Review of Short Term Projections

2020 to 2022 Projection Period

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April 1, 2021

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Executive Summary

This report summarizes short-term employment projections produced by the Research & Analysis Bureau of Nevada's Department of Employment, Training, and Rehabilitation. These projections are funded by the U.S. Department of Labor, Employment and Training Administration through the Workforce Information Grants to States.

Overall, these projections reflect the early rebound from the COVID-19 pandemic as compared to the second quarter of 2020. While these projections reflect employment gains of nearly 228,000 jobs over a two-year period, when compared to 2019 total growth is largely flat. In the second quarter of 2019, state employment data from the QCEW program showed just over 1.4 million jobs in the state; these projectctions estimate a total of 1.46 million jobs in the second quarter of 2022. Further, these projections include workers not covered by the QCEW program, such that projected employment in Nevada is virtually flat from 2019 to 2022.

Despite overall employment projected to be virtually flat, the impacts to specific industries and occupations vary widely. The warehousing & storage, educational services, and specialty trade contractor industries are expected to see significant growth of over 5,000 jobs in the 2019 to 2022 period, while accommodation and food services industries are projected to remain over 50,000 total jobs below pre-COVID levels.

Occupational projections cannot be directly compared to 2019 data, and projected openings by occupation incorporate both industry growth and individual transitions to other jobs. Of the fifty occupations projected to add the most jobs from 2020 to 2022, eleven pay an average wage above the 2019 state average of $20.77, and seventeen more pay an average of above $15 per hour, in addition to elementary school teachers (who are classified with an annual wage, not an hourly wage). Further, of those occupations expected to have the highest rate of growth, twelve pay above-average wages, fourteen pay above $15 per hour, and the remainder pay less than $15 per hour on average. These fast-growing occupations tend to be smaller than larger occupations in the state.

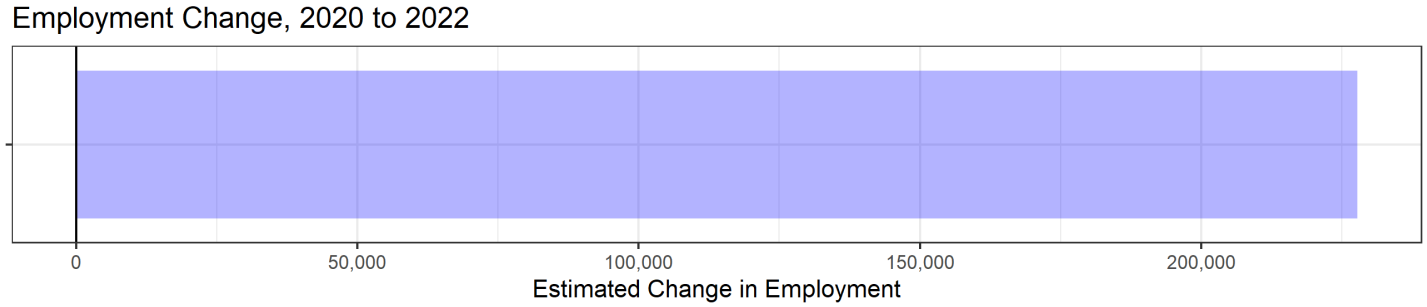
Finally, this report looks at a comparison of projected employment levels and the employment outcomes of people in Nevada's workforce Development system. Overall, there is broad alignment between the jobs people get and the jobs in the state, with potential opportunities in the education, health care, and construction sectors.

Overall, these projections highlight the ongoing and potentially lasting impacts of the COVID-19 pandemic, and the potential for lasting shifts in employment within the accommodation & food service industry in Nevada.

Projections by Industry

Projection Period

Employment projections in Nevada are first produced at the industry level, and cover the second quarter of the base year to the second quarter of the projection year. In a typical year, this base quarter selection does not have a significant impact on employment projections; that was not the case in 2020. With the second quarter of 2020 refecting the peak employment impact caused by the COVID-19 pandemic, projections from this point include both normal sources of employment growth as well as ongoing bounceback from the temporary shutdown of nonessential businesses in the state.



In order to account for these impacts, this repot incorporates data from the second quarter of 2019 as well, to show the job loss from 2019 to 2020, and the rebound from 2020 to 2022 in context. These charts show actual and projected employment change across the 2019 to 2022 period, with the 2019 to 2020 impact in red and the 2020 to 2022 impact in blue. The black dot represents the combined 2019 to 2022 value.

Detailed Industry Projections

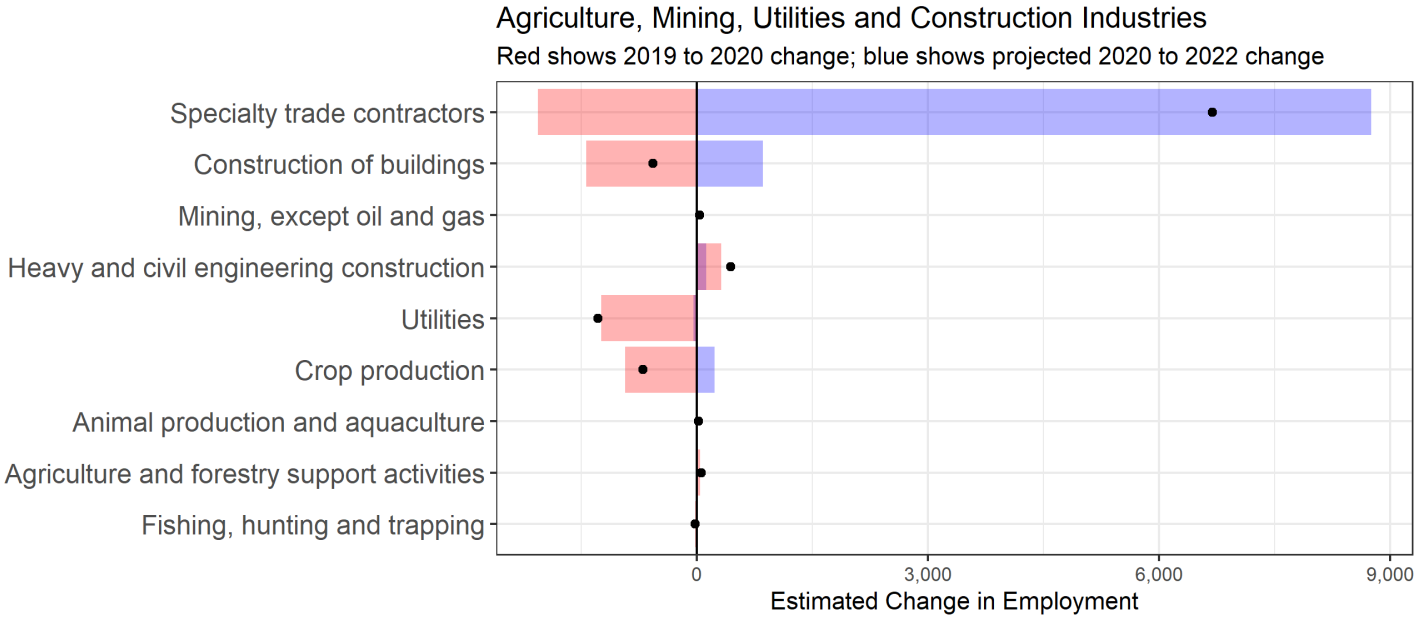
Industries are classified according to the North American industrial Classification System (NAICS). This system uses a hierarchical classification system where each digit in a six-digit code provides more granular information about the industry. For example, NAICS 722211[1] is the code for a "Limited-Service Restaurant" such as a fast food establishment. The coding for this establishment tells us the following:

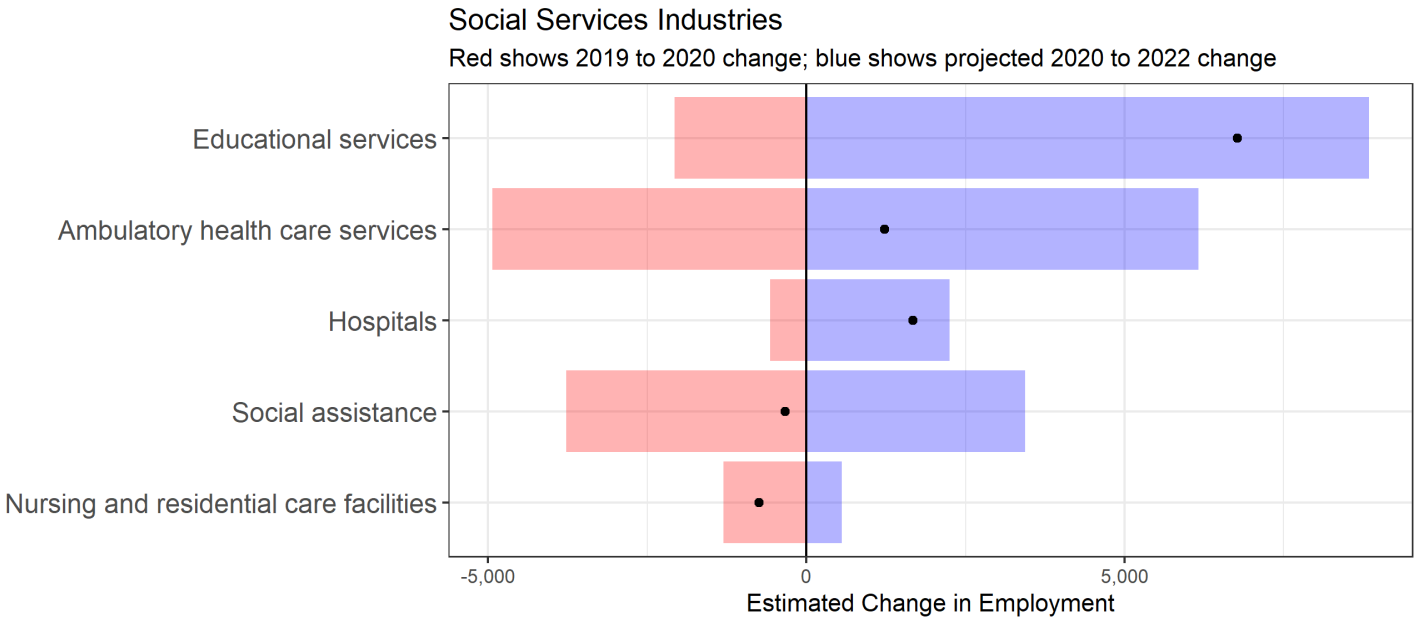
- Broadly, this business is in the **Accommodation and Food Services** sector (NAICS 72)
- This is in the **Food Services and Drinking Places** subsector (NAICS 722), distinct from businesses providing traveler accommodation.
- This is in the **Limited-Service Eating Places** industry (NAICS 7222), distinct from businesses providing food at the customer's location or in other means.
- Within the **Limited-Service Eating Places** industry (NAICS 72221) this is distinct from other Limited-Service Eating Places such as cafeterias.

Industry projections are done at the three-digit NAICS level to provide some granularity to the projections, but does not go to deeper levels in order to avoid introducing additional error to the projections by trying to draw fine distinctions between industries where less detailed data would be available to support any conclusions.

Projected Change in Total Jobs

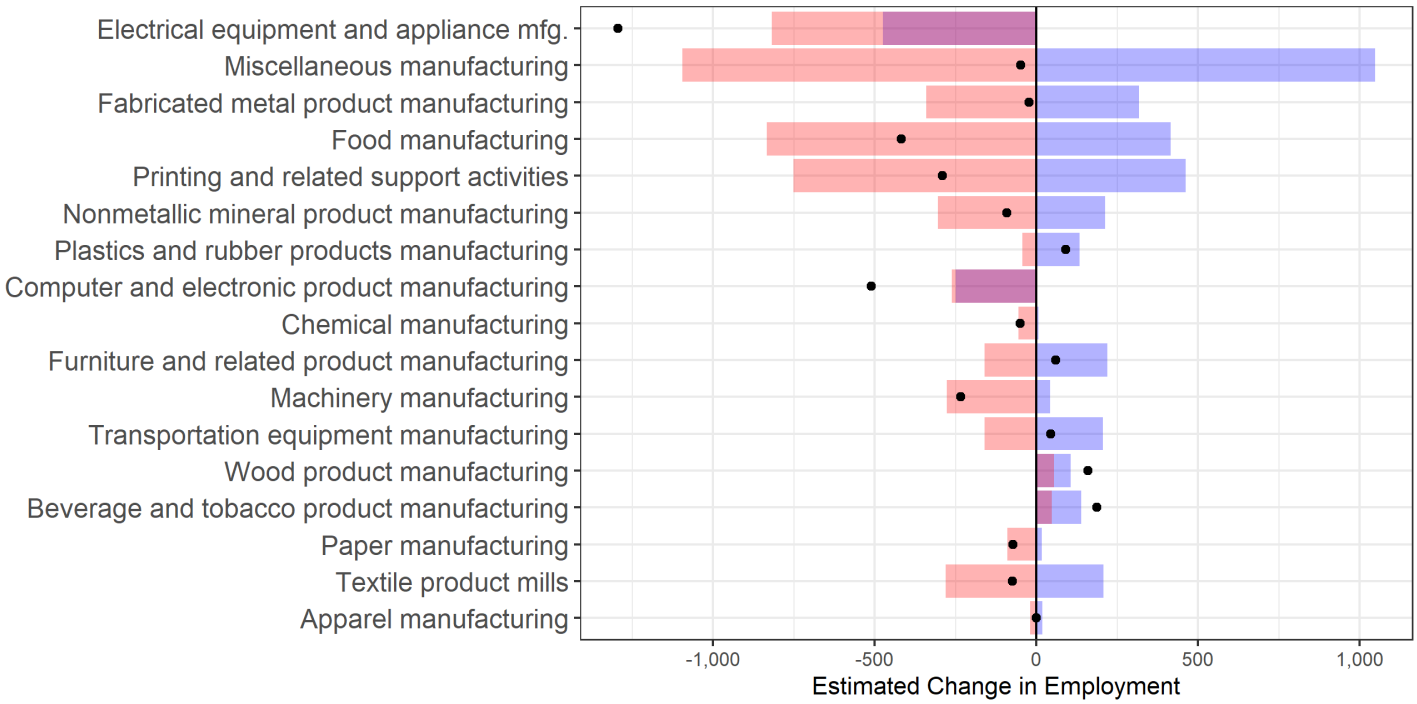
This first series of charts looks at the actual and projected change in the total number of jobs, identifying industries where the swings in employment are most pronounced. Due to the particular impact of COVID-19 on the leisure and hospitality industry and the size of that industry in Nevada, the accommodation industry (NAICS 721) and food services industry (NAICS 722) have seen the largest swings.





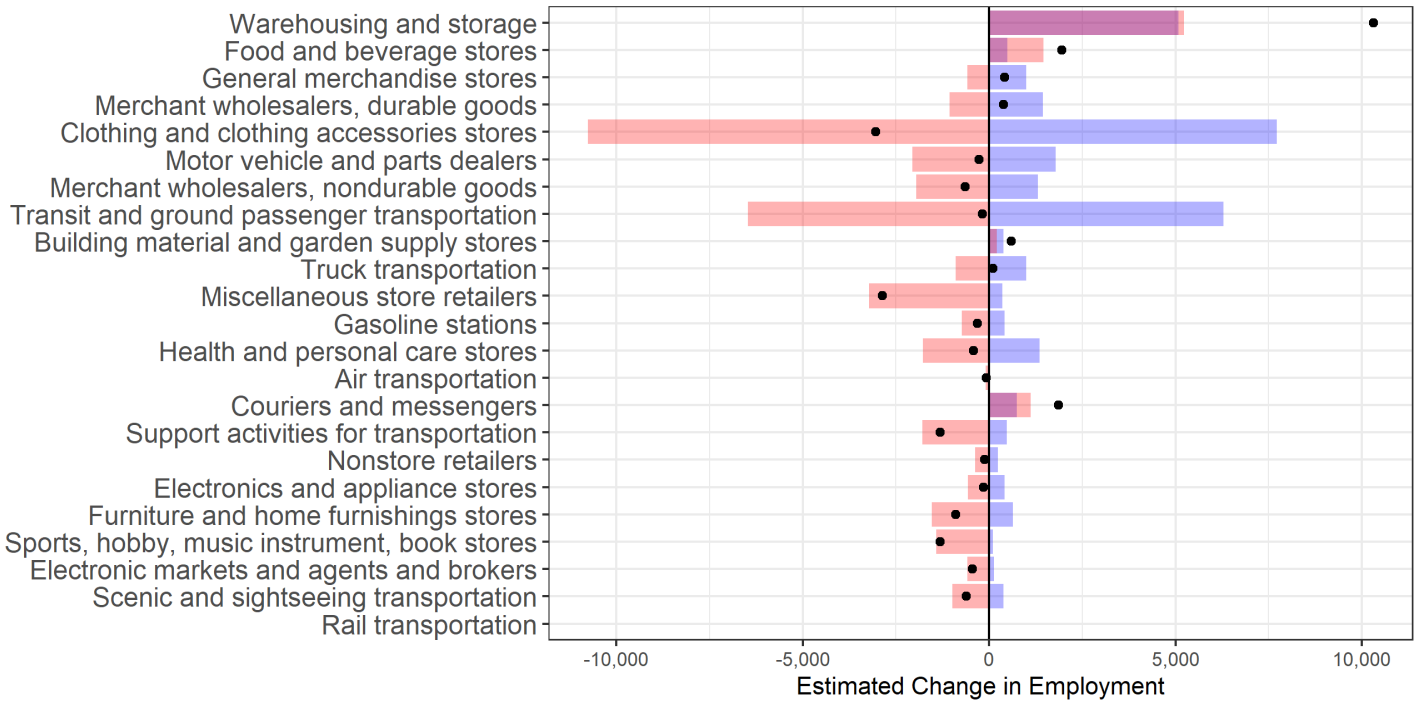
Manufacturing Industries

Red shows 2019 to 2020 change; blue shows projected 2020 to 2022 change



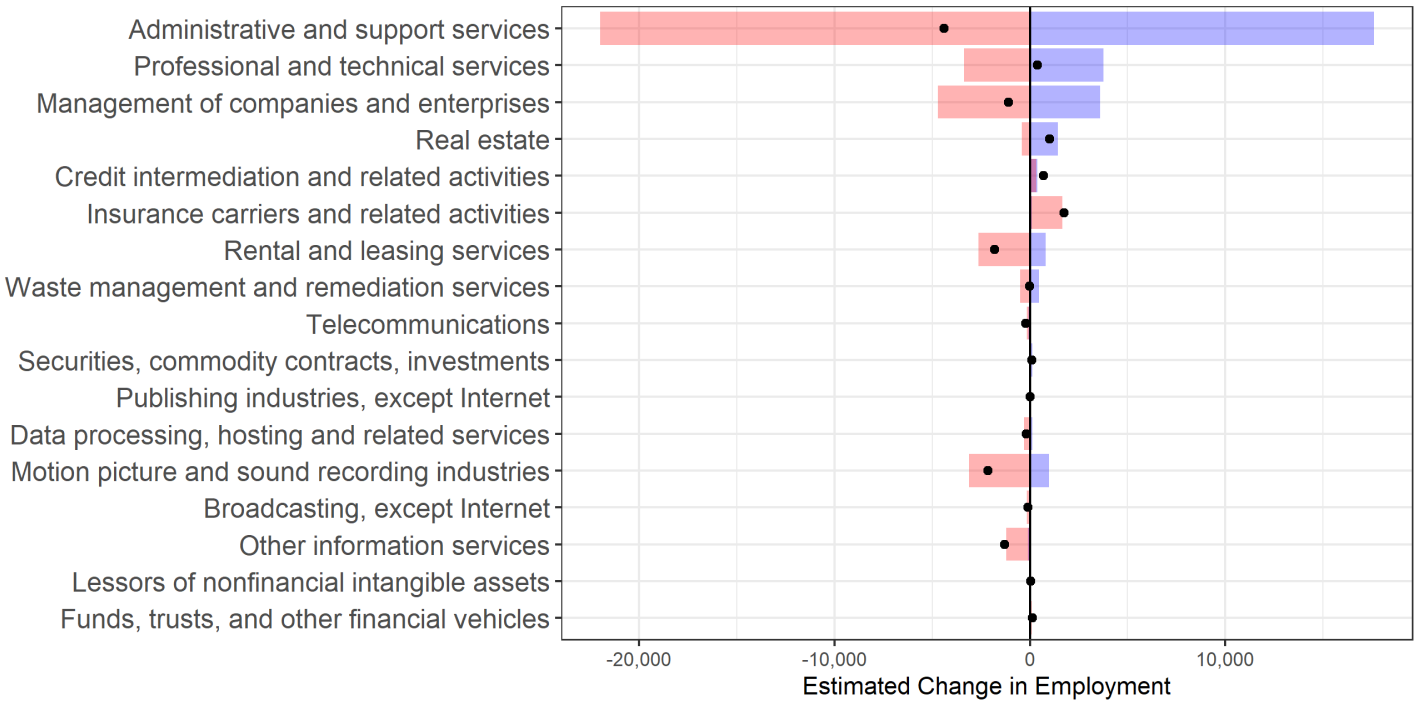
Trade, Transportation and Warehousing Industries

Red shows 2019 to 2020 change; blue shows projected 2020 to 2022 change



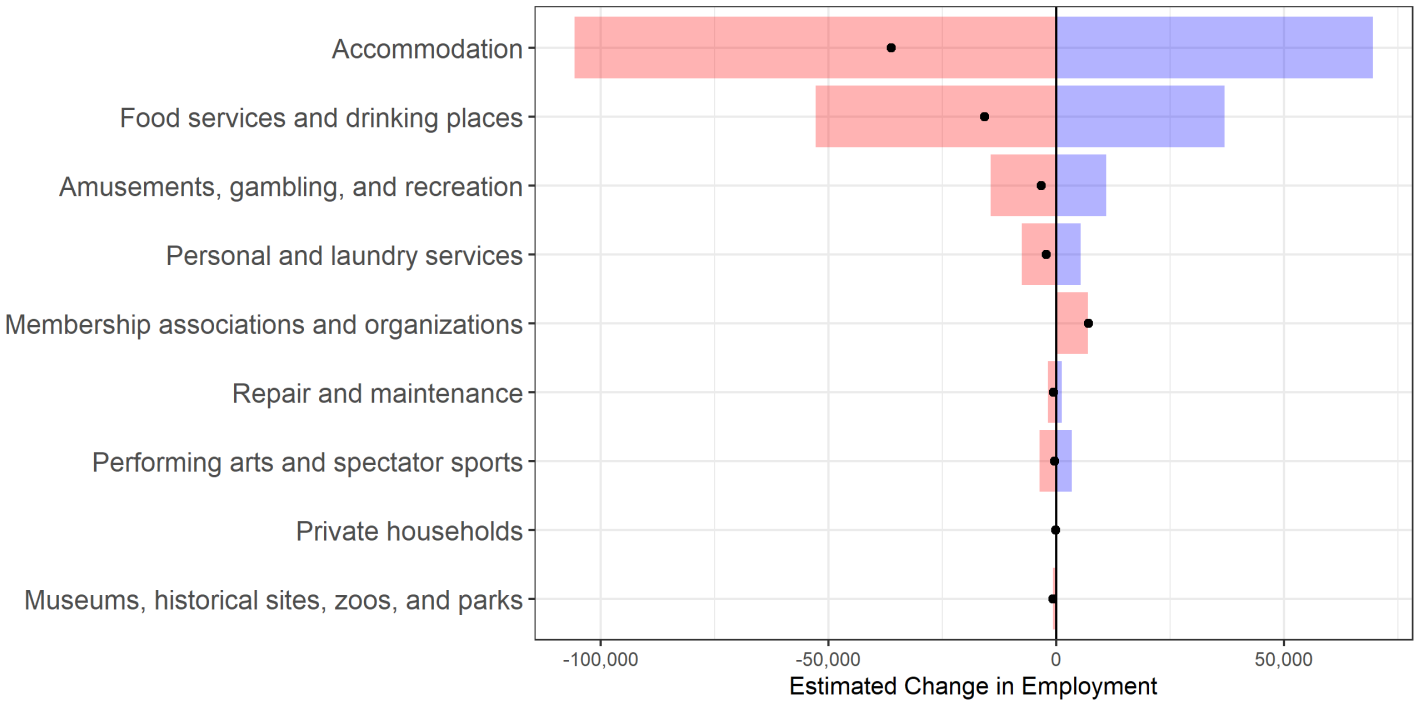
Professional Services Industries

Red shows 2019 to 2020 change; blue shows projected 2020 to 2022 change



Personal Services Industries

Red shows 2019 to 2020 change; blue shows projected 2020 to 2022 change



Industries with Largest Projected and Actual Gains

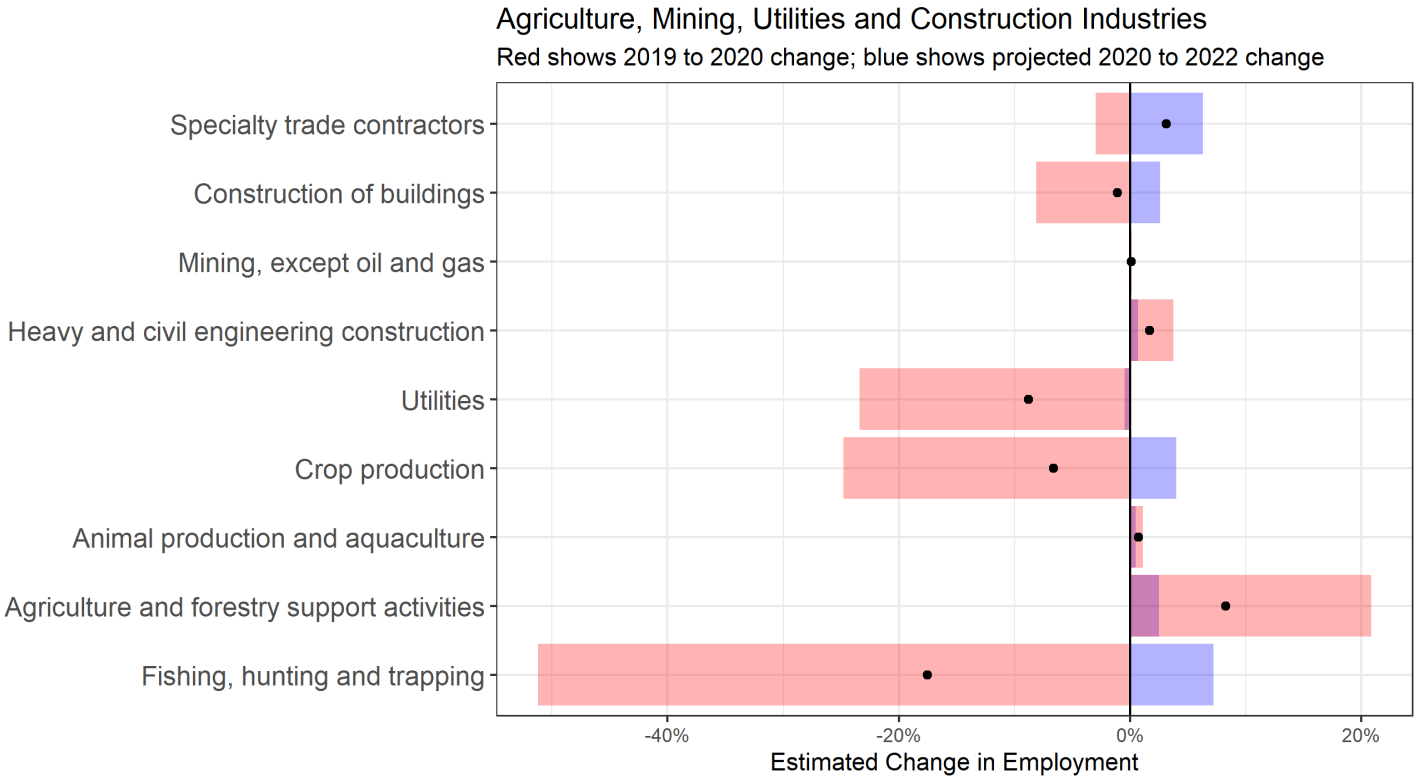
Largest Gains	Employment			Employment Change		
	2019	2020	2022	2019 to 2020	2020 to 2022	2019 to 2022
Warehousing and storage	23,917	29,151	34,226	5,234	5,075	10,309
Membership associations and organizations	6,346	13,290	13,509	6,944	219	7,163
Educational services	84,656	82,590	91,428	−2,066	8,838	6,772
Specialty trade contractors	69,321	67,262	76,013	−2,059	8,751	6,692
Food and beverage stores	24,686	26,144	26,640	1,458	496	1,954
Couriers and messengers	6,029	7,149	7,896	1,120	747	1,867

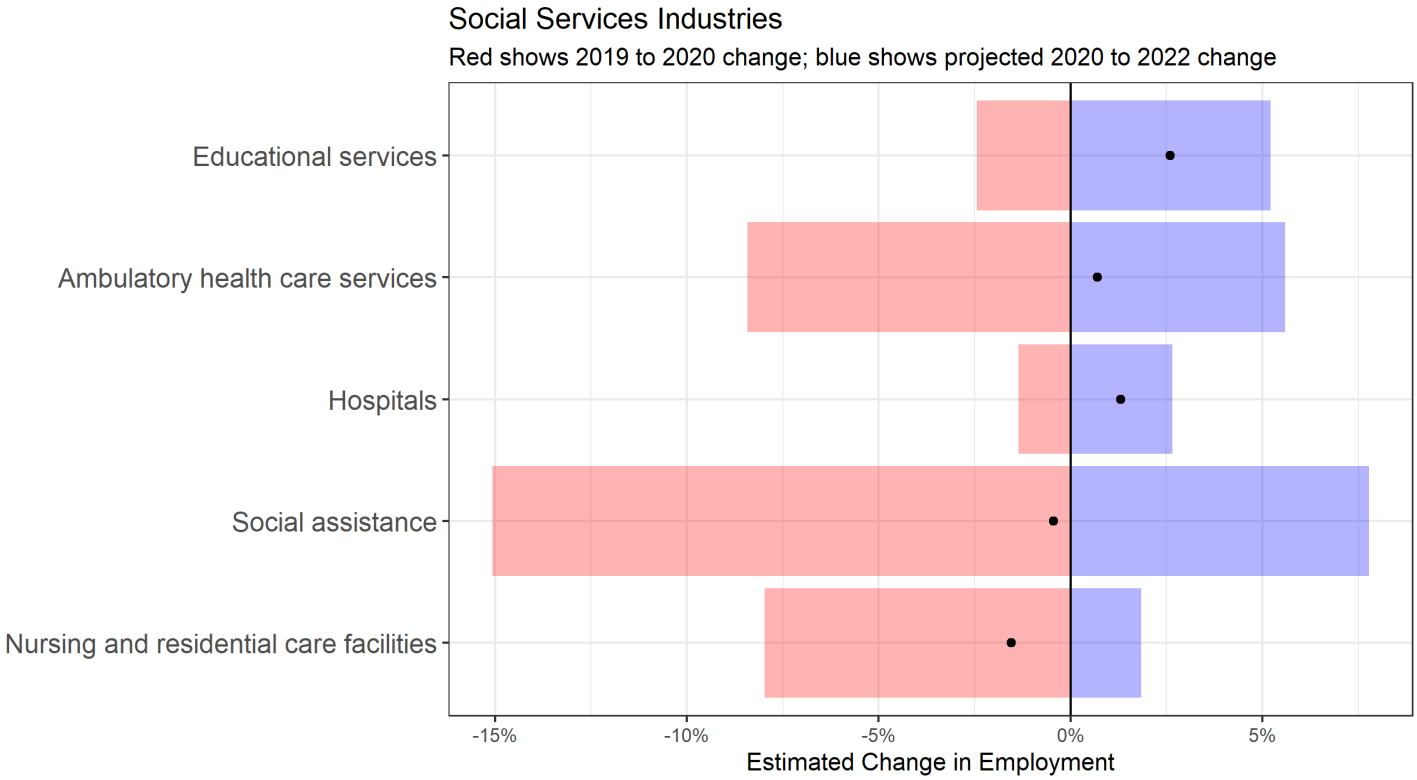
Industries with Greatest Projected and Actual Declines

Greatest Declines	Employment			Employment Change		
	2019	2020	2022	2019 to 2020	2020 to 2022	2019 to 2022
Accommodation	191,000	85,267	154,803	−105,733	69,536	−36,197
Food services and drinking places	133,161	80,372	117,404	−52,789	37,032	−15,757
Administrative and support services	102,110	80,114	97,723	−21,996	17,609	−4,387
Amusements, gambling, and recreation	27,561	13,210	24,264	−14,351	11,054	−3,297
Clothing and clothing accessories stores	19,934	9,169	16,892	−10,765	7,723	−3,042
Miscellaneous store retailers	11,864	8,650	8,999	−3,214	349	−2,865

Projected Relative Change in Jobs

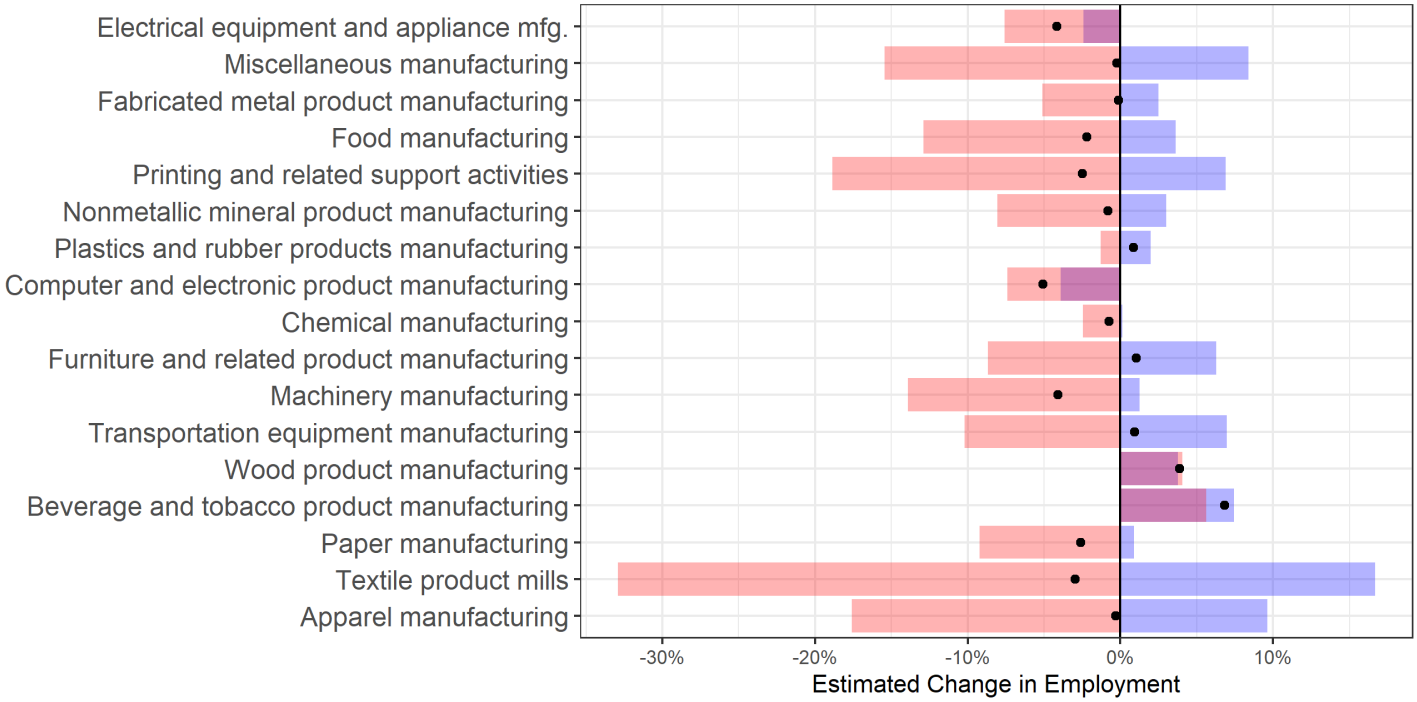
Another way to examine projected changes is to look at the relative change. Looking at the total change in jobs helps us see where the broad economy is heading, but looking at jobs with a large relative change in employment can help us determine which areas of the economy are expected to experience the most rapid changes. One challenge that we face with these projections is that calculating a relative change depends on the base that is used for comparison, and this difference becomes important once there are large changes. For example, if you have $500 and lose half of your money - a 50% decline - you are left with $250. But if you have $250 and have a 50% increase in your money, you gain just $125, and are left with $375. In the same way, the share of jobs lost from 2019 to 2020 will be relatively smaller than the annual share of jobs gained from 2020 to 2022, because employment in 2020 was lower than in 2019. For comparison, all changes in jobs are presented as an annual rate of change.


Agriculture, Mining, Utilities and Construction Industries
Red shows 2019 to 2020 change; blue shows projected 2020 to 2022 change
Specialty trade contractors
Construction of buildings
Mining, except oil and gas
Heavy and civil engineering construction
Utilities
Crop production
Animal production and aquaculture
Agriculture and forestry support activities
Fishing, hunting and trapping
-40%
-20%
0%
20%
Estimated Change in Employment


Social Services Industries
Red shows 2019 to 2020 change; blue shows projected 2020 to 2022 change
Educational services
Ambulatory health care services
Hospitals
Social assistance
Nursing and residential care facilities
-15%
-10%
-5%
0%
5%
Estimated Change in Employment

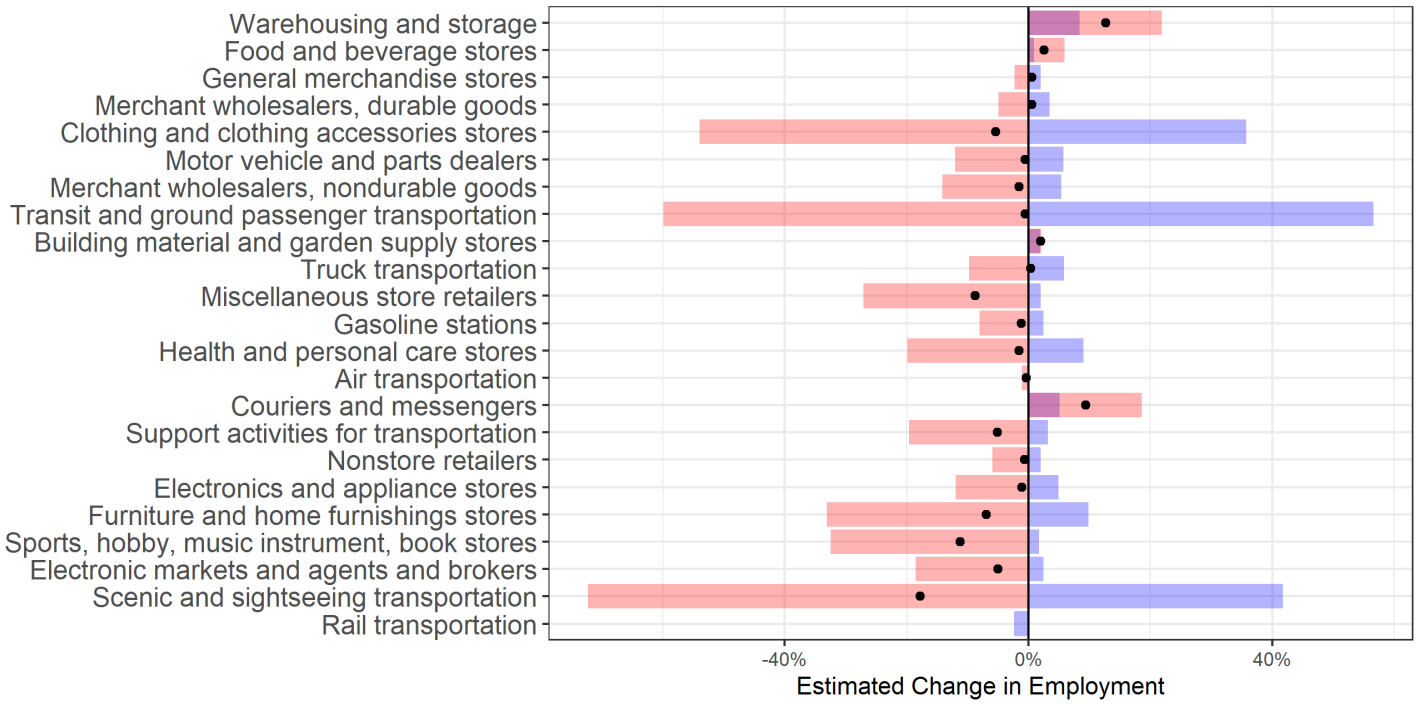
Manufacturing Industries

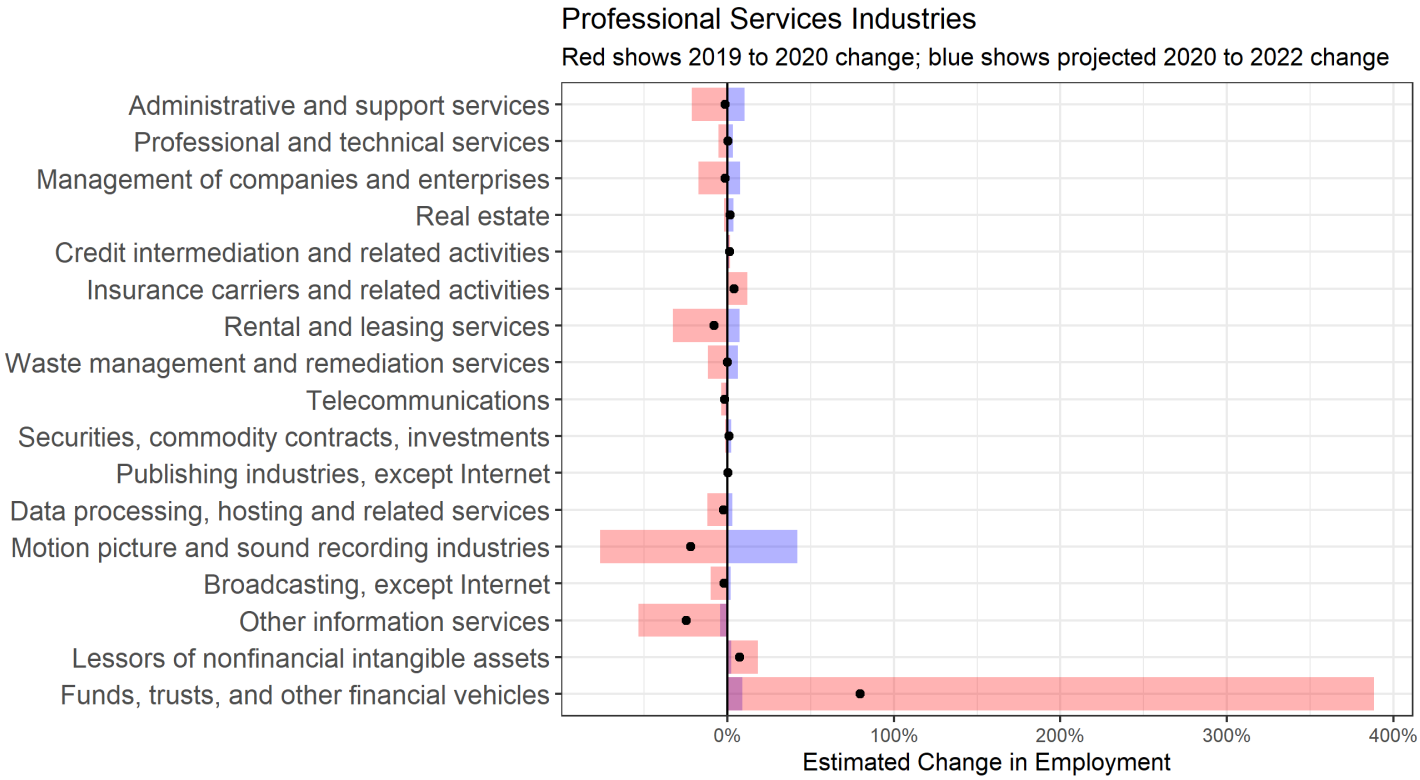
Red shows 2019 to 2020 change; blue shows projected 2020 to 2022 change

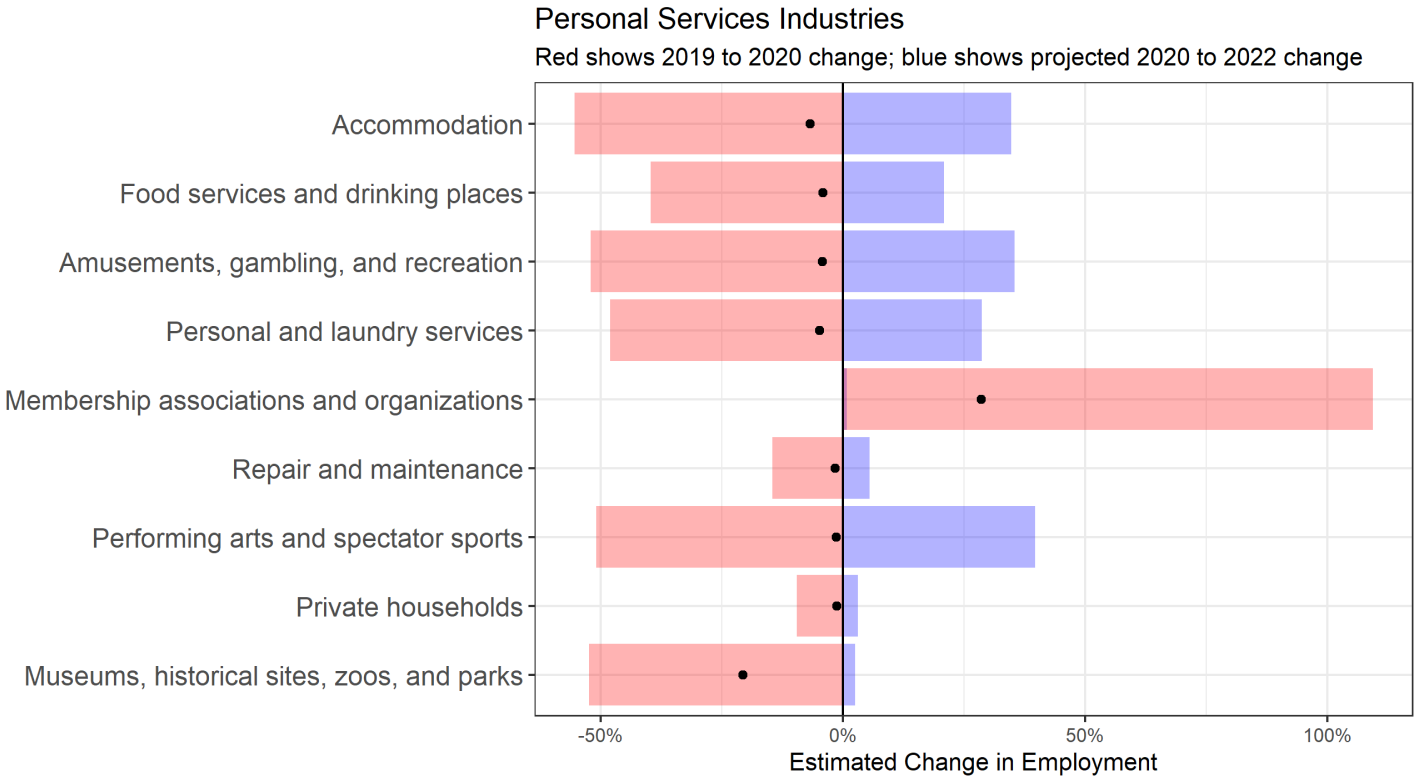


Trade, Transportation and Warehousing Industries

Red shows 2019 to 2020 change; blue shows projected 2020 to 2022 change




Professional Services Industries
Red shows 2019 to 2020 change; blue shows projected 2020 to 2022 change
Administrative and support services
Professional and technical services
Management of companies and enterprises
Real estate
Credit intermediation and related activities
Insurance carriers and related activities
Rental and leasing services
Waste management and remediation services
Telecommunications
Securities, commodity contracts, investments
Publishing industries, except Internet
Data processing, hosting and related services
Motion picture and sound recording industries
Broadcasting, except Internet
Other information services
Lessors of nonfinancial intangible assets
Funds, trusts, and other financial vehicles
0%
100%
200%
300%
400%
Estimated Change in Employment


Personal Services Industries
Red shows 2019 to 2020 change; blue shows projected 2020 to 2022 change
Accommodation
Food services and drinking places
Amusements, gambling, and recreation
Personal and laundry services
Membership associations and organizations
Repair and maintenance
Performing arts and spectator sports
Private households
Museums, historical sites, zoos, and parks
-50%
0%
50%
100%
Estimated Change in Employment

Industries with Largest Projected and Actual Relative Gains

Fastest Growth	Employment			Employment Change		
	2019	2020	2022	2019 to 2020	2020 to 2022	2019 to 2022
Funds, trusts, and other financial vehicles	26	127	151	388.5%	9.0%	79.7%
Membership associations and organizations	6,346	13,290	13,509	109.4%	0.8%	28.6%
Warehousing and storage	23,917	29,151	34,226	21.9%	8.4%	12.7%
Couriers and messengers	6,029	7,149	7,896	18.6%	5.1%	9.4%
Agriculture and forestry support activities	211	255	268	20.9%	2.5%	8.3%
Lessors of nonfinancial intangible assets	126	149	156	18.3%	2.3%	7.4%
Beverage and tobacco product manufacturing	853	901	1,040	5.6%	7.4%	6.8%
Insurance carriers and related activities	13,828	15,481	15,589	12.0%	0.3%	4.1%
Wood product manufacturing	1,326	1,380	1,486	4.1%	3.8%	3.9%

Industries with Greatest Projected and Actual Relative Declines

Fastest Decline	Employment			Employment Change		
	2019	2020	2022	2019 to 2020	2020 to 2022	2019 to 2022
Other information services	2,245	1,044	954	−53.5%	−4.4%	−24.8%
Motion picture and sound recording industries	4,072	954	1,927	−76.6%	42.1%	−22.1%
Museums, historical sites, zoos, and parks	1,306	622	655	−52.4%	2.6%	−20.5%
Scenic and sightseeing transportation	1,364	377	758	−72.4%	41.8%	−17.8%
Fishing, hunting and trapping	41	20	23	−51.2%	7.2%	−17.5%
Sports, hobby, music instrument, book stores	4,388	2,964	3,067	−32.5%	1.7%	−11.3%
Miscellaneous store retailers	11,864	8,650	8,999	−27.1%	2.0%	−8.8%
Utilities	5,301	4,061	4,021	−23.4%	−0.5%	−8.8%
Rental and leasing services	7,990	5,370	6,184	−32.8%	7.3%	−8.2%

Projections by Occupation

Relationship to Industry Projections

After industry projections are prepared, additional analysis is done to apply historical relationships between industries and occupations to determine the estimated changes in occupational employment as a result of the projected changes to industry employment. These changes are categorized into the source of changes to help determine the types of changes taking place in the labor market. Total occupational employment projections are comprised of the following factors:

1. **Occupational Exits** - How many workers are expected to leave this occupation and exit the workforce?
2. **Occupational Transfers** - How many net workers are expected to transfer within the labor force into or out of this occupation?
3. **Industry Growth** - How much will this occupation grow or shrink due to the growth or decline of the industries where these workers are employed?

Data on occupational exits and transfers are provided by the Bureau of Labor Statistics (BLS) and further discussion on the topic may be found on the BLS website[2]. This information is important because it highlights that occupational needs are not just a function of industry growth in Nevada, but also opportunities that arise as people move through their unique career paths.

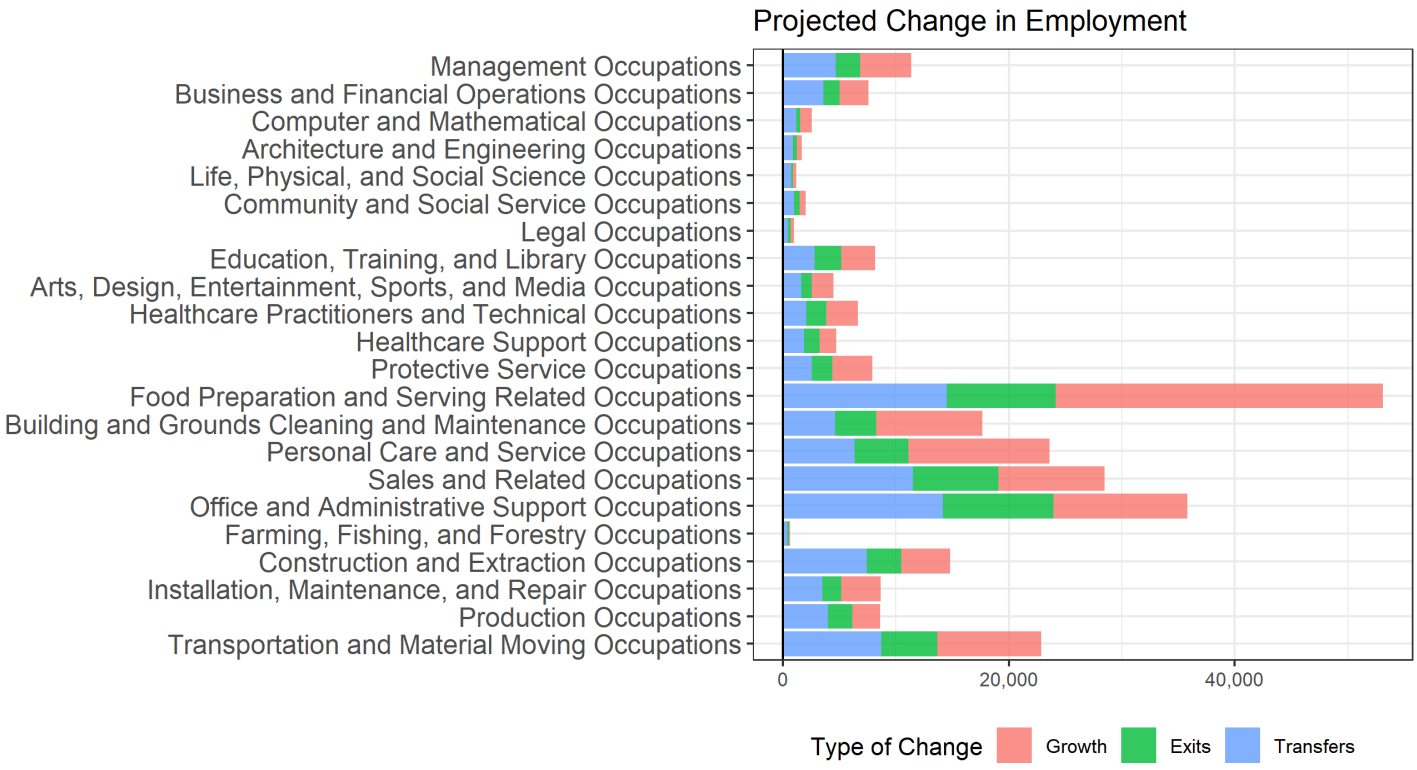
Because of the nature of Occupational Employment Statistics data, a direct comparison of estimated and projected employment levels to 2019 data is not possible, as this survey is not classified as a time series[3]. However, this analysis will focus on the exit / transfer / growth factors behind the occupational employment projections, and include information about the wages these occupations earned in 2019.

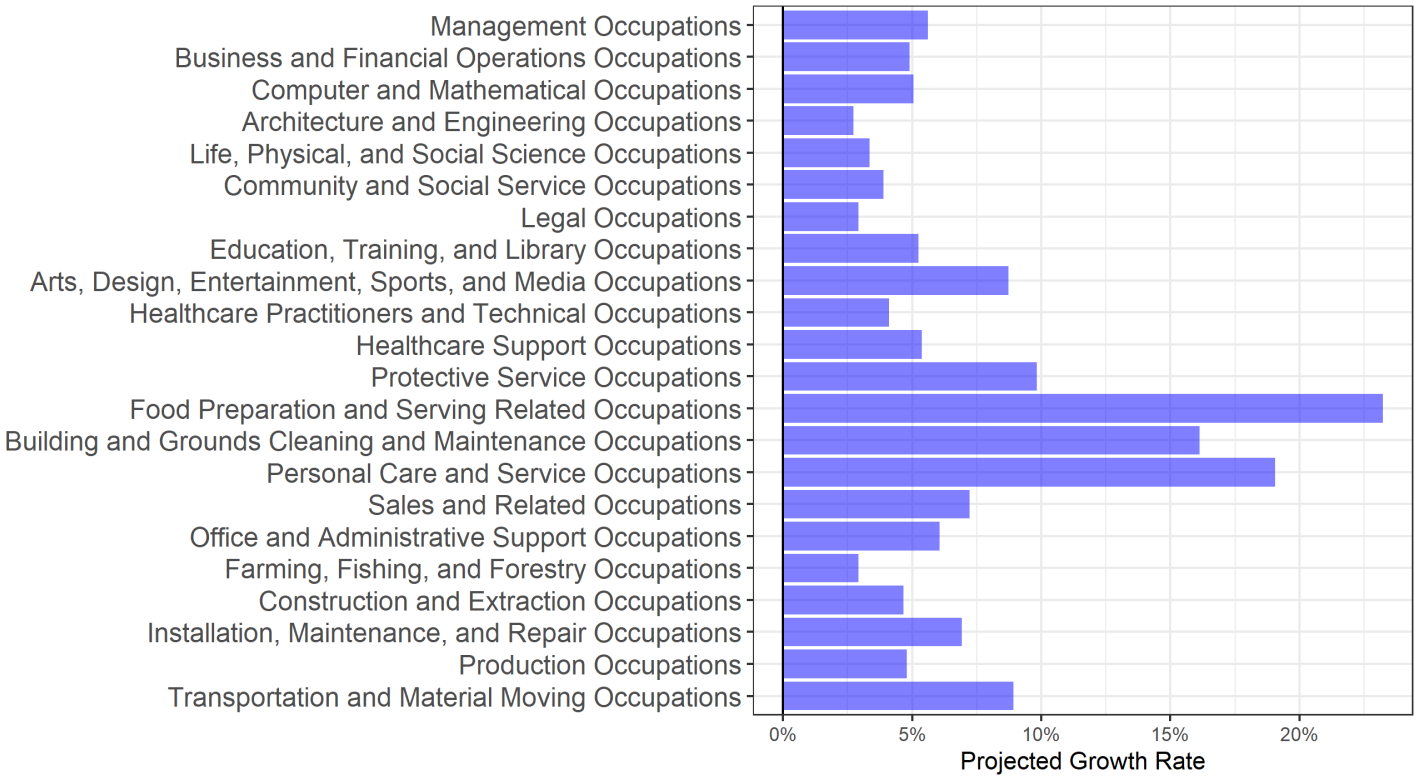
Review of Occupational Projections

Because 2019 employment data cannot be integrated into this analysis, the occupations showing the largest projected growth align most closely with the occupations that faced the greatest employment impacts from the COVID-19 pandemic. The charts and table below show the total projected growth from 2020 to 2022, broken out by the source of the projected growth by major occupational group.

Overall, the projected employment gains as the accommodation and food services industries rebound from 2020 COVID impacts dominates this story, with particularly high growth in the food preparation and serving occupations which are widespread in both industries seeing the largest and fastest gains over the 2020 to 2022 period. However, as the sharts below will show, a number of the jobs expected to return are jobs which also pay lower-than-average wages.

Ocupational Group Totals



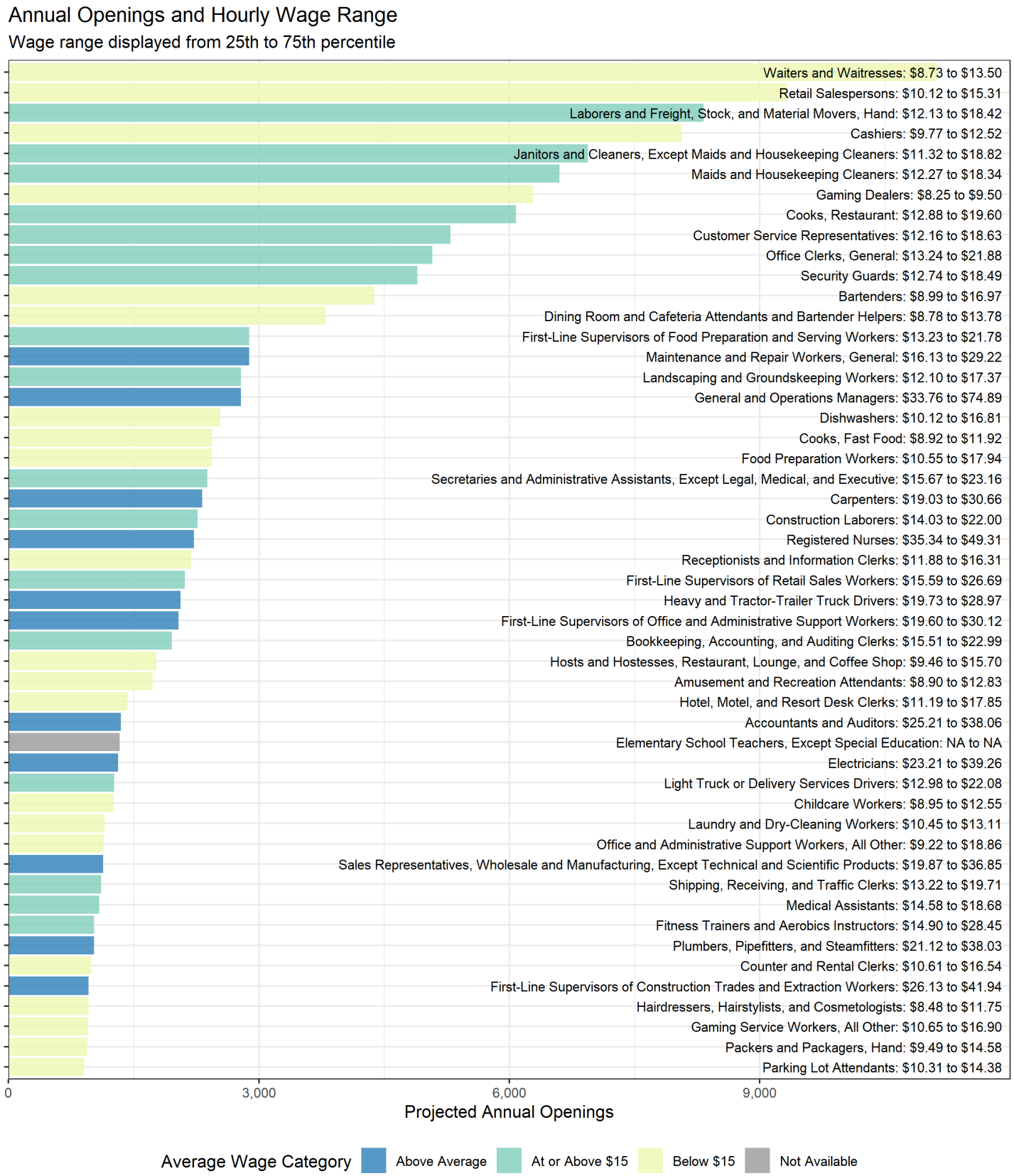


Total Annual Openings	Number of Openings				Share of Openings		
	Industry Growth	Occupation Exits	Occupation Transfers	Total Openings	Industry Growth	Occupation Exits	Occupation Transfers
Food Preparation and Serving Related	28,950	9,631	14,517	53,098	54.5%	18.1%	27.3%
Office and Administrative Support	11,834	9,809	14,139	35,782	33.1%	27.4%	39.5%
Sales and Related	9,380	7,580	11,490	28,450	33.0%	26.6%	40.4%
Personal Care and Service	12,454	4,804	6,334	23,592	52.8%	20.4%	26.8%
Transportation and Material Moving	9,182	4,972	8,689	22,843	40.2%	21.8%	38.0%
Building and Grounds Cleaning and Maintenance	9,386	3,674	4,598	17,658	53.2%	20.8%	26.0%
Construction and Extraction	4,362	3,023	7,427	14,812	29.4%	20.4%	50.1%
Management	4,527	2,163	4,688	11,378	39.8%	19.0%	41.2%
Installation, Maintenance, and Repair	3,490	1,665	3,502	8,657	40.3%	19.2%	40.5%
Production	2,463	2,182	3,961	8,606	28.6%	25.4%	46.0%
Education, Training, and Library	2,970	2,376	2,809	8,155	36.4%	29.1%	34.4%
Protective Service	3,541	1,838	2,533	7,912	44.8%	23.2%	32.0%
Business and Financial Operations	2,536	1,466	3,567	7,569	33.5%	19.4%	47.1%

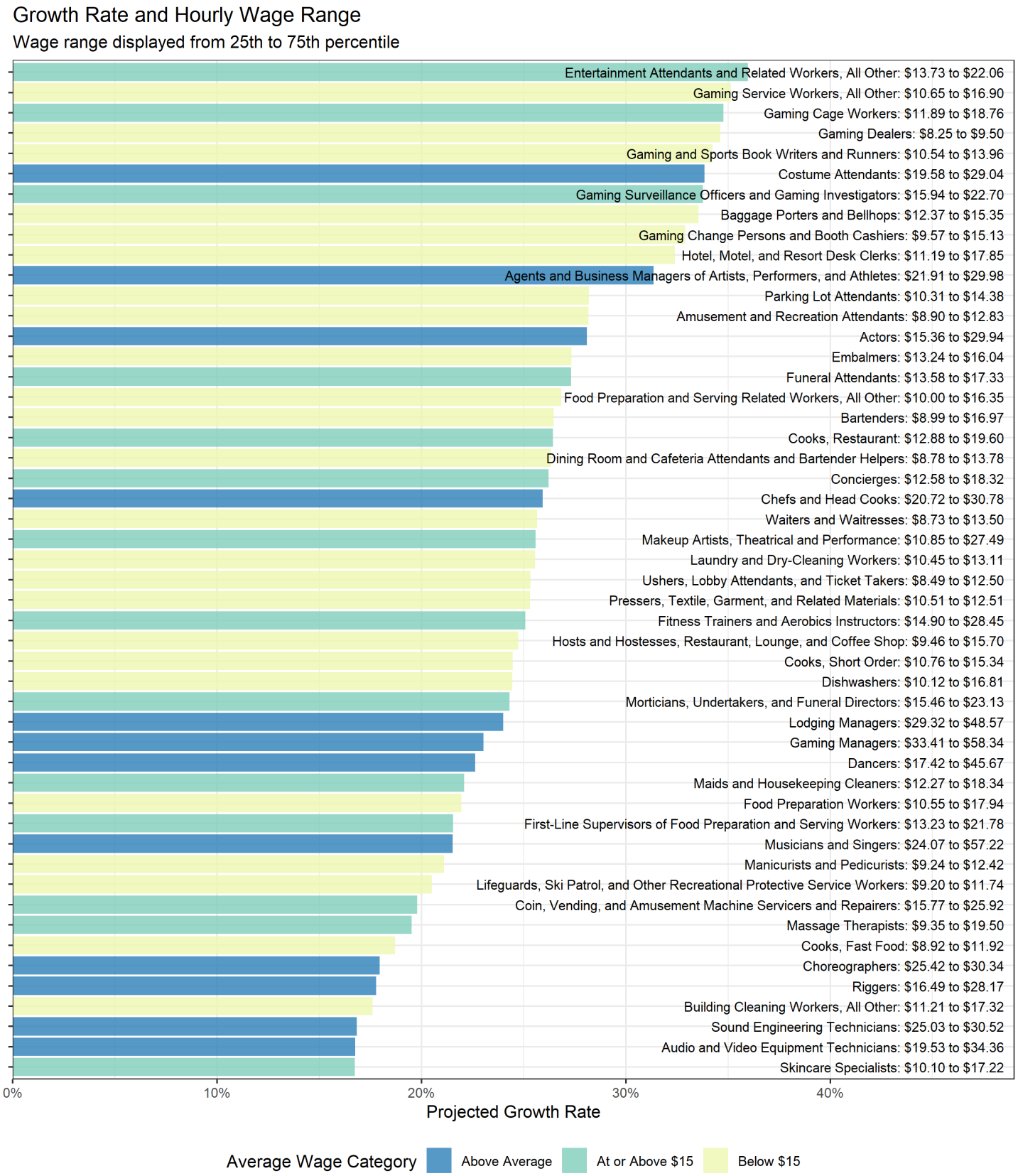
Detailed Occupation Totals

With over 600 detailed occupations statewide, presenting each occupation in detail would take up considerable space. However, projections data is available on the Research & Analysis Bureau's website[4] as well as the Projections Central website[5]. Below are some summaries of occupational growth for the detailed industries with the most growth, the industries with the fastest growth, and projections for industries that have higher growth potential and pay an average wage above the 2019 state average of $22.70 per hour[6].

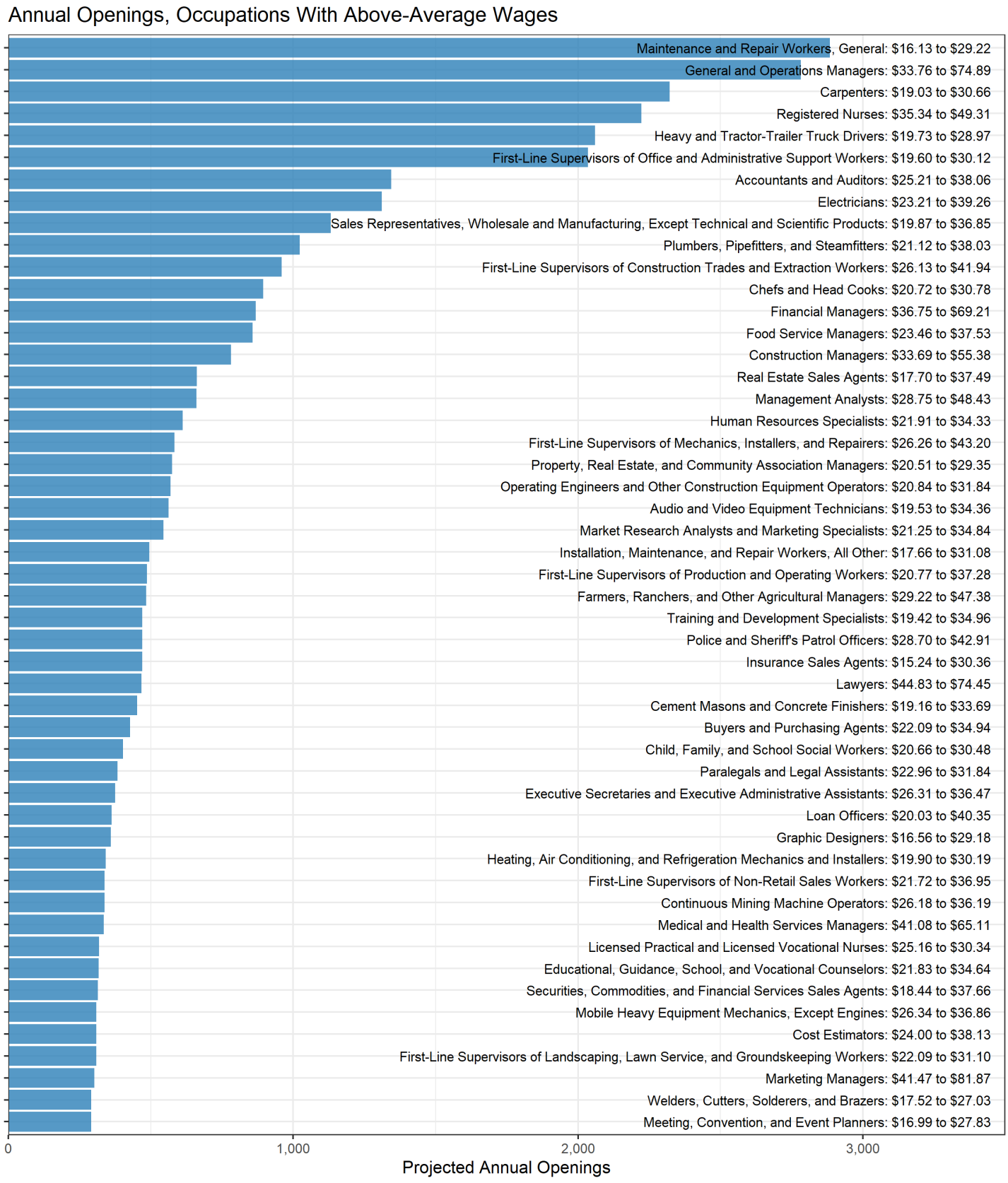
Top 50 Detailed Occupations with Largest Growth



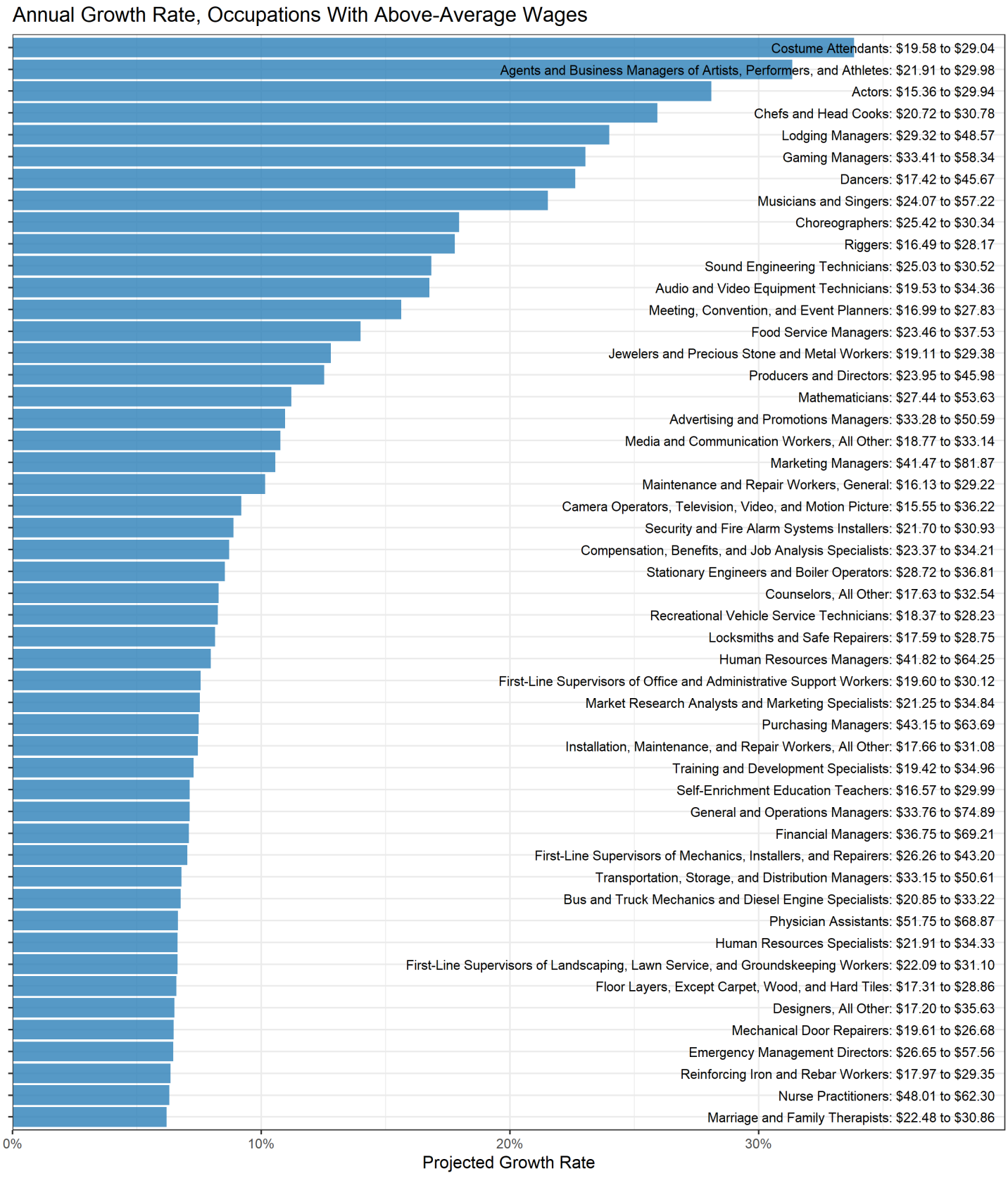
Top 50 Detailed Occupations with Fastest Growth



Top 50 Detailed Occupations with Largest Growth and Above-Average Wages

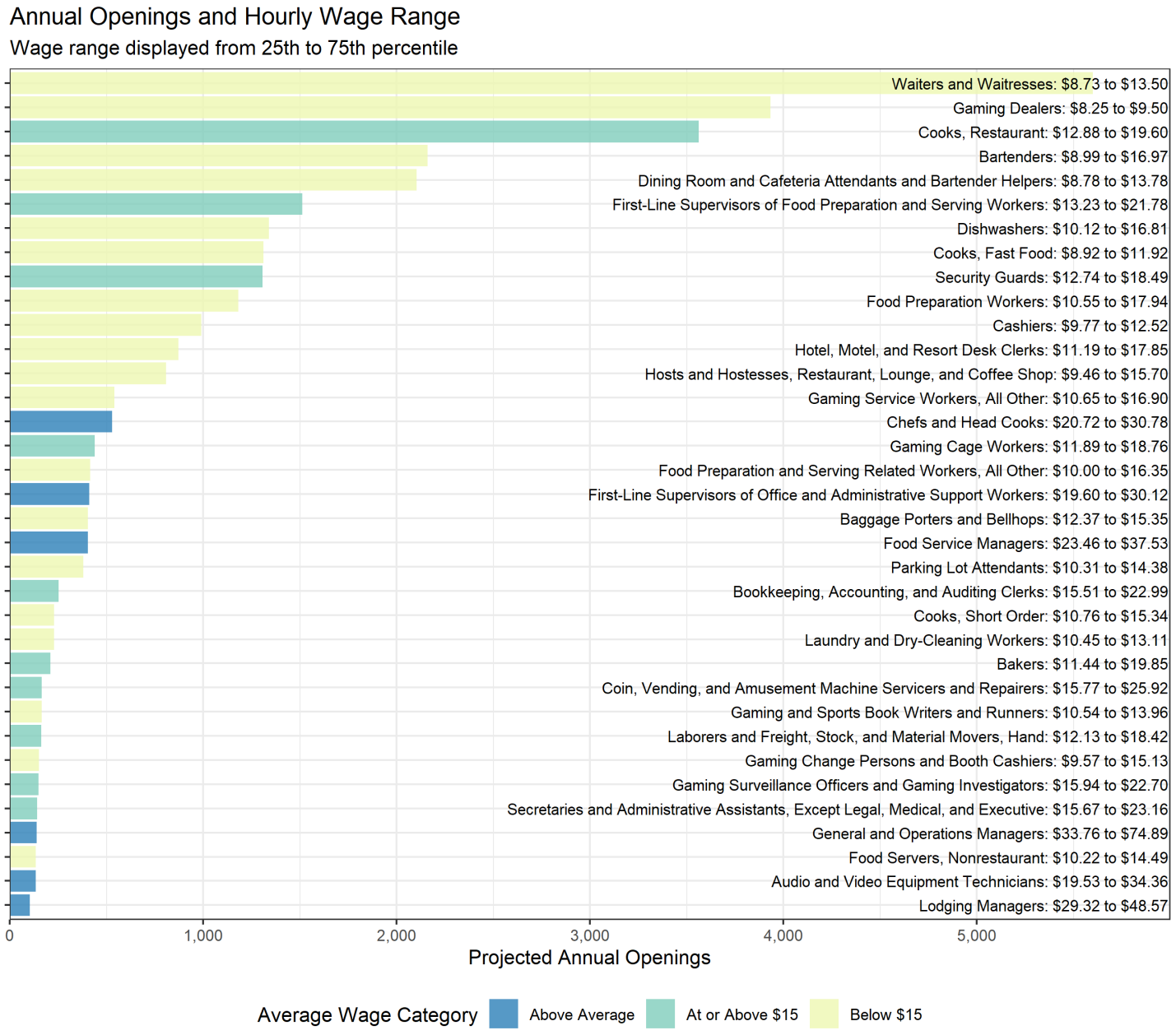


Top 50 Detailed Occupations with Fastest Growth and Above-Average Wages



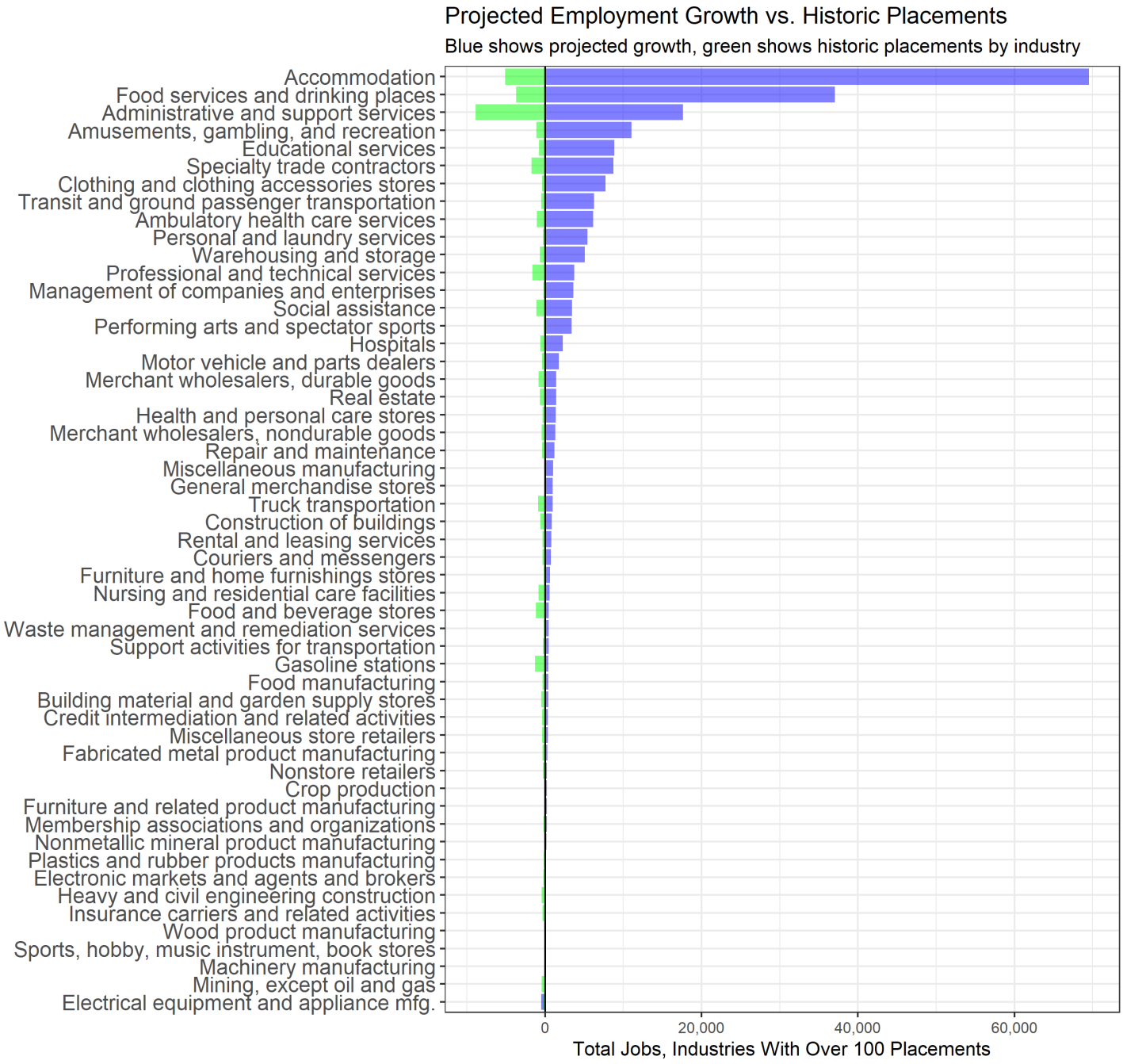
Occupation Highlight: Accommodation & Food Services Industries

Due to the particular impact of COVID-19 on the accommodation & food services industries, it is useful to see the impact of these particular industries on our occupational projections. It is important to remember that this growth only looks at the 2020 to 2022 period, and does not capture the full 2019-2022 change. While these projections show the expected growth from 2020 to 2022, it also allows us to see the occupations that were most impacted from 2019 to 2020. In particular, food service workers - prevalent in both the accommodation and the food service industries - make up a disproportionately large share of this total, and it is these workers who have been hit the hardest and who will likely see the greatest lingering impacts as we move toward 2022. While the expectation is for a significant rebound in these jobs from 2020 to 2022, these are also the jobs that will likely see the greatest share of anticipated job lossses from 2019 to 2022 in these industries.



Industrial Growth & Workforce Participants

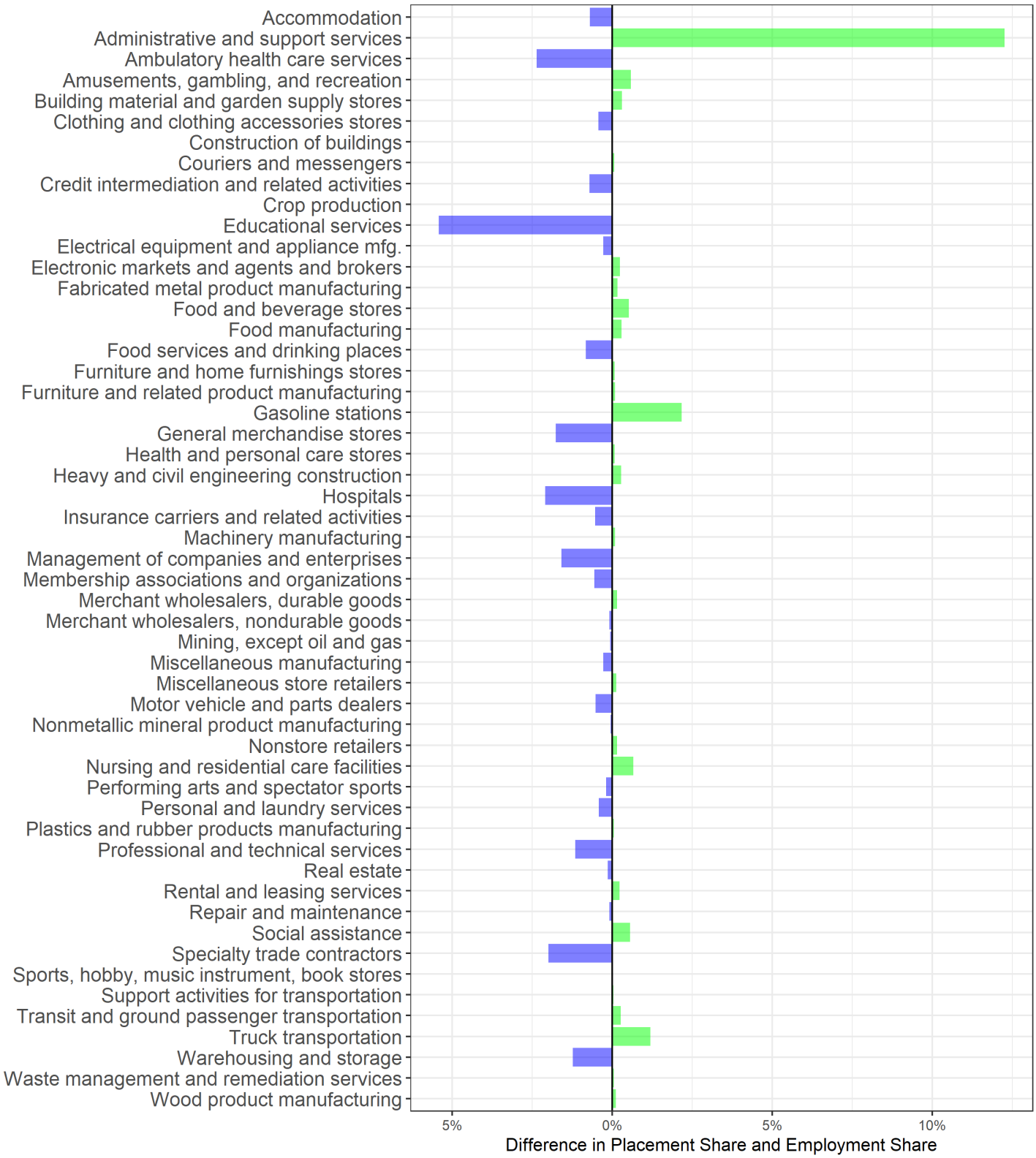
The final two charts compare projected employment growth with the historic share of placements from the workforce development system. For clarity, this is limited to the most recent cohort of participants for whom data is available, and looks at employment outcomes in the 2nd quarter after program exit, and limits the data displayed to those industries that have more than 100 participants with wages. These are referred to as "placements" here, but this should not imply that the employment outcomes measured here are due to a specific placement for a specific position.



Broadly, employment outcomes for workforce system participants tends to mirror the broader expected growth, with a few differences. First, a larger number of placements comes in the administrative support industry, which includes temporary help services. Conversely, the educational services, hospital, general merchandise, and truck transportation industries appears to have larger projected growth than the corresponding employment outcomes.

Share of Projected Employment Level vs. Historic Placements

Blue: higher share in employment; Green: higher share in placements



Acknowledgements

Funding

This workforce product was funded by a grant awarded by the U.S. Department of Labor's Employment and Training Administration. The product was created by the recipient and does not necessarily reflect the official position of the U.S. Department of Labor. The U.S. Department of Labor makes no guarantees, warranties, or assurances of any kind, express or implied, with respect to such information, including any information on linked sites and including, but not limited to, accuracy of the information or its completeness, timeliness, usefulness, adequacy, continued availability, or ownership.

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Data Sources

These projections would not be possible without the participation of Nevada's employers in BLS surveys. Accurate employer information is essential to determining current economic conditions, employee pay, occupational staffing patterns, and much more. Thank you to all the employers who provide critical workforce information by responding to these surveys! If you have been asked to participate in a BLS survey, more information is available at https://www.bls.gov/respondents/.

Employment Projections are calculated internally by the Research & Analysis Bureau. Projections data for all states is published at http://www.projectionscentral.com/.

Data on 2019 employment levels comes from the Quarterly Census of Employment and Wages (QCEW) program. QCEW data may be found at http://nevadaworkforce.com or https://www.bls.gov/cew/.

Data on occupational wages comes from the Occupational Employment Statistics (OES) program. OES data may be found at http://nevadaworkforce.com or https://www.bls.gov/oes/.

Data Manipulation and Visualization

This report was prepared with the use of R, RStudio, and RMarkdown. Specific packages used include the following:

tidyverse[7], data.table[8], scales[9], RODBC[10], RODBCDBI[11], gt[12], rmarkdown[13], knitr[14], pagedown[15]

Footnotes:

1. NAICS data from Census for industry 72: https://www.census.gov/eos/www/naics/reference_files_tools/1997/sec72.htm↩
2. BLS documentation of separations methodology: https://www.bls.gov/emp/documentation/separations-methods.htm↩
3. See question F1 here: https://www.bls.gov/oes/oes_ques.htm↩
4. Research & Analysis Bureau Projections: http://nevadaworkforce.com/Home/DS-Results-Projections2↩
5. Projections Central website: https://projectionscentral.org/↩
6. Current Nevada OES data from BLS: https://www.bls.gov/oes/current/oes_nv.htm↩
7. https://www.tidyverse.org/↩
8. https://cran.r-project.org/web/packages/data.table/data.table.pdf↩
9. https://cran.r-project.org/web/packages/scales/scales.pdf↩
10. https://cran.r-project.org/web/packages/RODBC/RODBC.pdf↩
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15. https://pagedown.rbind.io/↩