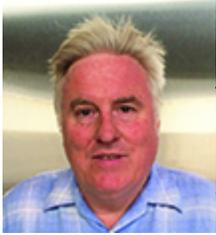


## Job Outlook to 2028

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The prime goal of employment projections is to provide details on projected job growth and employment prospects for 806 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. Since labor force growth is expected to be sluggish over the next decade resulting in labor shortages, workforce development will be more important than ever in achieving a healthy economy.

Changes in demand for goods and services, productivity advances, technological innovations, and shifts in business practices all combine to alter the mix of occupations that employers will be looking to fill over the next 10 years even with only moderate economic growth. While long-term impacts of the COVID pandemic will likely alter Minnesota's labor market through the above channels of change, the projections presented here do not account for pandemic related changes that may occur over the long run. As of now there is just too much uncertainty over how the pandemic will affect the state's economy. Look to the next round of long-term projections, 2020 – 2030, to incorporate likely long-term pandemic related changes in labor demand and supply across industries and occupations. [1]

One long-term trend that is known for sure is the ongoing retirement of the Baby Boomers over the next 10 years. The Baby Boomer retirement is currently and will continue to slow labor force growth in Minnesota which will heavily influence employment opportunities in the state. An additional factor in Minnesota's slowing labor force growth is the tailing off of immigration. Most of Minnesota's labor force growth over the last 10 years was generated from foreign-born workers. [2] Any permanent reduction in immigration will add to the state's waning labor force growth. Job openings arising from retirements and occupational transfers will be much larger than job openings created by employment growth for most occupations.

Total jobs in Minnesota are projected to increase by 149,250 between 2018 and 2028, reaching almost 3.3 million jobs by 2028 according to recently released 2018 – 2028 Minnesota employment projections. [3] The projected employment growth is about 18 percent below the previous decade (2008 - 2018) when the state added 183,000 jobs with most of the growth occurring from 2011 to 2018 as the state's job market rebounded from the Great Recession which bottomed out in the middle of 2009. Job expansion from 2008 to 2018 was trimmed by steep job cutbacks experienced during the Great Recession in 2007-2009 but was boosted by the longest U.S. economic expansion on record that began in mid-2009 and ended when the pandemic hit.

Job creation in the state over the next decade will also come up short of the previous decade (1998-2008) when 165,100 jobs were added even with a mild recession in 2001. Job growth nationally and in Minnesota will be limited by slow labor force growth as the Baby Boomers continue to retire and population growth falls off. Minnesota's labor force participation inched up to 70.3 in 2019 before the pandemic arrived but remained way below its 2000 peak of 75.4 percent. The state's labor force participation rate will rebound quickly, dropping off steeply when the pandemic hit, but eventually will gradually inch down even after the job market tightens post-pandemic. Any uptick in labor force participating over the next 10 years will be minimal as Baby Boom retirements limit any significant increase over the long run.

When Baby Boomers entered the labor force between 1964 and 1980, they replaced a much smaller older generation in the workforce thus generating robust labor force expansion. A steady increase in female labor force participation between 1960 and 2000 boosted labor force growth even higher before it flattened out in 2000. Since Millennial numbers are just slightly larger than Baby Boomers, labor force growth will be subdued as Millennials replace Baby Boomers in the labor force. Unless net immigration into the state increases significantly in the near future, the state's labor force will record minimal growth between 2018 and 2028.

Projected jobs include wage and salary employment as well as self-employment with all jobs measured on an annual average basis. Wage and salary employment include both full-time and part-time jobs. Self-employment jobs include only jobs that workers spend most of their time at. Thus, many of the side or gig jobs held by workers are not included in projections employment. Wage and salary employment increased 7.5 percent from 2008 to 2018 while self-employed employment declined 11.3 percent over the same period. A quarter of the drop off in self-employed was declining farmer numbers while the rest of the decline was spread across numerous industries. The breakdown of projection employment in 2018 was 96 percent wage and salary jobs compared to 4 percent self-employed jobs.

Job growth has averaged 1.4 percent since 2011 when the jobs market began to rebound from the Great Recession but dipped below 1 percent since 2017. Job growth will be strong during the second half of 2020 and into 2021 as the economy recovers from the pandemic induced recession but will then slow, averaging 0.4 percent annually between 2018 and 2028. Most of the projected job expansion will occur over the next five years before tailing off during the second half of the decade as Baby Boomer retirements slow labor force growth and restrict job growth. The moderate job growth combined with slower labor force growth will eventually push Minnesota's unemployment rate down from the pandemic generated elevated rates. Unemployment in the state is likely to hover or fall slightly below 3 percent by the late 2020s.

Minnesota's long-term industry and occupational employment projections (10-year timeframe) rely heavily on national industry and occupational employment projections produced by the U.S. Department of Labor's Bureau of Labor Statistics (BLS). [4] Minnesota, along with most other states, customizes national projections to reflect state specific industrial, occupational, and demographic traits and trends. Historical employment trends (from 1988 – 2018) for 290 industries in Minnesota are compared to corresponding national industry employment trends using statistical techniques. The models produced are used with BLS's projections of 2028 national industry employment to produce 2028 industry projections for Minnesota.

The key macroeconomic assumptions driving the 2018-2028 national industry projections are:

1. Gross Domestic Product (GDP) growth will average 1.8 percent annually during the 10-year period matching the 1.8 percent annual average over the previous 10 years. GDP growth was much stronger from 1998 to 2008, advancing 2.9 percent annually, caused by faster labor force growth and higher productivity gains.
2. Productivity growth will increase slightly over the next 10 years, averaging 1.5 percent between 2018 and 2028 compared to the 1.3 percent average experienced between 2008 and 2018. The 1.5 percent annual productivity gain will be down from the 2.7 percent achieved between 1996 and 2006.
3. U.S. labor force growth will inch up over the next 10 years, averaging 0.5 percent a year compared to the 0.6 percent annual average of the previous 10 years. Labor force growth between 1996 and 2006 averaged 1.1 percent annually.
4. Unemployment will average 4.6 percent in 2028, which will be roughly half way between the 7.0 percent in 2008 and 3.9 percent in 2018.

Projected industry employment is converted to occupational employment projections based on industry staffing patterns, which are a distribution of industry employment across occupations. Staffing patterns for Minnesota industries are developed from estimates of occupational employment collected through the Minnesota Wage and Salary Survey, which is a product of the Occupational Employment Statistics (OES) program. [5] Shifts in staffing patterns over the 2018 – 2028 period across industries are also projected as part of the BLS national projections. These shifts in staffing patterns are used in Minnesota's projections. The shifts project which occupations within an industry will be increasing or decreasing as a percent of total industrial employment.

A majority of occupations, 566 in all, will experience employment growth over the next 10 years in Minnesota. The expected expansion of healthcare services over the next decade is a prime example of how changes in the demand for goods and services fuel demand for particular occupations. As the Baby Boomer generation enters its senior years, demand for healthcare services will increase steadily. Increasing healthcare service expenditures will in turn boost the demand for workers in healthcare related jobs like personal care aides, home health aides, physician assistants, and phlebotomists both nationally and in Minnesota.

Twenty-one occupations are expected to see no change in the number of workers. These are small specialized occupations (less than 1,000 combined positions in 2018) that are employed in industries that are expected to experience little employment change. Roughly 27 percent of all occupations, 219 to be exact, are projected to decline. Seventy percent of the declining occupations, however, are projected to decline by 10 percent or less.

The 219 shrinking occupations combined accounted for roughly 864,700 jobs or 27 percent of all jobs in 2028. The number of jobs in these occupations is projected to tail off to 820,300 by 2028, an aggregated 5.1 percent drop or 44,400 jobs. Declining occupations are concentrated in the production, office and administrative support, and management occupational groups. Almost all of the job loss in the managerial group is expected to be farmers, ranchers, and other agricultural managers who are included in the managerial occupation group. Minnesota farmers totaled 42,330 in 2018 and are projected to slip to 40,900 or a 3.2 percent decline over the next 10 years. Other occupations expected to see their numbers shrink the most over the next 10 years are assemblers and fabricators, retail salespersons, secretaries and administrative assistants, cashiers, general office clerks, and executive secretaries.

Some shrinking occupations are concentrated in industries expected to cut back on employment over the next 10 years. Print binding and finishing workers (SOC 51-5113) is one such occupation. Continued reduction in Minnesota's printing industry is expected over the next decade, leading to a reduction in the number of print binding and finishing positions.

General office clerks on the other hand are employed across multiple industries yet are still expected to decline slightly from automation of some of their work. For example, in 2018 an estimated 5,100 general office clerks (SOC 43-9061) were working in the wholesale trade industry (NAICS 43), accounting for 4.0 percent of wholesale trade employment. Wholesale trade employment in 2028 is expected to be roughly the same as in 2018 but office clerk positions within the industry are projected to drop 8 percent to 4,660 positions by 2028. New technology and changing business practices will reduce the need for general office clerks across most industries in the future.

Minnesota's total employment is projected to climb 4.7 percent over the 2018 – 2028 period, compared to projected U.S. employment growth of 5.2 percent over the same time period. Minnesota's employment growth trailed the U.S. pace during the previous 10 years, 6.2 percent for the state compared to 6.7 percent nationwide, and will continue to lag behind national growth unless additional sources of labor force growth develop.

Most of the predicted job growth will occur in the 400 occupations projected to grow faster than overall employment. These fast-growing occupations are anticipated to add roughly 181,600 new positions or 94 percent of employment growth. The 166 occupations that will expand but below the overall job growth rate will add a combined 12,050 jobs. Nineteen occupations are expected to experience no change in numbers over the next 10 years. The other 216 occupations are expected to be declining occupations. After accounting for the 44,400 jobs in occupations that are expected to shrink over the next 10 years, net job growth is 149,250 jobs. That means that roughly 93 percent of all employment will be in the same occupations in 2028 as 10 years earlier. Most of the jobs will have different workers employed and some tasks and accompanying skills may change within occupations over the next 10 years, but occupational distribution doesn't change as fast as commonly thought.

Five major occupational groups of the 22 major occupational groups will experience job growth more than twice the rate of overall job growth over the next 10 years – personal care and service, healthcare support, healthcare practitioners and technical, computer and mathematical, and community and social service. Growth in the fastest growing occupational groups will be fueled by climbing senior citizen numbers and their increasing health care demands and by continued digitalization of the economy. Nine other major occupational groups are expected to grow faster than average. The other eight occupational groups are projected to expand slower than overall employment growth. Three of the groups – production, office and administrative support, and sales and related occupations – are expected to see their workforces decline slightly, with production positions slipping 3.2 percent, office and administrative support jobs dipping 2.7 percent, and sales and related positions inching down by 0.6 percent.

<b>Employing Super Group</b>	<b>Estimated 2018</b>	<b>Projected 2028</b>	<b>2018 - 2028 Numeric Change</b>	<b>2018 - 2028 Percent Change</b>
Total Employment	3,145,800	3,295,050	149,250	4.7%
Professional & Related	704,930	762,640	57,710	8.2%
Service	660,680	723,900	63,220	9.6%
Office & Administrative Support	423,820	412,440	-11,380	-2.7%
Management, Business & Financial	407,300	431,570	24,270	6.0%
Sales & Related	295,200	293,470	-1,730	-0.6%
Production	220,550	213,400	-7,150	-3.2%
Transportation & Material Moving	187,350	195,690	8,340	4.5%
Construction & Extraction	121,180	132,450	11,270	9.3%
Installation, Maintenance & Repair	108,380	112,700	4,320	4.0%
Farming, Fishing & Forestry	16,420	16,780	360	2.2%

Source: DEED LMI Office Projections

When the occupational scheme is aggregated up into 10 super groups, the state's two largest major occupational groups in 2018 – professional and related and service occupations – will add the most jobs in Minnesota from 2018 to 2028 (see Table 1 which lists projections for super occupational groups ranked by 2018 employment). These two super occupational groups, which tend to have occupations at the opposite ends of the educational attainment and earnings range, are projected to account for 81 percent of net employment growth over the next 10 years, adding just over 129,000 new positions. Professional and service occupations accounted for 43.4 percent of all employment in 2018 and are projected to account for 45.1 percent of 2028 employment.

Service occupations will not only be adding the most jobs over the next decade but will also be the fastest growing occupational group. Service occupations, fueled by rapidly climbing healthcare support jobs and personal care and service jobs, are anticipated to expand 9.6 percent, adding roughly 63,220 workers. Production occupations are anticipated to decline the fastest while office and administrative support occupations are projected to lose the most workers. Production jobs are projected to slip 3.2 percent or 7,150 jobs while office and administrative support jobs are predicted to fall by 11,380 positions or a 2.7 percent decline.

The top 50 occupations in terms of the number of workers employed accounted for 51.3 percent of all state employment in 2018. The largest occupations range from retail salespersons (89,100 jobs) to automotive service technicians and mechanics (17,780 jobs). Employment growth in these large occupations will account for 56 percent of all job growth over the next decade. The net result is that the share of total employment accounted for by the 50-largest occupations will inch up to 51.5 percent over the next 10 years. Fourteen of the largest occupations are expected to see their workforce numbers shrink with assemblers and fabricators, secretaries and administrative assistants, bookkeeping, accounting, and auditing clerks, retail salespersons, and farmers and ranchers anticipated to see the steepest declines.

The top 50 fastest growing occupations among occupations with employment of more than 500 workers in 2028 combined for 10 percent of the 2018 employment base but are anticipated to account for 45.7 percent of jobs created over the next 10 years. There were 519 occupations that employed more than 500 workers in 2018, leaving 287 occupations with employment below 500 workers. The 50-fastest expanding occupations are projected to grow on average by 20.5 percent or more than four times the anticipated overall job growth rate of 4.7 percent. The expected increases range from 32.7 percent for statisticians to 14.8 percent for operating engineers and other construction equipment operators.

<b>Table 2: Minnesota Fastest Growing Occupations</b>		
<b>(Occupations with 500 or more jobs in 2018)</b>		
<b>Occupation</b>	<b>2018 - 2028 Percent Change</b>	<b>2018 - 2028 Numeric Change</b>
Statisticians	32.7%	290
Personal Care Aides	33.6%	24,750
Occupational Therapy Assistants	30.9%	210
Actuaries	30.9%	170
Physician Assistants	27.8%	570
Information Security Analysts	28.2%	760
Phlebotomists	28.2%	450
Marriage and Family Therapists	25.3%	290
Speech-Language Pathologists	24.5%	780
Operations Research Analysts	23.8%	780
Home Health Aides	23.8%	5,310
Nurse Practitioners	22.8%	900
Computer Numerically Controlled Machine Tool Programmers	22.4%	160
Software Developers, Applications	22.3%	4,500
Magnetic Resonance Imaging Technologists	22.3%	150
Substance Abuse, Behavioral Disorder, and Mental Health Counselors	21.8%	1,680
Medical Assistants	20.8%	2,140
Physical Therapist Assistants	20.7%	360

Market Research Analysts and Marketing Specialists	20.7%	3,010
Veterinary Assistants and Laboratory Animal Caretakers	20.5%	290
Veterinary Technologists and Technicians	20.5%	530
Nurse Anesthetists	20.2%	380
Tile and Marble Setters	20.1%	200
Veterinarians	19.9%	310
Diagnostic Medical Sonographers	19.9%	250
Physical Therapists	19.2%	900
Psychiatrists	18.6%	110
Mental Health and Substance Abuse Social Workers	18.5%	540
Athletic Trainers	18.4%	130
Medical and Health Services Managers	18.2%	1,450
Massage Therapists	17.8%	600
Telecommunications Line Installers and Repairers	17.4%	330
Financial Managers	17.3%	2,670
Occupational Therapists	17.3%	490
Refuse and Recyclable Material Collectors	17.1%	280
Community Health Workers	18.8%	210
Health Technologists and Technicians, All Other	18.8%	180
Respiratory Therapists	18.5%	300
Cooks, Restaurant	16.0%	4,260
Septic Tank Servicers and Sewer Pipe Cleaners	15.9%	90

Helpers--Carpenters	15.7%	100
Medical Secretaries	15.5%	1,820
Healthcare Social Workers	15.4%	570
Interpreters and Translators	15.4%	240
Family and General Practitioners	15.2%	380
Credit Counselors	15.1%	120
Clinical, Counseling, and School Psychologists	15.1%	550
Radiologic Technologists	14.9%	670
Paralegals and Legal Assistants	14.9%	670
Operating Engineers and Other Construction Equipment Operators	14.8%	1,290
Source: DEED LMI Office Projections		

As presented above, projected employment growth can be viewed from two perspectives – percent change and numerical change. Some occupations, which start with a large number of workers in 2018, are projected to grow slower than overall employment growth but will add large numbers of workers by 2028. Other occupations, which have relatively small numbers of workers in 2018, 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 50 fastest growing occupations (Table 2) are compared to the 50 occupations expected to add the most jobs (Table 3).

<b>Table 3. Minnesota Occupations Adding the Most Jobs</b>		
<b>Occupation</b>	<b>2018 - 2028 Numeric Change</b>	<b>2018 - 2028 Percent Change</b>
Personal Care Aides	24,750	31.6%
Registered Nurses	8,790	12.4%
Combined Food Preparation and Serving Workers, Including Fast Food	7,460	11.2%
Home Health Aides	5,310	23.3%
Software Developers, Applications	4,500	21.8%
Cooks, Restaurant	4,260	14.9%
General and Operations Managers	3,470	7.2%
Janitors and Cleaners, Except Maids and Housekeeping Cleaners	3,220	6.5%
Market Research Analysts and Marketing Specialists	3,010	19.5%
Financial Managers	2,670	16.2%
Heavy and Tractor-Trailer Truck Drivers	2,540	6.6%
Laborers and Freight, Stock, and Material Movers, Hand	2,220	5.0%
Licensed Practical and Licensed Vocational Nurses	2,160	12.8%
Medical Assistants	2,140	21.0%
Management Analysts	2,130	11.6%
Teacher Assistants	2,070	5.9%
Construction Laborers	1,930	10.6%
Social and Human Service Assistants	1,890	12.0%
Medical Secretaries	1,820	14.2%

Carpenters	1,700	7.1%
Substance Abuse, Behavioral Disorder, and Mental Health Counselors	1,680	21.2%
Accountants and Auditors	1,660	6.5%
Landscaping and Groundskeeping Workers	1,600	8.2%
Business Operations Specialists, All Other	1,570	6.2%
Computer Systems Analysts	1,540	8.0%
Medical and Health Services Managers	1,450	17.0%
Sales Representatives, Services, All Other	1,440	6.6%
Nursing Assistants	1,410	4.4%
Childcare Workers	1,350	4.4%
Operating Engineers and Other Construction Equipment Operators	1,290	13.1%
Plumbers, Pipefitters, and Steamfitters	1,270	13.1%
Self-Enrichment Education Teachers	1,260	12.1%
Lawyers	1,200	8.9%
Computer User Support Specialists	1,100	8.3%
Electricians	1,090	9.5%
Elementary School Teachers, Except Special Education	1,060	4.5%
Maintenance and Repair Workers, General	1,040	3.9%
Secondary School Teachers, Except Special and Career/Technical Education	1,000	4.7%
Sales Representatives, Wholesale and Manufacturing	990	2.9%
Light Truck or Delivery Services Drivers	990	5.5%

First-Line Supervisors of Food Preparation and Serving Workers	910	5.5%
Nurse Practitioners	900	22.8%
Physical Therapists	900	18.4%
Insurance Sales Agents	900	9.3%
Preschool Teachers, Except Special Education	880	8.7%
Bus Drivers, School or Special Client	860	5.8%
Industrial Engineers	860	8.8%
Fitness Trainers and Aerobics Instructors	840	12.3%
Clinical Laboratory Technologists and Technicians	830	12.1%
Computer and Information Systems Managers	810	8.2%
Source: DEED LMI Office Projections		

Only 13 occupations appear on both Top 50 lists. The combined job growth of these occupations is 54,680 jobs or 36.6 percent of total projected job growth. Almost half of the new jobs expected in this group of occupations arise from the expected huge jump in personal care aide positions.

The occupations are:

- Restaurant Cooks
- Financial Managers
- Home Health Aides
- Market Research Analysts and Marketing Specialists
- Medical and Health Services Managers
- Medical Assistants
- Medical Secretaries
- Nurse Practitioners
- Operating Engineers and Other Construction Equipment Operators
- Personal Care Aides
- Physical Therapists
- Software Developers, Applications
- Substance Abuse, Behavioral Disorder, and Mental Health Counselors

Job opportunities tend to be better in occupations that are growing, but new openings created by employment growth are only a tiny part of the future job opportunities across occupations. The chance of scoring a job in a particular occupation also depends on how many workers are leaving the occupation and on how many job seekers are looking to enter that occupation. Job openings created by workers leaving the labor force or transferring to a different occupation will far exceed openings generated by employment growth.

Over the 10-year projection period, openings generated by employment growth are projected to be around 149,250. Openings generated by workers exiting the labor force, primarily through retirement, are projected to be around 1,405,470. Job openings from workers transferring from one occupation to another will surpass exit openings with 2,237,550 occupational transfers anticipated over the decade. Only 4 percent of job openings over the next 10 years are expected to arise from employment growth.

Table 4 lists the 20 occupations expected to have the most total openings over the decade. Even occupations that are anticipated to experience decline during the next 10 years will have thousands of exit and transfer openings. For example, the number of workers employed as retail salespersons in Minnesota is projected to decline by 3,790 as competition from online sales will lead to employment declines in brick-and-mortar stores.

**Table 4. Minnesota Occupations With the Most Openings**

<b>Occupation</b>	<b>2018 Employment</b>	<b>Job Openings from Employment Growth 2018 - 2028</b>	<b>Job Openings from Labor Market Exits 2018 - 2028</b>	<b>Job Openings from Occupational Transfers 2018 - 2028</b>	<b>Total Job Openings 2018 - 2028</b>
Total Employment	3,145,800	149,250	1,405,470	2,237,550	3,792,270
Personal Care Aides	78,350	24,750	67,040	59,410	151,200
Combined Food Preparation and Serving Workers, Including Fast Food	66,380	7,460	55,900	68,940	132,300
Retail Salespersons	89,110	-3,790	50,130	77,280	123,620
Cashiers	66,220	-1,910	58,250	64,870	121,210
Waiters and Waitresses	50,700	530	35,370	62,460	98,360
Customer Service Representatives	59,940	-1,480	28,430	50,470	77,420
Janitors and Cleaners, Except Maids and Housekeeping Cleaners	49,790	3,220	31,430	36,250	70,900
Office Clerks, General	58,990	-1,870	32,450	37,030	67,610
Laborers and Freight, Stock, and Material Movers, Hand	44,320	2,220	20,520	42,580	65,320
Registered Nurses	70,910	8,790	20,900	19,320	49,010
Childcare Workers	30,780	1,350	23,260	23,670	48,280
Heavy and Tractor-Trailer Truck Drivers	38,690	2,540	16,450	28,980	47,970
Cooks, Restaurant	28,560	4,260	16,290	27,120	47,670
Stock Clerks and Order Fillers	35,060	520	17,880	29,140	47,540
General and Operations Managers	48,050	3,470	10,440	32,790	46,700

Teacher Assistants	35,190	2,070	19,230	18,950	40,250
Farmers, Ranchers, and Other Agricultural Managers	42,330	-1,390	25,890	15,480	39,980
Nursing Assistants	32,410	1,410	17,800	19,310	38,520
Sales Representatives, Wholesale and Manufacturing	34,470	990	10,640	26,040	37,670
Bookkeeping, Accounting, and Auditing Clerks	33,980	-1,490	20,220	18,500	37,230
Source: DEED LMI Office Projections					

Some of the 89,110 individuals working as retail salespersons in 2018 will still be working in that occupation in 2028, but many others will have retired or transferred to another occupation over the next 10 years thereby creating labor market exit and occupational transfer openings for retail salespersons. Over the next 10 years 50,130 retail salespersons are expected to retire or leave the labor force for other reasons thereby creating openings in the occupation. Another 77,280 openings are expected to be generated by retail salespersons switching jobs to another occupation. Even though the number of retail salespersons is expected to fall from 89,110 in 2018 to 85,320 in 2028, there will be a need for 123,620 workers to fill the openings in this occupation created by labor force exits and occupational transferring.

Looking at labor force exits and occupational separations on an annual average basis provides another way of understanding the job churning that occurs in Minnesota's job market. Each year roughly 5,000 workers leave their retail salesperson jobs by exiting the labor force while another 7,700 workers leave the occupation for a job in a different occupation. That translates into about 14 percent of retail salespersons turning over each year.

The annual occupational turnover rate created from occupational separation openings (labor force exits and occupational transfer openings) for retail salespersons is above the 10 percent average among Minnesota's 806 occupations. Occupations that require extended years of education, like doctors and lawyers, have low occupational separation rates as few doctors or lawyers transfer out of their professions into some other occupation. The occupational turnover or separation rate for surgeons is 2.9 percent and 2.7 percent for anesthesiologists. At the other end of the scale is the 24.3 and 24.0 percent turnover rates, respectively, for ushers, lobby attendants and ticket takers, and amusement and recreation attendants.

Occupations with high occupational separation rates tend to be jobs that require little training, are low paying, and are usually considered entry level jobs. Ushers, lobby attendants, ticket takers, amusement and recreation attendants, as well as other occupations together aggregated up to the entertainment attendants and related workers group which has a group occupational separation rate of 22 percent. That means that from one year to the next 22 percent of this occupational group's workforce moves on either exiting the labor force or taking another job in a new occupation. Other occupations with high numbers of occupational separation openings include cashiers, waiters and waitresses, combined food preparation and serving workers, and counter attendants at food places.

As shown at the top of Table 4 the 149,250 net new jobs that are expected to be created over the next 10 years are only a small percent (4 percent) of the projected total job openings. The other 96 percent of job openings will be split between openings created by labor market exits (37 percent of all openings) and occupational transfers (59 percent). During each year between 2018 and 2028 roughly 4.5 percent of all jobs will need a replacement worker from labor market exits, and another 7.1 percent of jobs will need a replacement worker from occupational transfers. When exploring career options using 2018-2028 employment projections, it is important to consider both employment growth generated openings and projected job openings created by labor force exits and occupational transfers. [6]

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[1] Minnesota employment projections are based on U.S. employment projections produced by the Bureau of Labor Statistics. The BLS has plans to publish alternate projection scenarios that encompass possible impacts from the pandemic. An analysis of these scenarios will be released in the BLS's Monthly Labor Review article later in 2020. For more information see <https://www.bls.gov/emp/notices/2020/pandemic-effects-soon.htm> (<https://www.bls.gov/emp/notices/2020/pandemic-effects-soon.htm>).

[2] See <https://mn.gov/deed/newscenter/publications/trends/december-2017/immigrants-economy.jsp> (<https://mn.gov/deed/newscenter/publications/trends/december-2017/immigrants-economy.jsp>) for detailed analysis on how foreign-born workers have boosted Minnesota's labor force growth since 2010.

[3] Detailed 2018 – 2028 occupational and industry employment projections for Minnesota can be found at <http://mn.gov/deed/data/data-tools/employment-outlook/> (<http://mn.gov/deed/data/data-tools/employment-outlook/>).

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[5] Information on the Minnesota Wage and Salary Survey is available at <http://mn.gov/deed/data/data-tools/oes/> [\(http://mn.gov/deed/data/data-tools/oes/\)](http://mn.gov/deed/data/data-tools/oes/). A condensed 2026 Minnesota staffing pattern matrix (810 occupations across 30 aggregated industries) is available at <http://mn.gov/deed/data/data-tools/occupational-staffing/> [\(http://mn.gov/deed/data/data-tools/occupational-staffing/\)](http://mn.gov/deed/data/data-tools/occupational-staffing/).

[6] For a graphical overview of Minnesota's 2018 – 2028 employment projections see the PowerPoint presentation located under the More Data tab at <https://mn.gov/deed/data/data-tools/employment-outlook/> [\(https://mn.gov/deed/data/data-tools/employment-outlook/\)](https://mn.gov/deed/data/data-tools/employment-outlook/).

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