Bromsgrove Employment Land Need Analysis

Bromsgrove District Council

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Prepared for:

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Table of Contents

Tables

1. Introduction

1.1 Bromsgrove District Council is currently in the process of reviewing its Local Development Plan. In order for the Council to progress the update of the Development Plan, it went through an Issues and Options consultation at the end of 2018. Following this consultation, a call for sites process is anticipated to begin in September 2019. The Council also aims to publish an additional consultation document, which is intended to set out the strategic direction for the updated Development Plan.

1.2 One of the outcomes of the Issues and Options consultation was to address the requirements for employment within the Plan. As such, the Council requires some initial guidance on possible employment growth and land demand scenarios. Peter Brett Associates (PBA) previously prepared a report for the Council, which reviewed the economy of Bromsgrove and made some high-level suggestions on potential options for the future. The report outlined some high-level employment land need projections based on a series of assumptions around out-commuting. The report however did not provide detailed analysis of employment land needs for the district. Therefore, the Council is now seeking to get initial advice from AECOM to guide the consultation in September 2019.

1.3 AECOM has therefore agreed to develop a series of employment land need scenarios for Bromsgrove District from 2018 to 2040. The following scenarios are considered as a part of this study:

- **Labour Demand Scenarios:**

  – Three labour demand scenarios, based on the latest employment forecasts by sector from Experian, Cambridge Econometrics and Oxford Economics. Each set of forecasts is translated into B-use class floor space and land requirements by applying appropriate employment density and plot ratio assumptions.

  – A hybrid scenario that provides a middle point between the three labour demand scenarios outlined above.

- **Labour Supply Scenario:**

  – A scenario based on the latest available population growth projections. This scenario aims to provide an indication of the minimum amount of employment land required to maintain a balance between population and economic growth.

- **Aspirational growth scenario**

  – A scenario based on the Council's economic growth ambitions.

  – To inform the aspirational growth scenario, we first present a trend-based scenario based on historical growth levels to establish the levels of growth that have been previously achieved in Bromsgrove.

  – The aspirational scenario then uses these historical growth levels as its starting point in establishing future growth levels, applying a series of higher growth assumptions in some sectors that align with the Council's growth ambitions.

1.4 This report is split into three sections, one for each scenario listed above. Each section includes the assumptions and methodology used to develop the scenarios and outlines the resulting employment land requirements.

1.5 For both the labour demand scenario and the aspirational growth scenario, employment projections are converted into indicative floorspace and land requirements using appropriate employment density and plot ratio assumptions. The assumptions on employment density and plot ratios are outlined in Table 1-1 below.

Table 1-1 Employment density and plot ratio assumptions

Use Class	Employment density	Plot ratio
B1a/b	12 square metres per FTE	75% of site area
B1c	47 square metres per FTE	40% of site area
B2	36 square metres per FTE	40% of site area
B8	70 square metres per FTE	50% of site area

Source: HCA (2015); AECOM

1.6   All forecasts of employment change and the resulting employment floorspace and land requirements should be treated as broadly indicative due to the limitations of accurately forecasting long-term economic growth at a local authority level. This is particularly the case given the current context of significant political and economic uncertainty affecting the UK's economic outlook. To reflect these limitations all numbers presented in this note have been rounded and thus figures may not completely add up.

1.7   Furthermore, all the projections for future employment land need presented as part of the three scenarios within this note do not take into consideration any future losses of employment land. In reality, it is likely that some employment floorspace and land will be lost over the assessment period. Therefore, all projections of additional employment land requirements should be treated as conservative estimates.

2. Labour demand scenario

Introduction

2.1   As described in Section 1.3 the labour demand scenario is made up of four scenarios that use the latest available (at the time of writing this report) employment forecast data from Experian (June 2019), Cambridge Econometrics (June 2019) and Oxford Economics (August 2019). An additional fourth hybrid scenario was also developed, which provides a middle point between the three different employment forecasts.

2.2   The methodology for converting employment change into employment floorspace and land requirements is consistent with Planning Practice Guidance on assessing economic needs. In accordance with the Planning Practice Guidance, the approach to translating employment forecasts into land requirements is as follows:

- Map the Standard Industrial Classification sectors to use classes;

- Estimate employment for each B-use class;

- Apply use class specific employment densities to convert employment to floor space need; and

- Apply use class specific plot ratios to convert floorspace to employment land.

2.3   The findings of the labour demand scenarios are presented for the period 2018-2040, where 2040 is likely to be the end of the Development Plan Period. This end date is currently being proposed as it aligns with infrastructure planning work being done at the wider Worcestershire County level.

Additional employment land need generated by labour demand

Experian forecasts

2.4   According to Experian's latest forecasts, full time equivalent (FTE) employment across all sectors in Bromsgrove is forecast to increase from 41,300 in 2018 to 42,400 in 2040, an increase of approximately 3% (Table 2-1). Key growth sectors in terms of absolute number of FTE employment growth include; Construction of Buildings, Health, Land Transport, Storage & Post and, Residential Care and Social Care. In comparison, the greatest decline is projected in the following sectors; Agriculture, Forestry and Fishing, Machinery & Equipment, Other Manufacturing, Printing and Recorded Media and Utilities.

Table 2-1 Experian FTE employment change by sector (in absolute terms), 2018-2040

Sector	2018	2040	Change 2018-2040	% change
Accommodation & Food Services	2,200	2,200	0	0%
Administrative & Supportive Services	4,500	4,100	-400	-9%
Agriculture, Forestry & Fishing	300	100	-200	-67%
Computing & Information Services	900	900	0	0%
Construction of Buildings	900	1,000	100	11%
Education	2,900	2,800	-100	-3%
Finance	600	600	0	0%
Health	2,000	2,200	200	10%
Insurance & Pensions	600	500	-100	-17%
Land Transport, Storage & Post	8,100	9,700	1600	20%

Sector	2018	2040	Change 2018-2040	% change
Machinery & Equipment (manufacture of)	500	300	-200	-40%
Metal Products (manufacture of)	200	200	0	0%
Other Manufacturing	400	300	-100	-25%
Other Private Services	900	900	0	0%
Printing and Recorded Media (manufacture of)	700	400	-300	-43%
Professional Services	2,300	2,400	100	4%
Public Administration & Defence	800	700	-100	-13%
Real Estate	500	500	0	0%
Recreation	800	800	0	0%
Residential Care & Social Work	3,200	4,100	900	28%
Retail	1,600	1,500	-100	-6%
Specialised Construction Activities	2,200	2,300	100	5%
Transport Equipment (manufacture of)	700	700	0	0%
Utilities	400	300	-100	-25%
Wholesale	3,100	2900	-200	-6%
Total FTE	**41,300**	**42,400**	**+1100**	**+3%**

Source: Experian

2.5   FTE employment in B-use class sectors is projected to stay at the same level (21,000) from 2018 to 2040 (Table 2-2). B8 employment is projected to grow by 10% (700 FTEs) while B1a/b, B1c and B2 employment is projected to decline by 2%, 30% and 20% respectively, a combined decrease of approximately 700 FTEs.

Table 2-2 Experian employment forecasts (FTE employment)

Use Class	2018	2023	2030	2035	2040	Change 2018-2040	% Change 2018-2040
B1a/b	11,800	11,800	11,500	11,500	11,600	-200	-2%
B1c	1,000	1,000	900	800	700	-300	-30%
B2	1,000	1,100	1,000	900	800	-200	-20%
B8	7,200	7,500	7,700	7,800	7,900	700	10%
Total B use class	**21,000**	**21,400**	**21,100**	**21,000**	**21,000**	**0**	**0%**

Source: Experian, AECOM

2.6   The employment projections are then converted into indicative floorspace and land requirements using the assumptions outlined in Table 1-1 in Section 1.5. Bromsgrove's additional B-use class floorspace requirements for the period 2018-2040 are estimated to be approximately 30,000 square metres (Table 2-3). This assumes that all the surplus B1a/b, B1c and B2 floorspace (21,000 square metres in total) could be used to meet the additional need for B8 floorspace (51,000 square metres).

Table 2-3 Experian-based B-use class floor space need (in square metres)

Use class	2018	2023	2030	2035	2040	Change 2018-2040
B1a/b	142,000	142,000	138,000	138,000	139,000	-3,000
B1c	46,000	47,000	42,000	39,000	34,000	-12,000
B2	36,000	38,000	34,000	34,000	30,000	-6,000
B8	504,000	524,000	538,000	545,000	555,000	51,000
Total B use class	**728,000**	751,000	**752,000**	**756,000**	**758,000**	**30,000**

Source: Experian, AECOM

2.7 The indicative employment land requirements are presented in Table 2-4 below. The total additional land need is estimated to be approximately 5 hectares. As above, this assumes that surplus B1c and B2 land (5 hectares in total) could be used to meet the additional need for B8 land (10 hectares).

Table 2-4 Experian-based B-use class employment land need (in hectares)

Use class	2018	2023	2030	2035	2040	Additional land need 2018-2040
B1a/b	19	19	18	18	19	0
B1c	12	12	10	10	9	-3
B2	9	10	9	8	7	-2
B8	101	105	108	109	111	10
Total B use class	**140**	**145**	**145**	**145**	**146**	**5**

Source: Experian, AECOM

2.8 Overall, the Experian labour demand scenario suggests very minimal levels of additional employment land need over the period 2018-2040 (approximately 5 hectares). All the additional need is projected to come from B8 uses (10 hectares). While it is possible that some of the surplus B1c and B2 land could be used to meet some of this need, this is not guaranteed. Therefore, under this scenario the Council would need to plan for the provision of 10 hectares of additional B8 land over the period to 2040.

Cambridge Econometric forecasts

2.9 According to the employment forecasts produced by Cambridge Econometrics, FTE employment across all sectors in Bromsgrove is forecast to increase from 51,336 in 2018 to 55,586 in 2040, an increase of approximately 8% (Table 2-5). Key growth sectors in terms of absolute number of FTE employment include: Warehousing and Postal, Construction, Arts, Real Estate. There are also a number of sectors which see a significant decline in employment from 2018 to 2040, these include: Mining and Quarrying, Printing and Recording, Metals and metal products, Chemicals and Motor Vehicles.

Table 2-5 Cambridge Econometrics FTE employment change by sector (in absolute terms), 2018-2040

Sector	2018	2040	Change 2018-2040	% change
Agriculture, forestry & fishing	570	479	-90	-16%
Mining & quarrying	22	13	-9	-41%
Food, drink & tobacco	161	139	-21	-13%
Textiles etc	79	54	-26	-32%
Wood & paper	118	111	-7	-6%
Printing & recording	405	229	-176	-43%
Chemicals	30	16	-14	-48%
Non-metallic mineral products	110	90	-21	-19%
Metals & metal products	282	179	-103	-37%
Electronics	54	58	4	7%
Electrical equipment	15	12	-3	-18%
Machinery	367	305	-62	-17%
Motor vehicles	450	270	-180	-40%
Other transport equipment	48	48	-1	-1%
Other manufacturing & repair	500	514	14	3%
Electricity & gas	17	16	-1	-4%
Water, sewerage & waste	238	269	31	13%
Construction	5,031	5,880	849	17%
Motor vehicles trade	782	817	34	4%
Wholesale trade	1,816	1,505	-312	-17%
Retail trade	2,046	1,979	-68	-3%
Land transport	1,596	1,792	195	12%
Warehousing & postal	7,292	9,949	2,657	36%
Accommodation	396	451	55	14%
Food & beverage services	2,220	2,377	157	7%
Media	267	282	15	6%
IT services	906	844	-62	-7%
Financial & insurance	1,275	1,120	-155	-12%
Real estate	675	789	114	17%
Legal & accounting	637	666	29	5%
Head offices & management consultancies	1,087	1,154	67	6%
Architectural & engineering services	641	678	37	6%
Other professional services	699	770	71	10%
Business support services	7,333	7,888	555	8%
Public Administration & Defence	837	894	57	7%
Education	3,535	3,549	13	0%
Health	2,487	2,653	166	7%
Residential & social	3,414	3,760	346	10%
Arts	305	374	69	23%
Recreational services	832	917	85	10%
Other services	1,754	1,696	-59	-3%
Total FTE	**51,336**	**55,586**	**+4,251**	**+8%**

Source: Cambridge Econometrics

2.10 FTE employment in B-use class sectors is projected to increase from 26,500 in 2018 to 29,000 in 2040, (Table 2-6). B8 employment is projected to grow by 21% (1,600 FTEs) and B1a/b is expected to grow by 7% (1,100 FTEs). B2 employment is projected to decline by 17%, a decrease of 200 FTEs, whereas B1c employment is projected to remain at the same level.

Table 2-6 Cambridge Econometrics employment forecasts (FTE employment)

Use class	2018	2023	2030	2035	2040	Change 2018-2040	% Change 2018-2040
B1a/b	16,100	16,500	16,700	16,900	17,200	1,100	7%
B1c	1,400	1,400	1,300	1,300	1,400	0	0%
B2	1,200	1,100	1,000	1,000	1,000	-200	-17%
B8	7,800	8,200	8,600	9,000	9,400	1,600	21%
Total B use class	26,500	27,200	27,600	28,200	29,000	2,500	9%

Source: Cambridge Econometrics, AECOM

2.11   The employment projections are then converted into indicative floorspace and land requirements using the appropriate assumptions outlined in Table 1-1 in Section 1.5. Bromsgrove's additional B-use class floorspace requirements for the period 2018-2040 are estimated to be approximately 109,000 square metres (Table 2-3). This assumes that all the surplus B1c and B2 floorspace (13,000 square metres in total) could be used to meet the additional need for B1a/b (13,000 square metres) and B8 floorspace (109,000 square metres).

Table 2-7 Cambridge Econometrics-based B-use class floor space need (in square metres)

Use Class	2018	2023	2030	2035	2040	Change 2018-2040
B1a/b	193,000	198,000	201,000	203,000	206,000	13,000
B1c	67,000	64,000	63,000	63,000	63,000	-4,000
B2	43,000	40,000	37,000	35,000	34,000	-9,000
B8	548,000	575,000	604,000	628,000	657,000	109,000
Total B use class	851,000	877,000	905,000	929,000	960,000	109,000

Source: Cambridge Econometrics, AECOM

2.12   The indicative employment land requirements are presented in Table 2-8 below. The total additional land need is estimated to be approximately 21 hectares. As above, this assumes that surplus B1c and B2 land (3 hectares in total) could be used to meet the additional need for B1a/b (2 hectares) and B8 land (10 hectares).

Table 2-8 Cambridge Econometrics-based B-use class employment land need (in hectares)

Use class	2018	2023	2030	2035	2040	Additional land need 2018-2040
B1a/b	26	26	27	27	28	2
B1c	17	16	16	16	16	-1
B2	11	10	9	9	9	-2
B8	110	115	121	126	131	22
Total B use class	**163**	**167**	**173**	**177**	**183**	**21**

Source: Cambridge Econometrics, AECOM

2.13   Overall, the Cambridge Econometrics labour demand scenario suggests a relatively high level of additional employment land need over the period 2018-2040 (approximately 21 hectares). Most of the additional need is projected to come from B8 uses (22 hectares), with a minimal amount of additional land need coming from B1a/b uses (2 hectares). Whilst it is possible that some of the surplus B1c and B2 land could be used to meet some of the identified additional employment land need, it will not meet the full amount that is required. Therefore, according to the Cambridge Econometrics based labour demand projections, Bromsgrove Council will need to plan to provide 22 hectares of B8 land and 2 hectares of B1a/b over the period to 2040.

Oxford Economics forecasts

2.14   According to the employment forecasts produced by Oxford Economics, FTE employment across all sectors in Bromsgrove is forecast to increase from 47,266 in 2018 to 51,704 in 2040, an increase of approximately 9% (Table 2-9). Key growth sectors in terms of absolute number of FTE employment include; Construction, Arts, entertainment and recreation, Human health and social work activities, Professional scientific and technical activities and Administrative and support services. However, several sectors see a significant decline in FTE employment, these include; Mining and quarrying, Manufacturing, Electricity, gas, steam and air conditioning supply and Water supply.

Table 2-9 Oxford Economics FTE employment change by sector (in absolute terms), 2018-2040

Sector	2018	2040	Change 2018-2040	% change
A : Agriculture, forestry and fishing	401	348	-53	-13%
B : Mining and quarrying	5	2	-3	-56%
C : Manufacturing	3,201	2,169	-1,032	-32%
D : Electricity, gas, steam and air conditioning supply	8	6	-1	-18%
E : Water supply; sewerage, waste management and remediation activities	321	259	-62	-19%
F : Construction	7,991	8,986	996	12%
G : Wholesale and retail trade; repair of motor vehicles and motorcycles	5,191	5,124	-67	-1%
H : Transportation and storage	948	1,001	53	6%
I : Accommodation and food service activities	2,473	2,500	28	1%
J : Information and communication	1,553	1,486	-67	-4%
K : Financial and insurance activities	1,414	1,304	-109	-8%
L : Real estate activities	1,091	1,245	154	14%
M : Professional, scientific and technical activities	3,959	5,362	1,403	35%
N : Administrative and support service activities	5,126	6,828	1,702	33%
O : Public administration and defence; compulsory social security	861	750	-111	-13%
P : Education	3,545	3,634	89	2%

Sector	2018	2040	Change 2018-2040	% change
Q : Human health and social work activities	6,449	7,565	1,116	17%
R : Arts, entertainment and recreation	1,183	1,521	339	29%
S : Other service activities	1,549	1,613	64	4%
Total FTE	**47,266**	**51,704**	**+4,438**	**+9%**

Source: Oxford Economics

2.15 FTE employment in B-use class sectors is projected to increase from 24,400 in 2018 to 27,100 in 2040, (Table 2-10). B1a/b employment is projected to grow by 20% (3,200 FTEs) and B8 is expected to grow by 4% (200 FTEs). B1c and B2 employment are projected to decline by 14% and 29%, a decrease of 300 FTEs and 400 FTEs respectively.

Table 2-10 Oxford Economics employment forecasts (FTE employment)

Use class	2018	2023	2030	2035	2040	Change 2018-2040	% change 2018-2040
B1a/b	15,900	17,700	18,400	18,800	19,100	3,200	20%
B1c	2,200	2,300	2,100	2,000	1,900	-300	-14%
B2	1,400	1,400	1,200	1,100	1,000	-400	-29%
B8	4,900	5,200	5,200	5,200	5,100	200	4%
Total B use class	**24,400**	**26,600**	**26,900**	**27,100**	**27,100**	**2,700**	**11%**

Source: Oxford Economics, AECOM

2.16 The employment projections are then converted into indicative floorspace and land requirements using the appropriate assumptions outlined in Table 1-1 in Section 1.5. Bromsgrove's additional B-use class floorspace requirements for the period 2018-2040 are estimated to be approximately 15,000 square metres (Table 2-3). This assumes that all the surplus B1c and B2 floorspace (34,000 square metres in total) could be used to meet the additional need for B1a/b (39,000 square metres) and B8 floorspace (10,000 square metres).

Table 2-11 Oxford Economics-based B-use class floor space need (in square metres)

Use class	2018	2023	2030	2035	2040	Change 2018-2040
B1a/b	191,000	212,000	221,000	226,000	230,000	39,000
B1c	105,000	106,000	99,000	93,000	88,000	-17,000
B2	52,000	49,000	43,000	39,000	35,000	-17,000
B8	345,000	362,000	366,000	361,000	355,000	10,000
Total B use class	**693,000**	**729,000**	**729,000**	**719,000**	**708,000**	**15,000**

Source: Oxford Economics; AECOM

2.17 The indicative employment land requirements are presented in Table 2-12 below. A surplus of 1 hectare of total employment land need has been estimated. As above, this assumes that surplus B1c and B2 land (8 hectares in total) could be used to meet the additional need for B1a/b (5 hectares) and B8 land (2 hectares).

Table 2-12 Oxford Economics-based B-use class employment land need (in hectares)

Use Class	2018	2023	2030	2035	2040	Additional land need 2018-2040
B1a/b	25	28	29	30	31	5
B1c	26	27	25	23	22	-4
B2	13	12	11	10	9	-4
B8	69	72	73	72	71	2
Total B use class	134	140	138	135	132	-1

Source: Oxford Economics, AECOM

2.18 The Oxford Economics labour demand scenario suggests that there will be a surplus of 1 hectare of employment land in Bromsgrove, between 2018 and 2040. Whilst, additional need is projected to come from both B1a/d uses (5 hectares) and B8 uses (2 hectares), the surplus of land that has been estimated for B1c and B2 uses (14 hectares in total) is marginally higher than the additional land required for B1a/b and B8 uses, therefore creating an overall surplus of employment land.

Hybrid scenario

2.19 The three labour demand scenarios developed using three different employment forecasts from Experian Cambridge Econometrics and Oxford Economics have each projected different levels of additional B-use class need between 2018 and 2040 (5, 21, -1 hectares respectively). Additionally, the levels of employment land need by each B-use class sector also varies between the three labour demand scenarios.

2.20 It is difficult to predict which of these three scenarios provides a more accurate projection of future need. Academic research has demonstrated that combining forecasts improves accuracy relative to individual forecasts. This is particularly the case when it is difficult to choose a best scenario. For that reason and taking into consideration the limitations of trying to forecast long-term need by use class at a local level, we have also considered a hybrid scenario that combines all three scenarios.

2.21 The hybrid scenario projects additional employment growth of 2,700 between 2018 and 2040 (Table 2-13). This is projected to come primarily from B1a/b and B8 growth (1,400 and 800 FTE respectively). In contrast, the hybrid scenario projects a decrease in employment growth in B1c and B2 uses (200 and 300 FTE respectively).

Table 2-13 Hybrid scenario employment forecasts (FTE employment)

Use class	2018	2023	2030	2035	2040	Change 2018-2040	% change 2018-2040
B1a/b	14,600	15,300	15,600	15,800	16,000	1,400	10%
B1c	1,500	1,500	1,400	1,400	1,300	-200	-13%
B2	1,200	1,200	1,100	1,000	900	-300	-25%
B8	6,700	7,000	7,200	7,300	7,500	800	12%
Total B use class	24,000	25,000	25,300	25,500	25,700	1,700	7%

Source: Experian, Cambridge Econometrics, Oxford Economics, AECOM

2.22 Using the assumptions set out in Table 1-1 in Section 1.5, the employment forecasts set out above are converted into additional floor space requirements. Bromsgrove's additional floorspace requirements for the period 2018-2040 are estimated to be approximately 51,000 square metres (Table 2-14). This assumes that all the surplus B1c and B2 floorspace (22,000 square metres in total) could be used to meet the additional need for B1a/b (17,000 square metres) and B8 floorspace (56,000 square metres).

Table 2-14 Hybrid scenario B-use class floor space need (in square metres)

Use class	2018	2023	2030	2035	2040	Change 2018-2040
B1a/b	175,000	184,000	187,000	189,000	192,000	17,000
B1c	73,000	73,000	68,000	65,000	62,000	-11,000
B2	44,000	42,000	38,000	36,000	33,000	-11,000
B8	466,000	487,000	503,000	511,000	522,000	56,000
Total B use class	758,000	786,000	796,000	801,000	809,000	51,000

Source: Experian, Cambridge Econometrics, Oxford Economics, AECOM

2.23 The above floorspace projections translate into the indicative additional employment land requirements presented in Table 2-15 below. The total additional land need is estimated to be approximately 8 hectares. As above, this assumes that surplus B1c and B2 land (6 hectares in total) could be used to meet the additional need for B1a/b (2 hectares) and B8 land (11 hectares).

Table 2-15 Hybrid scenario B-use class employment land need (in hectares)

Use class	2018	2023	2030	2035	2040	Additional land need 2018-2040
B1a/b	23	25	25	25	26	2
B1c	18	18	17	16	15	-3
B2	11	11	10	9	8	-3
B8	93	97	101	102	104	11
Total B use class	146	151	152	153	154	8

Source: Experian, Cambridge Econometrics, Oxford Economics, AECOM

2.24 The hybrid labour demand scenario projects an additional employment land need of approximately 8 hectares over the period 2018-2040. Most of the additional need is projected to come from B8 uses (11 hectares), with a smaller amount of additional land need coming from B1a/b uses (2 hectares). It is possible that some of the surplus B1c and B2 land could be used to meet some of the identified additional employment land need, however, according to this scenario the Council should still plan for the provision of 11 hectares of B8 land use and 2 hectares of B1a/b employment land use.

3. Labour supply scenario

Introduction

3.1   This section estimates the additional employment land need generated by the projected levels of population growth in Bromsgrove between 2018 and 2040.

Additional employment land need generated by population growth

3.2   Planning Practice Guidance states that strategic policy making authorities will need to develop an idea of future needs based on a range of data including demographically derived assessments of future employment needs (labour supply techniques).

3.3   AECOM's experience is that while considering such labour supply scenarios is helpful, they are rarely chosen as the basis for assessing the objectively assessed economic development need of an area. This is because labour supply scenarios by themselves do not take into consideration the needs of businesses, the economy or the local property market.

3.4   Planning for future employment land provision should be primarily based on the objectively assessed needs of the economy and evidence from local market signals. The population-based employment land need projections should therefore be considered as the minimum amount required to maintain a balance between population and employment growth, and to ensure that housing and population growth do not result in higher levels of out-commuting. They do not however reflect the needs of local businesses and the local economy.

3.5   The starting point for the calculations is the 2016-based population growth projection for Bromsgrove which projects 2,060 (A) additional working-age residents (16-64 years old) between 2018 and 2040[1]. Based on the Annual Population Survey[2] data for the past 15 years[3], we have calculated that approximately 82% of Bromsgrove's population is typically economically active. Assuming this economic activity rate remains constant between 2018 and 2040, an additional 1,690 (B) Bromsgrove residents would be searching for work by 2040.

3.6   Using the same methodology as for the economic activity rate, approximately 95% of the economically active working-age population is projected to be in employment, resulting in 1,620 (C) additional Bromsgrove residents in employment between 2018 and 2040.

3.7   According to 2011 Census travel to work data[4], approximately 30% of Bromsgrove residents in employment worked in Bromsgrove, with the remaining 70% travelling to work outside the district. Assuming this percentage remains constant between 2018 and 2040, there would be 490 (D) additional Bromsgrove residents working in the district by 2040.

3.8   According to the latest Experian baseline figures, approximately 56% of jobs in Bromsgrove in 2018 are in B-use class sectors, split as follows[5]: 35% of total jobs in B1a/b, 2% in B1c, 2% in B2 and 16% in B8. The Experian forecasts project that the proportion of jobs in B-use class sectors will decrease marginally to represent 55% of jobs in 2040. Applying the appropriate percentages to (D) over the plan period results in 270 (E) additional Bromsgrove residents in employment in B-use class sectors in Bromsgrove by 2040.

3.9   According to Census 2011 data, approximately 15% of employees working in Bromsgrove work mainly at or from home. Using this data as broken down by industry, we calculate that the following proportion of employees in B-use sectors work from home: 22% of employees in B1a/b sectors, 15% of employees in B1c sectors, 14% of employees in B2 sectors and 15% of employees in B8 sectors. Taking the above in consideration, we have made a home-working allowance for the additional projected employment in B-use sectors. It is difficult to project how home-working trends may change in the future so applying the 2011

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[1] Office of National Statistics, (2018); 2016-Based Sub-National Population Projections
[2] ONS, (2019); Annual Population Survey
[3] The Annual Population Survey does not provide future economic activity rates projections. Therefore, we have used the latest available data for the past 15 years to provide an estimated economic activity rate for the assessment period.
[4] ONS, (2015); Census 2011
[5] Figures may not add up due to rounding.

home-working proportions to B-use employment should be viewed as a high-level assumption. Applying the specific B-use class home-working assumptions, ranging between 14% and 22%, to the overall employment in B-use sectors reduces the overall number of jobs to 220 (F).

3.10 The final step in the calculation is to account for part-time working and double-jobbing in order to convert to full time equivalent employment. According to the Experian data, Bromsgrove has a 0.72 total FTE employment / total employees in employment ratio in 2018. Experian has forecasted this ratio through to 2040, where there is a 0.69 total FTE employment / total employees in employment ratio. Applying the FTE ratio each year to B-use employment accounting for home working (F) results in approximately 150 (G) additional FTE jobs that will be required in Bromsgrove by 2040 to meet the needs of the projected population growth. The steps to calculate this number are summarised in Table 3-1 below. All numbers have been rounded and should be treated as broadly indicative.

Table 3-1 Population-based projection (2018-2040)

	Assumption	Change 2018-2040
Working age population growth	-	2,060 (A)
Economically active population	82% of (A)	1,690 (B)
Employed population	96% of (B)	1,620 (C)
Bromsgrove residents working in the district	30% of (C)	490 (D)
Employment in B-use class sectors	55%-56% of the yearly (D) figure	270 (E)
Accounting for home working	Subtract the following of (E): 22% of B1a/b; 15% of B1c; 14% of B2; 15% of B8	220 (F)
Full time equivalent employment	69% to 72% of the yearly (F) figure	150 (G)

Source: AECOM

3.11 Based on these assumptions, we have estimated the additional B-use class FTE employment over the period to 2040 (Table 3-2).

Table 3-2 Population-based employment projections by B-Use class (change from 2018)

Use class	2018	2025	2030	2035	2040	Change 2018-2040
B1a/b	-	40	50	60	90	90
B1c	-	0	0	0	10	10
B2	-	0	0	0	10	10
B8	-	20	30	30	50	50
Total B use class	-	60	80	90	150	150

Source: AECOM

3.12 The population-based projection of FTE employment growth by 2040 is then converted into floorspace and land requirements following the same approach as the labour-demand scenarios discussed earlier in this report. The findings are summarised in Table 3-3 below.

Table 3-3 Population-based employment land need projections

Use class	FTE employment growth 2018-2040	Additional floorspace need 2018-2040	Additional land need 2018-2040
B1a/b	90	1,100	0.2
B1c	10	200	0.1
B2	10	300	0.1
B8	50	3,500	0.7
Total B use class	**160**	**5,000**	**1.0**

Source: AECOM

3.13   In total, Bromsgrove would indicatively require one additional hectare of employment land between 2018 and 2040 to accommodate the additional need resulting from the projected levels of population increase. As discussed earlier in this note however, this does not reflect the true requirements of the local economy and should be considered the minimum additional employment land provision that should be provided.

3.14   In particular, it should be noted that according to Census 2011 data around 70% of Bromsgrove residents commute out of the district. If the out-commuting percentage was to decrease in the future to more sustainable levels, there would be a proportionate increase in the district's employment land requirements.

Sensitivity analysis

3.15   The labour supply scenario is based on a series of assumptions and is therefore sensitive to changes to these assumptions. For this reason, we have undertaken sensitivity analysis for this scenario in order to understand employment land needs should there be any variations in the population-based projections. Therefore, within the sensitivity analysis, we have adapted the various assumptions that have been made in the population-based projections to provide corresponding "low" and "high" scenarios. These sensitivity scenarios have been tested to demonstrate the potential "worse" and "best" case scenarios based on publicly available data and professional judgement. The assumptions that have been built into the sensitivity analysis for each variable are set out in Table 3-4 below.

Table 3-4 Sensitivity analysis – low and high scenario assumptions

	Low scenario	High scenario
Working age population growth	Low international migration variant population projections from ONS	High international migration variant population projections from ONS
Economically active population	Extrapolating the 15-year trend between 2004 and 2018[6] for Bromsgrove to 2040 (78.3% in 2040)	Upper quartile figure for last 15 years (2004 to 2018) for Bromsgrove (84.8%)
Employed population	Extrapolating the 15-year trend between 2004 and 2018 for Bromsgrove to 2040 (95.2% in 2040)	Upper quartile figure for last 15 years (2004 to 2018) for Bromsgrove (96.9%)
Bromsgrove residents working in the district	Reasonable assumption that proportion decreases to 20% by 2040	Reasonable assumption that proportion increases to 40% by 2040
Accounting for home working	Reasonable assumption that working from home in each B-class sector increases by 2% to 2040	TUC working from home data for West Midlands in 2017 (5.5%)

Source: AECOM

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[6] We have used the 15-year period between 2004 and 2018 as the Annual Population Survey provides a constant methodology between these dates.

3.16   The headline figures for the "low" scenario (based on the assumptions in Table 3-4) are displayed in Table 3-5. Within this potential worst-case scenario using the population-based methodology, Bromsgrove would require an additional 0.2 hectares of employment land by 2040.

Table 3-5 Population-based employment land need projections – low sensitivity scenario

Use class	FTE employment growth 2018-2040	Additional floorspace need 2018-2040	Additional land need 2018-2040
B1a/b	20	300	0.0
B1c	0	100	0.0
B2	0	0	0.0
B8	10	800	0.2
Total B use class	**40**	**1,200**	**0.2**

Source: AECOM

3.17   The headline figures for the "high" scenario (based on the assumptions in Table 3-4) are presented in Table 3-6. Within this potential best-case scenario using the population-based methodology, Bromsgrove would require an additional 2.7 hectares of employment land by 2040.

Table 3-6 Population-based employment land need projections – high sensitivity scenario

Use Class	FTE employment growth 2018-2040	Additional floorspace need 2018-2040	Additional land need 2018-2040
B1a/b	290	3,500	0.5
B1c	10	700	0.2
B2	20	600	0.1
B8	140	9,700	1.9
Total B use class	**460**	**14,500**	**2.7**

Source: AECOM

4. Aspirational growth scenario

Introduction

4.1   This scenario sets out the additional employment land need that would be generated by the Council's ambitions to achieve a step change in economic performance over the next 20 years. Historical trends observed in the Experian data are used as a starting point for this scenario. This is because the historical trends provide evidence of growth levels that have previously been achieved locally and are therefore considered to be achievable in the future. The historical trends are then uplifted in line with the Council's growth aspirations.

4.2   The methodology for converting employment change into employment floorspace and land requirements is consistent with Planning Practice Guidance and in line with the methodology used for the Labour Demand Scenario, set out in Section 2 of this report.

Trend-based scenario

4.3   Employment data from Experian, between the years of 2000 to 2018, was used to understand the historical trends of employment numbers by sector. It was considered that the period from 2000 to 2018 represents the full cycle of the economy as it encompasses the period of growth before the 2008-2009 recession, the economic downturn that followed, and the eventual economic recovery in recent years. The historical trends were then used to forecast employment numbers between the years 2019-2040.

4.4   Table 4-1 below outlines the growth in FTE employment based on historical trends of employment growth. The trend-based scenario projects additional employment growth of 8,000 between 2018 and 2040. This is projected to come primarily from B8 growth (6,400 FTE) with B1a/b and B1c also projected to grow (1,900 and 200 FTE respectively). However, trend-based projections suggest that there will be a decline in employment growth in B2 sectors, with employment decreasing by 500 FTE between 2018 and 2040.

Table 4-1 Trend-based scenario employment forecasts (FTE employment)

Use class	2018	2023	2030	2035	2040	Change 2018-2040	% Change 2018-2040
B1a/b	11,800	12,400	12,800	13,200	13,700	1,900	16%
B1c	1,000	1,000	1,100	1,100	1,200	200	20%
B2	1,000	900	800	700	500	-500	-50%
B8	7,200	9,200	10,700	12,100	13,600	6,400	89%
Total B use class	21,000	23,500	25,400	27,100	29,000	8,000	38%

Source: Experian, AECOM

4.5   Using the assumptions set out in Table 1-1 in Section 1.5, the employment forecasts set out above are converted into additional floor space requirements. Bromsgrove's additional floorspace requirements for the period 2018-2040 are estimated to be approximately 461,000 square metres (Table 4-2). This assumes that all the surplus B2 floorspace (16,000 square metres in total) could be used to meet the additional need for B1a/b (22,000 square metres), B1c (9,000 square metres) and B8 floorspace (446,000 square metres).

Table 4-2 Trend-based scenario B-use class floor space need (in square metres)

Use class	2018	2023	2030	2035	2040	Change 2018-2040
B1a/b	142,000	149,000	154,000	159,000	164,000	22,000
B1c	46,000	49,000	51,000	53,000	55,000	9,000
B2	36,000	31,000	27,000	23,000	20,000	-16,000
B8	504,000	646,000	747,000	848,000	950,000	446,000
Total B use class	**728,000**	**875,000**	**979,000**	**1,083,000**	**1,189,000**	**461,000**

Source: Experian, AECOM

4.6 The indicative additional employment land requirements are presented in Table 4-3 below. The total additional land need is estimated to be approximately 90 hectares. As above, this assumes that surplus B2 land (4 hectares in total) could be used to meet the additional need for B1a/b (3 hectares), B1c (2 hectares) and B8 land (89 hectares).

Table 4-3 Trend-based scenario B-use class employment land need (in hectares)

Use class	2018	2023	2030	2035	2040	Change 2018-2040
B1a/b	19	20	21	21	22	3
B1c	12	12	13	13	14	2
B2	9	8	7	6	5	-4
B8	101	129	149	170	190	89
Total B use class	**140**	**169**	**189**	**210**	**230**	**90**

Source: Experian, AECOM

4.7 Most of the additional need is projected to come from B8 uses (89 hectares), with a minimal amount of additional land need coming from B1a/b an B1c uses (3 and 2 hectares respectively). This is due to significant levels of historical employment growth in B8 use class employment in Bromsgrove, and the fact that B-8 uses are typically more "land hungry" compared to other uses.

Aspirational scenario

4.8 In order to calculate the aspirational growth forecasts, the average annual change between 2000 and 2018 was calculated for each of the B-use class sectors. An aspirational growth factor was then applied to the average annual change (from 2000 to 2018) to reflect the aspirations of the Council over the assessment period. These figures are presented in Table 4-4 below.

4.9 The aspirational factors outlined in Table 4-4 were established using assumptions based on a variety of reports outlining the potential economic context of Bromsgrove in the future as well as information provided by the Council. The key assumptions that were used are outlined below;

- The Peter Brett Associates (PBA) Report, prepared for the Council in 2018, suggests that logistics related activity is expected to grow across Worcestershire. This includes wholesale, land transport and some construction;

- Technology allows people to work in less office space per head and at the extreme frees workers to work out of the office-at home or on the move (PBA Report, 2018). It is likely that there may not be such a high demand for office space due to technological factors as well as factors such as flexible working and flexible workspaces;

- The Greater Birmingham and Solihull Local Enterprise Partnership's (LEP) Strategic Economic Plan (SEP) sets out the key sectors for growth across the wider area, these include: advanced manufacturing supply chain particularly for transport technologies, financial and professional services, life sciences and, science and technology;

- Bromsgrove Council's ambition to diversify the economy within the district has shifted the focus of growth on higher value sectors focussing more on B1a/b and B1c uses; and

- All the aspirational growth factors assume that land will be released to meet demand of employment space.

4.10 Based on the assumptions outlined above, the following broad assumptions have been made when looking at the various aspirational factors:

- B1a/b will grow at a rate 25% higher than the continuation of past trends;

- B1c will grow at a rate 100% higher than the continuation of past trends (since B1c is starting from a lower base this is not an unrealistic growth in absolute terms);

- B2 will remain constant with no loss of employment (the continuation of past trends would result in decline); and

- B8 will grow 25% slower than historical trends – this is because the Council is aiming to diversify the economy and focus growth across a range of use class sectors. Although B8 employment has historically grown quite significantly, it is considered that continued growth at the same pace would be unsustainable given the corresponding land requirements. Furthermore, a key aspiration of the Council is to grow the local economy both in terms of quantity and quality, providing a diverse and resilient employment base.

Table 4-4 Historical average annual growth (2000-2018) and aspirational assumptions for future growth to 2040

	Average annual change (2000-2018)	Aspirational factor
B1a/b	83	25%
B1c	8	100%
B2	-21	-100%
B8	289	-25%

Source: Experian, AECOM

4.11 Following this analysis, the aspirational annual change was then applied to the 2019-2040 employment forecast in order to calculate the FTE employment in B-use class sectors. Based on the aspirational growth rates, FTE employment in B-use class sectors is projected to increase from 21,000 in 2018 to 28,400 in 2040 (Table 4-5).

Table 4-5 Aspirational employment forecasts (FTE employment)

Use class	2018	2023	2030	2035	2040	Change 2018-2040	% change 2018-2040
B1a/b	11,800	12,500	13,100	13,600	14,100	2,300	19%
B1c	1,000	1,100	1,200	1,300	1,300	300	30%
B2	1,000	1,000	1,000	1,000	1,000	0	0%
B8	7,200	8,700	9,800	10,900	12,000	4,800	67%
Total B use class	21,000	23,300	25,100	26,800	28,400	7,400	35%

Source: AECOM

4.12   The updated employment projections are converted into indicative floorspace and land requirements using the assumptions outlined in Table 1-1 in Section 1.5. Bromsgrove's additional B-use class floorspace requirements for the period 2018-2040 are estimated to be approximately 378,000 square metres (Table 4-6).

Table 4-6 Aspirational B-use class floor space need (in square metres)

Use class	2018	2025	2030	2035	2040	Change 2018-2040
B1a/b	142,000	151,000	157,000	163,000	169,000	27,000
B1c	46,000	52,000	55,000	59,000	63,000	17,000
B2	36,000	36,000	36,000	36,000	36,000	0
B8	504,000	610,000	686,000	762,000	838,000	334,000
Total B use class	728,000	849,000	934,000	1,020,000	1,106,000	378,000

Source: AECOM

4.13   The indicative employment land requirements are presented in Table 2-4 below. The total additional land need is estimated to be approximately 75 hectares.

Table 4-7 Aspirational B-use class employment land need (in hectares)

Use class	2018	2025	2030	2035	2040	Change 2018-2040
B1a/b	19	20	21	22	23	4
B1c	12	13	14	15	16	4
B2	9	9	9	9	9	0
B8	101	122	137	152	168	67
Total B use class	140	164	181	198	215	75

Source: AECOM

4.14   Overall, the aspirational growth scenario indicates a significant increase in employment land need in comparison to the labour demand and labour supply scenarios presented in Sections 2 and 3. The aspirational growth scenario is projecting an indicative need of 75 additional hectares of employment land by 2040. This is largely due to an increase in B8 employment land need and reflects the employment densities and plot ratios typically associated with B8 uses. Therefore, even though it has been assumed that there will be slower growth in employment within B8-use class sectors compared to the continuation of historical trends, this still results in a significant increase in employment land need.

5. Conclusions

5.1 The three labour demand scenarios discussed in this report are based on employment forecasts from Experian, Oxford Economics and Cambridge Econometrics. There is significant variation in the level of employment land need projected from each of the three scenarios, over the period 2018-2040. Experian and Cambridge Econometrics project an additional need of 5 and 21 hectares respectively, and Oxford Economics projects a surplus of 1 hectare. The variation in projections is largely due to the difference in the levels of employment growth in each forecast.

5.2 Owing to the large variation in employment land need projections, a hybrid labour demand scenario was developed in order to establish a mid-point between the three scenarios. The hybrid scenario projected additional employment land need of 8 hectares from 2018-2040 with the majority of land being required for B8 use-classes.

5.3 The population-based projections suggest a minimum need of 1 additional hectare of employment land between 2018 and 2040. As discussed in more detail within Section 3 this is caused by the majority of the labour supply within Bromsgrove (70%) commuting out of the district in order to access jobs elsewhere. Additionally, whilst population projections for Bromsgrove suggest that there will be some growth within the district, it is projected that the majority of growth will not be within the working age population; instead the area is expected to see a significant increase in residents over the age of 65.

5.4 The aspirational growth scenario consisted starts with the observation of historical trends and then uplifts employment growth in certain sectors to reflect the Council's ambition to achieve a step-change in economic growth, in quality and diversity as well as quantity of employment. The trend-based projections highlighted that there would be a requirement for an additional 90 hectares of employment land by 2040. This is driven by the significant historical growth in B8 employment as well as some historical growth in B1a/b and B1c employment.

5.5 The aspirational scenario was based on a range of growth factors, considering the Council's vision for future economic growth in the district. The Council's focus is to diversify the economy and support growth in B1a/b and B1c uses, whilst continuing to grow B8 but at a slower rate than the very high levels recorded over the past two decades.

5.6 The scenarios outlined within this report assume that any surplus of B1c and B2 use-class land will be re-used for B8 use-class land meaning that there will be no loss of existing employment land to other uses. In reality, some employment land losses over the period to 2040 are likely and therefore the Council will need to take this into consideration when developing its employment land policies.

5.7 Following on from this study, a full Employment Land Review would be required in order to provide a detailed assessment of the supply and demand for employment land and premises in the district. Furthermore, the Council would need to prepare an Economic Development Strategy that clearly sets out its growth aspirations, identifies key growth sectors and the levels of employment growth it aspires to. This would enable a more detailed assessment of the employment land provision necessary to support the Council's growth aspirations.