A Bilfinger Real Estate company

Report

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Employment Land Review

2014 Update

Lichfield District Council

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Contents

Appendices

1. Introduction

1.1 GVA has been instructed by Lichfield District Council (LDC) to provide an update as to the likely employment land requirement in the District following an increase in the housing numbers required in the district and the one year extension of the plan period to 2029. This follows from the Inspector's initial findings of the Lichfield Local Plan, published in September 2013.

1.2 GVA carried out the 2012 Employment Land Review, which assessed a number of scenarios in order to provide LDC with guidance as to an appropriate level of employment land that would be required based on the provision of the housing target of 8,000 homes.

1.3 GVA also appeared at the Examination in Public of the Lichfield District Council Local Plan in support of the evidence base carried out to support policy CP7 of the Lichfield Local Plan.

1.4 Following the hearings, the Inspector concluded that there was an under provision of the objectively assessed housing need, with LDC only providing 7,700 homes, taking into account the cross boundary provision for Tamworth and Cannock Chase (an additional 500 homes each).

1.5 The Inspector has asked LDC to accommodate an extra 900 homes within the district to fully meet LDC's objectively assessed needs, and also extend the plan period by an additional year. Therefore, the total housing requirement is 10,030 (including 1,000 homes that will meet the needs of Tamworth and Cannock Chase) over the plan period 2008 – 2029.

1.6 This report looks at the consequence of these changes as requested by LDC. Specifically, the three main questions we have been asked to consider are;

- What is the implication of a further 1,030 homes over and above the 8,000 which was assessed in relation to the 2012 ELR (now taking into account the additional year to 2029) on the job range 7,310 to 9000 jobs?
- Is any change needed to ensure the job balance ratio of 85% can still be achieved?

- Is 79.1 hectares of land plus an additional 10 hectares for flexibility still appropriate? If not then what should the figure be to align with the District's own objectively assessed needs?

1.7 This update examines the consequence of the increase in housing numbers and the extension of the plan period on the employment land requirement, and covers the areas raised by the Council.

1.8 If you require any further information, please do not hesitate to contact

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2. Updated Future Employment Demand

2.1 This chapter should be read in conjunction with the 2012 Employment Land Review (ELR), which sets out the methodology undertaken in more detail.

2.2 The key changes to the future employment demand as a result of the modifications are;

- Change in housing numbers; and
- Extension of the plan period.

2.3 The 2013 hearings identified that the Council had not adequately provided sufficient housing for their objectively assessed needs. The Inspector concluded that they had only provided for 7,700 homes, with the additional 1,000 homes that were identified in policy, meeting the cross boundary needs of Tamworth and Cannock Chase Councils (at 500 homes each).

2.4 Thus the Inspector has asked LDC to accommodate a further 900 homes within the district to fully meet the objectively assessed needs, which increases the housing total to 9,600 homes (included the 1,000 homes that meet the cross boundary requirements). Therefore, 8,600 homes are needed for Lichfield in the period 2008 – 2028.

2.5 The second modification relevant to the employment land demand analysis is the extension of the plan period by an additional year by the Inspector. This increases the total housing land requirement to 10,030 homes (with 9,030 homes to meet Lichfield's needs).

2.6 Therefore, in this analysis we have examined the impact of providing the objectively assessed needs of 9,030 homes on the requirement for employment land within Lichfield's boundaries, over the period 2008 – 2029.

Approach

2.7 The methodology for the development of employment land forecasts is set out in five steps:

- Stage 1
  - Source economic/employment projections
- Stage 2
  - Formulate appropriate scenarios
- Stage 3
  - Create appropriate sector groupings and match to land use class categories
- Stage 4
  - Create worker density assumptions for converting employment to floorspace amd prepare floorspace requirement forecasts
- Stage 5
  - Convert floorspace to land estimatees and forecast land requirements

2.8 The sources, assumptions and analysis made in each step are set out in the following five sections and a series of Appendices are attached setting out the detailed results of the key steps.

2.9 For consistency, we have applied the same assumptions (unless otherwise stated) used in the 2012 ELR in our 2014 update. The two key stages that are affected by the change in housing numbers and extension of the plan period are stages 1 and 2, and these are discussed in detail.

Step 1: Source Employment Projections

2.10 The baseline employment projections used in the 2012 ELR utilised the CE LEFM model which aggregates the economy into 41 industrial sectors, as shown in Table 2.1. The projections are sufficiently disaggregated to use as a basis for employment land forecasting and include historical data from 1981 to 2009 with projections from 2010 to 2028 for Lichfield District. They represent the results of model-based analysis, focusing on the future performance of the existing industrial structure in Lichfield, and have not been refined in light of any qualitative information, legislative changes or other 'soft' information.

Table 2.1 – Cambridge Econometrics' Industrial Sectors

	Industry	2 and 3 Digit NACE Codes
1	Agriculture etc	01, 02, 05
2	Coal	10
3	Oil & Gas etc	11, 12
4	Other Mining	13, 14
5	Food, Drink & Tobacco	15, 16
6	Textiles, Clothing & Leather	17, 18, 19
7	Wood & Paper	20, 21
8	Printing & Publishing	22
9	Manufactured Fuels	23
10	Pharmaceuticals	24.4
11	Chemicals nes	24 (ex24.4)
12	Rubber & Plastics	25
13	Non-Metallic Mineral Products	26
14	Basic Metals	27
15	Metal Goods	28
16	Mechanical Engineering	29
17	Electronics	30, 32
18	Electrical Engineering & Instruments	31, 33
19	Motor Vehicles	34
20	Other Transport Equipment	35
21	Manufacturing nes	36, 37
22	Electricity	40.1
23	Gas Supply	40.2, 40.3
24	Water Supply	41
25	Construction	45
26	Distribution	50, 51
27	Retailing	52
28	Hotels & Catering	55
29	Land Transport etc	60, 63
30	Water Transport	61
31	Air Transport	62
32	Communications	64
33	Banking & Finance	65, 67
34	Insurance	66
35	Computing Services	72
36	Professional Services	70, 71, 73, 74.1-74.4
37	Other Business Services	74.5-74.8
38	Public Administration & Defence	75
39	Education	80
40	Health & Social Work	85
41	Miscellaneous Services	90 - 99
42	Unallocated	

Source: Cambridge Econometrics and GHK Analysis, 2011

2.11 For the purposes of this study, we have continued this approach, but have applied a linear trend to "extend" the projections to the new revised end of plan date of 2029.

Step 2: Formulate Appropriate Alternative Scenarios

2.12 The 2012 ELR formulated four broad scenarios for economic growth within Lichfield. These were;

- Baseline
- Past Trends

- Policy-on Scenario 1
- Policy-on Scenario 2

2.13 In each scenario the base year is 2009 as this is the most recent year for which historic Business Register and Employment Survey (BRES)[1] employment data is available. Each scenario is therefore based on the same historic employment data, disaggregated between 88 sectors (based on 2 digit SIC2007 data), and includes projections from 2010 to 2028. These 88 sectors have been cut back to 76 sectors after excluding all sectors with zero employment within Lichfield District.

2.14 The baseline scenario was based on the CE reference-case employment projections. This used the projected employment growth rates produced for Lichfield by the CE LEFM model and applied these to historic employment data sourced from the BRES for each sector in the District.

2.15 The 'Past Trends' Scenario was based on an analysis of recent past economic trends to set overall employment growth targets for 2028. This was purely a trend-based scenario using historical data and did not take account of local economic or planning policies.

2.16 The 'Policy-On' Scenarios were based upon local economic aspirations, priorities and projections of future housing growth within Lichfield District. Local and sub-regional strategies, plans and other documents were reviewed, alongside stakeholder consultations, to identify economic aspirations and priority sectors for the future within Lichfield and the surrounding area. The scenarios developed assumed that employment growth would be linked to the expected increase in the local population, associated with the Lichfield housing projections detailed in the Local Plan; an economic aspiration to reduce levels of out-commuting within Lichfield; and, relatively strong employment growth within the identified priority sectors, which are expected to be targeted by economic development policy in the future.

2.17 The 2014 update looks at the impact of extending the plan period on the baseline scenario, and re-runs the 'policy-on' scenario to 2029 and considers the revised housing

[1] The Business Register and Employment Survey is an amalgamation of two ONS (Office for National Statistics) surveys: the Annual Business Inquiry and the Business Register Survey.

numbers, whilst keeping the policy aspiration of reducing outward commuting and targeting growth in key employment sectors.

Lichfield Housing Projections

2.18 The Local Plan has a revised housing target of 10,030 homes to be delivered in Lichfield District between 2008 and 2029. This was following the publication of the Inspectors Initial Findings in September 2013.

2.19 However 1,000 of these homes are assumed to meet the needs of Tamworth and Cannock Chase Councils (500 homes each), and therefore we have assessed the employment land requirements for 9,030 homes within the district.

2.20 Determining the relationship between the predicted growth of the local population (through housing growth) and future levels of employment is essential in predicting the quantity, type and location of new employment land. The process of converting the projected number of additional dwellings into employment projections is summarised in Table 2.2.

Table 2.2 – Conversion of Housing Projections to Increased Economically Active Population in Lichfield – using 2012 ELR assumptions

	Policy-On Scenario
Potential New Dwellings (2008-2029)	**9,030**
Dwelling Completions (2008-20010)	375
Potential New Dwellings (2010-2029)	**8,655**
Implied Population Increase (2010-2029)	19,907
Implied Increase in Working Age Population (2010-2029)	10,411
Implied Increase in Economically Active (2010-2029)	**8,173**

Sources: Lichfield District Council, Annual Monitoring Report 2010; Staffordshire Observatory; Census data; ONS, 2010 mid-year population estimates, 2008-based sub-national population projections (May 2010), 2010 annual population survey; CLG, 2010 dwelling stock estimates, GHK analysis, 2011; and GVA analysis, 2014

2.21 Since the employment projections are based on actual data to 2009 and projections to 2029, it is necessary to ensure the dwellings projections adopt an equivalent time period. We have used the Council's Annual Monitoring Reports to establish there were 375 net housing completions in Lichfield between 2008 and 2009. Subtracting this figure suggests that the adjusted targets for new houses in the District between 2010 and 2029 should be 8,655 homes.

2.22 This projected increase in houses from 2010 to 2029 implies an increase in migrant population – assumed at an average rate of 2.3 persons per dwelling based on the same assumptions used in the 2012 report (for consistency), which are the ONS mid-year population estimates (2010) and CLG dwelling stock figures (2010) for Lichfield. This estimates additional populations of 19,907.

2.23 The Staffordshire Observatory provided estimates of working age population as a percentage of the total Lichfield population in 2029 (52.3%), based on the most up-to-date ONS sub-national population projections at the time (May 2010). It was not possible to source economic activity projections for Lichfield, so the latest available estimate of the Lichfield economically active population as a percentage of the working age population was assumed for 2029 (i.e. 78.5% for 2010, according to the ONS Annual Population Survey). These estimates have been applied to the population projections to provide estimates of the working age and economically active populations in 2029 of 10,411 and 8,173 respectively.

2.24 However, since the publication of the 2012 ELR, the 2011 Census results have been released. We have therefore re-run this stage of the modelling based on the results from the 2011 Census.

Table 2.3 – Conversion of Housing Projections to Increased Economically Active Population in Lichfield – using 2011 Census data.

	Policy-On Scenario
Potential New Dwellings (2008-2029)	**9,030**
Dwelling Completions (2008-2010)	375
Potential New Dwellings (2010-2029)	**8,655**
Implied Population Increase (2010-2029)	20,772
Implied Increase in Working Age Population (2010-2029)	13,045
Implied Increase in Economically Active (2010-2029)	**9,053**

Sources: Lichfield District Council, Annual Monitoring Report 2010; Census 2011, GHK analysis, 2011; and GVA analysis, 2014

2.25 This is based upon an updated household size (2.4 persons per dwelling), working age population (62.8% to reflect the change in classification of working age population from 16-64) and economically active population to 69.4%.

2.26 This produces a larger economically active population of 9,053, compared to 8,173 using the 2012 ELR assumptions.

Job Balance and Reduced Out-Commuting

2.27 One of the key economic priorities for Lichfield considered in our 'policy-on' scenarios was the reduction of out-commuting and the improvement of the 'job balance'. Job Balance is defined as the number of jobs in Lichfield divided by the number of economically active residents.

2.28 This aspiration is retained as part of this update and the process of converting the economically active population projections into employment growth is presented in Table 2.4. It shows that the estimated number of economically active people in Lichfield in 2029 will be 60,673 for 'policy-on' scenario 1 (using the 2012 ELR assumptions) and 61,553 for scenario 2 (using the 2011 Census data), comprising the current economically active population as well as those associated with the new housing. In order to achieve the target job balance ratio of 85%, employment in Lichfield would therefore need to total approximately 51,572 jobs under 'policy-on' scenario 1 and 52,320 jobs under scenario 2. This represents an increase of 9,812 and 10,560 jobs from the current employment total in Lichfield for each scenario respectively.

Table 2.4 – Conversion of Economically Active to Employment Growth

	Scenario 1	Scenario 2
Implied Increase in Economically Active (2010-2029)	8,173	9,053
Current Economically Active Population (2009)	52,500	52,500
Projected Economically Active Population (2029)	**60,673**	**61,553**
Estimated Total Employment in 2029 (Assuming 85% Job Balance)	51,572	52,320
Current Employment (2009)	41,760	41,760
Additional Employment Required to Achieve 85% Job Balance in 20289	**9,812**	**10,560**

Sources: ONS, 2010 annual population survey; BRES 2009 data, GHK analysis, 2011; and GVA analysis 2014

2.29 These scenarios provide an overall reference point for job growth to 2029, but do not provide any estimate of how the sectoral structure of the economy could be expected to change during this period. The future structure of the economy is likely to be influenced by a number of factors including the expected increase in dwellings and resident population by 2029, policy aspirations and a continuation of past trends. We have therefore followed the 2012 ELR approach, which was that the projected distribution of the target jobs for Lichfield between sectors should be based on the impact of the additional dwellings, policy aspirations for sectoral development, the changing sectoral trends from the period 1998 to 2008 for ABI data and 2008 to 2009 for BRES data, as well as the LEFM projections.

2.30 Detailed information regarding this sectoral distribution, which follows the approach as set out in the 2012 ELR, is found at Appendix 1.

2.31 As a summary;

- ‘Baseline’ Scenario - using the employment projections produced for Lichfield District by the CE LEFM model and applying these to historic BRES employment data for each sector;
- ‘Policy-on’ Scenario 1 - based on 9,030 additional dwellings, job balance ratio of 85%, and key employment sector growth, using our 2012 ELR assumptions; and
- ‘Policy-on’ Scenario 2 – assumes as above but using the results of the 2011 Census data release.

2.32 Summaries of the resulting employment forecasts in 2029 under each scenario are presented in Table 2.5 below. Detailed tables for each individual scenario can be found in Appendix 2, providing employment totals for a selection of summary years including 2009, 2011, 2014, 2019, 2024 and 2029.

Table 2.5 – Summary of Employment Projections based on Economic Scenarios

		Baseline	Scenario 1	Scenario 2
	2009 Actual	2029	2029	2029
01 : Agriculture/hunting, etc.	64	71	70	71
02 : Forestry	6	7	7	7
03 : Fishing	6	7	7	7
08 : Mining & quarrying	38	15	14	14
10: Manf. - food products	595	545	803	814
11: Manf. - beverages	3	3	4	4
13: Manf. - textiles	87	80	76	77
14: Manf. - wearing apparel	1	1	1	1
16: Manf. - wood & wood products	87	82	78	80
17: Manf. - paper & paper products	50	47	45	46
18 : Printing & reproduction of recorded media	118	62	58	58
20: Manf. - chemicals & chemical products	298	155	153	155
22: Manf. - rubber & plastic products	424	295	277	281
23: Manf. - other non-metallic mineral products	119	33	36	36
24: Manf. - basic metals	112	84	79	80
25 : Manf - fabricated metal products	854	601	565	573
26: Manf. - computer, electronic & optical products	33	11	10	10
27: Manf. - electrical equipment	35	18	16	16
28: Manf. - other machinery & equipment	929	827	794	806

29: Manf. - motor vehicles, trailers	302	271	330	335
30: Manf. - other transport equipment	153	128	121	123
31: Manf. - furniture	124	129	124	126
32: Manf. - other manufacturing	28	29	28	28
33 : Repair & installation of machinery & equipment	113	101	97	98
35 : Electricity, gas, steam & air conditioning supply	241	162	164	166
36 : Water collection, treatment & supply	53	66	64	65
37 : Sewerage	9	8	8	8
38 : Waste collection, treatment & disposal	201	178	169	172
41 : Construction of buildings	664	893	858	871
42 : Civil engineering	303	407	392	397
43 : Specialised construction activities	1,924	2,587	2,487	2,523
45 : Wholesale, retail & repair of motor vehicles	870	826	1,007	1,021
46 : Wholesale trade	2,305	2,189	2,084	2,114
47 : Retail trade	4,833	4,275	5,591	5,672
49 : Land transport	699	710	908	921
50 : Water transport	1	1	1	1
51 : Air transport	0	0	0	0
52 : Warehousing & transportation support activities	878	891	841	853
53 : Postal & courier activities	417	388	378	383
55 : Accommodation	173	231	220	224
56 : Food & beverage services	2,968	3,962	3,302	3,349
58 : Publishing	83	44	40	41
59 : Film, video and TV production & music publishing	34	30	29	29
60 : Programming & broadcasting activities	1	1	1	1
61 : Telecommunications	297	277	269	273
62 : Computer & related activities	885	1,813	1,737	1,763
63 : Information service activities	289	592	567	576
64 : Financial services	501	672	648	657
65 : Insurance & pension funding	34	34	33	33
66 : Auxiliary financial services	348	467	450	456
68 : Real estate activities	577	948	683	693
69 : Legal & accounting activities	388	637	727	738
70 : Head office & management consultancy activities	929	1,526	1,741	1,766
71 : Architecture & engineering	866	1,423	1,623	1,646
72 : Scientific research & development	139	228	217	220
73 : Advertising & market research	52	85	81	82
74 : Other professional, scientific & technical activities	276	453	431	437
75 : Veterinary activities	130	137	157	159
77 : Rental & leasing activities	755	1,335	1,298	1,317
78 : Employment activities	696	1,231	1,197	1,214
79 : Travel agencies & tour operators	128	226	220	223
80 : Security & investigation activities	221	391	380	386
81 : Building & landscape services	1,382	2,444	2,376	2,411
82 : Office administrative & other business support	482	852	829	841
84 : Public administration & defence	1,394	1,384	1,863	1,890
85 : Education	3,210	3,437	3,975	4,033
86 : Human health activities	2,102	2,213	2,533	2,570
87 : Residential care activities	875	921	1,054	1,070
88 : Social work activities without accommodation	1,099	1,157	1,324	1,343

90 : Creative, arts & entertainment activities	64	57	75	76
91 : Libraries, archives, museums & other cultural activities	87	77	102	103
92 : Gambling & betting activities	84	74	99	101
93 : Sports activities & amusement & recreation activities	951	842	1,110	1,126
94 : Activities of membership organisations	461	408	546	553
95 : Repair of computers & personal/household goods	41	36	44	45
96 : Other personal service activities	781	691	847	859
Total	**41,760**	**48,520**	**51,572**	**52,320**

Source: Reference-case projections supplied by Cambridge Econometrics, GHK analysis, 2011; and GVA analysis, 2014

2.33 The three scenarios provide a moderate range of projections for employment growth in Lichfield to 2029, ranging from around 48,250 jobs in 2029 under the baseline scenario to around 52,320 jobs in 2029 under scenario 2 (using the Census 2011 data).

2.34 The baseline scenario suggests that total employment in Lichfield will continue to fall in the short term, reaching a low point of approximately 40,000 jobs in 2010/11, and is not expected to return to current (2009) levels until 2015. However, employment growth is then expected to accelerate throughout the remainder of the forecast period to 2029, reaching growth rates of around 1.3% per annum, such that total employment in Lichfield is estimated to total over 48,500 jobs by 2029. This represents an increase of 6,760 jobs over the 2009 total. The baseline scenario projects the largest employment declines in manufacturing with one in five manufacturing jobs in Lichfield expected to be lost between 2009 and 2029. The baseline scenario also suggests that the retail sector will suffer more significant job losses and over a longer period than most other sectors, with employment continuing to fall until 2015. However, the baseline scenario also projects relatively strong employment growth in computing, professional and business services and hotels and restaurants.

2.35 The ‘policy-on’ scenarios project 9,812 and 10,560 additional jobs, increasing total employment in Lichfield to 51,572 and 52,320 jobs for scenarios 1 and 2 respectively. The difference between the two scenarios in terms of total employment is due to slightly different assumptions applied in step 1. Both scenarios incorporate the job balance target of 85%. The ‘policy-on’ scenarios also project strong employment growth in computing, professional and business services and construction, and positive growth in retail and food, drink and motor vehicle manufacturing sectors.

Step 3: Employment and Land Categorisation

2.36 We have applied the same sector groupings as in the 2012 ELR, with details of the approach taken shown in Appendix 3.

Create Appropriate Sector Groupings

2.37 Some 27 groups - 8 manufacturing groups and 19 service groups - were adopted for forecasting purposes, further detail is provided at Appendix 3, but it is important to note that not all employment groups require land, and in particular employment land. We have moderated a number of employment sectors to consider this;

- Utilities (Electricity, gas and water): 30% of employment is assumed to be in headquarters and other office premises.
- Construction: 33.3% of employment is assumed to be located in fixed employment premises.
- Building and landscape services: 30% of employment is assumed to be located in fixed employment premises.
- Education: 10% of employment is assumed to be in non-educational, mainly office premises.
- Health and social work: 20% of employment is assumed to be in headquarters and other office premises.

2.38 Table 2.6 provides the total and sector breakdown of employment for these 27 sector groups under each scenario. It should be noted that the employment figures presented in Table 2.6 have not been moderated. For each of these 27 individual sectors (M1-M8 and S1-S19) retained in the analysis, either 100% or the moderated percentage of employment set out in paragraph 1.45 is then used to calculate the employment land demand projections in our conversion model.

Table 2.6 – Employment in Selected Sector Groups

			Baseline	Scenario 1	Scenario 2
		2009 Actual	2029	2029	2029
M1	Food & Beverages	598	547	807	819
M2	Wood & Paper Materials/Products	261	259	248	251
M3	Chemical, Plastic & Non-Metallic Materials/Products	841	499	466	472
M4	Metals & Metal Products	966	685	645	654
M5	Electronics & Electrical Equipment	68	29	26	26
M6	Mechanical Engineering	1,042	935	891	904
M7	Motor Vehicles & Other Transport	455	398	451	458
M8	Manufacturing ne	116	110	105	106
S1	Utilities	504	426	405	411
S2	Construction	2,891	3,842	3,736	3,791
S3	Wholesale Distribution	2,305	2,181	2,084	2,114
S4	Wholesale, Retail and Repair of Motor Vehicles	870	823	1,007	1,021
S5	Retailing	4,833	4,229	5,591	5,672
S6	Land Transport	1,577	1,569	1,749	1,775
S7	Post & Telecommunications	714	677	647	656
S8	Accommodation & Food Service	3,141	4,117	3,522	3,573
S9	Printing, Publishing & Media	236	137	127	129
S10	Insurance, Banking & Finance	883	1,162	1,130	1,146
S11	Computer & Information Services	1,174	2,321	2,305	2,338
S12	Professional Services	3,227	5,134	5,503	5,583
S13	Building & Landscape Services	1,382	2,409	2,376	2,411
S14	Other Business Services	2,282	3,977	3,924	3,981
S15	Public Administration & Defence	1,394	1,384	1,863	1,890
S16	Education	3,210	3,408	3,975	4,033
S17	Health & Social Care	4,206	4,409	5,068	5,142
S18	Recreational, Cultural & Sporting Activities	1,647	1,458	1,931	1,959
S19	Other Services	822	728	891	904
	Total Selected Sectors	**41,645**	**47,851**	**51,474**	**52,221**

Source: GHK analysis, 2011 and GVA analysis 2014

Match to Land Use Class Categories

2.39 This step goes on to allocate all or divide parts of these employment sector groups between the standard land use categories. These were allocated on the basis of professional judgement and experience of the consultants' team, but have remained disaggregated as far as possible in order to narrow the range of the judgement to be made for any individual employment group or land use category. Thus the full breakdown of land use classes (e.g. A1, A2a,b,c etc., A3, B1a,b,c etc., B2, B8, C1) is used together with the 27 sector groups. Where an employment group is allocated to more than one land use class, the percentage of employment assumed to be in each land use class has been identified. Wherever possible this has been determined using more detailed BRES data for 2009 at up to the 5-digit SIC subclasses to determine the proportions of employees in each relevant sub-sector, for example to reflect the split between employment in accommodation and employment in food and beverage service sectors for the study area.

2.40 This approach is consistent with the 2012 ELR.

Step 4: Employment Densities and Floorspace Requirements

2.41 Employment densities are a key link between employment change and land use, and need to be applied in the model to convert the employment forecasts to floorspace requirements. The employment densities in the model is consistent with the 2010 Employment Densities Guide (2nd Edition), developed by Drivers Jonas Deloitte. The Drivers Jonas densities cited are the most up to date and the most disaggregated and therefore adaptable for use in the disaggregated model form adopted for this study.

2.42 Some of the employment densities are provided in terms of net internal area (NIA) and these have been converted to gross internal area (GIA) using conversion factors based upon the guidance in the 2010 Employment Densities Guide and the consultant's previous experience. For A1, A2, A3, B1a and C1 use classes, the NIA is assumed to equate to 80% of the GIA, while an equivalent figure of 90% has been assumed for the B1b and B1c use classes. These employment density assumptions are summarised in Table 2.7 below.

2.43 It should also be noted that the GIA floorspaces per worker have then been converted to gross external rates by increasing all business and industrial classes (B1 and B2) by +3.5% and increasing all shops, financial and professional services, hotels and catering premises (A1, A2, A3 and C1) by +10%, whilst the densities for storage and distribution (B8) have remained unchanged.

Table 2.7 – Employment Densities Adopted for Lichfield Sectors

Activity	Sector Group	Land Use Category	Net Internal Density (sq. m / worker)	Gross Internal Density (sq. m / worker)
Manufacturing	General & Specialist Manufacturing: M1, M2, M3, M4, M6, M8, S9	B2		36
	Electronics & Electrical Equipment: M5	B1c	47	52
	Transport Equipment: M7	B2		36
Logistics & Distribution	Land Transport: S6	B8		80
	Wholesale Distribution / Transport & Communications: S3, S6, S7	B8		70
Automotive	Wholesale, Retail and Repair of Motor Vehicles: S4	B2		36
Offices	Various: S1, S2, S5, S9, S10, S11, S12, S13, S14, S15, S16, S17	B1a	12	15
	Professional Services: S12	B1b	47	52
Retail	Retail Shops / Computer Services: S5, S11	A1	19	24
	Insurance, Banking & Finance: S10	A2a	16	20
	Retailing / Computing / Professional Services: S5, S11, S12	A2a/b	16	20
	Recreational, Cultural, Sporting & Other Services: S18, S19	A2c	16	20
	Accommodation & Food Service: S8	A3 / C1	18	23

Source: Drivers Jonas Deloitte, Employment Densities Guide (2nd Edition) 2010, produced for the Homes and Communities Agency, and GHK analysis, 2011

2.44 The density assumptions used in the model are based on current worker/floorspace densities. There are factors impacting on future employment densities which may move towards lower overall densities or less reliance upon traditional forms of employment floorspace to meet economic needs. This study has not made adjustments for such changes because we believe it is better to use consistent and well understood national estimates for long term forecasting, whilst recognising that these should be monitored.

2.45 These employment densities have been applied in each sector and land use category using the consultant's transformation model and the resulting estimates of floorspace requirements for 2029 are summarised in Appendix 4.

Table 2.8 – Lichfield Floorspace Requirements by Land Use Class (sqm): Total Requirement 2029 and Change in Requirement 2009 – 2029, by Scenario

Total Floorspace requirement 2029	2009	Baseline	Scenario 1	Scenario 2
A1	45,150	43,510	54,705	55,499
A2	153,688	186,129	210,977	214,038
A3	73,853	98,587	82,810	84,011
B1a	157,005	213,818	228,049	231,358
B1b	8,721	14,327	14,872	15,088
B1c	3,675	1,540	1,411	1,432
B2	199,326	162,120	176,124	178,680
B8	328,817	319,030	321,469	326,134
C1	3,887	5,189	4,358	4,422
Total	**974,123**	**1,044,251**	**1,094,776**	**1,110,662**
Absolute Change in Floorspace Requirement 2009 - 2029	**2009**	**Baseline**	**Scenario 1**	**Scenario 2**
A1	-	-1,640	9,555	10,349
A2	-	32,440	57,288	60,350
A3	-	24,734	8,957	10,159
B1a	-	56,813	71,044	74,353
B1b	-	5,606	6,151	6,367
B1c	-	-2,135	-2,264	-2,243
B2	-	-37,206	-23,202	-20,646
B8	-	-9,786	-7,347	-2,683
C1	-	1,302	471	535
Total	**-**	**70,128**	**120,653**	**136,539**

Source: GVA analysis 2014

2.46 Table 2.8 summarises the floorspace requirements for each scenario in 2029 and the change between 2009 and 2029. Scenario 2 projects around 136,500 additional square metres of floorspace, while the baseline scenario forecasts the lowest increase of circa 70,000 sq m.

2.47 The scenarios all concur that the largest increases in demand will be for office (B1a) floorspace, while demand for financial and professional services (A2), food and drink (A3), research and development (B1b) and hotel (C1) floorspace will also increase over the period to 2029. The scenarios also agree that demand for manufacturing (B2), distribution and warehousing (B8) and light industrial (B1c) floorspace will decline over the period.

2.48 The baseline scenario is the only scenario to forecast a decline in requirements for A1 retail floorspace as a result of the significant projected decline in retail employment between 2009 and 2015. The baseline scenario also projects the most significant decline in demand for manufacturing (B2) floorspace and a large decrease in distribution and warehousing (B8) floorspace requirements. However, this is offset by significant growth in office (B1a), financial and professional services (A2) and food and drink (A3) floorspace.

2.49 The two 'policy-on' scenarios project increasing demand for floorspace for all land use classes, except for manufacturing (B2), distribution and warehousing (B8) and light industrial (B1c) floorspace. Both scenarios suggest that increasing demand for office (B1a) and financial and professional services (A2) will continue to drive the growth in floorspace requirements in Lichfield to 2029.

Step 5: Forecasting Land Requirements

2.50 This section details how we have converted the estimates of floorspace required in Table 2.8 above into estimates of land.

Churn / Leakage

Churn

2.51 Employment driven floorspace demand is likely to be the significant driver of the demand for additional floorspace in a local economy. However, it is also true that an element of demand will arise from companies moving, either due to obsolescence of their existing property, the desire for a lower or higher cost location, or simply for strategic reasons. Furthermore, the regeneration process will give rise to business relocations which creates further demand for employment land. This form of demand is called 'churn' and it represents a general level of turnover in property requirements. Churn can have a significant effect on the amount of employment land and floorspace that is required in order to meet the predicted demand. The basis of calculating Churn is to look at the existing amount of stock in the district. We have taken the most up to date information available from the Office of National Statistics, which is currently from 2008. This data is shown in Table 2.9 below.

Table 2.9 - Baseline Amount of Floorspace in Lichfield (2008)

Bulk Class	Land Use Designation	Floorspace (m2)
Offices	B1	84,000
Factories	B2	485,000
Warehouses	B8	517,000
	Total	**1,086,000**

Source: Office of National Statistics, 2011

2.52 Estimating churn and its relationship to employment driven demand is not straightforward. Both employment churn and property churn factors are drivers of demand for business floorspace. For example, premises that are vacated by declining sectors can, subject to planning and suitability, be occupied by expanding sectors. GVA has used knowledge from previous studies (Nuneaton and Bedworth, Warwick, Redditch, Worcestershire and the Black Country) to devise a set of assumptions regarding the level of churn for different land use classes. These assumptions are in line with other studies and are set out in Table 2.10 below. Churn figures are then applied to the stock figures in Table 2.10 above.

Table 2.10 – Churn Factors

Land Use Class	Churn Factor
B1a/B1b	1% per year
B1c/B2	1% per year
B8	1% per year

GVA analysis, 2011

2.53 In arriving at the churn figures detailed in Table 0 above we have taken into account a number of significant factors. We have reviewed inward investment queries and take up data to gain an understanding of where companies are moving to and the types of employment land that are being completed recently.

2.54 As can be seen in Table 2.11 below the effect of churn in creating additional demand to be added to that coming from the model is approximately 50ha over 20 years.

Table 2.11 – Overall Effects of Churn

	Bulk Class	Land Use Designation	Floorspace (m^2)	Churn (floorspace (m^2 / year))	Churn (land (ha / year))	Churn (land (ha)) 11 Year Summary (to 2016)	Churn (land (ha)) 21 Year Summary (to 2026)
Lichfield	Offices	B1	84,000	840	0.26	2.58	5.17
	Factories	B2	485,000	4,850	1.39	13.86	27.71
	Warehouses	B8	517,000	5,170	1.29	12.93	25.85
		Total	**1,086,000**	**10,860**	**2.94**	**29.37**	**58.73**

Source: ONS, 2011 and GVA analysis, 2011

Leakage

2.55 We have also considered the effect of leakage from employment areas to other employment locations such as town centres and other places not classified as employment land. This includes in local centres, above shops, people's spare rooms and garages. Leakage has a more noticeable effect on the demand for office space, simply because offices can be located in a wider range of locations, not just recognised employment areas.

2.56 In terms of offices, we have assumed that 55% of office jobs are likely to locate on employment sites and that the remaining 45% are likely to locate elsewhere within Lichfield. Of the 45%, we have assumed that the majority of this (between 77% and 95% - dependent on scenario) will be located within Lichfield town centre with the remainder located in Burntwood town centre and other areas not recognised as employment land.

2.57 For industrial and distribution type premises, the amount of leakage is much lower and the situation slightly less complex. Industrial and distribution developments have a much stronger reliance on allocated employment land, and therefore, in line with assumptions we have used in previous studies, we have assumed that for industrial demand, a general leakage figure of 10% will apply.

2.58 This is reflective of the fact that it is unlikely that any new development in the B2 / B8 use classes would be on non-employment land and is more likely to be on designated employment sites and takes account of the fact that some B8 storage uses can be accommodated in existing redundant buildings that were formerly used as factories.

2.59 Furthermore, taking into account the large amount of greenbelt land around Lichfield we would expect very few new B2 / B8 developments to be on land that is not designated employment land. Notwithstanding this we have made an allowance for instances of leakage to non-employment designations, an example of which would be the re-use / intensification of existing employment areas. The leakage figure of 10% therefore implies that 90% of all demand for industrial type premises will be located in employment areas, and the rest will be absorbed by other locations.

Plot Ratios

2.60 The amount of floorspace that is built per net hectare is an important factor to consider when predicting employment land requirements. We have analysed recent employment developments within the District and used experience from other Employment Land Review projects that we have undertaken, to ascertain the average amount of floorspace being built per hectare. This enables floorspace requirements (sqm) to be converted into estimates of employment land (ha).

2.61 Table 2.12 below summarises the average plot ratios we have used for this study. These are in line with the guidance on plot ratios as set out in Box D.7 of the ELR guidance.

Table 2.12 – Plot Ratio Assumptions

Land Use Class	Average Plot Ratio (sqm per ha)
B1a / B1b	3,250
B1c / B2	3,500
B8	4,000

Source: GVA analysis, 2011

Completions of Employment Land

2.62 The demand forecasts we have prepared run from 2009 – 2029. We have previously identified that there was no new employment land developed in the 12 months from April 2009 to April 2010, but that 0.55ha of employment land was completed in 2010/11.

Net to Gross Ratios

2.63 We have applied a net to gross ratio of 10% to account for miscellaneous land uses (such as landscaping, car parking and major infrastructure) that cannot be used for development of employment premises, but are essential within any site. This factor is based on past experience in the locality and a review of recent employment developments.

2.64 The next section outlines the forecasts of employment land demand within Lichfield, based on the employment projections and assumptions detailed in this section.

3. Forecasts of Future Employment Land Demand

3.1 This section details the demand forecasts based on the scenarios and assumptions detailed in Section 2. We have presented demand forecasts for each scenario, in terms of floorspace (sqm) and land (ha) requirements. More detailed tables can be found at Appendix 5.

Baseline Scenario

3.2 The total floorspace and land requirements under the baseline scenario are shown in Table 3.1. They show a requirements of around 15ha B1a/b, 34ha B1c/B2 and 31ha B8, giving an overall requirement of 80ha to 2029. More detailed tables can be found at Appendix 5.

Table 3.1 – Baseline Scenario – Floorspace and Land Requirements: 2009 to 2029

Use Class	2009	2011	2014	2019	2024	2029
B1a	0	133,347	8,927	18,848	30,206	43,570
B1c / B2	0	29,958	43,053	64,878	86,703	108,528
B8	0	65,758	44,493	67,758	109,320	114,288
Total (sq m)	**0**	**229,062**	**96,472**	**151,483**	**226,228**	**266,385**

Use Class	2009	2011	2014	2019	2024	2029
B1a	0.00	45.13	3.02	6.38	10.22	14.75
B1c / B2	0.00	9.42	13.53	20.39	27.25	34.11
B8	0.00	18.08	12.24	18.63	30.06	31.43
Total (ha)	**0.00**	**72.63**	**28.79**	**45.40**	**67.54**	**80.28**

Source: GVA analysis, 2014

Scenario 1 (based on 9,030 new homes)

3.3 The total floorspace and land requirements under Scenario 1, based on 9,030 new homes are shown in Table 3.2 below. They show a requirement of around 18ha B1a/b, 34ha B1c/B2 and 31ha B8, giving an overall requirement of around 83ha to 2029. This takes into account the impact of churn leakage, completions and relocations. More detailed tables can be found at Appendix 5.

Table 3.2 – Scenario 1 (9,030 new homes) – Floorspace and Land Requirements: 2009 to 2029

Use Class	2009	2011	2014	2019	2024	2029
B1a / B1b	0	133,347	11,064	23,259	36,742	51,697
B1c / B2	0	29,958	43,053	64,878	86,703	108,528
B8	0	33,252	44,493	67,758	98,333	114,288
Total (sq m)	**0**	**196,556**	**98,609**	**155,894**	**221,778**	**274,512**

Use Class	2009	2011	2014	2019	2024	2029
B1a / B1b	0.00	45.13	3.74	7.87	12.44	17.50
B1c / B2	0.00	9.42	13.53	20.39	27.25	34.11
B8	0.00	9.14	12.24	18.63	27.04	31.43
Total (ha)	**0.00**	**63.69**	**29.51**	**46.90**	**66.73**	**83.04**

Source: GVA analysis, 2014

Scenario 2 (based on 9,030 new homes with updated Census data)

3.4 The total floorspace and land requirements under Policy on Scenario 2 (based on 9,030 new homes but with new assumptions from the 2011 Census) are shown in Table 3.3 below. They show a requirement of around 18ha B1a/b, 34ha B1c/B2 and 31ha B8, giving an overall requirement of around 83.69ha to 2029. This takes into account the impact of churn leakage, completions and relocations. More detailed tables can be found at Appendix 5.

Table 3.3 – Scenario 2 (9,030 new homes, 2011 Census assumptions) – Floorspace and Land Requirements: 2009 to 2029

Use Class	2009	2011	2014	2019	2024	2029
B1a	0	133,347	11,425	24,053	38,056	53,636
B1c / B2	0	29,958	43,053	64,878	86,703	108,528
B8	0	32,826	44,493	67,758	95,178	114,288
Total (sq m)	**0**	**196,130**	**98,970**	**156,688**	**219,936**	**276,451**

Use Class	2009	2011	2014	2019	2024	2029
B1a	0.00	45.13	3.87	8.14	12.88	18.15
B1c / B2	0.00	9.42	13.53	20.39	27.25	34.11
B8	0.00	9.03	12.24	18.63	26.17	31.43
Total (ha)	**0.00**	**63.58**	**29.63**	**47.16**	**66.30**	**83.69**

Source: GVA analysis, 2014

Summary

3.5 This section has shown that there is predicted to be a requirement for employment land of between 80 - 84ha of employment land within Lichfield to 2029, as shown in Table 3.4 below.

Table 3.4 – Summary of Employment Land Requirements: 2009 – 2029

Scenario	Employment Land Demand 2009 to 2028 (ha)			
	B1a / B1b	B1c / B2	B8	Total
Baseline	14.75	34.11	31.43	80.28
Scenario 1	17.50	34.11	31.43	83.04
Scenario 2	18.15	34.11	31.43	83.69

Source: GVA analysis, 2014

3.6 Table 3.4 above shows that if Lichfield were to continue growing at the baseline level over the period to 2029, the overall requirement for employment land would be around 80.28ha. Scenario 1, based on 9,030 new homes, would require around 83.04ha of employment land, with around 17.5ha (21%) being for offices, 34.11ha (41%) for manufacturing and 31.43ha (38%) for distribution. Scenario 2, based on 9,030 homes with revised Census 2011 assumptions, would require 83.69ha of employment land, with around 18.15ha for offices, 34.11ha for manufacturing and 31.43ha for distribution. The figures for manufacturing and distribution are consistent across all of the scenarios because these sectors have been predicted to have negative growth in terms of employment. Therefore, the only demand for these types of premises will come from churn.

4. Conclusions

4.1 This is a high level analysis of the employment land that is likely to be required to support an additional 9,030 homes in Lichfield district in the plan period 2008 – 2029.

4.2 The current policy wording (including the modifications) is;

*79.1 hectares of land will be allocated for employment uses****, including approximately 10 hectares within the Cricket Lane SDA****, informed by the employment portfolio as shown within the Employment Land Review. Around 10 additional hectares of land will be defined by the Local Plan Allocations document to ensure flexibility of provision.*

4.3 The current policy wording states 79.1 hectares of land will be allocated, but also states that an additional 10 hectares of land will be defined by the Local Plan Allocations document. This will bring the total employment land allocation to 89.1ha.

4.4 Our update to the ELR to reflect the increase housing provision suggests that 9,030 homes will generate a need for circa 83 hectares of employment land in the plan period, whilst ensuring that the 85% job balance is still being achieved.

4.5 This is within the suggested employment allocation, and therefore the current policy wording is still appropriate.

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Appendices

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Appendix 1

Sectoral Distribution (adapted from 2012 ELR)

1 – An Economic Base Projection of Non Basic Service Employment

1.1 The first step in defining the sectoral distribution of the target jobs directly examines the relationship between housing growth and the demand for so called "non-basic" local service jobs – expected to result in the growth of local service employment in, for example, education, health services, retailing, etc. - with or without any aspirations or policy targets for employment growth in these sectors. Economic Base Analysis has been used to define and measure the size of these sectors and examine the relationship between the sectors and the projected housing growth described above.

1.2 The relationship between the growth of new dwellings and local service employment was previously analysed by GHK at a national level, using a cross sectional regression analysis based on 2001 Census and ABI data for every local authority in England. The analysis tested the relationship between the number of dwellings and individual local service sectors defined using 2-digit SIC 2003 data. It examined the relationship between the number of dwellings and the level of employment in 18 potentially non-basic sectors and found a statistically significant relationship in 11 local service sectors where nearly all employment can normally be classified as non-basic. The findings show that the relationship is significant and remarkably consistent across the sample of towns and cities such that an increase of one dwelling is associated with an increase of 0.59 jobs in these 11 sectors in total.

1.3 In fact the analysis measures the number of jobs generated by the addition of one dwelling in each individual sector. These sectors are:

- Construction;
- Retail and repair of motor vehicles;
- Retail trade;
- Hotels and restaurants;
- Real estate activities;
- Public administration, defence and social security;
- Education;
- Health and social work;
- Activities of membership organisations;

- Recreational, cultural and sporting activities;
- Other service activities.

1.4 These ratios were therefore used to estimate the growth in employment in these sectors resulting from the projected increase in dwellings in Lichfield to 2029 for each scenario. The Economic Base projection, as noted above, focuses only on the non-basic local service sectors identified (no change is predicted by this method in the other 'basic' service and manufacturing sectors) but shows that, if the effect of simply increasing the number of dwellings is as analysed, then total employment in these 11 local service sectors can be expected to rise "automatically" by 0.59 times the number of new dwellings.

1.5 This process was slightly complicated by the fact that the economic base analysis and resulting 'dwelling to job' coefficients were calculated using 2003 SIC codes and needed to be applied to the latest data, which was only available in the revised 2007 SIC codes. For most of the above sectors, there is a close one-to-one correlation between the 2003 and 2007 codes, so the coefficients could be directly applied to the new sectors (i.e. for retail and repair of motor vehicles; retail trade; real estate activities; public administration and defence; education; and, activities of membership organisations).

1.6 However, under the revised 2007 codes, there are now multiple sectors associated with each of the other 2003 SIC codes. In each of these sectors, the 'dwelling to job' coefficients have been used to calculate the total number of jobs associated with the additional housing, before distributing these jobs according to the relative size of each sub-sector using the revised 2007 SIC codes. For example, the coefficient for 'health and social work' has been used to estimate the additional 'health and social work' jobs associated with the additional housing, before distributing these jobs between the 'veterinary', 'human health', 'residential care' and 'social care' sub sectors, according to the relative size of these sub sectors in Lichfield.

2 – Projection of Priority Sectors

1.7 A number of key priority sectors have been identified for Lichfield in consultation with the District Council, which are expected to be targeted by economic development policy in the future. Some of these sectors are expected to perform better than the LEFM projections would suggest, others are expected to reverse declining trends by 2029, while growth of other sectors is likely to be more restricted in the future. In forecasting these key sectors, a range of different treatments were considered: (1)

applying an historic trend, (2) applying the appropriate dwellings-to-job ratio, (3) keeping the LEFM projection, or (4) maintaining current (2009) employment levels.

1.8 In total, 24 sectors were identified as priority sectors, including three manufacturing and 21 service sectors. These sectors fall within the broader priority sectors of:

- High-value, professional services (including IT and creative sectors);
- Research and development (including health and medical technologies);
- Tourism (comprising retail, accommodation; sports, leisure and cultural activities);
- Construction and building technologies;
- Logistics;
- Education;
- Social care; and,
- Relatively high-value manufacturing sub sectors where Lichfield has existing strengths for example low carbon technologies (electric vehicles) and digital media.

1.9 For each priority sector, Table 1.1 outlines the relevant LEFM per annum growth rate for Lichfield, the chosen methodology for each priority sector and the equivalent growth rate applied under each of the two 'policy-on' scenarios.

Table 1.1 – Selection of Appropriate Projections for Priority Sectors

Sector	Industry (2007 SIC Codes)	Lichfield LEFM	Chosen Methodology	Equivalent Applied Growth per annum	
				Scenario 1 (9,030 New Dwellings & 85% Job Balance)	Scenario 2 (9,030 New Dwellings, Census 2011 Assumptions & 85% Job Balance)
Manufacturing	10 : Manf - food products	-0.5%	Past Trend – ¼ ten year trend	1.5%	1.5%
Manufacturing	11 : Manf - beverages	-0.5%	Past Trend – ¼ ten year trend	1.5%	1.5%
Manufacturing	29 : Manf - motor vehicles, etc.	-0.6%	Past Trend – ½ ten year trend	0.4%	0.5%
Service	41 : Construction of buildings	1.5%	LEFM Projection	1.3%	1.3%
Service	42 : Civil engineering	1.5%	LEFM Projection	1.3%	1.3%
Service	43 : Specialised construction	1.5%	LEFM Projection	1.3%	1.3%
Service	47 : Retail trade	-0.7%	Dwellings-to-Job Ratio	0.7%	0.9%
Service	49 : Land transport	0.0%	Past Trend – ¼ ten year trend	1.3%	1.3%
Service	49 : Warehousing & transport support activities	0.0%	Maintain Current Employment	-0.2%	-0.2%

Sector	Industry (2007 SIC Codes)	Lichfield LEFM	Chosen Methodology	Equivalent Applied Growth per annum	
				Scenario 1 (9,030 New Dwellings & 85% Job Balance)	Scenario 2 (9,030 New Dwellings, Census 2011 Assumptions & 85% Job Balance)
Service	55 : Accommodation	1.4%	LEFM Projection	1.2%	1.2%
Service	56 : Food & beverage services	1.4%	Dwellings-to-Job Ratio	0.5%	0.6%
Service	62 : Computer services	3.7%	LEFM Projection	3.4%	3.5%
Service	64 : Financial services	1.5%	LEFM Projection	1.3%	1.3%
Service	69 : Legal & accounting activities	2.5%	Past Trend – ½ ten year trend	3.2%	3.2%
Service	70 : Head office & management consultancy activities	2.5%	Past Trend – ½ ten year trend	3.2%	3.2%
Service	71 : Architecture & engineering	2.5%	Past Trend – ½ ten year trend	3.2%	3.2%
Service	72 : Scientific research & development	2.5%	LEFM Projection	2.3%	2.3%
Service	85 : Education	0.3%	Dwellings-to-Job Ratio	1.1%	1.2%
Service	86 : Human health activities	0.2%	Dwellings-to-Job Ratio	0.9%	1.1%
Service	87 : Residential care	0.2%	Dwellings-to-Job Ratio	0.9%	1.1%
Service	88 : Social work	0.2%	Dwellings-to-Job Ratio	0.9%	1.1%
Service	90 : Creative, arts & entertainment activities	-0.6%	Past Trend – Full ten year trend	0.8%	0.8%
Service	91 : Libraries, museums & other cultural activities	-0.6%	Past Trend – Full ten year trend	0.8%	0.8%
Service	93 : Sports, amusement & recreation activities	-0.6%	Past Trend – Full ten year trend	0.8%	0.8%

Source: GHK analysis, 2011 and GVA analysis, 2014

3 - Projection of Employment in 'Non-Priority' Sectors

1.10 For the projections of all other primary, manufacturing and basic service sectors ('non-priority' sectors), the LEFM projections are considered to provide the best indicator of employment change and have been used to generate projections to 2029.

4 – Adjustment to Control Employment Totals

1.11 Lastly, each sector total was adjusted either up or down in proportion to the distribution of projected employment in 2029 in order to control these sectoral changes proportionately back to the respective jobs target for 2029 under 'policy-on' scenarios 1 and 2. A straight line trend was then assumed in all sectors from 2010 to 2029.

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Appendix 2

Employment Projections - Lichfield

Baseline Employment Projections

	2009 Actual	2011	2014	2019	2024	2029
01 : Agriculture/hunting, etc.	64	86	83	78	75	71
02 : Forestry	6	8	8	7	7	7
03 : Fishing	6	8	8	7	7	7
08 : Mining & quarrying	38	23	23	23	15	15
10 : Manf. - food products	595	565	565	555	545	545
11 : Manf. - beverages	3	3	3	3	3	3
13 : Manf. - textiles	87	87	87	80	80	80
14 : Manf. - wearing apparel	1	1	1	1	1	1
16 : Manf. - wood & wood products	87	97	97	92	87	82
17 : Manf. - paper & paper products	50	56	56	53	50	47
18 : Printing & reproduction of recorded media	118	87	81	68	68	62
20 : Manf. - chemicals & chemical products	298	236	226	206	185	155
22 : Manf. - rubber & plastic products	424	352	345	323	309	295
23 : Manf. - other non-metallic mineral products	119	79	71	63	56	33
24 : Manf. - basic metals	112	112	103	93	84	84
25 : Manf - fabricated metal products	854	664	675	633	612	601
26 : Manf. - computer, electronic & optical products	33	22	22	22	22	11
27 : Manf. - electrical equipment	35	18	18	18	18	18
28 : Manf. - other machinery & equipment	929	878	863	870	856	827
29 : Manf. - motor vehicles, trailers	302	292	292	281	271	271
30 : Manf. - other transport equipment	153	128	140	128	128	128
31 : Manf. - furniture	124	124	124	124	124	129
32 : Manf. - other manufacturing	28	28	28	28	28	29
33 : Repair & installation of machinery & equipment	113	107	105	106	104	101
35 : Electricity, gas, steam & air conditioning supply	241	335	321	268	214	162
36 : Water collection, treatment & supply	53	66	66	66	66	66
37 : Sewerage	9	6	7	8	8	8
38 : Waste collection, treatment & disposal	201	142	157	172	178	178
41 : Construction of buildings	664	628	686	779	839	893
42 : Civil engineering	303	287	313	356	383	407
43 : Specialised construction activities	1,924	1,820	1,989	2,258	2,431	2,587
45 : Wholesale, retail & repair of motor vehicles	870	809	809	806	815	826
46 : Wholesale trade	2,305	2,143	2,143	2,135	2,158	2,189
47 : Retail trade	4,833	4,357	3,799	3,899	4,037	4,275
49 : Land transport	699	464	511	580	641	710
50 : Water transport	1	1	1	1	1	1
51 : Air transport	0	0	0	0	0	0
52 : Warehousing & transportation support activities	878	582	642	728	805	891
53 : Postal & courier activities	417	532	510	460	431	388
55 : Accommodation	173	175	183	197	210	231
56 : Food & beverage services	2,968	3,009	3,140	3,373	3,606	3,962
58 : Publishing	83	61	57	48	48	44
59 : Film, video and TV production & music publishing	34	24	26	29	30	30
60 : Programming & broadcasting activities	1	1	1	1	1	1
61 : Telecommunications	297	379	364	328	307	277
62 : Computer & related activities	885	981	1,063	1,276	1,516	1,813
63 : Information service activities	289	320	347	417	495	592
64 : Financial services	501	514	534	580	626	672
65 : Insurance & pension funding	34	27	27	27	27	34
66 : Auxiliary financial services	348	357	371	403	435	467
68 : Real estate activities	577	635	703	715	799	948
69 : Legal & accounting activities	388	427	473	481	537	637
70 : Head office & management consultancy activities	929	1,023	1,132	1,151	1,287	1,526
71 : Architecture & engineering	866	953	1,055	1,073	1,200	1,423
72 : Scientific research & development	139	153	169	172	193	228
73 : Advertising & market research	52	57	63	64	72	85
74 : Other professional, scientific & technical activities	276	304	336	342	382	453
75 : Veterinary activities	130	132	130	131	134	137
77 : Rental & leasing activities	755	828	933	1,077	1,207	1,335
78 : Employment activities	696	764	860	993	1,113	1,231
79 : Travel agencies & tour operators	128	140	158	183	205	226
80 : Security & investigation activities	221	242	273	315	353	391
81 : Building & landscape services	1,382	1,516	1,707	1,971	2,209	2,444
82 : Office administrative & other business support	482	529	595	687	771	852
84 : Public administration & defence	1,394	1,375	1,346	1,355	1,375	1,384
85 : Education	3,210	3,240	3,161	3,210	3,299	3,437
86 : Human health activities	2,102	2,136	2,107	2,126	2,170	2,213
87 : Residential care activities	875	889	877	885	903	921
88 : Social work activities without accommodation	1,099	1,117	1,102	1,112	1,134	1,157
90 : Creative, arts & entertainment activities	64	45	50	55	57	57
91 : Libraries, archives, museums & other cultural activities	87	62	68	74	77	77
92 : Gambling & betting activities	84	60	65	72	74	74
93 : Sports activities & amusement & recreation activities	951	674	741	812	842	842
94 : Activities of membership organisations	461	327	359	394	408	408
95 : Repair of computers & personal/household goods	41	29	32	35	36	36
96 : Other personal service activities	781	553	608	667	691	691
Total	**41,760**	**40,290**	**41,194**	**43,206**	**45,570**	**48,520**

Projected Growth Rates (% pa)

	2009-2011	2011-2014	2014-2019	2019-2024	2024-2029
01 : Agriculture/hunting, etc.	16.1%	-1.6%	-1.4%	-0.7%	-1.1%
02 : Forestry	16.1%	-1.6%	-1.4%	-0.7%	-1.1%
03 : Fishing	16.1%	-1.6%	-1.4%	-0.7%	-1.1%
08 : Mining & quarrying	-22.5%	0.0%	0.0%	-7.8%	0.0%
10 : Manf. - food products	-2.6%	0.0%	-0.4%	-0.4%	0.0%
11 : Manf. - beverages	-2.6%	0.0%	-0.4%	-0.4%	0.0%
13 : Manf. - textiles	0.0%	0.0%	-1.7%	0.0%	0.0%
14 : Manf. - wearing apparel	0.0%	0.0%	-1.7%	0.0%	0.0%
16 : Manf. - wood & wood products	5.4%	0.0%	-1.0%	-1.1%	-1.1%
17 : Manf. - paper & paper products	5.4%	0.0%	-1.0%	-1.1%	-1.1%
18 : Printing & reproduction of recorded media	-14.2%	-3.6%	-3.3%	0.0%	-1.9%
20 : Manf. - chemicals & chemical products	-10.9%	-2.2%	-1.9%	-2.1%	-3.5%
22 : Manf. - rubber & plastic products	-8.9%	-1.0%	-1.3%	-0.9%	-0.9%
23 : Manf. - other non-metallic mineral products	-18.4%	-5.1%	-2.3%	-2.6%	-9.9%
24 : Manf. - basic metals	0.0%	-4.3%	-1.9%	-2.1%	0.0%
25 : Manf - fabricated metal products	-11.8%	0.8%	-1.3%	-0.7%	-0.3%
26 : Manf. - computer, electronic & optical products	-18.4%	0.0%	0.0%	0.0%	-12.9%
27 : Manf. - electrical equipment	-29.3%	0.0%	0.0%	0.0%	0.0%
28 : Manf. - other machinery & equipment	-2.8%	-0.8%	0.2%	-0.3%	-0.7%
29 : Manf. - motor vehicles, trailers	-1.7%	0.0%	0.0%	0.0%	0.0%
30 : Manf. - other transport equipment	-8.7%	4.9%	-1.9%	0.0%	0.0%
31 : Manf. - furniture	0.0%	0.0%	0.0%	0.0%	0.8%
32 : Manf. - other manufacturing	0.0%	0.0%	0.0%	0.0%	0.8%
33 : Repair & installation of machinery & equipment	-2.8%	-0.8%	0.2%	-0.3%	-0.7%
35 : Electricity, gas, steam & air conditioning supply	17.9%	-2.0%	-3.6%	-4.4%	-5.5%
36 : Water collection, treatment & supply	11.8%	0.0%	0.0%	0.0%	0.0%
37 : Sewerage	-15.8%	4.8%	1.9%	0.7%	0.0%
38 : Waste collection, treatment & disposal	-15.8%	4.8%	1.9%	0.7%	0.0%
41 : Construction of buildings	-2.7%	4.5%	2.6%	1.5%	1.3%
42 : Civil engineering	-2.7%	4.5%	2.6%	1.5%	1.3%
43 : Specialised construction activities	-2.7%	4.5%	2.6%	1.5%	1.3%
45 : Wholesale, retail & repair of motor vehicles	-3.6%	0.0%	-0.1%	0.2%	0.3%
46 : Wholesale trade	-3.6%	0.0%	-0.1%	0.2%	0.3%
47 : Retail trade	-5.1%	-6.6%	0.5%	0.7%	1.2%
49 : Land transport	-18.5%	5.0%	2.5%	2.0%	2.1%
50 : Water transport	0.0%	0.0%	0.0%	0.0%	0.0%
51 : Air transport	0.0%	0.0%	0.0%	0.0%	0.0%
52 : Warehousing & transportation support activities	-18.5%	5.0%	2.5%	2.0%	2.1%
53 : Postal & courier activities	13.0%	-2.0%	-2.1%	-1.3%	-2.1%
55 : Accommodation	0.7%	2.2%	1.4%	1.3%	1.9%
56 : Food & beverage services	0.7%	2.2%	1.4%	1.3%	1.9%
58 : Publishing	-14.2%	-3.6%	-3.3%	0.0%	-1.9%
59 : Film, video and TV production & music publishing	-15.8%	4.8%	1.9%	0.7%	0.0%
60 : Programming & broadcasting activities	-15.8%	4.8%	1.9%	0.7%	0.0%
61 : Telecommunications	13.0%	-2.0%	-2.1%	-1.3%	-2.1%
62 : Computer & related activities	5.3%	4.1%	3.7%	3.5%	3.6%
63 : Information service activities	5.3%	4.1%	3.7%	3.5%	3.6%
64 : Financial services	1.3%	1.9%	1.7%	1.5%	1.4%
65 : Insurance & pension funding	-10.6%	0.0%	0.0%	0.0%	4.6%
66 : Auxiliary financial services	1.3%	1.9%	1.7%	1.5%	1.4%
68 : Real estate activities	4.9%	5.2%	0.3%	2.3%	3.5%
69 : Legal & accounting activities	4.9%	5.2%	0.3%	2.3%	3.5%
70 : Head office & management consultancy activities	4.9%	5.2%	0.3%	2.3%	3.5%
71 : Architecture & engineering	4.9%	5.2%	0.3%	2.3%	3.5%
72 : Scientific research & development	4.9%	5.2%	0.3%	2.3%	3.5%
73 : Advertising & market research	4.9%	5.2%	0.3%	2.3%	3.5%
74 : Other professional, scientific & technical activities	4.9%	5.2%	0.3%	2.3%	3.5%
75 : Veterinary activities	0.8%	-0.7%	0.2%	0.4%	0.4%
77 : Rental & leasing activities	4.7%	6.1%	2.9%	2.3%	2.0%
78 : Employment activities	4.7%	6.1%	2.9%	2.3%	2.0%
79 : Travel agencies & tour operators	4.7%	6.1%	2.9%	2.3%	2.0%
80 : Security & investigation activities	4.7%	6.1%	2.9%	2.3%	2.0%
81 : Building & landscape services	4.7%	6.1%	2.9%	2.3%	2.0%
82 : Office administrative & other business support	4.7%	6.1%	2.9%	2.3%	2.0%
84 : Public administration & defence	-0.7%	-1.1%	0.1%	0.3%	0.1%
85 : Education	0.5%	-1.2%	0.3%	0.5%	0.8%
86 : Human health activities	0.8%	-0.7%	0.2%	0.4%	0.4%
87 : Residential care activities	0.8%	-0.7%	0.2%	0.4%	0.4%
88 : Social work activities without accommodation	0.8%	-0.7%	0.2%	0.4%	0.4%
90 : Creative, arts & entertainment activities	-15.8%	4.8%	1.9%	0.7%	0.0%
91 : Libraries, archives, museums & other cultural activities	-15.8%	4.8%	1.9%	0.7%	0.0%
92 : Gambling & betting activities	-15.8%	4.8%	1.9%	0.7%	0.0%
93 : Sports activities & amusement & recreation activities	-15.8%	4.8%	1.9%	0.7%	0.0%
94 : Activities of membership organisations	-15.8%	4.8%	1.9%	0.7%	0.0%
95 : Repair of computers & personal/household goods	-15.8%	4.8%	1.9%	0.7%	0.0%
96 : Other personal service activities	-15.8%	4.8%	1.9%	0.7%	0.0%
Total	-1.8%	1.1%	1.0%	1.1%	1.3%

Employment Projections - Lichfield - Selected Sectors

Baseline Employment Projections

		2009 Actual	2011	2014	2019	2024	2029
M1	Food & Beverages	598	568	568	557	547	547
M2	Wood & Paper Materials/Products	261	276	269	269	269	259
M3	Chemical, Plastic & Non-Metallic Materials/Products	841	668	650	607	550	499
M4	Metals & Metal Products	966	776	777	726	696	685
M5	Electronics & Electrical Equipment	68	40	40	40	40	29
M6	Mechanical Engineering	1,042	985	960	968	968	935
M7	Motor Vehicles & Other Transport	455	419	432	409	409	398
M8	Manufacturing nes	116	116	116	109	109	110
S1	Utilities	504	550	563	526	468	426
S2	Construction	2,891	2,735	2,878	3,353	3,601	3,842
S3	Wholesale Distribution	2,305	2,143	2,143	2,143	2,158	2,181
S4	Wholesale, Retail and Repair of Motor Vehicles	870	809	809	809	815	823
S5	Retailing	4,833	4,357	3,918	3,881	3,982	4,229
S6	Land Transport	1,577	1,046	1,115	1,292	1,415	1,569
S7	Post & Telecommunications	714	911	899	812	739	677
S8	Accommodation & Food Service	3,141	3,184	3,259	3,538	3,741	4,117
S9	Printing, Publishing & Media	236	173	175	157	148	137
S10	Insurance, Banking & Finance	883	899	910	988	1,066	1,162
S11	Computer & Information Services	1,174	1,301	1,365	1,638	1,938	2,321
S12	Professional Services	3,227	3,552	3,855	3,975	4,329	5,134
S13	Building & Landscape Services	1,382	1,516	1,638	1,950	2,149	2,409
S14	Other Business Services	2,282	2,504	2,704	3,219	3,548	3,977
S15	Public Administration & Defence	1,394	1,375	1,355	1,355	1,365	1,384
S16	Education	3,210	3,240	3,180	3,190	3,279	3,408
S17	Health & Social Care	4,206	4,274	4,235	4,235	4,322	4,409
S18	Recreational, Cultural & Sporting Activities	1,647	1,167	1,273	1,402	1,467	1,458
S19	Other Services	822	583	635	700	732	728
	Total	**41,645**	**40,163**	**40,720**	**42,849**	**44,847**	**47,851**

Projected Growth Rates (% pa)

		2009-2011	2011-2014	2014-2019	2019-2024	2024-2029
M1	Food & Beverages	-2.6%	0.0%	-0.4%	-0.4%	0.0%
M2	Wood & Paper Materials/Products	2.9%	-1.4%	0.0%	0.0%	-0.8%
M3	Chemical, Plastic & Non-Metallic Materials/Products	-10.9%	-1.4%	-1.3%	-2.0%	-1.9%
M4	Metals & Metal Products	-10.4%	0.1%	-1.4%	-0.9%	-0.3%
M5	Electronics & Electrical Equipment	-23.8%	0.0%	0.0%	0.0%	-6.3%
M6	Mechanical Engineering	-2.8%	-1.3%	0.2%	0.0%	-0.7%
M7	Motor Vehicles & Other Transport	-4.0%	1.5%	-1.1%	0.0%	-0.5%
M8	Manufacturing nes	0.0%	0.0%	-1.3%	0.0%	0.2%
S1	Utilities	4.4%	1.2%	-1.4%	-2.3%	-1.8%
S2	Construction	-2.7%	2.6%	3.1%	1.4%	1.3%
S3	Wholesale Distribution	-3.6%	0.0%	0.0%	0.1%	0.2%
S4	Wholesale, Retail and Repair of Motor Vehicles	-3.6%	0.0%	0.0%	0.1%	0.2%
S5	Retailing	-5.1%	-5.2%	-0.2%	0.5%	1.2%
S6	Land Transport	-18.5%	3.3%	3.0%	1.8%	2.1%
S7	Post & Telecommunications	13.0%	-0.7%	-2.0%	-1.9%	-1.7%
S8	Accommodation & Food Service	0.7%	1.2%	1.7%	1.1%	1.9%
S9	Printing, Publishing & Media	-14.4%	0.6%	-2.2%	-1.2%	-1.5%
S10	Insurance, Banking & Finance	0.9%	0.6%	1.7%	1.5%	1.7%
S11	Computer & Information Services	5.3%	2.4%	3.7%	3.4%	3.7%
S12	Professional Services	4.9%	4.2%	0.6%	1.7%	3.5%
S13	Building & Landscape Services	4.7%	3.9%	3.5%	2.0%	2.3%
S14	Other Business Services	4.7%	3.9%	3.5%	2.0%	2.3%
S15	Public Administration & Defence	-0.7%	-0.7%	0.0%	0.1%	0.3%
S16	Education	0.5%	-0.9%	0.1%	0.6%	0.8%
S17	Health & Social Care	0.8%	-0.5%	0.0%	0.4%	0.4%
S18	Recreational, Cultural & Sporting Activities	-15.8%	4.4%	2.0%	0.9%	-0.1%
S19	Other Services	-15.8%	4.4%	2.0%	0.9%	-0.1%
	Total	-1.8%	0.7%	1.0%	0.9%	1.3%

Employment Projections - Lichfield

Scenario 1 (9,030 New Dwellings & 85% Job Balance)

	2009 Actual	2011	2014	2019	2024	2029
01 : Agriculture/hunting, etc.	64	65	65	67	68	70
02 : Forestry	6	6	6	6	6	7
03 : Fishing	6	6	6	6	6	7
08 : Mining & quarrying	38	34	30	23	18	14
10 : Manf. - food products	595	613	641	691	745	803
11 : Manf. - beverages	3	3	3	3	4	4
13 : Manf. - textiles	87	86	84	81	79	76
14 : Manf. - wearing apparel	1	1	1	1	1	1
16 : Manf. - wood & wood products	87	86	85	83	81	78
17 : Manf. - paper & paper products	50	49	49	47	46	45
18 : Printing & reproduction of recorded media	118	110	99	82	69	58
20 : Manf. - chemicals & chemical products	298	279	252	213	180	153
22 : Manf. - rubber & plastic products	424	406	381	343	308	277
23 : Manf. - other non-metallic mineral products	119	106	88	65	48	36
24 : Manf. - basic metals	112	108	103	94	86	79
25 : Manf - fabricated metal products	854	819	770	695	627	565
26 : Manf. - computer, electronic & optical products	33	29	24	18	13	10
27 : Manf. - electrical equipment	35	32	29	24	20	16
28 : Manf. - other machinery & equipment	929	915	893	859	826	794
29 : Manf. - motor vehicles, trailers	302	305	309	316	323	330
30 : Manf. - other transport equipment	153	149	144	136	128	121
31 : Manf. - furniture	124	124	124	124	124	124
32 : Manf. - other manufacturing	28	28	28	28	28	28
33 : Repair & installation of machinery & equipment	113	111	109	104	100	97
35 : Electricity, gas, steam & air conditioning supply	241	232	219	199	181	164
36 : Water collection, treatment & supply	53	54	56	58	61	64
37 : Sewerage	9	9	9	8	8	8
38 : Waste collection, treatment & disposal	201	198	193	185	177	169
41 : Construction of buildings	664	681	708	755	805	858
42 : Civil engineering	303	311	323	344	367	392
43 : Specialised construction activities	1,924	1,974	2,051	2,187	2,332	2,487
45 : Wholesale, retail & repair of motor vehicles	870	883	902	936	971	1,007
46 : Wholesale trade	2,305	2,282	2,248	2,192	2,137	2,084
47 : Retail trade	4,833	4,904	5,012	5,198	5,391	5,591
49 : Land transport	699	718	746	797	850	908
50 : Water transport	1	1	1	1	1	1
51 : Air transport	0	0	0	0	0	0
52 : Warehousing & transportation support activities	878	874	869	859	850	841
53 : Postal & courier activities	417	413	407	397	387	378
55 : Accommodation	173	177	184	195	207	220
56 : Food & beverage services	2,968	3,000	3,048	3,130	3,215	3,302
58 : Publishing	83	77	69	58	48	40
59 : Film, video and TV production & music publishing	34	33	33	31	30	29
60 : Programming & broadcasting activities	1	1	1	1	1	1
61 : Telecommunications	297	294	290	283	276	269
62 : Computer & related activities	885	947	1,048	1,240	1,468	1,737
63 : Information service activities	289	309	342	405	479	567
64 : Financial services	501	514	534	570	607	648
65 : Insurance & pension funding	34	34	34	33	33	33
66 : Auxiliary financial services	348	357	371	396	422	450
68 : Real estate activities	577	587	602	628	655	683
69 : Legal & accounting activities	388	413	454	531	621	727
70 : Head office & management consultancy activities	929	989	1,087	1,272	1,488	1,741
71 : Architecture & engineering	866	922	1,013	1,186	1,387	1,623
72 : Scientific research & development	139	145	155	174	194	217
73 : Advertising & market research	52	54	58	65	73	81
74 : Other professional, scientific & technical activities	276	289	309	345	386	431
75 : Veterinary activities	130	132	136	143	150	157
77 : Rental & leasing activities	755	797	865	990	1,134	1,298
78 : Employment activities	696	735	797	913	1,045	1,197
79 : Travel agencies & tour operators	128	135	147	168	192	220
80 : Security & investigation activities	221	233	253	290	332	380
81 : Building & landscape services	1,382	1,459	1,583	1,812	2,075	2,376
82 : Office administrative & other business support	482	509	552	632	724	829
84 : Public administration & defence	1,394	1,435	1,499	1,612	1,733	1,863
85 : Education	3,210	3,279	3,386	3,572	3,768	3,975
86 : Human health activities	2,102	2,142	2,202	2,307	2,418	2,533
87 : Residential care activities	875	891	917	961	1,006	1,054
88 : Social work activities without accommodation	1,099	1,120	1,151	1,206	1,264	1,324
90 : Creative, arts & entertainment activities	64	65	67	69	72	75
91 : Libraries, archives, museums & other cultural activities	87	88	90	94	98	102
92 : Gambling & betting activities	84	85	88	91	95	99
93 : Sports activities & amusement & recreation activities	951	966	988	1,027	1,068	1,110
94 : Activities of membership organisations	461	469	481	501	523	546
95 : Repair of computers & personal/household goods	41	41	42	43	44	44
96 : Other personal service activities	781	787	797	813	830	847
Total	**41,760**	**42,517**	**43,738**	**46,014**	**48,614**	**51,572**

Projected Growth Rates (% pa)

	2009-2011	2011-2014	2014-2019	2019-2024	2024-2029
01 : Agriculture/hunting, etc.	0.4%	0.4%	0.4%	0.4%	0.4%
02 : Forestry	0.4%	0.4%	0.4%	0.4%	0.4%
03 : Fishing	0.4%	0.4%	0.4%	0.4%	0.4%
08 : Mining & quarrying	-4.9%	-4.9%	-4.9%	-4.9%	-4.9%
10 : Manf. - food products	1.5%	1.5%	1.5%	1.5%	1.5%
11 : Manf. - beverages	1.5%	1.5%	1.5%	1.5%	1.5%
13 : Manf. - textiles	-0.7%	-0.7%	-0.7%	-0.7%	-0.7%
14 : Manf. - wearing apparel	-0.7%	-0.7%	-0.7%	-0.7%	-0.7%
16 : Manf. - wood & wood products	-0.5%	-0.5%	-0.5%	-0.5%	-0.5%
17 : Manf. - paper & paper products	-0.5%	-0.5%	-0.5%	-0.5%	-0.5%
18 : Printing & reproduction of recorded media	-3.5%	-3.5%	-3.5%	-3.5%	-3.5%
20 : Manf. - chemicals & chemical products	-3.3%	-3.3%	-3.3%	-3.3%	-3.3%
22 : Manf. - rubber & plastic products	-2.1%	-2.1%	-2.1%	-2.1%	-2.1%
23 : Manf. - other non-metallic mineral products	-5.8%	-5.8%	-5.8%	-5.8%	-5.8%
24 : Manf. - basic metals	-1.7%	-1.7%	-1.7%	-1.7%	-1.7%
25 : Manf - fabricated metal products	-2.0%	-2.0%	-2.0%	-2.0%	-2.0%
26 : Manf. - computer, electronic & optical products	-5.8%	-5.8%	-5.8%	-5.8%	-5.8%
27 : Manf. - electrical equipment	-3.8%	-3.8%	-3.8%	-3.8%	-3.8%
28 : Manf. - other machinery & equipment	-0.8%	-0.8%	-0.8%	-0.8%	-0.8%
29 : Manf. - motor vehicles, trailers	0.4%	0.4%	0.4%	0.4%	0.4%
30 : Manf. - other transport equipment	-1.2%	-1.2%	-1.2%	-1.2%	-1.2%
31 : Manf. - furniture	0.0%	0.0%	0.0%	0.0%	0.0%
32 : Manf. - other manufacturing	0.0%	0.0%	0.0%	0.0%	0.0%
33 : Repair & installation of machinery & equipment	-0.8%	-0.8%	-0.8%	-0.8%	-0.8%
35 : Electricity, gas, steam & air conditioning supply	-1.9%	-1.9%	-1.9%	-1.9%	-1.9%
36 : Water collection, treatment & supply	1.0%	1.0%	1.0%	1.0%	1.0%
37 : Sewerage	-0.9%	-0.9%	-0.9%	-0.9%	-0.9%
38 : Waste collection, treatment & disposal	-0.9%	-0.9%	-0.9%	-0.9%	-0.9%
41 : Construction of buildings	1.3%	1.3%	1.3%	1.3%	1.3%
42 : Civil engineering	1.3%	1.3%	1.3%	1.3%	1.3%
43 : Specialised construction activities	1.3%	1.3%	1.3%	1.3%	1.3%
45 : Wholesale, retail & repair of motor vehicles	0.7%	0.7%	0.7%	0.7%	0.7%
46 : Wholesale trade	-0.5%	-0.5%	-0.5%	-0.5%	-0.5%
47 : Retail trade	0.7%	0.7%	0.7%	0.7%	0.7%
49 : Land transport	1.3%	1.3%	1.3%	1.3%	1.3%
50 : Water transport	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%
51 : Air transport	0.0%	0.0%	0.0%	0.0%	0.0%
52 : Warehousing & transportation support activities	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%
53 : Postal & courier activities	-0.5%	-0.5%	-0.5%	-0.5%	-0.5%
55 : Accommodation	1.2%	1.2%	1.2%	1.2%	1.2%
56 : Food & beverage services	0.5%	0.5%	0.5%	0.5%	0.5%
58 : Publishing	-3.5%	-3.5%	-3.5%	-3.5%	-3.5%
59 : Film, video and TV production & music publishing	-0.9%	-0.9%	-0.9%	-0.9%	-0.9%
60 : Programming & broadcasting activities	-0.9%	-0.9%	-0.9%	-0.9%	-0.9%
61 : Telecommunications	-0.5%	-0.5%	-0.5%	-0.5%	-0.5%
62 : Computer & related activities	3.4%	3.4%	3.4%	3.4%	3.4%
63 : Information service activities	3.4%	3.4%	3.4%	3.4%	3.4%
64 : Financial services	1.3%	1.3%	1.3%	1.3%	1.3%
65 : Insurance & pension funding	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%
66 : Auxiliary financial services	1.3%	1.3%	1.3%	1.3%	1.3%
68 : Real estate activities	0.8%	0.8%	0.8%	0.8%	0.8%
69 : Legal & accounting activities	3.2%	3.2%	3.2%	3.2%	3.2%
70 : Head office & management consultancy activities	3.2%	3.2%	3.2%	3.2%	3.2%
71 : Architecture & engineering	3.2%	3.2%	3.2%	3.2%	3.2%
72 : Scientific research & development	2.3%	2.3%	2.3%	2.3%	2.3%
73 : Advertising & market research	2.3%	2.3%	2.3%	2.3%	2.3%
74 : Other professional, scientific & technical activities	2.3%	2.3%	2.3%	2.3%	2.3%
75 : Veterinary activities	0.9%	0.9%	0.9%	0.9%	0.9%
77 : Rental & leasing activities	2.7%	2.7%	2.7%	2.7%	2.7%
78 : Employment activities	2.7%	2.7%	2.7%	2.7%	2.7%
79 : Travel agencies & tour operators	2.7%	2.7%	2.7%	2.7%	2.7%
80 : Security & investigation activities	2.7%	2.7%	2.7%	2.7%	2.7%
81 : Building & landscape services	2.7%	2.7%	2.7%	2.7%	2.7%
82 : Office administrative & other business support	2.7%	2.7%	2.7%	2.7%	2.7%
84 : Public administration & defence	1.5%	1.5%	1.5%	1.5%	1.5%
85 : Education	1.1%	1.1%	1.1%	1.1%	1.1%
86 : Human health activities	0.9%	0.9%	0.9%	0.9%	0.9%
87 : Residential care activities	0.9%	0.9%	0.9%	0.9%	0.9%
88 : Social work activities without accommodation	0.9%	0.9%	0.9%	0.9%	0.9%
90 : Creative, arts & entertainment activities	0.8%	0.8%	0.8%	0.8%	0.8%
91 : Libraries, archives, museums & other cultural activities	0.8%	0.8%	0.8%	0.8%	0.8%
92 : Gambling & betting activities	0.8%	0.8%	0.8%	0.8%	0.8%
93 : Sports activities & amusement & recreation activities	0.8%	0.8%	0.8%	0.8%	0.8%
94 : Activities of membership organisations	0.8%	0.8%	0.8%	0.8%	0.8%
95 : Repair of computers & personal/household goods	0.4%	0.4%	0.4%	0.4%	0.4%
96 : Other personal service activities	0.4%	0.4%	0.4%	0.4%	0.4%
Total	0.9%	0.9%	1.0%	1.1%	1.2%

Employment Projections - Lichfield - Selected Sectors
Scenario 1 (9,030 New Dwellings & 85% Job Balance)

		2009 Actual	2011	2014	2019	2024	2029
M1	Food & Beverages	598	616	644	695	749	807
M2	Wood & Paper Materials/Products	261	260	258	254	251	248
M3	Chemical, Plastic & Non-Metallic Materials/Products	841	791	721	621	537	466
M4	Metals & Metal Products	966	928	873	789	713	645
M5	Electronics & Electrical Equipment	68	62	53	42	33	26
M6	Mechanical Engineering	1,042	1,026	1,002	964	927	891
M7	Motor Vehicles & Other Transport	455	454	453	452	451	451
M8	Manufacturing nes	116	115	113	110	108	105
S1	Utilities	504	492	476	450	426	405
S2	Construction	2,891	2,966	3,082	3,287	3,504	3,736
S3	Wholesale Distribution	2,305	2,282	2,248	2,192	2,137	2,084
S4	Wholesale, Retail and Repair of Motor Vehicles	870	883	902	936	971	1,007
S5	Retailing	4,833	4,904	5,012	5,198	5,391	5,591
S6	Land Transport	1,577	1,592	1,615	1,656	1,701	1,749
S7	Post & Telecommunications	714	707	697	680	663	647
S8	Accommodation & Food Service	3,141	3,177	3,232	3,326	3,422	3,522
S9	Printing, Publishing & Media	236	221	201	172	148	127
S10	Insurance, Banking & Finance	883	905	939	999	1,062	1,130
S11	Computer & Information Services	1,174	1,256	1,390	1,645	1,947	2,305
S12	Professional Services	3,227	3,400	3,678	4,200	4,804	5,503
S13	Building & Landscape Services	1,382	1,459	1,583	1,812	2,075	2,376
S14	Other Business Services	2,282	2,409	2,613	2,992	3,427	3,924
S15	Public Administration & Defence	1,394	1,435	1,499	1,612	1,733	1,863
S16	Education	3,210	3,279	3,386	3,572	3,768	3,975
S17	Health & Social Care	4,206	4,285	4,407	4,617	4,837	5,068
S18	Recreational, Cultural & Sporting Activities	1,647	1,673	1,714	1,783	1,856	1,931
S19	Other Services	822	829	839	856	874	891
	Total Selected Sectors	**41,645**	**42,405**	**43,630**	**45,911**	**48,514**	**51,474**

Projected Growth Rates (% pa)

		2009-2011	2011-2014	2014-2019	2019-2024	2024-2029
M1	Food & Beverages	1.5%	1.5%	1.5%	1.5%	1.5%
M2	Wood & Paper Materials/Products	-0.3%	-0.3%	-0.3%	-0.3%	-0.3%
M3	Chemical, Plastic & Non-Metallic Materials/Products	-3.0%	-3.0%	-2.9%	-2.9%	-2.8%
M4	Metals & Metal Products	-2.0%	-2.0%	-2.0%	-2.0%	-2.0%
M5	Electronics & Electrical Equipment	-4.8%	-4.7%	-4.7%	-4.6%	-4.6%
M6	Mechanical Engineering	-0.8%	-0.8%	-0.8%	-0.8%	-0.8%
M7	Motor Vehicles & Other Transport	-0.1%	-0.1%	-0.1%	0.0%	0.0%
M8	Manufacturing nes	-0.5%	-0.5%	-0.5%	-0.5%	-0.5%
S1	Utilities	-1.2%	-1.1%	-1.1%	-1.1%	-1.0%
S2	Construction	1.3%	1.3%	1.3%	1.3%	1.3%
S3	Wholesale Distribution	-0.5%	-0.5%	-0.5%	-0.5%	-0.5%
S4	Wholesale, Retail and Repair of Motor Vehicles	0.7%	0.7%	0.7%	0.7%	0.7%
S5	Retailing	0.7%	0.7%	0.7%	0.7%	0.7%
S6	Land Transport	0.5%	0.5%	0.5%	0.5%	0.6%
S7	Post & Telecommunications	-0.5%	-0.5%	-0.5%	-0.5%	-0.5%
S8	Accommodation & Food Service	0.6%	0.6%	0.6%	0.6%	0.6%
S9	Printing, Publishing & Media	-3.1%	-3.1%	-3.1%	-3.0%	-2.9%
S10	Insurance, Banking & Finance	1.2%	1.2%	1.2%	1.2%	1.2%
S11	Computer & Information Services	3.4%	3.4%	3.4%	3.4%	3.4%
S12	Professional Services	2.6%	2.7%	2.7%	2.7%	2.8%
S13	Building & Landscape Services	2.7%	2.7%	2.7%	2.7%	2.7%
S14	Other Business Services	2.7%	2.7%	2.7%	2.7%	2.7%
S15	Public Administration & Defence	1.5%	1.5%	1.5%	1.5%	1.5%
S16	Education	1.1%	1.1%	1.1%	1.1%	1.1%
S17	Health & Social Care	0.9%	0.9%	0.9%	0.9%	0.9%
S18	Recreational, Cultural & Sporting Activities	0.8%	0.8%	0.8%	0.8%	0.8%
S19	Other Services	0.4%	0.4%	0.4%	0.4%	0.4%
	Total Selected Sectors	0.9%	1.0%	1.0%	1.1%	1.2%

Employment Projections - Lichfield

Scenario 2 (9,030 New Dwellings, New Census Data & 85% Job Balance)

	2009 Actual	2011	2014	2019	2024	2029
01 : Agriculture/hunting, etc.	64	65	66	67	69	71
02 : Forestry	6	6	6	6	6	7
03 : Fishing	6	6	6	6	6	7
08 : Mining & quarrying	38	34	30	23	18	14
10 : Manf. - food products	595	614	644	696	753	814
11 : Manf. - beverages	3	3	3	4	4	4
13 : Manf. - textiles	87	86	84	82	80	77
14 : Manf. - wearing apparel	1	1	1	1	1	1
16 : Manf. - wood & wood products	87	86	85	83	81	80
17 : Manf. - paper & paper products	50	50	49	48	47	46
18 : Printing & reproduction of recorded media	118	110	99	83	70	58
20 : Manf. - chemicals & chemical products	298	279	253	215	182	155
22 : Manf. - rubber & plastic products	424	407	383	345	311	281
23 : Manf. - other non-metallic mineral products	119	106	88	66	49	36
24 : Manf. - basic metals	112	108	103	95	87	80
25 : Manf - fabricated metal products	854	821	773	700	633	573
26 : Manf. - computer, electronic & optical products	33	29	25	18	14	10
27 : Manf. - electrical equipment	35	32	29	24	20	16
28 : Manf. - other machinery & equipment	929	916	897	865	835	806
29 : Manf. - motor vehicles, trailers	302	305	310	318	327	335
30 : Manf. - other transport equipment	153	150	145	137	130	123
31 : Manf. - furniture	124	124	124	125	125	126
32 : Manf. - other manufacturing	28	28	28	28	28	28
33 : Repair & installation of machinery & equipment	113	111	109	105	102	98
35 : Electricity, gas, steam & air conditioning supply	241	232	220	200	182	166
36 : Water collection, treatment & supply	53	54	56	59	62	65
37 : Sewerage	9	9	9	8	8	8
38 : Waste collection, treatment & disposal	201	198	193	186	179	172
41 : Construction of buildings	664	682	711	760	814	871
42 : Civil engineering	303	311	324	347	371	397
43 : Specialised construction activities	1,924	1,977	2,059	2,203	2,357	2,523
45 : Wholesale, retail & repair of motor vehicles	870	884	906	943	981	1,021
46 : Wholesale trade	2,305	2,285	2,256	2,207	2,160	2,114
47 : Retail trade	4,833	4,911	5,030	5,236	5,450	5,672
49 : Land transport	699	719	749	802	860	921
50 : Water transport	1	1	1	1	1	1
51 : Air transport	0	0	0	0	0	0
52 : Warehousing & transportation support activities	878	876	872	866	860	853
53 : Postal & courier activities	417	414	408	400	391	383
55 : Accommodation	173	177	184	197	210	224
56 : Food & beverage services	2,968	3,004	3,059	3,153	3,250	3,349
58 : Publishing	83	77	70	58	49	41
59 : Film, video and TV production & music publishing	34	33	33	31	30	29
60 : Programming & broadcasting activities	1	1	1	1	1	1
61 : Telecommunications	297	295	291	285	279	273
62 : Computer & related activities	885	948	1,051	1,249	1,484	1,763
63 : Information service activities	289	310	343	408	485	576
64 : Financial services	501	515	536	574	614	657
65 : Insurance & pension funding	34	34	34	34	33	33
66 : Auxiliary financial services	348	358	372	398	426	456
68 : Real estate activities	577	588	604	632	662	693
69 : Legal & accounting activities	388	414	456	535	628	738
70 : Head office & management consultancy activities	929	991	1,091	1,281	1,504	1,766
71 : Architecture & engineering	866	923	1,017	1,194	1,402	1,646
72 : Scientific research & development	139	146	156	175	196	220
73 : Advertising & market research	52	54	58	65	73	82
74 : Other professional, scientific & technical activities	276	289	310	347	390	437
75 : Veterinary activities	130	133	137	144	151	159
77 : Rental & leasing activities	755	798	868	997	1,146	1,317
78 : Employment activities	696	736	800	919	1,056	1,214
79 : Travel agencies & tour operators	128	135	147	169	194	223
80 : Security & investigation activities	221	234	254	292	335	386
81 : Building & landscape services	1,382	1,461	1,588	1,825	2,098	2,411
82 : Office administrative & other business support	482	510	554	637	732	841
84 : Public administration & defence	1,394	1,437	1,504	1,623	1,752	1,890
85 : Education	3,210	3,284	3,399	3,598	3,809	4,033
86 : Human health activities	2,102	2,145	2,210	2,324	2,444	2,570
87 : Residential care activities	875	893	920	967	1,017	1,070
88 : Social work activities without accommodation	1,099	1,121	1,156	1,215	1,278	1,343
90 : Creative, arts & entertainment activities	64	65	67	70	73	76
91 : Libraries, archives, museums & other cultural activities	87	88	91	95	99	103
92 : Gambling & betting activities	84	86	88	92	96	101
93 : Sports activities & amusement & recreation activities	951	967	992	1,035	1,079	1,126
94 : Activities of membership organisations	461	470	483	505	529	553
95 : Repair of computers & personal/household goods	41	41	42	43	44	45
96 : Other personal service activities	781	788	800	819	839	859
Total	**41,760**	**42,578**	**43,896**	**46,347**	**49,142**	**52,320**

Projected Growth Rates (% pa)

	2009-2011	2011-2014	2014-2019	2019-2024	2024-2029
01 : Agriculture/hunting, etc.	0.5%	0.5%	0.5%	0.5%	0.5%
02 : Forestry	0.5%	0.5%	0.5%	0.5%	0.5%
03 : Fishing	0.5%	0.5%	0.5%	0.5%	0.5%
08 : Mining & quarrying	-4.8%	-4.8%	-4.8%	-4.8%	-4.8%
10 : Manf. - food products	1.6%	1.6%	1.6%	1.6%	1.6%
11 : Manf. - beverages	1.6%	1.6%	1.6%	1.6%	1.6%
13 : Manf. - textiles	-0.6%	-0.6%	-0.6%	-0.6%	-0.6%
14 : Manf. - wearing apparel	-0.6%	-0.6%	-0.6%	-0.6%	-0.6%
16 : Manf. - wood & wood products	-0.4%	-0.4%	-0.4%	-0.4%	-0.4%
17 : Manf. - paper & paper products	-0.4%	-0.4%	-0.4%	-0.4%	-0.4%
18 : Printing & reproduction of recorded media	-3.5%	-3.5%	-3.5%	-3.5%	-3.5%
20 : Manf. - chemicals & chemical products	-3.2%	-3.2%	-3.2%	-3.2%	-3.2%
22 : Manf. - rubber & plastic products	-2.0%	-2.0%	-2.0%	-2.0%	-2.0%
23 : Manf. - other non-metallic mineral products	-5.8%	-5.8%	-5.8%	-5.8%	-5.8%
24 : Manf. - basic metals	-1.6%	-1.6%	-1.6%	-1.6%	-1.6%
25 : Manf - fabricated metal products	-2.0%	-2.0%	-2.0%	-2.0%	-2.0%
26 : Manf. - computer, electronic & optical products	-5.8%	-5.8%	-5.8%	-5.8%	-5.8%
27 : Manf. - electrical equipment	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%
28 : Manf. - other machinery & equipment	-0.7%	-0.7%	-0.7%	-0.7%	-0.7%
29 : Manf. - motor vehicles, trailers	0.5%	0.5%	0.5%	0.5%	0.5%
30 : Manf. - other transport equipment	-1.1%	-1.1%	-1.1%	-1.1%	-1.1%
31 : Manf. - furniture	0.1%	0.1%	0.1%	0.1%	0.1%
32 : Manf. - other manufacturing	0.1%	0.1%	0.1%	0.1%	0.1%
33 : Repair & installation of machinery & equipment	-0.7%	-0.7%	-0.7%	-0.7%	-0.7%
35 : Electricity, gas, steam & air conditioning supply	-1.8%	-1.8%	-1.8%	-1.8%	-1.8%
36 : Water collection, treatment & supply	1.0%	1.0%	1.0%	1.0%	1.0%
37 : Sewerage	-0.8%	-0.8%	-0.8%	-0.8%	-0.8%
38 : Waste collection, treatment & disposal	-0.8%	-0.8%	-0.8%	-0.8%	-0.8%
41 : Construction of buildings	1.4%	1.4%	1.4%	1.4%	1.4%
42 : Civil engineering	1.4%	1.4%	1.4%	1.4%	1.4%
43 : Specialised construction activities	1.4%	1.4%	1.4%	1.4%	1.4%
45 : Wholesale, retail & repair of motor vehicles	0.8%	0.8%	0.8%	0.8%	0.8%
46 : Wholesale trade	-0.4%	-0.4%	-0.4%	-0.4%	-0.4%
47 : Retail trade	0.8%	0.8%	0.8%	0.8%	0.8%
49 : Land transport	1.4%	1.4%	1.4%	1.4%	1.4%
50 : Water transport	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%
51 : Air transport	0.0%	0.0%	0.0%	0.0%	0.0%
52 : Warehousing & transportation support activities	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%
53 : Postal & courier activities	-0.4%	-0.4%	-0.4%	-0.4%	-0.4%
55 : Accommodation	1.3%	1.3%	1.3%	1.3%	1.3%
56 : Food & beverage services	0.6%	0.6%	0.6%	0.6%	0.6%
58 : Publishing	-3.5%	-3.5%	-3.5%	-3.5%	-3.5%
59 : Film, video and TV production & music publishing	-0.8%	-0.8%	-0.8%	-0.8%	-0.8%
60 : Programming & broadcasting activities	-0.8%	-0.8%	-0.8%	-0.8%	-0.8%
61 : Telecommunications	-0.4%	-0.4%	-0.4%	-0.4%	-0.4%
62 : Computer & related activities	3.5%	3.5%	3.5%	3.5%	3.5%
63 : Information service activities	3.5%	3.5%	3.5%	3.5%	3.5%
64 : Financial services	1.4%	1.4%	1.4%	1.4%	1.4%
65 : Insurance & pension funding	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%
66 : Auxiliary financial services	1.4%	1.4%	1.4%	1.4%	1.4%
68 : Real estate activities	0.9%	0.9%	0.9%	0.9%	0.9%
69 : Legal & accounting activities	3.3%	3.3%	3.3%	3.3%	3.3%
70 : Head office & management consultancy activities	3.3%	3.3%	3.3%	3.3%	3.3%
71 : Architecture & engineering	3.3%	3.3%	3.3%	3.3%	3.3%
72 : Scientific research & development	2.3%	2.3%	2.3%	2.3%	2.3%
73 : Advertising & market research	2.3%	2.3%	2.3%	2.3%	2.3%
74 : Other professional, scientific & technical activities	2.3%	2.3%	2.3%	2.3%	2.3%
75 : Veterinary activities	1.0%	1.0%	1.0%	1.0%	1.0%
77 : Rental & leasing activities	2.8%	2.8%	2.8%	2.8%	2.8%
78 : Employment activities	2.8%	2.8%	2.8%	2.8%	2.8%
79 : Travel agencies & tour operators	2.8%	2.8%	2.8%	2.8%	2.8%
80 : Security & investigation activities	2.8%	2.8%	2.8%	2.8%	2.8%
81 : Building & landscape services	2.8%	2.8%	2.8%	2.8%	2.8%
82 : Office administrative & other business support	2.8%	2.8%	2.8%	2.8%	2.8%
84 : Public administration & defence	1.5%	1.5%	1.5%	1.5%	1.5%
85 : Education	1.1%	1.1%	1.1%	1.1%	1.1%
86 : Human health activities	1.0%	1.0%	1.0%	1.0%	1.0%
87 : Residential care activities	1.0%	1.0%	1.0%	1.0%	1.0%
88 : Social work activities without accommodation	1.0%	1.0%	1.0%	1.0%	1.0%
90 : Creative, arts & entertainment activities	0.8%	0.8%	0.8%	0.8%	0.8%
91 : Libraries, archives, museums & other cultural activities	0.8%	0.8%	0.8%	0.8%	0.8%
92 : Gambling & betting activities	0.9%	0.9%	0.9%	0.9%	0.9%
93 : Sports activities & amusement & recreation activities	0.8%	0.8%	0.8%	0.8%	0.8%
94 : Activities of membership organisations	0.9%	0.9%	0.9%	0.9%	0.9%
95 : Repair of computers & personal/household goods	0.5%	0.5%	0.5%	0.5%	0.5%
96 : Other personal service activities	0.5%	0.5%	0.5%	0.5%	0.5%
Total	1.0%	1.0%	1.1%	1.2%	1.3%

Employment Projections - Lichfield - Selected Sectors
Scenario 2 (9,030 New Dwellings, New Census Data & 85% Job Balance)

		2009 Actual	2011	2014	2019	2024	2029
M1	Food & Beverages	598	617	647	700	757	819
M2	Wood & Paper Materials/Products	261	260	258	256	254	251
M3	Chemical, Plastic & Non-Metallic Materials/Products	841	792	724	626	543	472
M4	Metals & Metal Products	966	929	876	795	721	654
M5	Electronics & Electrical Equipment	68	62	53	42	33	26
M6	Mechanical Engineering	1,042	1,027	1,006	971	937	904
M7	Motor Vehicles & Other Transport	455	455	455	455	456	458
M8	Manufacturing nes	116	115	114	111	109	106
S1	Utilities	504	493	477	453	431	411
S2	Construction	2,891	2,970	3,094	3,310	3,542	3,791
S3	Wholesale Distribution	2,305	2,285	2,256	2,207	2,160	2,114
S4	Wholesale, Retail and Repair of Motor Vehicles	870	884	906	943	981	1,021
S5	Retailing	4,833	4,911	5,030	5,236	5,450	5,672
S6	Land Transport	1,577	1,594	1,621	1,668	1,719	1,775
S7	Post & Telecommunications	714	708	699	685	670	656
S8	Accommodation & Food Service	3,141	3,182	3,244	3,350	3,459	3,573
S9	Printing, Publishing & Media	236	222	202	174	150	129
S10	Insurance, Banking & Finance	883	906	942	1,006	1,074	1,146
S11	Computer & Information Services	1,174	1,258	1,395	1,657	1,968	2,338
S12	Professional Services	3,227	3,404	3,691	4,230	4,856	5,583
S13	Building & Landscape Services	1,382	1,461	1,588	1,825	2,098	2,411
S14	Other Business Services	2,282	2,413	2,623	3,014	3,464	3,981
S15	Public Administration & Defence	1,394	1,437	1,504	1,623	1,752	1,890
S16	Education	3,210	3,284	3,399	3,598	3,809	4,033
S17	Health & Social Care	4,206	4,291	4,423	4,650	4,890	5,142
S18	Recreational, Cultural & Sporting Activities	1,647	1,676	1,720	1,796	1,876	1,959
S19	Other Services	822	830	842	862	883	904
	Total Selected Sectors	**41,645**	**42,466**	**43,788**	**46,243**	**49,041**	**52,221**

Projected Growth Rates (% pa)

		2009-2011	2011-2014	2014-2019	2019-2024	2024-2029
M1	Food & Beverages	1.6%	1.6%	1.6%	1.6%	1.6%
M2	Wood & Paper Materials/Products	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%
M3	Chemical, Plastic & Non-Metallic Materials/Products	-3.0%	-2.9%	-2.9%	-2.8%	-2.7%
M4	Metals & Metal Products	-1.9%	-1.9%	-1.9%	-1.9%	-1.9%
M5	Electronics & Electrical Equipment	-4.7%	-4.7%	-4.6%	-4.6%	-4.5%
M6	Mechanical Engineering	-0.7%	-0.7%	-0.7%	-0.7%	-0.7%
M7	Motor Vehicles & Other Transport	0.0%	0.0%	0.0%	0.0%	0.1%
M8	Manufacturing nes	-0.4%	-0.4%	-0.4%	-0.4%	-0.4%
S1	Utilities	-1.1%	-1.1%	-1.0%	-1.0%	-0.9%
S2	Construction	1.4%	1.4%	1.4%	1.4%	1.4%
S3	Wholesale Distribution	-0.4%	-0.4%	-0.4%	-0.4%	-0.4%
S4	Wholesale, Retail and Repair of Motor Vehicles	0.8%	0.8%	0.8%	0.8%	0.8%
S5	Retailing	0.8%	0.8%	0.8%	0.8%	0.8%
S6	Land Transport	0.5%	0.6%	0.6%	0.6%	0.6%
S7	Post & Telecommunications	-0.4%	-0.4%	-0.4%	-0.4%	-0.4%
S8	Accommodation & Food Service	0.6%	0.6%	0.6%	0.6%	0.6%
S9	Printing, Publishing & Media	-3.1%	-3.0%	-3.0%	-2.9%	-2.9%
S10	Insurance, Banking & Finance	1.3%	1.3%	1.3%	1.3%	1.3%
S11	Computer & Information Services	3.5%	3.5%	3.5%	3.5%	3.5%
S12	Professional Services	2.7%	2.7%	2.8%	2.8%	2.8%
S13	Building & Landscape Services	2.8%	2.8%	2.8%	2.8%	2.8%
S14	Other Business Services	2.8%	2.8%	2.8%	2.8%	2.8%
S15	Public Administration & Defence	1.5%	1.5%	1.5%	1.5%	1.5%
S16	Education	1.1%	1.1%	1.1%	1.1%	1.1%
S17	Health & Social Care	1.0%	1.0%	1.0%	1.0%	1.0%
S18	Recreational, Cultural & Sporting Activities	0.9%	0.9%	0.9%	0.9%	0.9%
S19	Other Services	0.5%	0.5%	0.5%	0.5%	0.5%
	Total Selected Sectors	1.0%	1.0%	1.1%	1.2%	1.3%

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Appendix 3

Step 3: Employment and Land Categorisation (exert from 2012 ELR)

Create Appropriate Sector Groupings

1.1 The next step was to identify appropriate sector groupings for Lichfield, which reflect the local structure and spatial distribution of employment and different land use types. This requires the selection and aggregation of the 41 CE sectors and 88 BRES sectors (based on 2 digit SIC2007 sector codes) to develop a shortlist of around 25 sector groupings, based on an analysis of sector size, growth and local concentrations / competitive advantages. It is important that there is a sufficient number of sector groups to provide an accurate representation of the local economy but should not be too disaggregated, particularly given the low levels of employment in some of the 2 digit SIC sectors at a district level.

1.2 In general there are some clear groupings of manufacturing activities, such as Motor Vehicles and Other Transport Equipment, whilst the growing service sectors should remain sufficiently disaggregated to reflect the different land use types associated with them.

1.3 Some 27 groups - 8 manufacturing groups and 19 service groups - were adopted for forecasting purposes. The groupings are set out below in Table 1.1, together with the corresponding CE industrial sectors and the 2-digit SIC categories for each (in terms of both the 2003 and 2007 SIC codes). It should be noted that not all CE sectors and 2-digit SIC categories are included – primary agricultural and extractive industries are for example excluded since they do not directly give rise to demand for employment land. Furthermore, employment in some sectors in Lichfield is very low or non-existent and the manufacture of tobacco, leather products, coke and refined petroleum products, and pharmaceuticals sectors and the remediation and water and air transport sectors have therefore also been excluded. In addition, employment in the following SIC categories was moderated to the following percentages of employment, which were assumed to give rise to demand for employment land:

- Utilities (Electricity, gas and water): 30% of employment is assumed to be in headquarters and other office premises.
- Construction: 33.3% of employment is assumed to be located in fixed employment premises.

- Building and landscape services: 30% of employment is assumed to be located in fixed employment premises.
- Education: 10% of employment is assumed to be in non-educational, mainly office premises.
- Health and social work: 20% of employment is assumed to be in headquarters and other office premises.

Table 1.1 – Selected Sector Groups and Corresponding CE and SIC Sectors

	Sector Groupings	CE Definition	SIC 2003	SIC 2007
M1	Food & Beverages	5 Food, Drink & Tobacco	15	10, 11
M2	Wood & Paper Materials/Products	7 Wood & Paper 21 Manufacturing nes (Part of)	20, 21, 36 (Part of)	16, 17, 31
M3	Chemical, Plastic & Non-Metallic Materials/Products	11 Chemicals nes 12 Rubber & Plastics 13 Non-Metallic Mineral Products	24, 25, 26	20, 22, 23
M4	Metals & Metal Products	14 Basic Metals 15 Metal Goods	27, 28	24, 25
M5	Electronics & Electrical Equipment	17 Electronics 18 Electrical Engineering & Instruments	30, 32 31, 33	26, 27
M6	Mechanical Engineering	16 Mechanical Engineering	29	28, 33
M7	Motor Vehicles & Other Transport Equipment	19 Motor Vehicles 20 Other Transport Equipment	34, 35	29, 30
M8	Manufacturing nes	6 Textiles, Clothing & Leather 21 Manufacturing nes (Part of)	17, 18, 36	13, 14, 32
S1	Utilities	21 Manufacturing nes (Part of) 22 Electricity 23 Gas Supply 24 Water Supply 41 Other Services (Part of)	37, 40, 41, 90	35, 36, 37, 38
S2	Construction	25 Construction	45	41, 42, 43
S3	Wholesale Distribution	26 Distribution (Part of)	51	46
S4	Wholesale, Retail & Repair of Motor Vehicles	26 Distribution (Part of)	50	45
S5	Retailing	27 Retailing	52	47
S6	Land Transport	29 Land Transport etc	60, 63	49, 52
S7	Post & Telecommunications	32 Communications	64	53, 61
S8	Accommodation & Food Service	28 Hotels & Catering	55	55, 56
S9	Printing, Publishing & Media	8 Printing & Publishing 41 Other Services (Part of)	22, 92 (Part of)	18, 58, 59, 60
S10	Insurance, Banking & Finance	33 Banking & Finance 34 Insurance	65, 66, 67	64, 65, 66
S11	Computer & Information Services	35 Computing Services	72	62, 63
S12	Professional Services	36 Professional Services (Part of)	70, 73, 74 (Part of)	68, 69, 70, 71, 72, 73, 74
S13	Building & Landscape Services	1 Agriculture etc (Part of) 37 Other Business Services (Part of)	01 (Part of) 74 (Part of)	81
S14	Other Business Services	36 Professional Services (Part of) 37 Other Business Services (Part of)	71, 74 (Part of)	77, 78, 79, 80, 82
S15	Public Administration & Defence	38 Public Administration & Defence	75	84
S16	Education	39 Education	80	85
S17	Health & Social Care	40 Health & Social Work	85	75, 86, 87, 88
S18	Recreational, Cultural & Sporting Activities	41 Other Services (Part of)	91, 92 (Part of)	90, 91, 92, 93, 94
S19	Other Services	41 Other Services (Part of)	93	95, 96

Source: Cambridge Econometrics and GHK analysis, 2011

1.4 Table 1.2 provides the total and sector breakdown of employment for these 27 sector groups under each scenario. It should be noted that the employment figures presented in Table 1.2 have not been moderated. For each of these 27 individual sectors (M1-M8 and S1-S19) retained in the analysis, either 100% or the moderated percentage of employment is then used to calculate the employment land demand projections in our conversion model.

Table 1.2 – Employment in Selected Sector Groups

		2009 Actual	Scenario 1 2029	Scenario 2 2029
M1	Food & Beverages	598	807	819
M2	Wood & Paper Materials/Products	261	248	251
M3	Chemical, Plastic & Non-Metallic Materials/Products	841	466	472
M4	Metals & Metal Products	966	645	654
M5	Electronics & Electrical Equipment	68	26	26
M6	Mechanical Engineering	1,042	891	904
M7	Motor Vehicles & Other Transport	455	451	458
M8	Manufacturing nes	116	105	106
S1	Utilities	504	405	411
S2	Construction	2,891	3,736	3,791
S3	Wholesale Distribution	2,305	2,084	2,114
S4	Wholesale, Retail and Repair of Motor Vehicles	870	1,007	1,021
S5	Retailing	4,833	5,591	5,672
S6	Land Transport	1,577	1,749	1,775
S7	Post & Telecommunications	714	647	656
S8	Accommodation & Food Service	3,141	3,522	3,573
S9	Printing, Publishing & Media	236	127	129
S10	Insurance, Banking & Finance	883	1,130	1,146
S11	Computer & Information Services	1,174	2,305	2,338
S12	Professional Services	3,227	5,503	5,583
S13	Building & Landscape Services	1,382	2,376	2,411
S14	Other Business Services	2,282	3,924	3,981
S15	Public Administration & Defence	1,394	1,863	1,890
S16	Education	3,210	3,975	4,033
S17	Health & Social Care	4,206	5,068	5,142
S18	Recreational, Cultural & Sporting Activities	1,647	1,931	1,959
S19	Other Services	822	891	904
	Total Selected Sectors	**41,645**	**51,474**	**52,221**

Source: GHK analysis, 2011 and GVA analysis 2014

Match to Land Use Class Categories

1.5 This step goes on to allocate all or divide parts of these employment sector groups between the standard land use categories. These were allocated on the basis of professional judgement and experience of the consultants' team, but have remained disaggregated as far as possible in order to narrow the range of the judgement to be made for any individual employment group or land use category. Thus the full breakdown of land use classes (e.g. A1, A2a,b,c etc., A3, B1a,b,c etc., B2, B8, C1) is used together with the 27 sector groups. Where an employment group is allocated to more than one land use class, the percentage of employment assumed to be in each land use class has been identified. Wherever possible this has been determined using more detailed BRES data for 2009 at up to the 5-digit SIC subclasses to determine the proportions of employees in each relevant sub-sector, for example to reflect the split between employment in accommodation and employment in food and beverage service sectors for the study area.

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Appendix 4

BASELINE SCENARIO

Floorspace requirements by land use class and year

	2009	2011	2014	2019	2024	2029
A1	45,150	41,339	36,762	38,376	40,403	43,510
A2	153,688	140,095	146,287	155,626	168,565	186,129
A3	73,853	74,861	78,138	83,935	89,732	98,587
B1a	157,005	160,600	167,128	180,795	195,966	213,818
B1b	8,721	9,599	10,629	10,801	12,080	14,327
B1c	3,675	2,135	2,135	2,135	2,135	1,540
B2	199,326	177,476	176,181	170,210	166,180	162,120
B8	328,817	291,690	297,128	302,016	310,510	319,030
C1	3,887	3,940	4,113	4,418	4,723	5,189
Total	**974,123**	**901,733**	**918,500**	**948,311**	**990,293**	**1,044,251**

Floorspace requirements for different land-use categories: % change compared to 2009

NB shows the change for each year compared to the base year of 2009 (not compared to preceding year in table)

	2009	2011	2014	2019	2024	2029
A1		92%	81%	85%	89%	96%
A2		91%	95%	101%	110%	121%
A3		101%	106%	114%	122%	133%
B1a		102%	106%	115%	125%	136%
B1b		110%	122%	124%	139%	164%
B1c		58%	58%	58%	58%	42%
B2		89%	88%	85%	83%	81%
B8		89%	90%	92%	94%	97%
C1		101%	106%	114%	122%	133%
Total		**93%**	**94%**	**97%**	**102%**	**107%**

Floorspace requirements for different land-use categories: absolute change compared to 2009

NB shows the change for each year compared to the base year of 2009 (not compared to preceding year in table)

	2009	2011	2014	2019	2024	2029
A1		-3,812	-8,388	-6,774	-4,747	-1,640
A2		-13,594	-7,401	1,937	14,876	32,440
A3		1,008	4,285	10,082	15,880	24,734
B1a		3,595	10,122	23,790	38,961	56,813
B1b		878	1,908	2,080	3,359	5,606
B1c		-1,540	-1,540	-1,540	-1,540	-2,135
B2		-21,850	-23,145	-29,116	-33,147	-37,206
B8		-37,127	-31,689	-26,800	-18,307	-9,786
C1		53	226	531	836	1,302
Total		**-72,390**	**-55,623**	**-25,811**	**16,170**	**70,128**

SCENARIO 1 (9,030 New Dwellings & 85% Job Balance)
Floorspace requirements by land use class and year

	2009	2011	2014	2019	2024	2029
A1	45,150	45,982	47,275	49,561	52,029	54,705
A2	153,688	158,267	165,546	178,886	193,939	210,977
A3	73,853	74,700	75,990	78,193	80,466	82,810
B1a	157,005	162,676	171,704	188,265	206,948	228,049
B1b	8,721	9,187	9,940	11,350	12,981	14,872
B1c	3,675	3,333	2,881	2,265	1,786	1,411
B2	199,326	195,984	191,455	185,083	180,022	176,124
B8	328,817	327,807	326,404	324,367	322,717	321,469
C1	3,887	3,932	3,999	4,115	4,235	4,358
Total	**974,123**	**981,869**	**995,195**	**1,022,085**	**1,055,124**	**1,094,776**

Floorspace requirements for different land-use categories: % change compared to 2009

NB shows the change for each year compared to the base year of 2009 (not compared to preceding year in table)

	2009	2011	2014	2019	2024	2029
A1		102%	105%	110%	115%	121%
A2		103%	108%	116%	126%	137%
A3		101%	103%	106%	109%	112%
B1a		104%	109%	120%	132%	145%
B1b		105%	114%	130%	149%	171%
B1c		91%	78%	62%	49%	38%
B2		98%	96%	93%	90%	88%
B8		100%	99%	99%	98%	98%
C1		101%	103%	106%	109%	112%
Total		**101%**	**102%**	**105%**	**108%**	**112%**

Floorspace requirements for different land-use categories: absolute change compared to 2009

NB shows the change for each year compared to the base year of 2009 (not compared to preceding year in table)

	2009	2011	2014	2019	2024	2029
A1		832	2,125	4,411	6,879	9,555
A2		4,579	11,858	25,198	40,251	57,288
A3		847	2,137	4,340	6,613	8,957
B1a		5,671	14,698	31,260	49,943	71,044
B1b		466	1,219	2,629	4,261	6,151
B1c		-342	-794	-1,410	-1,890	-2,264
B2		-3,342	-7,871	-14,244	-19,304	-23,202
B8		-1,009	-2,412	-4,449	-6,099	-7,347
C1		45	112	228	348	471
Total		**7,746**	**21,072**	**47,963**	**81,001**	**120,653**

SCENARIO 2 (9,030 Dwellings, New Census Data & 85% Job Balance)
Floorspace requirements by land use class and year

	2009	2011	2014	2019	2024	2029
A1	45,150	46,048	47,445	49,919	52,595	55,499
A2	153,688	158,495	166,144	180,179	196,046	214,038
A3	73,853	74,807	76,264	78,758	81,340	84,011
B1a	157,005	162,911	172,323	189,626	209,196	231,358
B1b	8,721	9,201	9,976	11,432	13,122	15,088
B1c	3,675	3,338	2,892	2,281	1,805	1,432
B2	199,326	196,267	192,146	186,420	181,977	178,680
B8	328,817	328,280	327,582	326,712	326,223	326,134
C1	3,887	3,937	4,014	4,145	4,281	4,422
Total	**974,123**	**983,284**	**998,785**	**1,029,474**	**1,066,586**	**1,110,662**

Floorspace requirements for different land-use categories: % change compared to 2009

NB shows the change for each year compared to the base year of 2009 (not compared to preceding year in table)

	2009	2011	2014	2019	2024	2029
A1		102%	105%	111%	116%	123%
A2		103%	108%	117%	128%	139%
A3		101%	103%	107%	110%	114%
B1a		104%	110%	121%	133%	147%
B1b		106%	114%	131%	150%	173%
B1c		91%	79%	62%	49%	39%
B2		98%	96%	94%	91%	90%
B8		100%	100%	99%	99%	99%
C1		101%	103%	107%	110%	114%
Total		**101%**	**103%**	**106%**	**109%**	**114%**

Floorspace requirements for different land-use categories: absolute change compared to 2009

NB shows the change for each year compared to the base year of 2009 (not compared to preceding year in table)

	2009	2011	2014	2019	2024	2029
A1		898	2,295	4,769	7,444	10,349
A2		4,807	12,455	26,491	42,358	60,350
A3		955	2,411	4,906	7,487	10,159
B1a		5,905	15,318	32,621	52,191	74,353
B1b		480	1,255	2,711	4,402	6,367
B1c		-337	-784	-1,394	-1,870	-2,243
B2		-3,059	-7,180	-12,906	-17,349	-20,646
B8		-536	-1,234	-2,104	-2,593	-2,683
C1		50	127	258	394	535
Total		**9,162**	**24,663**	**55,351**	**92,463**	**136,539**

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Appendix 5

Baseline

Baseline - Total Floorspace Requirement 2009-2029

	2009	2011	2014	2019	2024	2029
A1	45,150	41,339	36,762	38,376	40,403	43,510
A2	153,688	140,095	146,287	155,626	168,565	186,129
A3	73,853	74,861	78,138	83,935	89,732	98,587
B1a	157,005	160,600	167,128	180,795	195,966	213,818
B1b	8,721	9,599	10,629	10,801	12,080	14,327
B1c	3,675	2,135	2,135	2,135	2,135	1,540
B2	199,326	177,476	176,181	170,210	166,180	162,120
B8	328,817	291,690	297,128	302,016	310,510	319,030
C1	3,887	3,940	4,113	4,418	4,723	5,189
Total	**974,123**	**901,733**	**918,500**	**948,311**	**990,293**	**1,044,251**

Baseline - Absolute Change in Floorspace Requirement 2009-2029

	2009	2011	2014	2019	2024	2029
A1	0	-3,812	-8,388	-6,774	-4,747	-1,640
A2	0	-13,594	-7,401	1,937	14,876	32,440
A3	0	1,008	4,285	10,082	15,880	24,734
B1a	0	3,595	10,122	23,790	38,961	56,813
B1b	0	878	1,908	2,080	3,359	5,606
B1c	0	-1,540	-1,540	-1,540	-1,540	-2,135
B2	0	-21,850	-23,145	-29,116	-33,147	-37,206
B8	0	-37,127	-31,689	-26,800	-18,307	-9,786
C1	0	53	226	531	836	1,302
Total	**0**	**-72,390**	**-55,623**	**-25,811**	**16,170**	**70,128**

Adjusted to Fit Churn Model

Bulk Class	2009	2011	2014	2019	2024	2029
Offices	0	240,768	12,031	25,870	42,319	62,418
Factories	0	0	0	0	0	0
Warehouses	0	39,138	0	0	20,331	0
Total	**0**	**279,906**	**12,031**	**25,870**	**62,650**	**62,418**

Addition of Churn (1% per annum) 2014

Bulk Class	2009	2011	2014	2019	2024	2029
Offices	0	242,448	16,231	34,270	54,919	79,218
Factories	0	9,700	24,250	48,500	72,750	97,000
Warehouses	0	49,478	25,850	51,700	97,881	103,400
Total	**0**	**301,626**	**66,331**	**134,470**	**225,550**	**279,618**

Removal of Leakage (to Non Employment Areas)

Bulk Class	2009	2011	2014	2019	2024	2029
Offices	0	133,347	8,927	18,848	30,206	43,570
Factories	0	8,730	21,825	43,650	65,475	87,300
Warehouses	0	44,530	23,265	46,530	88,093	93,060
Total	**0**	**186,607**	**54,017**	**109,028**	**183,773**	**223,930**

Allowance for Completions / Relocations

Bulk Class	2009	2011	2014	2019	2024	2029
Offices	0	133,347	8,927	18,848	30,206	43,570
Factories	0	29,958	43,053	64,878	86,703	108,528
Warehouses	0	65,758	44,493	67,758	109,320	114,288
Total	**0**	**229,062**	**96,472**	**151,483**	**226,228**	**266,385**

Conversion to Land Requirement (ha)

Bulk Class	2009	2011	2014	2019	2024	2029
Offices	0.00	45.13	3.02	6.38	10.22	14.75
Factories	0.00	9.42	13.53	20.39	27.25	34.11
Warehouses	0.00	18.08	12.24	18.63	30.06	31.43
Total	**0.00**	**72.63**	**28.79**	**45.40**	**67.54**	**80.28**

Scenario 1 (9,030 New Dwellings)

Scenario 1 (9,030 New Dwellings) - Total Floorspace Requirement 2009-2029

	2009	2011	2014	2019	2024	2029
A1	45,150	45,982	47,275	49,561	52,029	54,705
A2	153,688	158,267	165,546	178,886	193,939	210,977
A3	73,853	74,700	75,990	78,193	80,466	82,810
B1a	157,005	162,676	171,704	188,265	206,948	228,049
B1b	8,721	9,187	9,940	11,350	12,981	14,872
B1c	3,675	3,333	2,881	2,265	1,786	1,411
B2	199,326	195,984	191,455	185,083	180,022	176,124
B8	328,817	327,807	326,404	324,367	322,717	321,469
C1	3,887	3,932	3,999	4,115	4,235	4,358
Total	**974,123**	**981,869**	**995,195**	**1,022,085**	**1,055,124**	**1,094,776**

Scenario 1 (9,030 New Dwellings) - Absolute Change in Floorspace Requirement 2009-2029

	2009	2011	2014	2019	2024	2029
A1	0	832	2,125	4,411	6,879	9,555
A2	0	4,579	11,858	25,198	40,251	57,288
A3	0	847	2,137	4,340	6,613	8,957
B1a	0	5,671	14,698	31,260	49,943	71,044
B1b	0	466	1,219	2,629	4,261	6,151
B1c	0	-342	-794	-1,410	-1,890	-2,264
B2	0	-3,342	-7,871	-14,244	-19,304	-23,202
B8	0	-1,009	-2,412	-4,449	-6,099	-7,347
C1	0	45	112	228	348	471
Total	**0**	**7,746**	**21,072**	**47,963**	**81,001**	**120,653**

Adjusted to Fit Churn Model

Bulk Class	2009	2011	2014	2019	2024	2029
Offices	0	240,768	15,917	33,889	54,203	77,195
Factories	0	0	0	0	0	0
Warehouses	0	3,020	0	0	8,123	0
Total	**0**	**243,788**	**15,917**	**33,889**	**62,326**	**77,195**

Addition of Churn (1% per annum)

2014

Bulk Class	2009	2011	2014	2019	2024	2029
Offices	0	242,448	20,117	42,289	66,803	93,995
Factories	0	9,700	24,250	48,500	72,750	97,000
Warehouses	0	13,360	25,850	51,700	85,673	103,400
Total	**0**	**265,508**	**70,217**	**142,489**	**225,226**	**294,395**

Removal of Leakage (to Non Employment Areas)

Bulk Class	2009	2011	2014	2019	2024	2029
Offices	0	133,347	11,064	23,259	36,742	51,697
Factories	0	8,730	21,825	43,650	65,475	87,300
Warehouses	0	12,024	23,265	46,530	77,106	93,060
Total	**0**	**154,101**	**56,154**	**113,439**	**179,323**	**232,057**

Allowance for Completions / Relocations

Bulk Class	2009	2011	2014	2019	2024	2029
Offices	0	133,347	11,064	23,259	36,742	51,697
Factories	0	29,958	43,053	64,878	86,703	108,528
Warehouses	0	33,252	44,493	67,758	98,333	114,288
Total	**0**	**196,556**	**98,609**	**155,894**	**221,778**	**274,512**

Conversion to Land Requirement (ha)

Bulk Class	2009	2011	2014	2019	2024	2029
Offices	0.00	45.13	3.74	7.87	12.44	17.50
Factories	0.00	9.42	13.53	20.39	27.25	34.11
Warehouses	0.00	9.14	12.24	18.63	27.04	31.43
Total	**0.00**	**63.69**	**29.51**	**46.90**	**66.73**	**83.04**

Scenario 2 (9,030 New Dwellings and New Census Data)

Scenario 2 (9,030 New Dwellings and New Census Data) - Total Floorspace Requirement 2009-2029

	2009	2011	2014	2019	2024	2029
A1	45,150	46,048	47,445	49,919	52,595	55,499
A2	153,688	158,495	166,144	180,179	196,046	214,038
A3	73,853	74,807	76,264	78,758	81,340	84,011
B1a	157,005	162,911	172,323	189,626	209,196	231,358
B1b	8,721	9,201	9,976	11,432	13,122	15,088
B1c	3,675	3,338	2,892	2,281	1,805	1,432
B2	199,326	196,267	192,146	186,420	181,977	178,680
B8	328,817	328,280	327,582	326,712	326,223	326,134
C1	3,887	3,937	4,014	4,145	4,281	4,422
Total	**974,123**	**983,284**	**998,785**	**1,029,474**	**1,066,586**	**1,110,662**

Scenario 2 (9,030 New Dwellings and New Census Data) - Absolute Change in Floorspace Requirement 2009-2029

	2009	2011	2014	2019	2024	2029
A1	0	898	2,295	4,769	7,444	10,349
A2	0	4,807	12,455	26,491	42,358	60,350
A3	0	955	2,411	4,906	7,487	10,159
B1a	0	5,905	15,318	32,621	52,191	74,353
B1b	0	480	1,255	2,711	4,402	6,367
B1c	0	-337	-784	-1,394	-1,870	-2,243
B2	0	-3,059	-7,180	-12,906	-17,349	-20,646
B8	0	-536	-1,234	-2,104	-2,593	-2,683
C1	0	50	127	258	394	535
Total	**0**	**9,162**	**24,663**	**55,351**	**92,463**	**136,539**

Adjusted to Fit Churn Model

Bulk Class	2009	2011	2014	2019	2024	2029
Offices	0	240,768	16,573	35,332	56,593	80,720
Factories	0	0	0	0	0	0
Warehouses	0	2,547	0	0	4,617	0
Total	**0**	**243,316**	**16,573**	**35,332**	**61,210**	**80,720**

Addition of Churn (1% per annum) 2014

Bulk Class	2009	2011	2014	2019	2024	2029
Offices	0	242,448	20,773	43,732	69,193	97,520
Factories	0	9,700	24,250	48,500	72,750	97,000
Warehouses	0	12,887	25,850	51,700	82,167	103,400
Total	**0**	**265,036**	**70,873**	**143,932**	**224,110**	**297,920**

Removal of Leakage (to Non Employment Areas)

Bulk Class	2009	2011	2014	2019	2024	2029
Offices	0	133,347	11,425	24,053	38,056	53,636
Factories	0	8,730	21,825	43,650	65,475	87,300
Warehouses	0	11,599	23,265	46,530	73,951	93,060
Total	**0**	**153,675**	**56,515**	**114,233**	**177,481**	**233,996**

Allowance for Completions / Relocations

Bulk Class	2009	2011	2014	2019	2024	2029
Offices	0	133,347	11,425	24,053	38,056	53,636
Factories	0	29,958	43,053	64,878	86,703	108,528
Warehouses	0	32,826	44,493	67,758	95,178	114,288
Total	**0**	**196,130**	**98,970**	**156,688**	**219,936**	**276,451**

Conversion to Land Requirement (ha)

Bulk Class	2009	2011	2014	2019	2024	2029
Offices	0.00	45.13	3.87	8.14	12.88	18.15
Factories	0.00	9.42	13.53	20.39	27.25	34.11
Warehouses	0.00	9.03	12.24	18.63	26.17	31.43
Total	**0.00**	**63.58**	**29.63**	**47.16**	**66.30**	**83.69**