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# Labour force projections for Derbyshire

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This document provides a report of labour force projections, summarising the main features of projected change in economic activity. The work was commissioned by Derbyshire County Council, as part of larger project to forecast the population, labour force and households.

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## Contents

The labour force: summary .....	3
Population change and economic activity.....	5
The age structure of the labour force .....	6
Past and projected economic activity rates .....	8
The labour force estimated and projected in each District .....	9

## Background

This document provides a report of labour force projections, summarising the main features of projected change in economic activity.

Accompanying this document are:

- Excel files of all the input assumptions and output results, in LABGROUP software format.
- A technical report detailing how to install the projections, to replicate and extend the work in-house, using LABGROUP software. Once installed, the results can be explored, summarised and displayed with the interrogation software supplied, and Excel's own facilities.

This document: 'Derbs labforce report March2005.doc'.

Technical report: 'Derbs labforce technical March2005.doc'.

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# Labour force projections for Derbyshire

## The labour force: summary

The labour force comprises all those available for work, whether at present working or seeking work. It is a key indicator of local economic change.

The table below shows the past and expected size of the labour force. Derbyshire's labour force has grown in the past decade and is expected to continue to grow for about ten years, reaching a peak of 489 thousand in Derbyshire, including 374,000 in the Derbyshire County Council area in 2016. The increase is mainly led by population growth.

The labour force declines in the later period, between 2016 and 2025.

The picture is mixed within the county. Bolsover and South Derbyshire gain significantly throughout the period. Derbyshire Dales and North East Derbyshire decline throughout the period.

The workforce is ageing. Thirteen thousand fewer workers aged under 45 are expected between 2005 and 2015 in Derbyshire County Council area.

## Derbyshire - Labour Force Forecasts Summary Report

### *Persons aged 16+*

<b>Labour Force</b>	<i>1991</i>	<i>2001</i>	<i>2005</i>	<i>2015</i>	<i>2025</i>
Derbyshire County Total (geographic)	460,050	466,550	476,550	488,650	479,300
Amber Valley	56,250	57,400	58,400	60,150	60,250
Bolsover	31,950	31,650	32,900	35,750	36,550
Chesterfield	47,850	46,300	46,950	47,150	45,200
Derbyshire Dales	33,500	34,500	34,300	32,200	28,450
Derby	108,450	107,550	110,750	115,000	113,300
Erewash	54,550	55,250	55,750	56,950	55,550
High Peak	43,500	45,500	46,400	46,950	44,650
North East Derbyshire	47,700	46,850	46,450	44,250	40,200
South Derbyshire	36,350	41,550	44,650	50,300	55,150

## Derbyshire - Labour Force Forecasts Summary Report

### *Persons aged 16+*

<b>Economic Activity Rate</b>	<i>1991</i>	<i>2001</i>	<i>2005</i>	<i>2015</i>	<i>2025</i>
Derbyshire County Total (geographic)	61.3%	60.3%	59.9%	57.3%	53.6%
Amber Valley	61.6%	61.1%	60.5%	57.5%	53.9%
Bolsover	55.9%	54.9%	54.6%	52.8%	49.3%
Chesterfield	59.2%	58.0%	57.8%	55.7%	52.4%
Derbyshire Dales	60.5%	60.8%	59.6%	54.4%	48.6%
Derby	61.6%	58.9%	59.0%	58.1%	55.6%
Erewash	63.9%	63.1%	62.4%	60.0%	56.6%
High Peak	64.2%	64.1%	63.4%	60.3%	55.6%
North East Derbyshire	60.3%	59.3%	57.9%	53.1%	48.2%
South Derbyshire	62.8%	64.0%	63.6%	60.3%	56.6%

<b>Population</b>	<i>1991</i>	<i>2001</i>	<i>2005</i>	<i>2015</i>	<i>2025</i>
Derbyshire County Total (geographic)	750,800	773,300	796,050	853,450	893,450
Amber Valley	91,350	93,850	96,500	104,700	111,650
Bolsover	57,150	57,650	60,200	67,700	74,250
Chesterfield	80,900	79,800	81,250	84,650	86,250
Derbyshire Dales	55,300	56,750	57,550	59,100	58,500
Derby	175,950	182,600	187,550	197,850	203,600
Erewash	85,450	87,600	89,300	94,950	98,100
High Peak	67,700	70,950	73,200	77,950	80,300
North East Derbyshire	79,100	79,100	80,250	83,250	83,400
South Derbyshire	57,850	64,950	70,200	83,350	97,400

## Population change and economic activity

Changes to Derbyshire's population are largely responsible for the growth and future decline of the labour force. The size of the labour force is also affected by the proportion of people in the labour force, the economic activity rate. For example, the greater economic activity of women has swelled the workforce in the past generation, while the greater intake to higher education has tended to act in the opposite direction by delaying young people's entry into the labour market.

Change in the size of the labour force is a product of change in the population and change in economic activity rates. Economic activity rises for people in their late teens and twenties after formal education, but falls again as people near retirement age and more are out of work because of poor health. The average economic activity is different for women.

For this reason the labour force has been projected forward in two components: a population forecast disaggregated by age and sex, and a parallel projection of economic activity rates based on recent censuses and national projections by the Office for National Statistics. The labour force is computed as the product of these two. This approach is the standard one used by government, academic and international agencies, and in this case has been implemented with the LABGROUP software.

The table below shows how the labour force is related to changes in population and economic activity. Age-specific activity rates are expected to slightly increase and then remain steady. The reason that activity rates are shown in the previous table to be decreasing overall is because population growth is concentrated at the older ages where economic activity is lowest.

The labour force is not growing in all parts of the county. In the Derbyshire Dales and North East Derbyshire it is expected to continue to decline considerably in the next ten years. In the later period, only Bolsover and South Derbyshire are expected to continue to gain workers consistently.

<b>Analysis of labour force change</b>	<b>2005-2015</b>			<b>2015-2025</b>		
	<i>Population effect</i>	<i>Activity effect</i>	<i>Total change</i>	<i>Population effect</i>	<i>Activity effect</i>	<i>Total change</i>
Derbyshire County Total (geographic)	11,150	950	12,100	-9,400	0	-9,400
Amber Valley	1,650	150	1,750	50	0	50
Bolsover	2,750	100	2,850	850	0	850
Chesterfield	50	100	150	-1,950	0	-1,950
Derbyshire Dales	-2,100	0	-2,100	-3,750	0	-3,750
Derby	4,050	200	4,250	-1,700	0	-1,700
Erewash	1,100	150	1,250	-1,400	0	-1,400
High Peak	450	100	550	-2,300	0	-2,300
North East Derbyshire	-2,300	50	-2,250	-4,000	0	-4,000
South Derbyshire	5,550	50	5,600	4,850	0	4,850

## The age structure of the labour force

The table and chart below shows the forecast for each age group separately, together with economic activity and population, for the county council area as a whole. The workforce at each age is given at the end of this report, for each District and for Derby UA, and is available for males and females separately. It is clear that a bulge in the population now aged 35-44, is followed by a smaller age group, so that during the next twenty years the workforce will age significantly.

The number of workers aged under 45 has reduced from 238 thousand to 225 thousand between 1991 and 2005, and is expected to fall to 212 thousand by 2015.

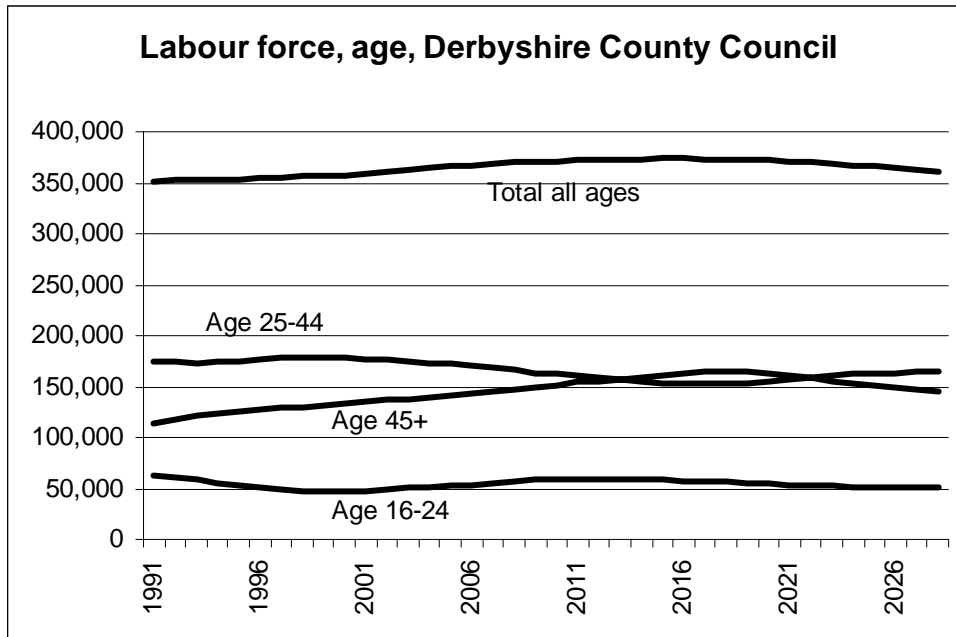
## Derbyshire - Labour Force Forecasts Summary Report

### Persons

<b>Labour Force</b>	<i>Age group</i>	1991	2001	2005	2015	2025
Derbs CC	16-19	22,600	19,700	21,200	21,400	19,100
	20-24	39,950	28,050	31,350	37,100	32,350
	25-34	85,400	81,200	71,550	74,300	80,550
	35-44	89,650	95,100	100,650	79,600	82,450
	45-54	72,950	85,400	84,050	103,700	82,650
	55-59	23,500	31,400	36,150	34,000	40,650
	60-64	13,000	13,700	16,300	17,300	21,700
	65-69	2,650	3,050	3,250	4,500	4,350
	70+	1,950	1,300	1,350	1,700	2,250

<b>Economic Activity Rate</b>	<i>Age group</i>	1991	2001	2005	2015	2025
Derbs CC	16-19	60.5%	60.0%	60.2%	60.5%	60.5%
	20-24	83.4%	83.2%	84.7%	85.6%	85.7%
	25-34	82.0%	83.9%	84.3%	84.7%	84.8%
	35-44	86.0%	84.8%	84.6%	84.0%	83.9%
	45-54	81.5%	81.1%	81.8%	82.7%	82.5%
	55-59	62.3%	64.9%	64.7%	63.4%	63.2%
	60-64	34.8%	35.8%	36.1%	35.3%	35.2%
	65-69	7.2%	9.0%	9.0%	8.5%	8.5%
	70+	2.4%	1.5%	1.5%	1.5%	1.5%

<b>Population</b>	<i>Age group</i>	1991	2001	2005	2015	2025
Derbs CC	16-19	37,350	32,850	35,200	35,350	31,550
	20-24	47,900	33,700	37,000	43,350	37,750
	25-34	104,100	96,750	84,900	87,700	95,000
	35-44	104,300	112,200	119,000	94,800	98,250
	45-54	89,500	105,250	102,750	125,400	100,150
	55-59	37,750	48,400	55,900	53,600	64,300
	60-64	37,350	38,300	45,150	48,950	61,700
	65-69	36,850	34,050	36,150	53,000	51,450
	70+	79,700	89,200	92,400	113,400	149,700

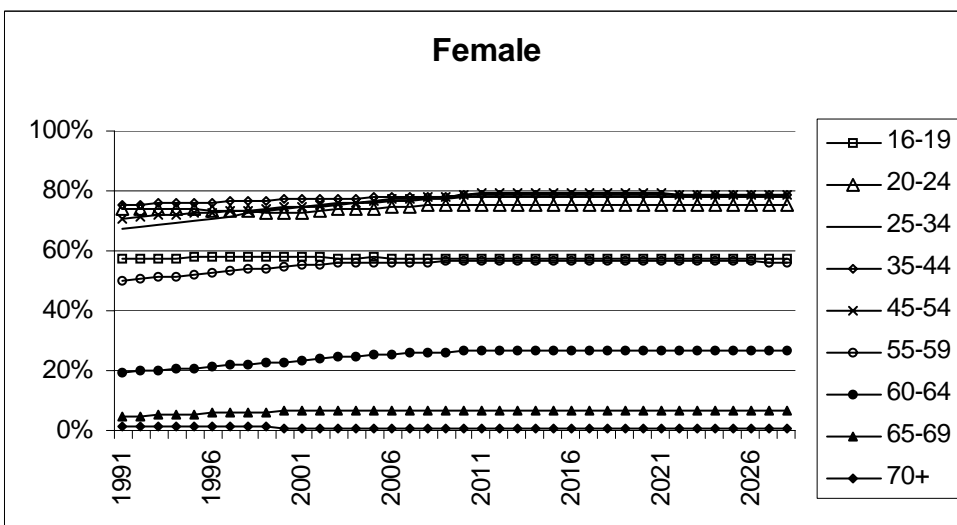
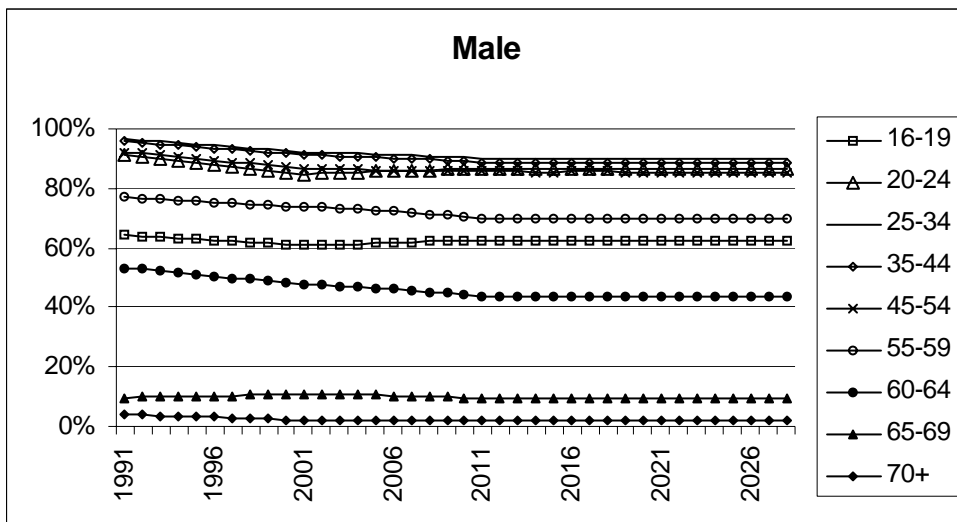


## Past and projected economic activity rates

The charts below display the economic activity rates that have been used in the projections for Derbyshire County Council area. Each District's rates have been measured from the 1991 and 2001 censuses for Derbyshire, and projected up to 2011 using the trend estimated for Britain by the Office for National Statistics in 1998. After 2011 they are held steady without further increase or decrease

Some of the difference between 1991 and 2001 activity rates will be due to the recording of students at their vacation address in 1991. Students are recorded at their term-time address in the 2001 census, in the ONS projected activity rates, and in the population forecasts.

Further forecasts could be developed on the basis of different assumptions about the future local development of economic activity rates.





## The labour force estimated and projected in each District

<b>Labour Force</b>	<i>Age group</i>	<i>1991</i>	<i>2001</i>	<i>2005</i>	<i>2015</i>	<i>2025</i>
Derbyshire County Total (geographic)	16-19	30,050	26,800	28,900	28,900	25,950
	20-24	54,950	39,350	43,750	50,700	44,150
	25-34	114,750	109,550	97,750	101,900	108,600
	35-44	113,450	122,000	129,700	104,150	108,200
	45-54	92,450	106,900	106,000	131,450	106,350
	55-59	31,050	39,200	44,600	42,650	51,050
	60-64	17,500	17,300	20,250	21,450	27,100
	65-69	3,400	3,800	4,000	5,350	5,250
	70+	2,450	1,650	1,700	2,050	2,700
Amber Valley	16-19	3,750	3,150	3,400	3,650	3,500
	20-24	6,300	4,400	5,000	6,100	5,700
	25-34	13,100	13,200	11,500	11,650	13,150
	35-44	14,550	14,800	15,950	12,950	13,150
	45-54	11,750	13,900	13,350	16,850	13,700
	55-59	3,800	5,150	5,950	5,400	6,650
	60-64	2,250	2,200	2,650	2,750	3,450
	65-69	400	450	450	650	600
	70+	300	200	200	250	300
Bolsover	16-19	2,350	1,950	2,150	2,400	2,100
	20-24	4,400	2,650	3,150	4,050	3,650
	25-34	8,350	7,900	6,850	7,350	8,600
	35-44	7,700	8,550	9,400	7,600	8,200
	45-54	6,200	6,850	7,150	9,800	8,000
	55-59	1,700	2,500	2,700	2,900	3,800
	60-64	900	1,000	1,200	1,300	1,800
	65-69	150	200	200	250	300
	70+	150	50	50	100	100
Chesterfield	16-19	3,050	2,700	2,900	2,800	2,450
	20-24	5,800	3,950	4,500	5,150	4,200
	25-34	12,400	10,900	9,750	10,350	10,850
	35-44	12,050	12,450	12,900	10,200	10,800
	45-54	9,450	10,650	10,500	12,350	9,750
	55-59	3,050	3,750	4,200	3,950	4,400
	60-64	1,650	1,550	1,800	1,850	2,250
	65-69	250	300	300	350	350
	70+	150	100	100	150	150
Derbyshire Dales	16-19	1,800	1,600	1,600	1,550	1,200
	20-24	3,100	2,250	2,400	2,600	2,050
	25-34	6,800	6,250	5,300	5,100	5,100
	35-44	8,850	8,950	9,000	6,200	5,850
	45-54	7,750	9,250	8,850	9,850	6,800
	55-59	2,700	3,650	4,250	3,650	3,850
	60-64	1,600	1,750	2,050	2,150	2,500
	65-69	500	550	550	750	700
	70+	350	250	250	300	400

<b>Labour Force</b>	<i>Age group</i>	<i>1991</i>	<i>2001</i>	<i>2005</i>	<i>2015</i>	<i>2025</i>
Derby	16-19	7,450	7,100	7,700	7,500	6,850
	20-24	15,000	11,300	12,400	13,600	11,800
	25-34	29,350	28,350	26,200	27,600	28,050
	35-44	23,800	26,900	29,050	24,550	25,750
	45-54	19,500	21,500	21,950	27,750	23,700
	55-59	7,550	7,800	8,450	8,650	10,400
	60-64	4,500	3,600	3,950	4,150	5,400
	65-69	750	750	750	850	900
	70+	500	350	350	350	450
Erewash	16-19	3,600	3,150	3,500	3,300	2,850
	20-24	6,550	4,550	5,100	6,200	4,850
	25-34	13,950	13,550	11,800	12,950	13,650
	35-44	13,050	14,450	15,300	11,900	13,150
	45-54	10,900	12,250	11,800	14,650	11,500
	55-59	3,800	4,700	5,250	4,750	5,800
	60-64	2,050	2,050	2,400	2,450	3,000
	65-69	350	450	450	600	550
	70+	300	150	150	200	250
High Peak	16-19	2,450	2,350	2,600	2,400	2,000
	20-24	4,500	3,250	3,750	4,200	3,400
	25-34	11,050	9,750	8,450	9,200	9,250
	35-44	11,350	12,750	13,300	9,800	10,650
	45-54	9,000	11,000	11,050	13,750	10,200
	55-59	2,900	3,850	4,600	4,500	5,200
	60-64	1,600	1,850	2,050	2,200	2,900
	65-69	350	450	500	650	650
	70+	250	200	200	250	350
North East Derbyshire	16-19	3,100	2,650	2,650	2,500	2,050
	20-24	5,150	3,700	4,000	4,350	3,450
	25-34	11,000	9,650	8,400	8,550	8,500
	35-44	12,400	12,100	12,050	8,850	8,950
	45-54	10,500	11,800	11,400	12,300	9,150
	55-59	3,300	4,500	5,050	4,550	4,700
	60-64	1,700	1,900	2,250	2,300	2,550
	65-69	300	400	450	600	550
	70+	250	200	200	250	350
South Derbyshire	16-19	2,550	2,150	2,400	2,850	3,000
	20-24	4,100	3,300	3,450	4,450	5,050
	25-34	8,750	10,050	9,550	9,150	11,500
	35-44	9,650	11,050	12,700	12,200	11,700
	45-54	7,350	9,700	9,950	14,150	13,550
	55-59	2,250	3,350	4,150	4,350	6,250
	60-64	1,200	1,500	1,850	2,300	3,200
	65-69	300	350	350	600	600
	70+	200	150	150	200	300

Figures are rounded independently to the nearest 50. Produced by CCSR using LABGROUP, software developed by Bradford Council, the University of Manchester and Andelin Associates