p><u>Solution Required for Development of this Option</u></p>
		4	<p>Improvement of public transport in the Stoneydelph area, as well as providing good walk links from Option E. Implementation of on-site local centre provision, as part of the delivery of this Development Option would elevate the assessment score to 4.</p>
	Accessibility to existing recreation and leisure facilities (i.e. formal built sport and leisure facilities)	1	<p><u>Scoring</u></p>
		2	<p>The accessibility for access to a leisure centre for Option E scores 3. Plan B10 shows the public transport accessibility to Leisure Centres. This represents the public transport access time, including wait time. The walk time was also calculated from the walk distance to the closest destination of this type from Option E. The lowest access time of either public transport or walking was the value that was used for the assessment score.</p>
		3	<p>The nearest area with leisure centre facilities is located in Glascote Heath. The walk distance is 1621m, which leads to a walk access time of 20 minutes. Public transport and walk times are similar for this measure.</p>
		4	<p><u>Solution Required for Development of this Option</u></p> <p>Improvement of public transport connections around the Stoneydelph area will improve this accessibility measure. This destination type has the potential to be provided on site, should the</p>

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Appraisal Criteria	Indicator	Score	Scoring Criteria
			development size permit this to be a feasible option. Implementation of on-site formal leisure and recreation facilities provision, as part of the delivery of this Development Option, would elevate the assessment score to 4.
	Accessibility to existing / planned major employment facilities	1	<p><u>Scoring</u></p> <p>The accessibility for access to employment sites for Option E scores 4. Plan B11 shows the public transport accessibility to employment centres. This represents the public transport access time, including wait time. The walk time was also calculated from the walk distance to the closest destination of this type from Option E. The lowest access time of either public transport or walking was the value that was used for the assessment score.</p> <p>The walk distance to the closest major employment provision is 716m, which leads to a walk access time of 9 minutes. There are significant employment areas to the south east of Tamworth, which is in close proximity to Option E. These include the Amington industrial estate and employment land in the vicinity of J10 of the M42.</p> <p><u>Solution Required for Development of this Option</u></p> <p>Provide high quality walk and cycle links connecting Option E with the stoneydelph area will allow access to the nearby employment areas that are to the north, south and west of Option E. Implementation of on-site major employment provision, as part of the delivery of this Development Option, would retain the assessment score at 4.</p>
2			
3			
4			
<b>Community Infrastructure Accessibility (Green Space)</b>	Accessibility to existing major formal open space facilities (including sports pitches / school playing fields, formal parks and allotments)	1	<p><u>Scoring</u></p> <p>The accessibility for access to major formal open space facilities for all Growth Options scores 3, with all having good accessibility to at least one type of existing formal open space facilities. Conversely however, it is understood that all Growth Options are deficient in terms of the quantitative and / or qualitative capacity of existing accessible open space facilities.</p> <p><u>Solution Required for Development of this Option</u></p> <p>Improvements required to enhance the capacity of open space provision to serve this Development Option. This destination type has the potential to be provided on site. Implementation of on-site major open space provision provided as part of the delivery of this Development Option would elevate the assessment score to 4.</p>
2			
3			



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Appraisal Criteria	Indicator	Score	Scoring Criteria
		4	
<b>Community Infrastructure Capacity</b>  (Education)	Capacity of accessible Primary Schools  <i>(note – ‘accessible’ is defined as a facility scoring either 2,3 or 4 against the criteria applied to measure accessibility)</i>	1	<u>Scoring</u>  This Option scores 2 due to the likely need for a new primary school to be provided should this Option be developed. The general capacity of primary schools within the area is limited. Due to this being a changing variable, it is difficult to assess the capacity at each school and all the primary schools in the study area are therefore scored equally.  <u>Solution Required for the Development of this Option</u>  As a current generic approach, it is understood that a development of circa 1,000 houses would trigger the need for a new primary school to serve the development. This destination type has the potential to be provided on site. Implementation of on-site provision of a new primary school would elevate the assessment score to 4.
		2	
		3	
		4	
	Capacity of accessible Secondary Schools  <i>(note – ‘accessible’ is defined as a facility scoring either 2,3 or 4 against the criteria applied to measure accessibility)</i>	1	<u>Scoring</u>  All Growth Options score 3 due to the likely available capacity across the study area to accommodate additional secondary school place requirements arising from this Option. Due to this being a changing variable however, it is difficult to assess the capacity at each school and all the secondary schools in the study are therefore scored equally.  <u>Solution Required for the Development of this Option</u>  None specifically identified although Staffordshire has made a successful bid for early entry into the Building Schools for the Future Programme. Capacity of secondary schools across the county is low at present. However, a £100M bid to transform secondary education in Tamworth was approved by the DCSF in June 2008. Five secondary schools will remain open in Tamworth.
		2	
		3	
		4	
	Capacity of accessible existing / planned Higher Education Centres  <i>(note – ‘accessible’ is defined as a</i>	1	<u>Scoring</u>  All Growth Options score 3 due to the likely available capacity across the study area to accommodate additional Higher Education place requirements arising from this Option. Due to this being a changing variable, it has been advised that it is difficult to assess the likely future capacity of Tamworth and
		2	

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Appraisal Criteria	Indicator	Score	Scoring Criteria
	<i>facility scoring either 2,3 or 4 against the criteria applied to measure accessibility)</i>	3	Lichfield College. <u>Solution Required for the Development of this Option</u>
		4	None identified. The successful bid to the Building Schools for the Future Programme will lead to the creation of a post 16 centre and a new academy.
<b>Community Infrastructure Capacity (Health)</b>	Capacity of accessible GP Surgeries  <i>(note – ‘accessible’ is defined as a facility scoring either 2,3 or 4 against the criteria applied to measure accessibility)</i>	1	<u>Scoring</u>
		2	For the purposes of this study, and in the absence of other available information, all Growth Options have been given an assessment score of 2. Although it is understood that GP surgeries within the study area currently have some available capacity, Staffordshire Primary Care anticipates that these facilities will need to be enhanced and new facilities provided given the scale of development proposed.
		3	
		4	<u>Solution Required for the Development of this Option</u>  This destination type has the potential to be provided on site. Implementation of on-site GP Surgery provision could be provided as part of the delivery of this Development Option and would elevate the assessment score to 4.

**2. Impact on Environmental Resources**

Appraisal Criteria	Indicator	Score	Scoring Criteria
Effective Protection and Enhancement of the Environment	Degree of Flood Risk	0	<p><u>Scoring</u></p> <p>This Option is scored 4 due to its location outside of flood risk zones (i.e. it is within Flood Zone 1 which is at low risk of flooding)</p> <p><u>Solution Required for the Development of this Option</u></p> <p>None identified.</p>
		1	
		2	
		3	
		4	
	Impact on Nature Conservation Resources and Objectives	0	<p><u>Scoring</u></p> <p>This Option scores 4 as it is located outside of any national or local nature conservation designations. It is also not adjacent to or in close proximity to any nature conservation designations.</p> <p><u>Solution for the Development of this Option</u></p> <p>None identified although a strategy to maintain and enhance nature conservation and biodiversity should be progressed as part of all Growth Options.</p>
		1	
		2	
		3	
		4	
	Impact on Green Belt and Landscape	1	<p><u>Scoring</u></p> <p>Option A is scored 3 due to it not creating any direct or indirect impacts on the Green Belt but with no ability to improve a currently degraded landscape. The site is located outside the Green Belt.</p> <p><u>Solution for the Development of this Option</u></p>
		2	

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Appraisal Criteria	Indicator	Score	Scoring Criteria	
		3	None identified	
		4		
	Impact on Major Open Space Facilities (including sports pitches / school playing fields, formal parks and allotments)	1	<u>Scoring</u>	
		2	There are no major open space facilities within Option E's boundary and therefore the development would not result in the direct loss of any defined formal open space facilities considered under this assessment criteria.	
		3	<u>Solution Required for the Development of this Option</u> See comments regarding potential on-site improvements to major open space provision under assessment of accessibility to major open space facilities.	
		4		
	Impact on Heritage Resources (e.g. conservation areas, listed buildings, scheduled ancient monuments and, historic parks and gardens)	1	<u>Scoring</u>	
		2	This Option is scored 3 due to not having a direct or indirect impact on heritage resources. The site located outside of any identified heritage resources.	
		3	<u>Solution Required for the Development of this Option</u>	
		4	None identified	
	<b>Prudent Use of Natural Resources</b>	Land Classification	1	<u>Scoring</u> Option A scores 3. In terms of impact on agricultural land quality, site is comprised of Grade 3 agricultural land. As with all Growth Options, this Option lies outside of any proposed mineral extraction areas.
			2	

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Appraisal Criteria	Indicator	Score	Scoring Criteria
		3	<p><u>Solution Required for the Development of this Option</u> None identified.</p>
	Renewable and Low-Carbon Forms of Energy Supply	4	
		1	<p><u>Scoring</u></p>
		2	<p>Option E scores 3. This site is separated from Site D by the M42 Motorway and shares many of Site D's characteristics. It therefore also has moderate potential to readily and viably draw upon decentralised and renewable / low-carbon forms of energy supply systems:</p> <p>Most wind turbines start generating electricity at wind speeds of around 4-5 metres per second (m/s), (10 miles per hour); generate maximum 'rated' power at around 15 m/s (30mph); and shut down to prevent storm damage at 25 m/s or above (50mph). The BERR Windspeed Database indicates that this site has average windspeeds of: 6.5 m/s at 45m above ground level (agl); 6 m/s at 25m agl; and 5.4 m/s at 10m agl. This suggests that turbines of any height will be performing towards the bottom of their operating range and further investigation is required to assess their feasibility.</p>
		3	<p>The site is currently undeveloped, and capture of solar energy is not constrained by shading from surrounding buildings or geographical features.</p> <p>The agricultural nature of the site suggests that constraints on laying horizontal or vertical pipework for Ground Source Heat Pumps is unlikely. In addition, the British Geological Survey identifies the area as having a mixture of bedrocks including mudstone, siltstone and sandstone, which should not preclude the drilling of boreholes if necessary, though further detailed analysis is required.</p>
		4	<p>Access for the supply of biomass for community CHP systems is not constrained as the site is readily accessible via the B5000 (Tamworth Road), and the extensive surrounding agricultural land could potentially provide a source of biomass (e.g. willow or switch grass) within 5 miles of the development.</p> <p>The Coventry Canal runs within 1km of the northern boundary of the site, but it is unlikely that this is close enough to make Water Source Heat Pumps potentially viable.</p> <p>There is no known existing infrastructure for decentralised/renewable energy for the development to connect to.</p>

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Appraisal Criteria	Indicator	Score	Scoring Criteria
			<p><u>Solution for the Development of this Option</u></p> <p>Given the scale of this Option, consideration should be given to the potential for the incorporation of renewable and low-carbon forms of energy supply as part of this Option.</p>

### 3. Deliverability

Appraisal Criteria	Indicator	Score	Scoring Criteria
	Ownership	1	<p><u>Scoring</u></p> <p>Due to being unable to obtain developer aspiration information, and for the purpose of this report Growth Option E scores 3.</p> <p><u>Solution for the Development of this Option</u></p> <p>Developer aspirations should be obtained for this Growth Option</p>
		2	
		3	
		4	
	Physical Constraints <i>(including an assessment of landform, potential for pollution or contamination, drainage ditches, pylons, known underground utilities infrastructure requiring safeguarding / re-routing etc)</i>  <i>(note – other site suitability indicators such as policy and other environmental restrictions and impacts are considered separately above)</i>	1	<p><u>Scoring</u></p> <p>This Option scores 4 as it has no apparent evidence of constraining physical site features. Site E comprises 3 parcels of land which are relatively flat and predominantly comprise open fields. There are no electricity pylons within the site and the site is at present largely in agricultural use with minimal potential for contamination issues.</p> <p><u>Solution for Development of this Option</u></p> <p>None identified</p>
		2	
		3	
		4	
	Environmental Conditions <i>(including quality of surrounding environment, nature of surrounding uses and associated potential for amenity impacts such as noised, dust and smell)</i>	1	<p><u>Scoring</u></p> <p>This Option scores 2. The three parcels of land are adjacent to the M42 motorway. Beyond this is the Tamworth urban area including an area of industrial warehousing. To the north, east and south of the Option are open fields and existing residential development. The site's amenity may be detrimentally</p>
		2	

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Appraisal Criteria	Indicator	Score	Scoring Criteria
		3	<p>affected by the M42 motorway and the industrial warehousing due to noise pollution and visual impact.</p> <p><u>Solution Required for the Development of this Option</u></p>
		4	<p>Screening/buffering the site from the motorway, warehousing and other neighbouring uses may reduce the impact on the amenity of the development.</p>



## Tamworth Development and Infrastructure Study: Sustainability Assessment

### Option F: Lichfield (Land at Mile Oak)

#### Physical and Community Infrastructure

Appraisal Criteria	Indicator	Score	Scoring Criteria
<b>Physical Infrastructure Capacity and Impact</b>	Capacity of / impact on existing highways infrastructure, Accessing Tamworth Centre  <i>(based on: volume over capacity results extracted from the Tamworth Traffic Model, 2007 base data. Assessment based on the most direct access to Tamworth Town Centre from the Area where the Option is located)</i>	0	<u>Scoring</u>
		1	This Option scores 3 on this assessment. This option impacts on the A51 and B5493 roundabout at The Leys (Plan A6 ref. 2). The impact would result in an over capacity of 100% during the evening peak period. This constraint does not have severe limiting factors on improvement.
		2	The junction of the A51 and B5493 acts as the gateway to the town centre from the east. This junction will require upgrading should development site F be developed.  <u>Solution Required for Development of this Option</u>
		3	Some capacity improvement may be required at the A51 / B5493 junction. The nature and surround of this junction suggests that capacity improvement can be achieved at this junction. The cost implication of improvements would be of a medium level. There are no major transport schemes planned in the vicinity of the site vicinity of the development F site.
		4	
	Capacity of / impact on existing highways infrastructure, Accessing the Strategic Road Network  <i>(based on: volume over capacity results extracted from the Tamworth Traffic</i>	1	<u>Scoring</u>  This Option scores 4 on this assessment due to being located close to an access point onto the A5, and therefore has good immediate access to the strategic road network.
	2	<u>Solution Required for Development of this Option</u>	

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Appraisal Criteria	Indicator	Score	Scoring Criteria
	<i>Model, 2007 base data. Assessment based on the most direct access to the Strategic Road Network from the Area where the Option is located)</i>	3	This option has good access the strategic road network. A sensible interior road design will allow Option F to benefit form this.
		4	
	Availability of / impact on potable water supply facilities	1	<p><u>Scoring</u></p> <p>This Option scores 4 on this assessment due to the limited need for new/enhanced infrastructure and investment required.</p> <p><u>Solution Required for Development of this Option</u></p> <p>South Staffordshire Water would provide the potable water facilities for Growth Option F. The site would require some minor off-site main laying but no major works will be needed.</p>
		2	
		3	
		4	
	Availability of / impact on waste water treatment facilities	1	<p><u>Scoring</u></p> <p>All 'Growth Options' have been given a score of 4 due to the level of available strategic waste water treatment infrastructure capacity and resultant likely limited impact the development would have on these facilities. Severn Trent deals with waste water treatment for the whole of the study area. The infrastructure provider advises that there will likely be sufficient capacity in existing waste water treatment facilities to serve this Development Option.</p> <p><u>Solution Required for the Development of this Option</u></p> <p>None identified</p>
		2	
		3	

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Appraisal Criteria	Indicator	Score	Scoring Criteria
		4	
	Availability of / impact on waste treatment infrastructure	1	<p><u>Scoring</u></p> <p>Growth Option F is within Staffordshire Waste Authority’s catchment. The nearest transfer station is outside the study boundary but currently serves Tamworth and Lichfield and will be able to accommodate additional housing growth. Due to the large catchment of this transfer station, all sites within Staffordshire have been given a score of 3.</p> <p><u>Solution Required for the Development of this Option</u></p> <p>None specifically required although a planning application has recently been submitted for a new transfer station at Lower House Farm (North Warwickshire Boundary) which will serve both Warwickshire and Staffordshire Authority areas and will further enhance available capacity to accommodate the additional dwellings throughout the study area.</p>
		2	
		3	
		4	
	Availability of / impact on energy infrastructure	1	<p>All Options scores 4 due to its minimal impact on the energy infrastructure and there being adequate capacity to accommodate the level of growth anticipated. E-on (the main electricity provider within the study area) identifies that the level of growth anticipated in any of the Growth Options would in relative terms, not represent a very substantial load in terms of electricity supply. The provider advises that there would be no major electricity infrastructure problems in any of the locations.</p> <p><u>Solution Required for the Development of this Option</u></p> <p>None identified</p>
		2	
		3	
		4	

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Appraisal Criteria	Indicator	Score	Scoring Criteria
<b>Community Infrastructure Accessibility</b>  (Strategic Public Transport Facilities)	Proximity to key existing public transport hubs (i.e. bus and rail stations within Tamworth Town Centre)	1	<u>Scoring</u>
		2	This Option scores 2. It is located in close proximity to Wilnecote rail station which is located on the Birmingham to Nottingham line. Option F is less than 15 minutes public transport and private vehicle travel time from Tamworth station but walk time and cycle time is higher than 15 minutes.
		3	<u>Solution Required for Development of this Option</u>
		4	Improving public transport access to Tamworth Centre and Tamworth Station will improve access. Cycle routes on the routes to Tamworth Centre and Tamworth Station will improve sustainable access.
	Accessibility to main bus routes  <i>(i.e. a route that has a frequency of 2 per hour or more in the AM peak period, between 07:00 – 09:00)</i>	1	<u>Scoring</u>
		2	This Option scores 2. The more frequent services (greater than 4 services per hour) that operate around the Tamworth area currently operate in the south east of the Tamworth area. The Fazeley and Mile Oak area has limited frequent public transport provision.
		3	<u>Solution Required for Development of this Option</u>  The improvement of service frequency in the Fazeley and Mile Oak area would improve the current situation. Significant levels of housing would increase the potential to extend bus services within this part of the study area. In order to achieve this, bus facilities such as stops and shelters would need to be provided. A contribution to subsidise new / extended services may also be need to be considered, in consultation with the relevant bus operator. The split nature of the option F site will limit the improvements that can be achieved with funding and routing of new services.
4			
<b>Community Infrastructure Accessibility</b>  (Education)	Accessibility to Nurseries / Pre-School facilities	1	<u>Scoring</u>
		2	The accessibility for Nursery facilities for Option F scores 3. Plan B2 shows the public transport accessibility for Nurseries. This represents the public transport access time, including wait time. The walk time was calculated from the walk distance to the closest destination of this type from Option F. The lowest access time was the time that was used for the assessment score.

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Appraisal Criteria	Indicator	Score	Scoring Criteria
		3	The closest current facilities are located to the east at Fazeley. The closest facility is a distance of 1181m, which is a walk access time of 15 minutes. Therefore public transport access is required to allow access within 30 minutes.
		4	<p><u>Solution Required for Development of this Option</u></p> <p>Providing good walk links along the B5404 to Fazeley will improve accessibility. In addition, this destination type has the potential to be provided on site, should Option F permit this to be a feasible option. Provision on site would benefit the surrounding existing development. Implementation of on-site nursery provision as part of the delivery of this Development Option would elevate the assessment score to 4.</p>
	Accessibility to Primary Schools	1	<p><u>Scoring</u></p> <p>The accessibility for Primary School facilities for Option F scores 4. Plan B3 shows the public transport accessibility for Primary Schools. This represents the public transport access time, including wait time. The walk time was also calculated from the walk distance to the closest destination of this type from Option F. The lowest access time was the time that was used for the assessment score. The closest current facilities are located in Mile Oak. The closest facility is a distance of 413 m, which is a walk access time of 5 minutes.</p>
		2	
		3	<p><u>Solution Required for Development of this Option</u></p>
		4	Ensuring good walk links exist between Option F and the local provision would give a high level of accessibility, in a sustainable form, for this option. In addition, this destination type has the potential to be provided on site, should Option F permit this to be a feasible option.
	Accessibility to Secondary Schools	1	<p><u>Scoring</u></p> <p>The accessibility for Secondary School facilities for Option F scores 2. Plan B4 shows the public transport accessibility for Secondary Schools. This represents the public transport access time, including wait time. The walk time was also calculated from the walk distance to the closest destination of this type from Option F. The lowest access time of either public transport or walking was the value that was used for the assessment score.</p>
		2	

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Appraisal Criteria	Indicator	Score	Scoring Criteria	
		3	The closest current facility is located to the north of Tamworth Town Centre. The closest facility is a distance of 3500m, which is a walk access time of 44 minutes. This leads to public transport being the only viable option.	
		4	<p><u>Solution Required for Development of this Option</u></p> <p>Improvements to public transport in the Fazeley area will benefit this development option with regards to access to secondary schools. In particular these services should provide connection to the Town Centre and the north of Tamworth.</p>	
	Accessibility to existing / planned Higher Education Centres	1	<p><u>Scoring</u></p> <p>The accessibility for Higher Education facilities for Option F scores 3. Plan B5 shows the public transport accessibility for Higher Education. This represents the public transport access time, including wait time. The walk time was also calculated from the walk distance to the closest destination of this type from Option F. The lowest access time of either public transport or walking was the value that was used for the assessment score.</p>	
		2		
		3	<p>The closest current facility is located to the north of Tamworth Town Centre. The closest facility is a distance of 3500m, which is a walk access time of 44 minutes. This leads to public transport being the only viable option.</p>	
		4	<p><u>Solution Required for Development of this Option</u></p> <p>Improvement of the public transport provision, particularly with regards to the connection between Mile Oak and Fazeley with Tamworth Town Centre.</p>	
	<b>Community Infrastructure Accessibility (Health)</b>	Accessibility to GP Surgeries	1	<p><u>Scoring</u></p>
			2	<p>The accessibility for GP facilities for Option F scores 4. Plan B6 shows the public transport accessibility for GP surgeries. This represents the public transport access time, including wait time. The walk time was also calculated from the walk distance to the closest destination of this type from Option F. The lowest access time of either public transport or walking was the value that was used for the assessment score.</p>
3			<p>The closest current facility is located At Mile Oak, located next to Option F. The closest GP is a</p>	

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Appraisal Criteria	Indicator	Score	Scoring Criteria
		4	<p>distance of 150m, which has a walk access time of 2 minutes.</p> <p><u>Solution Required for Development of this Option</u></p> <p>Ensuring good walk links between Option F and the existing facilities will provide a high level of sustainable provision for Option F. This destination type has the potential to be provided on site, should the development size permit this to be a feasible option. Implementation of on-site provision of a GP facility would enhance accessibility (to the entirety of the development option) but the assessment score would remain as 4.</p>
		1	<p><u>Scoring</u></p> <p>The accessibility for Hospital facilities for Option F scores 4. Plan B7 shows the public transport accessibility for local hospital facilities. This represents the public transport access time, including wait time. The walk time was also calculated from the walk distance to the closest destination of this type from Option F. The lowest access time of either public transport or walking was the value that was used for the assessment score.</p>
		2	
		3	<p>The closest current facility is located to at Mile Oak, to the south of Tamworth, and is located in Lichfield District. This hospital is a distance of 150m from option F, which translates to a walk access time of 2 minutes. The existing hospital facilities within Tamworth are limited, meaning that it is likely a hospital trip may require a more strategic level trip.</p>
		4	<p><u>Solution Required for Development of Option F</u></p> <p>Improving connection to the key public transport nodes will improve access to a wider range of services.</p>
<p><b>Community Infrastructure Accessibility</b></p> <p>(Retail, leisure and Employment)</p>	<p>Accessibility to Tamworth Town Centre</p>	1	<p><u>Scoring</u></p> <p>Accessibility for access to the town centre for Option F scores 3. Plan B8 shows the public transport accessibility for the Town Centre. This represents the public transport access time, including wait time. The walk time was also calculated from the walk distance to the closest destination of this type from Option F. The lowest access time of either public transport or walking was the value that was used for the assessment score.</p>
		2	

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Appraisal Criteria	Indicator	Score	Scoring Criteria
		3	The town centre is accessed via the A453. The walk distance is 3420m, which leads to a walk access time of 42 minutes. Public transport access time is under 30 minutes access time.
		4	<p><u>Solution Required for Development of this Option</u></p> <p>Improved public transport access to the town centre from the Mile Oak and Fazeley area will improve the accessibility of Option F. Providing good cycling connection to the town centre along the A453 will improve sustainable access to the town centre.</p>
	Accessibility to Local Centre Facilities	1	<p><u>Scoring</u></p> <p>The accessibility for access to a local centre for Option F scores 3. Plan B9 shows the public transport accessibility for Local Centres. This represents the public transport access time, including wait time. The walk time was also calculated from the walk distance to the closest destination of this type from Option F. The lowest access time of either public transport or walking was the value that was used for the assessment score.</p>
		2	
		3	<p>The nearest local centre facilities are provided at Fazeley. The walk distance is 1759m, which leads to a walk access time of 22 minutes.</p>
		4	<p><u>Solution Required for Development of this Option</u></p> <p>Improvement of public transport in the Fazeley and Mile Oak area. Implementation of on-site provision of local centre facilities as part of the delivery of this development option would elevate the assessment score to 4.</p>
	Accessibility to existing recreation and leisure facilities (i.e. formal built sport and leisure facilities)	1	<p><u>Scoring</u></p> <p>The accessibility for access to a leisure centre for Option F scores 2. Plan B10 shows the public transport accessibility to Leisure Centres. This represents the public transport access time, including wait time. The walk time was also calculated from the walk distance to the closest destination of this type from Option F. The lowest access time of either public transport or walking was the value that</p>
		2	



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Appraisal Criteria	Indicator	Score	Scoring Criteria
		3	was used for the assessment score.
		4	<p>The nearest area with leisure centre facilities is located in Bittescote, to the north of Option F. The walk distance is 2626m, which leads to a walk access time of 33 minutes. Therefore public transport access gives this destination its score.</p> <p><u>Solution Required for Development of this Option</u></p> <p>Improvement of public transport connections around the Mile Oak and Fazeley area in providing connection to Tamworth Town Centre will improve this accessibility measure. This destination type has the potential to be provided on site, should the development size permit this to be a feasible option. Implementation of on-site provision of recreation and leisure facilities as part of the delivery of this development option would elevate the assessment score to 4.</p>
	Accessibility to existing / planned major employment facilities	1	<p><u>Scoring</u></p> <p>The accessibility for access to employment sites for Option F scores 3. Plan B11 shows the public transport accessibility to employment centres. This represents the public transport access time, including wait time. The walk time was also calculated from the walk distance to the closest destination of this type from Option F. The lowest access time of either public transport or walking was the value that was used for the assessment score.</p>
		2	
		3	<p>The walk distance to the closest major employment provision is 1874m, which leads to a walk access time of 23 minutes. There are significant employment areas to the south of Tamworth, which is in close proximity to Option F.</p>
		4	<p><u>Solution Required for Development of this Option</u></p> <p>Provide high quality walk and cycle links in the Fazeley area, along the B5404 Lichfield Street. Improved public transport access to Tamworth town centre and the east of Tamworth will provide good connections to the existing employment, which is concentrated in the south and east of the Tamworth area.</p>
	<b>Community Infrastructure Accessibility</b>	Accessibility to existing major formal open space facilities (including sports pitches / school playing fields, formal	1

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Appraisal Criteria	Indicator	Score	Scoring Criteria
<b>(Green Space)</b>	parks and allotments)  <i>(assessment based on walk times along the road network using 'Geoconcept' software and 'Accession' software to define public transport accessibility)</i>	2	all having good accessibility to at least one type of existing formal open space facilities. Conversely however, it is understood that all Growth Options are deficient in terms of the quantitative and / or qualitative capacity of existing accessible open space facilities.  <u>Solution Required for Development of this Option</u>  Improvements required to enhance the capacity of open space provision to serve this Development Option. This destination type has the potential to be provided on site. Implementation of on-site major open space provision provided as part of the delivery of this Development Option would elevate the assessment score to 4.
		3	
		4	
<b>Community Infrastructure Capacity</b>  <b>(Education)</b>	Capacity of accessible Primary Schools  <i>(note – 'accessible' is defined as a facility scoring either 2,3 or 4 against the criteria applied to measure accessibility)</i>	1	<u>Scoring</u>  Option A scores 2 due to the likely need for a new primary school to be provided should this Option be developed. The general capacity of primary schools within the area is limited. Due to this being a changing variable, it is difficult to assess the capacity at each school and all the primary schools in the Tamworth area are therefore scored equally.  <u>Solution Required for the Development of this Option</u>  Staffordshire County Council Children and Lifelong Learning Directorate's current generic approach is that a development of circa 1,000 houses would trigger the need for a new primary school to serve the development. This destination type has the potential to be provided on site. Implementation of on-site provision of a new primary school would elevate the assessment score to 4.
		2	
		3	
		4	
	Capacity of accessible Secondary Schools  <i>(note – 'accessible' is defined as a facility scoring either 2,3 or 4 against the criteria applied to measure accessibility)</i>	1	<u>Scoring</u>  All Growth Options score 3 due to the likely available capacity across the study area to accommodate additional secondary school place requirements arising from this Option. Due to this being a changing variable however, it is difficult to assess the capacity at each school and all the secondary schools in the study are therefore scored equally.
		2	
		3	

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Appraisal Criteria	Indicator	Score	Scoring Criteria
		4	<p><u>Solution Required for the Development of this Option</u></p> <p>None specifically identified although Staffordshire has made a successful bid for early entry into the Building Schools for the Future Programme. Capacity of secondary schools across the county is low at present. However, a £100M bid to transform secondary education in Tamworth was approved by the DCSF in June 2008. Five secondary schools will remain open in Tamworth.</p>
	<p>Capacity of accessible existing / planned Higher Education Centres</p> <p><i>(note – ‘accessible’ is defined as a facility scoring either 2,3 or 4 against the criteria applied to measure accessibility)</i></p>	1	<p><u>Scoring</u></p> <p>All Growth Options score 3 due to the likely available capacity across the study area to accommodate additional Higher Education place requirements arising from this Option. Due to this being a changing variable, it has been advised that it is difficult to assess the likely future capacity of Tamworth and Lichfield College.</p> <p><u>Solution Required for the Development of this Option</u></p> <p>None identified. The successful bid to the Building Schools for the Future Programme will lead to the creation of a post 16 centre and a new academy.</p>
2			
3			
4			
<p><b>Community Infrastructure Capacity</b> <b>(Health)</b></p>	<p>Capacity of accessible GP Surgeries</p> <p><i>(note – ‘accessible’ is defined as a facility scoring either 2,3 or 4 against the criteria applied to measure accessibility)</i></p>	1	<p><u>Scoring</u></p> <p>For the purposes of this study, and in the absence of other available information, all Growth Options have been given an assessment score of 2. Although it is understood that GP surgeries within the study area currently have some available capacity, Staffordshire Primary Care anticipates that these facilities will need to be enhanced and new facilities provided given the scale of development proposed.</p> <p><u>Solution Required for the Development of this Option</u></p> <p>This destination type has the potential to be provided on site. Implementation of on-site GP Surgery provision could be provided as part of the delivery of this Development Option and would elevate the assessment score to 4.</p>
2			
3			
4			

## 2. Impact on Environmental Resources

Appraisal Criteria	Indicator	Score	Scoring Criteria
Effective Protection and Enhancement of the Environment	Degree of Flood Risk	0	<p><u>Scoring</u></p> <p>Option A is scored 4 due to its location outside of flood risk zones (i.e. it is within Flood Zone 1 which is at low risk of flooding)</p> <p><u>Solution for the Development of this Option</u></p> <p>Although outside of a flood risk zone, this Option is adjacent to Flood Zones 2 / 3 associated with the River Anker and detailed flood modelling may need to be undertaken to assess the exact boundary of the flood plain.</p>
		1	
		2	
		3	
		4	
	Impact on Nature Conservation Resources and Objectives	0	
		1	
		2	
		3	
		4	
	Impact on Green Belt and Landscape	1	
		2	
		3	

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Appraisal Criteria	Indicator	Score	Scoring Criteria
	Impact on Major Open Space Facilities (including sports pitches / school playing fields, formal parks and allotments)	4	
		1	<u>Scoring</u>
		2	This Growth Option scores 4. The development of this site would not lead to any direct loss of defined open space facilities considered under this assessment criteria.
		3	<u>Solution Required for the Development of this Option</u> See comments regarding potential on-site improvements to major open space provision under assessment of accessibility to major open space facilities.
		4	
	Impact on Heritage Resources (e.g. conservation areas, listed buildings, scheduled ancient monuments and, historic parks and gardens)	1	<u>Scoring</u>
		2	This Option scores 2 due to the potential to indirectly impact the Mile Oak/Fazeley Conservation Area.
		3	<u>Solution Required for the Development of this Option</u>
		4	Screening/buffering the site and sensitive design/development could mitigate the impact of this development on the Conservation Area.
	<b>Prudent Use of Natural Resources</b>	Land Classification	1
2			<u>Solution Required for the Development of this Option</u>
3			None identified.

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Appraisal Criteria	Indicator	Score	Scoring Criteria
		4	
	Renewable and Low-Carbon Forms of Energy Supply	1	<u>Scoring</u>
		2	<p>Option F scores 3. This site has moderate potential to readily and viably draw upon decentralised and renewable / low-carbon forms of energy supply systems:</p> <p>Most wind turbines start generating electricity at wind speeds of around 4-5 metres per second (m/s), (10 miles per hour); generate maximum 'rated' power at around 15 m/s (30mph); and shut down to prevent storm damage at 25 m/s or above (50mph). The BERR Windspeed Database indicates that this site has average windspeeds of: 6.1 m/s at 45m above ground level (agl); 5.5 m/s at 25m agl; and 4.7 m/s at 10m agl. This suggests that turbines, particularly those below 25m agl will be performing towards the bottom of their operating range, and may therefore not be viable for this site. This would obviously be subject to more detailed analysis.</p>
		3	<p>The site is currently undeveloped, and capture of solar energy is not constrained by shading from surrounding buildings or geographical features.</p> <p>The agricultural nature of the site suggests that constraints on laying horizontal or vertical pipework for Ground Source Heat Pumps is unlikely. In addition, the British Geological Survey identifies the area as having a mixture of bedrocks including mudstone, siltstone and sandstone, which should not preclude the drilling of boreholes if necessary, though further detailed analysis is required.</p>
		4	<p>Access for the supply of biomass for community CHP systems is not constrained as the site is readily accessible via the A5 to the north and the B5404 (Lichfield Street) and A453 (Sutton Road) to the south. The extensive surrounding agricultural land could also potentially provide a source of biomass (e.g. willow or switch grass) within 5 miles of the development.</p> <p>There are no water resources within close proximity to the site, making hydropower generation and Water Source Heat Pumps unviable.</p> <p>There is no known existing infrastructure for decentralised/renewable energy for the development to connect to.</p> <p><u>Solution Required for the Development of this Option</u></p>

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Appraisal Criteria	Indicator	Score	Scoring Criteria
			<p>Given the scale of this Option, consideration should be given to the potential for the incorporation of renewable and low-carbon forms of energy supply as part of this Option.</p>

### 3. Deliverability

Appraisal Criteria	Indicator	Score	Scoring Criteria
Deliverability	Ownership	1	<p><u>Scoring</u></p> <p>This Growth Option scores 4. This Growth Option comprises two main areas of land within the Mile Oak area. These areas comprise/form part of sites which have been submitted as part of the emerging SHLAA currently being undertaken on behalf of Lichfield District Council.</p> <p><u>Solution for the Development of this Option</u></p> <p>None identified</p>
		2	
		3	
		4	
	Physical Constraints <i>(including an assessment of landform, potential for pollution or contamination, drainage ditches, pylons, known underground utilities infrastructure requiring safeguarding / re-routing etc)</i>  <i>(note – other site suitability indicators such as policy and other environmental restrictions and impacts are considered separately above)</i>	1	<p><u>Scoring</u></p> <p>This Option scores 4 due to the limited constraining physical site features. It is comprised of 3 parcels of land at Mile Oak. The parcels are relatively flat and comprise open land, often in agricultural use. There are no pylons on site and the three parcels are at present generally open greenfield land so there is minimal potential for contamination.</p> <p><u>Solution Required for Development of This Option</u></p> <p>None identified</p>
		2	
		3	
		4	
	Environmental Conditions <i>(including quality of surrounding environment, nature of surrounding uses and associated potential for amenity impacts such as noise, dust and smell)</i>	1	<p><u>Scoring</u></p> <p>Growth Option F scores 3 due to the generally limited constraining features. Growth Option F is situated within Mile Oak to the west of Fazeley. The site is surrounded by open fields and residential development. There is an employment site (garage) to the north of the site but this is separated from the site by the B8404. The existence of a number of surrounding roads could however give rise to</p>
		2	



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Appraisal Criteria	Indicator	Score	Scoring Criteria
		3	amenity impacts from traffic noise.
		4	<p><u>Solution Required for the Development of this Option</u></p> <p>Careful landscaping, siting and design to mitigate traffic noise impacts from the surrounding main road network.</p>

## Tamworth Development and Infrastructure Study

### Option G: Lichfield (Land North of Perrycrofts)

#### Physical and Community Infrastructure

Appraisal Criteria	Indicator	Score	Scoring Criteria
<b>Physical Infrastructure Capacity and Impact</b>	Capacity of / impact on existing highways infrastructure, Accessing Tamworth Centre  <i>(based on: volume over capacity results extracted from the Tamworth Traffic Model, 2007 base data. Assessment based on the most direct access to Tamworth Town Centre from the Area where the Option is located)</i>	0	<u>Scoring</u>  This Option scores 1 on this assessment. This Option impacts on the A513 and the B5493 Ashby Road junction (Plan A3 ref. 1). The impact would result in an over capacity of 100% during the peak period and would be difficult to improve.
		1	The junction is surrounded by existing development, with limited space. In addition, the constraints imposed by the railway lines lead to a situation where there are no viable alternative routes. This junction will therefore require upgrading, or an alternative junction solution implemented, should Option G be developed.
		2	<u>Solution Required for Development of Option G</u>
		3	A new route, which would have to cross the railway, or a difficult junction improvement at the junction of the A513 and B5493 Ashby Road, will be required for the development of this Option. Within the LTP there is a crossing of the railway (the Anker Valley link), which would provide a solution to the capacity problem, although the cost of providing a solution to this is high. In addition the link would require to cross land not part of development option G, and therefore making implementation of the link harder.
		4	
	Capacity of / impact on existing highways infrastructure, Accessing the Strategic Road Network  <i>(based on: volume over capacity results extracted from the Tamworth Traffic</i>	1	<u>Scoring</u>  This Option scores 1 on this assessment. This Option impacts on the A513 and the B5493 Ashby Road junction (Plan A7 ref. 1), the A453 and A4091 Fazeley Road junction (Plan A7 ref. 4) and the access to Ventura park from Bittercote Drive (Plan A7 ref. 5). The impact would result in an over capacity of 100% during peak period and would be difficult to improve. The Junction of the A513 and
		2	

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Appraisal Criteria	Indicator	Score	Scoring Criteria
	<i>Model, 2007 base data. Assessment based on the most direct access to the Strategic Road Network from the Area where the Option is located)</i>	3	B5493 is difficult to improve as well as two other constraint points impacted; therefore Option G scores 1 on this assessment.
		4	<p>The junction of the A513 and B5493 (Map ref.1) is surrounded by existing development, with limited space. In addition, the constraints imposed by the railway lines lead to a situation where there are no viable alternative routes. This junction will therefore require upgrading, should Option G be developed. The junctions at Map ref. 4 and Map ref. 5 are further from Option G, on the opposite side of the town centre from the development. Therefore while the quickest route to the strategic road network leads to an impact on these constraint points, there are several alternative routes, and therefore the impact on these critical junctions is likely to be less, due to the potential for traffic distribution across the network when accessing the strategic network.</p> <p>Traffic would likely have to cross the Town Centre to access the strategic road network which is a significant dis-benefit to development to the immediate north of Tamworth Centre. Development Option G falls into this category.</p> <p><u>Solution Required for Development of Option G</u></p> <p>A new route, which would have to cross the railway, or a difficult junction improvement at the junction of the A513 and B5493 Ashby Road, will be required for the development of this Option. Within the LTP there is a crossing of the railway (the Anker Valley link), which would provide a solution to the capacity problem, although the cost of providing a solution to this is high. In addition the link would require to cross land not part of development option G, and therefore making implementation of the link harder.</p>
Availability of / impact on potable water supply facilities		1	<p><u>Scoring</u></p> <p>Option G scores 2 on this assessment due to the medium impact this development would have on potable water supplies.</p>
		2	<p><u>Solution Required for the Development of this Option</u></p>
		3	<p>South Staffordshire water supplies this Growth Option. The development would require approximately 2.5Km of 300mm diameter water main and booster. Refurbishment/upgrading of the existing booster plant and associated mechanical/electrical kit at Wiggington Booster Site may also be needed.</p>

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Appraisal Criteria	Indicator	Score	Scoring Criteria
	Availability of / impact on waste water treatment facilities	4	
		1	<u>Scoring</u>
		2	All Growth Options have been given a score of 4 due to the level of available strategic waste water treatment infrastructure capacity and resultant likely limited impact the development would have on these facilities. Severn Trent Water deals with waste water treatment for the whole of the study area. The infrastructure provider advises that there will likely be sufficient capacity in existing waste water treatment facilities to serve this Development Option.
		3	<u>Solution Required for Development of this Option</u>
		4	None identified
	Availability of / impact on waste treatment infrastructure	1	<u>Scoring</u>
		2	Growth Option F is within Staffordshire Waste Authority's catchment. The nearest transfer station is outside the study boundary but currently serves Tamworth and Lichfield and will be able to accommodate additional housing growth. Due to the large catchment of this transfer station, all sites within Staffordshire have been given a score of 3.
		3	<u>Solution Required for the Development of this Option</u> None specifically required although a planning application has recently been submitted for a new transfer station at Lower House Farm (North Warwickshire Boundary) which will serve both Warwickshire and Staffordshire Authority areas and will further enhance available capacity to

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Appraisal Criteria	Indicator	Score	Scoring Criteria
		4	accommodate the additional dwellings throughout the study area.
	Availability of / impact on energy infrastructure	1	<u>Scoring</u>
		2	All Growth Options score 4 due to its minimal impact on the energy infrastructure and there being adequate capacity to accommodate the level of growth anticipated. E-on (the main electricity provider within the study area) identifies that the level of growth anticipated in any single Growth Options would, in relative terms, not represent a very substantial load in terms of electricity supply. The provider advises that there would be no major electricity infrastructure problems in any of the Growth Option locations identified.
		3	<u>Solution Required for Development of this Option</u>
		4	None identified
<b>Community Infrastructure Accessibility</b>  (Strategic Public Transport Facilities)	Proximity to key existing public transport hubs (i.e. bus and rail stations within Tamworth Town Centre)	1	<u>Scoring</u>
		2	This Option scores 3 on this assessment. It is less than 15 minute cycle / public transport and private vehicle travel time from Tamworth station. Walk time is higher than 15 minutes. The station is accessed via the A513.
		3	<u>Solution Required for Development of this Option</u>
		4	Satisfactory walk and cycle provision along the A513 will be required to allow access to the station.
	Accessibility to main bus routes  <i>(i.e. a route that has a frequency of 2 per hour or more in the AM peak period, between 07:00 – 09:00)</i>	1	<u>Score</u>
		2	Option G scores 3 on this assessment. The more frequent services (greater than 4 services per hour) that operate around the Tamworth area currently do not operate to the north of the town centre. This
		3	

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Appraisal Criteria	Indicator	Score	Scoring Criteria
		4	<p>is due to the smaller level of housing and employment situated to the north of Tamworth Centre.</p> <p><u>Solution Required for Development of this Option</u></p> <p>Significant levels of housing growth could increase the potential to extend bus services within this part of the study area. In order to achieve this, bus facilities such as stops and shelters would need to be provided. A contribution to subsidise new / extended services may also need to be considered, in consultation with the relevant bus operator.</p>
<p><b>Community Infrastructure Accessibility</b>  (Education)</p>	<p>Accessibility to Nurseries / Pre-School facilities</p>	1	<p><u>Scoring</u></p> <p>This Option scores 4 for this assessment. The accessibility for Nursery facilities for Option C scores 4. Plan B2 shows the public transport accessibility for Nurseries. This represents the public transport access time, including wait time. The walk time was calculated from the walk distance to the closest destination of this type from Option G. The lowest access time was the time that was used for the assessment score.</p> <p>The closest current facilities are located to the north at Wigginton. The closest facility is a distance of 200m, which is a walk access time of 3 minutes.</p> <p><u>Solution Required for Development of Option G</u></p> <p>Satisfactory walk links within Option G will provide good connections to the local provision. Implementation of on-site provision of nursery facilities would enhance accessibility (to the entirety of the development option) but the assessment score would remain as 4.</p>
		2	
		3	
		4	
	<p>Accessibility to Primary Schools</p>	1	<p><u>Scoring</u></p> <p>The accessibility for Primary School facilities for Option G scores 4. Plan B3 shows the public transport accessibility for Primary Schools. This represents the public transport access time, including wait time. The walk time was also calculated from the walk distance to the closest destination of this type from Option G. The lowest access time was the time that was used for the assessment score.</p>
		2	<p>The closest current facilities are located to the south at Leyfields and to the north at Wigginton. The closest facility is a distance of 263m, which is a walk access time of 3 minutes.</p>
		3	<p><u>Solution Required for Development of this Option</u></p>

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Appraisal Criteria	Indicator	Score	Scoring Criteria
	Accessibility to Secondary Schools	4	Satisfactory walk links within Option G will provide good connections to the local provision. Implementation of on-site provision of primary school facilities would enhance accessibility (to the entirety of the development option) but the assessment score would remain as 4.
		1	<u>Scoring</u> The accessibility for Secondary School facilities for Option C scores 4. Plan B4 shows the public transport accessibility for Secondary Schools. This represents the public transport access time, including wait time. The walk time was also calculated from the walk distance to the closest destination of this type from Option G. The lowest access time of either public transport or walking was the value that was used for the assessment score.
		2	
		3	The closest current facility is located close to Option G, to the north of Leyfields. The closest facility is a distance of 210m, which is a walk access time of 3 minutes.
		4	<u>Solution Required for Development of this Option</u> Satisfactory walk links within Option G will provide good connections to the local provision.
	Accessibility to existing / planned Higher Education Centres	1	<u>Scoring</u> The accessibility for Higher Education facilities for Option G scores 3. Plan B5 shows the public transport accessibility for Higher Education. This represents the public transport access time, including wait time. The walk time was also calculated from the walk distance to the closest destination of this type from Option G. The lowest access time of either public transport or walking was the value that was used for the assessment score.
		2	
		3	The closest current facility is located to the south along the A513. The closest facility is a distance of 1578m, which has a walk access time of 20 minutes.
		4	<u>Solution Required for Development of this Option</u> Satisfactory walk and cycle links along the A513 should be provided.
	<b>Community Infrastructure</b>	Accessibility to GP Surgeries	1

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Appraisal Criteria	Indicator	Score	Scoring Criteria
<b>Accessibility (Health)</b>		2	The accessibility for GP facilities for Option G scores 2. Plan B6 shows the public transport accessibility for GP surgeries. This represents the public transport access time, including wait time. The walk time was also calculated from the walk distance to the closest destination of this type from Option G. The lowest access time of either public transport or walking was the value that was used for the assessment score.
		3	The closest current facility is located to the south along the B5493, to the south of the West Coast Main Line. The closest GP is a distance of 1833m, which has a walk access time of 23 minutes. While not outside DfT accessibility standards, the lack of GP facilities to the north of the West Coast Main Line limits accessibility to the north of Tamworth.
		4	<p><u>Solution Required for Development of this Option</u></p> Improving public transport connection to the town centre will improve accessibility. This destination type has the potential to be provided on site, should the development size permit this to be a feasible option. Provision on this site would provide additional benefit for nearby existing residential development to the north of Tamworth. Implementation of on-site GP provision as part of the delivery of this Development Option would elevate the assessment score to 4.
		Accessibility to Hospitals	1
	2		The accessibility for Hospital facilities for Option G scores 2. Plan B7 shows the public transport accessibility for local hospital facilities. This represents the public transport access time, including wait time. The walk time was also calculated from the walk distance to the closest destination of this type from Option G. The lowest access time of either public transport or walking was the value that was used for the assessment score.
	3		The closest current facility is located to at Mile Oak, to the south of Tamworth, and is located in Lichfield District. This hospital is a distance of 5887m from option G, which translates to a walk access time of 74 minutes, making public transport the only realistic option. The public transport access time is within the DfT recommended time; however this will require access across the town centre, requiring interchange at the town centre between services. In addition, the existing hospital facilities within Tamworth are limited, meaning that it is likely a hospital trip may require a more strategic level trip, limiting the viability of using public transport.
	4		<p><u>Solution Required for Development of this Option</u></p> Enhanced connections to services will improve the situation, particularly in providing connections at



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Appraisal Criteria	Indicator	Score	Scoring Criteria
			the city centre and improving connections to the Fazeley area.
<b>Community Infrastructure Accessibility</b>  (Retail, leisure and Employment)	Accessibility to Tamworth Town Centre	1	<u>Scoring</u>  The accessibility for access to the town centre for Option G scores 3. Plan B8 shows the public transport accessibility for the Town Centre. This represents the public transport access time, including wait time. The walk time was also calculated from the walk distance to the closest destination of this type from Option G. The lowest access time of either public transport or walking was the value that was used for the assessment score.
		2	
		3	The town centre is accessed via the A513, to the south of the West Coast Main Line. The walk distance is 2144m, which leads to a walk access time of 27 minutes. Public transport access time is less than 20 minutes.
		4	<u>Solution Required for Development of Option C</u>  The walk and cycle time has the potential to be improved by providing improved facilities along the A513.
	Accessibility to Local Centre Facilities	1	<u>Scoring</u>  The accessibility for access to a local centre for Option G scores 4. Plan B9 shows the public transport accessibility for Local Centres. This represents the public transport access time, including wait time. The walk time was also calculated from the walk distance to the closest destination of this type from Option G. The lowest access time of either public transport or walking was the value that was used for the assessment score.
		2	
		3	Scoring - The nearest area with local centre facilities is located to the south of the development option G, located in Leyfields. The walk distance is 498m, which leads to a walk access time of 6 minutes.
		4	<u>Solution Required for Development of this Option</u>  Satisfactory walk and cycle facilities along the A513 should be provided. This destination type has the potential to be provided on site, should the development size permit this to be a feasible option. Implementation of on-site provision of local centre facilities would enhance accessibility (to the entirety

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Appraisal Criteria	Indicator	Score	Scoring Criteria
	Accessibility to existing recreation and leisure facilities (i.e. formal built sport and leisure facilities)		of the development option) but the assessment score would remain as 4.
		1	<u>Scoring</u> The accessibility for access to a leisure centre for Option G scores 4. Plan B10 shows the public transport accessibility to Leisure Centres. This represents the public transport access time, including wait time. The walk time was also calculated from the walk distance to the closest destination of this type from Option G. The lowest access time of either public transport or walking was the value that was used for the assessment score.
		2	
		3	There are facilities located in the vicinity of Option G. The walk distance is 150m, which leads to a walk access time of 2 minutes.
	4	<u>Solution Required for Development of this Option</u> Satisfactory walk links along the A513 should be provided. This destination type has the potential to be provided on site, should the development size permit this to be a feasible option. Implementation of on-site provision of leisure and recreation facilities would enhance accessibility (to the entirety of the development option) but the assessment score would remain as 4.	
	Accessibility to existing / planned major employment facilities	1	<u>Scoring</u> The accessibility for access to employment sites for Option G scores 2. Plan B11 shows the public transport accessibility to employment centres. This represents the public transport access time, including wait time. The walk time was also calculated from the walk distance to the closest destination of this type from Option G. The lowest access time of either public transport or walking was the value that was used for the assessment score.
		2	
		3	The walk distance to the closest major employment provision is 1741m, which leads to a walk access time of 22 minutes. Employment facilities tended to be located to the south of the West Coast Rail Line, and close to the strategic road network. This leads to a disconnect between this development option and existing employment provision.
		4	<u>Solution Required for Development of this Option</u>

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Appraisal Criteria	Indicator	Score	Scoring Criteria
			Improving public transport service provision to the north of Tamworth will improve connection to employment for Option G, as well improving connections for the surrounding areas. Implementation of on-site major employment provision, as part of the delivery of this Development Option, would elevate the assessment score to 4.
<b>Community Infrastructure Accessibility</b>  <b>(Green Space)</b>	Accessibility to existing major formal open space facilities (including sports pitches / school playing fields, formal parks and allotments)  <i>(assessment based on walk times along the road network using 'Geoconcept' software and 'Accession' software to define public transport accessibility)</i>	1	<u>Scoring</u>
		2	The accessibility for access to major formal open space facilities for all Growth Options scores 3, with all having good accessibility to at least one type of existing formal open space facilities. Conversely however, it is understood that all Growth Options are deficient in terms of the quantitative and / or qualitative capacity of existing accessible open space facilities.
		3	<u>Solution Required for Development of this Option</u>  Improvements required to enhance the capacity of open space provision to serve this Development Option. This destination type has the potential to be provided on site. Implementation of on-site major open space provision provided as part of the delivery of this Development Option would elevate the assessment score to 4.
		4	
<b>Community Infrastructure Capacity</b>  <b>(Education)</b>	Capacity of accessible Primary Schools  <i>(note – 'accessible' is defined as a facility scoring either 2,3 or 4 against the criteria applied to measure accessibility)</i>	1	<u>Scoring</u>
		2	This Option scores 2 due to the likely need for a new primary school to be provided should this Option be developed. The general capacity of primary schools within the area is limited. Due to this being a changing variable, it is difficult to assess the capacity at each school and all the primary schools in the Tamworth area are therefore scored equally.
		3	<u>Solution Required for the Development of this Option</u>
		4	Staffordshire County Council Children and Lifelong Learning Directorate's current generic approach is that a development of circa 1,000 houses would trigger the need for a new primary school to serve the development. This destination type has the potential to be provided on site. Implementation of on-site provision of a new primary school would elevate the assessment score to 4.

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Appraisal Criteria	Indicator	Score	Scoring Criteria
	<p>Capacity of accessible Secondary Schools</p> <p><i>(note – ‘accessible’ is defined as a facility scoring either 2,3 or 4 against the criteria applied to measure accessibility)</i></p>	1	<u>Scoring</u>
		2	All Growth Options score 3 due to the likely available capacity across the study area to accommodate additional secondary school place requirements arising from this Option. Due to this being a changing variable however, it is difficult to assess the capacity at each school and all the secondary schools in the study area are therefore scored equally.
		3	<u>Solution Required for the Development of this Option</u>
		4	None specifically identified although Staffordshire has made a successful bid for early entry into the Building Schools for the Future Programme. Capacity of secondary schools across the county is low at present. However, a £100M bid to transform secondary education in Tamworth was approved by the DCSF in June 2008. Five secondary schools will remain open in Tamworth.
	<p>Capacity of accessible existing / planned Higher Education Centres</p> <p><i>(note – ‘accessible’ is defined as a facility scoring either 2,3 or 4 against the criteria applied to measure accessibility)</i></p>	1	<u>Scoring</u>
		2	All Growth Options score 3 due to the likely available capacity across the study area to accommodate additional Higher Education place requirements arising from this Option. Due to this being a changing variable, it has been advised that it is difficult to assess the likely future capacity of Tamworth and Lichfield College.
		3	<u>Solution Required for the Development of this Option</u>
		4	None identified. The successful bid to the Building Schools for the Future Programme will lead to the creation of a post 16 centre and a new academy
<p><b>Community Infrastructure Capacity</b></p> <p><b>(Health)</b></p>	<p>Capacity of accessible GP Surgeries</p> <p><i>(note – ‘accessible’ is defined as a facility scoring either 2,3 or 4 against the criteria applied to measure accessibility)</i></p>	1	<u>Scoring</u>
		2	For the purposes of this study, and in the absence of other available information, all Growth Options have been given an assessment score of 2. Although it is understood that GP surgeries within the study area currently have some available capacity, Staffordshire Primary Care anticipates that these facilities will need to be enhanced and new facilities provided given the scale of development proposed.
		3	<u>Solution Required for the Development of this Option</u>
		4	This destination type has the potential to be provided on site. Implementation of on-site GP Surgery provision could be provided as part of the delivery of this Development Option and would elevate the

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Appraisal Criteria	Indicator	Score	Scoring Criteria
			assessment score to 4.

**2. Impact on Environmental Resources**

Appraisal Criteria	Indicator	Score	Scoring Criteria
Effective Protection and Enhancement of the Environment	Degree of Flood Risk	0	<p><u>Scoring</u></p> <p>This Option scores 4 due to its location outside of flood risk zones (i.e. it is within Flood Zone 1 which is a low risk of flooding)</p> <p><u>Solution for Development of this Option</u></p> <p>None identified.</p>
		1	
		2	
		3	
		4	
	Impact on Nature Conservation Resources and Objectives	0	<p><u>Scoring</u></p> <p>This Option scores 4 due to its location outside of any national or local nature conservation designation.</p> <p><u>Solution for the Development of this Option</u></p> <p>None identified although a strategy to maintain and enhance nature conservation and biodiversity should be progressed as part of all Growth Options.</p>
		1	
		2	
		3	
		4	
	Impact on Green Belt and Landscape	1	<p><u>Scoring</u></p> <p>Option A is scored 3 due to it not creating any direct or indirect impacts on the Green Belt but with no ability to improve a currently degraded landscape. The site is located outside the Green Belt.</p> <p><u>Solution for the Development of this Option</u></p>
		2	

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Appraisal Criteria	Indicator	Score	Scoring Criteria
		3	None identified
		4	
	Impact on Major Open Space Facilities (including sports pitches / school playing fields, formal parks and allotments)	1	<u>Scoring</u>
		2	Growth Option B scores 4. The development of this site would not lead to any direct loss of defined open space facilities considered under this assessment criteria.
		3	<u>Solution Required for the Development of this Option</u> See comments regarding potential on-site improvements to major open space provision under assessment of accessibility to major open space facilities.
		4	
	Impact on Heritage Resources (e.g. conservation areas, listed buildings, scheduled ancient monuments and, historic parks and gardens)	1	<u>Scoring</u>
		2	The site lies outside of any identified heritage resources. The site could however indirectly impact the Wigginton Conservation Area and therefore scores 2.
		3	<u>Solution Required for the Development of this Option</u>
		4	Screening/buffering the site and sensitive design/development could mitigate the impact of this development on the Conservation Area.
<b>Prudent Use of Natural Resources</b>	Land Classification	1	<u>Scoring</u>
		2	This Option scores 3. In terms of impact on agricultural land quality, the site comprises grade 3 agricultural land. As with all growth options, this Option lies outside of any proposed mineral extraction areas.

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Appraisal Criteria	Indicator	Score	Scoring Criteria
		3	<u>Solution for the Development of this Option</u>
		4	None identified.
	Renewable and Low-Carbon Forms of Energy Supply	1	<u>Scoring</u>
		2	<p>This Growth Option scores 3. The sites have moderate potential to readily and viably draw upon decentralised and renewable / low-carbon forms of energy supply systems:</p> <p>Most wind turbines start generating electricity at wind speeds of around 4-5 metres per second (m/s), (10 miles per hour); generate maximum 'rated' power at around 15 m/s (30mph); and shut down to prevent storm damage at 25 m/s or above (50mph). The BERR Windspeed Database indicates that this site has average windspeeds of: 5.9 m/s at 45m above ground level (agl); 5.3 m/s at 25m agl; and 4.5 m/s at 10m agl. This suggests that wind turbines, particularly those under 25 m agl would perform towards the bottom of the operating range. This may make wind turbines unviable for this site, though this would obviously be subject to more detailed analysis.</p>
		3	<p>The site is currently undeveloped, and capture of solar energy is not constrained by shading from surrounding buildings or geographical features.</p> <p>The agricultural nature of the site suggests that constraints on laying horizontal or vertical pipework for Ground Source Heat Pumps is unlikely. In addition, the British Geological Survey identifies the area as having a mixture of bedrocks including mudstone, siltstone and sandstone, which should not preclude the drilling of boreholes if necessary, though further detailed analysis is required.</p>
		4	<p>Access for the supply of biomass for community CHP systems is not significantly constrained as the centre of site is accessible via the A513 (Comberford Road). The extensive surrounding agricultural land could also potentially provide a source of biomass (e.g. willow or switch grass) within 5 miles of the development.</p>
			<p>There are no water resources within close proximity to the site, making hydropower generation and Water Source Heat Pumps unviable.</p> <p>There is no known existing infrastructure for decentralised/renewable energy for the development to connect to.</p>
	<u>Solution Required for the Development of this Option</u>		



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Appraisal Criteria	Indicator	Score	Scoring Criteria
			<p>Given the scale of this Option, consideration should be given to the potential for the incorporation of renewable and low-carbon forms of energy supply as part of this Option.</p>

### 3. Deliverability

Appraisal Criteria	Indicator	Score	Scoring Criteria
Deliverability	Ownership	1	<p><u>Scoring</u></p> <p>This Option scores 3 on this assessment. The Growth Option can be split into three areas of land separated by existing roads and adjacent development. Two areas comprise/form part of sites which have been submitted as part of the recent SHLAA undertaken on behalf of Lichfield District Council.</p> <p><u>Solution Required for the Development of this Option</u></p> <p>Developer aspirations should to be sought for the third parcel of land</p>
		2	
		3	
		4	
	Physical Constraints <i>(including an assessment of landform, potential for pollution or contamination, drainage ditches, pylons, known underground utilities infrastructure requiring safeguarding / re-routing etc)</i>  <i>(note – other site suitability indicators such as policy and other environmental restrictions and impacts are considered separately above)</i>	1	<p><u>Scoring</u></p> <p>This Option scores 3 for this assessment. The land is relatively flat and comprises open agricultural fields with minimal potential for contamination issues. Pylons run through the western parcel of land and a minor watercourse runs along the southern boundary of the site and the Environment Agency may need access (a 20m buffer zone) to the watercourse.</p> <p><u>Solution Required for the Development of this Option</u></p> <p>Careful siting and design of development to address physical constraints presented by pylons and adjoining water course..</p>
		2	
		3	
		4	
	Environmental Conditions <i>(including quality of surrounding environment, nature of surrounding uses and associated potential for amenity impacts such as noise, dust and smell)</i>	1	<p><u>Scoring</u></p> <p>This Option scores 3 for this assessment. It is situated to the north of Tamworth urban area. The site is adjacent to open fields to the north of the site. To south of the site is residential development. To the east of the site is a water treatment works which could detrimentally affect the amenity of the</p>
		2	

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Appraisal Criteria	Indicator	Score	Scoring Criteria
		3	development
		4	<p><u>Solution Required for the Development of this Option</u></p> <p>Screen/buffer the site from the treatment works to mitigate any detrimental amenity impact such as smell and noise.</p>

APPENDIX 10

**Option A - Land North of Tamworth (Anker Valley, Tamworth)  
No Link Road**

Total Size	59.10
Employment Land Requirement (ha) - assumed circa 20%	11.82
Revised Site Area (ha)	47.28
Assumed Developable Area (60% of total site size)	28.37
Assessment of Dwelling Capacity (40dph)	1135
Initial Assessment of Population (2.5 persons per dwelling)	2837
Primary School (no. of pupils)	238
Primary School (site area ha)	2
Primary School (cost)	£2,628,590

Secondary School (assumed no provision requirement)	0
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Local Centre (site area ha)	1.45
New Local Health Centre	£600,000
Local Community Hall / Sports Hall	£615,000
Nursery (no. of pupils)	34
Nursery (cost)	£375,513
Place of Worship	£0
Library	£0

Open Space	
Children's Play Space (0.8 ha per 1000 population)	2.27
Children's Play Space (£1,250 estimated cost per dwelling)	£1,418,400

Outdoor Sports Space (1.6 ha per 1000 population)	4.54
Outdoor Sports Space (£750 estimated cost per dwelling)	£851,040

Offsite Highways Improvements	£1,427,083
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Other Off-site Physical Infrastructure Improvements	
2.1 km of new off-site water main at £300/linear metre	£630,000

**Summary of Development Contribution Requirement**

Total Development Infrastructure Cost	£8,545,626
Estimated Total Dwelling Capacity	1135
Development Contribution Cost per Dwelling (excl employment)	£7,531

APPENDIX 10

**Option A - Land North of Tamworth (Anker Valley, Tamworth)  
With Anker Valley Link Road Only**

Total Size	59.10
Employment Land Requirement (ha) - assumed circa 20%	11.82
Revised Site Area (ha)	47.28
Assumed Developable Area (60% of total site size)	28.37
Assessment of Dwelling Capacity (40dph)	1135
Initial Assessment of Population (2.5 persons per dwelling)	2837
Primary School (no. of pupils)	238
Primary School (site area ha)	2
Primary School (cost)	£2,628,590

Secondary School (assumed no provision requirement) 0

Local Centre (site area ha)	1.45
New Local Health Centre	£600,000
Local Community Hall / Sports Hall	£615,000
Nursery (no. of pupils)	34
Nursery (cost)	£375,513
Place of Worship	£0
Library	£0

Open Space	
Children's Play Space (0.8 ha per 1000 population)	2.27
Children's Play Space (£1,250 estimated cost per dwelling)	£1,418,400
Outdoor Sports Space (1.6 ha per 1000 population)	4.54
Outdoor Sports Space (£750 estimated cost per dwelling)	£851,040

Offsite Highways Improvements (incl full cost of Anker Valley Link) £21,427,083

Other Off-site Physical Infrastructure Improvements  
2.1 km of new off-site water main at £300/linear metre £630,000

**Summary of Development Contribution Requirement**

Total Development Infrastructure Cost	£28,545,626
Estimated Total Dwelling Capacity	1135
Development Contribution Cost per Dwelling (excl employment)	£25,157

APPENDIX 10

**Option A - Land North of Tamworth (Anker Valley, Tamworth)  
With Anker Valley and Amington Links**

Total Size	59.10
Employment Land Requirement (ha) - assumed circa 20%	11.82
Revised Site Area (ha)	47.28
Assumed Developable Area (60% of total site size)	28.37
Assessment of Dwelling Capacity (40dph)	1135
Initial Assessment of Population (2.5 persons per dwelling)	2837
Primary School (no. of pupils)	238
Primary School (site area ha)	2
Primary School (cost)	£2,628,590
Secondary School (assumed no provision requirement)	0
Local Centre (site area ha)	1.45
New Local Health Centre	£600,000
Local Community Hall / Sports Hall	£615,000
Nursery (no. of pupils)	34
Nursery (cost)	£375,513
Place of Worship	£0
Library	£0
Open Space	
Children's Play Space (0.8 ha per 1000 population)	2.27
Children's Play Space (£1,250 estimated cost per dwelling)	£1,418,400
Outdoor Sports Space (1.6 ha per 1000 population)	4.54
Outdoor Sports Space (£750 estimated cost per dwelling)	£851,040
Offsite Highways Improvements (incl full cost of Anker Valley & Amington Links)	£31,427,083
Other Off-site Physical Infrastructure Improvements	
2.1 km of new off-site water main at £300/linear metre	£630,000

**Summary of Development Contribution Requirement**

Total Development Infrastructure Cost	£38,545,626
Estimated Total Dwelling Capacity	1135
Development Contribution Cost per Dwelling (excl employment)	£33,969

APPENDIX 10

**Option A - Land North of Tamworth Urban Area (Anker Valley, Tamworth)  
250 Dwelling Cap**

Total Size	10.42
Employment Land Requirement (ha) - assumed circa 20%	0.00
Revised Site Area (ha)	10.42
Assumed Developable Area (60% of total site size)	6.25
Assessment of Dwelling Capacity (40dph)	250
Initial Assessment of Population (2.5 persons per dwelling)	625
Primary School (no. of pupils)	53
Primary School (site area ha)	0
Primary School (cost)	£579,313
Secondary School (assumed no provision requirement)	0
Local Centre (site area ha)	0
New Local Health Centre	£0
Local Community Hall / Sports Hall	£0
Nursery (no. of pupils)	8
Nursery (cost)	£82,759
Place of Worship	£0
Library	£0
Open Space	
Children's Play Space (0.8 ha per 1000 population)	0.50
Children's Play Space (£1,250 estimated cost per dwelling)	£312,600
Outdoor Sports Space (1.6 ha per 1000 population)	1.00
Outdoor Sports Space (£750 estimated cost per dwelling)	£187,560
Offsite Highways Improvements	£1,427,083
Other Off-site Physical Infrastructure Improvements	
2.1 km of new off-site water main at £300/linear metre	£630,000

**Summary of Development Contribution Requirement**

Total Development Infrastructure Cost	£3,219,315
Estimated Total Dwelling Capacity	250
Development Contribution Cost per Dwelling	£12,873

APPENDIX 10

**Option A - Land North of Tamworth Urban Area (Anker Valley, Tamworth)  
900 Dwelling Cap**

Total Size	37.50
Employment Land Requirement (ha) - assumed circa 20%	0.00
Revised Site Area (ha)	37.50
Assumed Developable Area (60% of total site size)	22.50
Assessment of Dwelling Capacity (40dph)	900
Initial Assessment of Population (2.5 persons per dwelling)	2250
Primary School (no. of pupils)	189
Primary School (site area ha)	0
Primary School (cost)	£2,084,859
Secondary School (assumed no provision requirement)	0
Local Centre (site area ha)	0.75
New Local Health Centre	£0
Local Community Hall / Sports Hall	£0
Nursery (no. of pupils)	27
Nursery (cost)	£297,837
Place of Worship	£0
Library	£0
Open Space	
Children's Play Space (0.8 ha per 1000 population)	1.80
Children's Play Space (£1,250 estimated cost per dwelling)	£1,125,000
Outdoor Sports Space (1.6 ha per 1000 population)	3.60
Outdoor Sports Space (£750 estimated cost per dwelling)	£675,000
Offsite Highways Improvements	£1,427,083
Other Off-site Physical Infrastructure Improvements	
2.1 km of new off-site water main at £300/linear metre	£630,000

**Summary of Development Contribution Requirement**

Total Development Infrastructure Cost	£6,239,779
Estimated Total Dwelling Capacity	900
Development Contribution Cost per Dwelling	£6,933



APPENDIX 10

**Option A - Land North of Tamworth (Anker Valley, Tamworth)  
900 Dwellings with Anker Valley Link Road Only**

Total Size	37.50
Employment Land Requirement (ha) - assumed circa 20%	0.00
Revised Site Area (ha)	37.50
Assumed Developable Area (60% of total site size)	22.50
Assessment of Dwelling Capacity (40dph)	900
Initial Assessment of Population (2.5 persons per dwelling)	2250
Primary School (no. of pupils)	189
Primary School (site area ha)	0
Primary School (cost)	£2,084,859
Secondary School (assumed no provision requirement)	0
Local Centre (site area ha)	0.75
New Local Health Centre	£0
Local Community Hall / Sports Hall	£0
Nursery (no. of pupils)	27
Nursery (cost)	£297,837
Place of Worship	£0
Library	£0
Open Space	
Children's Play Space (0.8 ha per 1000 population)	1.80
Children's Play Space (£1,250 estimated cost per dwelling)	£1,125,000
Outdoor Sports Space (1.6 ha per 1000 population)	3.60
Outdoor Sports Space (£750 estimated cost per dwelling)	£675,000
Offsite Highways Improvements (incl full cost of Anker Valley Link)	£21,427,083
Other Off-site Physical Infrastructure Improvements	
2.1 km of new off-site water main at £300/linear metre	£630,000
<b>Summary of Development Contribution Requirement</b>	
Total Development Infrastructure Cost	£26,239,779
Estimated Total Dwelling Capacity	900
Development Contribution Cost per Dwelling (excl employment)	£29,155

APPENDIX 10

**Option B - Land South of Dosthill (Tamworth)  
No Dosthill Bypass**

Total Size	23.50
Employment Land Requirement (ha) - assumed circa 20%	0.00
Revised Site Area (ha)	23.50
Assumed Developable Area (60% of total site size)	14.10
Assessment of Dwelling Capacity (40dph)	564
Initial Assessment of Population (2.5 persons per dwelling)	1410
Primary School (no. of pupils)	118
Primary School (site area ha)	0
Primary School (cost)	£1,306,512
Secondary School (assumed no provision requirement)	0
Local Centre (site area ha)	0.75
New Local Health Centre	£600,000
Local Community Hall	£615,000
Nursery (no. of pupils)	17
Nursery (cost)	£186,645
Place of Worship	£0
Library	£0
Open Space	
Children's Play Space (0.8 ha per 1000 population)	1.13
Children's Play Space (£1,250 estimated cost per dwelling)	£705,000
Outdoor Sports Space (1.6 ha per 1000 population)	2.26
Outdoor Sports Space (£750 estimated cost per dwelling)	£423,000
Offsite Highways Improvements	£127,440
Other Off-site Physical Infrastructure Improvements	
0.3 km of new off-site water main at £300/linear metre	£90,000

**Summary of Development Contribution Requirement**

Total Development Infrastructure Cost	£4,053,596
Estimated Total Dwelling Capacity	564
Development Contribution Cost per Dwelling	£7,187

APPENDIX 10

**Option B - Land South of Dosthill (Tamworth)  
With Dosthill Bypass**

Total Size	23.50
Employment Land Requirement (ha) - assumed circa 20%	0.00
Revised Site Area (ha)	23.50
Assumed Developable Area (60% of total site size)	14.10
Assessment of Dwelling Capacity (40dph)	564
Initial Assessment of Population (2.5 persons per dwelling)	1410
Primary School (no. of pupils)	118
Primary School (site area ha)	0
Primary School (cost)	£1,306,512
Secondary School (assumed no provision requirement)	0
Local Centre (site area ha)	0.75
New Local Health Centre	£600,000
Local Community Hall	£615,000
Nursery (no. of pupils)	17
Nursery (cost)	£186,645
Place of Worship	£0
Library	£0
Open Space	
Children's Play Space (0.8 ha per 1000 population)	1.13
Children's Play Space (£1,250 estimated cost per dwelling)	£705,000
Outdoor Sports Space (1.6 ha per 1000 population)	2.26
Outdoor Sports Space (£750 estimated cost per dwelling)	£423,000
Offsite Highways Improvements (incl full cost of Dosthill Bypass)	£5,127,440
Other Off-site Physical Infrastructure Improvements	
0.3 km of new off-site water main at £300/linear metre	£90,000

**Summary of Development Contribution Requirement**

Total Development Infrastructure Cost	£9,053,596
Estimated Total Dwelling Capacity	564
Development Contribution Cost per Dwelling	£16,052

APPENDIX 10

**Option B - Land South of Hockley (Tamworth)**

Total Size	17.70
Employment Land Requirement (ha) - assumed circa 20%	0.00
Revised Site Area (ha)	17.70
Assumed Developable Area (60% of total site size)	10.62
Assessment of Dwelling Capacity (40dph)	425
Initial Assessment of Population (2.5 persons per dwelling)	1062
Primary School (no. of pupils)	89
Primary School (site area ha)	0
Primary School (cost)	£984,053
Secondary School (assumed no provision requirement)	0
Local Centre (site area ha)	0.75
New Local Health Centre	£0
Local Community Hall	£0
Nursery (no. of pupils)	13
Nursery (cost)	£140,579
Place of Worship	£0
Library	£0
Open Space	
Children's Play Space (0.8 ha per 1000 population)	0.85
Children's Play Space (£1,250 estimated cost per dwelling)	£531,000
Outdoor Sports Space (1.6 ha per 1000 population)	1.70
Outdoor Sports Space (£750 estimated cost per dwelling)	£318,600
Offsite Highways Improvements	£127,440
Other Off-site Physical Infrastructure Improvements	
0.3 km of new off-site water main at £300/linear metre	£90,000

**Summary of Development Contribution Requirement**

Total Development Infrastructure Cost	£2,191,673
Estimated Total Dwelling Capacity	425
Development Contribution Cost per Dwelling	£5,159

APPENDIX 10

**Option C - Land North of Anker Valley (Lichfield)  
With No Link Road**

Total Size	78.00
Employment Land Requirement (ha) - assumed circa 20%	15.60
Revised Site Area (ha)	62.40
Assumed Developable Area (60% of total site size)	37.44
Assessment of Dwelling Capacity (40dph)	1498
Initial Assessment of Population (2.5 persons per dwelling)	3744
Primary School (no. of pupils)	314
Primary School (site area ha)	2
Primary School (cost)	£3,469,205

Secondary School (assumed no provision requirement) 0

Local Centre (site area ha)	1.45
New Local Health Centre	£600,000
Local Community Hall / Sports Hall	£615,000
Nursery (no. of pupils)	45
Nursery (cost)	£495,601
Place of Worship	£300,000
Library	£0

Open Space	
Children's Play Space (0.8 ha per 1000 population)	3.00
Children's Play Space (£1,250 estimated cost per dwelling)	£1,872,000

Outdoor Sports Space (1.6 ha per 1000 population)	5.99
Outdoor Sports Space (£750 estimated cost per dwelling)	£1,123,200

Offsite Highways Improvements (incl full cost of Anker Valley Link) £1,427,083

Other Off-site Physical Infrastructure Improvements  
2.1 km of new off-site water main at £300/linear metre £630,000

**Summary of Development Contribution Requirement**

Total Development Infrastructure Cost	£10,532,089
Estimated Total Dwelling Capacity	1498
Development Contribution Cost per Dwelling	£7,033

APPENDIX 10

**Option C - Land North of Anker Valley (Lichfield)  
With Anker Valley Link Road only**

Total Size	78.00
Employment Land Requirement (ha) - assumed circa 20%	15.60
Revised Site Area (ha)	62.40
Assumed Developable Area (60% of total site size)	37.44
Assessment of Dwelling Capacity (40dph)	1498
Initial Assessment of Population (2.5 persons per dwelling)	3744
Primary School (no. of pupils)	314
Primary School (site area ha)	2
Primary School (cost)	£3,469,205
Secondary School (assumed no provision requirement)	0
Local Centre (site area ha)	1.45
New Local Health Centre	£600,000
Local Community Hall / Sports Hall	£615,000
Nursery (no. of pupils)	45
Nursery (cost)	£495,601
Place of Worship	£300,000
Library	£0
Open Space	
Children's Play Space (0.8 ha per 1000 population)	3.00
Children's Play Space (£1,250 estimated cost per dwelling)	£1,872,000
Outdoor Sports Space (1.6 ha per 1000 population)	5.99
Outdoor Sports Space (£750 estimated cost per dwelling)	£1,123,200
Offsite Highways Improvements (incl full cost of Anker Valley Link)	£21,427,083
Other Off-site Physical Infrastructure Improvements	
2.1 km of new off-site water main at £300/linear metre	£630,000

**Summary of Development Contribution Requirement**

Total Development Infrastructure Cost	£30,532,089
Estimated Total Dwelling Capacity	1498
Development Contribution Cost per Dwelling	£20,387

APPENDIX 10

**Option C - Land North of Anker Valley (Lichfield)  
With Anker Valley and Amington Links**

Total Size	78.00
Employment Land Requirement (ha) - assumed circa 20%	15.60
Revised Site Area (ha)	62.40
Assumed Developable Area (60% of total site size)	37.44
Assessment of Dwelling Capacity (40dph)	1498
Initial Assessment of Population (2.5 persons per dwelling)	3744
Primary School (no. of pupils)	314
Primary School (site area ha)	2
Primary School (cost)	£3,469,205
Secondary School (assumed no provision requirement)	0
Local Centre (site area ha)	1.45
New Local Health Centre	£600,000
Local Community Hall / Sports Hall	£615,000
Nursery (no. of pupils)	45
Nursery (cost)	£495,601
Place of Worship	£300,000
Library	£0
Open Space	
Children's Play Space (0.8 ha per 1000 population)	3.00
Children's Play Space (£1,250 estimated cost per dwelling)	£1,872,000
Outdoor Sports Space (1.6 ha per 1000 population)	5.99
Outdoor Sports Space (£750 estimated cost per dwelling)	£1,123,200
Offsite Highways Improvements (incl full cost of Anker Valley & Amington Links)	£31,427,083
Other Off-site Physical Infrastructure Improvements	
2.1 km of new off-site water main at £300/linear metre	£630,000
<b>Summary of Development Contribution Requirement</b>	
Total Development Infrastructure Cost	£40,532,089
Estimated Total Dwelling Capacity	1498
Development Contribution Cost per Dwelling	£27,065

APPENDIX 10

**Option C - Land North of Anker Valley (Lichfield)  
900 Dwellings With No Link Road**

Total Size	37.50
Employment Land Requirement (ha) - assumed circa 20%	0.00
Revised Site Area (ha)	37.50
Assumed Developable Area (60% of total site size)	22.50
Assessment of Dwelling Capacity (40dph)	900
Initial Assessment of Population (2.5 persons per dwelling)	2250
Primary School (no. of pupils)	189
Primary School (site area ha)	0
Primary School (cost)	£2,084,859
Secondary School (assumed no provision requirement)	0
Local Centre (site area ha)	0.75
New Local Health Centre	£0
Local Community Hall / Sports Hall	£0
Nursery (no. of pupils)	27
Nursery (cost)	£297,837
Place of Worship	£0
Library	£0
Open Space	
Children's Play Space (0.8 ha per 1000 population)	1.80
Children's Play Space (£1,250 estimated cost per dwelling)	£1,125,000
Outdoor Sports Space (1.6 ha per 1000 population)	3.60
Outdoor Sports Space (£750 estimated cost per dwelling)	£675,000
Offsite Highways Improvements (incl full cost of Anker Valley Link)	£1,427,083
Other Off-site Physical Infrastructure Improvements	
2.1 km of new off-site water main at £300/linear metre	£630,000

**Summary of Development Contribution Requirement**

Total Development Infrastructure Cost	£6,239,779
Estimated Total Dwelling Capacity	900
Development Contribution Cost per Dwelling	£6,933



APPENDIX 10

**Option C - Land North of Anker Valley (Lichfield)  
900 Dwelling Cap With Anker Valley Link Road**

Total Size	37.50
Employment Land Requirement (ha) - assumed circa 20%	0.00
Revised Site Area (ha)	37.50
Assumed Developable Area (60% of total site size)	22.50
Assessment of Dwelling Capacity (40dph)	900
Initial Assessment of Population (2.5 persons per dwelling)	2250
Primary School (no. of pupils)	189
Primary School (site area ha)	0
Primary School (cost)	£2,084,859
Secondary School (assumed no provision requirement)	0
Local Centre (site area ha)	0.75
New Local Health Centre	£0
Local Community Hall / Sports Hall	£0
Nursery (no. of pupils)	27
Nursery (cost)	£297,837
Place of Worship	£0
Library	£0
Open Space	
Children's Play Space (0.8 ha per 1000 population)	1.80
Children's Play Space (£1,250 estimated cost per dwelling)	£1,125,000
Outdoor Sports Space (1.6 ha per 1000 population)	3.60
Outdoor Sports Space (£750 estimated cost per dwelling)	£675,000
Offsite Highways Improvements (incl full cost of Anker Valley Link)	£21,427,083
Other Off-site Physical Infrastructure Improvements	
2.1 km of new off-site water main at £300/linear metre	£630,000

**Summary of Development Contribution Requirement**

Total Development Infrastructure Cost	£26,239,779
Estimated Total Dwelling Capacity	900
Development Contribution Cost per Dwelling	£29,155

APPENDIX 10

**Option D - Land West of Polesworth (North Warwickshire)**

Total Size	142.60
Employment Land Requirement (ha) - assumed circa 20%	28.52
Revised Site Area (ha)	114.08
Assumed Developable Area (60% of total site size)	68.45
Assessment of Dwelling Capacity (40dph)	2738
Initial Assessment of Population (2.5 persons per dwelling)	6845
Primary School (no. of pupils)	575
Primary School (site area ha)	3
Primary School (cost)	£6,342,419
Secondary School (assumed no provision requirement)	0
Local Centre (site area ha)	1.45
New Local Health Centre	£600,000
Local Community Hall / Sports Hall	£615,000
Nursery (no. of pupils)	82
Nursery (cost)	£906,060
Place of Worship	£300,000
Library	£280,000
Open Space	
Children's Play Space (0.8 ha per 1000 population)	5.48
Children's Play Space (£1,250 estimated cost per dwelling)	£3,422,400
Outdoor Sports Space (1.6 ha per 1000 population)	10.95
Outdoor Sports Space (£750 estimated cost per dwelling)	£2,053,440
Offsite Highways Improvements	£276,925
Other Off-site Physical Infrastructure Improvements	
Minor booster plant upgrade (likely minimal cost)	£0

**Summary of Development Contribution Requirement**

Total Development Infrastructure Cost	£14,796,244
Estimated Total Dwelling Capacity	2738
Development Contribution Cost per Dwelling	£5,404

APPENDIX 10

**Option D - Land West of Polesworth (North Warwickshire) - 900 Dwelling Cap**

Total Size	37.50
Employment Land Requirement (ha) - assumed circa 20%	0.00
Revised Site Area (ha)	37.50
Assumed Developable Area (60% of total site size)	22.50
Assessment of Dwelling Capacity (40dph)	900
Initial Assessment of Population (2.5 persons per dwelling)	2250
Primary School (no. of pupils)	189
Primary School (site area ha)	0
Primary School (cost)	£2,084,859
Secondary School (assumed no provision requirement)	0
Local Centre (site area ha)	0.75
New Local Health Centre	£0
Local Community Hall / Sports Hall	£0
Nursery (no. of pupils)	27
Nursery (cost)	£297,837
Place of Worship	£0
Library	£0
Open Space	
Children's Play Space (0.8 ha per 1000 population)	1.80
Children's Play Space (£1,250 estimated cost per dwelling)	£1,125,000
Outdoor Sports Space (1.6 ha per 1000 population)	3.60
Outdoor Sports Space (£750 estimated cost per dwelling)	£675,000
Offsite Highways Improvements	£276,925
Other Off-site Physical Infrastructure Improvements	
Minor booster plant upgrade (likely minimal cost)	£0

**Summary of Development Contribution Requirement**

Total Development Infrastructure Cost	£4,459,621
Estimated Total Dwelling Capacity	900
Development Contribution Cost per Dwelling	£4,955

APPENDIX 10

**Option E - Land Between Stoneydelph and M42 (North Warwickshire)**

Total Size	71.20
Employment Land Requirement (ha) - assumed circa 20%	14.24
Revised Site Area (ha)	56.96
Assumed Developable Area (60% of total site size)	34.18
Assessment of Dwelling Capacity (40dph)	1367
Initial Assessment of Population (2.5 persons per dwelling)	3418
Primary School (no. of pupils)	287
Primary School (site area ha)	2
Primary School (cost)	£3,166,762
Secondary School (assumed no provision requirement)	0
Local Centre (site area ha)	1.45
New Local Health Centre	£600,000
Local Community Hall / Sports Hall	£615,000
Nursery (no. of pupils)	41
Nursery (cost)	£452,395
Place of Worship	£300,000
Library	£0
Open Space	
Children's Play Space (0.8 ha per 1000 population)	2.73
Children's Play Space (£1,250 estimated cost per dwelling)	£1,708,800
Outdoor Sports Space (1.6 ha per 1000 population)	5.47
Outdoor Sports Space (£750 estimated cost per dwelling)	£1,025,280
Offsite Highways Improvements	£145,750
Other Off-site Physical Infrastructure Improvements	
Minor booster plant upgrade (likely minimal cost)	£0

**Summary of Development Contribution Requirement**

Total Development Infrastructure Cost	£8,013,986
Estimated Total Dwelling Capacity	1367
Development Contribution Cost per Dwelling	£5,862

APPENDIX 10

**Option E - Land Between Stoneydelph and M42 (North Warwickshire) - 900 Dwellings**

Total Size	37.50
Employment Land Requirement (ha) - assumed circa 20%	0.00
Revised Site Area (ha)	37.50
Assumed Developable Area (60% of total site size)	22.50
Assessment of Dwelling Capacity (40dph)	900
Initial Assessment of Population (2.5 persons per dwelling)	2250
Primary School (no. of pupils)	189
Primary School (site area ha)	0
Primary School (cost)	£2,084,859
Secondary School (assumed no provision requirement)	0
Local Centre (site area ha)	0.75
New Local Health Centre	£0
Local Community Hall / Sports Hall	£0
Nursery (no. of pupils)	27
Nursery (cost)	£297,837
Place of Worship	£0
Library	£0
Open Space	
Children's Play Space (0.8 ha per 1000 population)	1.80
Children's Play Space (£1,250 estimated cost per dwelling)	£1,125,000
Outdoor Sports Space (1.6 ha per 1000 population)	3.60
Outdoor Sports Space (£750 estimated cost per dwelling)	£675,000
Offsite Highways Improvements	£145,750
Other Off-site Physical Infrastructure Improvements	
Minor booster plant upgrade (likely minimal cost)	£0

**Summary of Development Contribution Requirement**

Total Development Infrastructure Cost	£4,328,446
Estimated Total Dwelling Capacity	900
Development Contribution Cost per Dwelling	£4,809

APPENDIX 10

**Option F - Land at Mile Oak (Lichfield)**

Total Size	30.00
Employment Land Requirement (ha) - assumed circa 20%	0.00
Revised Site Area (ha)	30.00
Assumed Developable Area (60% of total site size)	18.00
Assessment of Dwelling Capacity (40dph)	720
Initial Assessment of Population (2.5 persons per dwelling)	1800
Primary School (no. of pupils)	151
Primary School (site area ha)	0
Primary School (cost)	£1,667,887
Secondary School (assumed no provision requirement)	0
Local Centre (site area ha)	0.75
New Local Health Centre	£600,000
Local Community Hall	£615,000
Nursery (no. of pupils)	22
Nursery (cost)	£238,270
Place of Worship	£0
Library	£0
Open Space	
Children's Play Space (0.8 ha per 1000 population)	1.44
Children's Play Space (£1,250 estimated cost per dwelling)	£900,000
Outdoor Sports Space (1.6 ha per 1000 population)	2.88
Outdoor Sports Space (£750 estimated cost per dwelling)	£540,000
Offsite Highways Improvements	£233,200
Other Off-site Physical Infrastructure Improvements	
Minor booster plant upgrade (likely minimal cost)	£0

**Summary of Development Contribution Requirement**

Total Development Infrastructure Cost	£4,794,357
Estimated Total Dwelling Capacity	720
Development Contribution Cost per Dwelling	£6,659

APPENDIX 10

**Option G - Land North of Perrycrofts (Lichfield)  
No Link Road**

Total Size	64.00
Employment Land Requirement (ha) - assumed circa 20%	12.80
Revised Site Area (ha)	51.20
Assumed Developable Area (60% of total site size)	30.72
Assessment of Dwelling Capacity (40dph)	1229
Initial Assessment of Population (2.5 persons per dwelling)	3072
Primary School (no. of pupils)	258
Primary School (site area ha)	2
Primary School (cost)	£2,846,527

Secondary School (assumed no provision requirement) 0

Local Centre (site area ha)	1.45
New Local Health Centre	£600,000
Local Community Hall / Sports Hall	£615,000
Nursery (no. of pupils)	37
Nursery (cost)	£406,647
Place of Worship	£0
Library	£0

Open Space	
Children's Play Space (0.8 ha per 1000 population)	2.46
Children's Play Space (£1,250 estimated cost per dwelling)	£1,536,000

Outdoor Sports Space (1.6 ha per 1000 population)	4.92
Outdoor Sports Space (£750 estimated cost per dwelling)	£921,600

Offsite Highways Improvements £1,427,083

Other Off-site Physical Infrastructure Improvements  
2.5 km of new off-site water main at £300/linear metre £750,000

**Summary of Development Contribution Requirement**

Total Development Infrastructure Cost	£9,102,857
Estimated Total Dwelling Capacity	1229
Development Contribution Cost per Dwelling	£7,408

APPENDIX 10

**Option G - Land North of Perrycrofts (Lichfield)  
With Anker Valley Link Road only**

Total Size	64.00
Employment Land Requirement (ha) - assumed circa 20%	12.80
Revised Site Area (ha)	51.20
Assumed Developable Area (60% of total site size)	30.72
Assessment of Dwelling Capacity (40dph)	1229
Initial Assessment of Population (2.5 persons per dwelling)	3072
Primary School (no. of pupils)	258
Primary School (site area ha)	2
Primary School (cost)	£2,846,527

Secondary School (assumed no provision requirement) 0

Local Centre (site area ha)	1.45
New Local Health Centre	£600,000
Local Community Hall / Sports Hall	£615,000
Nursery (no. of pupils)	37
Nursery (cost)	£406,647
Place of Worship	£0
Library	£0

Open Space	
Children's Play Space (0.8 ha per 1000 population)	2.46
Children's Play Space (£1,250 estimated cost per dwelling)	£1,536,000

Outdoor Sports Space (1.6 ha per 1000 population)	4.92
Outdoor Sports Space (£750 estimated cost per dwelling)	£921,600

Offsite Highways Improvements (incl full cost of Anker Valley Link) £21,427,083

Other Off-site Physical Infrastructure Improvements  
2.5 km of new off-site water main at £300/linear metre £750,000

**Summary of Development Contribution Requirement**

Total Development Infrastructure Cost	£29,102,857
Estimated Total Dwelling Capacity	1229
Development Contribution Cost per Dwelling	£23,684



APPENDIX 10

**Option G - Land North of Perrycrofts (Lichfield)  
With Anker Valley and Amington Links**

Total Size	64.00
Employment Land Requirement (ha) - assumed circa 20%	12.80
Revised Site Area (ha)	51.20
Assumed Developable Area (60% of total site size)	30.72
Assessment of Dwelling Capacity (40dph)	1229
Initial Assessment of Population (2.5 persons per dwelling)	3072
Primary School (no. of pupils)	258
Primary School (site area ha)	2
Primary School (cost)	£2,846,527
Secondary School (assumed no provision requirement)	0
Local Centre (site area ha)	1.45
New Local Health Centre	£600,000
Local Community Hall / Sports Hall	£615,000
Nursery (no. of pupils)	37
Nursery (cost)	£406,647
Place of Worship	£0
Library	£0
Open Space	
Children's Play Space (0.8 ha per 1000 population)	2.46
Children's Play Space (£1,250 estimated cost per dwelling)	£1,536,000
Outdoor Sports Space (1.6 ha per 1000 population)	4.92
Outdoor Sports Space (£750 estimated cost per dwelling)	£921,600
Offsite Highways Improvements (incl full cost of Anker Valley & Amington Links)	£31,427,083
Other Off-site Physical Infrastructure Improvements	
2.5 km of new off-site water main at £300/linear metre	£750,000

**Summary of Development Contribution Requirement**

Total Development Infrastructure Cost	£39,102,857
Estimated Total Dwelling Capacity	1229
Development Contribution Cost per Dwelling	£31,822

APPENDIX 10

**Option G - Land North of Perrycrofts (Lichfield)  
250 Dwelling Cap**

Total Size	10.42
Employment Land Requirement (ha) - assumed circa 20%	0.00
Revised Site Area (ha)	10.42
Assumed Developable Area (60% of total site size)	6.25
Assessment of Dwelling Capacity (40dph)	250
Initial Assessment of Population (2.5 persons per dwelling)	625
Primary School (no. of pupils)	53
Primary School (site area ha)	0
Primary School (cost)	£579,313
Secondary School (assumed no provision requirement)	0
Local Centre (site area ha)	0
New Local Health Centre	£0
Local Community Hall / Sports Hall	£0
Nursery (no. of pupils)	8
Nursery (cost)	£82,759
Place of Worship	£0
Library	£0
Open Space	
Children's Play Space (0.8 ha per 1000 population)	0.50
Children's Play Space (£1,250 estimated cost per dwelling)	£312,600
Outdoor Sports Space (1.6 ha per 1000 population)	1.00
Outdoor Sports Space (£750 estimated cost per dwelling)	£187,560
Offsite Highways Improvements	£1,427,083
Other Off-site Physical Infrastructure Improvements	
2.5 km of new off-site water main at £300/linear metre	£750,000

**Summary of Development Contribution Requirement**

Total Development Infrastructure Cost	£3,339,315
Estimated Total Dwelling Capacity	250
Development Contribution Cost per Dwelling	£13,353

APPENDIX 10

**Option G - Land North of Perrycrofts (Lichfield)  
900 Dwellings No Link Road**

Total Size	37.50
Employment Land Requirement (ha) - assumed circa 20%	0.00
Revised Site Area (ha)	37.50
Assumed Developable Area (60% of total site size)	22.50
Assessment of Dwelling Capacity (40dph)	900
Initial Assessment of Population (2.5 persons per dwelling)	2250
Primary School (no. of pupils)	189
Primary School (site area ha)	0
Primary School (cost)	£2,084,859

Secondary School (assumed no provision requirement) 0

Local Centre (site area ha)	0.75
New Local Health Centre	£0
Local Community Hall / Sports Hall	£0
Nursery (no. of pupils)	27
Nursery (cost)	£297,837
Place of Worship	£0
Library	£0

Open Space	
Children's Play Space (0.8 ha per 1000 population)	1.80
Children's Play Space (£1,1250 estimated cost per dwelling)	£1,125,000
Outdoor Sports Space (1.6 ha per 1000 population)	3.60
Outdoor Sports Space (£750 estimated cost per dwelling)	£675,000

Offsite Highways Improvements £1,427,083

Other Off-site Physical Infrastructure Improvements  
2.5 km of new off-site water main at £300/linear metre £750,000

**Summary of Development Contribution Requirement**

Total Development Infrastructure Cost	£6,359,779
Estimated Total Dwelling Capacity	900
Development Contribution Cost per Dwelling	£7,066

APPENDIX 10

**Option G - Land North of Perrycrofts (Lichfield)  
900 Dwellings with Anker Valley Link Road only**

Total Size	37.50
Employment Land Requirement (ha) - assumed circa 20%	0.00
Revised Site Area (ha)	37.50
Assumed Developable Area (60% of total site size)	22.50
Assessment of Dwelling Capacity (40dph)	900
Initial Assessment of Population (2.5 persons per dwelling)	2250
Primary School (no. of pupils)	189
Primary School (site area ha)	0
Primary School (cost)	£2,084,859
Secondary School (assumed no provision requirement)	0
Local Centre (site area ha)	0.75
New Local Health Centre	£0
Local Community Hall / Sports Hall	£0
Nursery (no. of pupils)	27
Nursery (cost)	£297,837
Place of Worship	£0
Library	£0
Open Space	
Children's Play Space (0.8 ha per 1000 population)	1.80
Children's Play Space (£1,250 estimated cost per dwelling)	£1,125,000
Outdoor Sports Space (1.6 ha per 1000 population)	3.60
Outdoor Sports Space (£750 estimated cost per dwelling)	£675,000
Offsite Highways Improvements (incl full cost of Anker Valley Link)	£21,427,083
Other Off-site Physical Infrastructure Improvements	
2.5 km of new off-site water main at £300/linear metre	£750,000

**Summary of Development Contribution Requirement**

Total Development Infrastructure Cost	£26,359,779
Estimated Total Dwelling Capacity	900
Development Contribution Cost per Dwelling	£29,289

APPENDIX 10

**Option A + C + G - Land North of Tamworth (Tamworth and Lichfield)  
With Anker Valley and Amington Link Roads**

Total Size	210.10
Employment Land Requirement (ha) - assumed circa 20%	42.02
Revised Site Area (ha)	168.08
Assumed Developable Area (60% of total site size)	100.85
Assessment of Dwelling Capacity (40dph)	4034
Initial Assessment of Population (2.5 persons per dwelling)	10085
Primary School (no. of pupils)	847
Primary School (site area ha)	2
Primary School (cost)	£9,344,616
Secondary School (no of pupils)	605
Secondary School (site area ha)	5
Seciondary School (cost)	£10,057,773
Local Centre (site area ha)	1.45
New Local Health Centre	£600,000
Local Community Hall / Sports Hall	£615,000
Nursery (no. of pupils)	121
Nursery (cost)	£1,334,945
Place of Worship	£300,000
Library	£280,000
Open Space	
Children's Play Space (0.8 ha per 1000 population)	8.07
Children's Play Space (£1,250 estimated cost per dwelling)	£5,042,400
Outdoor Sports Space (1.6 ha per 1000 population)	16.14
Outdoor Sports Space (£750 estimated cost per dwelling)	£3,025,440
Offsite Highways Improvements (incl full cost of Anker Valley & Amington Links)	£31,427,083
Other Off-site Physical Infrastructure Improvements	
6.7 km of new off-site water main at £300/linear metre	£2,010,000

**Summary of Development Contribution Requirement**

Total Development Infrastructure Cost	£64,037,257
Estimated Total Dwelling Capacity	4034
Development Contribution Cost per Dwelling	£15,875

APPENDIX 10

**Option A + C - Land North of Tamworth (Tamworth and Lichfield)  
With Anker Valley and Amington Link Roads**

Total Size	137.10
Employment Land Requirement (ha) - assumed circa 20%	27.42
Revised Site Area (ha)	109.68
Assumed Developable Area (60% of total site size)	65.81
Assessment of Dwelling Capacity (40dph)	2632
Initial Assessment of Population (2.5 persons per dwelling)	6581
Primary School (no. of pupils)	553
Primary School (site area ha)	3
Primary School (cost)	£6,097,796
Secondary School (no of pupils)	0
Secondary School (site area ha)	0
Secondary School (cost)	£0
Local Centre (site area ha)	1.45
New Local Health Centre	£600,000
Local Community Hall / Sports Hall	£615,000
Nursery (no. of pupils)	79
Nursery (cost)	£871,114
Place of Worship	£300,000
Library	£280,000
Open Space	
Children's Play Space (0.8 ha per 1000 population)	5.26
Children's Play Space (£1,250 estimated cost per dwelling)	£3,290,400
Outdoor Sports Space (1.6 ha per 1000 population)	10.53
Outdoor Sports Space (£750 estimated cost per dwelling)	£1,974,240
Offsite Highways Improvements (incl full cost of Anker Valley & Amington Links)	£31,427,083
Other Off-site Physical Infrastructure Improvements	
4.2 km of new off-site water main at £300/linear metre	£1,260,000

**Summary of Development Contribution Requirement**

Total Development Infrastructure Cost	£46,715,632
Estimated Total Dwelling Capacity	2632
Development Contribution Cost per Dwelling	£17,747

APPENDIX 10

**Option D & E - West of Polesworth and Between Stoneydelph and M42 (N Works)**

Total Size	213.80
Employment Land Requirement (ha) - assumed circa 20%	42.76
Revised Site Area (ha)	171.04
Assumed Developable Area (60% of total site size)	102.62
Assessment of Dwelling Capacity (40dph)	4105
Initial Assessment of Population (2.5 persons per dwelling)	10262
Primary School (no. of pupils)	862
Primary School (site area ha)	3
Primary School (cost)	£9,509,181
Secondary School (no of pupils)	616
Secondary School (site area ha)	5
Secondary School (cost)	£10,234,897
Local Centre (site area ha)	1.45
New Local Health Centre	£600,000
Local Community Hall / Sports Hall	£615,000
Nursery (no. of pupils)	123
Nursery (cost)	£1,358,454
Place of Worship	£300,000
Library	£280,000
Open Space	
Children's Play Space (0.8 ha per 1000 population)	8.21
Children's Play Space (£1,250 estimated cost per dwelling)	£5,131,200
Outdoor Sports Space (1.6 ha per 1000 population)	16.42
Outdoor Sports Space (£750 estimated cost per dwelling)	£3,078,720
Offsite Highways Improvements	£276,925
Other Off-site Physical Infrastructure Improvements	
Minor booster plant upgrade (likely minimal cost)	£0

**Summary of Development Contribution Requirement**

Total Development Infrastructure Cost	£21,149,480
Estimated Total Dwelling Capacity	4105
Development Contribution Cost per Dwelling	£5,152

## Appendix 11: Approach Towards Assessing Viability

- 1.1 This Appendix outlines the approach adopted towards the assessment of viability of the various growth options as part of this Study. As identified in the main body of the report, it should be noted that the viability assessments are 'broad brush' completed at a very high level. This assessment is based on a broad range of assumptions, hence the viability of actual schemes might vary significantly from those indicated in this report.
- 1.2 Assumptions were made as to the nature and scale of development schemes; development costs associated with such schemes i.e. building costs; professional fees and cost of finance, amongst others. We assumed that there will be no abnormal costs, for example, those associated with ground conditions, site preparation and other planning obligations that may be introduced at a later date. Further, no account has been taken of future price rises, nor of increased build costs because of inflationary pressures, nor due to changing build specification as a result of the increasing requirements of the sustainability agenda (Code for Sustainable Homes etc).
- 1.3 We undertook a general assessment of the local new housing market to determine current house prices and a review of current housing construction costs using the BCIS costs information. Based on our market knowledge and experience of similar schemes, we adopted appropriate industry average professional fees, marketing costs and developer's profit.
- 1.4 Based on the above information, Argus software (formerly Circle Developer - a development appraisal software) was utilized to appraise a potential residential scheme on the Land North of Tamworth (Option A). It was assumed that the development would be delivered over four consecutive phases with a ready market supported by a vibrant mortgage market. This Option was assumed to be typical of other options, based on a broad assumption that standard development costs and house prices will be the same in all growth locations.
- 1.5 In order to test the viability of other options, the estimated development infrastructure costs for each option was applied to the typical appraisal. The results of these appraisals were used to rate the viability of the growth options in relative terms. This formed the basis for a high level categorization of the options into either a low, medium or high viability potential. Of course, delivering a scheme on the sites will require detailed proposals and investigation, which may provide evidence to the contrary.