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Greater Manchester Forecasting Model

Summary of outputs – 2017 update

Public Intelligence (PRI)

Chief Executive's Department

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MANCHESTER
CITY COUNCIL

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1 Summary of results

- 1.1 This year, the Greater Manchester Forecasting Model (GMFM) forecasts for employment numbers in Manchester are higher than in the 2015 GMFM, although the growth rate over the 20 year period from 2016 to 2046 is lower. Greater Manchester (GM) as a whole shows lower employment forecasts over the period.
- 1.2 Employment is forecast to grow by 14.1% (55,300 jobs) in the next 20 years, which includes an additional 3,800 self-employed jobs.
- 1.3 'Financial and Business Services' are forecast to be the biggest contributors to employment growth (+28,500), whereas 'Manufacturing' will experience the greatest loss (-3,100).
- 1.4 'Clerical and Service-related', 'Business and Public Service Professional', 'Business and Public Service Associate Professional' and 'Sales' occupations are forecast to see the greatest increases in numbers within the occupational structure, whereas 'Protective Service', 'Teaching and Research Professional' and 'Plant and Machine Operative' occupations are forecast to see a decline in numbers to 2036.
- 1.5 Forecasts suggest that Gross Value Added (GVA) in Manchester will grow by 45.2%, so that by 2036, GVA will grow to £24,295.4m and account for around 32% of the overall GVA in Greater Manchester (GM).
- 1.6 Net commuting is forecast to increase in Manchester by 15% to 2036.
- 1.7 The population of Manchester is forecast to grow by 81,200, taking its total to 619,400 by 2036. The working age population (16-64) will increase by 10.5%.
- 1.8 Net migration (total), currently around 3,300 a year, is forecast to fall to a loss of 100 people by 2036.
- 1.9 There will be a demand for people with degrees in the future, with just under half the jobs (47.2%) expected to be at this level by 2036, with only 6.1% requiring no qualifications.

2 Introduction

- 2.1 This report illustrates the latest update (2017) to the Greater Manchester Forecasting Model (GMFM). The GMFM was developed by Oxford Economics, and provides economic, population and household forecasts to the year 2036.
- 2.2 A forecasting model is a complex statistical tool that forecasts change in the future, using analysis of past trends, both cyclical and structural. Primarily, the value of a model is in highlighting likely trends rather than making detailed predictions about the scale and nature of growth. Forecasting models are based on a series of assumptions about how the real world functions. These are based upon nationally validated datasets and observed relationships between different variables.
- 2.3 The GMFM is updated on an annual basis and includes a wide range of variables. This report will focus on some of the key ones including employment, GVA and population.
- 2.4 The GMFM produces forecasts for the ten local authority districts of Greater Manchester (GM) as well as the Local Enterprise Partnership (LEP) areas of Greater Manchester, Liverpool, Cheshire and Warrington, Lancashire and Cumbria. However, this report will primarily focus on the forecasts for Manchester.
- 2.5 Although the GMFM has the capacity to produce alternative 'scenarios', this report will focus solely on the base forecast, sometimes referred to as the reference. Forecasts show the most likely outcomes based on historical trends and assume that no exogenous shocks occur, such as a major change in government policy.
- 2.6 The GMFM model has a number of key aims:
- A consistent evidence base for the GM area for use in strategy and policy development.
 - A set of 'base case' forecasts for the GM area prepared by an independent forecasting house (Oxford Economics).
 - A starting point for looking at scenarios or alternate futures.
 - A 'trigger' mechanism to raise awareness of a wide range of emerging issues, for example impact of migration, or housing development.
 - An information resource collating a wide range of data in a central location and in a consistent manner.
 - A tool to help capacity building within Greater Manchester with respect to understanding and using forecast material.

3 Employment forecasts

3.1 The following section of the report illustrates employment forecasts across Greater Manchester (GM) from 2016 to 2036. The tables and charts in this section cover total employment, self-employment, industry sector breakdown, and occupational breakdown.

Table 1 GMFM 2016 Employment forecasts in Greater Manchester ('000s), 2016 to 2036

	Total employment levels* ('000s)									Change 2016 to 2036	
	2016	2017	2018	2019	2020	2025	2030	2035	2036	No.	%
Bolton	120.2	119.9	119.9	120.0	120.6	125.0	126.9	128.6	128.9	8.7	7.3%
Bury	75.9	75.8	75.8	75.9	76.3	79.2	80.4	81.5	81.7	5.9	7.7%
Manchester	391.6	395.0	397.9	400.6	405.0	426.8	436.7	445.3	446.9	55.3	14.1%
Oldham	92.7	92.6	92.5	92.3	92.6	94.7	94.7	94.7	94.7	2.0	2.1%
Rochdale	81.3	80.9	80.6	80.3	80.4	81.4	80.6	79.7	79.5	-1.7	-2.1%
Salford	132.1	132.6	133.3	134.3	135.9	145.0	150.5	155.8	156.9	24.9	18.8%
Stockport	141.8	142.0	142.2	142.5	143.5	149.1	151.5	154.0	154.6	12.7	9.0%
Tameside	77.9	77.5	77.1	76.7	76.6	77.2	76.3	75.3	75.1	-2.8	-3.6%
Trafford	163.2	164.0	164.8	165.7	167.3	175.3	179.2	182.7	183.5	20.3	12.4%
Wigan	120.7	120.2	119.8	119.4	119.6	121.8	121.3	120.5	120.4	-0.3	-0.2%
GM	1397.4	1400.6	1403.9	1407.7	1417.8	1475.6	1498.1	1518.2	1522.2	124.9	8.9%
NW	3609.3	3606.6	3605.9	3607.2	3624.9	3740.4	3773.0	3801.6	3807.6	198.2	5.5%

Source: GMFM 2016 © Oxford Economics Ltd

* includes employees in employment; self-employment; employees in HM Forces; and government supported trainees

3.2 Employment levels in seven of the 10 GM districts are forecast to increase between 2016 and 2036, rising by between 2.1% in Oldham to 18.8% in Salford. In Manchester, employment is forecast to increase by 14.1%, taking total employment to 446,900. The growth in Manchester is much higher than the Greater Manchester average of 8.9% over this 20-year period, and almost three times the average for the North West (Table 1). Employment levels in Rochdale, Tameside and Wigan are forecast to fall.

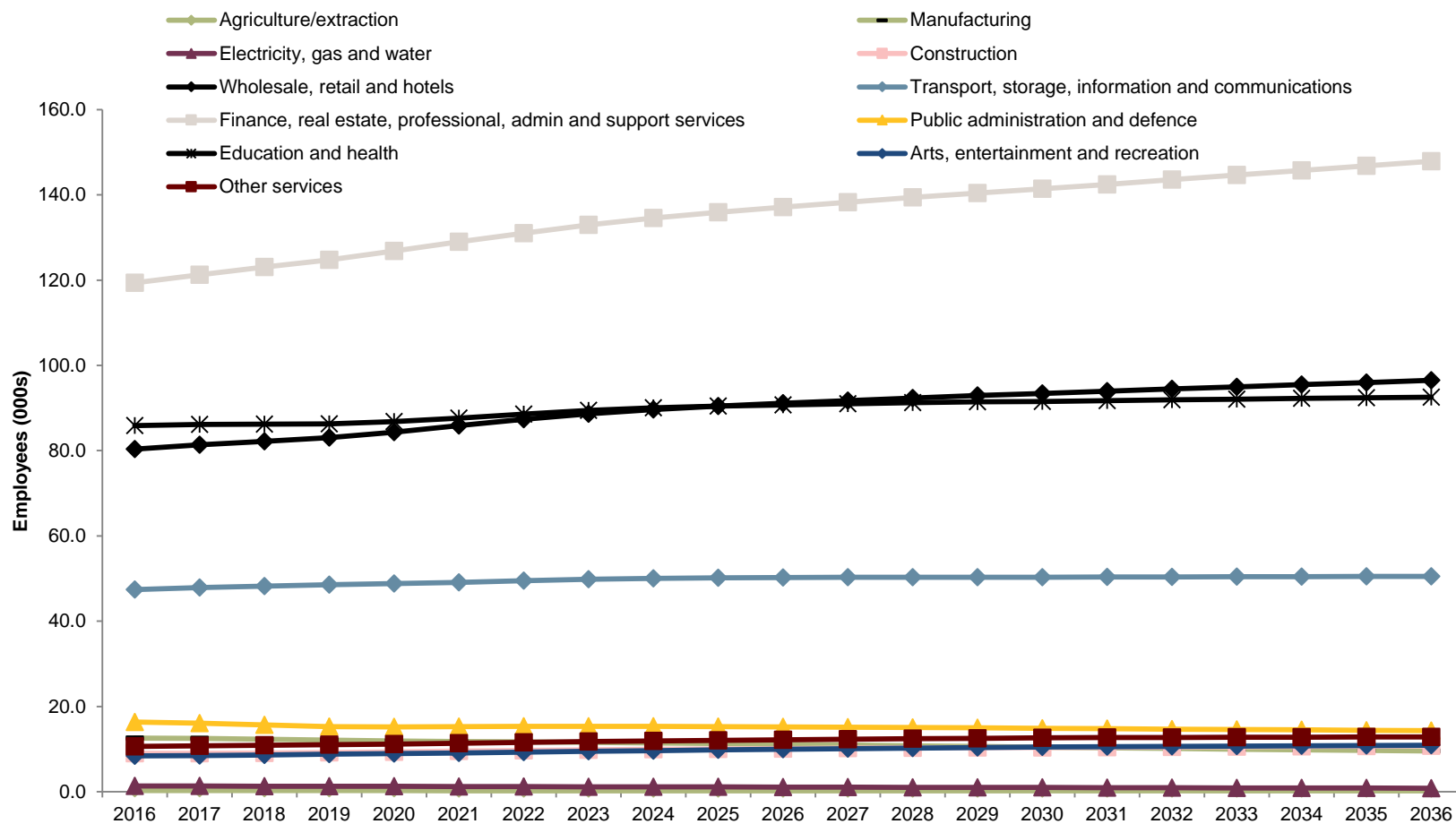
Table 2 GMFM 2016 Self-employment (as a percentage of employment), 2016 to 2036

	Self-employment levels (%)								
	2016	2017	2018	2019	2020	2025	2030	2035	2036
Bolton	13.1%	13.0%	13.0%	13.0%	13.0%	13.0%	13.1%	13.2%	13.2%
Bury	14.0%	13.9%	13.9%	13.9%	13.8%	13.8%	13.9%	14.0%	14.0%
Manchester	8.0%	8.0%	7.9%	7.9%	7.9%	7.9%	7.9%	7.9%	7.9%
Oldham	13.4%	13.3%	13.3%	13.3%	13.2%	13.3%	13.4%	13.5%	13.5%
Rochdale	13.5%	13.4%	13.4%	13.3%	13.3%	13.4%	13.5%	13.6%	13.6%
Salford	9.4%	9.3%	9.3%	9.3%	9.3%	9.3%	9.4%	9.5%	9.5%
Stockport	12.7%	12.6%	12.6%	12.6%	12.6%	12.6%	12.7%	12.8%	12.8%
Tameside	15.0%	14.8%	14.8%	14.8%	14.8%	14.7%	14.8%	14.9%	14.9%
Trafford	9.9%	9.9%	9.8%	9.8%	9.8%	9.8%	9.8%	9.9%	9.9%
Wigan	14.2%	14.1%	14.1%	14.1%	14.0%	14.0%	14.1%	14.2%	14.2%
GM	11.2%	11.1%	11.1%	11.1%	11.0%	11.0%	11.0%	11.1%	11.1%
NW	11.7%	11.6%	11.5%	11.5%	11.5%	11.4%	11.4%	11.5%	11.5%

Source: GMFM 2016 © Oxford Economics Ltd

- 3.3 Despite an estimation of 31,400 self-employed jobs in 2016, Manchester has the lowest self-employment rates in Greater Manchester (**Table 2**). The 2016 GMFM suggests there will be a 12% increase (3,800) in the number of self-employed people in Manchester between 2016 and 2036, with the overall self-employment rate staying around 8% throughout the period. This is a lower forecast than in GMFM 2015. Self-employment (number) is forecast to rise in seven GM local authorities between 2016 and 2036, with small decreases forecast in Wigan, Rochdale and Tameside.
- 3.4 **Figure 1** shows a breakdown of employment by sector (see **Appendix 1** for more detail about what falls into each sector) across Manchester (see **Tables 9 and 10** in **Appendix 2** for all sectors in Manchester and for sectoral change in other GM districts).
- 3.5 Employment in Manchester is highest in the 'Financial and business services' sector. It is forecast to grow from 119,300 employees in 2016 to 147,900 employees by 2036, which represents overall growth of 23.9% over the 20-year period.
- 3.6 'Wholesale, retail and hotels' are also expected to make a major contribution to employment forecasts, rising between 2016 and 2036 by 20%, from 80,400 to 96,500 jobs.
- 3.7 Other industries that are expected to rise significantly by 2036 are 'Education and health' (by 6,600 jobs, or 7.7%), 'Transport, storage, information and communications' (by 3,100 jobs or 6.5%), 'Arts, entertainment and recreation' (by 2,500 jobs, or 29.9%) and 'Other services' (by 2,200, or 20.7%).
- 3.8 Employment in 'Public administration and defence' is forecast to continue to fall, decreasing by 2,000 (12.2%) between 2016 and 2036.
- 3.9 Other sectors expected to see a decrease in employment levels to 2036 include 'Manufacturing', forecast to decrease by 24.4% from around 12,600 jobs in 2016 to 9,500 in 2036. 'Agriculture and extraction', and 'Electricity, gas and water' will also decrease. However, due to the small numbers employed in these industries, this only equates to a loss of around 50 and 500 jobs respectively.
- 3.10 GMFM 2016 also forecasts change in sectors as defined by New Economy/Greater Manchester Combined Authority (GMCA) (**Table 3**). This shows the forecast decrease in certain manufacturing sectors, public administration, financial services and primary industries and increase in cultural and creative, science, and business and professional services.

Figure 1 GMFM 2016 Employment forecasts in Manchester by sector ('000s), 2016 to 2036



Source: GMFM 2016, © Copyright Oxford Economics Ltd

Analysis by Public Intelligence (PRI)

Table 3 GMFM 2016 Employment in New Economy defined sectors ('000s), 2016-2036

	2016	2017	2018	2019	2020	2025	2030	2035	2036	Change	
										No.	%
Total primary industries and utilities	1.6	1.6	1.6	1.5	1.5	1.4	1.2	1.1	1.0	-0.6	-36.2%
Agriculture, forestry and fishing	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.0	-17.5%
Mining and quarrying	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-53.6%
Utilities	1.4	1.3	1.3	1.3	1.3	1.1	1.0	0.9	0.8	-0.5	-39.4%
Construction	9.0	9.0	9.1	9.2	9.4	10.0	10.4	10.7	10.7	1.8	19.9%
Total manufacturing	17.2	17.2	17.1	17.0	17.0	16.9	16.4	16.1	16.0	-1.2	-7.0%
Advanced manufacturing	9.5	9.5	9.6	9.6	9.6	9.9	10.0	10.1	10.1	0.6	6.7%
Food and drink	3.2	3.2	3.1	3.1	3.1	3.0	2.8	2.7	2.7	-0.5	-15.8%
Textile	1.6	1.6	1.6	1.5	1.5	1.4	1.3	1.1	1.1	-0.5	-31.4%
Other manufacturing	3.0	2.9	2.9	2.8	2.8	2.6	2.4	2.2	2.1	-0.8	-28.0%
Logistics (transport and storage)	28.0	28.3	28.6	28.7	28.9	29.7	29.7	29.8	29.8	1.8	6.3%
Total wholesale and retail	48.0	48.5	49.0	49.5	50.4	54.0	55.5	56.8	57.0	9.0	18.7%
Motor trades	1.6	1.6	1.6	1.6	1.6	1.7	1.8	1.8	1.8	0.3	17.2%
Wholesale	12.5	12.6	12.7	12.9	13.1	13.9	14.3	14.6	14.7	2.2	17.2%
Retail	33.9	34.3	34.7	35.0	35.7	38.3	39.4	40.3	40.5	6.6	19.3%
Personal services	4.3	4.3	4.4	4.4	4.5	4.8	5.0	5.1	5.1	0.8	18.9%
Total business, financial and professional services	107.3	108.9	110.5	112.0	113.8	121.7	126.6	131.1	132.0	24.7	23.0%
Business services	31.7	32.3	32.9	33.5	34.2	37.2	39.1	40.8	41.1	9.4	29.6%
Employment activities	15.4	15.7	16.1	16.4	16.7	18.2	19.1	20.0	20.2	4.8	30.8%
Financial services	19.6	19.6	19.5	19.5	19.5	19.4	19.0	18.5	18.4	-1.2	-6.3%
Professional services	40.5	41.2	41.9	42.6	43.3	46.9	49.4	51.8	52.3	11.8	29.1%
Total creative and digital industries	28.8	29.1	29.4	29.6	29.9	31.2	31.8	32.3	32.4	3.5	12.3%
Creative industries	11.9	12.1	12.2	12.4	12.5	13.3	13.8	14.2	14.2	2.3	19.4%
Digital	16.9	17.0	17.1	17.3	17.4	17.9	18.0	18.1	18.1	1.2	7.3%
Total hospitality, tourism and sport	41.2	41.8	42.3	42.8	43.4	46.7	48.7	50.3	50.7	9.5	22.9%
Sport	3.3	3.4	3.5	3.6	3.6	4.0	4.4	4.6	4.6	1.3	38.4%
Hospitality and tourism	37.9	38.4	38.8	39.3	39.8	42.6	44.3	45.7	46.0	8.2	21.6%
Science and R&D	4.0	4.0	4.1	4.2	4.3	4.7	5.0	5.3	5.3	1.4	34.5%
Total public admin, health and social care, and education	102.2	102.2	101.9	101.6	102.0	105.8	106.4	106.8	106.9	4.7	4.6%
Education	38.6	38.5	38.4	38.2	38.4	39.4	39.2	39.0	38.9	0.4	1.0%
Health and social care	47.4	47.6	47.8	48.0	48.5	51.1	52.3	53.4	53.6	6.3	13.2%
Public admin	16.3	16.1	15.7	15.3	15.2	15.3	14.9	14.4	14.3	-2.0	-12.2%
Total	391.6	395.0	397.9	400.6	405.0	426.8	436.7	445.3	446.9	55.3	14.1%

Source: GMFM 2016 © Oxford Economics Ltd

3.11 As the employment structure in Manchester changes, there is forecast to be a shift in the occupational structure also. **Table 4** displays employment by occupation (for GM figures see **Table 11** in **Appendix 2**).

- 3.12 Employment levels are expected to rise in the majority of occupations between 2016 and 2036. The exceptions, where there will be a fall in number, are 'Protective service' occupations (-400) and 'Teaching and research professionals' (-300).
- 3.13 Despite growth in other occupations, there will be a greater emphasis on certain jobs in the future than there is now. 'Business and public service professionals', 'Elementary occupations (clerical and services related)' and 'Sales occupations' are forecast to make up a greater proportion of the workforce in 2036 than they did in 2016.

Table 4 GMFM 2016 Employment forecast by occupations in Manchester ('000s), 2016 to 2036

	2016		2026		2036		2016-2036		
	No.	%	No.	%	No.	%	No. difference	% difference	% point difference
Corporate Managers	22.2	6.0%	23.2	5.8%	23.5	5.7%	1.3	5.8%	-0.3%
Managers / Proprietors in agriculture and services	13.2	3.6%	14.7	3.7%	15.6	3.8%	2.4	18.0%	0.2%
Science and Technology Professionals	18.6	5.0%	20.1	5.0%	20.9	5.1%	2.3	12.6%	0.0%
Health Professionals	19.8	5.3%	21.4	5.4%	22.7	5.5%	2.9	14.4%	0.1%
Teaching and Research Professionals	17.5	4.7%	17.5	4.4%	17.2	4.2%	-0.3	-1.5%	-0.5%
Business and Public Service Professionals	26.6	7.2%	29.6	7.4%	31.8	7.7%	5.2	19.6%	0.5%
Science and Technology Associate Professionals	6.0	1.6%	6.1	1.5%	6.2	1.5%	0.2	3.4%	-0.1%
Health and Social Welfare Associate Professionals	5.0	1.3%	5.3	1.3%	5.5	1.3%	0.6	11.3%	0.0%
Protective Service Occupations	3.3	0.9%	3.1	0.8%	2.9	0.7%	-0.4	-11.6%	-0.2%
Culture, Media and Sports Occupations	8.4	2.3%	9.5	2.4%	10.2	2.5%	1.8	21.4%	0.2%
Business and Public Service Associate Professionals	29.1	7.8%	31.4	7.9%	32.8	7.9%	3.7	12.6%	0.1%
Administrative Occupations	34.1	9.2%	35.5	8.9%	36.0	8.7%	1.8	5.4%	-0.5%
Secretarial and Related Occupations	11.0	3.0%	11.6	2.9%	12.0	2.9%	1.1	9.8%	0.0%
Skilled Agricultural Trades	1.1	0.3%	1.2	0.3%	1.3	0.3%	0.2	21.7%	0.0%
Skilled Metal and Electrical Trades	8.5	2.3%	8.7	2.2%	8.6	2.1%	0.1	1.3%	-0.2%
Skilled Construction and Building Trades	6.3	1.7%	6.8	1.7%	7.0	1.7%	0.7	11.6%	0.0%
Textiles, Printing and Other Skilled Trades	8.2	2.2%	8.9	2.2%	9.3	2.3%	1.1	13.4%	0.0%
Caring Personal Service Occupations	20.5	5.5%	22.1	5.6%	23.2	5.6%	2.7	13.4%	0.1%
Leisure and Other Personal Service Occupations	13.2	3.6%	14.6	3.7%	15.5	3.7%	2.3	17.5%	0.2%
Sales Occupations	25.4	6.8%	28.0	7.0%	29.4	7.1%	4.0	15.7%	0.3%
Customer Service Occupations	9.4	2.5%	10.2	2.6%	10.8	2.6%	1.4	15.3%	0.1%
Process, Plant and Machine Operatives	7.5	2.0%	7.6	1.9%	7.4	1.8%	0.0	-0.6%	-0.2%
Transport and Mobile Machine Drivers and Operatives	13.1	3.5%	13.9	3.5%	14.0	3.4%	0.9	6.8%	-0.1%
Elementary Occupations: Trades, Plant and Storage related	3.3	0.9%	3.4	0.9%	3.5	0.8%	0.2	6.4%	0.0%
Elementary Occupations: Clerical and Services related	40.0	10.8%	44.0	11.0%	46.4	11.2%	6.4	16.0%	0.4%
Total Occupations	371.0	100.0%	398.5	100.0%	413.7	100.0%	42.7	11.5%	0.0%

Source: GMFM 2016, © Oxford Economics Ltd. Note: the occupational breakdown is based on people in work, not jobs and therefore excludes second jobs, etc.

4 GVA forecasts

- 4.1 This section shows total gross value added (GVA) forecasts across GM. Manchester is forecast to see some of the greatest growth within the sub-region. GVA currently stands at around £16,732m in Manchester, but growing to £24,295m (an increase of 45.2%) between 2016 and 2036 (see **Table 5** and **Table 12** in **Appendix 2**). Salford is forecast to see GVA grow by 52.9% to £9,388.1m. Trafford is forecast to see GVA grow by 46%.
- 4.2 Other GM districts are also expected to see a significant increase in GVA levels to 2036, from 40.3% in Stockport to 22.6% in Tameside.

Table 5 GMFM 2016 GVA* forecasts, Greater Manchester (£m), 2016 to 2036

	£m									Change 2016 to 2036	
	2016	2017	2018	2019	2020	2025	2030	2035	2036	No.	%
Bolton	4893.0	4953.3	5014.8	5090.4	5193.0	5754.8	6212.9	6691.7	6788.9	1,895.9	38.7%
Bury	3092.3	3136.7	3176.1	3223.6	3288.4	3641.9	3925.4	4216.9	4275.8	1,183.5	38.3%
Manchester	16732.0	17104.5	17415.9	17754.6	18174.9	20382.2	22136.4	23934.7	24295.4	7,563.4	45.2%
Oldham	3553.9	3596.8	3634.2	3679.0	3742.6	4087.9	4347.2	4609.9	4662.0	1,108.1	31.2%
Rochdale	3364.8	3392.2	3420.5	3457.4	3512.7	3808.2	4014.5	4220.1	4260.1	895.3	26.6%
Salford	6138.8	6259.2	6375.0	6510.6	6683.2	7607.4	8391.2	9217.7	9388.1	3,249.3	52.9%
Stockport	6296.4	6393.7	6483.3	6588.0	6725.0	7462.2	8062.5	8702.0	8831.6	2,535.3	40.3%
Tameside	3269.2	3294.6	3316.2	3344.8	3390.1	3639.8	3808.4	3974.6	4006.8	737.6	22.6%
Trafford	7149.9	7295.3	7420.1	7563.3	7747.1	8699.0	9468.1	10274.7	10438.6	3,288.7	46.0%
Wigan	4673.3	4713.4	4750.9	4800.6	4876.4	5284.1	5571.1	5854.3	5909.7	1,236.4	26.5%
GM	59163.6	60139.5	61007.1	62012.4	63333.5	70367.5	75937.7	81696.6	82857.0	23,693.4	40.0%

Source: GMFM 2016 © Oxford Economics Ltd

* 2013 prices

5 Commuting

- 5.1 Positive net commuting into Manchester is forecast to increase by 19,300 (15%) between 2016 and 2036 (**Table 6**). Elsewhere in Greater Manchester, Trafford will continue to see positive net commuting but at lower levels.
- 5.2 Bury, Oldham, Rochdale, Stockport, Tameside and Wigan are forecast to see an increase in net commuting out of their areas.

Table 6 GMFM 2016 Commuting forecasts, Greater Manchester ('000s), 2016 to 2036

	Commuting ('000s)									Change 2016 to 2036	
	2016	2017	2018	2019	2020	2025	2030	2035	2036	No.	%
Bolton	-13.4	-14.5	-14.6	-14.6	-14.5	-13.6	-13.4	-12.9	-12.8	0.6	-4.5%
Bury	-14.1	-14.9	-14.9	-14.8	-15.2	-17.3	-17.5	-18.0	-18.0	-3.9	27.8%
Manchester	128.6	128.2	129.3	130.2	131.9	140.1	143.3	147.1	147.9	19.3	15.0%
Oldham	-1.1	-2.0	-2.1	-2.2	-2.4	-3.5	-3.8	-4.2	-4.3	-3.2	294.3%
Rochdale	-12.5	-13.4	-13.5	-13.5	-13.9	-16.1	-16.9	-17.9	-18.1	-5.6	44.9%
Salford	-3.8	-4.7	-4.6	-4.4	-4.3	-3.7	-2.5	-1.6	-1.4	2.4	-62.4%
Stockport	-17.1	-18.2	-18.4	-18.5	-18.8	-20.2	-20.6	-21.1	-21.2	-4.1	24.3%
Tameside	-30.7	-31.8	-32.0	-32.3	-32.9	-35.9	-37.2	-38.6	-38.9	-8.2	26.6%
Trafford	18.1	17.0	16.9	16.8	16.6	15.0	14.2	13.7	13.6	-4.5	-25.1%
Wigan	-33.4	-34.8	-35.0	-35.3	-35.2	-34.8	-35.4	-35.8	-35.9	-2.4	7.3%
GM	20.6	11.0	11.1	11.3	11.2	9.9	10.3	10.7	10.8	-9.8	-47.5%

Source: GMFM 2016 © Oxford Economics Ltd

6 Population forecasts

6.1 The following section of the report shows the population forecasts across Greater Manchester.

6.2 Manchester's population is expected to rise by just over 15% to 619,400 by 2036, which equates to a rise of 81,200 people (see **Table 7**). This growth is over twice the Greater Manchester average of 7%.

Table 7 GMFM 2016 Population forecasts, Greater Manchester ('000s), 2016 to 2036

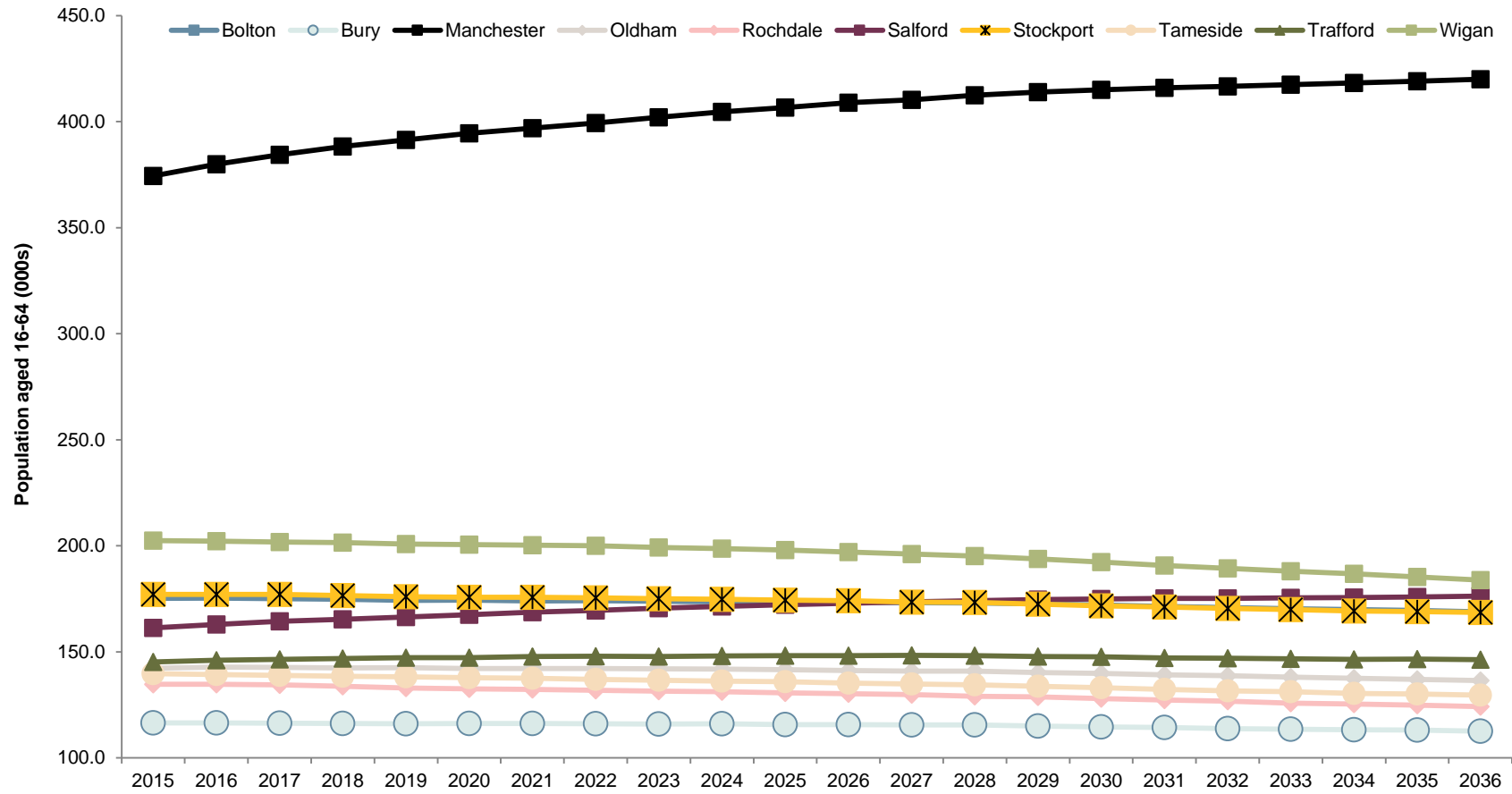
	2016	2017	2018	2019	2020	2025	2030	2035	2036	Change 2016 to 2036	
										No.	%
Bolton	282.7	283.8	284.9	285.8	286.8	291.0	294.3	296.4	296.8	14.1	5.0%
Bury	188.6	189.4	190.2	191.0	191.7	195.1	197.6	199.5	199.8	11.2	5.9%
Manchester	538.2	545.7	552.6	558.5	564.2	587.1	603.9	617.1	619.4	81.2	15.1%
Oldham	232.2	233.1	233.8	234.3	234.8	236.8	237.9	238.1	238.1	5.8	2.5%
Rochdale	215.2	215.7	216.2	216.5	216.8	217.7	217.6	216.7	216.5	1.3	0.6%
Salford	248.2	250.7	253.2	255.5	257.8	267.9	275.5	281.3	282.3	34.1	13.7%
Stockport	290.2	291.6	292.7	293.8	294.9	299.5	302.9	305.2	305.5	15.3	5.3%
Tameside	222.4	223.1	223.7	224.1	224.5	226.4	227.9	229.0	229.2	6.8	3.1%
Trafford	235.2	236.8	238.2	239.5	240.6	245.6	249.9	253.7	254.4	19.3	8.2%
Wigan	322.8	323.7	324.4	324.9	325.4	327.1	327.6	326.9	326.7	3.9	1.2%
GM	2775.7	2793.6	2809.7	2823.9	2837.3	2894.0	2935.0	2963.8	2968.7	193.0	7.0%

Source: GMFM 2016 © Oxford Economics Ltd

6.3 The working age population (16 to 64) is forecast to increase steadily in Manchester between 2016 and 2036 (**Figure 2**). Forecasts suggest that the number of 16 to 64s will increase by 40,100 (10.5%) between 2016 and 2036 to reach 420,100. Salford and Trafford are also forecast to see the number of working age population growing over the 20 year period.

6.4 The GMFM estimates that net migration (both domestic and international) in 2016 accounted for an increase of around 3,300 people. Net migration is forecast to decrease over the next 20 years (**Figure 3** and **Table 12** in **Appendix 2**), so that by 2036 net migration will account for a fall of 100 people, i.e. more people will leave than come to the city.

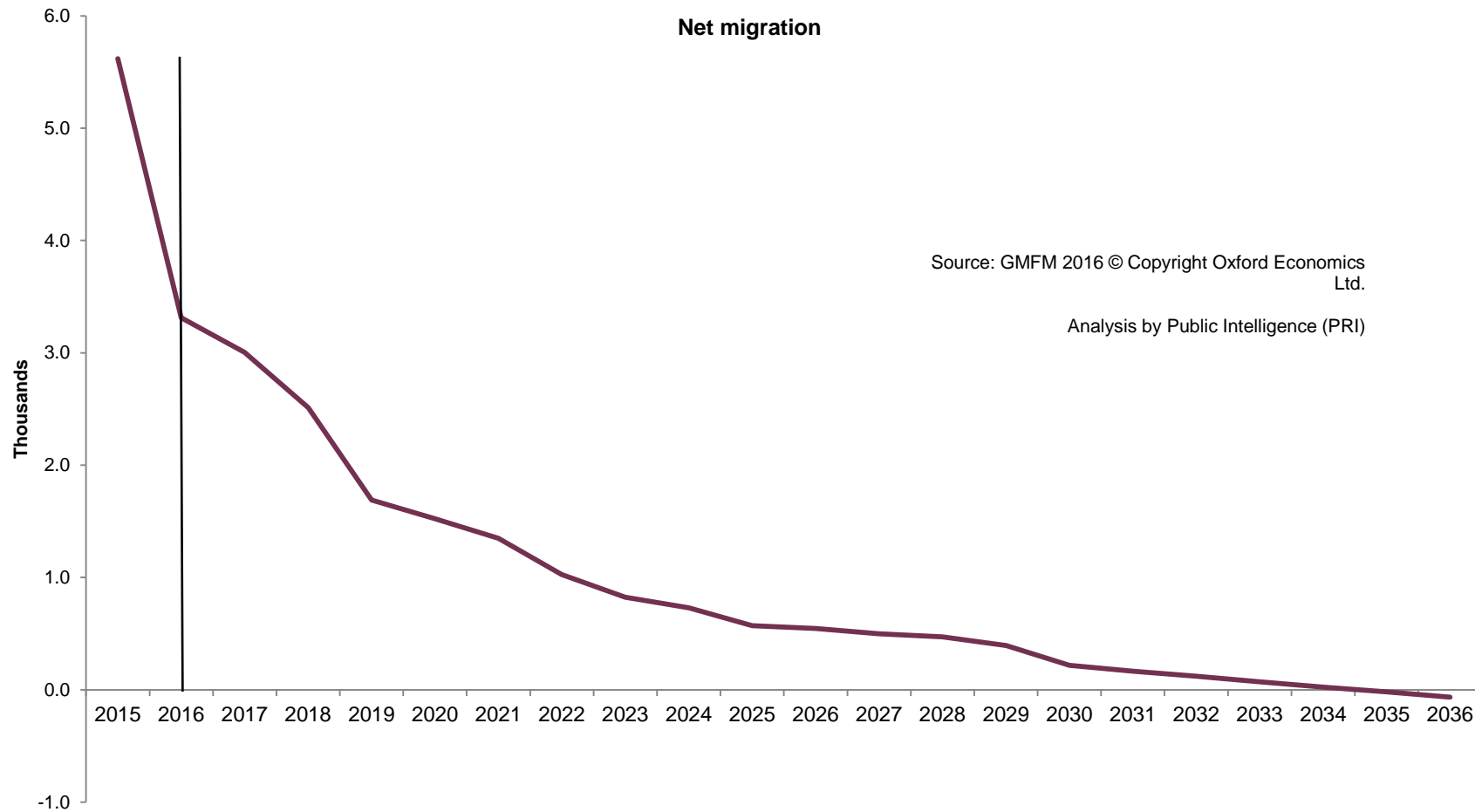
Figure 2 GMFM 2016 Population forecasts aged 16-64 ('000s), 2016 to 2036



Source: GMFM 2016 © Copyright Oxford Economics Ltd

Analysis by Public Intelligence (PRI)

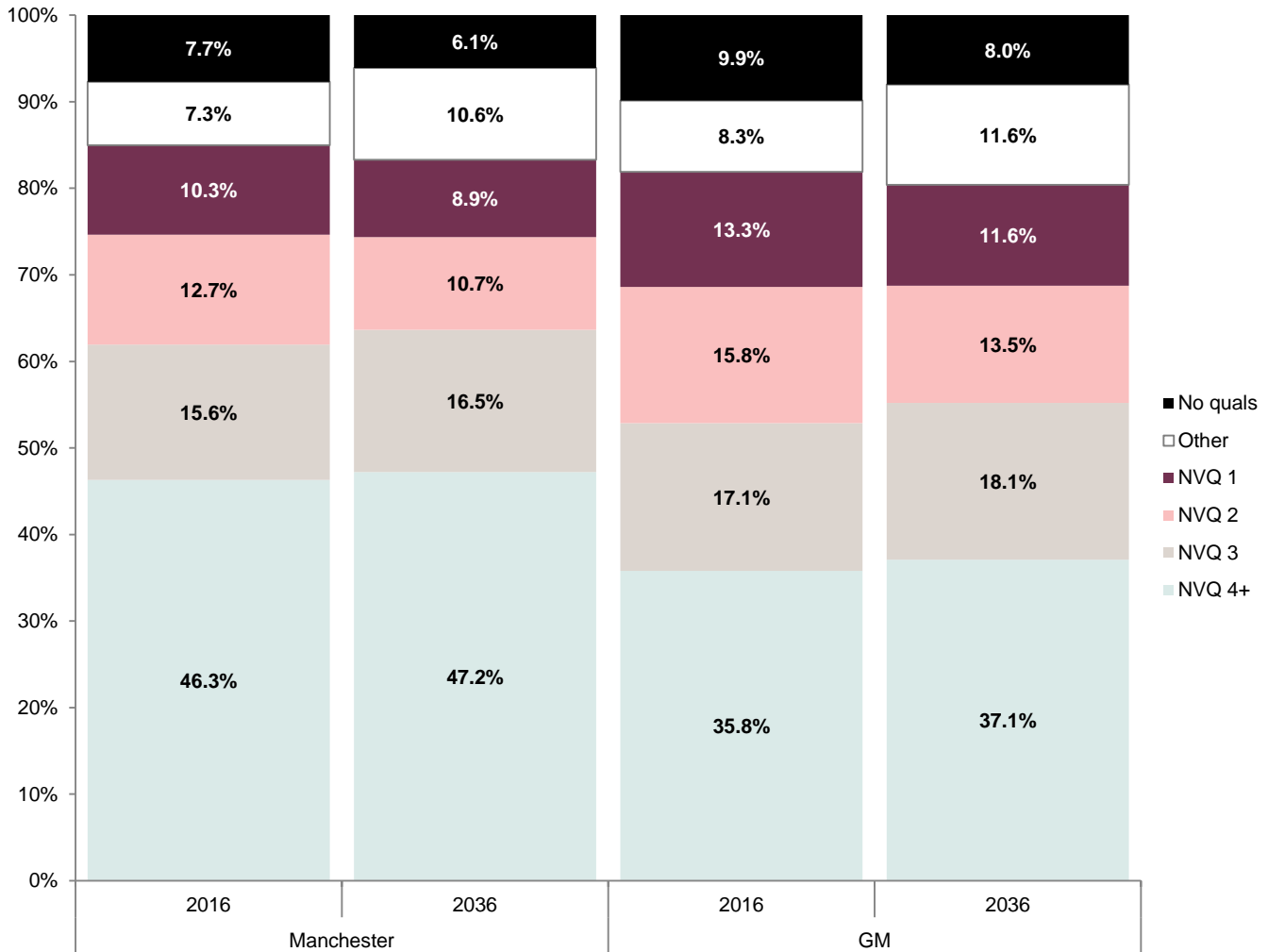
Figure 3 GMFM 2016 Net migration, Manchester ('000s of total migrants), 2016 to 2036



7 Skills forecast

7.1 **Figure 4** shows the change in workplace-based skills in Manchester as compared to GM (for breakdown of other GM districts see **Table 13** in **Appendix 2**). Both Manchester and GM are expected to see a decline in the proportion of jobs requiring NVQ 1 and 2, while GMFM 2016 suggests that the proportion of jobs requiring NVQ 4 or above (degree level) will increase slightly to 2036. See **Table 14** for examples of qualifications for each of the NVQ levels.

Figure 4 GMFM 2016 Workplace-based Skills Forecast, 2016 to 2036



Source: GMFM 2016 © Copyright Oxford Economics Ltd

Analysis by Public Intelligence (PRI)

8 Appendix 1 Breakdown of industrial sectors to 2 digit 2007 SIC codes

A. AGRICULTURE AND EXTRACTION

01: Crop and animal production, hunting and related service activities

02: Forestry and logging

05: Fishing and aquaculture

B. MINING AND QUARRYING

05: Mining of coal and lignite

06: Extraction of crude petroleum and natural gas

07: Mining of iron ores

08: Other mining and quarrying

09: Mining support service activities

C. MANUFACTURING

10: Manufacture of food products

11: Manufacture of beverages

12: Manufacture of tobacco products

13: Manufacture of textiles

14: Manufacture of wearing apparel

15: Manufacture of leather and related products

16: Manufacture of wood and products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials

17: Manufacture of paper and paper products

18: Printing and reproduction of recorded media

19: Manufacture of coke and refined petroleum products

20: Manufacture of chemicals and chemical products

21: Manufacture of basic pharmaceutical products and pharmaceutical preparations

22: Manufacture of rubber and plastic products

23: Manufacture of other non-metallic mineral products

24: Manufacture basic metals

25: Manufacture of fabricated metal products, except machinery and equipment

26: Manufacture of computer, electronic and optical products

27: Manufacture of electrical equipment

28: Manufacture of machinery and equipment n.e.c.

29: Manufacture of motor vehicles, trailers and semi-trailers

30: Manufacture of other transport equipment

31: Manufacture of furniture

32: Other manufacturing

33: Repair and installation of machinery and equipment

D. ELECTRICITY, GAS AND AIR CONDITIONING SUPPLY

35: Electricity, gas, steam and air conditioning supply

E. WATER SUPPLY, SEWERAGE, WASTE MANAGEMENT AND REMEDIATION ACTIVITIES

- 36: Water collection, treatment and supply
- 37: Sewerage
- 38: Waste collection, treatment and disposal activities; material recovery
- 39: Remediation activities and other waste management services

F. CONSTRUCTION

- 41: Construction
- 42: Civil engineering
- 43: Specialised construction activities

G. WHOLESALE AND RETAIL TRADE; REPAIR OF MOTOR VEHICLES AND MOTORCYCLES

- 45: Wholesale and retail trade and repair of motor vehicles and motorcycles
- 46: Wholesale trade, except of motor vehicles and motorcycles
- 47: Retail trade, except of motor vehicles and motorcycles

H. TRANSPORTATION AND STORAGE

- 49: Land transport and transport via pipelines
- 50: Water transport
- 51: Air transport
- 52: Warehousing and support activities for transportation
- 53: Postal and courier activities

I. ACCOMMODATION AND FOOD SERVICE ACTIVITIES

- 55: Accommodation
- 56: Food and beverage service activities

J. INFORMATION AND COMMUNICATION

- 58: Publishing activities
- 59: Motion picture, video and television programme production, sound recording and music publishing activities
- 60: Programming and broadcasting activities
- 61: Telecommunications
- 62: Computer programming, consultancy and related activities
- 63: Information service activities

K. FINANCIAL AND BUSINESS SERVICES

- 64: Financial service activities, except insurance and pension funding
- 65: Insurance, reinsurance and pension funding, except compulsory social security
- 66: Activities auxiliary to financial services and insurance activities

L. REAL ESTATE ACTIVITIES

- 68: Real estate activities

M. PROFESSIONAL, SCIENTIFIC AND TECHNICAL ACTIVITIES

- 69: Legal and accounting activities
- 70: Activities of head offices; management consultancy activities
- 71: Architectural and engineering activities; technical testing and analysis
- 72: Scientific research and development

- 73: Advertising and market research
- 74: Other professional, scientific and technical activities
- 75: Veterinary activities

N. ADMINISTRATIVE AND SUPPORT ACTIVITIES

- 77: Rental and leasing activities
- 78: Employment activities
- 79: Travel agency, tour operator and other reservation service and related activities
- 80: Security and investigation activities
- 81: Services to buildings and landscape activities
- 82: Office administrative, office support and other business support activities

O. PUBLIC ADMINISTRATION AND DEFENCE; COMPULSORY SOCIAL SECURITY

- 84: Public administration and defence; compulsory social security

P. EDUCATION

- 85: Education

Q. HUMAN HEALTH AND SOCIAL WORK ACTIVITIES

- 86: Human health activities
- 87: Residential care activities
- 88: Social work activities without accommodation

R. ARTS, ENTERTAINMENT AND RECREATION

- 90: Creative, arts and entertainment activities
- 91: Libraries, archives, museums and other cultural activities
- 92: Gambling and betting activities
- 93: Sports activities and amusement and recreation activities

S. OTHER SERVICE ACTIVITIES

- 94: Activities of membership organisations
- 95: Repair of computers and personal and household goods
- 96: Other personal service activities

T. ACTIVITIES OF HOUSEHOLDS AS EMPLOYERS; UNDIFFERENTIATED GOODS – AND SERVICES – PRODUCING ACTIVITIES OF HOUSEHOLDS FOR OWN USE

- 97: Activities of households as employers of domestic personnel
- 98: Undifferentiated goods – and services – producing activities of private households for own use

U. ACTIVITIES OF EXTRATERRITORIAL ORGANISATIONS AND BODIES

- 99: Activities of extraterritorial organisations and bodies

9 Appendix 2 Supplementary tables

Table 9 GMFM 2016 Employment by industrial sector forecasts ('000s) in Manchester, 2016 to 2036

	2016	2017	2018	2019	2020	2025	2030	2035	2036	Change 2016 to 2036		
											No.	%
Agriculture/extraction	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.0	-19.0%
Manufacturing	12.6	12.5	12.3	12.1	11.9	11.3	10.5	9.7	9.5	9.5	-3.1	-24.5%
Electricity, gas and water	1.4	1.3	1.3	1.3	1.3	1.1	1.0	0.9	0.8	0.8	-0.5	-39.4%
Construction	9.0	9.0	9.1	9.2	9.4	10.0	10.4	10.7	10.7	10.7	1.8	19.9%
Wholesale, retail and hotels	80.4	81.4	82.2	83.0	84.4	90.4	93.4	96.0	96.5	96.5	16.1	20.0%
Transport, storage, information and communications	47.4	47.9	48.2	48.5	48.8	50.2	50.3	50.5	50.5	50.5	3.1	6.5%
Finance, real estate, professional, admin and support services	119.3	121.2	123.0	124.7	126.8	135.9	141.4	146.8	147.9	147.9	28.5	23.9%
Public administration and defence	16.3	16.1	15.7	15.3	15.2	15.3	14.9	14.4	14.3	14.3	-2.0	-12.2%
Education and health	85.9	86.1	86.2	86.3	86.8	90.5	91.6	92.4	92.6	92.6	6.6	7.7%
Arts, entertainment and recreation	8.4	8.5	8.7	8.8	8.9	9.8	10.5	10.8	10.9	10.9	2.6	30.5%
Other services	10.7	10.8	10.9	11.1	11.2	12.1	12.6	12.8	12.9	12.9	2.2	20.7%
TOTAL	391.6	395.0	397.9	400.6	405.0	426.8	436.7	445.3	446.9	446.9	55.3	14.1%

Source: GMFM 2016 © Oxford Economics Ltd

Table 10 GMFM 2016 Change in employment levels by sector ('000s employees), Greater Manchester, 2016 to 2036

	Agriculture/ extraction		Manufacturing		Electricity, gas and water		Construction		Wholesale, retail and hotels		Transport, storage and communi- cations		Financial and business services		Public administration and defence		Education and health		Arts		Other services	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Bolton	-0.1	-21.6%	-3.1	-25.8%	-0.7	-32.3%	1.7	20.8%	2.4	8.6%	0.7	7.6%	6.6	27.1%	-0.6	-14.7%	0.8	3.2%	0.6	22.7%	0.4	8.8%
Bury	-0.1	-18.8%	-1.8	-25.1%	-0.1	-14.3%	0.8	19.5%	2.1	11.5%	0.4	8.9%	3.0	23.3%	-0.3	-12.4%	1.1	5.4%	0.3	18.5%	0.3	11.3%
Manchester	0.0	-19.0%	-3.1	-24.5%	-0.5	-39.4%	1.8	19.9%	16.1	20.0%	3.1	6.5%	28.5	23.9%	-2.0	-12.2%	6.6	7.7%	2.6	30.5%	2.2	20.7%
Oldham	0.0	-16.6%	-2.6	-25.3%	-0.2	-14.4%	1.3	18.3%	0.1	0.3%	0.5	6.5%	2.8	18.5%	-0.4	-16.6%	0.2	0.8%	0.1	7.3%	0.2	7.8%
Rochdale	0.0	-15.1%	-2.8	-26.2%	-0.2	-34.4%	0.8	13.1%	-0.1	-0.5%	0.4	4.6%	0.9	7.4%	-0.4	-18.2%	-0.9	-5.2%	0.2	9.7%	0.4	14.1%
Salford	-0.1	-28.0%	-2.1	-30.1%	-0.3	-17.1%	3.6	40.9%	6.2	22.2%	2.4	17.9%	11.7	34.4%	-0.3	-4.1%	3.0	11.3%	0.5	22.0%	0.3	9.4%
Stockport	-0.1	-17.8%	-2.6	-26.0%	-0.8	-20.0%	2.3	27.0%	2.4	7.7%	1.0	8.8%	7.8	22.9%	-0.8	-17.4%	1.7	6.1%	0.4	17.8%	1.3	20.7%
Tameside	-0.1	-15.6%	-3.1	-28.9%	-0.1	-15.0%	0.2	3.5%	0.5	2.7%	0.2	3.6%	0.2	2.6%	-0.5	-17.4%	-0.5	-2.5%	0.2	7.9%	0.2	6.4%
Trafford	0.0	-16.5%	-2.1	-23.0%	-0.4	-15.3%	2.3	21.7%	4.8	13.2%	0.8	5.5%	12.3	22.4%	-0.5	-12.0%	1.1	5.7%	1.5	18.3%	0.6	18.0%
Wigan	-0.2	-14.6%	-3.5	-27.6%	-0.1	-13.3%	1.0	8.7%	-0.8	-2.9%	0.3	3.9%	3.1	15.6%	-1.1	-17.4%	-0.1	-0.3%	0.4	13.0%	0.5	13.3%
GM	-0.8	-17.9%	-26.7	-26.2%	-3.5	-21.4%	15.7	19.9%	33.9	11.0%	9.8	7.5%	76.9	22.9%	-6.9	-13.1%	13.1	4.5%	6.7	19.8%	6.5	14.8%

Source: GMFM 2016 © Oxford Economics Ltd

Table 11 GMFM 2016 Change in employment levels by occupation ('000s), 2016-2036

<i>Excludes second jobs</i>		Bolton	Bury	Man- chester	Oldham	Rochdale	Salford	Stock- port	Tame- side	Trafford	Wigan	GM
Corporate Managers	No.	0.1	0.1	1.3	-0.2	-0.4	0.2	-0.4	0.5	-0.5	2.0	0.5
	%	1.8%	2.5%	5.8%	-3.7%	-7.0%	2.8%	-8.2%	4.9%	-6.3%	2.4%	4.9%
Managers /Proprietors in agric and services	No.	0.6	0.4	2.4	0.2	0.1	0.8	0.0	0.6	0.2	6.2	0.6
	%	12.8%	12.0%	18.0%	6.2%	2.5%	14.1%	1.2%	11.9%	5.0%	11.7%	11.9%
Science and Technology Prof	No.	0.4	0.2	2.3	0.2	0.0	0.6	-0.1	0.8	0.0	8.8	0.8
	%	11.2%	9.1%	12.6%	5.7%	-0.8%	11.0%	-3.7%	12.2%	1.2%	18.3%	12.2%
Health Professionals	No.	0.5	0.5	2.9	0.3	0.0	0.8	0.1	0.4	0.3	7.8	0.4
	%	9.4%	11.1%	14.4%	6.1%	-1.2%	13.3%	3.7%	10.6%	5.2%	13.5%	10.6%
Teaching and Research Professionals	No.	-0.2	-0.1	-0.3	-0.2	-0.3	-0.1	-0.4	-0.1	-0.4	-1.3	-0.1
	%	-3.8%	-2.6%	-1.5%	-6.0%	-8.1%	-2.8%	-10.2%	-1.4%	-7.7%	-2.3%	-1.4%
Business and Public Service Professionals	No.	1.0	0.5	5.2	0.4	0.1	0.9	0.1	1.5	0.2	15.8	1.5
	%	21.0%	17.0%	19.6%	11.4%	3.9%	15.7%	2.5%	20.2%	6.1%	23.5%	20.2%
Science and Technical Associate	No.	0.0	0	0.2	-0.1	-0.1	0.0	-0.1	0.0	-0.2	0.6	0.0
	%	-3.0%	-2.7%	3.4%	-7.4%	-12.1%	-1.2%	-13.9%	1.7%	-9.9%	3.1%	1.7%
Health Associate Professionals	No.	0.2	0.1	0.6	0.1	0.0	0.2	0.0	0.1	0.1	2.8	0.1
	%	8.4%	8.8%	11.3%	4.2%	0.1%	9.8%	-0.1%	8.4%	3.3%	14.8%	8.4%
Protective Service Occupations	No.	-0.1	-0.1	-0.4	-0.1	-0.1	-0.1	-0.1	-0.3	-0.4	-1.7	-0.3
	%	-13.4%	-11.4%	-11.6%	-14.7%	-16.7%	-13.5%	-18.0%	-10.9%	-16.9%	-11.4%	-10.9%
Culture, Media and Sports Occupations	No.	0.4	0.2	1.8	0.2	0.1	0.5	0.1	0.7	0.1	7.1	0.7
	%	21.9%	16.4%	21.4%	10.3%	5.6%	17.8%	4.4%	19.0%	9.0%	30.4%	19.0%
Business/ Public Services Associate Prof	No.	0.7	0.4	3.7	0.2	0.0	0.9	-0.1	1.4	0.1	15.0	1.4
	%	10.7%	10.1%	12.6%	4.6%	-0.5%	10.1%	-3.2%	12.3%	2.1%	16.8%	12.3%
Administrative Occupations	No.	0.3	0.2	1.8	-0.1	-0.4	0.4	-0.5	0.7	-0.5	3.6	0.7
	%	3.2%	3.6%	5.4%	-2.0%	6.0%	3.1%	-7.9%	5.6%	-5.1%	2.9%	5.6%
Secretarial and Related Occupations	No.	0.2	0.1	1.1	0.0	-0.1	0.3	-0.1	0.3	-0.1	0.3	0.3
	%	7.0%	5.6%	9.8%	0.5%	-4.8%	7.1%	-5.1%	8.4%	-1.9%	0.7%	8.4%
Skilled Agricultural Trades	No.	0.1	0.0	0.2	0.1	0.0	0.2	0.0	0.1	0.0	0.9	0.1
	%	11.4%	7.7%	21.7%	8.4%	0.3%	18.7%	-6.7%	11.9%	4.9%	13.1%	11.9%
Skilled Metal and Electrical Trades	No.	-0.4	-0.2	0.1	-0.4	-0.5	-0.2	-0.7	-0.1	-0.7	-6.1	-0.1
	%	-7.4%	-6.1%	1.3%	-10.3%	-13.7%	-3.6%	-16.6%	-1.9%	-12.4%	-12.8%	-1.9%
Construction and Building Trades	No.	0.6	0.3	0.7	0.4	0.1	0.8	-0.1	0.4	0.2	7.5	0.4
	%	11.0%	10.1%	11.6%	9.1%	4.2%	15.9%	-3.9%	11.2%	2.5%	16.0%	11.2%
Textiles, Printing and other skilled trades	No.	0.0	0.1	1.1	-0.1	-0.2	0.1	-0.2	0.1	-0.2	-1.7	0.1
	%	0.0%	2.5%	13.4%	-4.8%	-8.4%	3.3%	-6.6%	2.2%	-7.2%	-5.9%	2.2%
Caring Personal Service Occupations	No.	0.8	0.8	2.7	0.6	0.0	1.4	0.2	0.8	0.6	15.1	0.8
	%	9.3%	10.7%	13.4%	6.1%	0.2%	13.3%	2.9%	10.9%	5.7%	15.8%	10.9%
Leisure and other personal service	No.	0.3	0.2	2.3	0.2	0.1	0.7	0.1	0.4	0.4	6.1	0.4
	%	10.1%	11.2%	17.5%	6.9%	6.8%	19.2%	3.1%	12.2%	9.9%	17.5%	12.2%
Sales Occupations	No.	0.8	0.7	4.0	-0.1	-0.1	0.7	0.1	1.5	-0.3	5.1	1.5
	%	7.6%	10.2%	15.7%	-0.9%	-1.5%	6.6%	1.0%	11.0%	-3.1%	5.0%	11.0%
Customer Service Occupations	No.	0.3	0.2	1.4	0.1	0.0	0.4	0.0	0.5	0.1	6.2	0.5
	%	10.1%	13.3%	15.3%	7.6%	3.2%	11.1%	0.7%	12.3%	6.3%	19.4%	12.3%
Process, Plant and Machine Operatives	No.	-0.7	-0.3	0.0	-0.7	-0.8	-0.3	-0.9	-0.2	-1.1	-11.8	-0.2
	%	-12.8%	-12.1%	-0.6%	-14.8%	-18.3%	-7.8%	-21.9%	-5.2%	-16.3%	-27.0%	-5.2%
Transport and Mobile Machine Drivers and Operatives	No.	0.0	0.1	0.9	-0.1	-0.1	0.1	-0.2	0.2	-0.1	4.8	0.2
	%	1.0%	4.1%	6.8%	-1.3%	-1.4%	2.9%	-4.6%	3.5%	-2.1%	8.1%	3.5%
Trades, Plant and Storage Related	No.	-0.1	0.0	0.2	-0.1	-0.2	0.0	-0.2	0.0	-0.2	-1.1	0.0
	%	-3.5%	-4.1%	6.4%	-5.6%	-10.5%	2.9%	-15.8%	1.9%	-8.2%	-5.6%	1.9%
Clerical and Services Related	No.	0.8	0.7	6.4	0.4	-0.1	1.6	-0.2	1.5	0.4	14.8	1.5
	%	7.3%	8.7%	16.0%	3.6%	-0.9%	14.1%	-2.5%	8.9%	2.8%	10.9%	8.9%

Source: GMFM 2016 © Oxford Economics Ltd

Table 12 GMFM 2016 Migration and GVA forecasts, Manchester (2016 to 2036)

	2016	2017	2018	2019	2020	2025	2030	2035	2036	Change 2016 to 2036	
										No.	%
Total Net Migration ('000s)	3.3	3.0	2.5	1.7	1.5	0.6	0.2	0.0	-0.1	-3.4	-102.0%
Gross Value Added (£ millions)	16732.0	17104.5	17415.9	17754.6	18174.9	20382.2	22136.4	23934.7	24295.4	7,563.4	45.2%

Source: GMFM 2016 © Oxford Economics Ltd

Table 13 GMFM 2016 Change in workplace-based skills (%), 2016 - 2036

		Level 4/5	Level 3	Level 2	Level 1	No quals	Other
		Percentage/percentage point					
Bolton	2016	30.4%	18.1%	16.9%	14.4%	9.2%	11.0%
	2036	31.8%	19.3%	14.6%	12.7%	12.6%	9.0%
	% point difference	1.3	1.2	-2.3	-1.7	3.5	-2.0
Bury	2016	32.3%	18.4%	17.4%	13.8%	8.2%	10.0%
	2036	33.4%	19.9%	14.9%	12.1%	11.5%	8.2%
	% point difference	1.1	1.5	-2.4	-1.7	3.3	-1.8
Manchester	2016	46.3%	15.6%	12.7%	10.3%	7.3%	7.7%
	2036	47.2%	16.5%	10.7%	8.9%	10.6%	6.1%
	% point difference	0.9	0.8	-2.0	-1.4	3.3	-1.6
Oldham	2016	29.1%	17.3%	16.3%	14.6%	9.7%	13.1%
	2036	30.2%	18.6%	14.3%	13.1%	13.0%	10.8%
	% point difference	1.1	1.3	-2.0	-1.5	3.4	-2.3
Rochdale	2016	26.8%	17.8%	17.1%	15.1%	9.7%	13.4%
	2036	27.9%	19.1%	15.3%	13.7%	12.8%	11.1%
	% point difference	1.0	1.3	-1.8	-1.3	3.1	-2.3
Salford	2016	37.9%	16.5%	15.8%	12.8%	7.8%	9.3%
	2036	38.9%	17.4%	13.6%	11.2%	11.1%	7.8%
	% point difference	1.1	0.9	-2.2	-1.6	3.3	-1.5
Stockport	2016	35.8%	17.5%	16.2%	13.7%	7.8%	9.0%
	2036	36.9%	18.7%	13.8%	11.9%	11.2%	7.5%
	% point difference	1.1	1.2	-2.4	-1.8	3.4	-1.5
Tameside	2016	27.9%	17.4%	17.4%	15.7%	9.0%	12.7%
	2036	29.1%	18.8%	15.2%	13.9%	12.4%	10.6%
	% point difference	1.2	1.5	-2.2	-1.8	3.4	-2.2
Trafford	2016	36.7%	17.7%	16.3%	13.4%	8.1%	7.9%
	2036	37.9%	18.7%	13.9%	11.7%	11.6%	6.3%
	% point difference	1.2	1.0	-2.4	-1.7	3.5	-1.6
Wigan	2016	26.7%	18.1%	18.7%	16.2%	8.8%	11.5%
	2036	27.9%	19.6%	16.5%	14.7%	11.7%	9.7%
	% point difference	1.2	1.5	-2.2	-1.6	2.9	-1.9
GM	2016	35.8%	17.1%	15.8%	13.3%	8.3%	9.9%
	2036	37.1%	18.1%	13.5%	11.6%	11.6%	8.0%
	% point difference	1.3	1.1	-2.2	-1.6	3.3	-1.8

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Table 14 Examples of qualifications for each NVQ level

NVQ Level	Qualification
No qualifications	No formal qualifications held
NVQ 1 equivalent	Fewer than 5 GCSEs at grades A-C, foundation GNVQ, NVQ 1, intermediate 1 national qualification (Scotland) or equivalent
NVQ 2 equivalent	5 or more GCSEs at grades A-C, intermediate GNVQ, NVQ 2, intermediate 2 national qualification (Scotland) or equivalent
NVQ 3 equivalent	2 or more A levels, advanced GNVQ, NVQ 3, 2 or more higher or advanced higher national qualifications (Scotland) or equivalent
NVQ 4 equivalent and above	HND, Degree and Higher Degree level qualifications or equivalent