

SECTION TWO

Projected Net New Jobs, Replacement Jobs, and Total Job Openings

Occupational Employment 2012

In 2012, there were 3.347 million jobs in the Commonwealth scattered over 675 specific occupations. At the most aggregated level in our analysis — 2-digit Occupation Codes — these 675 occupations are found in twenty-two (22) broad occupations. The largest of these “2-digit” occupations was Office and Administrative Support Occupations with total employment of more than 497,000 or nearly 15 percent of the state’s job base. This single broad occupation group accounted for nearly one in seven jobs in Massachusetts. The second largest broad occupation sector was Sales and Related Occupations employing more than 341,000 workers. These were followed by Food Preparation and Serving Related Occupations (281,000 jobs) and Healthcare Practitioners and Related Technical Occupations (225,000). (See Table 1) Altogether these top four broad occupations included one-third of all Massachusetts employees.

Other broad occupation groups with at least 200,000 employees included:

- Management Occupations - 222,774
- Education, Training, and Library Occupations - 205,501
- Business & Financial Operations Occupations - 201,823

Following these were a number of traditional “blue collar” occupations including:

- Production Occupations - 160,645
- Transportation & Material Moving Occupations - 159,535
- Construction & Extraction Occupations - 116,411

Note that these three “traditional” occupations still account for 436,000 jobs in the Commonwealth. One in eight workers in Massachusetts is employed in these blue collar fields.

Table 1 also provides data on the change in projected employment between 2012 and 2022. Overall, we project a net growth in employment of nearly 382,000 jobs — an 11.4 percent increase in total employment during this decade. This compares with a growth of 7.6 percent between April 2005 and April 2015, a period that included the Great Recession. The 2012-2022 projection is premised on relatively steady growth in the Massachusetts economy based on its recent history of economic strength.

The two broad occupations with the most projected jobs are Food Preparation and Serving Related Occupations and Healthcare Practitioners and Technical Occupations. This is consistent with the expectation that upward trends in restaurant patronage and healthcare usage will continue apace. Each of these broad occupations is expected to generate more than 40,000 additional jobs or 4,000 net new jobs per year. Other fast growing occupations include:

- Business & Financial Operations Occupations (+29,110)
- Computer & Mathematical Occupations (+28,034)
- Personal Care & Service Occupations (+28,032)
- Office & Administrative Support Occupations (+26,695)

In contrast, our projections suggest that the number of workers in legal occupations will expand by fewer than 320 per year while there will be an absolute loss in production jobs averaging 460 per year. This loss in production jobs is expected given huge increases in productivity throughout much of the manufacturing sector. Thus, while total output in the production occupations may increase, new technology makes it possible to produce this output with fewer production workers.

SECTION 2, TABLE 1

2-Digit Occupations Arrayed By 2012 Employment Level

	Occupation Type	Employment 2012	Employment 2022	10-Year Change in Employment	Rank by Growth
430000	Office and Administrative Support Occupations	497,406	524,101	+26,695	6
410000	Sales and Related Occupations	341,489	364,632	+23,143	9
350000	Food Preparation and Serving Related Occupations	280,707	327,050	+46,343	1
290000	Healthcare Practitioners and Related Technical Occupations	225,025	265,514	+40,489	2
110000	Management Occupations	222,774	248,020	+25,246	7
250000	Education, Training, and Library Occupations	205,501	227,173	+21,672	11
130000	Business and Financial Operations Occupations	201,823	230,933	+29,110	3
510000	Production Occupations	160,645	156,051	-4,594	22
530000	Transportation and Material Moving Occupations	159,535	173,198	+13,663	13
150000	Computer and Mathematical Occupations	143,366	171,400	+28,034	4
470000	Construction and Extraction Occupations	116,411	139,931	+23,520	8
370000	Building and Grounds Cleaning and Maintenance Occupations	112,240	123,333	+11,093	14
390000	Personal Care and Service Occupations	108,631	136,663	+28,032	5
310000	Healthcare Support Occupations	104,853	127,467	+22,614	10
490000	Installation, Maintenance, and Repair Occupations	102,082	110,938	+8,856	15
210000	Community and Social Services Occupations	74,919	89,046	+14,127	12
330000	Protective Service Occupations	74,435	79,585	+5,150	17
170000	Architecture and Engineering Occupations	73,179	76,744	+3,565	19
270000	Arts, Design, Entertainment, Sports, and Media Occupations	60,379	65,357	+4,978	18
190000	Life, Physical, and Social Science Occupations	49,412	56,052	+6,640	16
230000	Legal Occupations	31,254	34,425	+3,171	20
450000	Farming, Fishing, and Forestry Occupations	1,154	1,217	+63	21
TOTALS	All Occupations	3,347,220	3,717,830	381,610	

SOURCE: Projections based on U.S. Bureau of Labor Statistics Employment Projections Series

Replacement Workers

Net employment growth does not take into account the need for workers who will obtain jobs as replacements for those who are retiring, moving out of state, or leaving a particular occupation for other work within the Commonwealth. Given the rapid aging of Massachusetts's population, there will be the need for a large number of workers to fill existing occupational positions. Indeed, as **Table 2** indicates, the number of projected total replacement workers between 2012 and 2022 is expected to reach nearly 780,000 — more than twice as many as net new job positions. Altogether, counting new jobs + replacements jobs will require training of nearly 1.2 million workers by 2022.

This does NOT mean that the Commonwealth will need to find an additional 780,000 workers to fill these positions because a significant share of these replacements will come from already employed workers moving from one broad occupation to another. But it does mean that these reemployed workers will need at least some training to be able to perform work in their new occupations.

Altogether, we project that by 2022 nearly 1.2 million workers will need to learn new skills to either take brand new jobs or gain employment as replacements for those who retire, leave the state for other regions, or move to other occupations within the Commonwealth.

Not surprisingly, the broad occupations requiring the most replacement workers are found in the Food Preparation & Serving Related Occupations, Office & Administrative Support Occupations, and Sales & Related Occupations. All of these are in industries which normally have a high turnover of employees.

But there are a number of occupations where the total employment change is expected to be modest, but nonetheless there will be the need for many replacement workers. In this category, Production Workers stand out.

While we project a 10-year net loss of nearly 4,600 such jobs, there will an expected need for nearly 32,000 replacement workers primarily for those retiring from manufacturing. The number of replacement workers in Protective Service Occupations will be four times the growth in net employment. The number of replacement workers in Architecture and Engineering Occupations will be nearly five times the number of net new positions.

What this suggests is that simply looking at employment growth misses two-thirds of the action in the labor market.

779,410 Projected total replacement workers between 2012 and 2022

1.2 M Workers will require training by 2022

+32,000 Expected need for replacement workers for retiring production employees

4 x More replacement openings than net job openings in Protective Service Occupations

5 x More replacement openings than net job openings in Architecture and Engineering Occupations

Appendix A provides data on projected net employment growth, projected replacements, and total job growth for all 675 detailed 5-digit occupation codes.

SECTION 2, TABLE 2

2-Digit Occupations by 2012-2022 Replacement Openings & Total Openings

TABLE 2

SOC	Occupation Type	10-Year Change in Employment	10-Year Change in Replacements	10-Year Change in Total Openings
350000	Food Preparation and Serving Related Occupations	46,343	107,020	153,360
430000	Office and Administrative Support Occupations	26,695	107,040	133,740
410000	Sales and Related Occupations	23,143	102,170	125,310
290000	Healthcare Practitioners and Technical Occupations	40,489	46,440	86,930
130000	Business and Financial Operations Occupations	29,110	42,040	71,150
110000	Management Occupations	25,246	44,810	70,060
250000	Education, Training, and Library Occupations	21,672	43,840	65,510
150000	Computer and Mathematical Occupations	28,034	22,470	50,500
390000	Personal Care and Service Occupations	28,032	22,350	50,380
530000	Transportation and Material Moving Occupations	13,663	35,810	49,470
470000	Construction and Extraction Occupations	23,520	19,170	42,690
310000	Healthcare Support Occupations	22,614	19,980	42,590
510000	Production Occupations	-4,594	31,890	27,300
370000	Building and Grounds Cleaning and Maintenance Occupations	11,093	22,910	34,000
490000	Installation, Maintenance, and Repair Occupations	8,856	23,640	32,500
210000	Community and Social Service Occupations	14,127	17,050	31,180
330000	Protective Service Occupations	5,150	20,500	25,650
170000	Architecture and Engineering Occupations	3,565	17,450	21,020
190000	Life, Physical, and Social Science Occupations	6,640	13,650	20,290
270000	Arts, Design, Entertainment, Sports, and Media Occupations	4,978	13,820	18,800
230000	Legal Occupations	3,171	5,030	8,200
450000	Farming, Fishing, and Forestry Occupations	63	330	390
Totals	All Occupations	381,610	779,410	1,161,020

SOURCE: Projections based on U.S. Bureau of Statistics Projections Series