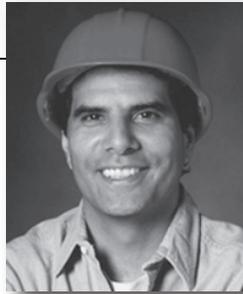
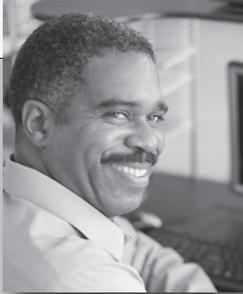


# Minnesota Job Outlook to 2016



Total employment in Minnesota is projected to increase by 291,000 jobs between 2006 and 2016 reaching almost 3.3 million jobs by 2016 according to recently released 2006–2016 Minnesota employment projections.<sup>1</sup> The projected increase is slightly greater than the 280,000 jobs added during the previous 10-year period, 1996-2006. The rate of job growth, however, is expected to be a bit slower over the next 10 years compared to the previous 10 years. Minnesota’s employment base increased by 10.4 percent over the 1996-2006 period. Employment expansion over the 2006-2016 period is expected to be 9.8 percent.

Minnesota’s long-term or 10-year employment projections are based primarily on national projections updated every two years by the Bureau of Labor Statistics (BLS).<sup>2</sup> BLS projects gross domestic product (GDP) growth to average 2.8 percent annually during the 2006-2016 projection period, down from the 3.1 percent average annual increase realized during the 1996-2006 period.

<sup>1</sup>Detailed 2006 – 2016 occupational and industry employment projections for Minnesota can be found at [www.positivelyminnesota.com/lmi/tools/projections/default.aspx](http://www.positivelyminnesota.com/lmi/tools/projections/default.aspx) .

<sup>2</sup>BLS’s main projection website is [www.bls.gov/emp/home.htm](http://www.bls.gov/emp/home.htm) .

Minnesota, along with all the other states, customizes national projections to reflect the unique industrial, occupational and demographic mix of the individual state. Historical employment trends for 290 industries in Minnesota are compared to corresponding national industry employment trends using both time-series and regression models. The models are used along with BLS's projections of national industry employment to produce industry projections for Minnesota.

Projected industry employment is converted into occupational employment projections based on industry staffing patterns—

the distribution of industry employment across occupations. Staffing patterns for Minnesota industries are developed from estimates of occupational employment collected by the Minnesota Salary Survey, which is a product of the Occupational Employment Statistics (OES) program.<sup>3</sup> Projections on 10-year changes in industry staffing patterns are provided by the BLS projections research team.

The main goal of employment projections is to provide details on projected job growth and employment prospects for approximately 790 occupations in Minnesota. Projections of

future job growth at the national, state and substate level are widely used in career guidance, in planning education and training programs, and in workforce development efforts in the private and public sectors.

Changes in the demand for goods and services, productivity advances, technological innovations and shifts in business practices combine to alter occupational employment demand and affect job prospects. The expected expansion of health care services over the next 10 years is an unswerving example of how changes in the demand for goods and services fuel demand for particular

Table 1

## Minnesota Employment Outlook by Major Occupational Groups

Major Occupational Group	2006 Estimated Employment	2016 Projected Employment	2006 - 2016 Percent Change	2006 - 2016 Numeric Change
	2,961,560	3,252,560	9.8	291,000
Professional and Related Occupations	598,385	697,550	16.6	99,165
Service Occupations	569,244	665,841	17.0	96,597
Management, Business, and Financial	352,279	387,955	10.1	35,676
Office and Administrative Support	452,802	478,578	5.7	25,776
Sales and Related Occupations	300,895	320,446	6.5	19,551
Construction and Extraction	136,811	147,029	7.5	10,218
Installation, Maintenance, and Repair	102,318	108,787	6.3	6,469
Transportation and Material Moving	182,735	186,537	2.1	3,802
Farming, Fishing, and Forestry	21,605	21,851	1.1	246
Production Occupations	244,486	237,986	-2.7	-6,500

Source: Minnesota Employment Projections, 2006-2016, Minnesota Department of Employment and Economic Development

<sup>3</sup>Information on the Minnesota Salary Survey is available at [www.positivelyminnesota.com/lmi/tools/oes/default.aspx](http://www.positivelyminnesota.com/lmi/tools/oes/default.aspx).

occupations. As the baby boom generation enters its senior years, demand for health care services will steadily increase.

BLS expects expenditures on health care and social assistance services to jump 3.6 percent each year through 2016 compared to the 2.8 percent annual growth of GDP. Increasing health care service expenditures will in turn boost the demand for workers in health-care-related jobs like registered nurses, pharmacists, dental assistants and home health aides both nationally and in Minnesota.

While most occupations will experience varying rates of employment growth over the next 10 years, 21 percent of occupations, or 168 out of 790 occupations, are projected to decline. Declining occupations are concentrated primarily in production occupations and to a lesser extent in office and administrative support jobs. Occupations expected to see the most job decline over the next 10 years are stock clerks and order fillers, cashiers, hand packers, farmers, order clerks and file clerks.

• Employment projections attempt to incorporate all the demands, business practices, production methods and technology trends, but trends can and do change unexpectedly. Offshoring, the practice of U.S. firms sending service-related work overseas, is one such trend that will affect job opportunities in a number of occupations in the future. Occupations that are most likely to be at risk for offshoring have been identified by the BLS.<sup>4</sup> Projected job growth rates for occupations likely to be offshored, such as information technology occupations, have been scaled back from previous projection rounds.

• Jobs as cashiers, an occupation that only a few years ago was projected to see steady growth, are now projected to decrease slightly in the future as the increasing adoption of self-service checkout systems and the rising popularity of online shopping combine to dampen demand for cashiers. The technology behind the Internet replaces the retail store cashier with a warehouse worker filling orders received by a computer. Improved technology in self-service checkout systems allows retail stores to reduce labor costs

• by hiring fewer cashiers and asking customers to do their own cashiering.

• Minnesota's total employment is projected to increase 9.8 percent over the 2006-2016 period, or a tad under the 10.4 percent projected increase for U.S. employment. Minnesota's employment growth also lagged the national pace over the previous 10 years, increasing 10.4 percent in Minnesota and 11.8 percent nationally between 1996 and 2006.

• The two largest major occupational groups in Minnesota—professional and related occupations; and service occupations—will increase the fastest and add the most jobs in Minnesota from 2006 to 2016 (see Table 1). These two major occupational groups, which tend to have occupations at the opposite ends of the educational attainment and earnings range, are projected to account for more than two-thirds of all employment growth over the next 10 years. Employment in management, business and financial occupations is also projected to grow faster than overall employment growth.



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<sup>4</sup>[www.bls.gov/emp/optd/optd002.pdf](http://www.bls.gov/emp/optd/optd002.pdf).

Table 2

<b>Projected Fastest Growing Occupations - Minnesota</b>		
	<b>2006 - 2016 Percent Change</b>	<b>2006 - 2016 Numeric Change</b>
Personal and Home Care Aides	60.3	17,675
Network Systems and Data Communications Analysts	51.4	2,943
Home Health Aides	46.7	11,688
Veterinary Technologists and Technicians	43.8	780
Computer Software Engineers, Applications	40.6	6,538
Veterinarians	38.5	514
Community and Social Service Specialists	38.0	2,095
Cardiovascular Technologists and Technicians	35.4	299
Social and Human Service Assistants	34.3	6,278
Surgical Technologists	33.9	560
Mental Health and Substance Abuse Social Workers	33.6	740
Medical Assistants	33.5	1,910
Mental Health Counselors	33.3	649
Pharmacy Technicians	32.9	1,816
Substance Abuse and Behavioral Disorder Counselors	32.7	756
Skin Care Specialists	32.3	167
Physical Therapist Assistants	31.6	338
Respiratory Therapists	31.4	356
Residential Advisors	31.3	181
Environmental Science and Protection Technicians	31.2	198
Physician Assistants	30.8	397
Post Secondary Foreign Language and Literature Teachers	30.4	184
Self-Enrichment Education Teachers	30.2	760
Registered Nurses	29.4	14,987
Environmental Engineers	28.4	145
Diagnostic Medical Sonographers	27.9	260
Interpreters and Translators	27.7	243
Dental Hygienists	27.6	974
Fitness Trainers and Aerobics Instructors	27.5	1,189
Postsecondary Computer Science Teachers	27.4	165
Dental Assistants	27.2	1,466
Personal Financial Advisors	26.9	482
Postsecondary Vocational Education Teachers	26.6	859
Physical Therapists	25.9	750
Social and Community Service Managers	25.8	675
Postsecondary Nursing Instructors and Teachers	25.8	196
Occupational Therapists	25.7	532
Postsecondary Business Teachers	25.5	420
Radiologic Technologists and Technicians	25.0	1,056
Biomedical Engineers	24.2	165
Financial Analysts	24.0	1,216
Services Sales Representatives	23.9	3,142
Computer Systems Analysts	23.9	2,150
Anesthesiologists	23.9	194
Database Administrators	23.7	678
Postsecondary Health Specialties Teachers	23.5	329
Pharmacists	23.4	1,102
Network and Computer Systems Administrators	23.3	2,026
Industrial Engineers	23.3	1,483
Instructional Coordinators	23.3	422

Source: Minnesota Employment Projections, 2006-2016, Minnesota Department of Employment and Economic Development

Table 3

<b>Projected Occupations Adding the Most Jobs - Minnesota</b>		
	<b>2006 - 2016 Percent Change</b>	<b>2006 - 2016 Numeric Change</b>
Personal and Home Care Aides	60.3	17,675
Registered Nurses	29.4	14,987
Home Health Aides	46.7	11,688
All Other Business Operations Specialists	22.4	11,101
Combined Food Preparation and Serving Workers	17.2	10,080
Retail Salespersons	11.2	9,352
General Office Clerks	11.1	8,170
Customer Service Representatives	20.4	7,938
Computer Software Engineers, Applications	40.6	6,538
Social and Human Service Assistants	34.3	6,278
Janitors and Cleaners	14.1	6,262
Waiters and Waitresses	10.1	4,925
Accountants and Auditors	16.1	4,396
Bookkeeping, Accounting, and Auditing Clerks	10.6	4,204
Executive Secretaries and Administrative Assistants	13.8	4,181
Nursing Aides, Orderlies, and Attendants	12.2	3,591
Receptionists and Information Clerks	14.0	3,539
Maids and Housekeeping Cleaners	13.4	3,435
Child Care Workers	11.2	3,237
Services Sales Representatives	23.9	3,142
Network Systems and Data Communications Analysts	51.4	2,943
Landscaping and Groundskeeping Workers	18.9	2,920
Heavy and Tractor-Trailer Truck Drivers	7.7	2,745
Elementary School Teachers	10.4	2,556
Carpenters	8.1	2,398
Restaurant Cooks	12.1	2,182
Computer Systems Analysts	23.9	2,150
Management Analysts	17.4	2,125
Community and Social Service Specialists	38.0	2,095
Licensed Practical and Licensed Vocational Nurses	10.7	2,061
Network and Computer Systems Administrators	23.3	2,026
Tellers	20.2	2,009
Medical Assistants	33.5	1,910
Pharmacy Technicians	32.9	1,816
Amusement and Recreation Attendants	18.0	1,757
First-Line Supervisors/Managers of Food Preparation	10.1	1,715
Wholesale and Manufacturing Sales Representatives	5.3	1,705
Teacher Assistants	5.9	1,699
Counter and Rental Clerks	16.5	1,640
Lawyers	10.0	1,625
Security Guards	12.0	1,570
Medical Secretaries	18.7	1,558
General Maintenance and Repair Workers	9.7	1,534
Securities, Commodities, and Financial Services Salespersons	17.9	1,485
Industrial Engineers	23.3	1,483
Hairdressers, Hairstylists, and Cosmetologists	10.9	1,480
All Other Managers	10.7	1,474
Dental Assistants	27.2	1,466
Food Preparation Workers	11.1	1,455
Child, Family, and School Social Workers	17.4	1,378

Source: Minnesota Employment Projections, 2006-2016, Minnesota Department of Employment and Economic Development

All major occupational groups, except the production group, are expected to add jobs between 2006 and 2016. Production occupations are concentrated in Minnesota's manufacturing sector, which is expected to see employment decrease by 5.6 percent over the projection period. Job growth in farming, fishing and forestry occupations and in transportation and material moving occupations, however, will be modest.

While 25 of the 55 office and administrative support occupations will experience decline, the other 30 office and administrative support occupations are expected to expand leading to a larger office and administrative support workforce by 2016. The expected increase in office and administrative support occupations is nearly half that of overall job growth but employment in this group will still expand by nearly 26,000 jobs during the next 10 years since office and administrative jobs exist in almost every industry across the state.

Sales and related occupations, construction and extraction occupations and installation, maintenance and repair occupations are all projected to grow, but job growth for these jobs will be 30 to 50 percent slower than average job growth.

Job growth is predicted to be concentrated in the 359 occupations that are projected to grow faster than overall employment. The faster growing occupations are anticipated to account for 87 percent of job growth. The remaining 13 percent

of employment growth is expected to occur across 262 occupations that will add workers but at a slower pace than the projected average of 9.8 percent. Roughly 37,000 positions are expected to be lost across 168 occupations. The declining occupations accounted for 530,800 jobs in 2006 or roughly 18 percent of 2006 employment. These occupations are anticipated to account for 15 percent of all jobs by 2016.

The top 50 occupations, in terms of the number of jobs, accounted for approximately 50 percent of all employment in Minnesota in 2006. The largest occupations range from retail salespersons (83,300 jobs) to sales representatives of services (13,200). Employment growth in these large occupations will generate more than half of the new jobs. Seven of the largest occupations, however, are expected to see their workforce numbers shrink—farmers; stock clerks and order fillers; hand packers and packagers; first-line supervisors of production and operating workers; cashiers; hand freight, stock and material movers; and farm workers and laborers. The top 50 fastest growing occupations, among occupations with employment of more than 500 workers in 2006, combined for less than 10 percent of the 2006 employment base but are anticipated to account for over 28 percent of jobs created over the next 10 years.

As presented above, projected employment growth can be viewed from two perspectives—percent change and numerical change. Some occupations



that started with a large number of jobs in 2006 are projected to grow slower than overall employment growth but will add a large number of jobs by 2016. Other occupations that had a relatively small number of workers in 2006 are projected to grow rapidly over the next 10 years but will add relatively few new jobs. The distinction between occupations with fast employment growth and occupations expected to add the most jobs is apparent when the 20 fastest growing occupations (Table 2) are compared to the 20 occupations expected to add the most jobs (Table 3).

Only 14 occupations such as personal and home care aides; computer software application engineers; home health aides; and social and human service assistants make both lists. Fast

growing occupations tend to be in health care or education or information technology occupations. Occupations adding the most jobs tend to be occupations that are spread across most industries, have a relatively large base of employees in 2006, and are projected to experience average employment growth over the next 10 years.

Job opportunities tend to be better in occupations that are growing, but new openings created by employment growth are only part of the future job opportunity story. The chance of scoring a job in a particular occupation also depends on how many workers are leaving the occupation and how many job seekers are looking to enter that occupation.

Table 4

### Most Net Replacement Openings - Minnesota

	Net Replacement Openings 2006 - 2016	Job Openings from Employment Growth 2006 - 2016
Cashiers	30,670	-3,362
Waiters and Waitresses	26,490	4,925
Retail Salespersons	25,640	9,352
Office Clerks, General	13,480	8,170
Hand Laborers and Freight, Stock & Material Movers	11,610	-716
Combined Food Preparation and Serving Workers	11,120	10,080
Customer Service Representatives	10,830	7,938
Janitors and Cleaners	8,500	6,262
Stock Clerks and Order Fillers	8,470	-3,840
Registered Nurses	8,410	14,987
General and Operations Managers	8,370	13
Child Care Workers	8,300	3,237
Team Assemblers	7,140	649
Wholesale and Manufacturing Sales Representatives	7,110	1,705
Secondary School Teachers	6,520	612
Heavy and Tractor-Trailer Truck Drivers	6,330	2,745
Bookkeeping, Accounting and Auditing Clerks	6,220	4,204
Receptionists and Information Clerks	6,190	3,539
First-Line Supervisors/Managers of Office and Administration Support	5,860	1,099
Bartenders	5,680	811

Source: Minnesota Employment Projections, 2006-2016, Minnesota Department of Employment and Economic Development

In 2006, an estimated 83,300 workers were employed in Minnesota's largest occupation, retail salespersons. By 2016 the state is expected to have nearly 92,600 retail salespersons. The 9,300 new retail salesperson jobs expected over the next 10 years will represent only 10 percent of all retail salesperson jobs in 2016; the other 90 percent of retail salesperson jobs already exist. Many of the 83,000 individuals working as retail salespersons in 2006, however, will not be working as retail salespersons in 2016. Workers will switch occupations, retire or leave the labor force for other reasons thereby creating retail salesperson job openings. An estimated 25,600 net replacement openings for retail salespersons will develop during the next 10 years as current retail salespersons leave the occupation. For most occupations the number of job openings arising from the need to replace workers, net replacement openings, is projected to be higher than job openings from employment growth.

Even occupations that are expected to decline in numbers over the next 10 years will have replacement openings. There will be fewer file clerks employed in Minnesota in 2016 than in 2006 (2,400 vs. 4,000), but some of the file clerks in 2016 will be new to the occupation, having been hired to fill replacement openings. Just over 1,000 workers are projected to be needed to meet net replacement demand for file clerks over the next 10 years.

Because of the importance of replacement needs, estimates of net replacement openings for each occupation over the next 10 years are included in the 2006–2016 employment projections for Minnesota. Net replacement openings, entrants minus separations, are based on nationwide census data that track the entrants and separations of an occupation by age cohorts. The net replacement opening estimates understate the total number of job openings in an occupation but are the best estimates of job openings available to new labor force entrants.

In addition to the 291,000 job openings projected to be created through employment growth over the next 10 years, 650,000 net replacement openings are projected. Occupations with a high number of net replacement openings tend to be occupations with large employment bases in 2006 and high turnover rates (see Table 4). About 70 percent of the occupations are projected to have more net replacement openings than openings from employment growth. Net replacement openings need to be included when exploring the future prospects of any occupation. The need to fill replacement openings will only increase over the next decade as the first wave of baby boomers begins to retire.

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