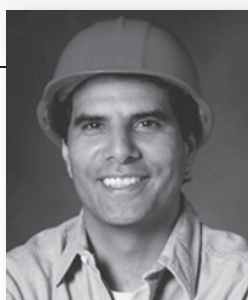


Minnesota Job Outlook to 2016



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.¹ 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).² 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.

¹Detailed 2006 – 2016 occupational and industry employment projections for Minnesota can be found at www.positivelyminnesota.com/lmi/tools/projections/default.aspx .

²BLS's main projection website is 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.³ 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

³Information on the Minnesota Salary Survey is available at 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.⁴ 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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⁴www.bls.gov/emp/optd/optd002.pdf.

Table 2

| Projected Fastest Growing Occupations - Minnesota | | |
|--|---------------------------------------|---------------------------------------|
| | 2006 - 2016 Percent Change | 2006 - 2016 Numeric Change |
| 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

| Projected Occupations Adding the Most Jobs - Minnesota | | |
|---|---------------------------------------|---------------------------------------|
| | 2006 - 2016 Percent Change | 2006 - 2016 Numeric Change |
| 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



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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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