STAFFORD BOROUGH COUNCIL

EMPLOYMENT LAND STUDY

FUTURE LAND ESTIMATION

TECHNICAL APPENDIX REPORT

JULY 2007

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TECHNICAL APPENDIX
MAIN FINDINGS OF STAFFORD BOROUGH
EMPLOYMENT LAND REVIEW WORK

1 - THE CURRENT EMPLOYMENT LAND SUPPLY SITUATION

Table 1 - Employment land supply at April 2006 (Hectares)

	Completions	U/C	Land Availability			Planning Status			
			Readily Available	Within 5 Years	Beyond 5 Years	Full	Outline	None	Total Land Available
New Land	0.21	23.49	51.50	1.39	0.00	52.41	5.85	18.12	76.38
Redevelopment Land	0.00	0.21	0.00	34.01	0.00	0.21	0.00	34.01	34.22
Total Land	**0.21**	**23.50**	**51.50**	**35.40**	**0.00**	**52.62**	**5.85**	**52.13**	**110.60**

Source; Staffordshire Employment Land Survey 2006

As of April 2006, a total of 58.5 Hectares of employment land was committed by planning permission, identified in a local plan, or under construction in the Stafford Borough Council area.

The land supply considers both new employment land (which has never been developed, or vacant for a long time) and redevelopment land (which has been redeveloped from another use). The outgoing Staffordshire and Stoke-on-Trent Structure Plan 1996-2011 identifies new and redevelopment land separately. For the purposes of this project consideration will only be given to total employment land.

Of the total employment land supply in Stafford Borough, some 51.5 hectares (46.6% of the total stock) is classed as being readily available, some 35.4 hectares (32.0% of the total stock) is classed as being available within the next 5 years, and no sites were classed as being available for development beyond 5 years. The remaining 23.50 hectares of land (21.2% of the land stock) was classed as being under construction at April 2006 – demonstrating the levels of buoyancy in the local property market over recent years.

There is a relatively fine balance between the district's land supply having the benefit of full planning permission, (52.6 Ha or 47.6% of the land stock), and that with no planning permission at all (52.1 Ha or 47.1% of the land stock). Land stock with the benefit of outline planning permission accounts for 5.85 Ha or 5.3% of the total land stock.

Stafford Borough's employment land portfolio is characterised by a range of 4 larger sites of around 10 hectares and above and a significant number of smaller sites which are less than 2 hectares in size. The current land portfolio does not have many sites between the sizes of 2 and 10 hectares, and this may be an issue to examine when addressing the future supply of employment land in the district..

Nearly two thirds of the employment land supply at April 2006 (68 Ha) was provided on the sites at Prime Point 14, and Meaford Power Station. Of this supply, some 18 Ha of land at Prime Point 14 was under construction at April 2006.

The majority of the employment land stock in Stafford Borough (64.4Ha) is classified as being suitable for a mixture of uses (B1/B2/B8 use). In addition, around 28 Ha is available for B8 use, while B1 and B2 uses account for around 18 Ha of employment land.

If recent development trends are continued, it is possible that a significant element of the land supply which is classed as a mixture of uses will be developed as B8 type distribution and warehousing use, as businesses are keen to capitalise on the strategic transportation links offered in the district. However, employment forecasts which are examined in further detail later in this report will be important towards informing the future types of employment land required in the district.

2 - CONTINUATION OF PAST DEVELOPMENT TRENDS APPROACH

Step 1 – Identify the amount of employment land developed over the past 10 years

Using data from the Staffordshire Employment Land Survey over the past 10 years, consideration is taken of the total amount of employment land that has been completed in Stafford Borough. (The sum of the levels of new land and redevelopment land).

Table 2 – Employment land completions 1996/97 to 2005/06 (Hectares)

	1996 /1997	1997 /1998	1998 /1999	1999 /2000	2000 /2001	2001 /2002	2002 /2003	2003 /2004	2004 /2005	2005 /2006
New Land	2.48	8.96	6.07	4.68	3.81	1.9	9.94	3.47	3.82	0.21
Redevelopment Land	0.2	0	0.18	0	0.1	0	14.8	1.43	0	0
Total Land	2.68	8.96	6.25	4.68	3.91	1.9	24.74	4.9	3.82	0.21

Source; Staffordshire Employment Land Survey 2006

Step 2 – Calculate the average levels of employment land completions

Having taken account of employment land completions for each of the past 10 years, mean average annual employment land completion rates are calculated for the periods of the past 10 years, and the past 5 years. These offer an average build rate which will go on to form the overall basis for the calculation of future requirements.

Table 3 – Average building rates - past 5 year and past 10 year averages – (Hectares)

	2001/2002 to 2005/2006	Average Build Rate (5 years)	1996/1997 to 2005/2006	Average Build Rate (10 years)
New Land	19.34	3.87	45.34	4.53
Redevelopment Land	16.23	3.25	16.71	1.67
Total Land	35.57	7.11	62.05	6.21

Source; Staffordshire Employment Land Survey 2006

Step 3 – Translating average employment land completions to future requirements

The average annual building rates for both the past 5 years, and the past 10 years are then translated into potential land requirements by multiplying the relevant average annual building rates by a factor of 20 – this provides a potential figure for the 20 year period between 2006-2026 based on build rates from the past 5 years and 10 years.

The potential land requirements are set out in table 4 below.

Table 4 – Potential land required - based on past 5 year and past 10 year averages (Hectares)

	Average Build Rate (5 years)	Land Supply 2006-26 (based on 5 year build rate)	Average Build Rate (10 years)	Land Supply 2006-26 (based on 10 year build rate)
New Land	3.87	77.36	4.53	90.68
Redevelopment Land	3.25	64.92	1.67	33.42
Total Land	7.11	142.28	6.21	124.10

Source; Staffordshire Employment Land Survey 2006

These potential land requirements are likely to be towards the upper end of estimates of need for future employment land in the district.

It is very possible that the requirements are potentially skewed upwards by the recent high levels of land taken in the B8 Distribution and Warehousing sector in Stafford (particularly around Prime Point 14), which tends to be a much more "land hungry" use than other use classes.

The continuation of past trends method of forecasting future land requirements is one of the less sophisticated approaches of identifying future employment land. It does, however, provide a useful, at a glance indication of how requirements might be shaped into the future, if the economy follows the patterns of development that have been characteristic of recent years. It is also the basis on which indicative land requirements at the district council level have been calculated in the Phase 2 Policy Options consultation of the review of the West Midlands Regional Spatial Strategy.

An issue for consideration when using the continuation of past trends approach, is that future economic conditions will not necessarily mirror those that have taken place in the recent past. Employment forecasts (which will be examined in further detail in this report) suggest that the growth in the distribution and warehousing (B8) sector is likely to decrease in growth from recent trends, and that industries requiring B1 type accommodation are likely to become much more important into the future.

3 - LABOUR DEMAND APPROACH USING EMPLOYMENT FORECASTS

Step 1 – Identify employment forecasts for employment change

Table 5 below highlights the forecasted levels of employment in total terms, and by broad industrial sector over the period between 2001 and 2026. The employment forecast data has been sourced from Cambridge Econometrics Local Economy Forecasting Model – a well respected source of employment forecasting data nationally, and is used widely for both the purposes of economic forecasting and as one factor for employment land estimation.

The base year of the employment forecast is 2004, so any data beyond this year is forecast data, and should be treated with some element of caution accordingly. Indeed a forecast is only an indicative estimate of how the economy may change into the future and as such, any land requirements generated as a result of economic forecasts should only be classed as estimates, and as an initial starting point for the further analysis of land for employment requirements.

Table 5 highlights the forecasted number of jobs in each of the main employment sectors for 5 year periods between 2001 and 2026.

Table 6 highlights the forecasted changes in employment between the 5 year periods, and for the periods 2001-26 and 2006-26 (the period over which land requirement estimations will be required). The employment change figures will form one part of the basis for the calculation of land required through the labour demand approach.

Table 5 – Employment Forecasts 2001-26 (absolute jobs)

	2001	2006	2011	2016	2021	2026
1 Primary and Utility	962	991	868	746	644	557
2 Manufacturing	12954	8089	7761	7310	6837	6367
3 Construction	2284	2599	2669	2728	2857	3012
4 Retailing	5648	5649	5867	5995	6180	6380
5 Distribution NES	4682	3735	3993	4092	4209	4326
6 Hotels and Catering	3972	4812	4864	4919	4939	4951
7 Transport	3245	2418	2159	1914	1688	1492
8 Communications	539	587	567	546	539	534
9 Financial and Business	7092	6577	7556	8697	10108	11728
10 Public Administration	7755	8063	8185	8277	8356	8445
11 Health and Education	12985	14522	15625	16148	16609	17033
12 Waste Treatment and Other Service Activities	2625	4035	3927	3745	3569	3399
Total	**64743**	**62077**	**64039**	**65116**	**66534**	**68224**

Source: Cambridge Econometrics

Table 6 – Employment Forecasts 2001-26 (change in absolute jobs)

	2001-2006 change	2006-11 change	2011-16 change	2016-21 change	2021-26 change	2001-26 change	2006-26 change
1 Primary and Utility	30	-124	-122	-102	-87	-405	-435
2 Manufacturing	-4865	-328	-451	-473	-470	-6588	-1722
3 Construction	315	70	58	130	155	728	414
4 Retailing	1	218	128	185	200	732	730
5 Distribution NES	-947	257	100	117	117	-356	590
6 Hotels and Catering	840	52	55	21	12	980	139
7 Transport	-827	-259	-245	-226	-196	-1753	-926
8 Communications	48	-20	-21	-7	-5	-5	-53
9 Financial and Business	3080	980	1140	1411	1621	4636	5152
10 Public Administration	586	122	92	79	89	689	382
11 Health and Education	1611	1102	524	461	424	4048	2511
12 Waste Treatment and Other Service Activities	1410	-108	-182	-176	-170	774	-635
Total	**-2667**	**1963**	**1076**	**1419**	**1690**	**3481**	**6147**

Source: Cambridge Econometrics

Step 2 – Identify employment densities and relevant plot ratios for translation to land requirements

In order to translate forecasted employment change into a potential floor space requirement, account is taken of the amount of floor space that the differing employment sectors will need.

Primarily a best fit approach was used to estimate which use class is the most appropriate to each of the economic forecasting sectors (the best fit to use classes will be used later in the process, as this study will only take account of the need for B class use employment land).

Table 7 below highlights the potential floor space requirements of the different sectors identified by the employment forecasts above. Floor space requirements vary substantially from the lowest levels (and highest job densities), in the hotels and catering sector, up to the highest levels (and lowest job densities) such as those traditionally found in the distribution sector. For example 100 new jobs in the manufacturing industry would be calculated by multiplying 100 x 30 (the floor space per manufacturing job). This would yield a floor space requirement of 3000 sq m.

In addition to floor space, a "plot ratio" factor is also required. The plot ratio factor provides a basis on which to translate floor space into an overall area of employment land. For example a plot ratio of 0.4 suggests that floor space for jobs will only account for around 40% of the total employment land needed for a certain plot. The plot ratio factor allows this to be factored up accordingly. Further details on the floor space density and plot ratios will be examined later in the report.

Table 7 – Employment density and plot ratio factors

Employment by industry	Use Class (Best Fit)	Floor space Density (sq m required per job)	Plot Ratios (Factor of additional land required to accommodate floorspace)
1 Primary and Utility	B2	Unknown	0.4
2 Manufacturing	B2	30	0.4
3 Construction	B2	30	0.4
4 Retailing	A1 or Sui Generis	20	0.4
5 Distribution NES	B8	65	0.4
6 Hotels and Catering	C1	15	
7 Transport	B1 or Sui Generis	20	0.6
8 Communications	B1(c)	20	0.4
9 Financial and Business	B1(a)	20	0.6
10 Public Administration	B1(a)	20	0.6
11 Health and Education	D1 and B1 (a)	20	0.6
12 Waste Treatment and Other Service Activities	B2	20	0.4

Source – Densities – English Partnerships, Plot Ratios – Atkins Staffordshire Moorlands Employment Land Study

Densities have been extracted and interpreted from the English Partnerships publication – "Employment Densities – A Simple Guide". This publication identifies data generated for the average densities nationally.

Employment Densities calculated by the Research Business unit from surveys of local industrial estates and business parks developed by Staffordshire County Council suggest that local densities are lower than those reported nationally meaning that locally more land could be necessary.

Step 3 – Identify possible assumed levels of employment taken on B class land

Firstly a refinement of the employment forecasts in tables 5 and 6 is undertaken. This identifies those sectors that will require B class employment land being taken. The relevant sectors requiring B class employment land are highlighted in table 8 below.

For the purposes of this piece of work a range of different scenarios have been taken into account for the identification of employment land requirements using the labour demand modelling approach.

The different scenarios take account of the different ways in which the employment forecast information can be interpreted. The **preferred** approach, which is worked through in this methodology is to use a scenario where:

- Negative employment change is excluded
- An assumption is made of the different proportions of the forecasted increase in employment that is likely to require B Class land (see table 8 below)
- An assumption is made for potential relocation for manufacturing employment. A proportion of 10% of the manufacturing employment in each of the 5 year periods of the employment forecasts has been suggested for manufacturing employment relocation. For example in 2006, 809 jobs, in 2011, 776 jobs and so on.

The assumptions on the proportion of forecasted employment likely to require B class land has been taken from survey work undertaken by the Research Unit – the proportions have been calculated based on occupation of industrial estates in Staffordshire.

Table 8 – Assumed levels of land to be taken on B Class land following changes to local economic base from employment projections –

Sector	Use Class	Assumed level of employment which will be accommodated on B Class Land
2 Manufacturing	B2	10%
3 Construction	B2	10%
5 Distribution NES	B8	100%
7 Transport	B1 or Sui Generis	80%
8 Communications	B1(a)	20%
9 Financial and Business	B1(a)	15%
10 Public Administration	B1(a)	10%
11 Health and Education	D1 and B1 (a)	10%
12 Waste Treatment and Other Service Activities	B2	10%

Step 4 – Convert labour demand from assumed forecasted employment change into a floor space requirement

The conversion of labour demand into potential employment floor space is a relatively straightforward process.

Firstly, the employment change figures identified in table 6 are multiplied by the relevant density factors as set out in table 7 – these yield the floor space figures as set out in table 9 below. Although manufacturing employment is expected to generate a negative change throughout the period of interest, the incorporation of 10% of the annual employment in manufacturing for relocations, as highlighted above explains the generation of land requirements for that sector.

For the purposes of this method, employment change which yields a negative change is discounted from the calculations.

Table 9 – Potential floor space requirements using employment density above and assumed proportions of employment taking B class land

	2001-06 floor space (sq m)	2006-11 floor space (sq m)	2011-16 floor space (sq m)	2016-21 floor space (sq m)	2021-26 floor space (sq m)
2 Manufacturing	24270	23280	21930	20520	19110
3 Construction	944.7	211.2	175	389	465
5 Distribution NES	NEG	5142	1994	2333	2341
7 Transport	NEG	NEG	NEG	NEG	NEG
8 Communications	190.8	NEG	NEG	NEG	NEG
9 Financial and Business	9238.8	NEG	3420	4234	4862
10 Public Administration	1172.4	243.8	184	158	179
11 Health and Education	3221.4	2204.8	1047	921	849
12 Waste Treatment and Other Service Activities	2819.6	NEG	NEG	NEG	NEG
Total (Sq M)	24270	23280	21930	20520	19110

Source; Cambridge Econometrics and Research Unit

Step 5 – Use plot ratios to convert floor space requirement into employment land requirements

In order to translate forecasted floor space requirements into an overall employment land requirement "plot ratios" have been used and are specified alongside the relevant employment densities in table 7.

For example a plot ratio of 0.4 (as used when considering most B1 type development) suggests that floor space for jobs will only account for around 40% of the total employment land needed for a certain plot.

Table 10 applies the relevant B class plot ratio to floor space requirements set out in table 9 to calculate an overall land requirement. The land requirement in sq metres is divided by 10,000 to provide an overall requirement in hectares.

Table 10 – Potential land required (NET) excluding negative change

	2001-06 land/plot ratio	2006-11 land/plot ratio	2011-16 land/plot ratio	2016-21 land/plot ratio	2021-26 land / plot ratio
2 Manufacturing	**60675**	58200	54825	51300	47775
3 Construction	**2362**	528	438	974	1162
5 Distribution NES		12855	4985	5831	5852
7 Transport					
8 Communications	**477**				
9 Financial and Business	**15398**		5701	7057	8103
10 Public Administration	**1954**	406	307	263	298
11 Health and Education	**5369**	3675	1745	1536	1415
12 Waste Treatment and Other Service Activities	**7049**				
Total (Sq M)	**93284**	75664	68001	66961	64604
Total (HA)	**9.3**	**7.6**	**6.8**	**6.7**	**6.5**

Using the above methodology and assumptions:

Between 2001-26: 36.9 Ha of B Class land will be required

(A requirement for the period 2001 to 2026 has been calculated to enable comparison with other technical work being assessed over this period)

Between 2006-26: 27.5 Ha of B Class land will be required

(The period 2006 to 2026 is the overall period of interest for the Stafford Borough Council Employment Land Study)

TESTING AGAINST OTHER SCENARIOS

- In addition to the preferred methodology outlined in steps 1 to 5 above, a range of alternative approaches have been used to identify what impact these would have on estimated land requirements.

- To test the different ways in which land could be required, labour demand based employment land requirements have been recalculated using the following range of alternative scenarios:

  (1) Not taking into account the assumptions related to the potential levels of employment likely to be accommodated on new B Class land (therefore all forecasted employment change in identified sectors will be going to B class land – the proportion factors in table 8 would be set to 100%), excluding negative change, and excluding relocations for manufacturing.

  (2) Not taking into account the assumptions related to the potential levels of employment likely to be accommodated on new B Class land (therefore all forecasted employment change in identified sectors will be going to B class land – the proportion factors in table 8 would be set to 100%), excluding negative change, including relocations for manufacturing.

  (3) Not taking into account the assumptions related to the potential levels of employment likely to be accommodated on new B Class land (therefore all forecasted employment change in identified sectors will be going to B class land), including negative change, and without relocations for manufacturing (this is the most unrealistic approach as the negative employment change in some sectors included under the approach, can yield negative land requirements).

These 3 scenarios generated the following land requirements

(1)

Between 2001-26: 60.0 Ha of land required

Between 2006-26: 31.3 Ha of land required

(2)

Between 2001-26: 87.3 Ha of land required

Between 2006-26: 54.1 Ha of land required (this is seen as an "upper end" employment land requirement using a labour demand approach, as it assumes that all forecasted B class use employment growth in the identified sectors will be accommodated on new employment land and also assumes that there will be some element of land required due to manufacturing relocations).

(3)

Between 2001-26: -16.5 Ha of land required

(there is a negative change due to the levels of negative employment change generated by the employment forecasts – this scenario is unrealistic as the negative employment changes forecasted in some sectors is included under the approach. Over the period 2001 to 2026 this generates a negative change which is felt to be unrealistic).

Between 2006-26: 6.5 Ha of land required

4 - LAND REQUIRED USING LABOUR SUPPLY CHANGE FROM LABOUR FORCE PROJECTIONS

The "Labour Supply" Approach to land estimation uses forecasted changes in the local labour force (labour supply) to suggest the potential levels of employment land that may be required to service such labour force growth.

A key benefit of the labour supply approach in comparison to other methods of employment land estimation is that it allows an element of policy led growth scenarios to be tested rather than being purely reliant on historical development patterns, or purely trend based models. This is an important implication in Stafford district which has been identified as having the potential to support quite significant additional levels of housing growth under the current review of the West Midlands Regional Spatial Strategy. It is important that alongside any proposed growth in housing levels, the potential need for new employment land is also examined to promote the sustainability of local communities into the future.

In the Stafford Borough case there are three potential scenarios which could determine labour force growth. These are driven by the spatial options of housing distribution set out in the current West Midlands Regional Spatial Strategy review, and a further test to identify how the labour force would grow under an "upper level" growth scenario:

RSS Housing Option 1 – 9,500 dwellings to be built in the period 2001 to 2026

RSS Housing Options 2 and 3 – 12,900 dwellings to be built in the period 2001 to 2026

Upper level growth limit – 15,000 dwellings to be built in total in the period 2001 to 2026

* Note – The RSS Housing Option 1 yields a negative change in labour force between 2006 – 26 which would not translate to further employment land needing to be identified. For this reason, the option 1 scenario has not been included in the further calculations of land required under the various labour force scenarios.

Step 1 – Developing a Labour Force Projection

The first step in the labour supply approach is to create a labour force projection for the area of interest, and for the range of development scenarios.

A population projection was initially produced using the POPGROUP population projections model. These population projections have been run to account for each of the potential growth scenarios outlined above.

The population projections were then input to the LABGROUP labour force projections model. Local economic activity rates and other factors are then used to develop the relevant labour force projections into the future. A key controlling element of the Labour Force Projection are economic activity rates. In this piece of work, the forecasted economic activity rates at a national have been adjusted by using a set of local correctional factors (based on the difference between local and national economic activity rates among the different age groups at the time of the 2001 Census of Population).

Variations in the economic activity rate have the potential to significantly impact on the labour force (and resultantly land requirements generated from the labour force). These will be considered in greater detail as part of an investigation of the further factors of influence to the Stafford Borough employment land study main report.

Step 2 – Taking into account commuting

In addition to the base labour force projection, there is a need to take account of the impacts of commuting on the local labour force. In Stafford Borough there is evidence to suggest that

the district has fewer local jobs than residents of working age. It is therefore possible that there is likely to be an overall pattern of net out-commuting from the district to surrounding areas to satisfy the needs of the labour market. The commuting dynamics are not so simple though, as a significant number of people travel into the district for employment, especially to support the considerable service sector employment concentrated in the County town of Stafford.

These commuting patterns are likely to influence the future labour demand quite considerably, as the labour force coming into the district will operate as an important element of the labour supply, while people commuting out will also have a significant effect on the local labour market dynamics. Factors of commuting will be examined in greater detail as part of the further factors of influence to the Stafford Borough employment land supply in the body of the main report. For the purposes of the calculation of employment land requirements, generated through labour supply, three different commuting scenarios have been applied to each of the labour force projections:

1) Using only the labour force projection, with no account taken of any commuting factors (the base projection).
2) Using the labour force projection with account taken of out commuting from the district (the most up to date reliable source of journey to work data is from the 2001 Census of Population – this suggests that 32.0% of the working age population in 2001 travelled out of the district to work).
3) Using the labour force projection with account taken of the net commuting patterns in the district (data from the 2001 Census of Population suggests that the **net** commuting factor into the district is a negative factor of -0.2% - that is, very slightly greater numbers of people are travelling out of the district for work than those commuting in).

The commuting factors are then applied to the labour force projection to give adjusted figures of "labour supply" on which to base the further calculations.

Step 3 – Applying future economic patterns to the labour force

In order to translate the labour force changes to a future land requirement, an assumption needs to be made as to which industrial sectors will require the development of B class employment land into the future.

Further to this, it is important to establish the likely proportions of the projected labour supply that will help to service each of these sectors.

Using the Cambridge Econometric Employment Forecasts, a factor has been calculated for each of the periods 2006,11,16,21 and 26 identifying the proportion of expected employment at each of these periods in the different economic sectors. These proportions have then been applied to the labour force projections to suggest a potential labour force cohort in each of these industrial sectors across the 5 periods of interest. The proportions are highlighted in table 11 below.

Step 4 – Translating labour force sectors into employment land requirements

The element of labour force in each of the relevant B sectors which require the use of B use land is then multiplied by the floor space densities as highlighted in table 7 of the "labour demand" approach to calculate the required floor space to accommodate the expected labour force change by each sector.

The relevant "plot ratios" are then factored to these floor space requirements, translating the forecasted floor space requirements into an overall employment land requirement. The same plot ratio factors as used in the labour demand approach have been used - these are specified, as well as the relevant employment densities in table 7 above.

The sum of the total land required identified for accommodating the forecasted levels of employment growth under each of the labour force projections is then divided by 10,000 to provide a required land element in hectares.

The proportion of forecasted employment for each of the industrial sectors is highlighted in table 11. Those sectors in bold are the ones in which it expected B Class employment land will be required.

Tables 12 to 17 below set out the labour force projections under each of the growth scenarios, and the associated levels of land take that each of these are forecast to generate.

FORECASTED EMPLOYMENT PROPORTIONS – 2006,2011,2016,2021 & 2026

Table 11 – Forecasted proportion of overall employment (%) between 2006 - 2026

EMPLOYMENT PROPORTIONS	2006	2011	2016	2021	2026
1 Primary and Utility	1.45	1.0	0.9	0.8	0.6
2 Manufacturing	**23.26**	**17.2**	**16.3**	**15.4**	**14.5**
3 Construction	**5.20**	**4.7**	**4.7**	**4.9**	**5.1**
4 Retailing	11.25	10.6	10.7	10.8	11.0
5 Distribution NES	**8.04**	**6.2**	**6.3**	**6.3**	**6.4**
6 Hotels and Catering	6.77	6.3	6.3	6.3	6.2
7 Transport	**4.17**	**7.3**	**6.3**	**5.4**	**4.6**
8 Communications	**0.78**	**0.7**	**0.7**	**0.7**	**0.7**
9 Financial and Business	**13.37**	**17.5**	**19.0**	**20.8**	**22.6**
10 Public Administration	**2.94**	**3.4**	**3.4**	**3.4**	**3.4**
11 Health and Education	**19.24**	**20.1**	**20.6**	**20.8**	**21.0**
12 Waste Treatment and Other Service Activities	**3.53**	**5.0**	**4.7**	**4.4**	**4.1**
Total	100.00	100.0	100.0	100.0	100.0

Source: Cambridge Econometrics

Sectors highlighted in **BOLD** have been summed to calculate the total levels of employment land required for each of the relevant periods

Table 12 – Labour Force Projection using RSS Option 2/3 (12,900 Houses between 2001-2026) – (numbers of people)

Age group	Change 2001-06	Change 2006-11	Change 2011-16	Change 2016-21	Change 2021-26	Change 2001-26	Change 2006-26
16 non-students	-9	-18	-7	6	-15	-43	-34
16 students	-25	-54	-32	25	-48	-134	-109
17 non-students	-11	-26	-44	14	-44	-111	-100
17 students	-15	-38	-59	27	-61	-146	-131
18 non-students	102	-23	-59	-5	-25	-10	-112
18 students	100	9	-31	5	-21	62	-38
19 non-students	136	-23	-66	-31	8	24	-112
19 students	79	8	-19	-12	6	62	-17
20-24 non-students	739	454	-364	-235	242	836	97
20-24 students	120	98	-21	-23	37	211	91
25-29	-593	1,136	619	-258	-50	854	1,447
30-34	-1,318	-530	1,130	813	-60	35	1,353
35-39	-478	-1,306	-644	1,277	1,037	-114	364
40-44	821	-385	-1,458	-651	1,485	-188	-1,009
45-49	704	925	-425	-1,475	-601	-872	-1,576
50-54	-803	782	1,023	-311	-1,424	-733	70
55-59	776	-630	736	871	-276	1,477	701
60-64	813	535	-196	521	579	2,252	1,439
65-69	303	295	206	-138	151	817	514
70+	48	19	39	52	14	172	124
Labour Force – No commuting	1,489	1,228	328	472	934	4,451	2,962
Labour Force – Out commuting	1,013	835	223	321	635	3,027	2,014
Labour Force – Net Commuting	1,486	1,226	327	471	932	4,442	2,956

Table 13 – Land required using RSS Option 2/3 (Hectares)

	Base Projection	With Out Commuting	With Net Commuting
2001 – 2026	19.2	13.0	19.1
2006 -2026	12.7	8.6	12.7

USING UPPER GROWTH ASSUMPTION

Table 14– Labour Force Projection using Upper Growth limit (15,000 Houses total between 2001 and 2026) – (number of persons)

Age group	Change 2001-06	Change 2006-11	Change 2011-16	Change 2016-21	Change 2021-26	Change 2001-26	Change 2006-26
16 non-students	-9	-17	-7	7	-14	-40	-31
16 students	-25	-52	-30	28	-45	-124	-99
17 non-students	-11	-24	-42	17	-41	-101	-90
17 students	-15	-35	-57	31	-57	-133	-118
18 non-students	102	-19	-56	-2	-19	6	-96
18 students	100	12	-28	8	-16	76	-24
19 non-students	136	-17	-64	-27	16	44	-92
19 students	79	11	-17	-10	10	73	-6
20-24 non-students	739	554	-355	-223	283	998	259
20-24 students	120	112	-19	-21	42	234	114
25-29	-593	1,296	738	-269	-46	1,126	1,719
30-34	-1,318	-414	1,298	936	-85	417	1,735
35-39	-478	-1,205	-550	1,458	1,171	396	874
40-44	821	-296	-1,384	-563	1,685	263	-558
45-49	704	994	-353	-1,414	-513	-582	-1,286
50-54	-803	821	1,088	-246	-1,372	-512	291
55-59	776	-609	769	927	-223	1,640	864
60-64	813	551	-187	542	614	2,333	1,520
65-69	303	299	212	-136	157	835	532
70+	48	20	40	53	15	176	128
Labour Force – No Commuting	1,489	1,982	996	1,096	1,562	7,125	5,636
Out Commuters	1,013	1,348	677	745	1,062	4,845	3,832
Net Labour Force	1,486	1,978	994	1,094	1,559	7,111	5,625

Table 15– Land required using Upper Growth Limit (Hectares)

	Base Projection	With Out Commuting	With Net Commuting
2001 – 2026	30.6	20.8	30.6
2006 - 2026	24.2	16.4	24.1

5 - CONCLUSIONS

The three different approaches of future employment land estimation in Stafford Borough have yielded very different results of the potential levels of employment land required over the next 20 years. The resultant land requirements from the three approaches should be treated as an indicative level of land, rather than a prescriptive level of land to be identified.

These conclusions should be read alongside the examination of further issues section of the summary report.

Past Trends Approach

The continuation of past development trends approach yields by some margin the greatest potential levels of employment land requirements between 2006–2026.

Using average development levels taken from the last 10 years, around 124 hectares of employment land would be required, while taking into account development levels from the past 5 years, around 142 hectares of employment land would be required.

These land requirements are likely to be skewed towards the upper end of the "expected" levels of land requirement in Stafford Borough over the next 20 year period, and would be the result of rapid growth levels in the area's economy.

Past trends development in Stafford Borough has been relatively buoyant over recent years (particularly in the B8, distribution and warehousing sector). Employment forecasts suggest that such buoyant levels of local development, particularly in the B8 sector (and the larger amounts of land that this requires) will lessen into the medium and longer term future – this may mean that a more accurate reflection of employment land requirements could fall somewhere below these figures.

The past trends approach should be seen as a suggestion of potential land requirements under some of the higher levels of employment growth, particularly where growth may be concentrated in the B8 distribution and warehousing sector

Labour Demand Approach

The labour demand approach uses forecasted employment change to identify potential future land requirements in the district.

The labour demand approach identifies decreases in overall employment between 2001 and 2006, which are mainly due to a significant decrease in employment in the manufacturing sector. For the period of the employment land study 2006 – 2026, employment is forecasted to increase, with by far the greatest increases being expected in the financial and business and health and education sectors.

Under the different scenarios and assumptions tested in the labour demand approach, the preferred approach yields an employment land requirement of 27.5 hectares in the period 2006 to 2026. An "upper end" approach which would see all B class employment provided on new B class land, as well as an element of relocation for manufacturing, suggests an employment land requirement of around 54 hectares.

Labour demand approaches are useful for identifying the land requirements of expected, trend based employment change.

The labour demand approach should be seen as a prediction of land requirements under expected economic growth conditions. It does not offer a prediction of the land requirements that may be driven through planning policy led growth. In addition, a step

change to the nature of the local economy (for example the introduction of a major new firm intensifying local supply chains, or a major firm closing down) can have significant impacts on the local economy, and subsequently potential employment land levels.

Labour Supply Approach

The labour supply approach is based primarily around labour force projections which suggest the amount of labour which will be available to serve the economy over future years.

A key advantage of the labour supply approach is that it allows policy led inputs to be incorporated into the land requirement calculation. For the purposes of calculations in this project the most realistic growth scenario is likely to be that under house building option 2 or 3 of the review of the West Midlands Regional Spatial Strategy. This option would generate a need for around 13 hectares of new employment land in the period between 2006 and 2026.

Upper growth scenario testing has identified the need for around 24 hectares of employment land in the 2006 to 2026 period. This should be seen as a land requirement under the very highest scenarios of labour force growth in the area.

For the purposes of this project the labour supply approach was calculated solely on the basis of the labour force projection, with a factor for commuting. No further assumptions, such as those made for the relocation of manufacturing in the labour demand approach have been applied to the labour supply approach.

The labour supply approach provides a more realistic approach of identifying land requirements through their relation to planning policy inputs.

SUMMARY

Over the period 2006 to 2026, new employment land requirements in Stafford Borough are likely to be at the very minimum around 13 hectares, and as a maximum, around 142 hectares.

It is very difficult to prescribe with any confidence a suggested amount of land for the employment development needs of the area. These figures, however, do fall some way short of the development vision of Stafford Borough Council which is to develop on average around 10 hectares of employment land annually between 2006 and 2026.

The further issues section of the accompanying summary report will identify other factors which are not necessarily borne out by hard quantitative evidence but could pose to be significant contributory factors in an employment land study, and an employment land identification exercise.

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Date – 1st July 2007

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