University of Nebraska - Lincoln
DigitalCommons@University of Nebraska - Lincoln

Bureau of Business Research Publications | Bureau of Business Research

6-28-2016

The 2016 Nebraska Manufacturing Report

Mitch Herian
University of Nebraska-Lincoln, mherian2@unl.edu

Eric Thomspon
University of Nebraska-Lincoln, ethompson2@unl.edu

Follow this and additional works at: http://digitalcommons.unl.edu/bbrpub

 Part of the Growth and Development Commons, Other Economics Commons, and the Regional Economics Commons

Herian, Mitch and Thomspon, Eric, "The 2016 Nebraska Manufacturing Report" (2016). *Bureau of Business Research Publications*. 47.
http://digitalcommons.unl.edu/bbrpub/47

This Article is brought to you for free and open access by the Bureau of Business Research at DigitalCommons@University of Nebraska - Lincoln. It has been accepted for inclusion in Bureau of Business Research Publications by an authorized administrator of DigitalCommons@University of Nebraska - Lincoln.

NEBRASKA MANUFACTURING
EXTENSION PARTNERSHIP

THE 2016 NEBRASKA MANUFACTURING REPORT

Prepared for the Nebraska Manufacturing Extension Partnership by
Dr. Mitch Herian and Dr. Eric Thompson

June 28, 2016
Bureau of Business Research
Department of Economics
College of Business Administration
University of Nebraska–Lincoln
Dr. Eric Thompson, Director
www.bbr.unl.edu

University of Nebraska Lincoln

MANUFACTURING EXTENSION PARTNERSHIP
National Network

nemep.unl.edu

TABLE OF CONTENTS

TABLE OF TABLES

TABLE OF FIGURES

1. INTRODUCTION

The purpose of this report is to provide an economic snapshot of the Nebraska manufacturing industry. In particular, the report is designed to present contributions of manufacturing to the state economy, recent trends in Nebraska manufacturing, and considerations for the future of Nebraska manufacturing. The information contained within the report will help policy makers and stakeholders better understand the current state of manufacturing in the state, particularly in relation to recent demographic and economic trends in Nebraska and the United States.

The report finds that the manufacturing sector has a significant impact on the Nebraska economy. Approximately 10 percent of the Nebraska workforce is engaged in manufacturing. This is typical of what is found in most states. Manufacturing also accounts for about 13 percent of value-added in the Nebraska economy. Value-added is the same concept used to measure gross domestic product. These direct impacts, however, only partially reflect manufacturing's impact on the Nebraska economy. The total economic impact, including the multiplier impact, is even larger. Including the multiplier impact, Nebraska manufacturing accounts for about one-quarter of Nebraska's economy. The prospects for the manufacturing sector, therefore, will play an important role in the future of the Nebraska economy.

In terms of future prospects, the Nebraska manufacturing sector has a number of advantages including growing exports, lower electricity prices, a skilled workforce, the presence of workforce training, and services from the Nebraska Manufacturing Extension Partnership. In addition, Nebraska enjoys strength in food processing and other agriculture related industries. The Food Manufacturing sector accounts for 37% of the total Nebraska manufacturing employment statewide. This sector of the industry appears to be in a favorable position, given the relatively low prices of relevant commodities. Machine manufacturing, which includes production of agricultural machinery and implements, accounts for 11% of state manufacturing employment.

The report also finds that Nebraska has largely followed national trends in manufacturing in the last decade. Employment has grown in many years but suffered steep declines during the Great Recession of 2007 through 2009. There also has been a drop recently due to pressure from a strong dollar. Industries producing non-durable goods appear to have returned to pre-recession levels of employment, while employment in durable goods industries has failed to recover. As of 2014, the Nebraska manufacturing sector had approximately 97,500 wage and salary workers and another 1,500 self-employed individuals who operate "nonemployer" firms.

Examination of geographic differences in manufacturing produce several notable findings. Manufacturing employment in metropolitan areas of the state followed national trends, with employment decreasing during the recent recession. However, manufacturing employment in the Omaha and Sioux City metropolitan areas has recovered, while employment in the Lincoln metropolitan area has not. Further, manufacturing comprises a substantial portion of the adult workforce in a number of Nebraska counties, both metropolitan and non-metropolitan. In general, the counties with the largest proportion of adults working in manufacturing are those counties with large food processing operations.

2. MANUFACTURING IN THE NEBRASKA ECONOMY

The Nebraska manufacturing sector accounts for a significant share of both employment and value-added in the Nebraska economy. In Table 1 below, data are reported for both value-added and employment for the Nebraska manufacturing industry and the Nebraska economy overall. Data are reported for the most recent full-year which is available. Results show that the manufacturing industry accounts for 12.9% of value-added, which is the broadest measure of the Nebraska economy (the same concept used to measure gross domestic product). In 2015, manufacturing accounted for 9.7% of total non-farm employment.

Table 1. Manufacturing's Share of Value-Added and Non-Farm Employment in Nebraska			
Measure	Manufacturing	Total	Manufacturing Share
Value-Added (2014)	$12,753	$98, 794	12.9%
Non-Farm Employment (2015)	$97,300	$1,006,300	9.7%
Source: Bureau of Economic Analysis, U.S. Department of Commerce and Bureau of Labor Statistics, U.S. Department of Labor			

Both shares are typical of what is found in most states. For example, as seen in Table 2 below the share of workers employed in manufacturing is similar in Nebraska as in many other states. However, Nebraska is just above the median value (8.9%) as well as above the national percentage (8.1%).

Table 2. Percent of Adult Workers Employed in Manufacturing per State, March 2016 (Preliminary)					
United States	8.1%	Kentucky	12.8%	North Dakota	5.5%
Alabama	13.2%	Louisiana	7.0%	Ohio	12.6%
Alaska	3.9%	Maine	8.4%	Oklahoma	7.7%
Arizona	5.9%	Maryland	4.0%	Oregon	10.3%
Arkansas	12.5%	Massachusetts	7.1%	Pennsylvania	9.6%
California	7.8%	Michigan	13.9%	Rhode Island	8.7%
Colorado	5.5%	Minnesota	11.1%	South Carolina	11.7%
Connecticut	9.5%	Mississippi	12.5%	South Dakota	9.7%
Delaware	6.1%	Missouri	9.3%	Tennessee	11.6%
Florida	4.2%	Montana	4.2%	Texas	7.1%
Georgia	8.9%	Nebraska	9.6%	Utah	8.9%
Hawaii	2.1%	Nevada	3.3%	Vermont	9.4%
Idaho	9.2%	New Hampshire	10.0%	Virginia	5.9%
Illinois	9.7%	New Jersey	5.9%	Washington	8.9%
Indiana	16.9%	New Mexico	3.3%	West Virginia	6.3%
Iowa	13.5%	New York	4.9%	Wisconsin	16.3%
Kansas	11.5%	North Carolina	10.7%	Wyoming	3.4%
Source: Bureau of Labor Statistics; State data based on March, 2016 figures, U.S. data based on 2014 figures.					

The manufacturing sector also has an outsized impact on the economy beyond just the direct employment and value-added. This is because the manufacturing industry is a capital-intensive industry.

Table 3 below reports the economic impact of the manufacturing industry in Nebraska. The economic impact includes the direct value-added and employment reported in Table 3 as well as the "multiplier" impact. The multiplier impact includes the additional employment and value-added generated in the economy when: 1) manufacturing workers spend their paychecks and 2) when manufacturers purchase supplies and services to support operations. The total economic impact is the sum of the direct economic impact and the multiplier impact. The total economic impact is $26.6 billion in real value-added (2009 $) and 257.2 thousand jobs. These total economic impacts account for 26.9 percent of value-added in the state economy and 25.6 percent the non-farm employment. The Nebraska manufacturing sector therefore accounts for about one-quarter of the state economy.

Table 3. The Economic Impact of Manufacturing as a Share of Value-Added and Non-Farm Employment in Nebraska

Measure	Direct Impact	Multiplier Impact	Total Impact	Share of Economy
Value-Added (2014)	$12,753	$13,835	$26,588	26.9%
Non-Farm Employment (2015)	$97,300	$159,900	$257,200	25.6%
Source: IMPLAN Model and BBR calculations				

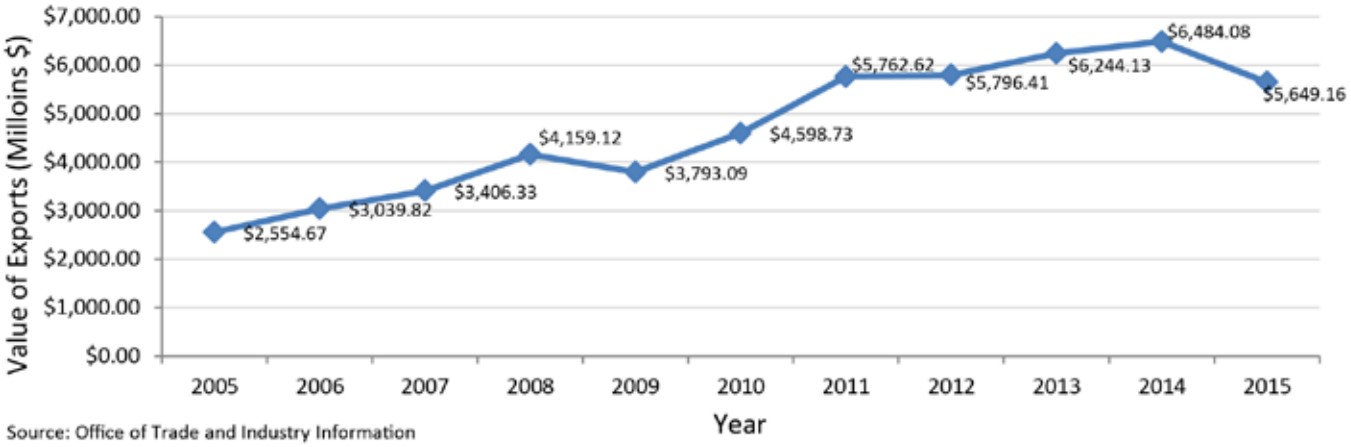
3. FUTURE TRENDS AFFECTING MANUFACTURING

Given that manufacturing accounts for such a large share of the Nebraska economy, a key question is what is the future of Nebraska's manufacturing sector? The Nebraska manufacturing sector has a number of advantages which suggest there is a positive future for the industry. These advantages include growing exports, relatively low electricity prices, an easing of commodity prices, a skilled workforce, workforce training, increasingly competitive labor costs, and services from the Nebraska Manufacturing Extension Partnership. Each of these advantages for future growth is examined below.

EXPORTS

Research has demonstrated the importance of exports for U.S. manufacturers (International Trade Administration, 2010). Exports are similarly important in Nebraska, as manufacturers compete in international markets, and actively pursue international trade deals. As Figure 1 indicates, the value of Nebraska manufacturing exports has risen dramatically in the past decade or so. In 2005, the value of manufacturing exports was around $2.5 billion dollars. By 2014, this figure had more than doubled, increasing to nearly $6.5 billion. This rate of growth significantly exceeds the cumulative inflation of 21 percent during the period. The number declined somewhat between 2014 and 2015 to about $5.7 billion yet still remains well above historical levels.

FIGURE 1. VALUE OF NEBRASKA MANUFACTURING EXPORTS, 2005-2015 (MILLIONS $)



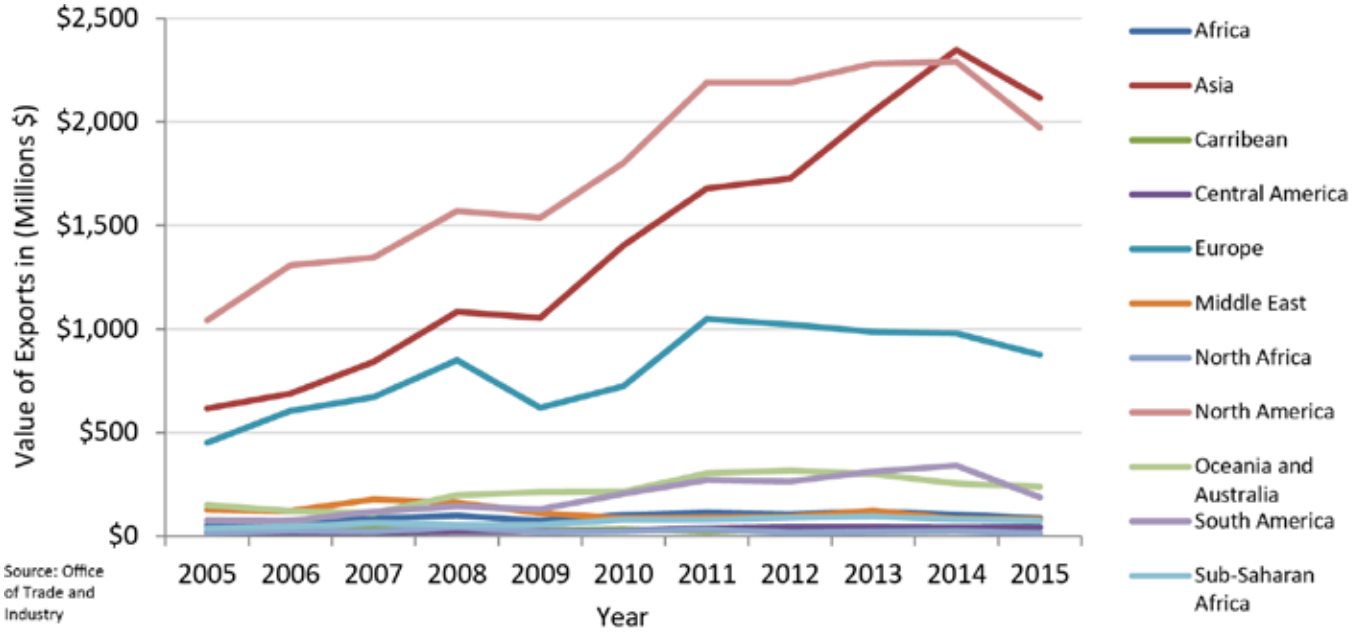
Source: Office of Trade and Industry Information

To get a sense of the relative importance of manufacturing for total exports from Nebraska, Table 4 presents the top 15 exports from Nebraska in 2015. The table indicates that 13 of the top 15 exports from Nebraska are manufactured products as classified by NAICS codes. Manufactured exports from these 13 industries total about $5.56 billion, nearly 85% of the total value of exports in 2015.

Table 4. Top 15 Nebraska Exports in 2015 (Millions $)		
	Total (All NAICS Codes)	$6,555.85
1	311–FOOD MANUFACTURES	$2,366.09
2	333–MACHINERY; EXCEPT ELECTRICAL	$838.05
3	111–AGRICULTURAL PRODUCTS	$617.51
4	325—CHEMICALS	$612.89
5	335–ELECTRICAL EQUIPMENT; APPLIANCES & COMPONENTS	$434.67
6	336–TRANSPORTATION EQUIPMENT	$316.59
7	334–COMPUTER AND ELECTRONIC PRODUCTS	$244.59
8	332–FABRICATED METAL PRODUCTS; NESOI	$205.59
9	339–MISCELLANEOUS MANUFACTURED COMMODITIES	$187.57
10	211–OIL & GAS	$173.60
11	316–LEATHER & ALLIED PRODUCTS	$161.78
12	312–BEVERAGES & TOBACCO PRODUCTS	$71.06
13	326–PLASTICS & RUBBER PRODUCTS	$64.47
14	331–PRIMARY METAL MFG	$58.94
15	212–MINERALS & ORES	$52.78
Source: Office of Trade and Industry Information; NAICS Codes 311-339 relate to manufacturing.		

Next, it is useful to understand the destinations for Nebraska manufacturing exports. Figure 2 below illustrates the world regions, as identified by the International Trade Administration (ITA, 2016), where Nebraska manufacturing exports are shipped from 2005 to 2015. The figure illustrates a dramatic increase in exports to other nations in North America, as well as to nations in Asia. Notably, the value of exports to Asian nations is now higher than the value of exports to Canada and Mexico. There was increased value in exports to Europe between 2005 and 2011; however, the value of exports to Europe has leveled off and has begun to decline slightly in recent years. The value of manufacturing exports to other regions of the world were, and remain, relatively low in relation to the value of exports to North America, Asia, and Europe.

FIGURE 2. NEBRASKA MANUFACTURING EXPORT MARKETS, 2005-2015



Source: Office of Trade and Industry

To add a bit more detail about the destination of Nebraska manufacturing exports, Table 5 presents the top 10 nations that received Nebraska exports from 2010 to 2015. As the table indicates, Canada, Japan, and Mexico are currently the largest export markets for products manufactured in Nebraska.

Table 5. Top 10 Markets for Nebraska Manufactured Products (Millions $)

	2010	2011	2012	2013	2014	2015
Canada	$1,279.89	$1,523.10	$1,586.56	$1,696.11	$1,637.58	$1,255.12
Japan	$433.65	$536.53	$467.42	$563.43	$732.39	$791.63
Mexico	$521.15	$666.10	$602.38	$585.60	$653.02	$716.00
China	$260.71	$359.57	$470.20	$577.67	$576.56	$435.14
South Korea	$268.65	$326.86	$320.18	$294.21	$356.37	$349.02
Hong Kong	$112.24	$128.53	$154.16	$243.24	$301.73	$233.26
Netherlands	$141.95	$176.33	$182.21	$214.92	$168.19	$204.11
Australia	$178.78	$252.16	$260.48	$235.85	$198.11	$180.63
Germany	$100.10	$134.71	$146.12	$144.42	$153.67	$164.41
Taiwan	$112.39	$97.06	$80.99	$101.23	$111.80	$86.06

Source: Office of Trade and Industry Information

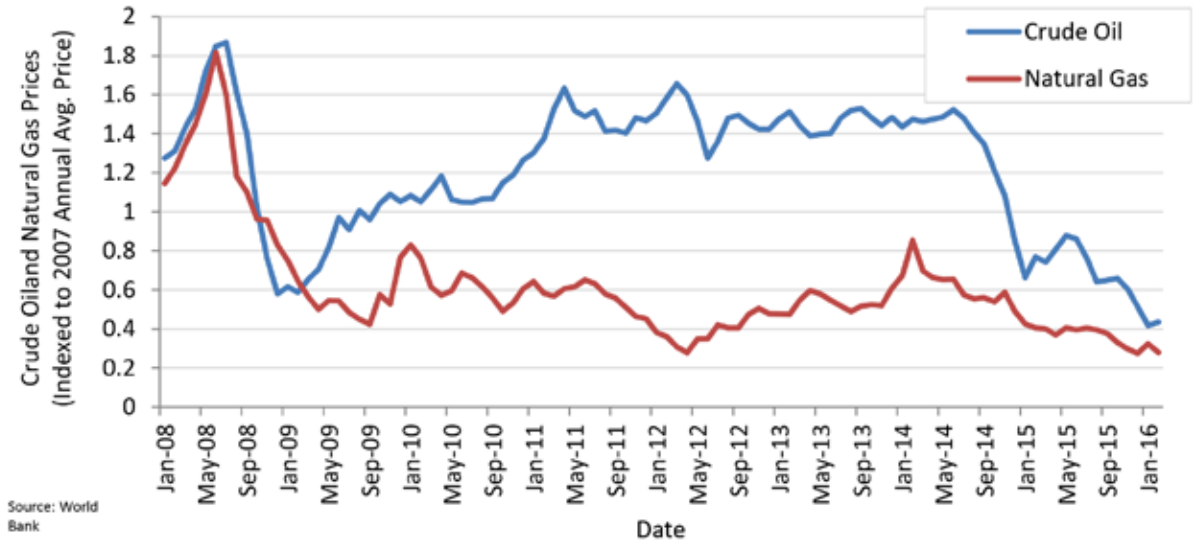
Table 6 provides detailed information about the value of Nebraska exports by specific subsectors from 2005 to 2015. Note the rapid growth in the exports of food manufacturers from 2005 to 2014.

Table 6. Value of Nebraska Manufacturing Exports by Industry, 2005-2015 (Millions $)											
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
TOTAL	$2,554.67	$3,039.82	$3,406.33	$4,159.12	$3,793.09	$4,598.73	$5,762.62	$5,796.41	$6,244.13	$6,484.08	$5,649.16
311–FOOD MANUFACTURES	$798.11	$948.94	$1,121.09	$1,479.38	$1,488.45	$1,878.08	$2,422.19	$2,406.71	$2,565.29	$2,787.61	$2,366.09
333–MACHINERY; EXCEPT ELECTRICAL	$519.36	$578.95	$661.17	$1,020.51	$875.69	$962.28	$1,224.56	$1,294.10	$1,286.41	$1,107.13	$838.05
325–CHEMICALS	$287.01	$319.06	$374.58	$363.97	$417.33	$470.92	$569.35	$583.41	$656.47	$696.07	$612.89
335–ELECTRICAL EQUIPMENT; APPLIANCES & COMPONENTS	$79.07	$97.50	$81.27	$72.98	$64.37	$99.79	$117.31	$163.14	$179.34	$280.25	$434.67
336–TRANSPORTATION EQUIPMENT	$346.43	$428.44	$498.22	$483.85	$332.30	$366.66	$513.12	$436.70	$396.26	$396.55	$316.59
334–COMPUTER AND ELECTRONIC PRODUCTS	$150.92	$146.40	$168.10	$168.37	$144.32	$172.99	$191.55	$195.54	$231.00	$244.19	$244.59
332–FABRICATED METAL PRODUCTS; NESOI	$75.96	$91.74	$112.99	$150.36	$97.78	$156.82	$144.66	$171.10	$200.41	$209.27	$205.59
339–MISCELLANEOUS MANUFACTURED COMMODITIES	$70.46	$98.69	$119.64	$118.23	$98.51	$112.05	$127.39	$132.09	$185.48	$187.74	$187.57
316–LEATHER & ALLIED PRODUCTS	$50.79	$131.51	$94.36	$92.94	$73.85	$127.30	$168.43	$133.54	$172.50	$221.56	$161.78
312–BEVERAGES & TOBACCO PRODUCTS	$0.48	$0.56	$3.31	$13.21	$16.15	$17.55	$19.80	$13.78	$88.16	$102.62	$71.06
326–PLASTICS & RUBBER PRODUCTS	$61.67	$66.48	$66.27	$71.92	$69.68	$79.93	$85.03	$65.33	$80.11	$69.06	$64.47
331–PRIMARY METAL MFG	$30.79	$28.36	$37.01	$46.86	$44.10	$64.12	$77.68	$84.59	$75.47	$76.29	$58.94
322–PAPER	$8.26	$11.25	$12.93	$10.96	$14.94	$18.63	$16.78	$13.18	$18.60	$22.95	$21.47
337–FURNITURE & FIXTURES	$11.79	$15.83	$15.95	$26.32	$23.88	$24.07	$29.05	$55.28	$71.53	$38.74	$15.19
313–TEXTILES & FABRICS	$27.78	$31.91	$11.88	$13.20	$10.82	$21.47	$30.74	$21.81	$10.91	$12.43	$12.89
327–NONMETALLIC MINERAL PRODUCTS	$5.46	$7.05	$7.19	$8.15	$7.04	$9.24	$8.53	$8.42	$9.02	$10.03	$10.11
315–APPAREL MANUFACTURING PRODUCTS	$0.63	$0.37	$0.65	$1.22	$0.71	$1.94	$3.27	$4.34	$4.92	$7.83	$8.38
324–PETROLEUM & COAL PRODUCTS	$0.28	$0.18	$0.38	$0.89	$0.85	$1.30	$0.27	$1.07	$1.11	$3.55	$8.28
314–TEXTILE MILLS PRODUCTS	$10.69	$12.18	$7.79	$4.79	$3.64	$3.25	$4.05	$4.08	$2.96	$2.37	$3.80
323–PRINTED MATTER AND RELATED PRODUCTS; NESOI	$15.49	$20.21	$6.35	$5.36	$4.89	$4.89	$4.48	$4.99	$5.57	$5.25	$3.49
321–WOOD PRODUCTS	$2.76	$3.98	$5.17	$5.60	$3.71	$5.33	$4.25	$3.19	$2.61	$2.57	$3.27
511–NEWSPAPERS; BOOKS & OTHER PUBLISHED MATTER; NESOI	$0.47	$0.22	$0.04	$0.05	$0.08	$0.14	$0.12	$0.00	$0.00	$0.00	$0.00
Source: Office of Trade and Industry Information											

ENERGY PRICES

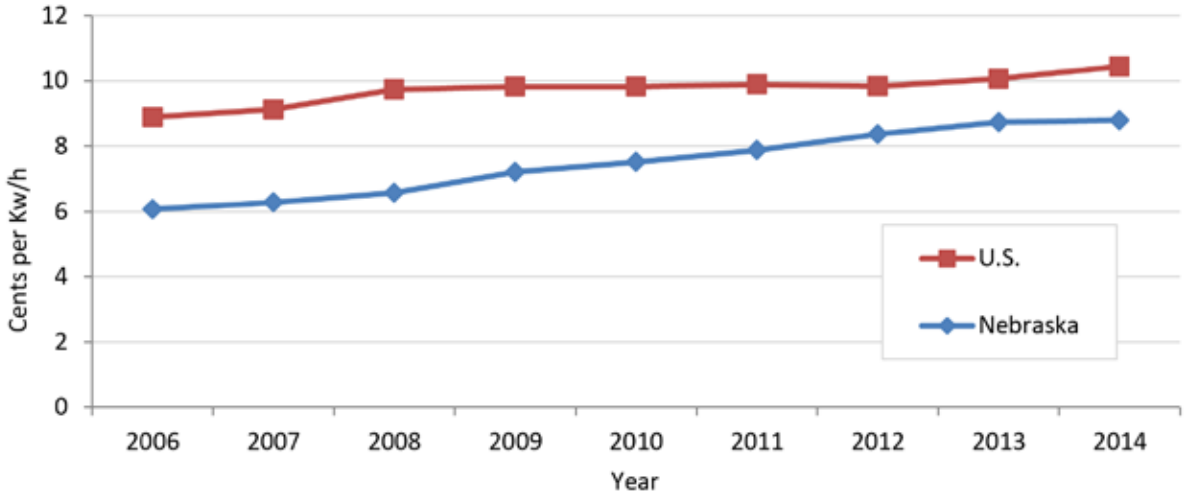
Energy prices have direct and indirect impacts on the manufacturing sector. Energy is essential in the production of many of the commodities used by Nebraska manufacturers. Natural gas, in particular, is used directly by manufacturers to produce goods. The energy sector also impacts the manufacturing sector by driving demand for the materials and equipment needed in the exploration, production, transportation, and processing of oil and natural gas. Thus, as natural gas and oil production in the U.S. has increased in recent years, the manufacturing sector has benefited through low energy costs and through an increased market for the materials and equipment needed in energy production. Notably, the U.S. manufacturing sector is at a relative advantage compared to manufacturers in competing countries, as the U.S. is able to produce much of the energy it needs locally rather than through imports. As of early 2016, American manufacturers continue to experience relatively low prices for both crude oil and natural gas, as indicated in Figure 3. Figure 3 is an index with 2007 as the base year.

FIGURE 3. GLOBAL CRUDE OIL AND NATURAL GAS PRICES, 2008-2016



Historically, Nebraskans have enjoyed low electricity prices in relation to other parts of the country. These low prices provide Nebraska manufacturers a comparative advantage relative to manufacturers in other parts of the U.S. and across the globe. Figure 4 below provides an illustration of electricity prices in Nebraska and the U.S. from 2006-2014. As the figure indicates, Nebraska electricity prices were considerably lower than the U.S. average during this period. From 2006-2009, Nebraska prices were 27%-32% lower than the national average. This gap has decreased in recent years, yet Nebraska electricity prices were still 16% lower than then national average in 2014. In comparison to neighboring states, Nebraska electricity rates are extremely competitive. The trend toward greater use of alternative energy sources may impact electricity prices into the future, as may proposed regulations put forth by the Obama Administration. Such trends in electricity prices will be worth tracking in coming years.

FIGURE 4. ELECTRICITY PRICES IN THE U.S. AND NEBRASKA, 2006-2014

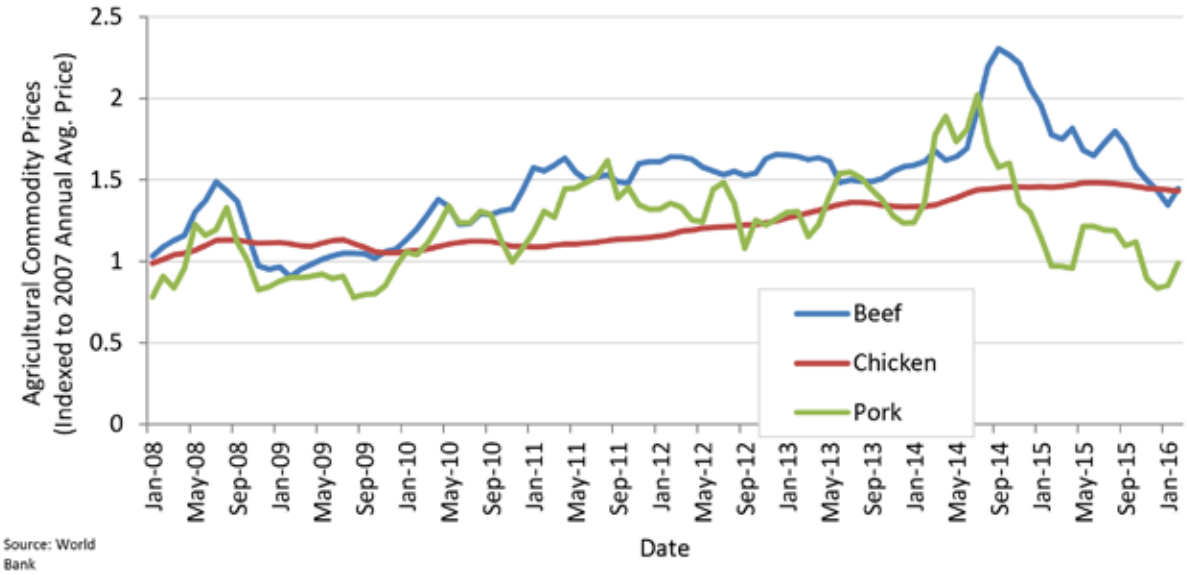


Source: Energy Information Administration; Compiled by Nebraska Energy Office

AGRICULTURAL COMMODITY PRICES

Because Nebraska manufacturing is heavily focused on food manufacturing, it is useful to examine trends in relevant agricultural commodities. Figure 5 below presents the prices of beef, chicken, and pork from 2008 to early 2016. The graph shows that the price of chicken increased steadily over the eight years in question. In particular, in mid-2015 the price of chicken was approximately 50% higher than the average price in 2007. Beef and pork prices experienced much more variation during this time frame, with substantial increases in mid-2008, steady increases in price through 2013, and a substantial increase in early 2014. Since mid-2014, pork prices have dropped considerably and are currently at near-2007 levels. Beef prices reached a peak in September, 2014 before dropping substantially and reaching a low in January, 2016. Currently beef prices are about 40% higher than 2007 levels.

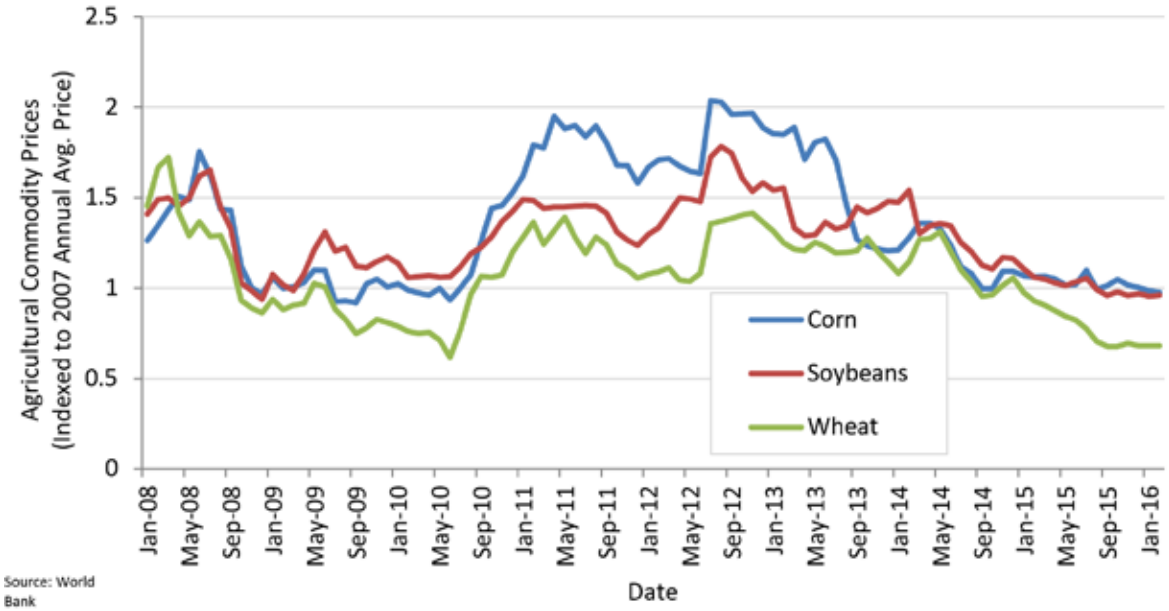
FIGURE 5. GLOBAL BEEF, CHICKEN, AND PORK COMMODITY PRICES, 2008-2016



Source: World Bank

Additional input costs affecting the price of food manufacturing include crop prices, particularly corn, soybeans, and wheat. As figure 6 below indicates, prices for these commodities follow fairly similar trajectories during the years under investigation. However, corn prices—a critical economic indicator in Nebraska—experienced rapid increases in price beginning in mid-2010. Prices remained relatively high during 2011 and early 2012, and reached historically high prices in late 2012. Corn prices have since subsided, and have returned to near-2007 levels. Soybeans also reached record high prices in 2012, with prices gradually reducing to near-2007 levels. Wheat prices followed a similar trajectory as corn and soybeans from 2008 to 2015, but did not reach record levels in 2012 like corn and soybeans.

FIGURE 6. GLOBAL CORN, SOYBEANS, AND WHEAT COMMODITY PRICES, 2008-2016



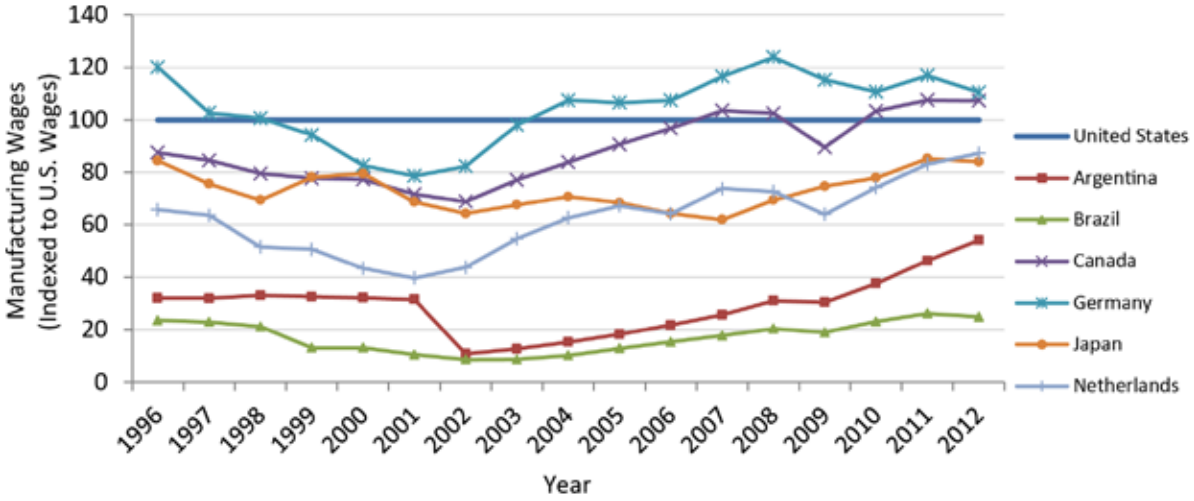
Source: World Bank

U.S. LABOR COSTS IN RELATION TO INTERNATIONAL COMPETITORS

Due to the interdependent nature of manufacturing export markets, it is useful to examine wages across nations to examine U.S. manufacturers' competitiveness in the global market. Figure 7 presents average hourly pay across seven nations through 2012; data are from the Bureau of Labor Statistics International Labor Comparisons. Canada, Germany, Japan, and the Netherlands are currently among the top 10 export markets for products manufactured in Nebraska. Argentina and Brazil, while not major markets for Nebraska products, are presented given the relative importance of the South American market for Nebraska goods. Data for four major Asian trading partners—China, South Korea, Hong Kong, and Taiwan—were not available, nor were data from Mexico.

The figure presents wage comparisons in U.S. dollars, with U.S. hourly labor indexed to 100. As the figure shows, manufacturers in other nations have historically been at a relative advantage over U.S. manufacturers, offering substantially lower hourly rates. However, hourly wages in Germany and Canada have recently surpassed wages in the U.S. Wages in Japan and the Netherlands appear to be approaching U.S. levels in recent years. Wages in South American nations remain well below U.S. averages.

FIGURE 7. INTERNATIONAL MANUFACTURING WAGE COMPARISONS



Source: Bureau of Labor Statistics: International Lbor Comparisons

GRADUATES AND LABOR FORCE

Looking ahead, the success of Nebraska manufacturing will be dependent on the availability of a workforce trained in the skills required in a manufacturing workplace.

Table 7. Manufacturing-related Community College Graduates in Nebraska.

Employing Industry	Graduates	Percent of Total	Estimated Avg. Earnings
Accommodation & Food Services	75	1.24%	$13,479
Administrative & Support &Waste Management & Remediation Services	265	4.38%	$21,132
Agriculture, Forestry, Fishing & Hunting	35	0.58%	$27,751
Arts, Entertainment, & Recreation	49	0.81%	$11,762
Construction	267	4.41%	$25,374
Educational Services	221	3.65%	$19,480
Finance & Insurance	260	4.30%	$29,628
Health Care	1,783	29.47%	$25,205
Information	76	1.26%	$28,712
Leisure & Hospitality	353	5.83%	$13,630
Management of Companies & Enterprises	23	0.38%	$34,810
Manufacturing	489	8.08%	$33,680
Mining	4	0.07%	$25,757
Other Services, Except Public Administration	169	2.79%	$21,316
Professional, Scientific, & Technical Services	233	3.85%	$27,183
Public Administration	245	4.05%	$30,566
Real Estate & Rental & Leasing	30	0.50%	$25,950
Retail Trade	774	12.79%	$16,848
Social Assistance	238	3.93%	$16,051
Transportation & Warehousing	124	2.05%	$27,809
Utilities	49	0.81%	$48,517
Wholesale Trade	289	4.78%	$29,422
	Total 6,051		Average $25,185

Source: NEworks, Nebraska Department of Labor

A 2011-2012 report on Community College Graduate Outcomes in Nebraska indicates that there were 489 Nebraska community college graduates working in the manufacturing field, as seen in Table 7. This number represented 8.1% of all community college graduates working in Nebraska. The estimated average earnings for manufacturing employees was $33,680, which ranked among the top among all industries represented in the report. While manufacturers draw graduates working in fields directly related to manufacturing (e.g., Business Administration, Electrical Engineering, Industrial Mechanics, etc.), the industry attracts graduates from a wide range of other disciplines (e.g., Liberal Arts, Emergency Management, etc.).

THE U.S. MANUFACTURING EXTENSION PARTNERSHIP AND THE NEBRASKA MANUFACTURING EXTENSION PARTNERSHIP

The U.S. Hollings Manufacturing Extension Partnership (MEP) is a program of the U.S. Department of Commerce's National Institute of Standards and Technology (NIST). The Hollings MEP program strives to strengthen American manufacturing through its network of manufacturing extension centers and field offices throughout each of the 50 states and Puerto Rico. MEP centers work with manufacturing companies to provide technical expertise, services, and assistance. The goal is to improve manufacturers' growth and supply chain positioning, and to help manufacturers utilize new technologies, improve manufacturing processes and work force training (National Research Council, 2013). The Nebraska Manufacturing Extension Partnership center seeks to "Transform Nebraska manufacturers through continuous improvement, innovation, sustainable practice, and technology acceleration services" (Nebraska MEP, 2016). The Nebraska MEP is headquartered on the University of Nebraska-Lincoln campus, with additional staff located at the Nebraska Extension office in Kearney.

The Nebraska MEP offers five broad areas of service to Nebraska manufacturers: Continuous Improvement; Marketing and Growth; Quality Management; Sustainability, Environment, and Energy; and Workforce Development. Table 8 below presents the specific services offered under each broad category.

Table 8. Nebraska Manufacturing Extension Partnership, Five Service Areas

Continuous Improvement	Marketing and Growth	Quality Management	Sustainability, Environment, and Energy	Workforce Development
Lean 101	New Product and Process Development	Supply Chain Optimization (Risk Management, Total Cost of Ownership, Partner Engagement)	Waste Reduction & Energy Conservation	Computer Technology
Lean Journey (5S, Value Stream Mapping, etc.)	Market Research	Cybersecurity	Energy, Water & Carbon Auditing	Environmental Health & Safety
Lean Enterprise Certification Program	Technology Scouting	Preventive Controls in Food Manufacturing	Safety	Industrial Technology
	Exporting	ISO 9000	Lean & Green	Leadership Development
	Mergers, Acquisitions, Transitions, and Succession Planning	Six Sigma	ISO 14001	Welding Technology
	Executive Mentoring	Cyber Security		

In addition to these general services, the Nebraska MEP promotes Nebraska manufacturing by sponsoring programs such as the Manufacturer-to-Manufacturer exchange series. This series provides owners, executives, and senior managers with exposure to best practices, and the opportunity to socialize and share experiences in relation to the manufacturing industry. Additional workshops and events include ExporTech, a set of targeted export planning activities for organizations looking to expand into markets outside the U.S. The Nebraska MEP also coordinates services with the Partners in Pollution Prevention program, and offers short courses such as Process Control Essentials, which gives industrial bioprocess personnel hands-on experience with the latest process control technologies.

As noted by the National Research Council, manufacturing firms are responsible for over two-thirds of the industrial research and development (R&D) in the U.S., and employ large numbers of engineers and scientists. These R&D activities lead to significant innovations and technologies, which further impact the national economy. The Hollings MEP program and the Nebraska MEP center seek to promote the multiplicative effect of such efforts through information sharing and promotion of best practices. To gain an understanding of the resources committed to R&D, Table 9 presents the dollars spent by manufacturing firms in the U.S. and Nebraska on R&D. In Nebraska, food manufacturers commit the greatest amount of funding to R&D; this is a departure from U.S. numbers, where computer and electronic manufacturers commit the greatest amount of funding to R&D efforts.

Table 9. Research and Development Conducted by U.S. and Nebraska Manufacturing Firms, 2012 (Millions $)

NAICS	Manufacturing Industry	U.S.	Nebraska
311	Food	$3,921	$85
312	Beverage and tobacco products	$688	*
313–16	Textile, apparel, and leather products	$537	*
321	Wood products	$453	D
322	Paper	$743	D
323	Printing and related support activities	$253	$1
324	Petroleum and coal products	$880	*
325	Chemicals	$50,867	$45
326	Plastics and rubber products	$3,171	$9
327	Nonmetallic mineral products	$1,293	*
331	Primary metals	$686	*
332	Fabricated metal products	$1,720	$9
333	Machinery	$13,294	$25
334	Computer and electronic products	$56,677	$37
335	Electrical equipment, appliances, and components	$2,900	6
336	Transportation equipment	$21,344	$9
337	Furniture and related products	$348	*
339	Miscellaneous	$10,423	D

* = amount < $500,000; D = data withheld to avoid disclosing operations of individual companies

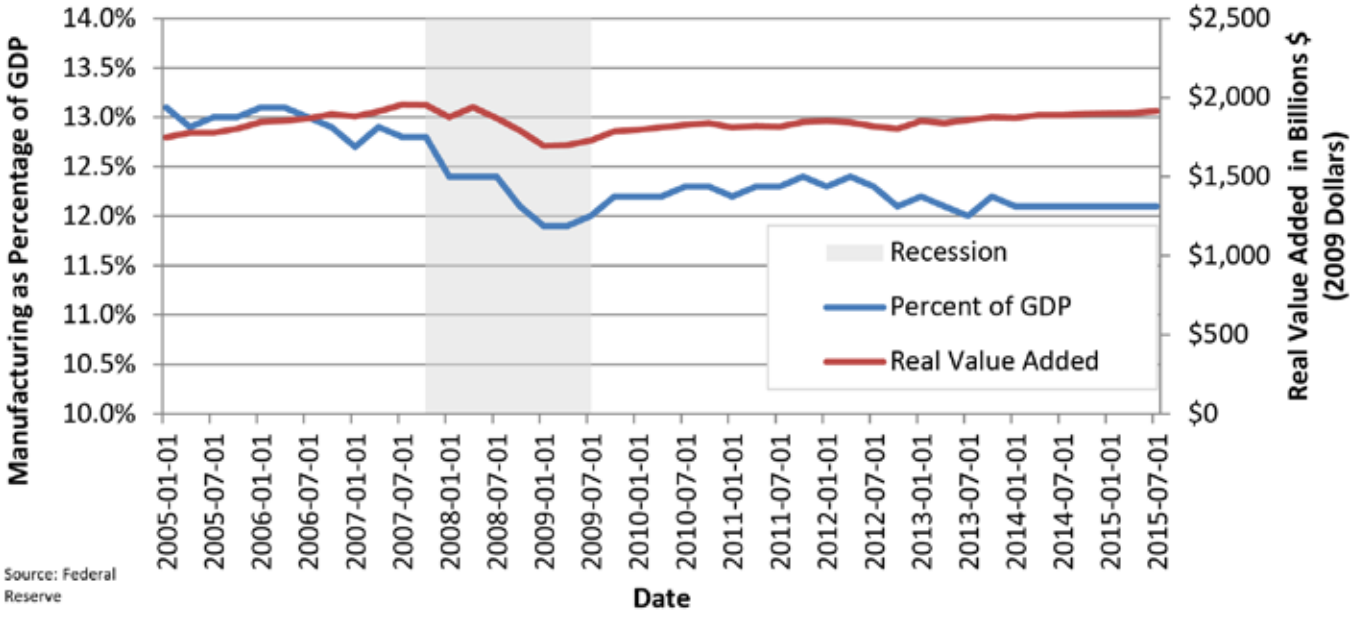
Source: National Science Foundation; U.S. Census Bureau

4. TRENDS IN MANUFACTURING

The U.S. economy has experienced relatively slow growth since the end of 2009. While 2015 produced some signs that economic growth was beginning to improve, recent reports have tempered economists' expectations regarding growth in 2016. Weakness in the economy of trading partners in Asia, South American and Europe has limited manufacturing growth in the United States, despite lower energy prices.

Figure 8 below illustrates recent trends in U.S. manufacturing. The figure shows the decline in manufacturing as a percent of U.S. GDP from 2005 to 2015. Manufacturing accounted for over 13% of U.S. GDP as of early 2005. The share of GDP began to decrease throughout 2006 before dropping considerably during the onset of the recession in 2007. Manufacturing as a percent of GDP reached a low of about 11.9% in April, 2009. The percentage rebounded to 12.2% in October, 2009, and has remained between 12.0% and 12.4% since that time. The real added value of manufacturing in the U.S. reached a high of nearly $2 trillion in July, 2007. Beginning in April, 2008, the value added of manufacturing experienced a steady decrease reaching a nadir of $1.69 trillion in January, 2009. The real value added of U.S. manufacturing has continued to increase over the past 6 years, reaching a value of $1.92 trillion in July, 2015, nearly recovering from the losses which begin in 2007.

FIGURE 8. U.S. MANUFACTURING: REAL ADDED VALUE AND PERCENTAGE OF GDP, 2005-2015

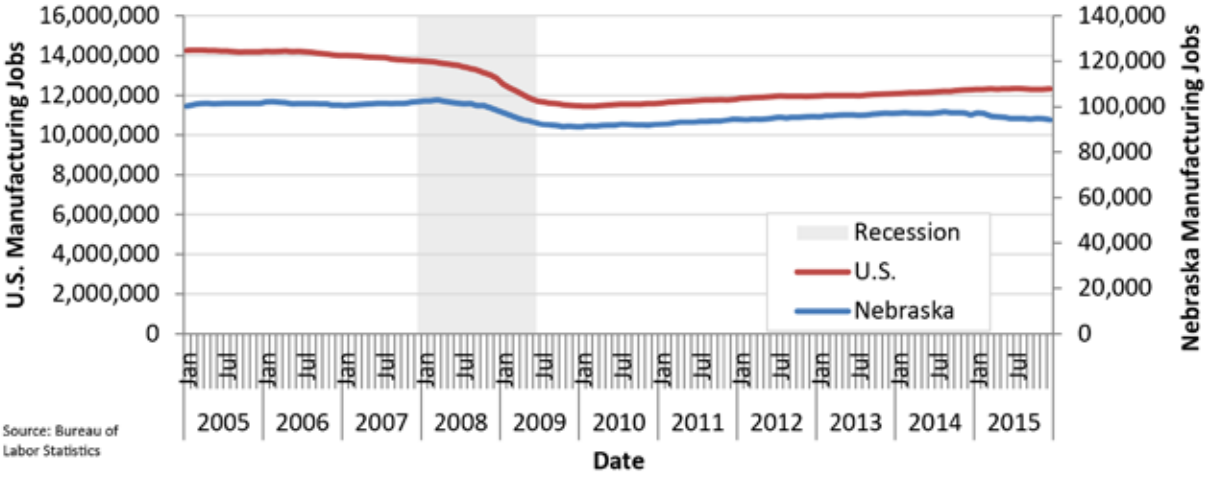


Source: Federal Reserve

MANUFACTURING EMPLOYMENT IN THE U.S. AND NEBRASKA

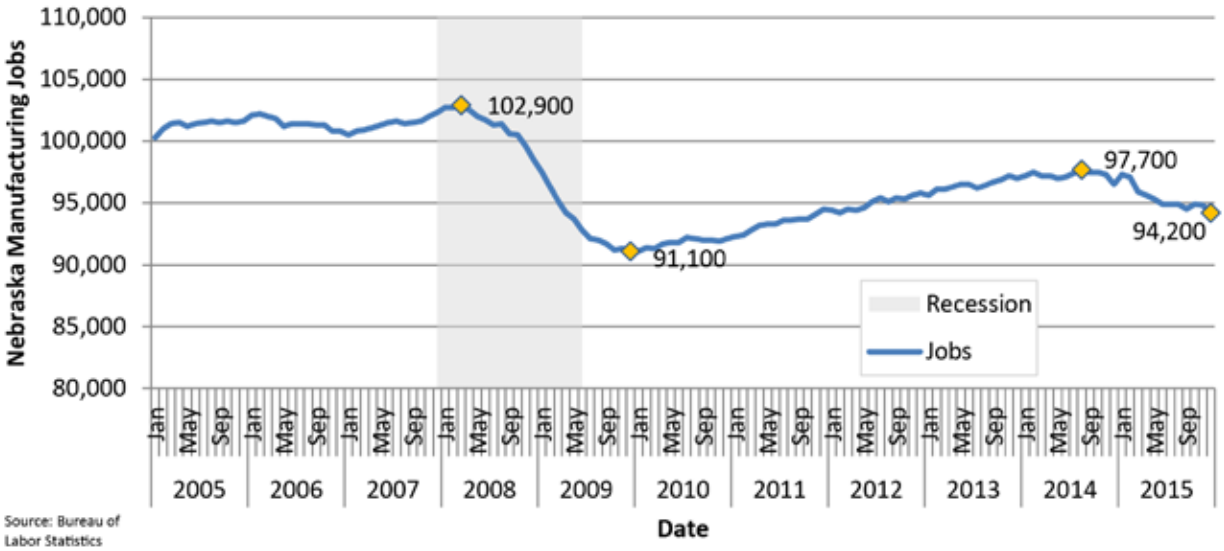
Manufacturing employment experienced a decrease during the economic recession of 2007 to 2009. As Figure 9 shows, U.S. manufacturing employment stood at over 14 million jobs in 2005 and 2006. This number dipped below 14 million in February, 2007, just before the start of the recession. The numbers dropped off substantially during the recession, dropping below 12 million jobs in May, 2009. Manufacturing employment reached a low of 11.45 million jobs in February, 2010. U.S. manufacturing employment has steadily increased since 2010, once again crossing 12 million jobs in February, 2013. As of late 2015, manufacturing jobs stood at 12.33 million.

FIGURE 9. U.S. AND NEBRASKA MANUFACTURING EMPLOYMENT 2005-2015



As Figure 9 above shows, manufacturing employment in Nebraska largely followed national trends before, during, and after the 2007-2009 recession. Figure 10 below presents those trends with a bit more detail. As the graph shows, Nebraska manufacturing employment reached a high point of 102,900 employees in March, 2008, during the early phases of the recession. The recession took a heavy toll on manufacturing employment, with the state experiencing a decrease to 91,100 jobs in December, 2009. As a percentage, this represents an 11.5% decrease in manufacturing jobs from March, 2008 to December, 2009. Again, consistent with national trends, Nebraska manufacturers continued to add jobs following the lows of late 2009/early 2010. Nebraska manufacturers added over 6,000 jobs between December, 2009 and August, 2014. However, in a departure from national trends Nebraska manufacturers have again begun to shed jobs, losing over 3,000 between August, 2014 and December, 2015. It is unclear precisely why Nebraska manufacturing employment has begun to decrease, though it is possible that a strong U.S. Dollar and challenging economic circumstances in Asia—the leading export market for Nebraska manufactured goods—are responsible for at least part of the decline.

FIGURE 10. KEY PERIODS IN NEBRASKA MANUFACTURING EMPLOYMENT, 2005-2015



5. MEASURING AND ANALYZING MANUFACTURING IN NEBRASKA

This section provides a more granular examination of manufacturing in Nebraska. This is done by presenting a detailed look at the types of manufacturing activities that take place in the state, by examining the numbers of manufacturers in Nebraska, as well as some employment trends by geography.

Table 10 below presents the number of employees by NAICS code from the U.S. Census of Manufacturers. The data are from 2013, the most recent year from which these data are available. As the table indicates, the food manufacturing sector accounts for the greatest number of employees in the state, with about 37% of the total number of employees statewide. Machine manufacturing accounts for the next greatest total of employees, with approximately 11% of manufacturing employees working in this field. Not surprisingly, these two large sectors of the industry are tightly linked to the agricultural industry.

Table 10. Number of Employees in Nebraska by NAICS Code, 2013			
NAICS Code	Description	Number of Employees	Rank
311	Food manufacturing	33,676	1
333	Machinery manufacturing	10,313	2
332	Fabricated metal product manufacturing	7,720	3
336	Transportation equipment manufacturing	7,714	4
326	Plastics and rubber products manufacturing	5,393	5
339	Miscellaneous manufacturing	4,557	6
325	Chemical manufacturing	4,365	7
334	Computer and electronic product manufacturing	3,700	8
327	Nonmetallic mineral product manufacturing	2,565	9
323	Printing and related support activities	2,499	10
321	Wood product manufacturing	1,729	11
322	Paper manufacturing	1,656	12
337	Furniture and related product manufacturing	1,628	13
335	Electrical equipment, appliance, and component manufacturing	1,395	14
331	Primary metal manufacturing	1,317	15
314	Textile product mills	349	16
316	Leather and allied product manufacturing	171	17
313	Textile mills	152	18
315	Apparel manufacturing	35	19
324	Petroleum and coal products manufacturing	24	20
	Total	90,958	
Source: U.S. Census Bureau, Annual Survey of Manufacturers			

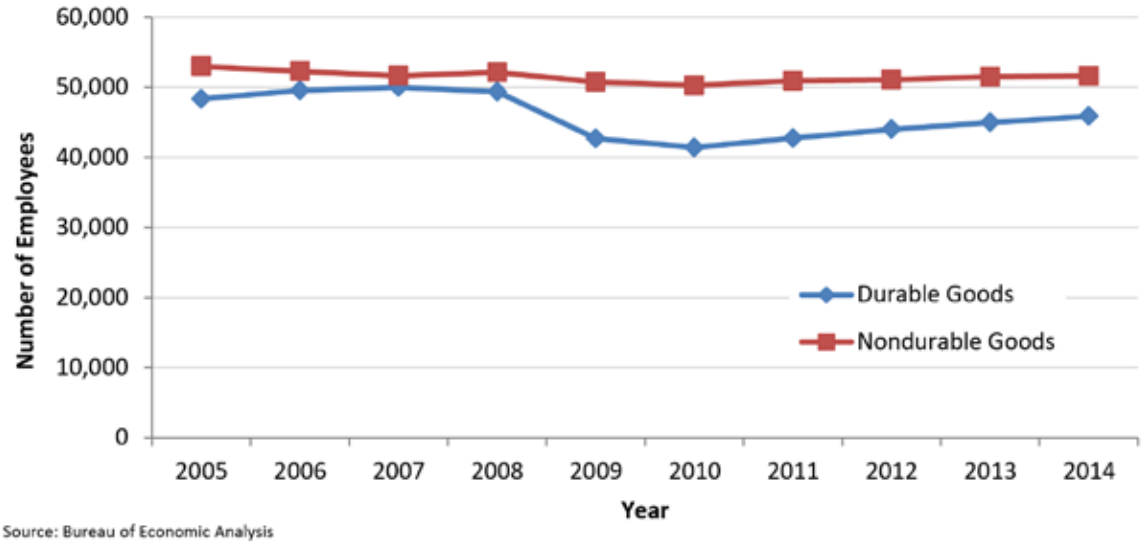
Table 11 presents the numbers of full and part-time workers employed by manufacturers from 2005 to 2014 in Nebraska, according the U.S. Department of Commerce. The table is organized by durable goods manufacturers and non-durable goods manufacturers. Note that employment estimates from this source are approximately 5,500 higher than estimates from the Bureau of Labor Statistics (see Figure 10) and the Annual Survey of Manufacturers (see Table 10).

Table 11. Full and Part-time Wage and Salary Employment in Nebraska, 2005-2014										
Description	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**
Total Manufacturing	101,362	101,852	101,688	101,522	93,460	91,682	93,694	95,092	96,516	97,534
Durable goods manufacturing	48,349	49,561	50,023	49,370	42,702	41,422	42,759	44,008	44,998	45,886
Wood product manufacturing	2,296	2,276	2,141	1,975	1,804	1,658	1,525	1,711	1,902	2,017
Nonmetallic mineral product manufacturing	3,005	3,103	3,147	2,998	2,631	2,419	2,456	2,576	2,872	3,051
Primary metal manufacturing	1,409	1,438	1,403	1,383	1,174	1,155	1,240	1,282	1,197	1,307
Fabricated metal product manufacturing	8,335	8,773	9,256	8,650	7,278	7,042	7,380	8,043	8,431	8,715
Machinery manufacturing	9,579	9,734	9,986	10,546	9,113	8,933	9,458	10,237	10,583	10,318
Computer and electronic product manufacturing	5,788	5,703	5,298	5,218	4,512	4,560	4,578	4,452	4,324	4,400
Electrical equipment, appliance, and component manufacturing	2,008	2,010	2,048	1,799	1,463	1,379	1,397	1,384	1,274	1,281
Motor vehicles, bodies and trailers, and parts manufacturing	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Other transportation equipment manufacturing	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	2,019
Furniture and related product manufacturing	3,054	2,960	2,896	2,707	2,303	2,071	2,119	1,604	1,526	(D)
Miscellaneous manufacturing	4,556	4,825	5,010	5,147	4,972	4,778	4,753	4,720	4,791	4,844
Nondurable goods manufacturing	53,013	52,291	51,665	52,152	50,758	50,260	50,935	51,084	51,518	51,648
Food manufacturing	34,215	33,697	33,585	33,683	33,503	33,174	33,607	33,507	33,916	34,166
Beverage and tobacco product manufacturing	833	779	795	786	773	774	763	781	690	727
Textile mills	176	206	180	178	184	191	200	175	169	183
Textile product mills	483	524	504	461	455	470	414	499	454	338
Apparel manufacturing	254	227	139	135	121	114	130	129	126	138
Leather and allied product manufacturing	141	136	111	115	103	119	370	360	389	372
Paper manufacturing	1,737	1,736	1,692	1,752	1,655	1,718	1,740	1,621	1,654	1,684
Printing and related support activities	5,213	5,161	4,795	4,532	4,221	3,878	3,655	3,579	3,422	3,290
Petroleum and coal products manufacturing	(L)	11	22	22	12	14	19	17	16	14
Chemical manufacturing	4,395	4,382	4,697	5,191	5,036	5,108	5,232	5,462	5,441	5,523
Plastics and rubber products manufacturing	5,558	5,432	5,145	5,297	4,695	4,700	4,805	4,954	5,241	5,213

Source: Bureau of Economic Analysis; L= Less than 10 jobs, but the estimates for this item are included in the total.; D= Not shown to avoid disclosure of confidential information, but the estimates for this item are included in the total.

The results of the analysis show that the number of workers employed by firms engaged in the manufacture of durable goods reached a peak in 2007, decreased dramatically during the recession years, and rebounded somewhat during 2013 and 2014. A more detailed look at the NAICS codes indicates that gains in employment were made in the fields of machinery manufacturing and fabricated metal products. The greatest losses in employment during this period were seen in computer and electronic manufacturing. Within the nondurable goods industry, the greatest gains in employment were experienced by chemical manufacturers, perhaps the result of increased ethanol production in the state. The greatest employment losses in nondurable goods were seen in printing and related support activities. This industry has also been losing employment at a similar pace nationally, as on-line forms and electronic communication and publishing replaces some printed material. To get a general sense of the trends in employment between durable and nondurable goods between 2005 and 2014, Figure 11 graphs the employment numbers during this time. As the figure indicates, nondurable employment remained fairly steady during these 10 years. Employment for durable goods fluctuated in the wake of the economic recession from 2007-2009, and has yet to recover from the losses experienced during those years. The results of this analysis suggest that the nondurable goods produced in Nebraska are not as susceptible to the market challenges posed by an economic recession. Results also show the strength of food manufacturing in Nebraska, which is the key component of nondurable goods manufacturing in the state.

FIGURE 11. NEBRASKA MANUFACTURING EMPLOYMENT FOR DURABLE AND NONDURABLE GOODS, 2005-2014



Source: Bureau of Economic Analysis

Not all manufacturing firms maintain employees. Nonemployer firms are those that have no paid employees, have business receipts of $1,000 or more annually, and are subject to federal income taxes. Table 12 below presents the number of such firms from 2004 to 2013, based on data from the U.S. Census Bureau. As the table shows, the number of nonemployer establishments increased from 1,356 in 2004 to a peak of 1,620 in 2013. Though the number of firms decreased from 2012 to 2013, the total receipts increased from $53.5 million to just under $59 million. Notably, the 2007-2009 recession did not appear to immediately impact the number of nonemployer firms in the state. Some individuals may turn to self-employment during periods when wage and salary job opportunities decline.

Table 12. Nebraska Nonemployer Statistics, 2004-2013

Year	Number of establishments	Receipts ($1,000)	Year	Number of establishments	Receipts ($1,000)
2004	1,356	51,272	2009	1,471	52,688
2005	1,334	53,911	2010	1,462	50,685
2006	1,419	52,127	2011	1,487	52,414
2007	1,499	54,525	2012	1,620	53,508
2008	1,467	56,498	2013	1,535	58,988

Source: U.S. Census Bureau, 2004-2013 Nonemployer Statistics.

To understand the relative size of Nebraska manufacturers, we looked to the County Business Pattern Data, which provides the total number of manufacturing establishments, broken down establishment size. As Table 13 indicates, the largest share of manufacturing establishments in Nebraska employ between 0 to 4 workers. There are also a significant number of establishments in the 5 to 9, 10 to 19, and 20 to 49 employee categories. Nebraska supports several relatively large manufacturers, with eleven establishments employing between 1,000 and 2,499 employees, and three employing at least 2,500 employees. Note that the County Business Pattern data do not account for self-employed individuals, which are reported in Table 12 above. Also note that the number of establishments varies from year-to-year due to establishment openings, acquisitions, mergers, and closings.

Table 13. Number of Manufacturing Establishments by Employment Size in Nebraska, 2011-2014				
Employment size	Number of establishments			
	2011	2012	2013	2014
All establishments	1,822	1,849	1,780	1,795
Establishments with 0 to 4 employees	682	683	649	624
Establishments with 5 to 9 employees	318	335	304	327
Establishments with 10 to 19 employees	269	262	258	264
Establishments with 20 to 49 employees	247	249	263	272
Establishments with 50 to 99 employees	130	138	122	114
Establishments with 100 to 249 employees	99	106	109	111
Establishments with 250 to 499 employees	45	44	43	51
Establishments with 500 to 999 employees	21	21	21	21
Establishments with 1,000 or more employees	11	11	11	11
Source: U.S. Census Bureau, County Business Patterns				

Table 14 provides a more detailed breakdown of manufacturing establishments by employment size and NAICS code in 2013, the most recent year for which data were available. The table further reinforces the notion that food manufacturing is the dominant industry in the manufacturing sector in Nebraska. The table indicates that food manufacturers comprise the bulk of establishments with 250 or more employees. Notably, fabricated metal manufacturers account for the greatest number of manufacturers with 275, with food manufacturers running a close second with 270 establishments.

Table 14. Number of Manufacturing Establishments by Employment Size in Nebraska, 2013											
NAICS Code	NAICS Industry code description	Total	1-4	5-9	10-19	20-49	50-99	100-249	250-499	500-999	1000 +
	Manufacturing	1,780	649	304	258	263	122	109	43	21	11
311	Food Manufacturing	270	83	41	39	36	22	19	14	8	8
312	Beverage and Tobacco Product Manufacturing	31	18	6	3	2	0	2	0	0	0
313	Textile Mills	9	3	3	1	1	1	0	0	0	0
314	Textile Product Mills	53	35	9	2	5	1	1	0	0	0
315	Apparel Manufacturing	13	8	4	0	1	0	0	0	0	0
316	Leather and Allied Product Manufacturing	6	2	0	1	2	0	1	0	0	0
321	Wood Product Manufacturing	65	21	12	13	11	5	3	0	0	0
322	Paper Manufacturing	18	2	1	2	2	3	8	0	0	0
323	Printing and Related Support Activities	182	91	31	25	20	10	5	0	0	0
324	Petroleum and Coal Products Manufacturing	4	3	0	1	0	0	0	0	0	0
325	Chemical Manufacturing	92	19	9	10	31	15	3	3	2	0
326	Plastics and Rubber Products Manufacturing	76	12	12	14	13	10	9	4	2	0
327	Nonmetallic Mineral Product Manufacturing	124	38	32	21	23	4	6	0	0	0
331	Primary Metal Manufacturing	18	3	2	2	2	4	4	1	0	0
332	Fabricated Metal Product Manufacturing	275	110	46	40	45	19	11	3	1	0
333	Machinery Manufacturing	194	50	43	36	30	15	12	6	0	2
334	Computer and electronic Product Manufacturing	39	9	6	5	6	3	5	2	3	0
335	Electrical Equipment, Appliance, and Component	24	7	1	3	7	0	5	1	0	0
336	Transportation Equipment Manufacturing	74	19	9	13	8	6	10	6	3	0
337	Furniture and Related Product Manufacturing	68	36	10	8	8	3	2	0	1	0
339	Miscellaneous Manufacturing	145	80	27	19	10	1	3	3	1	1
Source: U.S. Department of Commerce, County Business Patterns											

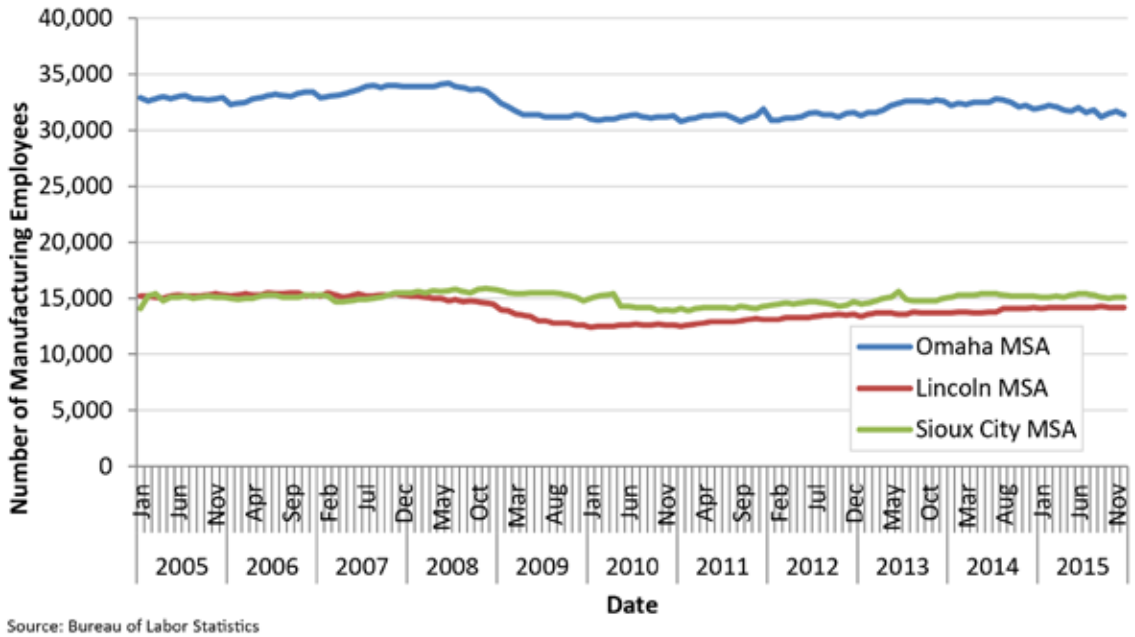
We next turn to examine the value added by the various sectors of the manufacturing industry, presented in Table 15 below. The results show that the value added for all industries increased from $15.6 billion in 2006 to $20.4 billion in 2014; this nearly $5 billion represents an increase of over 30% during this period. The figures again illustrate the position of food manufacturing as the leading industry, with approximately $6.5 billion in value as of 2014. The greatest gains during this time were experienced by chemical manufacturers, with the industry growing from about $1.6 billion in 2006 to just under $4 billion in 2014, an increase of over 150%. Once again, the value of this industry is likely due to the dramatic increase in ethanol production the state during this period. The rubber and plastics manufacturing industry also experienced considerable growth during this time, with value increasing about 88% from $519 million in 2006 to $977 million in 2014. Machine manufacturing experienced substantial gains going from just under $1.5 billion in value in 2006 to $2.7 billion in value in 2014. The growth is even more impressive when one considers that the value of machine manufacturing reached a low of $607 million in 2009 when the most recent recession ended. The growth from 2009 to 2014 represents a 348% increase.

Alternatively, several industries experienced a considerable decline in value between 2006 and 2014. Electronic and electronic equipment manufacturing, for example, experienced a nearly 68% decrease, with value going from $775.2 million in 2006 to $250 million in 2014. Wood product manufacturing had $212.6 million in value in 2006 but only $141.7 in value in 2014. Printing manufacturers experienced a similar drop in the value of their production, going from $382.1 million in 2006 to $246.5 million in 2014. Finally furniture manufacturing experienced a sharp decrease in value from $270.7 million in 2006 to $150.6 million in 2014. One of the common features of these industries is the impact that that 2007-2009 recession had on value. In each case, value dropped precipitously from 2006 to 2009. Following 2009, electronic manufacturing, wood manufacturing, printing activities, and furniture manufacturing failed to return to pre-recession levels of value. This stands in contrast to other industries such as machinery manufacturing and rubber and plastic manufacturing, which experienced a strong recovery from the recession, followed by continuous growth in recent years.

Table 15. Value Added by Selected Manufacturers in Nebraska (Thousand $)										
Industry	NAICS Code	2006	2007	2008	2009	2010	2011	2012	2013	2014
ALL INDUSTRIES		$15,640,990	$13,451,384	$16,248,085	$15,401,157	$17,009,023	$19,173,503	$20,347,588	$20,037,529	$20,402,310
Food and Kindred Products	311	$5,827,124	$3,348,774	$6,419,874	$6,727,605	$6,863,499	$6,517,184	$6,665,930	$6,146,020	$6,459,642
Beverage & Tobacco Products	312	NA	NA	NA	NA	NA	NA	D	$80,942	$88,502
Textile Mills	313	NA	NA	NA	NA	NA	NA	D	$18,163	D
Textile Mill Products	314	$0	D	NA	NA	NA	NA	D	$29,525	$37,939
Apparel Manufacturing	315	NA	D	NA	NA	NA	NA	D	D	D
Leather and Allied Products	316	NA	D	NA	NA	NA	NA	D	D	D
Wood Products	321	$212,635	$166,137	$178,934	D	$109,992	$117,636	$107,777	$113,278	$141,677
Paper Manufacturing	322	$177,798	$191,046	$187,808	D	$245,687	$263,366	$224,818	$213,716	$179,999
Printing and Related	323	$382,164	$330,834	$355,825	$292,478	$308,988	$302,095	$268,413	$272,204	$246,463
Chemicals Manufacturing	325	$1,574,438	$1,787,500	$1,604,896	$1,492,243	$2,619,009	$3,598,017	$3,950,592	$3,760,380	$3,970,756
Rubber and Plastic Products	326	$519,377	$449,701	$437,265	$482,129	$593,252	$604,016	$726,697	$833,989	$977,547
Nonmetallic Mineral Products	327	$411,626	$352,222	$231,407	$232,888	$285,591	$264,604	$284,272	$319,820	$443,864
Primary Metal Industries	331	$281,561	$404,313	$481,663	NA	$220,281	$330,379	$381,358	$317,530	$344,834
Fabricated Metal Products	332	$967,250	$1,167,512	$1,170,598	$650,278	$843,613	$1,036,761	$1,034,679	$1,196,413	$1,040,923
Machinery Manufacturing	333	$1,489,276	$1,430,667	$1,436,313	$607,062	$1,325,461	$2,463,726	$2,806,300	$3,087,839	$2,722,535
Computer & Electronic Products	334	$699,572	$731,545	$650,163	$523,448	$648,201	$476,272	$527,619	$549,441	$512,269
Electric, Electronic Equipment	335	$775,179	$419,152	$402,794	$120,330	D	$231,576	$244,387	$226,072	$250,040
Transportation Equipment	336	$823,141	$835,839	$793,879	$545,821	$767,362	$936,506	$985,485	$870,622	$904,514
Furniture and Related	337	$279,665	$303,787	$188,056	$114,438	$184,629	$182,202	$180,603	$160,385	$150,610
Miscellaneous Manufacturing	339	$1,073,208	D	$1,582,595	$1,511,324	$1,593,101	$1,666,295	$1,787,281	$1,808,825	$1,892,008
Source: U.S. Census Bureau; Annual Survey of Manufacturers; D = data withheld to avoid disclosing operations of individual companies ; NA=Not Applicable										

In addition to providing a look at statewide figures, we sought to present detailed information on the status of manufacturing at the local level in Nebraska. We took several approaches to accomplish this. First, we examined manufacturing employment trends in three of the four Metropolitan Statistical Areas (MSAs) that exist in whole, or in part, in Nebraska: Lincoln, Omaha, and Sioux City. Detailed manufacturing employment figures were not available for the fourth MSA, Grand Island, through the Bureau of Labor Statistics website. Figure 12 presents the results of the analysis. As the table indicates, Omaha's manufacturing labor force is considerably larger than in the Lincoln and Sioux City metro areas, which likely reflects the large population differences between these MSAs. The Lincoln and Sioux City metropolitan areas have roughly equal numbers of manufacturing employees, even though the Lincoln metropolitan area has a population of over 323,000 people while the Sioux City metro area has just over 169,000 people. The results provide evidence that manufacturing accounts for a much larger share of the labor in the Sioux City metro than in the Lincoln metro. The figure also shows that manufacturing employment in the Sioux City metro was not impacted as strongly by the 2007 to 2009 recession. While labor numbers did decrease in the wake of the recession, the numbers have since rebounded and returned to near pre-2007 levels. It is possible that the stability of manufacturing employment in the Sioux City region is a result of a high reliance on the manufacture of non-durable goods, particularly food processing; we saw above that this type of manufacturing employment retained its value and remained stable through the recession years.

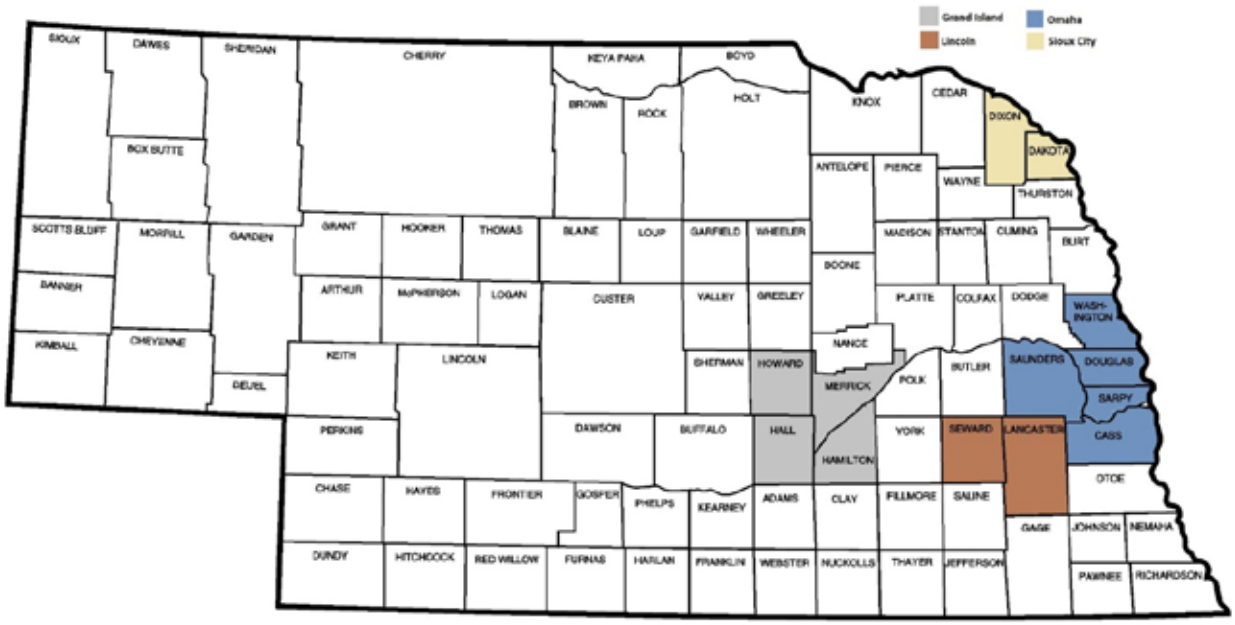
FIGURE 12. MANUFACTURING EMPLOYMENT FOR METROPOLITAN STATISTICAL AREAS (MSAS) OF NEBRASKA, 2005-2015



Source: Bureau of Labor Statistics

To more clearly see the importance of manufacturing in each of the four Nebraska MSAs, Figure 13 presents the number of manufacturers per county in each of the MSAs. Not surprisingly, the largest number of manufacturers is located in the Omaha MSA, the largest population center of the state. The largest concentration of manufacturers is located in Douglas County, followed by Sarpy. Outside the Omaha MSA, the Lincoln MSA also contains a substantial number of manufacturers. Lancaster County contains far more manufacturers than does Seward County, the only other county in the Lincoln MSA.

FIGURE 13. NUMBER OF MANUFACTURERS PER COUNTY IN NEBRASKA MSAS, 2013



Grand Island MSA		Lincoln MSA		Sioux City MSA		Omaha MSA	
Hall	64	Lancaster	232	Dakota,	36	Cass	21
Hamilton	18	Seward	20	Dixon,	2	Douglas	420
Howard	5					Sarpy	73
Merrick	15					Saunders	24
						Washington	22
Total	**102**	**Total**	**252**	**Total**	**38**	**Total**	**560**

In addition to examining the metropolitan areas of the state, we sought to characterize the importance of manufacturing employment in all areas of the state. To do so, we captured the percentage of local adults that are employed in a manufacturing field for each county in the state. The full results of the analyses are presented in Table 16.

Table 16. Percent of Adult Population Employed in Manufacturing by Nebraska County, 2009-2014

Geographic Area	2009	2010	2011	2012	2013	2014	Geographic Area	2009	2010	2011	2012	2013	2014
Nebraska	10.9%	10.9%	10.7%	10.8%	10.7%	10.7%	Howard	11.4%	11.9%	12.1%	13.6%	13.1%	13.9%
Adams	17.5%	15.8%	15.3%	13.5%	12.6%	12.5%	Jefferson	18.2%	18.7%	16.0%	15.0%	14.3%	13.0%
Antelope	4.5%	6.3%	5.3%	7.1%	6.2%	6.5%	Johnson	13.0%	12.1%	11.2%	12.8%	13.7%	14.0%
Arthur	5.3%	8.6%	7.6%	6.6%	7.4%	4.5%	Kearney	13.5%	11.5%	13.4%	14.5%	14.5%	14.6%
Banner	1.3%	2.3%	1.0%	4.9%	8.2%	8.0%	Keith	7.7%	7.9%	7.5%	8.3%	7.6%	6.5%
Blaine	0.0%	0.0%	4.7%	7.2%	6.9%	6.3%	Keya Paha	1.3%	3.7%	2.7%	1.9%	2.1%	1.9%
Boone	8.4%	7.9%	8.2%	9.0%	9.8%	10.3%	Kimball	15.2%	12.3%	8.7%	9.2%	10.3%	8.7%
Box Butte	10.8%	11.2%	11.3%	10.1%	7.1%	5.7%	Knox	6.6%	7.1%	7.1%	6.7%	7.3%	7.9%
Boyd	4.6%	4.3%	4.0%	3.7%	3.8%	5.1%	Lancaster	9.3%	9.3%	9.1%	9.2%	9.1%	9.4%
Brown	3.9%	4.8%	4.4%	4.9%	4.7%	3.6%	Lincoln	3.5%	3.6%	3.7%	3.1%	3.4%	4.0%
Buffalo	11.9%	12.5%	11.8%	12.1%	12.6%	13.5%	Logan	1.1%	1.0%	1.2%	1.0%	1.3%	1.7%
Burt	6.9%	6.1%	7.2%	8.1%	8.2%	8.4%	Loup	4.9%	3.6%	6.7%	6.0%	4.5%	6.8%
Butler	21.3%	21.8%	19.7%	19.1%	18.5%	18.1%	McPherson	7.3%	11.7%	10.0%	7.9%	6.3%	10.3%
Cass	8.6%	9.0%	8.9%	9.2%	8.6%	7.6%	Madison	20.1%	18.8%	18.0%	16.8%	15.6%	16.0%
Cedar	11.2%	10.6%	10.6%	10.4%	10.4%	10.2%	Merrick	11.2%	11.2%	11.8%	12.2%	12.4%	13.0%
Chase	5.9%	6.2%	4.9%	3.8%	3.8%	3.9%	Morrill	2.8%	5.0%	4.7%	5.0%	6.1%	6.8%
Cherry	1.7%	1.9%	2.7%	4.3%	0.9%	1.1%	Nance	10.3%	10.1%	8.5%	9.9%	10.2%	11.4%
Cheyenne	6.6%	5.6%	6.1%	5.9%	6.6%	7.7%	Nemaha	8.5%	7.6%	7.0%	7.3%	8.6%	8.1%
Clay	7.6%	7.6%	7.7%	8.0%	8.9%	9.9%	Nuckolls	7.1%	6.8%	7.9%	6.3%	7.5%	5.8%
Colfax	34.9%	36.4%	34.9%	34.8%	34.0%	32.8%	Otoe	18.5%	15.9%	13.4%	13.8%	15.8%	13.6%
Cuming	11.8%	12.9%	11.9%	12.8%	13.9%	12.4%	Pawnee	11.0%	10.7%	14.0%	11.4%	11.6%	11.7%
Custer	8.6%	10.1%	10.8%	11.8%	11.8%	11.5%	Perkins	2.5%	3.0%	2.6%	1.5%	1.9%	2.7%
Dakota	27.1%	27.9%	26.8%	28.3%	27.3%	27.8%	Phelps	13.7%	12.7%	12.7%	10.6%	10.2%	10.2%
Dawes	0.7%	0.6%	1.8%	2.0%	2.9%	2.9%	Pierce	16.9%	15.2%	14.4%	13.8%	12.2%	13.3%
Dawson	27.7%	29.1%	27.8%	26.8%	25.7%	26.0%	Platte	28.8%	29.2%	27.2%	28.2%	27.6%	25.7%
Deuel	2.8%	5.0%	5.6%	5.3%	5.0%	6.0%	Polk	11.5%	10.4%	11.3%	11.1%	9.9%	12.9%
Dixon	17.9%	18.2%	18.9%	20.2%	19.2%	20.0%	Red Willow	12.7%	12.6%	11.5%	9.7%	8.5%	9.4%
Dodge	17.1%	19.0%	19.1%	20.1%	18.9%	17.4%	Richardson	10.4%	10.1%	11.2%	11.8%	10.3%	9.9%
Douglas	8.6%	8.7%	8.5%	8.8%	9.0%	8.7%	Rock	1.4%	1.1%	1.7%	2.3%	3.2%	3.8%
Dundy	1.8%	1.4%	1.3%	1.8%	2.1%	3.4%	Saline	20.8%	19.7%	20.1%	17.6%	18.8%	22.7%
Fillmore	12.4%	9.7%	9.3%	9.3%	9.3%	8.3%	Sarpy	6.2%	6.5%	6.5%	7.4%	7.1%	7.5%
Franklin	6.2%	7.0%	5.7%	6.0%	5.0%	4.9%	Saunders	11.2%	11.7%	10.8%	10.7%	10.2%	9.8%
Frontier	6.8%	6.6%	4.3%	3.8%	3.5%	3.4%	Scotts Bluff	6.0%	5.5%	5.6%	5.6%	6.3%	7.3%
Furnas	6.6%	6.4%	8.9%	9.4%	9.6%	9.2%	Seward	12.5%	12.7%	12.1%	12.6%	12.4%	11.9%
Gage	16.7%	16.1%	14.9%	14.1%	14.5%	14.2%	Sheridan	5.3%	4.2%	4.2%	3.8%	1.7%	1.9%
Garden	2.3%	1.7%	1.9%	2.0%	0.9%	0.7%	Sherman	10.2%	12.9%	12.6%	12.2%	8.9%	8.8%
Garfield	9.2%	10.3%	12.3%	12.3%	12.1%	8.8%	Sioux	5.8%	5.5%	1.5%	1.7%	2.0%	2.7%
Gosper	10.7%	9.0%	9.4%	9.0%	8.3%	7.6%	Stanton	14.1%	15.1%	14.1%	12.6%	13.7%	15.1%
Grant	0.3%	0.5%	0.0%	0.0%	1.3%	0.9%	Thayer	12.8%	12.6%	15.1%	14.4%	15.4%	14.0%
Greeley	4.0%	3.1%	3.3%	3.2%	4.9%	6.2%	Thomas	2.2%	3.1%	3.2%	7.5%	5.8%	5.9%
Hall	18.7%	19.4%	20.2%	19.6%	20.8%	20.7%	Thurston	8.7%	7.7%	7.0%	7.8%	8.3%	9.2%
Hamilton	17.6%	17.5%	15.5%	15.0%	13.2%	12.7%	Valley	3.8%	5.6%	7.2%	6.7%	6.4%	6.1%
Harlan	7.4%	8.1%	7.8%	8.7%	9.6%	9.8%	Washington	11.8%	11.2%	11.2%	10.4%	9.6%	10.2%
Hayes	1.2%	2.8%	3.2%	2.4%	4.0%	3.4%	Wayne	14.1%	12.3%	14.0%	13.3%	13.3%	10.8%
Hitchcock	8.9%	10.9%	12.9%	14.7%	12.9%	11.9%	Webster	11.5%	9.2%	7.1%	6.5%	6.9%	7.2%
Holt	3.9%	4.7%	4.9%	5.3%	5.4%	4.7%	Wheeler	3.7%	4.9%	4.4%	1.3%	1.6%	1.7%
Hooker	2.9%	2.0%	4.1%	4.3%	4.4%	4.1%	York	10.0%	12.7%	14.9%	14.7%	13.8%	13.3%

Source: U.S. Census Bureau; American Community Survey

To more clearly see county-level facts and trends the following highlight some of the notable findings from the numbers above. First, Table 17 lists the 10 counties in Nebraska in which the percentage of adult manufacturing workers is the highest. As the table indicates, Colfax County had the highest percentage of adults in manufacturing in 2014, with 32.8% of the population working in this industry. Colfax County was followed in the top five by Dakota County (27.8%), Dawson County (26.0%), Platte County (25.7%), and Saline County (22.7%).

One notable aspect of the counties listed in Table 16 is the fact that none of the counties are located in the Lincoln or Omaha MSAs. However, Dakota County and Dixon County are part of the Sioux City MSA, and Hall County is the anchor of the Grand Island MSA. Dodge County, Madison County, and Platte County are part of the Fremont, Norfolk, and Columbus micropolitan statistical areas, respectively. The remaining four counties—Colfax, Dawson, Saline, and Butler—are located outside of metropolitan and micropolitan communities. One of the common features of many of these communities, regardless of location, is the presence of large meat processing facilities. Cargill owns a plant in Colfax County which is one of the largest in the state. Tyson Foods operates locations in Dakota, Dawson, and Madison Counties, each employing thousands of workers; the Dakota County location is adjacent to Dixon County. Farmland Food Service operates a manufacturing plant in Saline County. JBS USA operates a significant operation in Hall County.

Table 17. Top 10 Counties: Percent of Adult Population Employed in Manufacturing, 2014

County	% Employed	County	% Employed
1.Colfax	32.8%	6. Hall	20.7%
2.Dakota	27.8%	7. Dixon	20.0%
3.Dawson	26.0%	8. Butler	18.1%
4.Platte	25.7%	9. Dodge	17.4%
5.Saline	22.7%	10. Madison	16.0%
Source: U.S. Census Bureau; American Community Survey			

To understand recent trends and changes in manufacturing employment, Tables 18 and 19 present the 10 counties where manufacturing increased the greatest from 2009 to 2014, as well as the 10 counties where dependence on manufacturing employment decreased the most. As Table 18 indicates, many of the counties where the percentage of manufacturing employment increased were spread throughout central, south central, and western parts of the state.

Table 18. Nebraska Counties with Largest Increases in Percentage of Manufacturing Employment, 2009-2014

County	% Increase	County	% Increase
Banner	6.7%	Deuel	3.2%
Blaine	6.3%	Hitchcock	3.0%
Morrill	4.0%	McPherson	3.0%
Thomas	3.7%	Custer	2.9%
York	3.3%	Furnas	2.6%
Source: U.S. Census Bureau; American Community Survey			

Table 19 presents the counties with the greatest decreases in the percentages of manufacturing employment during this period. The counties that have experienced decreases are distributed throughout the state, with little evidence of geographic relationships with changes in manufacturing employment.

Table 19. Nebraska Counties with Largest Decreases in Percentage of Manufacturing Employment, 2009-2014

County	% Decrease	County	% Decrease
Kimball	-6.5%	Hamilton	-4.9%
Jefferson	-5.2%	Webster	-4.3%
Box Butte	-5.1%	Madison	-4.1%
Adams	-5.0%	Fillmore	-4.1%
Otoe	-4.9%	Pierce	-3.6%

Source: U.S. Census Bureau; American Community Survey

Next, we examined the number of manufacturing establishments per county. To better determine the extent to which manufacturing is related to county population, we computed the number of manufacturers per 1,000 residents in each county. Population data for each county were gathered from the United States Bureau of Census. The results are presented in Table 20.

Table 20. Manufacturers per 1,000 Residents in Nebraska Counties, 2013

County	Mfg/1,000	County	Mfg/1,000	County	Mfg/1,000	County	Mfg/1,000
Garfield	3.96	Dodge	1.45	Hitchcock	1.05	Garden	0.52
Dundy	3.04	Thomas	1.43	Dawson	1.04	Lincoln	0.47
Hooker	2.74	Pierce	1.40	Hayes	1.03	Nuckolls	0.46
Jefferson	2.26	Wayne	1.38	Brown	1.03	Sarpy	0.43
Platte	2.24	Perkins	1.38	Gosper	1.02	Nemaha	0.42
Pawnee	2.21	Red Willow	1.36	Otoe	1.01	Frontier	0.37
Kimball	2.18	Richardson	1.35	Scotts Bluff	1.00	Dixon	0.34
Fillmore	2.12	Saline	1.32	Sherman	0.97	Dawes	0.33
York	2.10	Wheeler	1.32	Cheyenne	0.89	Stanton	0.33
Boyd	1.98	Logan	1.31	Thurston	0.87	Colfax	0.29
Hamilton	1.98	Cedar	1.27	Harlan	0.86	Arthur	0.00
Thayer	1.93	Clay	1.25	Custer	0.83	Banner	0.00
Merrick	1.93	Antelope	1.24	Cass	0.83	Blaine	0.00
Valley	1.91	Furnas	1.24	Howard	0.79	Deuel	0.00
Boone	1.86	Cherry	1.21	Douglas	0.78	Franklin	0.00
Gage	1.83	Greeley	1.21	Johnson	0.78	Keya Paha	0.00
Adams	1.80	Butler	1.20	Lancaster	0.78	Loup	0.00
Holt	1.73	Seward	1.17	Chase	0.75	McPherson	0.00
Dakota	1.73	Saunders	1.15	Rock	0.71	Nance	0.00
Cuming	1.67	Polk	1.14	Knox	0.70	Sioux	0.00
Keith	1.60	Buffalo	1.12	Phelps	0.65	Webster	0.00
Grant	1.59	Washington	1.09	Morrill	0.62		
Kearney	1.54	Burt	1.06	Sheridan	0.57		
Madison	1.48	Hall	1.05	Box Butte	0.53		

Source: Census Bureau; American Community Survey. Both manufacturing and population data were obtained from these sources. Ratios computed by authors.

The raw numbers of manufacturing establishments per county are presented in Table 21. Not surprisingly, the largest concentrations of manufacturers are located in the populous areas of the state.

Table 21. Number of Manufacturing Establishments by Nebraska County, 2008-2013

Geographic Area	2008	2009	2010	2011	2012	2013	Geographic Area	2008	2009	2010	2011	2012	2013
Adams	60	53	53	57	58	57	Jefferson	12	13	14	15	16	17
Antelope	12	10	10	8	9	8	Johnson	4	4	4	4	4	4
Arthur	1	1	1	1	1	0	Kearney	7	6	6	6	10	10
Banner	1	0	0	0	0	0	Keith	15	15	15	14	15	13
Blaine	0	0	0	0	0	0	Keya Paha	1	1	1	1	0	0
Boone	6	9	10	10	11	10	Kimball	7	5	5	6	9	8
Box Butte	9	8	8	6	8	6	Knox	7	6	6	6	6	6
Boyd	6	6	5	5	5	4	Lancaster	249	238	238	239	233	232
Brown	3	3	3	2	3	3	Lincoln	22	21	20	16	18	17
Buffalo	62	60	59	57	59	54	Logan	2	2	2	1	1	1
Burt	7	8	7	7	7	7	Loup	1	1	0	0	0	0
Butler	9	9	10	10	10	10	McPherson	0	0	0	0	0	0
Cass	25	23	22	20	19	21	Madison	53	52	52	48	55	52
Cedar	10	12	14	16	13	11	Merrick	15	13	13	14	16	15
Chase	3	3	3	4	4	3	Morrill	3	2	2	3	3	3
Cherry	8	7	9	8	8	7	Nance	0	0	0	0	1	0
Cheyenne	10	11	9	7	8	9	Nemaha	3	6	5	3	3	3
Clay	8	7	7	8	7	8	Nuckolls	4	5	4	4	4	2
Colfax	5	5	5	5	3	3	Otoe	16	17	16	17	17	16
Cuming	16	15	17	17	14	15	Pawnee	3	3	3	4	5	6
Custer	10	8	11	9	9	9	Perkins	4	4	4	4	3	4
Dakota	37	36	35	36	36	36	Phelps	8	9	8	7	7	6
Dawes	4	4	4	4	4	3	Pierce	10	11	10	9	11	10
Dawson	33	29	30	28	26	25	Platte	81	75	74	75	74	73
Deuel	0	0	0	0	0	0	Polk	5	5	5	4	7	6
Dixon	3	2	2	2	2	2	Red Willow	18	16	16	15	14	15
Dodge	61	60	54	57	59	53	Richardson	13	12	13	15	14	11
Douglas	493	463	450	437	433	420	Rock	2	1	1	1	1	1
Dundy	4	5	4	5	5	6	Saline	20	19	22	21	19	19
Fillmore	13	11	11	12	13	12	Sarpy	77	72	77	75	77	73
Franklin	0	0	0	0	0	0	Saunders	23	23	24	23	22	24
Frontier	0	0	1	1	1	1	Scotts Bluff	39	40	39	38	38	37
Furnas	5	6	5	5	7	6	Seward	16	15	16	16	20	20
Gage	44	42	42	42	40	40	Sheridan	5	3	2	3	2	3
Garden	1	1	1	1	1	1	Sherman	4	3	3	3	3	3
Garfield	5	5	7	8	8	8	Sioux	0	0	0	0	0	0
Gosper	2	2	2	2	2	2	Stanton	2	2	2	2	2	2
Grant	1	1	1	1	1	1	Thayer	10	11	9	9	10	10
Greeley	3	3	3	3	3	3	Thomas	1	1	1	1	1	1
Hall	71	70	67	70	74	64	Thurston	5	5	5	6	6	6
Hamilton	23	21	19	18	19	18	Valley	9	9	9	7	9	8
Harlan	1	1	2	3	5	3	Washington	22	22	23	25	26	22
Hayes	1	1	1	1	1	1	Wayne	12	11	11	11	13	13
Hitchcock	3	3	3	4	3	3	Webster	3	1	0	0	0	0
Holt	20	20	21	20	20	18	Wheeler	1	1	2	0	0	1
Hooker	1	1	2	2	2	2	York	26	26	28	27	28	29
Howard	6	6	5	5	5	5							

Source: U.S. Census Bureau; American Community Survey

REFERENCES

International Trade Administration. (2010). Exports Support American Jobs. International Trade Research Report, No. 1. Available at: http://trade.gov/publications/pdfs/exports-support-american-jobs.pdf.

International Trade Administration (2016). Export Product Profile to a Selected Market. Available at: http://tse.export.gov/tse/tsehome.aspx.

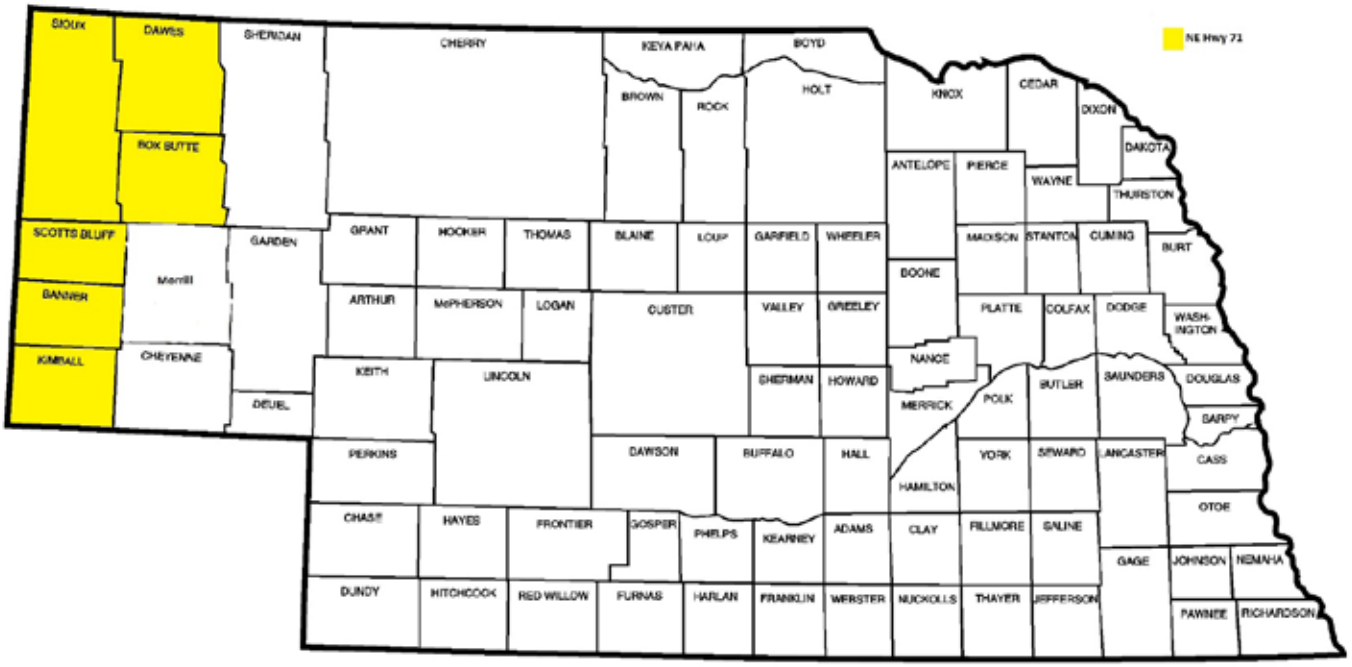
National Research Council. (2013). 21st Century Manufacturing: The role of the Manufacturing Extension Partnership Program. Washington, D.C.: The National Academies Press.

Nebraska Manufacturing Extension Partnership. (2016). About Us. Available at: http://nemep.unl.edu/about-us.

APPENDIX: MANUFACTURING ALONG TRANSPORTATION CORRIDORS AND BY REGION

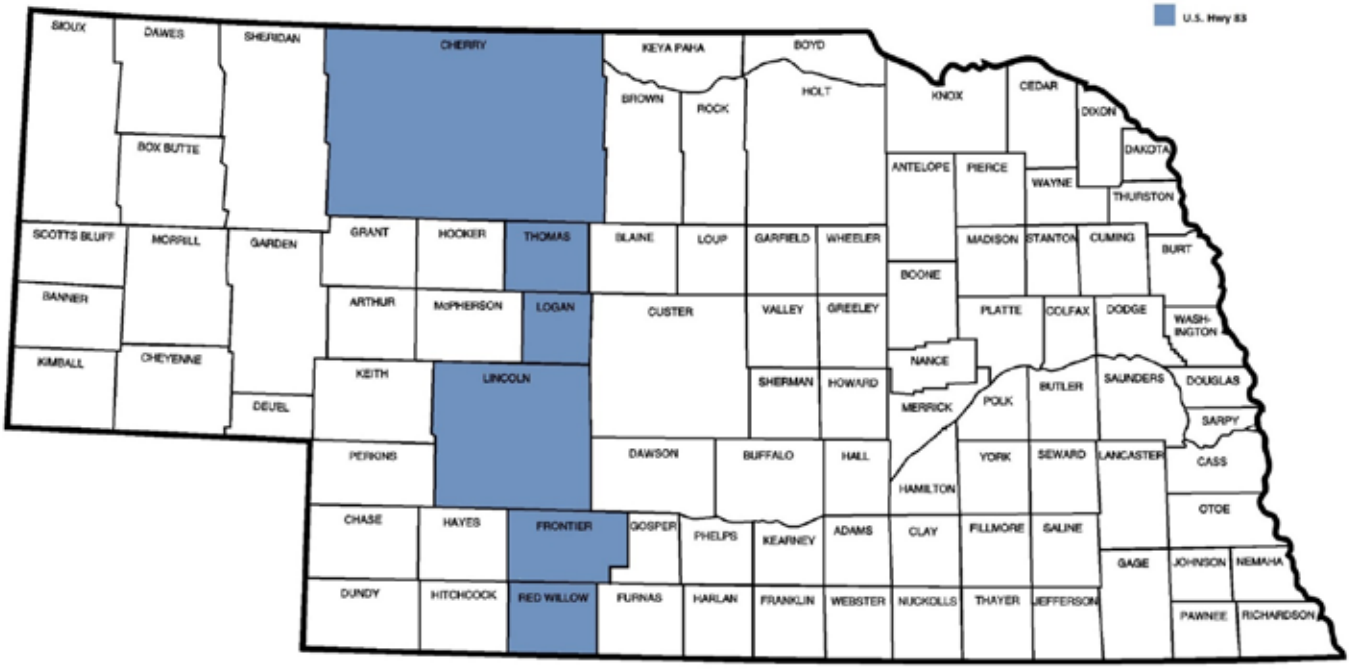
The following maps illustrate the number of manufacturing firms along the major transportation corridors of the state. In particular, we focus on manufacturing in the counties along Nebraska Highway 71; U.S. Highways 83, 81, and 77; and Interstate 80. We also map the number of manufacturers in counties along the Burlington Northern-Santa Fe (BNSF) and the Union Pacific rail lines. Finally, we map the number of manufacturers per county for the six Nebraska Department of Economic Development Field Service Regions. The information for the maps was derived from Table 21 above.

NEBRASKA HIGHWAY 71



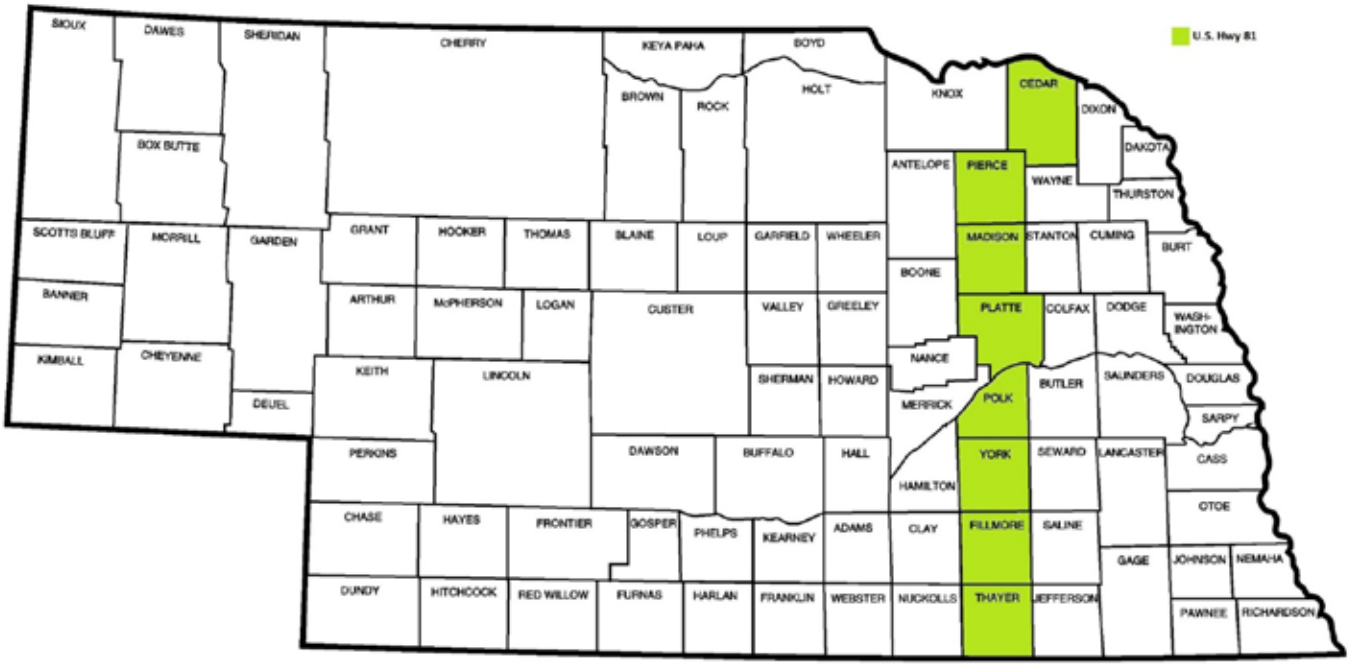
County	Number of Manufacturers
Banner	0
Box Butte	6
Dawes	3
Kimball	8
Scotts Bluff	37
Sioux	0

U.S. HIGHWAY 83



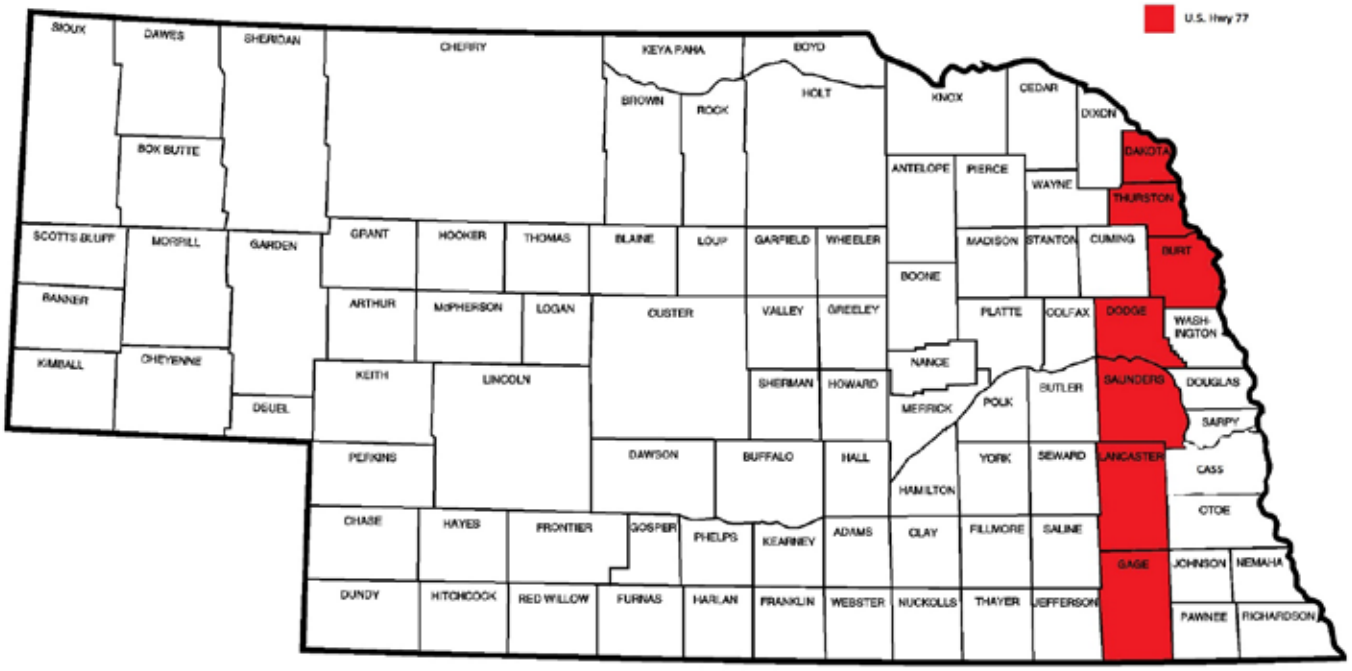
County	Number of Manufacturers
Cherry	7
Frontier	1
Lincoln	17
Logan	1
Red Willow	15
Thomas	1

U.S. HIGHWAY 81



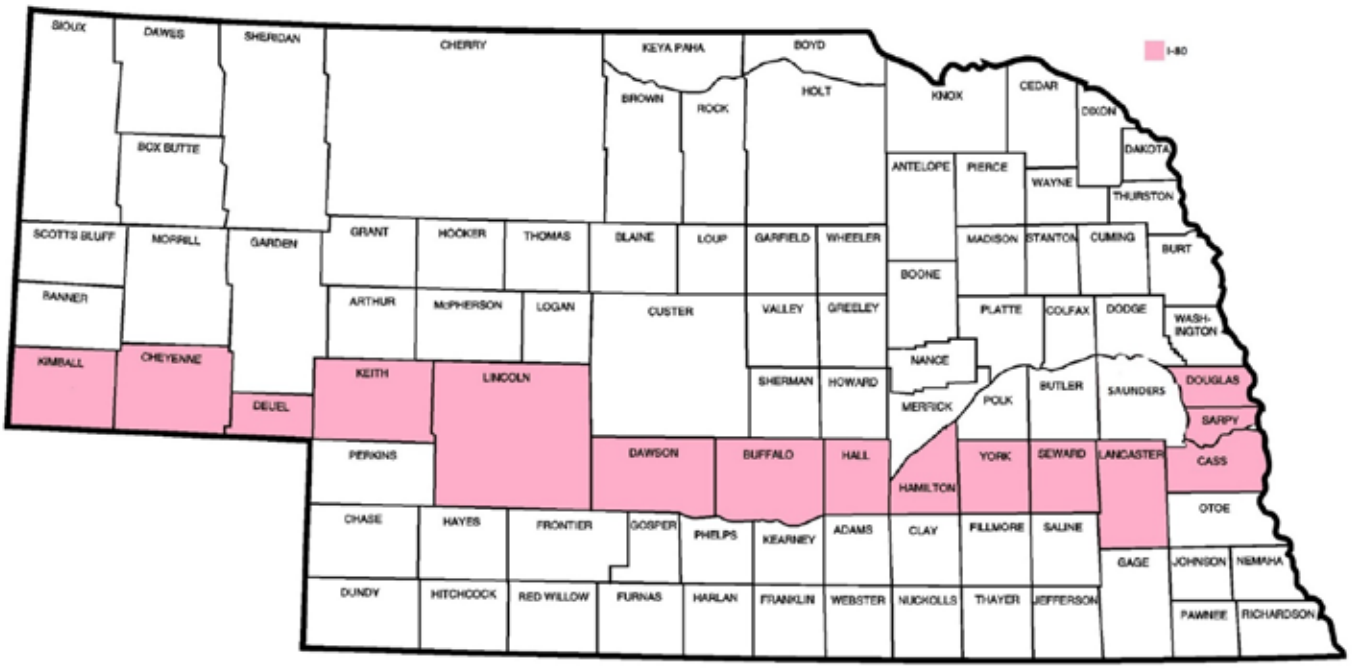
County	Number of Manufacturers
Butler	10
Cedar	11
Fillmore	12
Madison	0
Pierce	10
Thomas	1
Platte	73
Polk	6
Thayer	10
York	29

U.S. HIGHWAY 77



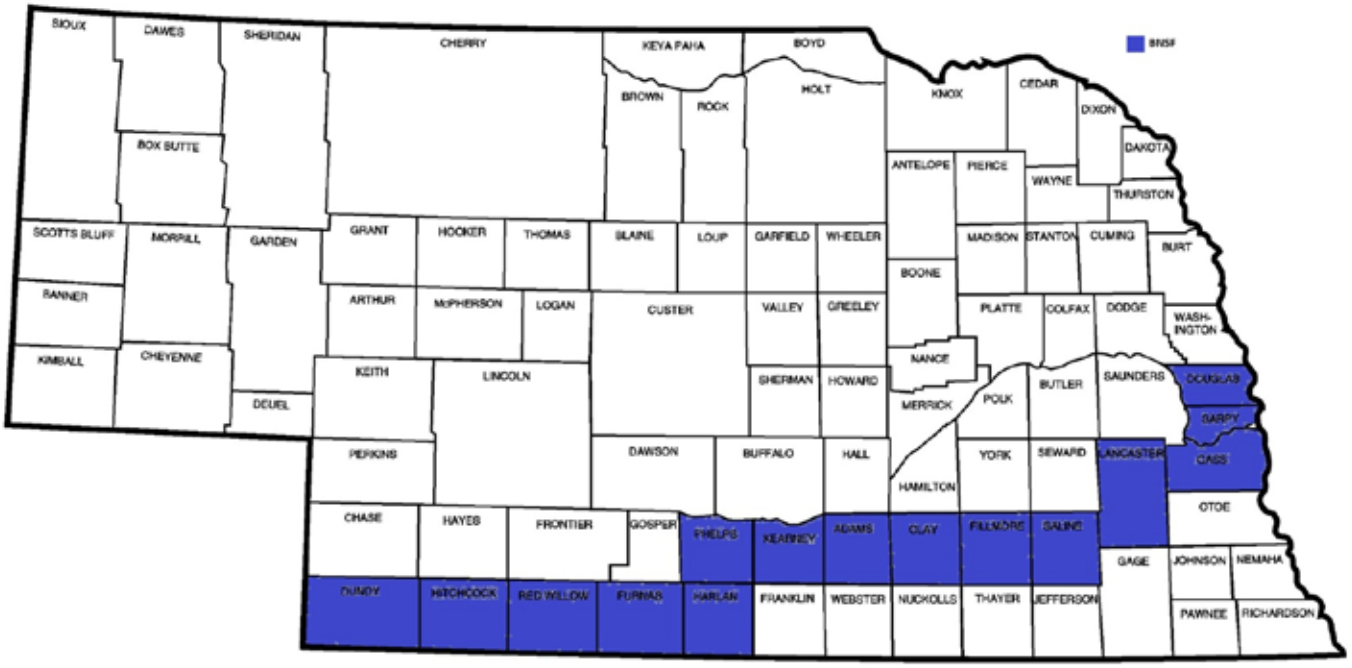
County	Number of Manufacturers
Burt	7
Dakota	36
Dodge	53
Gage	40
Lancaster	232
Saunders	24
Thurston	6

INTERSTATE 80



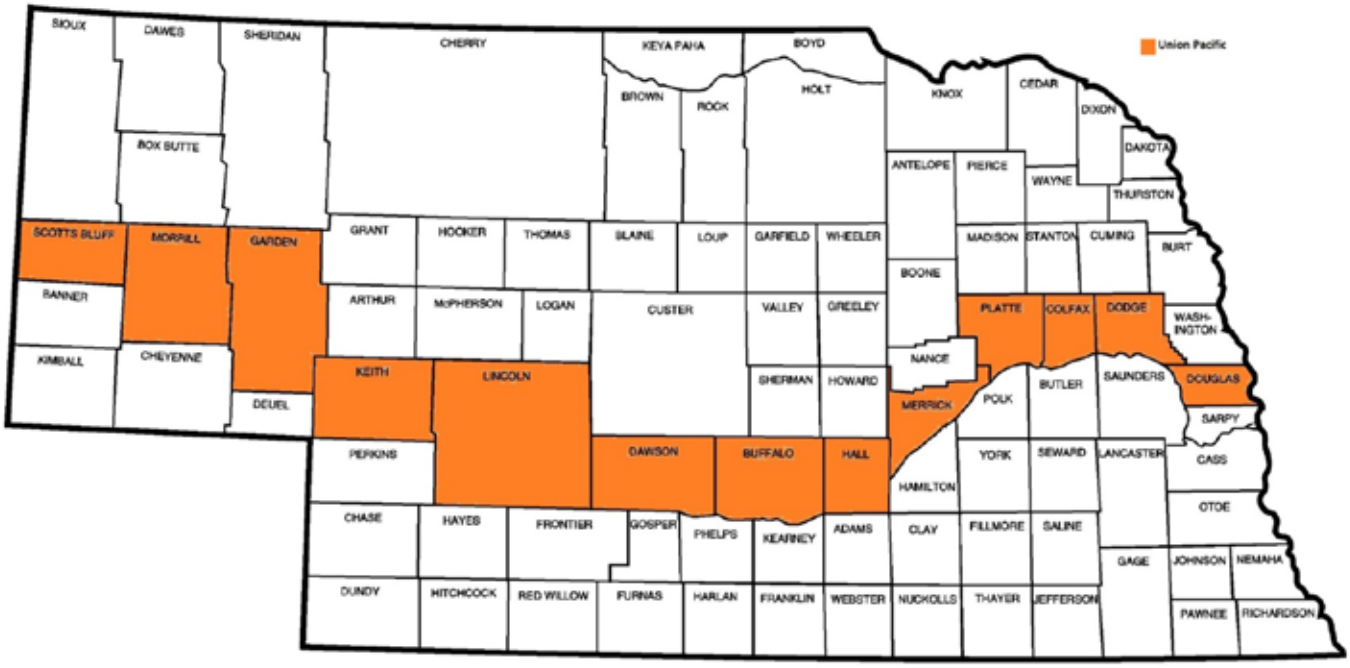
County	Number of Manufacturers
Buffalo	54
Cass	21
Cheyenne	9
Dawson	25
Deuel	0
Douglas	420
Hall	64
Hamilton	18
Keith	13
Kimball	8
Lancaster	232
Lincoln	17
Sarpy	73
Seward	20
York	29

BNSF NEBRASKA RAIL SERVICE



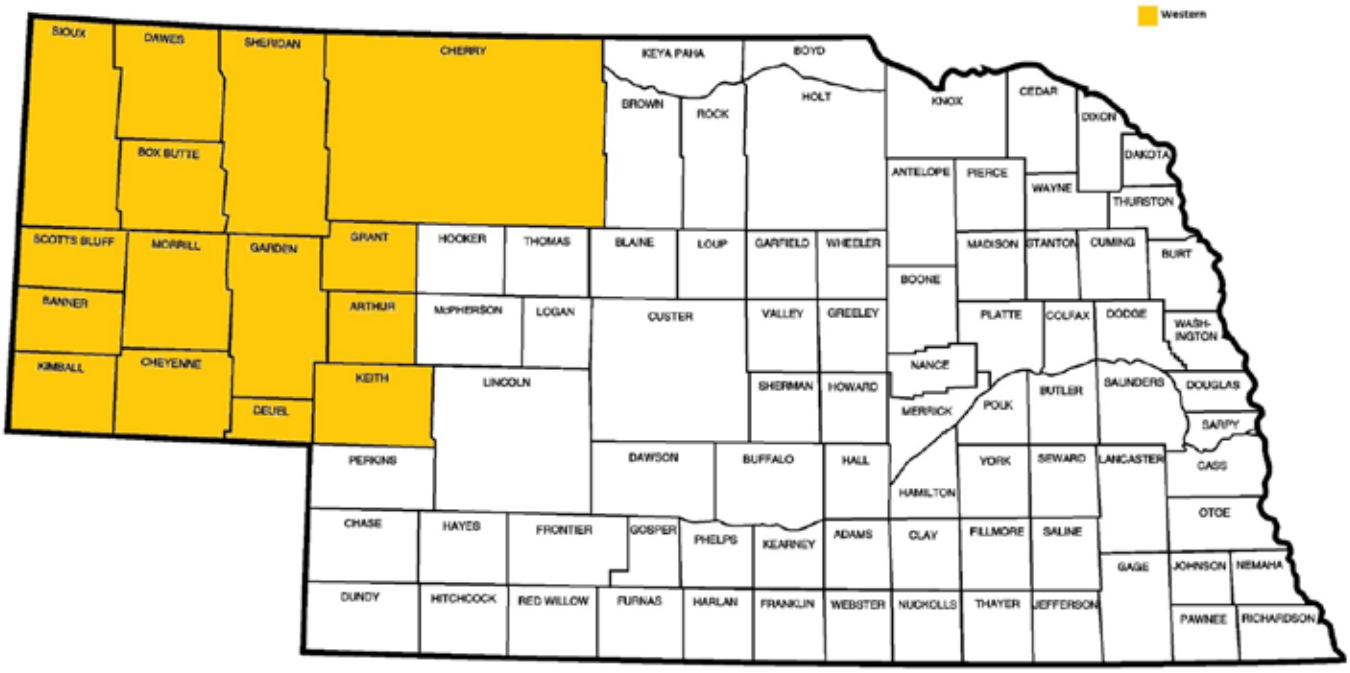
County	Number of Manufacturers
Adams	57
Cass	21
Clay	8
Douglas	420
Dundy	6
Fillmore	12
Furnas	6
Harlan	3
Hitchcock	3
Kearney	10
Lancaster	232
Phelps	6
Red willow	15
Saline	19
Sarpy	73

UNION PACIFIC NEBRASKA RAIL SERVICE



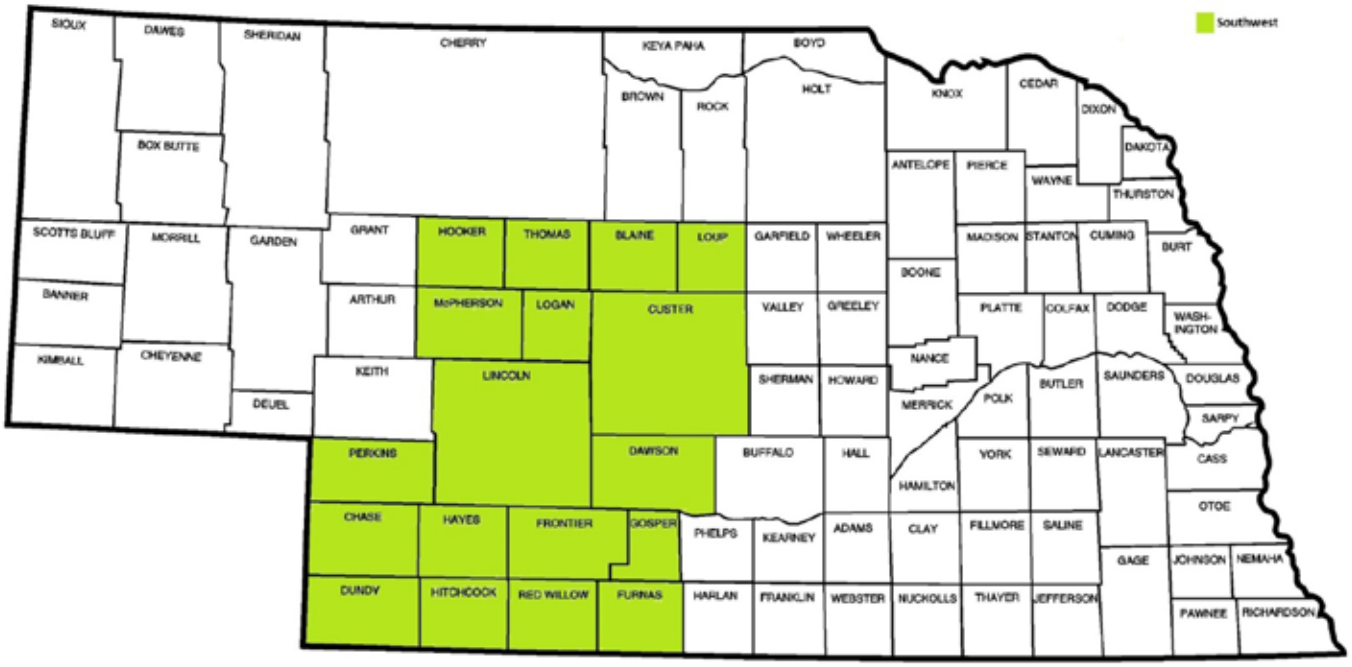
County	Number of Manufacturers
Buffalo	54
Colfax	3
Dawson	25
Dodge	53
Douglas	420
Garden	1
Hall	64
Keith	13
Lincoln	17
Merrick	15
Morrill	3
Platte	73
Scotts Bluff	37

WESTERN NEBRASKA DEPARTMENT OF ECONOMIC DEVELOPMENT FIELD SERVICE REGION



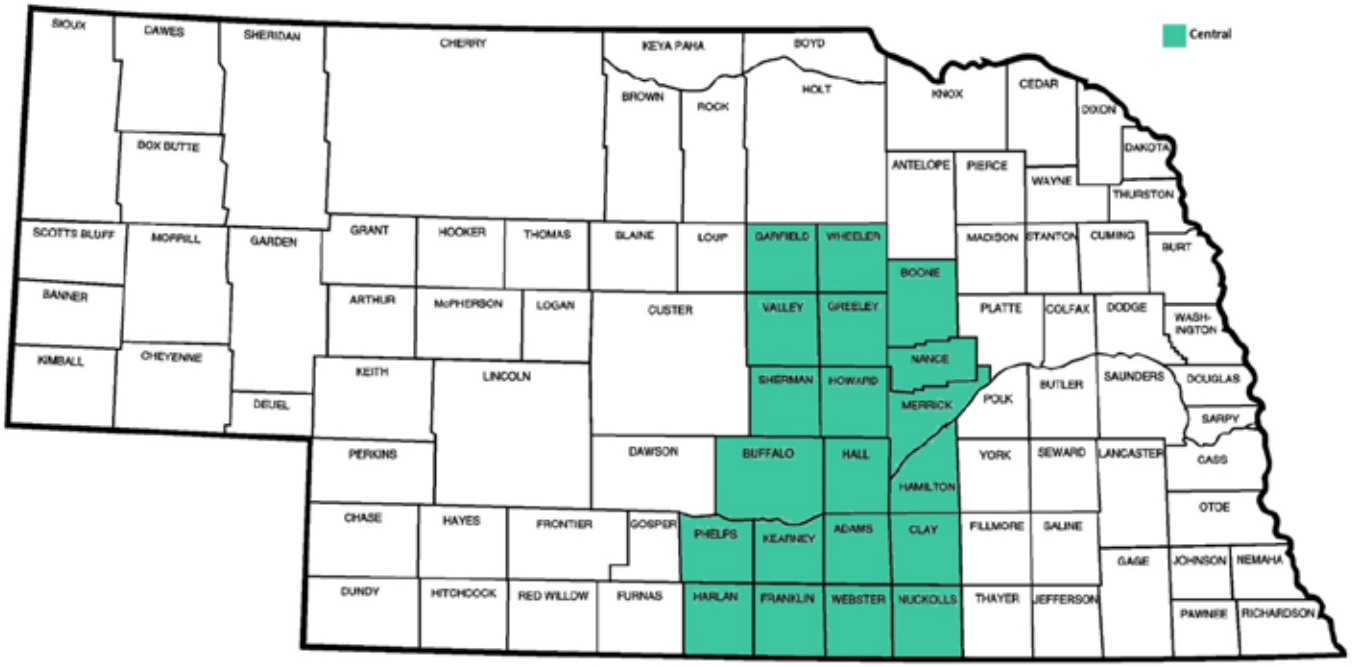
County	Number of Manufacturers
Arthur	0
Banner	0
Box Butte	6
Cherry	7
Cheyenne	9
Dawes	3
Deuel	0
Garden	1
Grant	1
Keith	13
Kimball	8
Morrill	3
Scotts Bluff	37
Sheridan	3
Sioux	0

WESTERN NEBRASKA DEPARTMENT OF ECONOMIC DEVELOPMENT FIELD SERVICE REGION



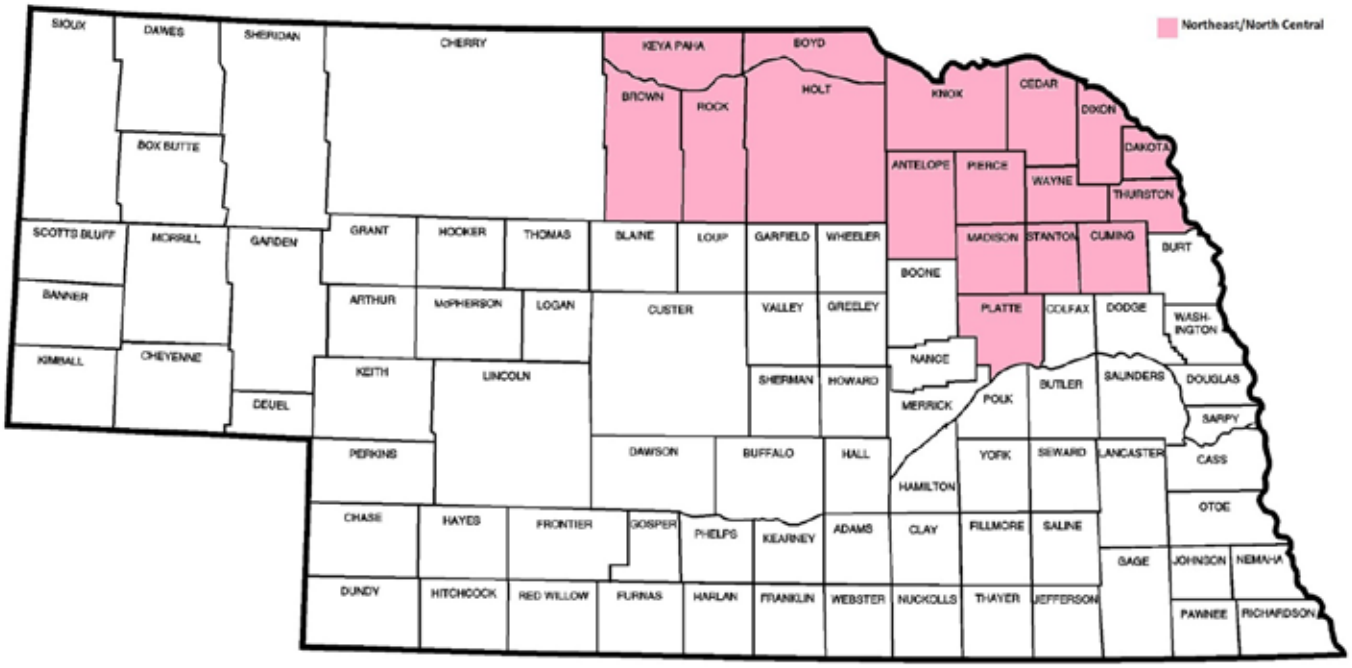
County	Number of Manufacturers	County	Number of Manufacturers
Blaine	0	Hitchcock	3
Chase	3	Hooker	2
Custer	9	Lincoln	17
Dawson	25	Logan	1
Dundy	6	Loup	0
Frontier	1	McPherson	0
Furnas	6	Perkins	4
Gosper	2	Red Willow	15
Hayes	1	Thomas	1

CENTRAL NEBRASKA DEPARTMENT OF ECONOMIC DEVELOPMENT FIELD SERVICE REGION



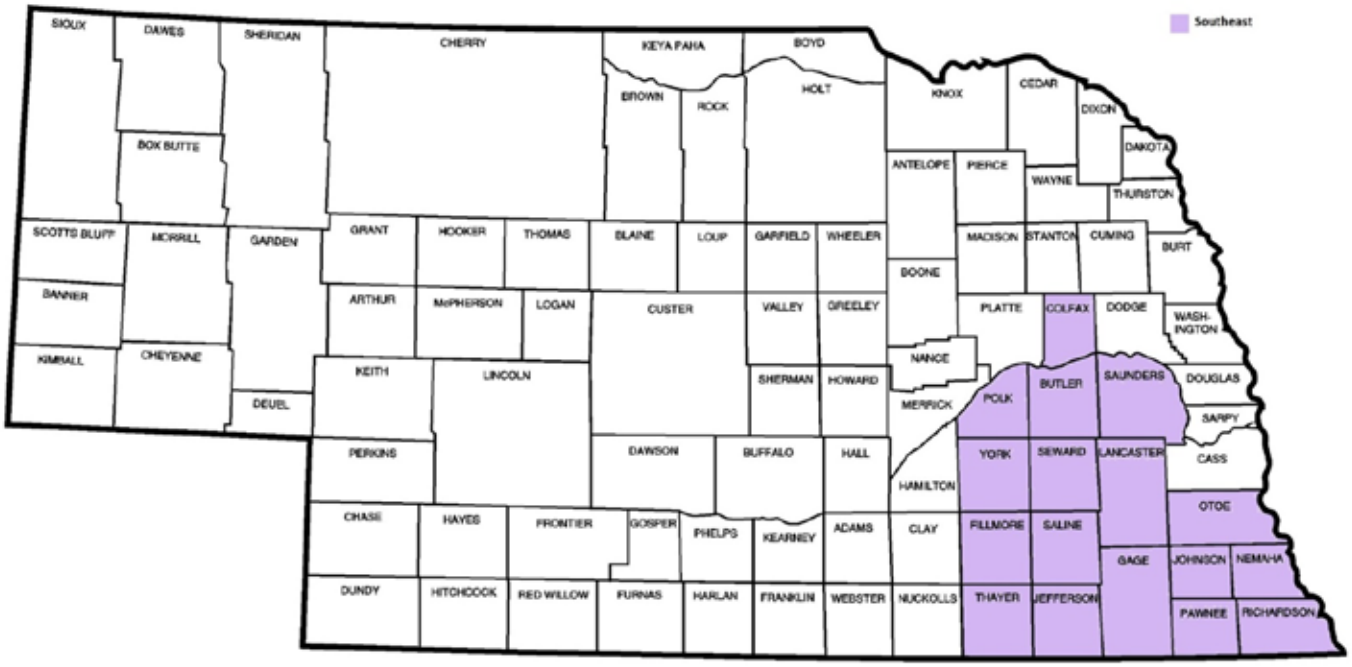
County	Number of Manufacturers	County	Number of Manufacturers
Adams	57	Howard	5
Boone	10	Kearney	10
Buffalo	54	Merrick	15
Clay	8	Nance	0
Franklin	0	Nuckolls	2
Garfield	8	Phelps	6
Greeley	3	Sherman	3
Hall	64	Valley	8
Hamilton	18	Webster	0
Harlan	3	Wheeler	1

NORTHEAST/NORTH CENTRAL NEBRASKA DEPARTMENT OF ECONOMIC DEVELOPMENT FIELD SERVICE REGION



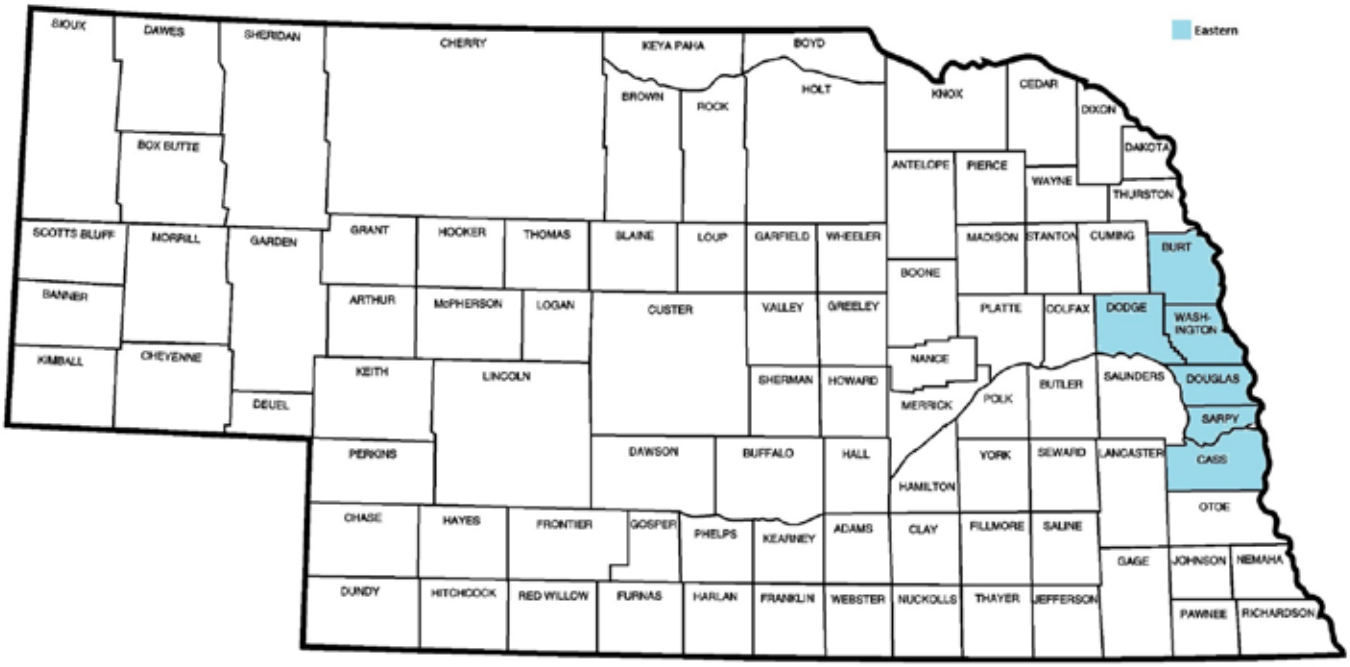
County	Number of Manufacturers	County	Number of Manufacturers
Antelope	8	Knox	6
Boyd	4	Madison	52
Brown	3	Pierce	10
Cedar	11	Platte	73
Cuming	15	Rock	1
Dakota	36	Stanton	2
Dixon	2	Thurston	6
Holt	18	Wayne	13
Keya Paha	0		

SOUTHEAST NEBRASKA DEPARTMENT OF ECONOMIC DEVELOPMENT FIELD SERVICE REGION



County	Number of Manufacturers	County	Number of Manufacturers
Butler	10	Pawnee	6
Colfax	3	Polk	6
Fillmore	12	Richardson	11
Gage	40	Saline	19
Jefferson	17	Saunders	24
Johnson	4	Seward	20
Lancaster	232	Thayer	10
Nemaha	3	York	29
Otoe	16		

EASTERN NEBRASKA DEPARTMENT OF ECONOMIC DEVELOPMENT FIELD SERVICE REGION



County	Number of Manufacturers
Burt	7
Cass	21
Dodge	53
Douglas	420
Sarpy	73
Washington	22