



# 4th Quarter 2021

## Talent Availability and Job Market Reporting and Analysis for the Greater Omaha Area

Prepared for  
The Greater Omaha Chamber

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## Executive Summary

This report and accompanying on-line dashboard ([https://unlbbbr.shinyapps.io/goc\\_talentavailability/](https://unlbbbr.shinyapps.io/goc_talentavailability/)) provide detailed information about the count of unemployment insurance claims, available labor and jobs taken within the 10-county Greater Omaha Area. The Greater Omaha Area includes the 8 Nebraska and Iowa counties in the Omaha MSA plus adjacent Dodge and Otoe county Nebraska. Counts are provided for the 4<sup>th</sup> Quarter of 2021. Projections also are provided for the 4<sup>th</sup> Quarter of 2022, along with historical data for the 4<sup>th</sup> Quarter of 2022. The future number of jobs taken determines the projected change in the count of unemployed (i.e., unemployment insurance claims) between the 4<sup>th</sup> Quarter of 2021 and the 4<sup>th</sup> Quarter of 2022. In each county, projections are made for nearly 900 individual occupations and 21 major industry groups. Aggregate counts of unemployment insurance claimants also are provided for each county by zip code and by demographic groups, including by gender, ethnicity, race, age, and veteran's status.

Counts are provided for each of the 10 counties in the on-line dashboard. However, summary results across all 10 counties are provided in this report. The following findings were identified for 10-county Greater Omaha Area:

- The number of jobs will grow rapidly in the Greater Omaha Area over the next year but there also will be thousands of workers returning to the labor force.
- Employment growth will be sufficient to maintain the count of unemployment insurance claims at current low levels. The count will rise by 35 between the 4<sup>th</sup> Quarter of 2021 and the 4<sup>th</sup> Quarter of 2022.
- Key findings by occupation for the Greater Omaha Area:
  - Low unemployment rates in higher skill occupations create an opportunity for workers willing to train for a new career.
  - Many higher-skill occupations have low unemployment counts that are expected to stay steady or fall further by the 4<sup>th</sup> Quarter of 2022, including software developers, maintenance and repair workers (general), machinists and welders. This creates positive conditions for trained workers seeking their first job in these fields.
- Key findings by the demographic group for the Greater Omaha Area:
  - As more women continue to return to the workforce, the count of continued claims for unemployment insurance will fall for men over the next twelve months but rise for women.
  - The count of continued claims is anticipated to fall fastest for workers age 35 to 54, but rise for the youngest workers under age 25 and the oldest workers over age 65.
  - Continued claims are projected to fall for Veterans but rise slightly for non-Veterans.
  - Continued claims are projected to rise for Hispanics but fall slightly for non-Hispanics.
  - The count of continued claims for unemployment insurance is expected to decline for Whites but rise for African Americans. In the 4<sup>th</sup> Quarter of 2022, the unemployment count for African Americans will be 6 times their share of the Greater Omaha Area workforce.

**Table of Contents**

1. Introduction..... 1

2. Findings..... 3

Appendix 1: Methodology..... 9

    A. Summary of Methodological Approach..... 9

    B. Detailed Methodology..... 11

*Count of Unemployment Insurance Claims*..... 11

*Count of Jobs Taken*..... 13

*Count of Available Labor*..... 15

Appendix 2. About the Bureau of Business and Principal Investigators..... 17

List of Tables

Figure 1: Counties of the Greater Omaha Area..... 1

Table 1: Counts of Unemployment Insurance Claims for Select Higher Skill Occupations in  
the Greater Omaha Area..... 3

Tables 2: Unemployment Insurance Claims for Greater Omaha Area Demographic Groups..... 4

Table A1.1: Counties Included in the Greater Omaha Area..... 9

Table A1.2: Detailed Data Available for Nebraska and Iowa Counties in the Greater Omaha Area..... 12

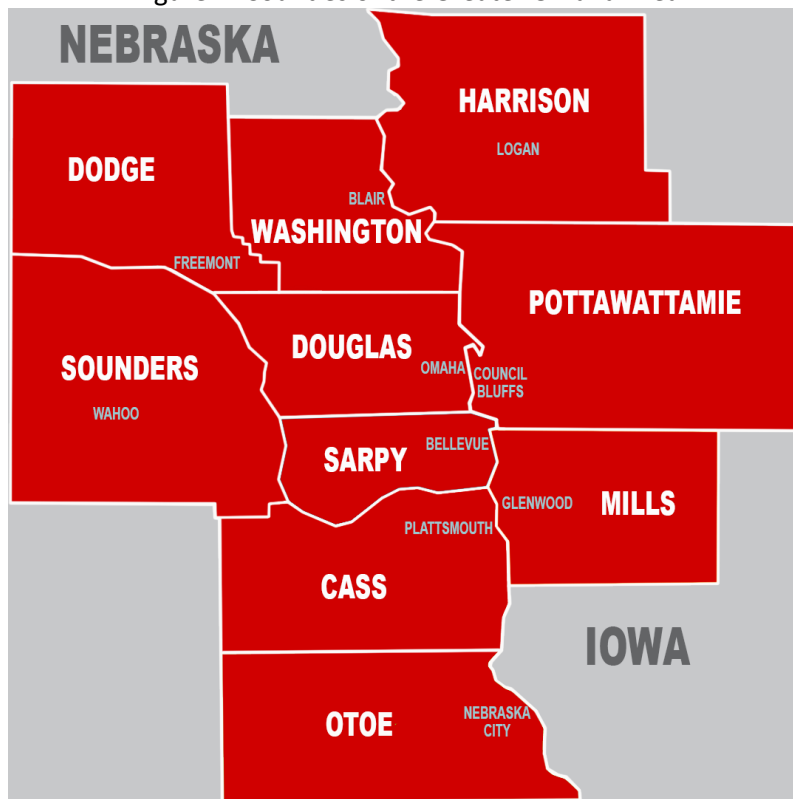
Table A1.3: Forecast Growth Rates by Industry for the Greater Omaha Area..... 15

## 1. Introduction

This report from the UNL Bureau of Business Research provides a written commentary examining Talent Availability and Employment Openings within the Greater Omaha Area. The report is accompanied by an on-line dashboard ([https://unlbbr.shinyapps.io/goc\\_talentavailability/](https://unlbbr.shinyapps.io/goc_talentavailability/)) which provides counts of unemployment insurance claims, available labor and jobs taken by detailed occupation and industry across the Greater Omaha Area. Comparisons between the three measures indicate a potential for unemployed workers to find new work. The on-line dashboard also provides summary information for the three measures in each county in the Greater Omaha Area by gender, race, ethnicity, veteran status and age, as well as by zip code. The Greater Omaha area includes the 8 counties of the Omaha MSA and adjacent Dodge and Otoe counties (see Figure 1). Information is provided for the 4<sup>th</sup> Quarters of 2020, 2021 and 2022.

The count of jobs taken is estimated based on the job opportunities created when individuals exit the workforce or there is a net increase in employment (net job growth). The count of jobs taken, however, excludes job openings that are not filled during a quarter. Net job growth refers to the change in employment during a quarter. Net job growth can be measured in aggregate (for example, for all women in the Greater Omaha Area) or in individual occupations and industries. Aggregate exits from the workforce include retirements. Further, from the perspective of individual occupations (or industries), exits also include switching to a new occupation, and changing employers within the same occupation.

Figure 1: Counties of the Greater Omaha Area



The number of jobs taken influences which occupations and industries will see an increase or drop in the count of unemployment insurance claimants between the 4<sup>th</sup> Quarter of 2021 and the 4<sup>th</sup> Quarter of 2022. However, the change in available labor also will be a factor. For unemployment to fall, the number of jobs taken will need to exceed the increase in available labor due to migration, new workforce entrants (i.e., young people) or changes in the labor force participation rate.

Notably, growth in the available workforce will likely be strong in the Greater Omaha Area in the coming twelve months. Young people continue to graduate and join the workforce and the labor force participation rate will steadily improve. Labor force participation dropped when workers were displaced during 2020, and thousands of workers remain out of the workforce. In particular, according to recently revised estimates, 3,300 workers have left the Omaha area workforce as of the 4<sup>th</sup> Quarter of 2021 due to a temporary decline in the labor force participation rate. Some workers may have retired or need time to find a new job match. Others may have found that it is unnecessary financially for them to work and are engaged in other activities. These factors are always present after a recession and lead to a slow rebound in the labor force participation rate. The Covid-19 Pandemic may be further slowing the rebound in labor force participation. Nonetheless, individuals should steadily return to the labor force over the next year. In particular, the 3,300 workers thought to have left the labor force are expected to return over the next 12 months.<sup>1</sup>

Note also that the count of unemployment insurance claimants is not a complete count of the unemployed. Some unemployed individuals who are actively seeking work may have exhausted their eligibility for unemployment insurance, may choose not to apply for unemployment insurance, or may not qualify for such insurance. As an example of this difference, the unemployment rate in the Omaha Metropolitan Statistical Area (MSA) was approximately 2.2% during the 4<sup>th</sup> Quarter of 2021 according to the U.S. Bureau of Labor Statistics, but the ratio of unemployment insurance claims to workers in the Greater Omaha Area was 0.004<sup>2</sup> (i.e., 0.4%) during that quarter.

There are also practical policy implications from changes to the count of unemployment insurance claims over time. Workers in moderate-skill occupations may choose to train for higher-skill occupations where unemployment rates are low and continuing to fall. Training programs can prepare moderate-skill workers for careers in these higher-skill occupations where tight labor market conditions will make it more feasible to find a first job in their new career path.

## **2. Findings**

The online dashboard ([https://unlbbbr.shinyapps.io/goc\\_talentavailability/](https://unlbbbr.shinyapps.io/goc_talentavailability/)) provides detailed information about the counts of unemployment insurance claims and available labor for the 4<sup>th</sup> Quarters of 2020, 2021 and 2022 in all 10 counties of the Greater Omaha Area. Counts are provided for individual occupations and industries in each county. Counts of jobs taken are provided for the 4<sup>th</sup> Quarters of

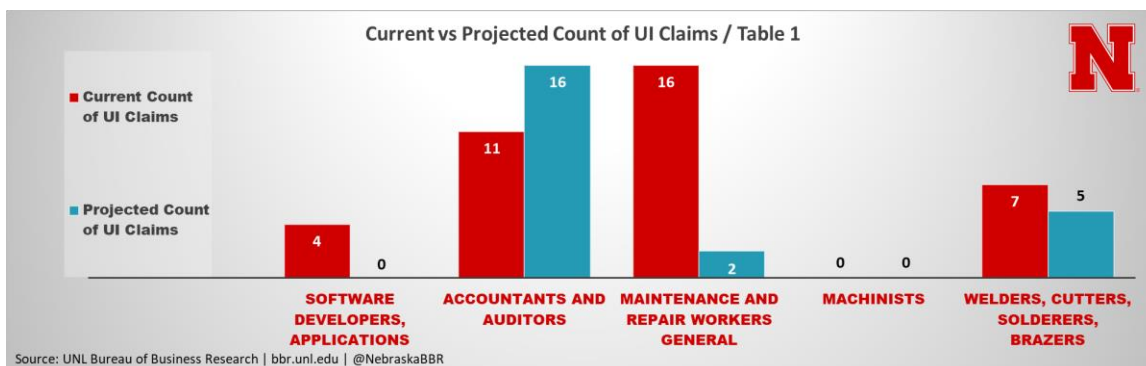
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<sup>1</sup> The estimated pool of Omaha area workers who had left the labor force dropped by approximately 7,500 after the revisions.

<sup>2</sup> Note that this is not a completely “apples to apples” comparison. The unemployment rate is the ratio of the number of unemployed divided by the number of individuals in the labor market. The number of individuals in the labor market is the number of employed plus the number of unemployed. Further, the Greater Omaha Area includes Dodge and Otoe County, Nebraska as well as the 8 counties of the Omaha MSA.

2020 and 2021, along with average jobs taken per quarter over the 4<sup>th</sup> Quarter of 2021 to 4<sup>th</sup> Quarter of 2022 period. For all measures, aggregate counts (county totals) are provided for demographic groups including by gender, race, ethnicity, age and veteran’s status, as well as by zip code.

Table 1 shows current and projected counts of unemployment insurance claims and jobs taken in select higher-skill occupations in the Greater Omaha Area. The number of unemployment insurance claims was low in all occupations in Table 1 as of the 4<sup>th</sup> Quarter of 2021 and counts are projected to stay low through the 4<sup>th</sup> Quarter of 2022.



Many new jobs will be taken in these higher-skill occupations in the coming year. Training programs in colleges, community colleges and private trade schools can prepare moderate-skill workers, as well as new labor market entrants, for careers in these higher-skill occupations, especially since tight labor market conditions will make it more feasible to find a first job in their new career path.

Tables 1: Jobs Taken and Projected Counts of Claims for Unemployment Insurance in Select Higher Skills Occupations in the Greater Omaha Area

Occupation	Current Quarter (4 <sup>th</sup> Q 2021)			4 <sup>th</sup> Q 2022	4 <sup>th</sup> Q 2021 – 4 <sup>th</sup> Q 2022
	Job Count Estimate	Count of UI Claims	Jobs Taken	Projected Count of UI Claims	Average Jobs Taken (Quarterly)
Software Developers, Applications	3,202	4	116	0	82
Accountants and Auditors	5,143	11	163	16	140
Maintenance and Repair Workers General	3,948	16	68	2	110
Machinists	1,974	0	51	0	61
Welders, Cutters, Solderers, Brazers	1,251	7	29	5	39

Source: UNL Bureau of Business Research estimates utilized data from NDOL and IWD

The on-line dashboard also projects changes in the count of unemployment insurance claims in zip codes as well as for specific demographic groups within each county. For demographic groups, projections are provided for the count of unemployment insurance claims, jobs taken and available labor by gender, race, ethnic group, age, and veteran’s status.

Table 2 provides unemployment insurance counts for the Greater Omaha Area in aggregate in the 4<sup>th</sup> Quarters of 2021 and 2022, along with the percent change in counts over that twelve-month period. An

employment count is also provided for the 4<sup>th</sup> Quarter of 2021. As seen in Table 2, total unemployment insurance claims are expected to change little between the 4<sup>th</sup> Quarter of 2021 and the 4<sup>th</sup> Quarter of 2022 in the Greater Omaha Area. Claims are at a very low level and are expected to remain at a low level over the next year. However, beneath the total number, there are distinct patterns within individual demographic groups.

Table 2: Unemployment Insurance Claims for Greater Omaha Area Demographic Groups

Occupation	Job Count Estimate	Unemployment Insurance Claims		
		4 <sup>th</sup> Quarter 2021	4 <sup>th</sup> Quarter 2022	Percent Change
Total	482,408	2,022	2,057	1.7%
Female	231,038	904	1,226	36%
Male	251,370	1,118	831	-26%
Hispanic	45,146	217	284	31%
Not Hispanic	437,262	1,805	1,772	904
				1,118
White	429,482	1,463	1,360	-7%
Black or African American	36,146	489	615	26%
Asian	14,561	21	2	-89%
American Indian or Alaska Native	1,987	44	80	83%
Native Hawaiian or Pacific Islander	233	6	11	70%
Veteran (Nebraska counties only)*	24,441	101	85	-16%
Not a Veteran (Nebraska Counties)*	412,606	1,664	1,681	1%
Less than 20 Years Old	21,894	13	155	1,072%
Age 20 to 24	45,711	105	253	141%
Age 25 to 34	112,102	459	447	-3%
Age 35 to 44	102,900	509	372	-27%
Age 45 to 54	93,896	422	330	-22%
Age 55 to 59	45,003	225	206	-8%
Age 60 to 64	34,760	171	157	-8%
Age 65 to 74	22,197	100	111	11%
Age 75 and Over	3,947	19	21	14%

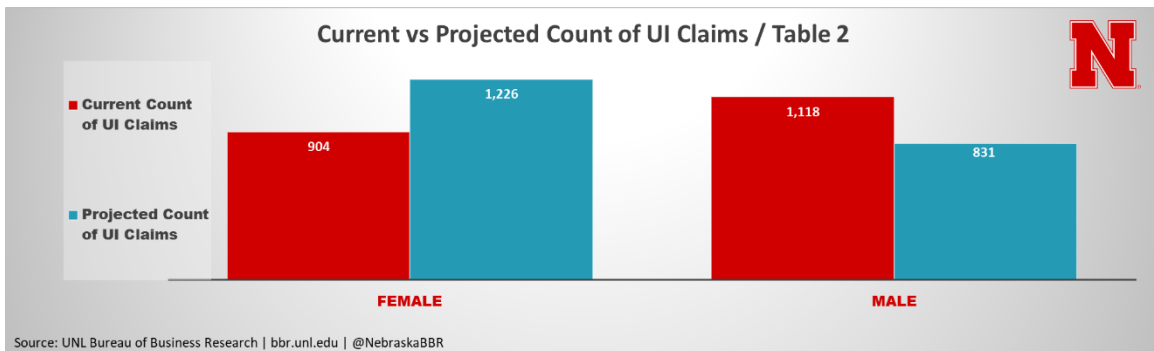
Source: UNL Bureau of Business Research estimates utilizing data from NDOL and IWD

\* Note: Veteran's Status is not available for Iowa counties and results reflect data for the 7 Nebraska counties.

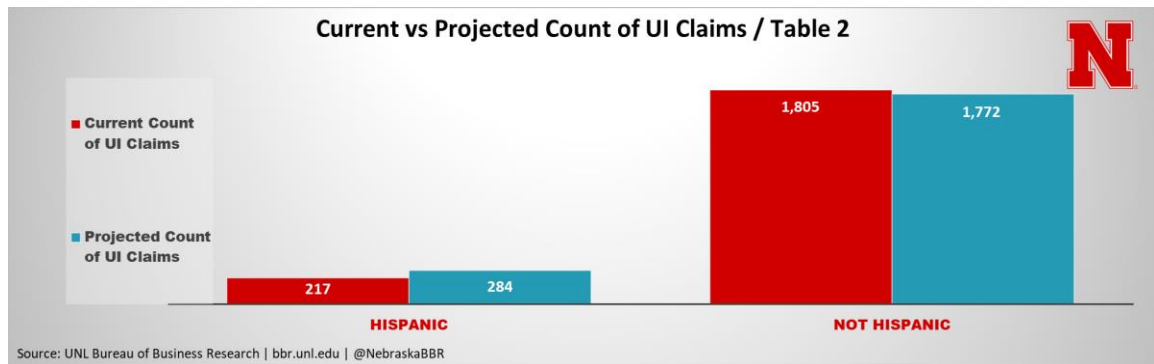
As seen in Table 2, unemployment insurance claims by women are expected to increase by around 300 over the next year and claims by men are expected to fall by about 300. The difference reflects only a modest variation in the pattern of job and labor force growth between men and women. Given that



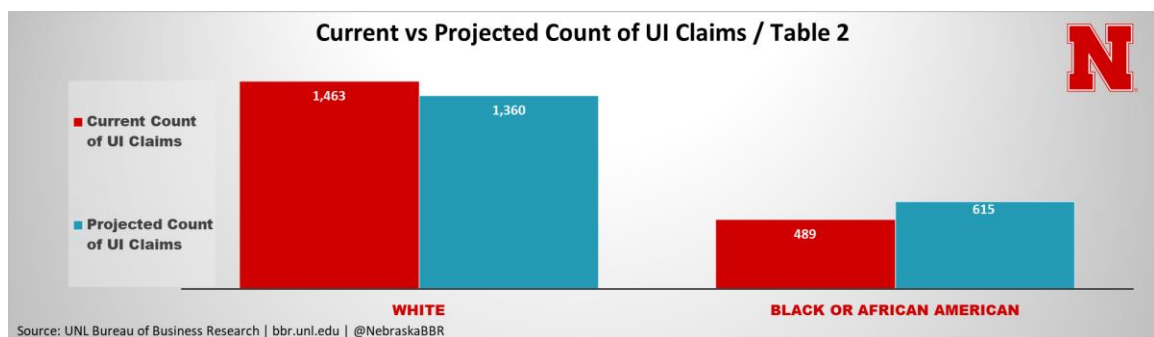
claims are at a low level, these modest changes seem large in percentage terms. In particular, claims are expected to rise 36% for women and fall 26% for men in the Greater Omaha Area between the 4<sup>th</sup> Quarter of 2021 and the 4<sup>th</sup> Quarter of 2022.



Among other demographic groups, initial claims for unemployment insurance will rise by about 70 for Hispanics and fall by 30 for non-Hispanics. In percentage terms, the count of claims is projected to rise by 31% for Hispanics and fall by 2% for non-Hispanics. This gap is consistent with moderate growth in the manufacturing industry and slowing growth in the leisure and hospitality industries.

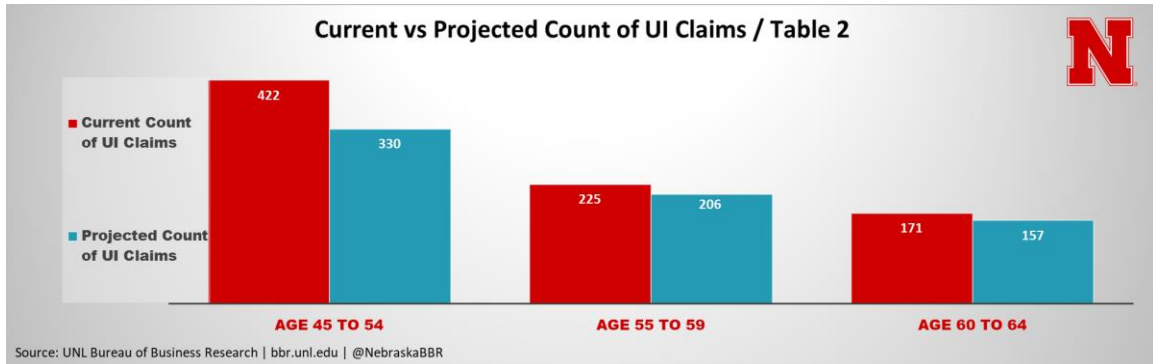


The count of unemployment insurance claims is expected to fall for Whites (7%) and rise for African Americans (26%) over the next year. As a result, the count of unemployed African Americans will remain elevated, at nearly 6.0 times their share of the Greater Omaha Area workforce.

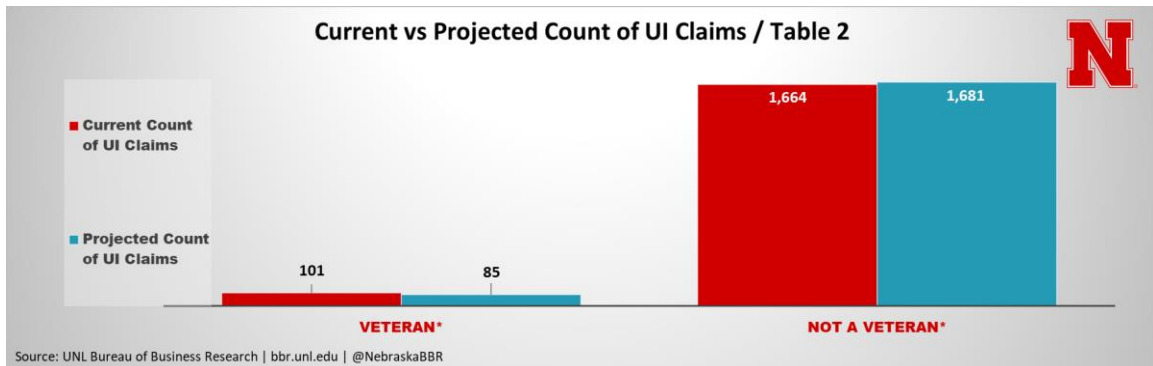


In terms of age, unemployment insurance claims are anticipated to fall for prime age workers between 25 to 64 years of age, with the fastest decline for workers age 35 to 54. By contrast, claims are expected

to rise for workers under 24 years of age, due to new labor force entrants and modest growth in the hospitality industry. There also will be a modest increase in claims among workers over age 65.



Initial claims for unemployment insurance are projected to drop for veterans and grow slowly for non-veterans. Claims are expected to drop by 16% among veterans and rise by 1% for non-veterans.



### Douglas County

Douglas County is the largest and most demographically diverse county in the Greater Omaha Area. In the 4<sup>th</sup> Quarter of 2021, 64% of unemployment insurance claims in the Greater Omaha Area occurred in Douglas County, including 91% of claims by African Americans. Unemployment insurance claims are projected to fall by 3% in Douglas County over the next year, in contrast to the 2% increase region wide. Douglas County has a larger share of employment in several industries projected to grow relatively quickly over the twelve months including as financial services and professional and business services (see Appendix Table A.3).

**“64% of unemployment insurance claims in the Greater Omaha Area occurred in **Douglas County**, including 91% of claims by African Americans.”**

#### Sarpy County

Sarpy County is the second largest county in the Greater Omaha Area. In the 4<sup>th</sup> Quarter of 2021, 15 percent of unemployment insurance claims in the Greater Omaha Area occurred in Sarpy County, including 19 percent of claims by Hispanics and 7 percent of claims by African Americans. Unemployment insurance claims are expected to decline by 5% in Sarpy County in the next year. Sarpy County continues to be one of the strongest growing regions within the Greater Omaha economy.

**“15% of unemployment insurance claims in the Greater Omaha Area occurred in **Sarpy County**, including 19% of claims by Hispanics and 7% of claims by African Americans.”**

#### Pottawattamie County

Pottawattamie County is the third largest county in the Greater Omaha Area. In the 4<sup>th</sup> Quarter of 2021, 10 percent of unemployment insurance claims in the Greater Omaha Area occurred in Pottawattamie County. Unemployment insurance claims are expected to rise by 14% in Pottawattamie County over the next year. Pottawattamie County has a larger share of employment in the leisure and hospitality industry. The rate of job growth in the leisure and hospitality industry is modest in the current forecast. The difference also may reflect variation in methods for measuring unemployment insurance claims in Nebraska and Iowa.

**“10% of unemployment insurance claims in the Greater Omaha Area occurred in **Pottawattamie County**. The claims are expected to rise by 14% in the county over the next year. .”**

#### Other Counties

Unemployment insurance claims also will rise between the 4<sup>th</sup> Quarters of 2021 and 2022 in the remaining, smaller counties in the Omaha area, including Cass, Dodge, Otoe, Saunders and Washington counties in Nebraska and Harrison and Mills counties in Iowa. The counties have a lower share of employment in the faster growing financial services, and professional and business services industries.

**“Between the 4th Quarter of 2021 and 2022, unemployment insurance claims are expected to rise in the smaller counties including **Cass, Dodge, Otoe, Saunders** and **Washington County**. These counties have a lower share in the faster growing **financial services**, and **professional and business services** industries.**

### Appendix 1: Methodological Approach

#### A. Summary of the Methodological Approach


This quarterly report and accompanying on-line dashboard provide detailed information about the count of unemployment insurance claims, jobs taken, and labor availability within each county of the Greater Omaha Area. Table 1 lists the 10 counties. Of the 10 Nebraska and Iowa counties that comprise the Greater Omaha Area, eight are within the Omaha MSA: Cass, Douglas, Sarpy, Saunders and Washington County in Nebraska and Harrison, Mills and Pottawattamie County in Iowa. Douglas County contains the City of Omaha while Pottawattamie County includes the City of Council Bluffs. Sarpy County is the second largest county in the Greater Omaha Area and is home to the cities of Bellevue, Papillion and Gretna. The remaining 5 counties in the Omaha MSA have populations of between 15,000 and 35,000. Dodge and Otoe counties are not part of the Omaha MSA but are adjacent to and have

significant interactions with the Omaha MSA. Dodge County contains the City of Fremont and is part of the Omaha Consolidated Metropolitan Statistical Area. Nebraska City is located in Otoe County.

Table A1.1: Counties Included in the Greater Omaha Area

County	Status Within Omaha MSA
Cass County, Nebraska	Yes
Dodge County, Nebraska	No (Part of Omaha Consolidated MSA)
Douglas County, Nebraska	Yes
Otoe County, Nebraska	No (Adjacent with Significant Interaction)
Sarpy County, Nebraska	Yes
Saunders County, Nebraska	Yes
Washington County, Nebraska	Yes
Harrison County, Iowa	Yes
Mills County, Iowa	Yes
Pottawattamie County, Iowa	Yes

This report compares current and projected counts of unemployment insurance claims and jobs taken to assess the employment opportunities for residents of the Greater Omaha Area. The report is developed from an economics perspective, and compares available labor and jobs taken within occupations and industries in the region. Unemployed workers are one component of available labor in an occupation. Equation (1) below shows the other potential sources of available labor in an occupation within a period:

 **Available Labor** = unemployed + labor market entrants + net migration + change in labor force participation + occupation switching + job switching (1)

Unemployed workers are one component of the supply of workers available to fill open jobs.<sup>3</sup> Other components include labor market entrants, or individuals entering the workforce for the first time. Many of these individuals are school leavers who are graduating from (or dropping out of) high school, community college, or college. Some may have worked while in school but may be entering the workforce in a new occupation. Some may take a job in an occupation (or industry) they have trained for while in school, or in a new occupation now that they have time available for full-time employment. The individuals leaving school are therefore new workers from the perspective of the occupation (or industry) they are entering.

Net migration is another source of new labor in the region they are entering. Positive net migration (more in-migrants than out-migrants) will add to the new labor supply while negative net migration will subtract from it. The Greater Omaha Area overall experiences positive net migration.

Change in the labor force participation rate also adds to or subtracts from the new labor. While there is a constant churn of workers into and out of the labor force, a change in the participation rate implies a

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<sup>3</sup> The total supply of labor also includes employed individuals who do not intend to change occupations. These workers, however, are not pertinent to the analysis of filling new job openings within occupations and industries.

change in the share of the population who are engaged in the workforce. The participation rate fell throughout the United States with the onset of the Covid-19 Pandemic but should rise in the coming twelve months as the Pandemic wanes and the economy continues to recover. Based on the drop in the Nebraska labor force participation rate,<sup>4</sup> and the resulting decline in the size of Omaha’s labor force (despite a growing population),<sup>5</sup> it is estimated that the regional labor force participation rate fell by 0.7 percent, or the equivalent of 3,300 jobs. These workers will rejoin the workforce in the next 12 months.

Occupation switching, or finding a new job in a different occupation, also adds to the supply of workers for the new occupation. The switch does not increase the overall supply of workers in the economy but does provide an additional worker to that new occupation. From the same perspective, job switching, or changing jobs within the same occupation, also provides a “new” worker.

Of course, occupation and job switching also create vacant positions, which can be taken by another worker. The components of jobs taken are discussed next.


Equation (2) below shows the sources of jobs taken within a period. Note that “jobs taken” relates to job openings that are filled but excludes job openings that go unfilled. The distinction is important because some occupations have a large number of job openings that go unfilled for a long period.

 **Jobs Taken** = net job growth + labor market exits + occupation switching + job switching (2)

Net job growth refers to the change in employment in an occupation during a period. Employment in an occupation can change due to the growth or decline of industries that employ them. For example, an expansion of the health care industry would lead to more job opportunities for nurses. Even if an industry does not grow, employment may increase in those occupations that are capturing a larger share of industry employment. For example, the share of employees in computer occupations is growing in most industries. Net job growth in an occupation is the sum of job growth due to industry growth and long-term trends in occupation mix.

Occupation switching and job switching also creates an open position within an occupation (or industry), resulting in another job taken.<sup>6</sup>

Occupation switch and job switching, however, are movements among employed workers, and do not lead to a change in aggregate employment. Equations (1) and (2) therefore should be modified when considering the total available labor and jobs taken for a county or for demographic group totals within a county such as men, women, veterans or non-veterans. In particular, occupation switching and job switching should be dropped leading to Equations (3) and (4) below.

 **Available Labor** = unemployed + labor market entrants + net migration + change in labor force part (3)

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<sup>4</sup> Federal Reserve Bank of Saint Louis, FRED Database, accessed June 2022.

<sup>5</sup> U.S. Bureau of Labor Statistics, State and Local Unemployment Rates and U.S. Bureau of Census, Population Estimates. Accessed June 2022.

<sup>6</sup> If the open position were not taken, then the total employment would fall, which would have been reflected in net job growth.



**Jobs Taken** = net job growth + labor market exits

(4)

To summarize, Equations (1) and (2) should be used when estimating available labor or jobs taken within a particular occupation or industry, while Equations (3) and (4) should be used when evaluating prospects for unemployment claims for all workers in a county or zip code, or for all workers in a county within a demographic group.

## B. Detailed Methodology

Counts of unemployment insurance claims, labor availability and jobs taken are gathered for the current quarter or projected for a future quarter by occupation, industry, zip code, and demographic category in all 10 counties in the Greater Omaha Area. These values are estimated utilizing data available from the Nebraska, Iowa and United States Departments of Labor as well as forecasts developed by the UNL Bureau of Business Research. Detailed information about the counts and projections are presented below.

### *Counts of Unemployment Insurance Claims*

Counts of unemployment insurance claims were provided by the departments of labor in Nebraska and Iowa. The Nebraska Department of Labor provided weekly counts of unemployment insurance claims for each county for nearly 900 detailed occupation categories, 21 major industry groups and at the aggregate county level for demographic categories including gender, race, ethnicity, age and veteran's status. The Nebraska Department of Labor also provided counts of unemployment insurance claims for zip codes. Weekly counts were provided for the months of October through December 2021. Weekly data from the middle week of each month is averaged to produce counts for the 4<sup>th</sup> Quarter of 2021. Some unemployment insurance claims were not assigned to a specific occupation, industry or demographic category. These unemployed were assigned to a category by the research team. Unassigned individuals were assumed to follow the same pattern as assigned individuals. For example, if 10 percent of unemployed workers who reported veteran's status indicated that they were veterans, then 10 percent of unemployed workers who did not report veteran's status were assumed to be veterans.

Iowa Workforce Development provided monthly counts of unemployed workers for October through December 2021 by county. Further, demographic detail by gender, race, ethnicity, and age were reported in aggregate for the three Iowa counties in the Greater Omaha Area. The Iowa Department of Labor did not provide counts of unemployed by occupation or veteran's status and provided counts for a limited set of industries. Three-county enumerations of the unemployment insurance claims by gender, race, ethnicity and age were allocated to counties based on fixed proportions. For example, if 55 percent of unemployment insurance claims were from females at the three-county level, and a particular county had a count of 100 claims, then that county was assigned a count of 55 unemployed females and 45 males.

Table 5 summarizes the unemployment insurance claims provided by NDOL for Nebraska counties and IWD for Iowa counties. Iowa Workforce Development did not provide counts of the unemployed by

veteran’s status, occupation or (in sufficient detail) industry. Counts for veteran’s status and industry are not provided for Harrison, Mills and Pottawattamie County, Iowa as a result. However, counts of unemployed by occupation are estimated, as these counts are critical for estimating unemployment counts by gender, race, ethnicity and age. It was therefore necessary to estimate the number of unemployed workers by occupation in Pottawattamie, Harrison, and Mills counties.

Tables A1.2: Detailed Data available for Nebraska and Iowa Counties in the Greater Omaha Area

Unemployment Count Category	Nebraska (weekly)	Iowa (monthly)
Detailed Categories		
Occupations	Provided	Estimated
Industries	Provided	Not Provided
County Summaries – demographic groups		
Gender	Provided	Provided
Race	Provided	Provided
Ethnicity	Provided	Provided
Age	Provided	Provided
Veterans Status	Provided	Not Provided
Zip Codes	Provided	Provided

Source: Nebraska Department of Labor and Iowa Workforce Development

Estimation was accomplished by using data from “matched” Nebraska counties. The best available match was used, even though perfect matches were not available. Douglas County, Nebraska was the match for Pottawattamie County, Iowa, while Washington County Nebraska was the match for Mills County, Iowa and Cass County, Nebraska was the match for Harrison County, Iowa. Occupation shares from matched Nebraska counties were used for Iowa counties. For example, if 5 percent of unemployed workers in Douglas Counties were waiters and waitresses, then 5 percent of unemployed workers in Pottawattamie County, Iowa were assigned to that occupation.

Iowa Workforce Development and the Nebraska Department of Labor also provided counts of unemployment insurance claims with the same level of demographic detail for the 4<sup>th</sup> Quarter of 2020.

#### Count of Jobs Taken

Counts of jobs taken by occupation were estimated based on staffing patterns for Nebraska industries available from the Nebraska Department of Labor and forecasts of industry employment growth produced by the UNL Bureau of Business Research. Data on industry staffing patterns is used to allocate total industry employment to employment by occupation. Employment by occupation in each industry can then be summed across industries to estimate the total number of workers in that occupation in each county.



Growth in employment in each industry in each quarter is likewise allocated to occupations to estimate employment growth by occupation, which is one of the key components of jobs taken (see Equation 2). The change in industry employment between September 2021 and December 2021 is the measure of employment growth for the 4<sup>th</sup> Quarter of 2021. Historic data for the same months in 2020 are used to estimate industry employment change for the 4<sup>th</sup> Quarter of 2020. Forecasts of industry employment growth are used to estimate the quarterly change in industry employment in the coming year. In particular, average quarterly job growth during the December 2021 to December 2022 period is utilized. More detail about employment forecasts is provided at the end of this section.

Historic and forecast industry employment change is used to estimate occupation employment change using staffing patterns data. The staffing patterns data also include information on long-run trends in the occupation mix within the industries over 10 years. This change in mix is a second source of growth (or decline) in employment in occupations during the 4<sup>th</sup> Quarters of 2020, 2021 and 2022. Specifically, the change in occupation employment due to occupation mix trends is added to the change in occupation employment due to industry growth to estimate the total change in occupation employment in each quarter.

Jobs taken is also a function of workforce exits, occupation switching and job switching (the remaining components of Equation (2)). These three components can be measured using occupation exits and transfers. Specifically, when added together, occupation exits and transfers capture workforce exits, occupation switching and job switching. To make this estimate, occupation exit and transfer rates (from the U.S. Department of Labor) are applied to the total employment in each occupation. The result is an estimate of total exits and transfers from each occupation.<sup>7</sup>

Jobs taken by occupation are also used to estimate jobs taken by demographic groups, that is, by gender, race, ethnicity, veteran's status and age. Specifically, the United States Department of Labor creates profiles of workers in each occupation using data from the monthly *Current Population Survey*. Survey responses are used to estimate the share of workers in each occupation by gender, race, ethnicity and age category as well as the share who are veterans. Data are also available on education attainments shares and minimum education requirements by occupation. These shares are used to allocate employment in each occupation by demographic category. For example, if there are 100 jobs taken by waiters or waitresses in Douglas County in a particular quarter, *Current Population Survey* data could be used to estimate that (for example) 60 of the workers in this occupation are male versus 40 who are female, or that 75 are white while the remaining 25 are divided among other race groups. An exception is made to this approach for African Americans. The share of African Americans in NDOL/IWD counts of unemployment insurance claims is unusually high by historical standards so it is modeled that African Americans will fill a larger than typical share of jobs taken, so that unemployment insurance claims will drop in line with the pattern seen in past recessions. Once jobs taken are allocated to demographic categories in each occupation, jobs taken are then summed across all occupations to estimate the total number of jobs taken in each county for each demographic group. County totals for jobs taken are available for male and female workers, Hispanic and non-Hispanic workers, African American workers and workers in other race groups, and by veteran's status and age.

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<sup>7</sup> This calculation is made for each occupation within each industry and then summed across all industries. This approach allows for variation in the exit and transfer rate by industry.

Total county jobs taken are also allocated to zip codes based on county population shares in each zip code.

Industry employment counts in future months are forecast by the UNL Bureau of Business Research. Specifically, employment forecasts for the December 2021 to December 2022 period are used to calculate average quarterly employment growth by industry in the Greater Omaha Area over the coming year. Average quarterly growth in each industry is then allocated to occupations as described above. Table A1.3 below shows the forecast rate of “annual” employment growth rate for industries between December 2021 and 2022.

Moderate employment growth is forecast in many industries reflecting the expectation that there will be an ongoing economic recovery in the 2022. Employment growth also will return to long run patterns. For example, some of the fastest employment growth rates will occur in the financial services and business and professional services industries. Manufacturing employment will grow at a strong pace. Employment will continue to recover in the leisure and hospitality sector although the rate of growth in the sector will slow significantly compared to 2021.

Tables A1.3: Forecast Employment Growth Rates by Industry for the Greater Omaha Area

Occupation	“Annual” Job Growth Rate
Agriculture, Forestry and Mining	1.0%
Construction	0.5%
Manufacturing	1.8%
Wholesale Trade	1.2%
Retail Trade	1.2%
Transportation and Warehousing	1.2%
Private Utilities	1.5%
Information	1.5%
Financial Activities	2.4%
Professional and Business Services	2.2%
Private Education	1.2%
Health Care and Social Assistance	0.8%
Leisure and Hospitality	1.5%
Other Services	0.7%
Government Including Public Education	1.8%

Source: UNL Bureau of Business Research projections

Note: The information industry includes businesses which process data or produce and distribute, or provide the means to distribute, information and cultural products.

#### *Count of Available Labor*

Counts of available labor reflect the stock of unemployed (i.e., the count of unemployment insurance claims) plus the flow of new workers into the economy from labor market entry (among the existing population), net migrants and the change in the labor force participation rate. As was noted earlier in the report, approximately 3,300 new workers are expected to rejoin the Greater Omaha Area workforce

due to an increase in the labor force participation rate between the 4<sup>th</sup> Quarter of 2021 and the 4<sup>th</sup> Quarter of 2022.

Data on net migrants to the Greater Omaha Area were gathered from Components of Population Change data from the U.S. Bureau of Census. County migration patterns between July 2018 and July 2019 were assumed to hold in late 2021 and in 2022. Annual estimates of net migration were divided by 4 to estimate quarterly net migration.

Counts of labor market entrants were based on: 1) high school completion, dropout and college (and community college) attendance and completion rates included in the *Annual Report of the Nebraska Commission on Post-Secondary Education*, and 2) college and community college graduate counts (by major) which are maintained for area colleges by the United States Department of Education. College and community college graduate counts and estimates of high school graduates, high school dropouts and college non-completers (given Omaha's pre-college population age 15 to 17 and relevant rates from the *Annual Report* cited above) were summed to estimate annual workforce entrants. Annual workforce entrants were divided by 4 to determine quarterly entrants.

College and community college graduates were assigned to occupations based on area of major. High school graduates, high school dropouts and college non-completers are assigned to occupations that do not typically require a college degree based on demand. Net migrants and labor market re-entrants (based on an increased labor force participation rate) in the coming year are assigned to occupations based on demand. Specifically, workers are expected to enter occupations with a larger number of job openings.

## Appendix 2: About the Bureau of Business and Principal Investigators

### *The Bureau of Business Research*

The UNL Bureau of Business Research is a leading source for analysis and information on the Nebraska economy. The Bureau conducts both contract and sponsored research on the economy of Nebraska and its communities including: 1) economic and fiscal benefit analysis; 2) models of the structure and comparative advantage of the current economy; 3) economic, fiscal, and demographic outlooks, and 4) assessments of how economic policy affects industry, labor markets, infrastructure, and the standard of living. The Bureau also competes for research funding from federal government agencies and private foundations from around the nation and contributes to the academic mission of the University of Nebraska-Lincoln through scholarly publication and the education of students.

### *Dr. Eric Thompson – Principal Investigator*



Dr. Eric Thompson will be the principal investigator on this project. Dr. Thompson is the Director of the Bureau of Business Research and an Associate Professor of Economics at the University of Nebraska-Lincoln as a monthly leading economic indicator reports and the monthly Survey of Nebraska Business report. He has conducted a variety of economic impact studies for Nebraska industries such as agriculture, insurance, heritage tourism and horseracing and Nebraska attractions and events such as the Sandhill Cranes migration, the Omaha Zoo, Omaha Performing Arts, the Omaha Symphony, the Lincoln Children’s Zoo, and Husker Harvest Days.

He also has conducted numerous studies for the Lincoln, Omaha, and State Chambers of Commerce as well as the Nebraska Department of Economic Development and the Nebraska Department of Labor. Dr. Thompson also has conducted numerous studies on the economic benefit and relative costs and benefits of transportation investments. He is currently developing reports on *Under-Investment in Rural Highways* and *Trends in Rural Transportation Finance and the Role of Private Investment* for the U. S. Department of Transportation. Dr. Thompson’s research has received support from the National Science Foundation, the U. S. Department of Labor, the U.S. Department of Agriculture, the U.S. Department of Transportation and the Robert Wood Johnson Foundation. In his previous employment, Thompson served as the Director of the Center for Business and Economic Research at the University of Kentucky. Dr. Thompson received his Ph.D. in agricultural economics from the University of Wisconsin-Madison in 1992. His research fields include regional economics, economic forecasting, and state and local economic development. His research has been published in *Regional Science and Urban Economics*, the *Journal of Regional Science*, and the *American Journal of Agricultural Economics*.

*Dr. Mitchel Herian – Co-Principal Investigator*



Dr. Mitchel Herian serves as Project Director at the Bureau of Business Research. Dr. Herian also serves as a faculty fellow at the University of Nebraska Public Policy Center, and an adjunct professor in the Political Science department at UNL. Dr. Herian has worked extensively with agencies in Nebraska and the region. He has conducted applied research for federal agencies such as the U.S. Air Force, the U.S. Army, the National Aeronautics and Space Administration (NASA). His research has received support from agencies including the Bureau of Justice Assistance, the National Science Foundation and the National Institute of Justice. Dr.

Herian's research has been published in a variety of peer-reviewed journals including the *Journal of Public Administration Research and Theory*, *American Review of Public Administration*, *Policy Studies Journal*, *State and Local Government Review*, and *Ecology & Society*.