2018-2028 Occupational Projections Chart Book

Oklahoma Employment Security Commission | Economic Research and Analysis Division

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Oklahoma Employment Security Commission
Shelley Zumwalt, Interim Executive Director

Economic Research and Analysis Division
Lynn Gray, Director & Chief Economist

Prepared by
Monty Evans, Senior Economist

Will Rogers Memorial Office Building
Labor Market Information Unit, 4th Floor N
P.O. Box 52003
Oklahoma City, OK 73152-2003
Phone: (405) 557-7172
Fax: (405) 525-0139
Email: lmi1@oesc.state.ok.us

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How we develop occupational projections

Statewide long-term employment projections

The Labor Market Information Unit of Oklahoma Employment Security Commission's Economic Research and Analysis Division regularly produces industry and occupational employment projections for the state of Oklahoma and Workforce Investment Areas (WIA). Our usual practice is to prepare new projections every other year, with the base year of the projections decade being an even-numbered year. The U.S. Employment and Training Administration (ETA) funds all state projections. State analysts are provided with guidelines, training and technical support for producing projections. The Projections Suite software developed by the Utah Department of Employment Security is used to produce industry and occupational projections.

Industry employment projections

Oklahoma industry employment projections are developed using the methodology, software tools, and guidelines developed by the Projections Workgroup and the Projections Managing Partnership (PMP).

Linear regression and shift-share analysis techniques have been employed as the primary methods of analysis. Projections for some industries are made at the three-digit or four-digit level under the North American Industry Classification System (NAICS).

Historical employment data are from the Quarterly Census of Employment and Wages (QCEW). Agriculture and non-covered employment data are from the American Community Survey and the Current Employment Statistics program, respectively. Employment for self-employed and unpaid family workers is produced from the projection matrix system based on the Occupational Employment Statistics survey and the Bureau of Labor Statistics' Current Population Survey.

Employment is rounded to the nearest ten. Percent changes are based on un-rounded data.

Goods-producing industries include agriculture; mining; construction; and manufacturing. Services-providing industries include transportation and warehousing; wholesale trade; retail trade; information; finance and insurance; real estate and rental and leasing; professional, scientific and technical services; management of companies and enterprises; administrative and support and waste management and remediation services; educational services; health care and social assistance; arts, entertainment, and recreation; other services; and government.

Occupational employment projections

The occupational projections reflect the 2010 Standard Occupational Classification system. There are more than 700 detailed occupations. Current employment refers to the estimated annual employment by occupation for all industries based on 2016 data. Projected employment refers to the expected annual employment by occupation based on projections made for all detailed industries in Oklahoma for 2028. Average annual openings are job openings resulting from growth in an occupation and replacement needs in that occupation.

Employment is rounded to the nearest ten. Percentage changes are based on un-rounded data and reflect the percent growth or decline in an occupation over the ten-year period based on un-rounded data.

Measures of education and training

The Bureau of Labor Statistics (BLS) provides information about education and training requirements for hundreds of occupations. BLS uses a system to assign categories for entry-level education, related work experience, and typical on-the-job training to each occupation for which BLS publishes projections data. The assignments allow occupations to be grouped to create estimates of the education and training needs for the labor force as a whole and estimates of the outlook for occupations with various types of education and training needs. This classification system replaces the earlier 11-category education and training system used for the 2008–2018 projections. In addition, educational attainment data for each occupation are presented to show the level of education achieved by workers who are employed in the occupations.

Category system

BLS assigns occupations to a designation within three categories: typical entry-level education, related work experience, and typical on-the-job training. Detailed definitions [PDF] for the categories are available online at: www.bls.gov/emp/ep_education_training_system.htm. The categories and assignments within each are as follows:

Typical entry level education—represents the typical education level needed to enter an occupation. The assignments for this category are the following:

- Doctoral or professional degree
- Master's degree
- Bachelor's degree
- Associate's degree
- Postsecondary non-degree award
- Some college, no degree
- High school diploma or equivalent
- Less than high school

Work experience in a related occupation—indicates if work experience in a related occupation is commonly considered necessary by employers for entry into the occupation, or is a commonly accepted substitute for formal types of training. The assignments for this category are the following:

- More than 5 years
- Less than 5 years
- None

Typical on-the-job training—indicates the typical on-the-job training needed to attain competency in the occupation. The assignments for this category are the following:

- Internship/residency
- Apprenticeship
- Long-term on-the-job training: more than 1 year
- Moderate-term on the job training: 1-12 months
- Short-term on-the-job training: 1 month or less
- None

Occupational Separations and Openings

Projections of job growth provide valuable insight into future employment opportunities because each new job created is an opening for a worker entering an occupation. However, opportunities also arise when existing workers separate from their occupations. In most occupations, openings due to separations of existing workers provide many more opportunities than employment growth does.

Beginning with these projections the BLS Separations methodology is used to project annual openings. The Separations methodology was developed to better capture a more accurate picture of the workforce and give BLS the ability to differentiate between workers who are leaving the labor force entirely, exits and those who are changing jobs and leaving an occupation, transfers. The annual openings are the sum of the projected net change plus transfers plus exits (Openings = Projection Change + Exits + Transfers).

For more information: https://www.bls.gov/emp/documentation/separations.htm

Limitations

Forecasting the future is not an exact science. Projections result from careful analysis of available data. However, they are not reflection of what might happen under different conditions. International, national and local events can have significant impacts on Oklahoma's economy. Moreover, the projection model does not take into account factors such as immigration, occupational supply, business relocation, emergence of new occupations or industrial and scientific development.

Please do not use these projections as your sole source of information.

Additional Resources:

If you have any questions concerning the data in this publication or any other Labor Market Information related questions, feel free to contact us by phone at (405)557-7172 or by e-mail at lmi1@oesc.state.ok.us.

Oklahoma Employment Security Commission Website: https://oesc.ok.gov/

Economic Research and Analysis' Website: https://oesc.ok.gov/labor-market-statistics

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Getting started

Occupational employment

When choosing a career, jobseekers often want to know which occupations offer the best prospects. Generally, occupations that have rapid job growth, many new jobs, or many job openings—and good wages—promise better opportunities.

The following charts show how employment in particular occupations is projected to change from 2018 to 2028. Many of the charts show which occupations or occupational groups are expected to grow fastest (highest percent growth) or gain the most jobs (highest numeric growth).

Between 2018 and 2028, overall employment in Oklahoma is projected to grow by about 4.1 percent, a slower rate than that of the nation (5.2 percent). This rate is shown as a dotted vertical line in the chart on page 13. Nineteen of the 22 occupational groups are expected to add jobs over the projections decade with office and administrative support occupations (-3.6 percent); production occupations (-2.3 percent); and sales and related occupations (-0.1 percent) projected to lose employment.

But when it comes to employment prospects, job growth tells only part of the story. Opportunities also result when workers separate from their jobs, either to find employment in other occupations or to leave the labor force entirely. In most occupations, the openings caused by separating employees provide more job openings than employment growth does. Some charts show which occupations are expected to have the most openings for workers who are entering the occupation. These charts show projected openings both from job growth and from separations.

Growth by occupational group

Most charts here focus on detailed occupations. To better illustrate general employment trends, however, charts at the beginning of the section show employment growth in broad groups of similar occupations.

The federal government classifies workers into categories using the Standard Occupational Classification (SOC) system. All of the SOC occupations are included in these 12 broad groups:

Management, business, and financial occupations. Examples include logisticians, construction managers, and personal financial advisors.

Computer, engineering, and science occupations. Examples are computer programmers, nuclear engineers, landscape architects, chemists, and political scientists.

Education, legal, community service, arts, and media occupations. Examples include teachers, court reporters, social workers, graphic designers, and editors.

Healthcare practitioners and technical occupations. Examples of these workers include dentists, physical therapists, and veterinarians.

Service occupations. This group includes workers who assist the public, including healthcare support occupations. Firefighters, dental assistants, bartenders, barbers, and pest control workers are examples.

Sales and related occupations. Examples include cashiers, insurance sales agents, and retail salespersons.

Office and administrative support occupations. Examples include order clerks, customer service representatives, tellers, and medical secretaries.

Farming, fishing, and forestry occupations. Examples include forest and conservation workers, animal breeders, and logging equipment operators. Workers who manage farms or ranches are counted in the management occupations group rather than in this group.

Construction and extraction occupations. This group includes workers in construction and building trades, such as boilermakers and roofers. It also includes occupations in oil and gas extraction and mining, such as roustabouts and mining machine operators.

Installation, maintenance, and repair occupations. Examples include home appliance repairers, millwrights, and small engine mechanics.

Production occupations. Examples include machinists, power plant operators, welders, and tailors.

Transportation and material moving occupations. Examples include air traffic controllers, railroad conductors, taxi drivers, and dredge operators.

Growth by education assignment

To help guide students and jobseekers, some charts show occupations by education assignment. These charts are grouped by the typical level of education most workers need to enter an occupation: graduate degree, bachelor's degree, associate's degree, post-secondary non-degree award, high school diploma or equivalent, and less than a high school diploma.

- Completion of a graduate degree typically requires a bachelor's degree plus 1 or 2 years of full-time study for a master's degree or at least 3 years of full-time study for a doctoral or professional degree.
- Completion of a bachelor's degree typically requires at least 4 years of full-time study beyond high school.
- Completion of an associate's degree typically requires 2 years of full-time study beyond high school. Postsecondary non-degree award programs typically last from several weeks to 1 year or more beyond high school.

Although the charts in this section are arranged by education assignment, columns within each chart also provide information about the experience and training assignments for the occupations. Assignments for work experience in a related occupation are indicated in the appropriate column as follows: more than 5 years (5+), less than 1 year (<1), or none (N).

Assignments for on-the-job training typically needed to attain competency are indicated in the appropriate column as follows: internship/residency (I/R), apprenticeship (A), long-term (L), moderate-term (M), short-term (S), or none (N).

- Internship and residency assignments include only those required for workers to be employed in an occupation. They may be paid or unpaid and vary from 1 to 8 years.
- Apprenticeships combine paid on-the-job training with occupation-specific instruction. Most programs last between 3 and 5 years.
- Long-term on-the-job training lasts more than 12 months and includes either on-the-job training or combines work experience with formal instruction.
- Moderate-term on-the-job training includes informal instruction and on-the-job training that lasts between 1 and 12 months.
- Short-term on-the-job training includes informal, on-the-job training or experience of 1 month or less.

Wages

Wages include hourly, weekly, or annual pay that people receive for the work that they do. Sales commissions, tips, and production bonuses also are part of the wages shown in these charts, but overtime and nonproduction bonuses are not.

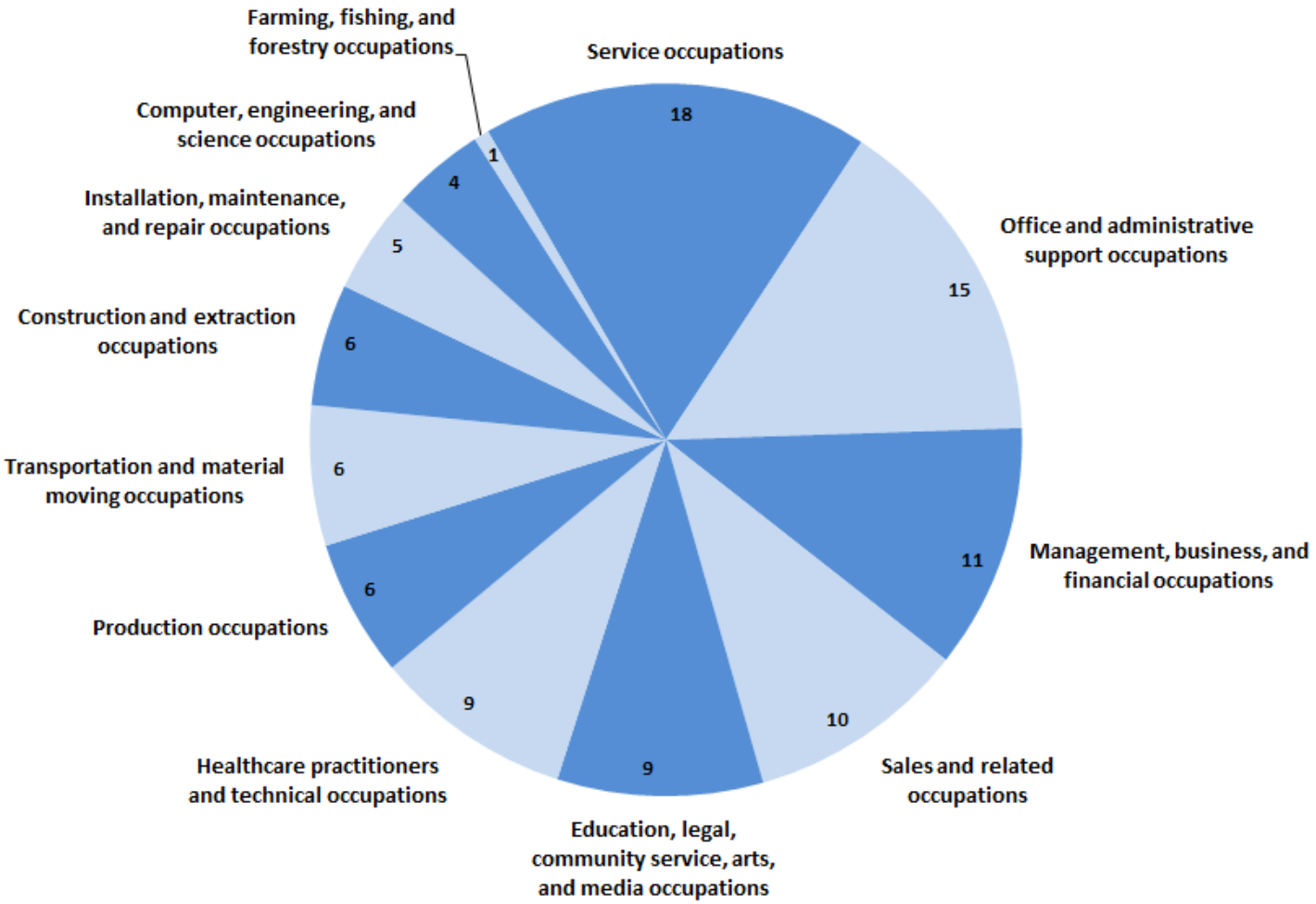
For individual occupations, most charts include 2018 median annual wage data from our Occupational Employment Statistics (OES) program. The median wage is the point at which half of the workers in an occupation earned more than the amount, and half earned less. In May 2018, the median annual wage for all workers in Oklahoma was $34,560.

Wages in these charts are for wage and salary workers only. Self-employed workers are not included in these measurements.

Occupational projections highlights, 2018-28

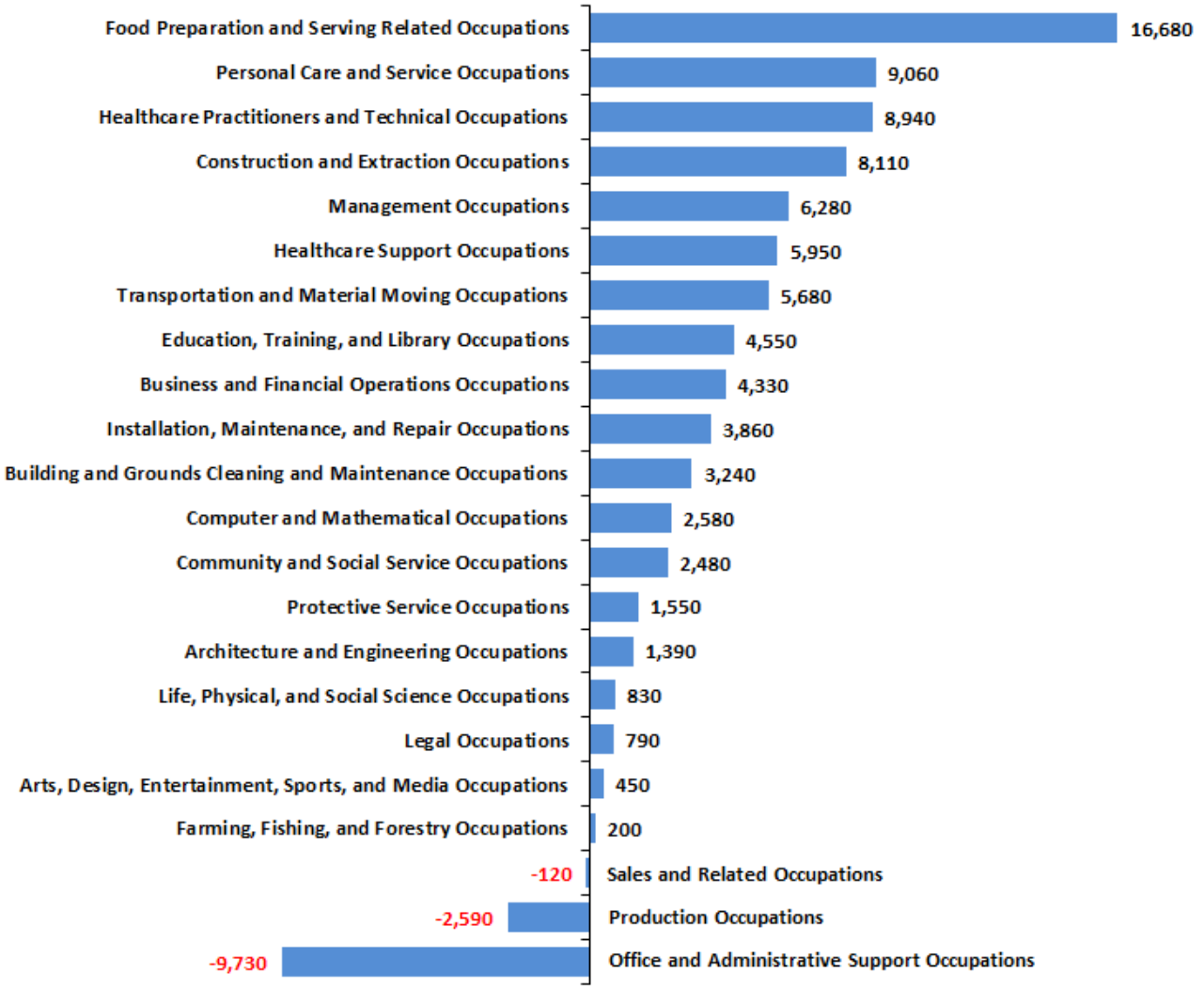
- The food preparation and serving related occupations group is expected to add the most new jobs followed by personal care and service occupations (see page 11).
- The food preparation and serving related occupations group is also expected to have the most job openings followed by the office and administrative support occupations group (see page 12).
- Among all occupations, wind turbine service technicians followed by personal care aides and home health aides are expected to have the fastest employment growth (see page 13).
- Combined food preparation and serving workers, (including fast food), and personal care aides, are expected to gain the most new jobs. Each of these occupations are expected to add more than 5,000 jobs (see page 14).
- Most job openings for workers entering an occupation come from the need to replace workers who have left the occupation, rather than from the need to fill newly created jobs. The 20 occupations that are expected to have the most openings from growth and separations are diverse. The list includes occupations from six different major groups, with the largest number from the service occupations group and the office and administrative support occupations group (see page 15).
- The 20 occupations expected to have the most openings also range widely in 2018 median annual wages, from $82,180 for general and operations managers to $18,480 for waiters and waitresses (see page 15).
- The charts on pages 16 through 25 group occupations by typical entry-level education, from graduate degree to less than a high school diploma, and they also indicate whether workers typically need experience in a related occupation and whether they need training on the job after employment. In general, workers in occupations that typically need more education, experience, and training earn higher wages (see pages 16–25).
- Eleven of the 20 occupations projected to decline were in the office and administrative support occupations group (see page 26).
- Farmers, ranchers, and other agricultural managers was the projected occupation with the highest proportion of self-employed workers in 2028, representing 65 percent of total employment in that occupation (see page 27).

Chart 1
Percent distribution of employment by aggregate occupational group, 2018



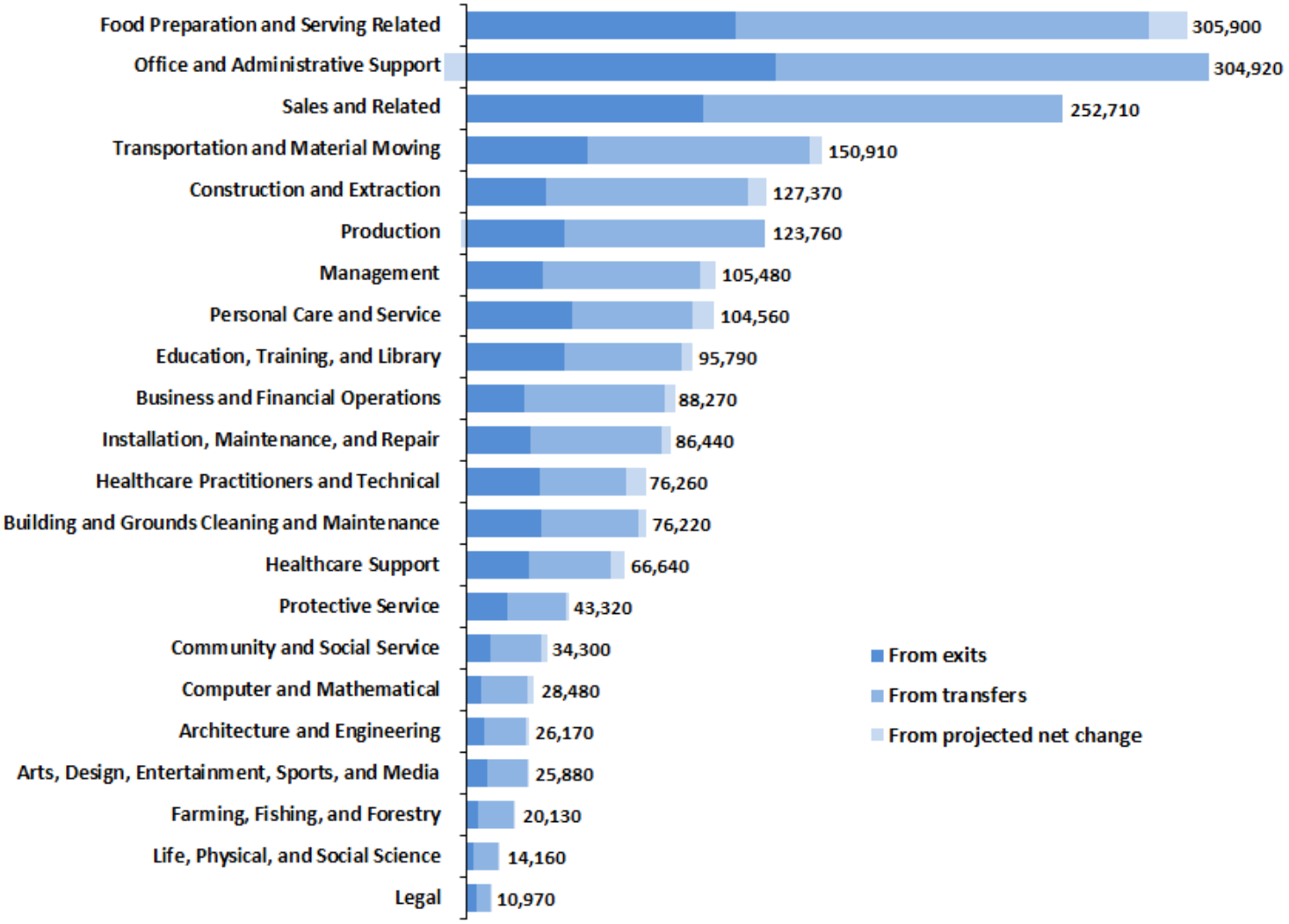
Occupations that have similar job duties are grouped according to the tasks that the workers in those occupations perform. This chart shows the aggregated occupational groups from the 2010 Standard Occupational Classification (SOC) system. For example, the computer, engineering, and science group in this chart includes computer and mathematical occupations; architecture and engineering occupations; and life, physical, and social science occupations.

Chart 2
Numeric change in employment by major occupational group, projected 2018–2028



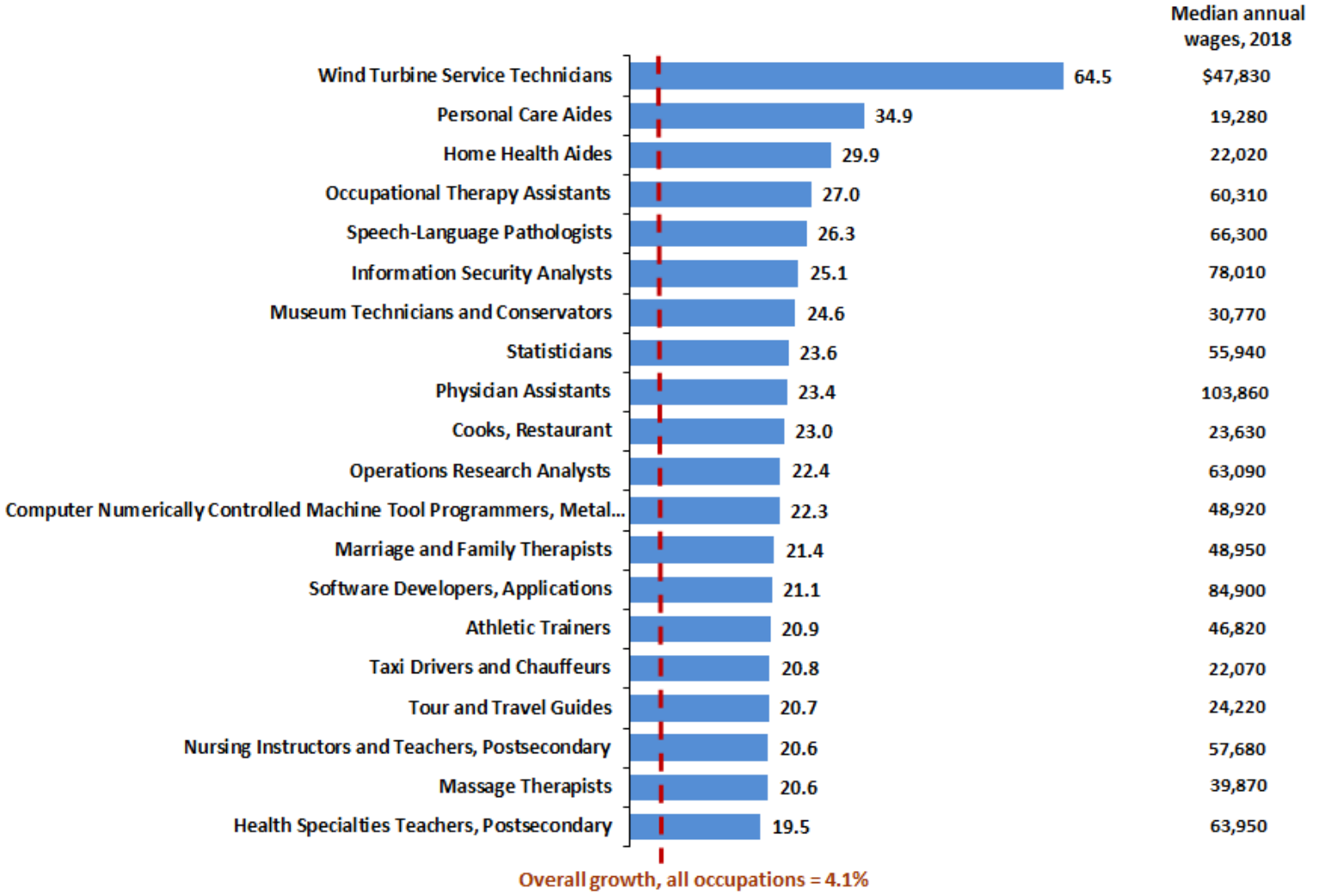
This chart shows the 22 major occupational groups from the SOC system. Most of the major occupational groups with the exception of sales and related, production, and office and administrative are projected to gain jobs in the 2018-28 period.

Chart 3
Job openings by major occupational group, projected 2018–2028



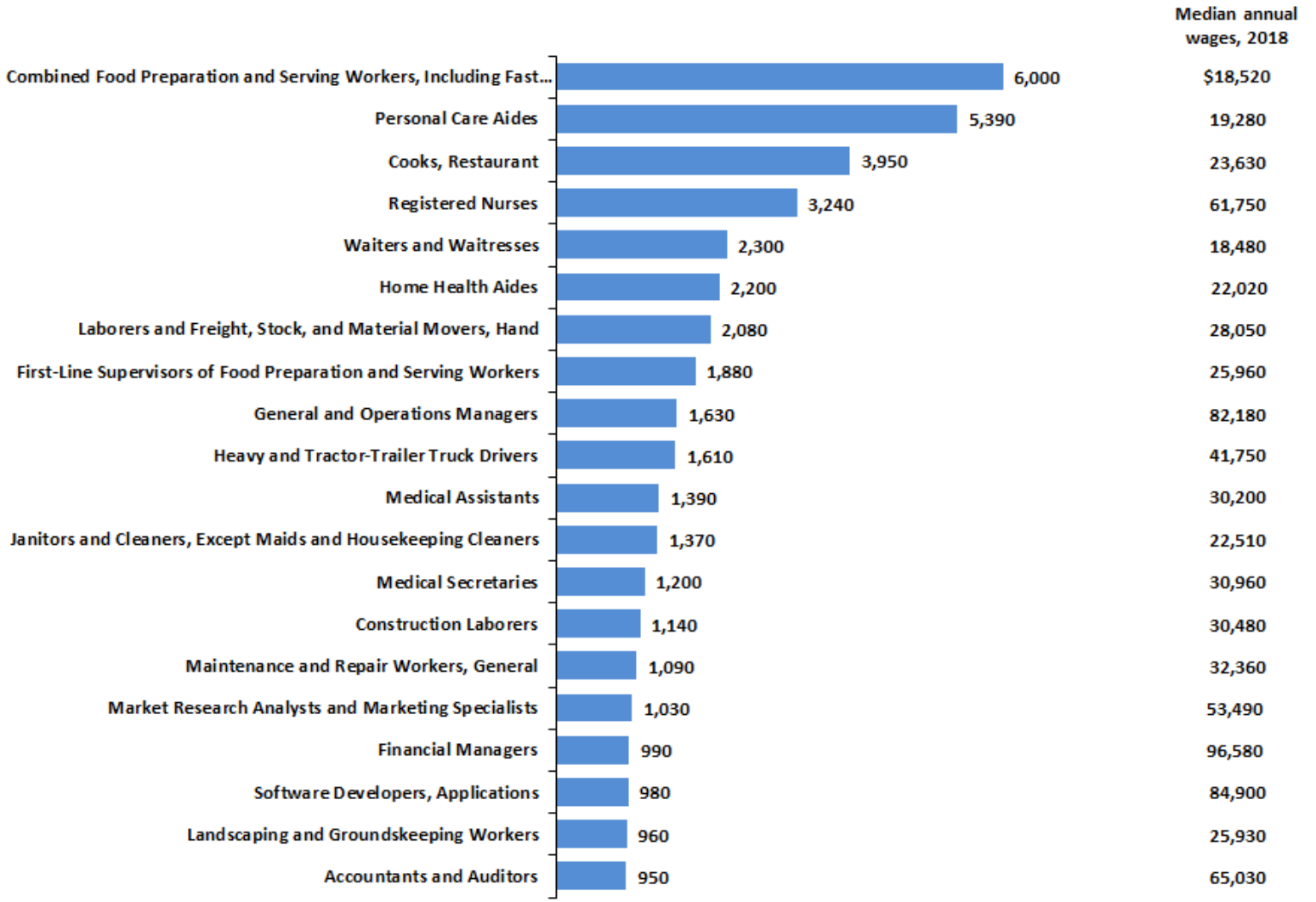
Employment prospects depend on more than job growth. To project occupational openings, the Bureau of Labor Statistics (BLS) calculates an estimate of separations caused by workers exiting the labor force, due to retirement or other reasons, and separations caused by workers transferring to different occupations. Projections of separations are combined with projections of net employment change to determine occupational openings.

Chart 4
Fastest growing occupations, percent growth in employment, projected 2018–2028



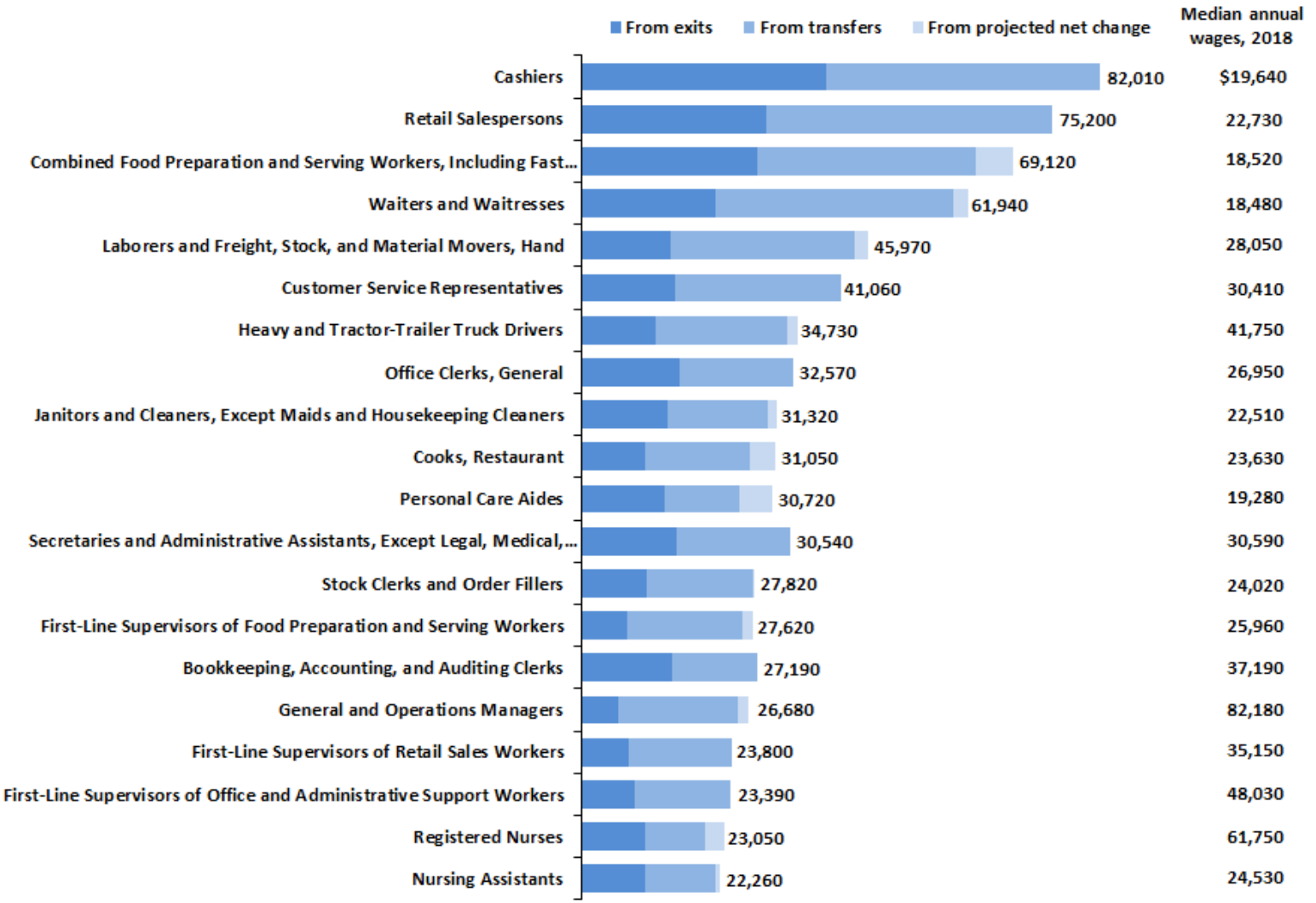
Eight of the occupations in this chart are health care-related occupations. The personal care and service occupations group is projected to grow rapidly, by about 15.3 percent, and add 9,060 jobs while healthcare support occupations are expected to grow 11.8 percent and add 5,950 jobs in the next ten years.

Chart 5
Most new jobs, numeric growth in employment, projected 2018–2028



These 20 occupations are projected to gain the most new jobs between 2018 and 2028 and account for almost 56 percent of all jobs projected to be added over the decade. These occupations have a range of wages, job duties, and education and training requirements. Financial managers had the highest wage in May 2018 among occupations projected to gain the most new jobs, followed by software developers.

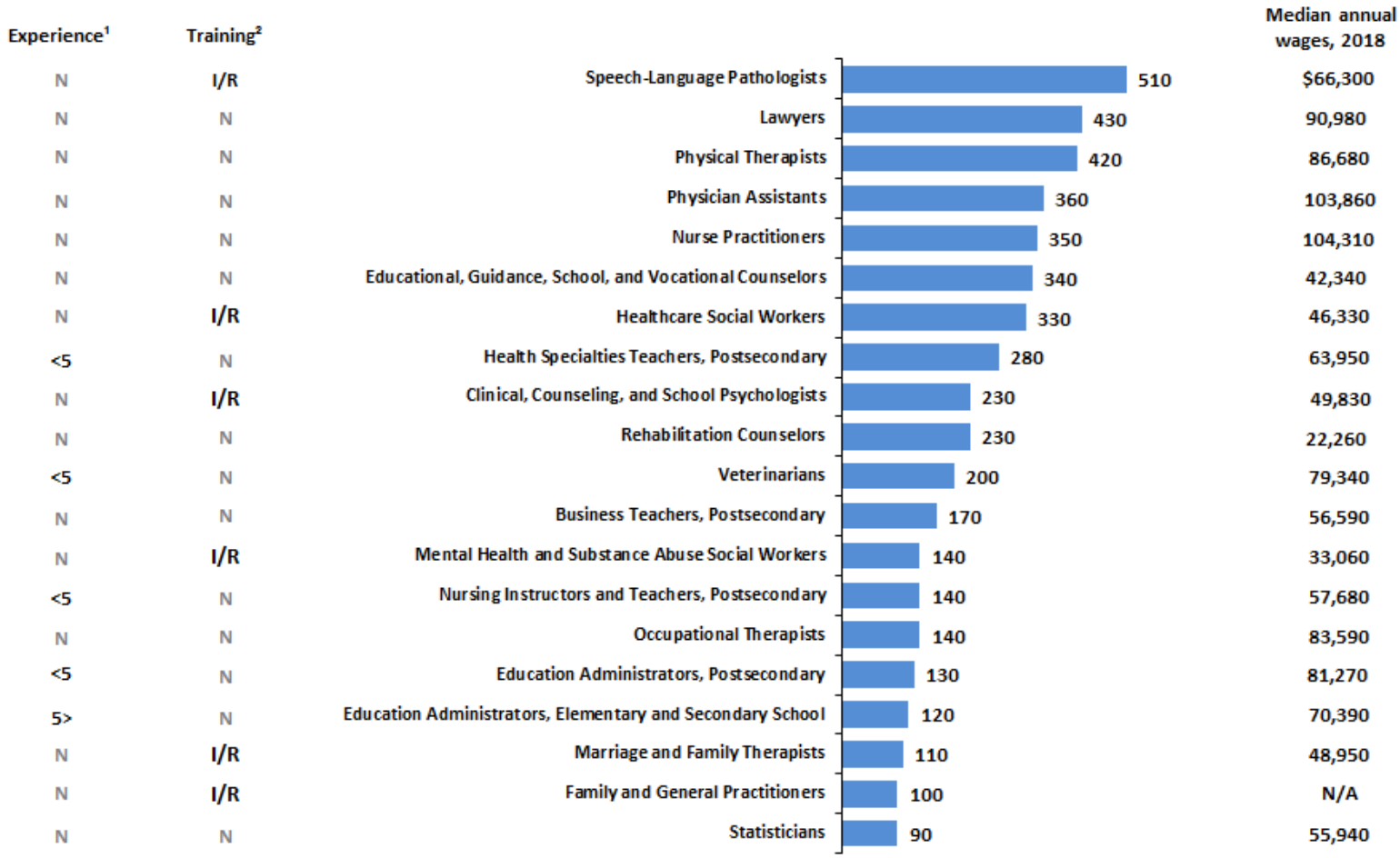
Chart 6
Job openings due to growth and separations, projected 2018–2028



Cashiers, combined food preparation and serving workers, and retail salespersons are expected to have the most job openings over the projections decade. For most of the occupations in this chart, the need to replace workers leaving the occupation is projected to create more openings than job growth will.

Chart 7

Occupations that have the most growth and have a master's, doctoral, or professional degree as the typical level of education needed to enter the occupation, projected 2018–2028



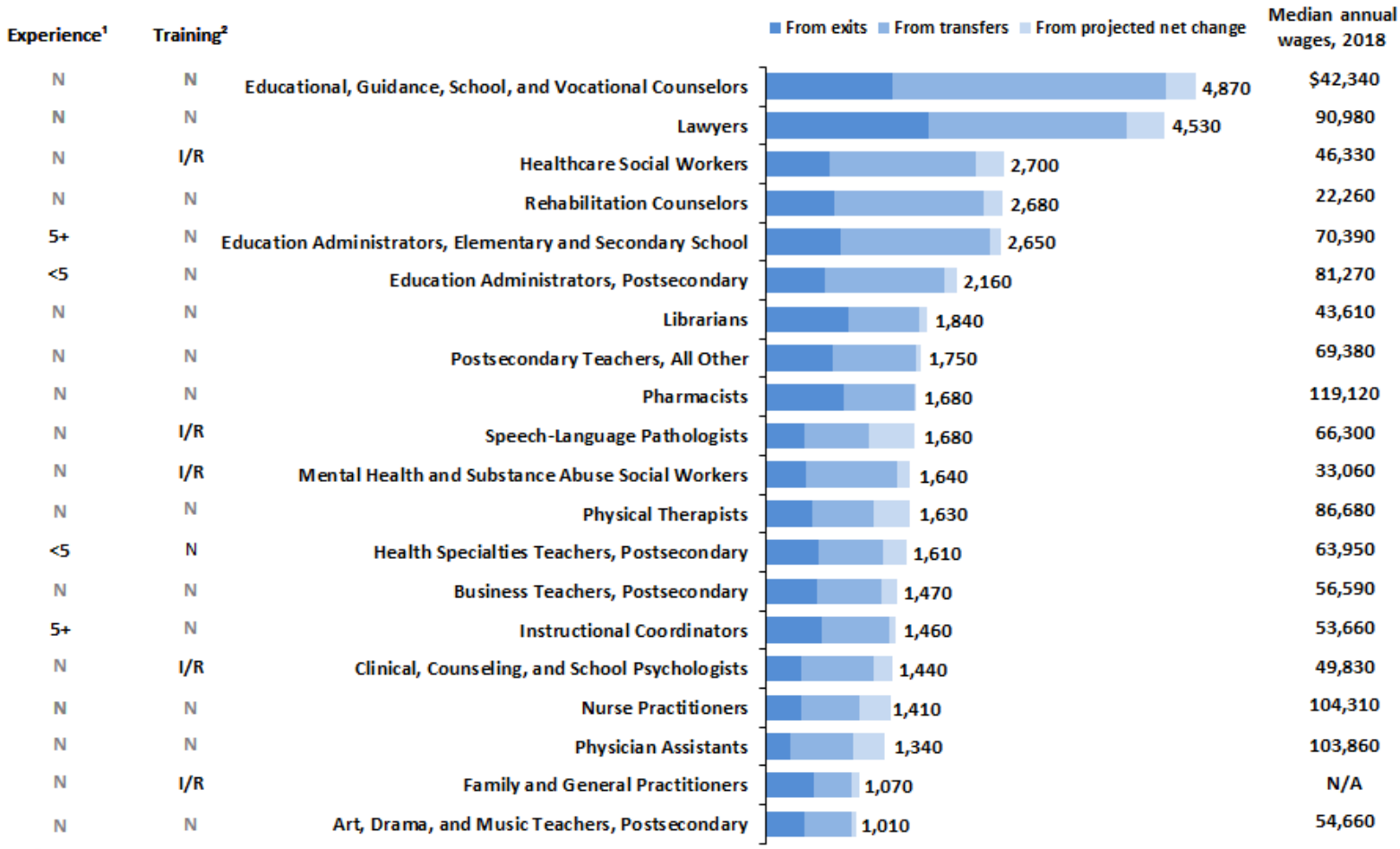
[1] Indicates whether work experience in a related occupation is also typically needed for entry into the occupation. Assignments are more than 5 years (5+), less than 5 years (<5), or none (N).

[2] Indicates whether on-the-job training is typically needed to attain competency in the occupation. Assignments are internship/residency (I/R), apprenticeship (A), long-term (L), moderate-term (M), short-term (S), or none (N).

Most high-growth occupations in these educational categories are related to healthcare, education, and social services. The projected increase in the number of postsecondary teachers reflects expanding college enrollments.

Chart 8

Occupations that have the most job openings and have a master's, doctoral, or professional degree as the typical level of education needed to enter the occupation, projected 2018–2028



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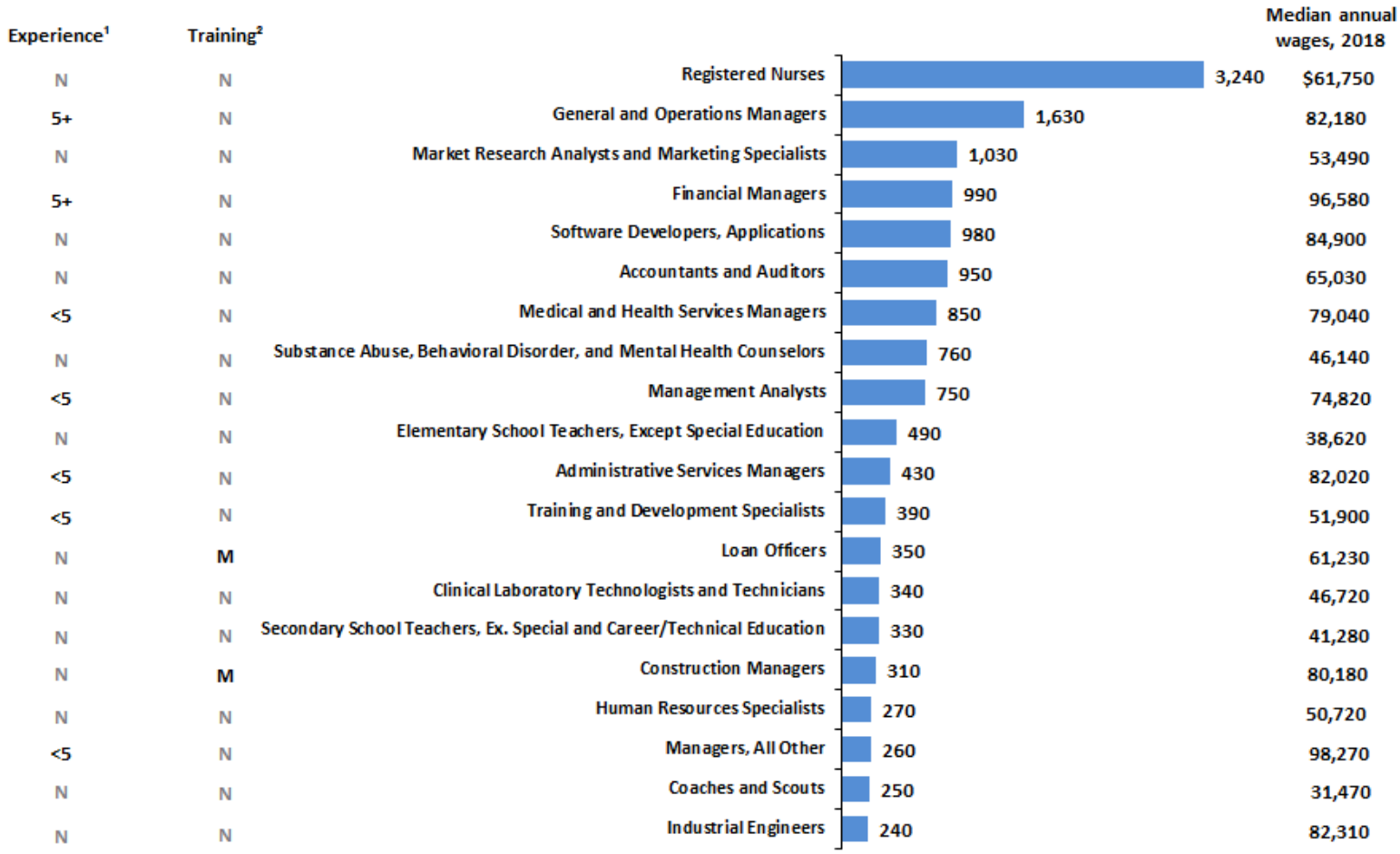
Workers in nine of the 20 occupations in this chart typically need either experience or training in addition to a graduate degree.

Chart 9

Occupations that have the most growth and have a bachelor's degree as the typical level of education needed to enter the occupation, projected 2018–2028



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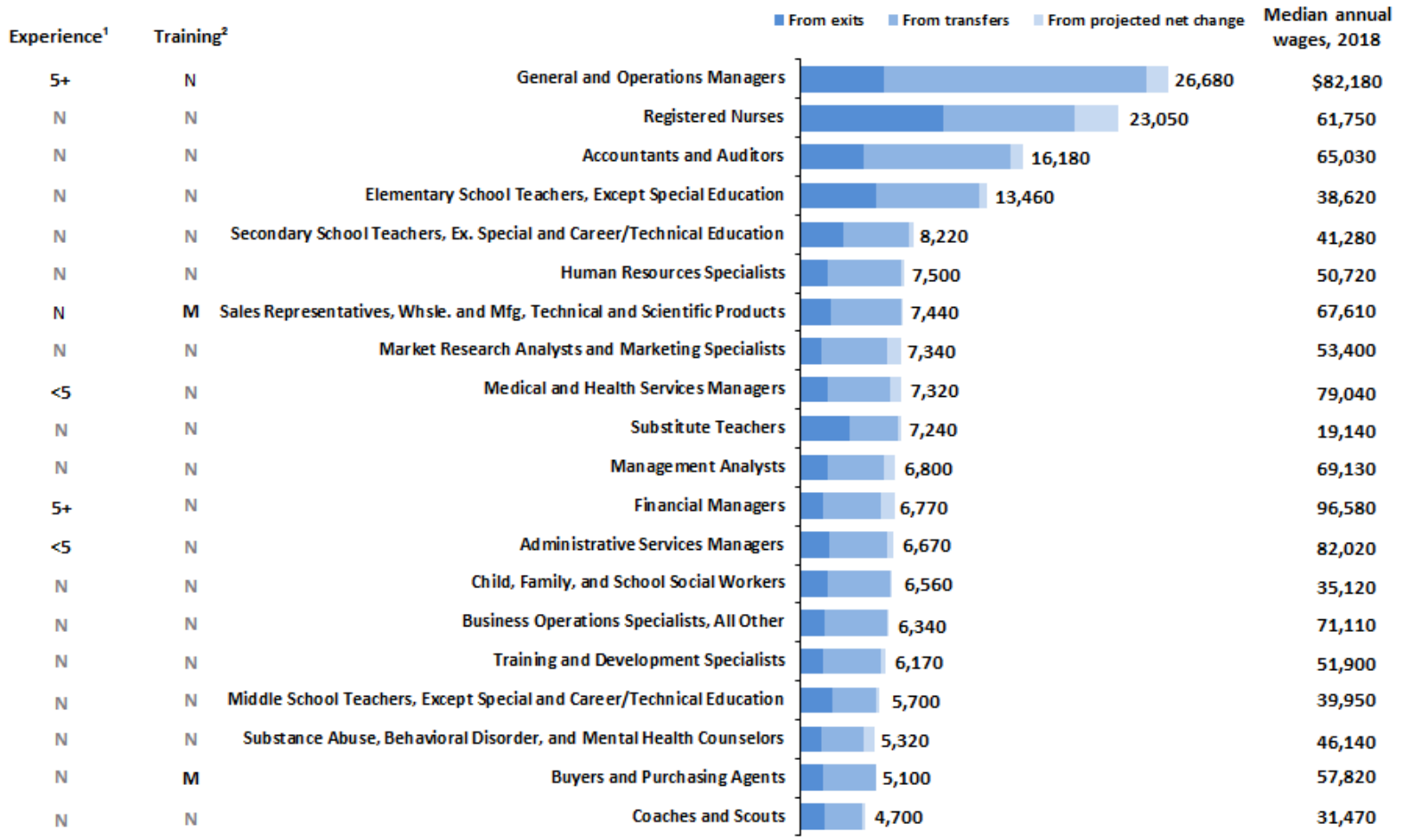
Of the occupations shown here, managers, all other had the highest median annual wage in May 2018.

Chart 10

Occupations that have the most job openings and have a bachelor's degree as the typical level of education needed to enter the occupation, projected 2018–2028



[1] Indicates whether work experience in a related occupation is also typically needed for entry into the occupation. Assignments are more than 5 years (5+), 1–5 years (1–5), less than 1 year (<1), or none (N).

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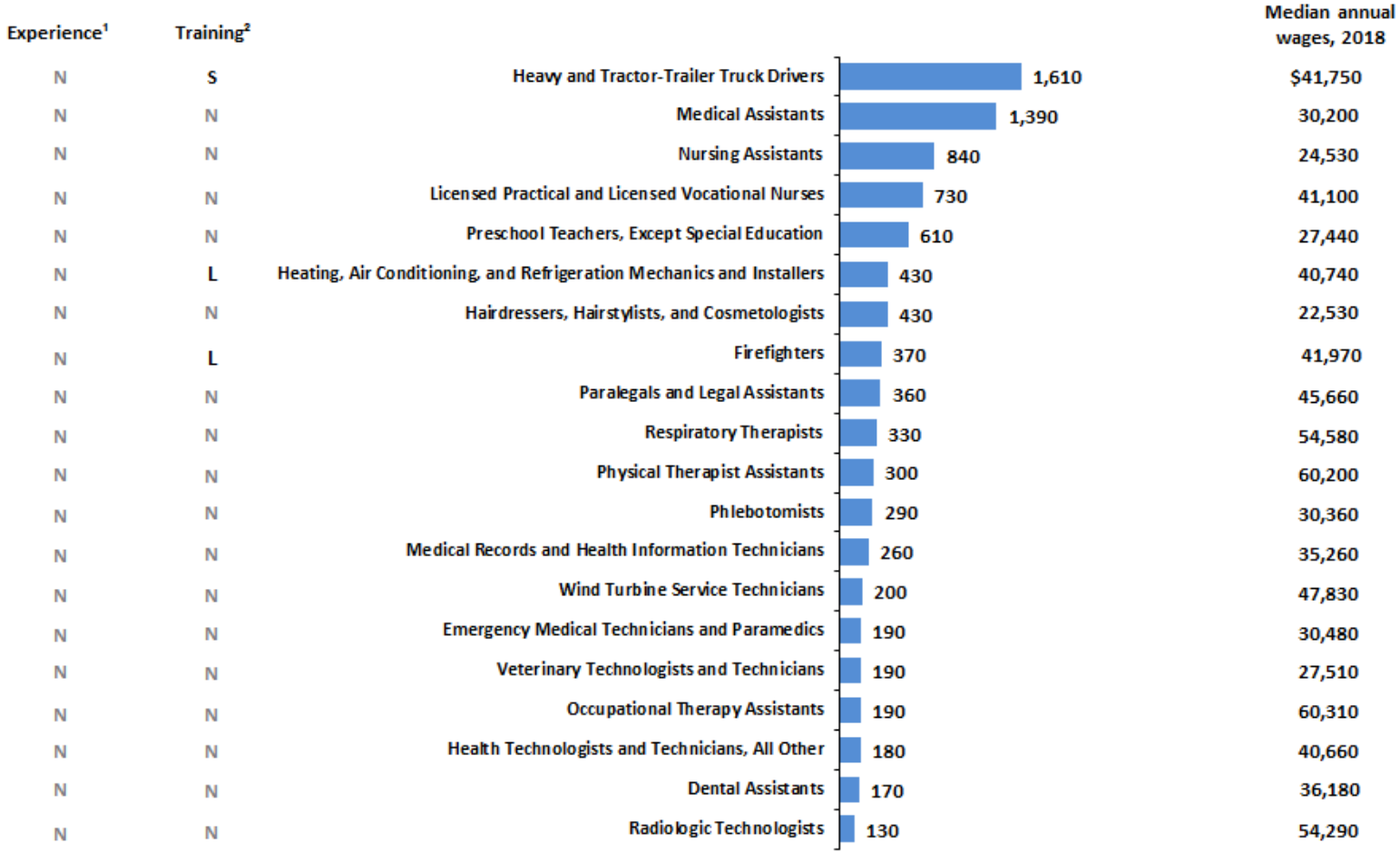
The large number of projected openings for teachers reflects the size of teaching occupations, the need to replace teachers who are expected to retire, and rising student enrollments.

Chart 11

Occupations that have the most growth and have an associate's degree or postsecondary non-degree award as the typical level of education needed to enter the occupation, projected 2018–2028



[1] Indicates whether work experience in a related occupation is also typically needed for entry into the occupation. Assignments are more than 5 years (5+), less than 5 years (<5), or none (N).
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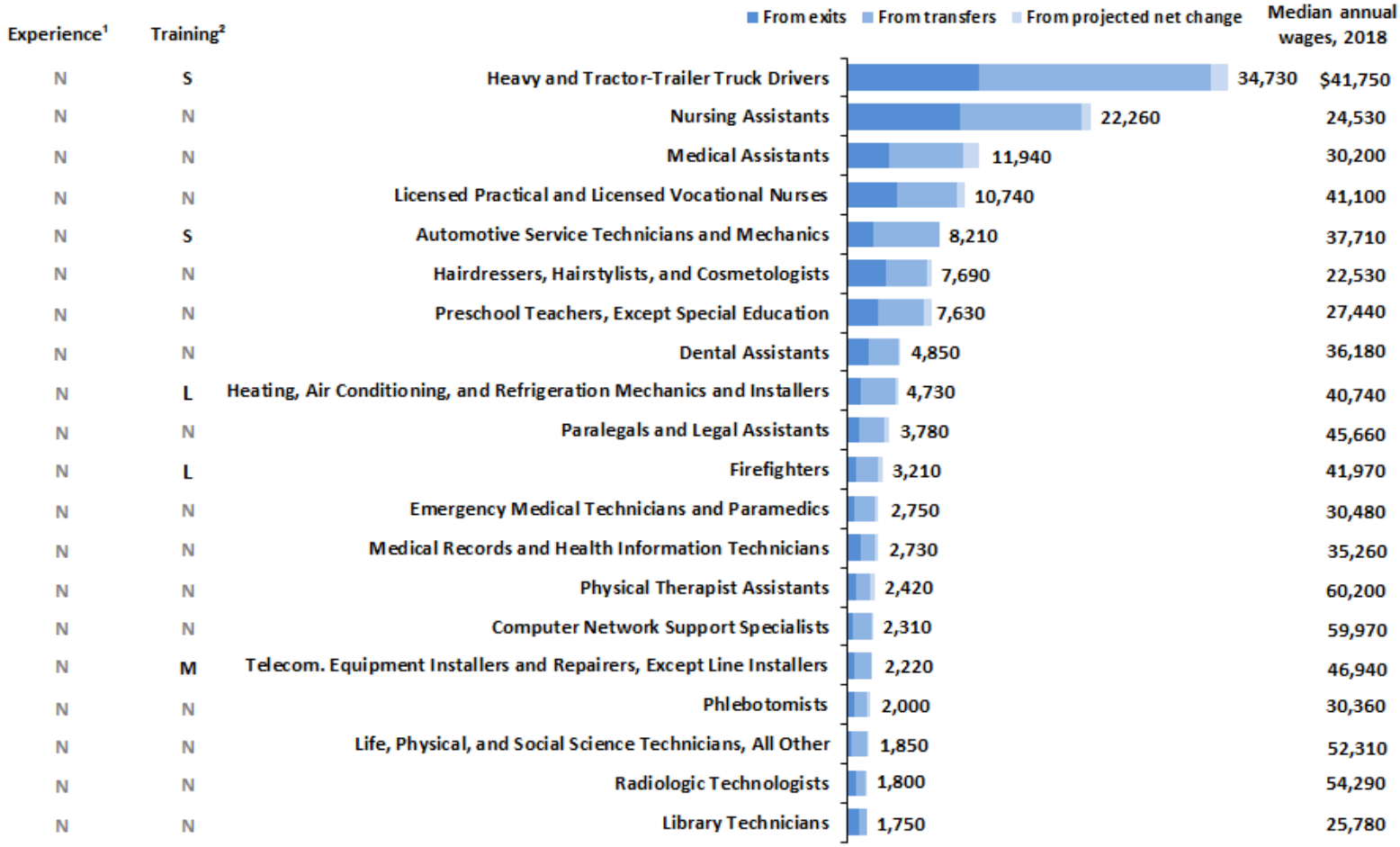
Of the occupations shown here, occupational therapy assistants and physical therapist assistants had the highest median annual wage in May 2018. Both of these occupation require an associate's degree but typically do not require work experience or on-the-job training.

Chart 12

Occupations that have the most job openings and have an associate's degree or postsecondary non-degree award as the typical level of education needed to enter the occupation, projected 2018–2028



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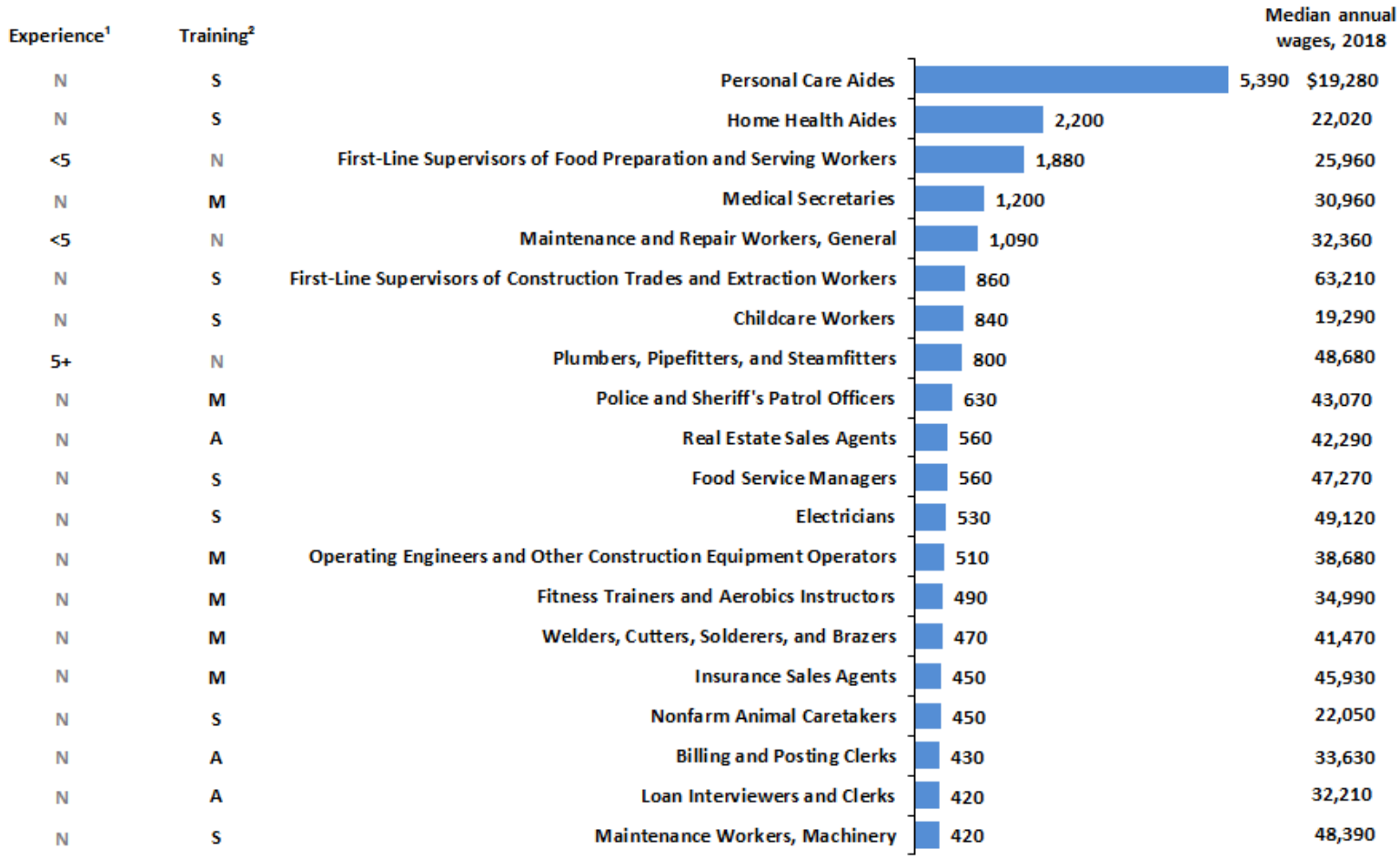
Over the 2018–28 decade, nine of the 20 occupations with the most job openings at this level of education are health-related . Medical assistants had the third-highest number of openings due to projected net change in employment.

Chart 13

Occupations that have the most growth and have a high school diploma or equivalent as the typical level of education needed to enter the occupation, projected 2018–2028



[1] Indicates whether work experience in a related occupation is also typically needed for entry into the occupation. Assignments are more than 5 years (5+), less than 5 year (<5), or none (N).

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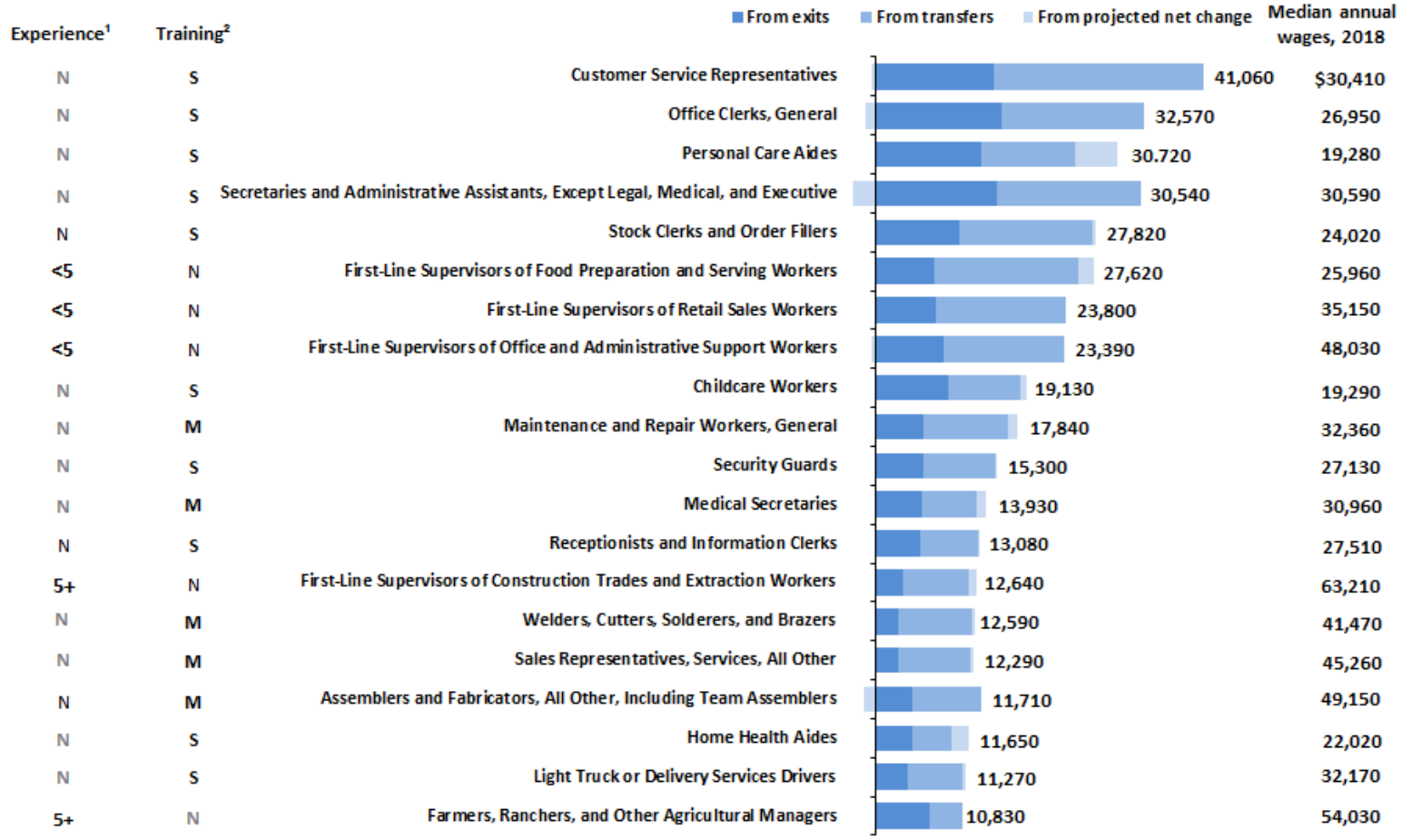
Occupations at this education level need different types of training, ranging from short-term on-the-job training to apprenticeships. Only three of the top twenty fastest-growing occupations in this chart do not typically require some type of on-the-job training.

Chart 14

Occupations that have the most job openings and have a high school diploma or equivalent as the typical level of education needed to enter the occupation, projected 2018–2028

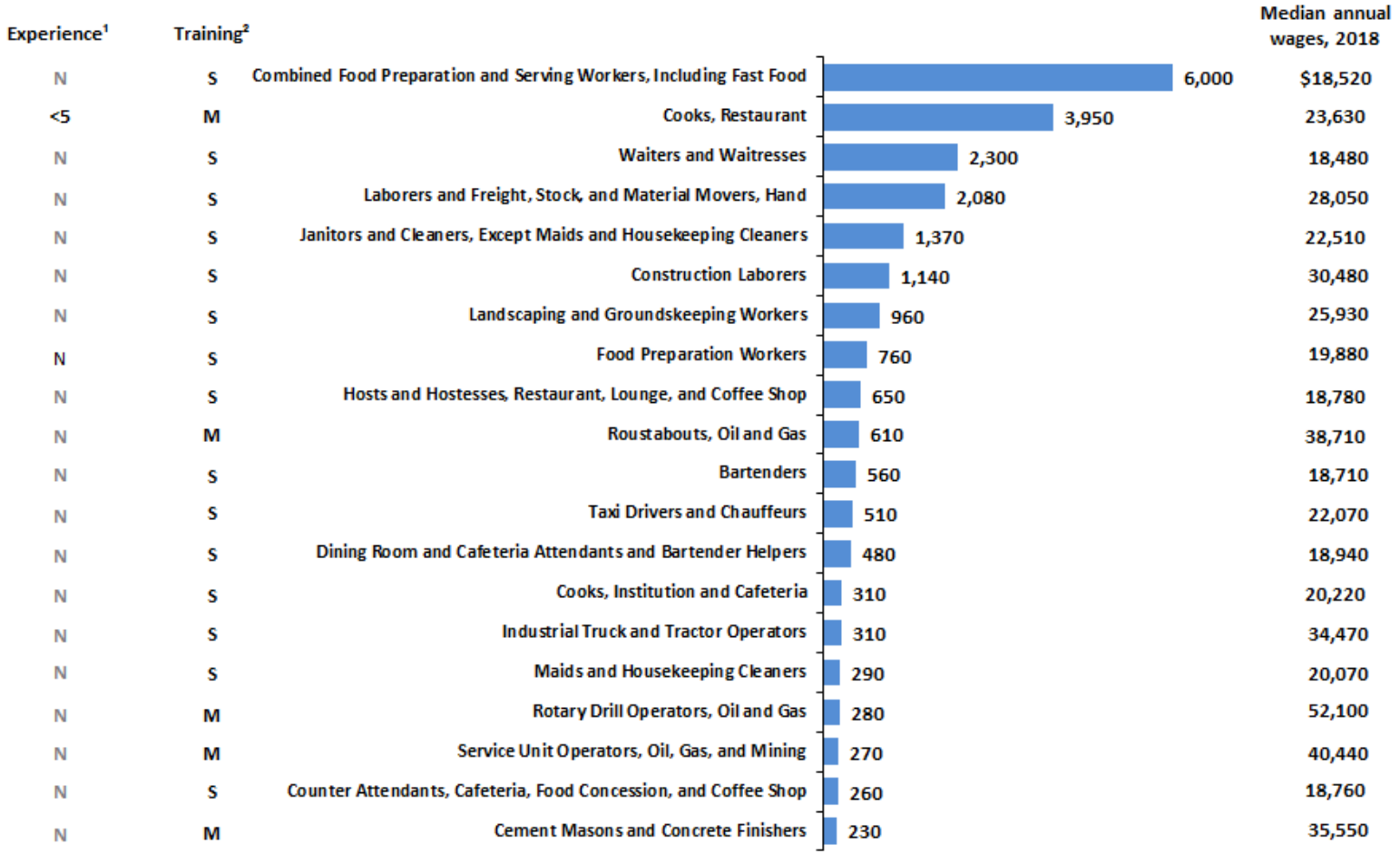


[1] Indicates whether work experience in a related occupation is also typically needed for entry into the occupation. Assignments are more than 5 years (5+), less than 5 years (<5), or none (N).
[2] Indicates whether on-the-job training is typically needed to attain competency in the occupation. Assignments are internship/residency (I/R), apprenticeship (A), long-term (L), moderate-term (M), short-term (S), or none (N).

Of the occupations shown here, first-line supervisors of construction trades and extraction workers had the highest median annual wage in May 2018. This occupation also typically requires 5 years or more of experience.

Chart 15

Occupations that have the most growth and have less than a high school diploma as the typical level of education needed to enter the occupation, projected 2018–2028



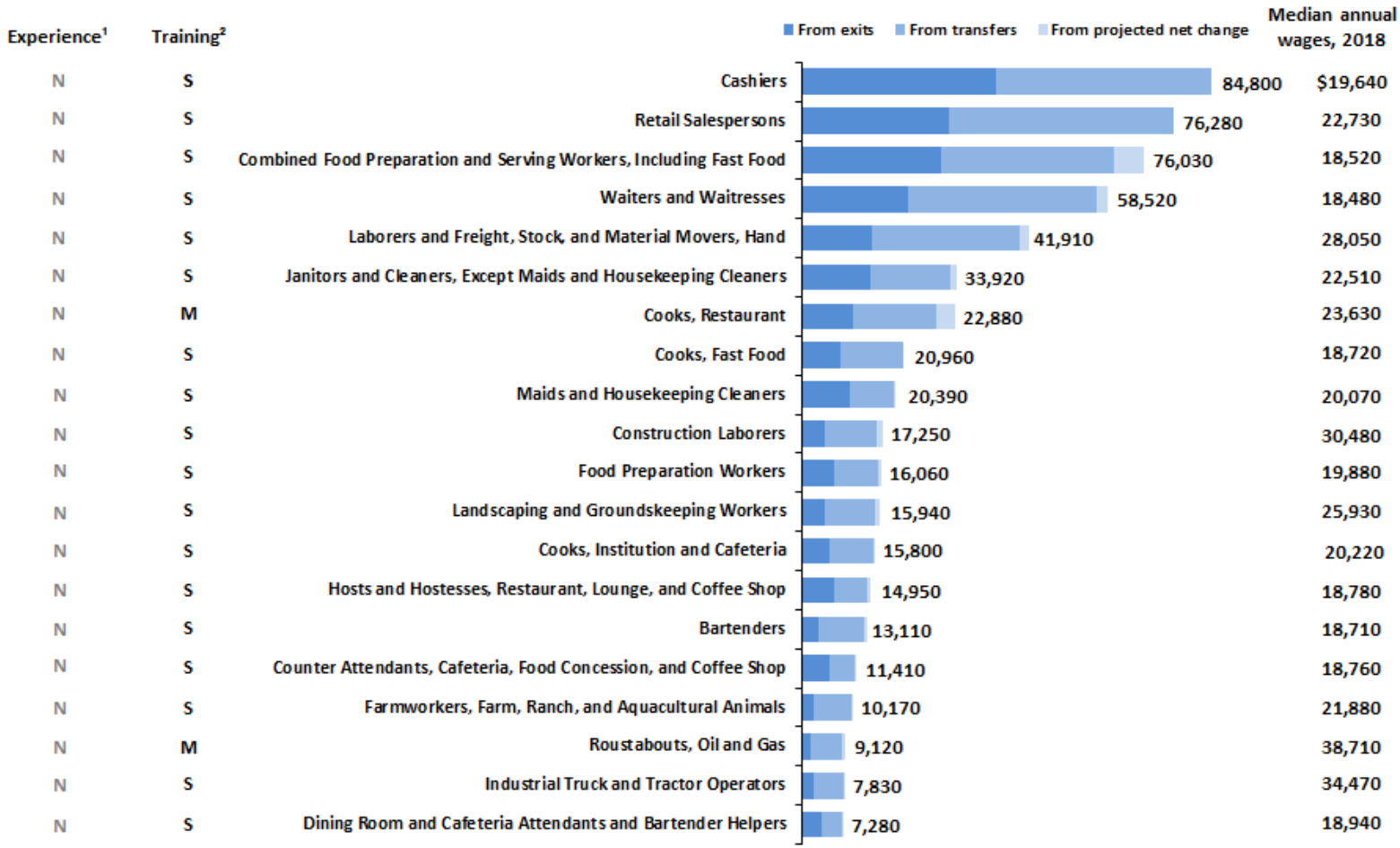
[1] Indicates whether work experience in a related occupation is also typically needed for entry into the occupation. Assignments are more than 5 years (5+), less than 5 years (<5), or none (N).

[2] Indicates whether on-the-job training is typically needed to attain competency in the occupation. Assignments are internship/residency (I/R), apprenticeship (A), long-term (L), moderate-term (M), short-term (S), or none (N).

Workers might not need a high school diploma to enter these occupations, but they will typically need on-the-job training to attain competency.

Chart 16

Occupations that have the most job openings and have less than a high school diploma as the typical level of education needed to enter the occupation, projected 2018–2028

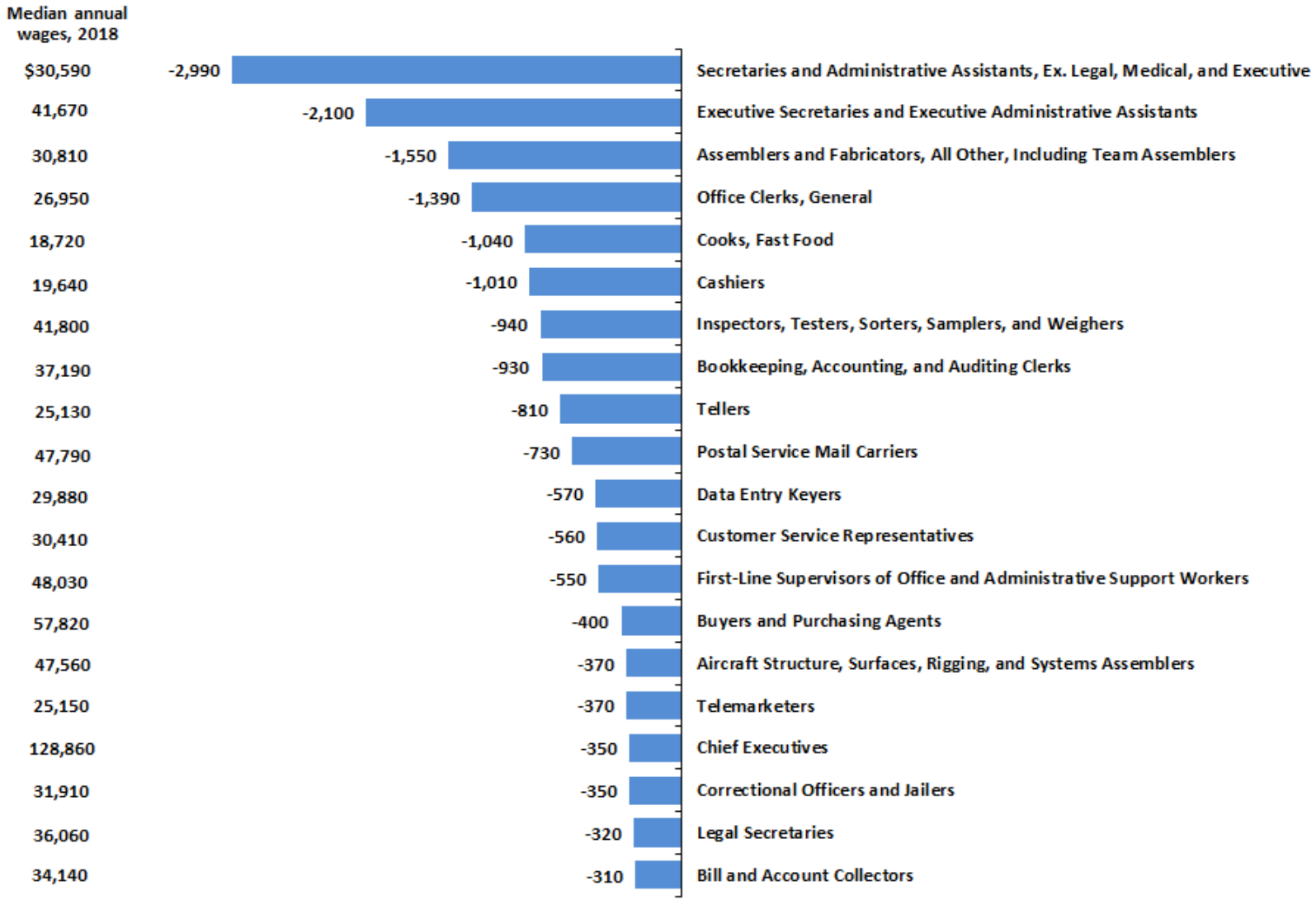


[1] Indicates whether work experience in a related occupation is also typically needed for entry into the occupation. Assignments are more than 5 years (5+), less than 5 years (<5), or none (N).

[2] Indicates whether on-the-job training is typically needed to attain competency in the occupation. Assignments are internship/residency (I/R), apprenticeship (A), long-term (L), moderate-term (M), short-term (S), or none (N).

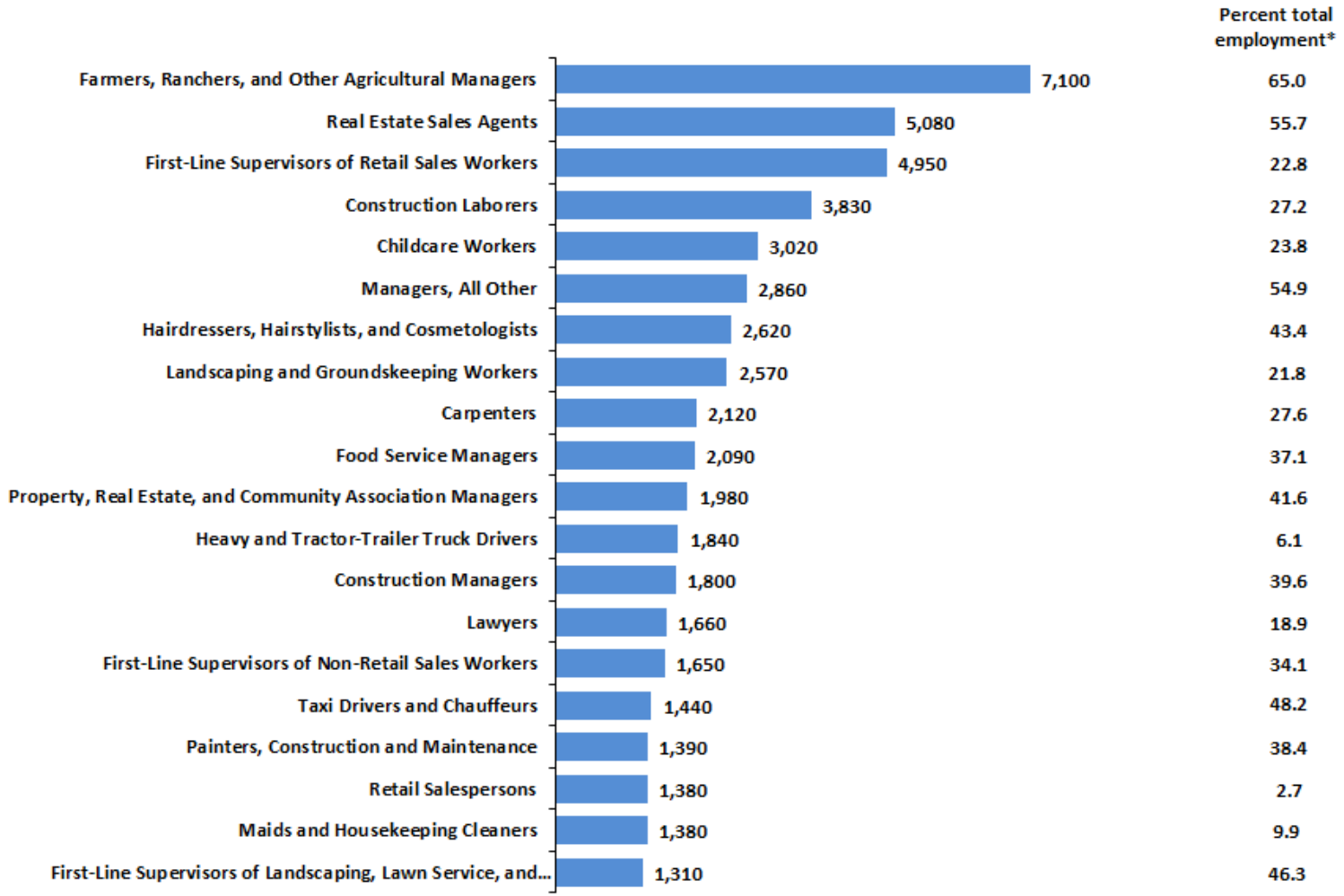
All of the occupations in this chart, (with the exception of roustabouts, oil and gas), had a wage that was lower than $34,560—the median annual wage for all occupations in May 2018.

Chart 17
Largest decline in employment by occupation, projected 2018–2028



These occupations are expected to lose jobs for many reasons, including increasing worker productivity. Even in occupations that are not expected to gain jobs, however, the need to replace existing workers who leave should create some opportunities.

Chart 18
Occupations with the most self-employed jobs, projected 2028



** Total employment includes self-employed jobs, wage and salary jobs, and jobs for unpaid family workers.*

Most of the new jobs added to the economy are expected to be for wage and salary workers; employment of self-employed and unpaid family workers is projected to grow slowly through 2028. Farmers, ranchers, and other agricultural managers are projected to have the most jobs for self-employed workers in 2028, representing approximately 65 percent of total employment in that occupation.

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