



# Nebraska

**PROFIT OPPORTUNITIES  
FOR FOOD MANUFACTURING**



**Nebraska Public Power District**  
*Always there when you need us*

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## EXECUTIVE SUMMARY

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The “Food Manufacturing Industry” (NAICS 311) is one of the largest manufacturing sectors in the United States. The *U.S. Census Annual Survey of Manufactures, 2016* indicates the total value of shipments from the food manufacturing sector totaled \$764,786.6 million and accounted for 14.3 percent of the total value of shipments by U.S. manufacturers in 2016. Value added in the industry totaled \$292,823.6 million in 2016. Moreover, food processing establishments accounted for 12.8 percent of total manufacturing employment in the United States.

This study has been developed specifically for use by manufacturers of food and related products to show how a Nebraska plant location can help them better respond to market conditions and significantly improve their competitive position. Nebraska provides substantial advantages for both small and large food production facilities. An attractive business climate, a well-educated and productive labor force, reliable supplies of low cost energy, ready access to raw materials and intermediate processed inputs, and a location central to the national consumer market are among the leading advantages the state offers manufacturers of food products.

Included in this study is an analysis of geographically variable labor and energy costs. The analysis makes cost comparisons among states on the basis of a model manufacturing plant. The model plant assumes employment of 50 production workers and the manufacture of a product representative for the food manufacturing industry as a whole. Sixteen states are examined in the analysis. Besides Nebraska, these states include those that currently have the largest

production in the industry are near Nebraska, or are states with which it typically competes for industrial location projects.

In the model plant analysis, estimated labor related costs include the direct wages paid to production workers and costs associated with workers’ compensation insurance, unemployment insurance, social security, and fringe benefits. Compared to the average labor costs for the 15 alternative states, Nebraska is found to offer an annual savings of \$3,007 in labor related costs, which is 0.1 percent less than the average labor costs for the other states.

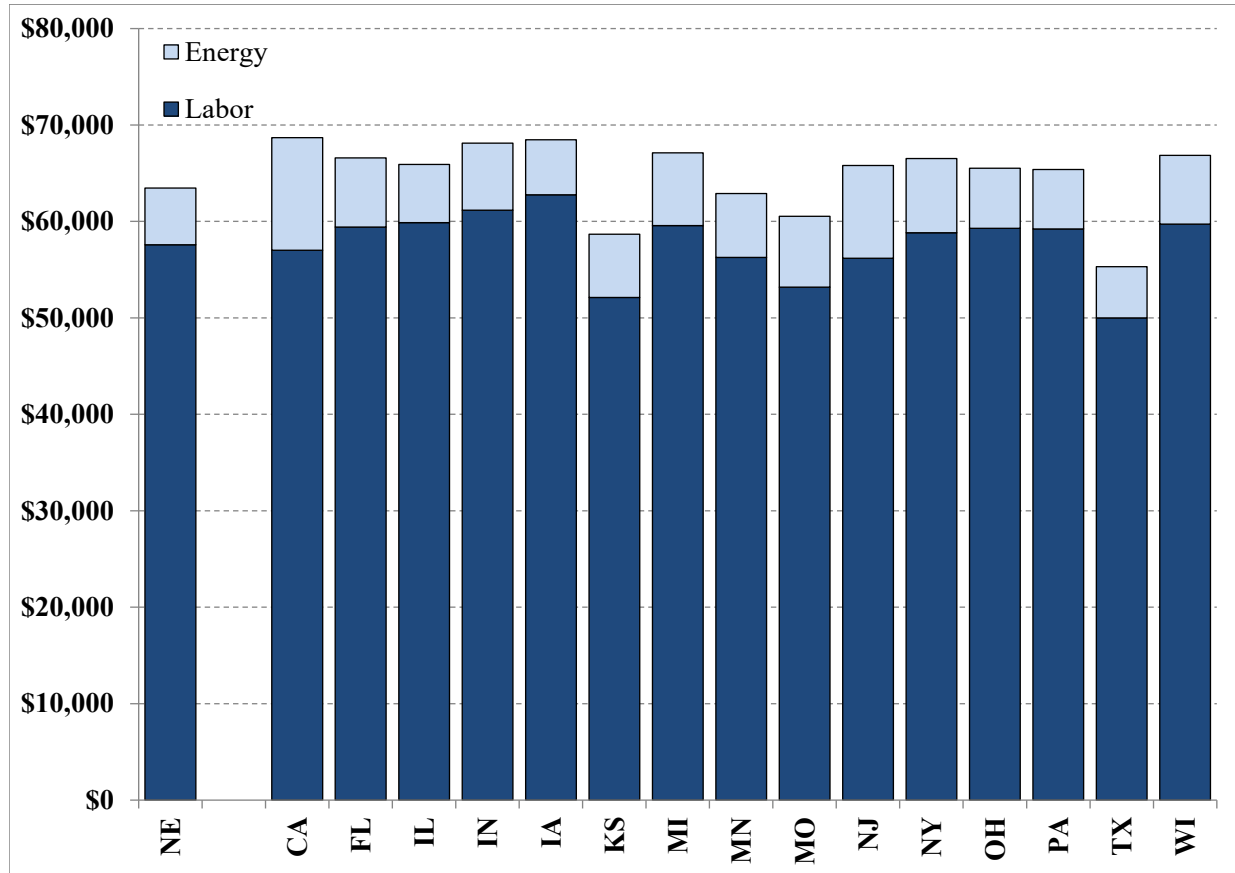
This study also concludes that a Nebraska plant location offers a significant energy cost advantage. Industrial electric rates for the 15 alternative states average 20.7 percent more than the Nebraska rate and the average industrial gas rate is 31.4 percent more. Combining these advantages, Nebraska’s energy cost for the model plant is 18.2 percent less than the average energy cost for the 15 alternative locations.

Together, Nebraska’s annual labor and energy costs for the model plant are \$68,379, or 2.1 percent less than the average annual labor and energy costs for the 15 alternative states. Conversely, the average labor and energy costs in the other 15 states are 2.2 percent more than the Nebraska labor and energy costs.

Figure 1 (following page) provides a summary of the labor and energy costs for the model plant in Nebraska and for each of the 15 alternate plant sites. These costs are shown on a per-production-worker basis.

**Figure 1**

**Labor and Energy Costs per Production Worker for  
the Food Manufacturing Industry (NAICS 311)**



Calculated labor (wages, workers' compensation insurance, unemployment insurance, social security, and fringe benefits) and energy (electricity and natural gas) costs for the Food Manufacturing Industry (NAICS 311).

Source: Table A-6.

# PART A

## THE FOOD MANUFACTURING INDUSTRY

### I. Industry Characteristics and Trends

The “Food Manufacturing Industry” (NAICS 311) is one of the largest manufacturing sectors in the United States. The *Annual Survey of Manufactures, 2016* indicates the food manufacturing sector accounted for 14.3 percent of the total value of shipments by U.S. manufacturers in 2016. Moreover, food manufacturing establishments accounted for 12.8 percent of total manufacturing employment in the United States.

As the data shown in Table 1 indicate, the value of shipments for the food manufacturing industry in the U.S. totaled \$764,786.6 million in 2016. Value added in the industry totaled \$292,823.6 million, with total employees numbering 1,417,000 and production workers numbering 1,118,000. Capital expenditures for the food manufacturing industry totaled \$17,809.7 million in 2016.

Data for the 2002–2016 review period provided in Table 1 show there has been significant current dollar growth in value added, the value of shipments, and capital expenditures, while industry employment has declined slightly. Between 2002–2016, the value of shipments by industry establishment grew by 66.7 percent, industry value added increased by 43.8 percent, and annual capital expenditures grew by 62.6 percent. During the same period, the number of production workers decreased by 0.5 percent and total employment in the food manufacturing industry increased by 6.0 percent. The growth in value added and the value of shipments occurring during the fifteen-year review period resulted from increases in worker productivity.

Worker productivity in the food manufacturing industry has been enhanced by growth in capital expenditures made by industry establishments.

**Table 1**  
The Food Manufacturing Industry (NAICS 311),  
Characteristics and Trends, Selected Years, 2002–2016

| Year | Total<br>Employees<br>----- (Thousands) ----- | Production<br>Workers | Value<br>Added | Value of<br>Shipments | Capital<br>Expenditures | Avg. Hourly<br>Earnings,<br>Prod. Wrkrs.<br>(\$) |
|------|---|-----------------------|----------------|-----------------------|-------------------------|--|
| 2002 | 1,506.9                                       | 1,112.3               | 203,639.6      | 458,786.5             | 10,954.1                | 13.27  |
| 2005 | 1,440.3                                       | 1,099.5               | 234,662.2      | 532,402.1             | 12,076.0                | 14.31  |
| 2006 | 1,416.9                                       | 1,089.6               | 233,406.9      | 536,939.2             | 12,656.0                | 14.92  |
| 2007 | 1,464.9                                       | 1,139.1               | 240,900.9      | 589,859.0             | 13,196.5                | 15.18  |
| 2008 | 1,437.8                                       | 1,113.7               | 246,222.0      | 649,056.2             | 15,649.5                | 15.37  |
| 2009 | 1,384.7                                       | 1,084.9               | 258,084.5      | 627,185.3             | 13,582.6                | 15.89  |
| 2010 | 1,364.2                                       | 1,075.5               | 265,919.2      | 646,451.5             | 14,064.2                | 16.45  |
| 2011 | 1,346.2                                       | 1,063.1               | 264,192.4      | 708,682.7             | 15,738.5                | 16.62  |
| 2012 | 1,400.0                                       | 1,094.5               | 259,078.5      | 738,515.0             | 17,143.9                | 16.85  |
| 2013 | 1,373.9                                       | 1,084.3               | 265,552.5      | 762,847.6             | 15,820.2                | 17.27  |
| 2014 | 1,374.3                                       | 1,087.6               | 274,956.9      | 790,508.7             | 17,197.8                | 17.65  |
| 2015 | 1,390.9                                       | 1,100.2               | 280,907.3      | 774,131.8             | 17,537.5                | 18.25  |
| 2016 | 1,417.0                                       | 1,118.0               | 292,823.6      | 764,786.6             | 17,809.7                | 19.04  |

Sources: U.S. Bureau of the Census, *Census of Manufactures, Geographic Series 2002 and 2007; Industry Series: Detailed Statistics by Industry for the United States: 2012*; and *Annual Survey of Manufactures, 2006, 2009, 2011, 2013, 2014, 2015, and 2016*.

Data for the subsector and industries as defined by the 2012 definition for NAICS 311, *Food Manufacturing Industry*.

During the 2002–2016 review period, annual capital expenditures increased 62.6 percent, from \$10,954.1 million in 2002 to \$17,809.7 million in 2016. With a 0.5 percent increase in the number of production workers during the same period, the annual capital expenditures per worker by food processing manufacturers increased by 63.1 percent, from \$9,848 per production worker in 2002 to \$15,930 in 2016.

Until recently, the growth in worker productivity has not contributed to significant increases in payments to workers during the review period, at least not in real terms. As the data presented in Table 1 (previous page) show, average hourly wages for production workers in the food manufacturing industry increased by 43.5 percent, from \$13.27 per hour in 2002 to \$19.04 per hour in 2016; this includes a \$0.79 per hour increase in 2016. During the same period, the consumer price index increased by 33.4 percent, resulting in a much more modest increase in average hourly earnings for industry production workers in real, or inflation-adjusted terms. When average hourly earnings are adjusted using the consumer price index, the change in average hourly earnings for the 2002–2016 period was an increase of 7.5 percent during the 15-year review period or an annual increase of 0.5 percent per year.

## II. Industry Structure

As the reader will note, the “Food Manufacturing Industry” (NAICS 311) is subdivided into nine 4-digit NAICS code classifications. And as a subsequent table will indicate, these nine 4-digit industry classifications are further divided into additional 5-digit NAICS subgroups.

The data presented in Table 2 show the general categories of products produced and sold by the food manufacturing industry. The table also provides insights into the relative sizes of the industry subgroups and the growth in industry shipments among the primary (4-digit NAICS) industry subgroups. The fastest growing industry subgroup at the 4-digit NAICS level was “Other Food Manufacturing” (NAICS 3119), for which industry shipments grew by 47.1 percent between 2007 and 2016. The value of industry shipments for “Animal Food Manufacturing” (NAICS 3111), the second fastest growing industry subgroup, grew by 44.3 percent between 2007 and 2016. For the “Food Manufacturing Industry” (NAICS 311) as a whole, industry shipments grew by 29.7 percent between 2007 and 2016.

Other food manufacturing industry subgroups experiencing growth in the value of shipments

**Table 2**  
**The Food Manufacturing Industry (NAICS 311),**  
**Value of Industry Shipments by Major Industry Subgroup, 2007, 2012, and 2016**

| NAICS      | Industry Subgroup   | Value of Shipments       |                  |                  | % Change        |            | % of Total<br>2016 |
|------------|---|--------------------------|------------------|------------------|-----------------|------------|--------------------|
|            |   | 2007                     | 2012             | 2016             | 2007–2012       | 2012–2016  |                    |
|            |   | ----- (Million \$) ----- |                  |                  | ----- (%) ----- |            |                    |
| <b>311</b> | <b>Food Manufacturing</b>   | <b>589,725.6</b>         | <b>739,272.4</b> | <b>764,786.6</b> | <b>25.4</b>     | <b>3.5</b> | <b>100.0</b>       |
| 3111       | Animal Food Manufacturing   | 39,173.9                 | 57,905.7         | 56,522.6         | 47.8            | -2.4       | 7.4                |
| 3112       | Grain and Oilseed<br>Manufacturing                                    | 69,754.9                 | 101,456.3        | 87,657.0         | 45.4            | -13.6      | 11.5               |
| 3113       | Sugar and Confectionery<br>Product Manufacturing                      | 27,278.1                 | 33,086.1         | 35,898.8         | 21.3            | 8.5        | 4.7                |
| 3114       | Fruit and Vegetable Preserving<br>and Specialty Food<br>Manufacturing | 60,704.8                 | 69,924.5         | 71,945.5         | 15.2            | 2.9        | 9.4                |
| 3115       | Dairy Product Manufacturing   | 91,583.7                 | 107,425.9        | 111,283.9        | 17.3            | 3.6        | 14.6               |
| 3116       | Animal Slaughtering and<br>Processing                                 | 160,062.5                | 199,563.4        | 207,659.8        | 24.7            | 4.1        | 27.2               |
| 3117       | Seafood Product Preparation<br>and Packaging                          | 11,072.9                 | 10,758.1         | 13,188.0         | -2.8            | 22.6       | 1.7                |
| 3118       | Bakeries and Tortilla<br>Manufacturing                                | 55,486.8                 | 64,626.3         | 70,913.2         | 16.5            | 9.7        | 9.3                |
| 3119       | Other Food Manufacturing  | 74,608.0                 | 94,526.2         | 109,717.7        | 26.7            | 16.1       | 14.3               |

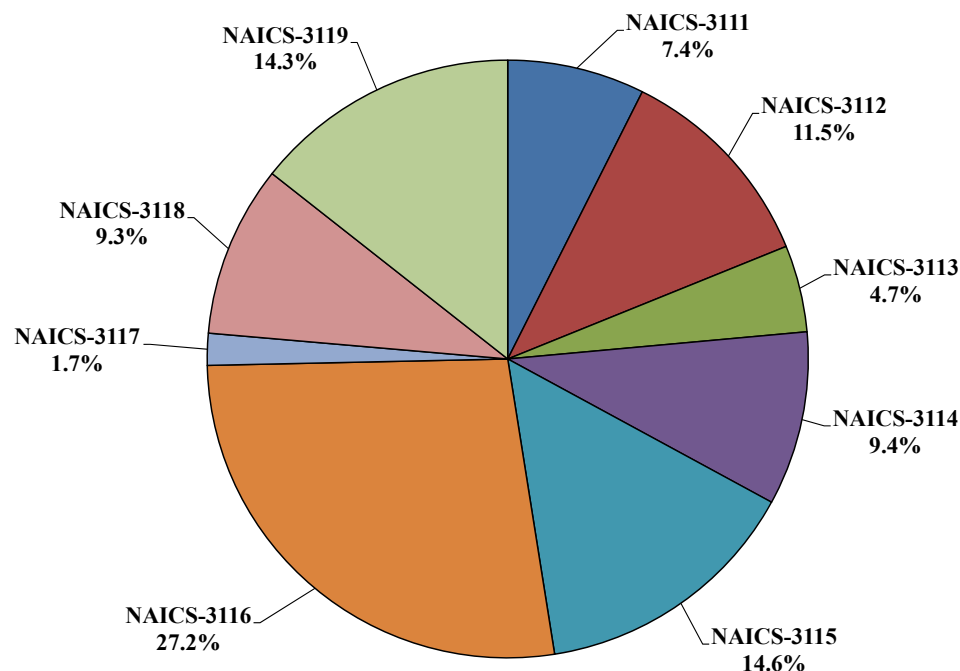
Sources: U.S. Bureau of the Census, *Census of Manufactures, Summary Series 2007 and 2012* and *Industry Series: Detailed Statistics by Industry for the United States, 2012* and *Annual Survey of Manufactures, 2016*.



between 2007 and 2016 included “Sugar and Confectionery Product Manufacturing” (NAICS 3113) which experienced a 31.6 percent increase, “Animal Slaughtering and Processing” (NAICS 3116) which experienced a 29.7 percent increase, followed by “Bakeries and Tortilla Manufacturing”(NAICS 3118) which experienced a 27.8 percent increase, “Grain and Oilseed Milling” (NAICS 3112) which experienced a 25.7 percent increase, “Dairy Product Manufacturing” (NAICS 3115) which experienced a 21.5 percent increase, and “Seafood Product Preparation and Packaging” (NAICS 3117) which experienced a 19.1 percent increase, and “Fruit and Vegetable Preserving and Specialty Food Manufacturing” (NAICS 3114) which experienced an 18.5 percent increase.

The data in Table 2 and Figure 2 show the relative importance of the food manufacturing industry subgroups, in terms of value of shipments for each industry subgroup. “Animal Slaughtering and Processing” (NAICS 3116) subsector is the largest industry subgroup, accounting for 27.2 percent of total industry shipments in 2016. The second largest sector, “Dairy Product Manufacturing” (NAICS 3115) accounted for 14.6 percent followed by “Other Food Manufacturing” (NAICS 3119 - 14.3 percent), “Grain and Oilseed Milling” (NAICS 3112 - 11.5 percent), “Fruit and Vegetable Preserving and Specialty Food Manufacturing” (NAICS 3114 - 9.4 percent), “Bakeries and Tortilla Manufacturing” (NAICS 3118 - 9.3 percent), “Animal Food

**Figure 2**  
**Value of Shipments by Industry Subgroup,**  
**Food Manufacturing Industry (NAICS 311), 2016**



**Total Industry 2016 Shipments - \$764,786.6 Million**

|            |   |            |   |
|------------|---|------------|---|
| NAICS 3111 | Animal Food Manufacturing                                       | NAICS 3116 | Animal Slaughtering and Processing        |
| NAICS 3112 | Grain and Oilseed Milling                                       | NAICS 3117 | Seafood Product Preparation and Packaging |
| NAICS 3113 | Sugar and Confectionery Product Manufacturing                   | NAICS 3118 | Bakeries and Tortilla Manufacturing       |
| NAICS 3114 | Fruit and Vegetable Preserving and Specialty Food Manufacturing | NAICS 3119 | Other Food Manufacturing                  |
| NAICS 3115 | Dairy Product Manufacturing                                     |            |   |

Source: Table 2.

**Note:** Percentages may not total 100% due to rounding.

Manufacturing” (NAICS 3111 - 7.4 percent), “Sugar and Confectionery Product Manufacturing” (NAICS 3113 - 4.7 percent), and “Seafood Product Preparation and Packaging” (NAICS 3117 - 1.7 percent).

The data presented in Table 3 (next page) provide further detail for the industry subgroups that comprise the food manufacturing industry. Data showing the number of companies and establishments for 2012 and number of employees, production workers, value added, value of shipments, and capital expenditures are shown for the “Food Manufacturing Industry” (NAICS 311) as a whole for 2016 and for the NAICS 4-digit and 5-digit subgroups that make up the food manufacturing industry. As previously shown, the “Animal Slaughtering and Processing” subsector (NAICS 3116) is the largest industry subgroup in terms of industry shipments. As the data presented in Table 3 (following page) show, it

is also the largest food industry subsector in terms of employees, production workers, value added, value of shipments, and capital expenditures. It is also of interest to note that the largest 5-digit NAICS subgroup is “Animal Slaughtering and Processing” (NAICS 31161), which is identical to the 4-digit NAICS 3116 sector.

The largest industry subgroup, in terms of the number of companies and establishments, is the “Bakeries and Tortilla Manufacturing” (NAICS 3118) subgroup. This industry subgroup accounts for 9,887 of the total 21,464 companies in the food manufacturing industry and 10,552 of the total 25,619 industry establishments. Further inspection of the data for this sector reveals that the 5-digit subgroup, “Bread and Bakery Product Manufacturing” (NAICS 31181), account for almost 90 percent of the companies and establishments in this industry sector.

### ADM Reveals New Feed Plant in Columbus

Nebraska Governor Pete Ricketts, company officials, and Columbus Mayor Jim Bulkley spoke at a ribbon cutting ceremony informing the audience of ADM's status as a leading manufacturing, nutrition and marketing business that offers a wide range of leading-edge products for the animal nutrition market.



The new addition's upgraded technology will assist in the production of a variety of animal feeds, including pellets and blocks for cattle and horses although beef is their primary focus – feedlots and cow/calf operations. However, hundreds of feed products will also be manufactured for chickens, pigs, lambs, and goats.

### Things Are Popping in Rural Nebraska

In 2018, Nebraska Governor Pete Ricketts announced the state's first Economic Opportunity Program (EOP) grant to support the expansion of Chapman-based, Preferred Popcorn, LLC. The \$6 million expansion added approximately ten new jobs and 22,500-square feet to the company's hometown plant, more than doubling its operational capacity. Preferred Popcorn sells 99 percent of its product outside Nebraska and exports to 70 companies across the globe.



- ✓ High Quality Bulk Popcorn
- ✓ Non-GMO
- ✓ Microwave, Popcorn Kits & Supplies
- ✓ 100% Farmer Owned & Grown
- ✓ Large Enough to Meet Your Needs, Small Enough to Care

Table 3

**The Food Manufacturing Industry (NAICS 311),  
Number of Companies and Establishments, Employment, Value of Shipments,  
Value Added, and Capital Expenditures by Major Sector and Industry Subgroups, 2016\***

| NAICS<br>Code | Industry Description   | Number of<br>Companies | Number of<br>Establishments | All<br>Employees | Production<br>Workers | Value<br>Added            | Value of<br>Shipments | Capital<br>Expenditures |
|---------------|--|------------------------|-----------------------------|------------------|-----------------------|---------------------------|-----------------------|-------------------------|
|               |  |                        |                             |                  |                       | ----- (Thousand \$) ----- |                       | -----                   |
| <b>311</b>    | <b>Food Manufacturing</b>  | <b>21,464</b>          | <b>25,619</b>               | <b>1,417,046</b> | <b>1,117,966</b>      | <b>292,823,621</b>        | <b>764,786,594</b>    | <b>17,809,728</b>       |
| <b>3111</b>   | <b>Animal Food Manufacturing</b>                                       | <b>1,109</b>           | <b>1,690</b>                | <b>46,136</b>    | <b>32,748</b>         | <b>18,383,717</b>         | <b>56,522,602</b>     | <b>1,374,710</b>        |
| 31111         | Animal Food Manufacturing  | 1,109                  | 1,690                       | 46,136           | 32,748                | 18,383,717                | 56,522,602            | 1,374,710               |
| <b>3112</b>   | <b>Grain and Oilseed Milling</b>                                       | <b>473</b>             | <b>807</b>                  | <b>52,730</b>    | <b>38,241</b>         | <b>25,161,357</b>         | <b>87,657,008</b>     | <b>1,284,556</b>        |
| 31121         | Flour Milling and Malt Manufacturing                                   | 236                    | 404                         | 18,352           | 13,111                | 6,071,264                 | 17,663,141            | 399,135                 |
| 31122         | Starch and Vegetable Fats and Oils Manufacturing                       | 200                    | 340                         | 22,654           | 15,366                | 15,170,827                | 60,538,813            | 729,093                 |
| 31123         | Breakfast Cereal Manufacturing   | 37                     | 63                          | 11,723           | 9,765                 | 3,919,266                 | 9,435,055             | 156,328                 |
| <b>3113</b>   | <b>Sugar and Confectionery Product Manufacturing</b>                   | <b>1,710</b>           | <b>1,856</b>                | <b>73,738</b>    | <b>53,883</b>         | <b>16,774,615</b>         | <b>35,898,798</b>     | <b>793,122</b>          |
| 31131         | Sugar Manufacturing  | 45                     | 78                          | 13,458           | 10,970                | 3,736,021                 | 9,716,669             | 303,210                 |
| 31134         | Nonchocolate Confectionery Manufacturing                               | 423                    | 441                         | 19,870           | 14,428                | 4,746,387                 | 8,716,594             | 195,834                 |
| 31135         | Confectionery Manufacturing From Purchased Chocolate                   | 1,242                  | 1,337                       | 40,411           | 28,486                | 8,292,207                 | 17,465,536            | 294,077                 |
| <b>3114</b>   | <b>Fruit and Vegetable Preserving and Specialty Food Manufacturing</b> | <b>1,384</b>           | <b>1,704</b>                | <b>160,550</b>   | <b>133,403</b>        | <b>33,566,971</b>         | <b>71,945,524</b>     | <b>1,707,536</b>        |
| 31141         | Frozen Food Manufacturing  | 544                    | 698                         | 86,394           | 72,572                | 13,953,861                | 31,718,617            | 875,448                 |
| 31142         | Fruit and Vegetable Canning, Pickling, and Drying                      | 840                    | 1,006                       | 74,155           | 60,831                | 19,613,110                | 40,226,907            | 832,088                 |
| <b>3115</b>   | <b>Dairy Product Manufacturing</b>                                     | <b>1,143</b>           | <b>1,597</b>                | <b>135,821</b>   | <b>102,930</b>        | <b>34,183,261</b>         | <b>111,283,872</b>    | <b>3,274,720</b>        |
| 31151         | Dairy Product (except frozen) Manufacturing                            | 800                    | 1,211                       | 117,421          | 88,076                | 30,676,477                | 103,053,756           | 2,981,037               |
| 31152         | Ice Cream and Frozen Dessert Manufacturing                             | 343                    | 386                         | 18,400           | 14,854                | 3,506,783                 | 8,230,116             | 293,682                 |
| <b>3116</b>   | <b>Animal Slaughtering and Processing</b>                              | <b>3,058</b>           | <b>3,597</b>                | <b>479,511</b>   | <b>418,210</b>        | <b>63,520,284</b>         | <b>207,659,845</b>    | <b>4,169,792</b>        |
| 31161         | Animal Slaughtering and Processing                                     | 3,058                  | 3,597                       | 479,511          | 418,210               | 63,520,284                | 207,659,845           | 4,169,792               |
| <b>3117</b>   | <b>Seafood Product Preparation and Packaging</b>                       | <b>502</b>             | <b>597</b>                  | <b>30,582</b>    | <b>25,544</b>         | <b>5,364,130</b>          | <b>13,188,020</b>     | <b>338,599</b>          |
| 31171         | Seafood Product Preparation and Packaging                              | 502                    | 597                         | 30,582           | 25,544                | 5,364,130                 | 13,188,020            | 338,599                 |
| <b>3118</b>   | <b>Bakeries and Tortilla Manufacturing</b>                             | <b>9,887</b>           | <b>10,552</b>               | <b>252,214</b>   | <b>176,839</b>        | <b>41,515,821</b>         | <b>70,913,190</b>     | <b>1,975,502</b>        |
| 31181         | Bread and Bakery Product Manufacturing                                 | 8,891                  | 9,418                       | 181,806          | 120,759               | 26,932,826                | 42,069,927            | 1,162,766               |
| 31182         | Cookie, Cracker, and Pasta Manufacturing                               | 662                    | 772                         | 52,570           | 41,320                | 12,149,765                | 24,597,918            | 685,017                 |
| 31183         | Tortilla Manufacturing   | 334                    | 362                         | 17,838           | 14,760                | 2,433,230                 | 4,245,346             | 127,719                 |
| <b>3119</b>   | <b>Other Food Manufacturing</b>  | <b>2,860</b>           | <b>3,219</b>                | <b>185,766</b>   | <b>136,167</b>        | <b>54,353,466</b>         | <b>109,717,734</b>    | <b>2,891,190</b>        |
| 31191         | Snack Food Manufacturing   | 518                    | 617                         | 56,061           | 43,595                | 20,133,192                | 37,749,488            | 794,765                 |
| 31192         | Coffee and Tea Manufacturing   | 417                    | 449                         | 15,911           | 10,569                | 5,287,907                 | 14,236,370            | 187,186                 |
| 31193         | Flavoring Syrup and Concentrate Manufacturing                          | 131                    | 146                         | 6,856            | 4,219                 | 7,714,573                 | 10,498,227            | 305,321                 |
| 31194         | Seasoning and Dressing Manufacturing                                   | 617                    | 701                         | 33,322           | 22,674                | 9,500,869                 | 19,944,897            | 818,688                 |
| 31199         | All Other Food Manufacturing   | 1,177                  | 1,306                       | 73,615           | 55,110                | 11,716,924                | 27,288,752            | 785,231                 |

Sources: U.S. Bureau of the Census, *Census of Manufactures, Industry Series: Detailed Statistics by Industry for the United States, 2012* and *Annual Survey of Manufactures, 2012*.

\* Values for "Number of Companies" and "Number of Establishments" are for 2012 and from the U.S. Census of Manufactures, 2012.

### III. Industry Production and Location Characteristics

The food manufacturing industry encompasses a very large and diverse industry. In 2012, 25,619 establishments were primarily engaged in food processing, an increase of 0.01 percent from 2007. From 2007 to 2012, establishments with fewer than 20 employees increased by 2.2 percent while establishments with 20 or more employees decreased by 4.3 percent.

The data presented in Table 4 compares selected characteristics for the food manufacturing industry as a whole for 2007, 2012, and 2016. Over the 2007–2016 period, the number of employees declined by 3.2 percent from 1,464,200 to 1,417,200, while production workers decreased by 1.9 percent, from 1,139,300 in 2007 to 1,118,000 in 2016.

The cost of materials (purchased inputs) increased by 34.5 percent, from \$351.5 billion in 2007 to \$472.8 billion in 2016. Another important factor contributing to the 29.7 percent increase

in the value of shipments or the value of output produced by the food manufacturing industry was the value added by manufacturers, which increased by 21.5 percent, from \$241.1 billion in 2007 to \$292.8 billion in 2016.

The Table 4 data, along with data from the *Census of Manufacturers*, indicate that establishments in the “Food Manufacturing Industry” (NAICS 311) are more labor intensive than manufacturing establishments generally. In 2016, production workers accounted for 78.9 percent of total employment in the food manufacturing industry, compared to 69.5 percent for all manufacturing.

Total industry employment declined by 5.1 percent for the same period. Total production worker hours declined by a slightly smaller rate, 0.2 percent, than total production workers and total production worker wages grew by 25.2 percent between 2007 and 2016. These data highlight the increasing importance of reliable and productive sources of labor for the food manufacturing industry.

**Table 4**  
**Production Characteristics for the Food Manufacturing Industry (NAICS 311) 2007, 2012, and 2016**

|   | 2007      | 2012      | 2016      | Percent Change |           |           |
|---|-----------|-----------|-----------|----------------|-----------|-----------|
|   |           |           |           | 2007-2012      | 2012-2016 | 2007-2016 |
| Establishments                                      |           |           |           |                |           |           |
| Number  | 25,616    | 25,619    | N/A       | 0.0            | N/A       | N/A       |
| With 20+ Employees                                  | 8,594     | 8,222     | N/A       | -4.3           | N/A       | N/A       |
| All Employees                                       |           |           |           |                |           |           |
| Number [thousands]                                  | 1,464.2   | 1,402.0   | 1,417.0   | -4.3           | 1.1       | -3.2      |
| Payroll [million \$]                                | 50,387.9  | 54,656.6  | 62,772.3  | 8.5            | 14.8      | 24.6      |
| Production Workers                                  |           |           |           |                |           |           |
| Number [thousands]                                  | 1,139.3   | 1,095.3   | 1,118.0   | -3.9           | 2.1       | -1.9      |
| Hours [millions]                                    | 2,282.8   | 2,198.9   | 2,279.3   | -3.7           | 3.7       | -0.2      |
| Wages [million \$]                                  | 34,674.9  | 37,045.9  | 43,401.6  | 6.8            | 17.2      | 25.2      |
| Average Hourly Wage [\$]                            | 15.19     | 16.85     | 19.04     | 10.9           | 13.0      | 25.3      |
| Value Added by Manufacture [million \$]             | 241,064.1 | 258,933.6 | 292,823.6 | 7.4            | 13.1      | 21.5      |
| Cost of Materials [million \$]                      | 351,493.5 | 482,345.4 | 472,839.9 | 37.2           | -2.0      | 34.5      |
| Value of Shipments [million \$]                     | 589,725.6 | 739,272.4 | 764,786.6 | 25.4           | 3.5       | 29.7      |
| Cost of Purchased Fuels and Electric Energy         |           |           |           |                |           |           |
| Electric Energy [million \$]                        | 4,855.8   | 5,509.3   | 5,519.0   | 13.5           | 0.2       | 13.7      |
| Purchased Fuels [million \$]                        | 5,493.1   | 3,886.6   | 3,385.3   | -29.2          | -12.9     | -38.4     |
| Quantity of Purchased Electric Energy [million kWh] | 80,297.9  | 77,974.4  | 73,888.2  | -2.9           | -5.2      | -8.0      |

Sources: U.S. Bureau of the Census, *Summary Series 2007 and 2012* and *Annual Survey of Manufactures, 2016*.

N/A: Not available.

As previously noted, the total cost of materials increased by 34.5 percent between 2007 and 2016. Energy inputs are an important production input for which the cost has increased less rapidly or declined during the same time period. The cost of purchased electricity increased by 13.7 percent, while the cost of purchased fuels decreased by 38.4 percent from 2007 to 2016.

Table 5 provides data for selected additional production characteristics for the food manufacturing industry for 2012. The industry data presented in Table 5 are for the “Food Manufacturing Industry” (NAICS 311) as a whole, the “Animal Slaughtering and Processing” subsector (NAICS 3116), and the balance of the industry, excluding animal slaughtering and processing. As the data indicate, there were 21,464 companies and 25,619 industry establishments in the food manufacturing industry in 2012. Establishments in the “Animal Slaughtering and Processing” sector (NAICS 3116) totaled 3,597 in 2012, or

14.0 percent of the total industry establishments. Further inspection of the data indicates that the “Animal Slaughtering and Processing” subsector (NAICS 3116) had, on average, much larger establishments than for the balance of the industry.

Data showing the distribution of manufacturing establishments by size is also of interest as one compares the “Animal Slaughtering and Processing” subsector (NAICS 3116) to the balance of the food manufacturing industry. Food processing establishments with 20 or more employees accounted for 32.0 percent of total industry establishments in 2012. For the “Animal Slaughtering and Processing” subsector, establishments with 20 or more employees accounted for 37.8 percent of establishments, while for the balance of the industry the comparable statistic was 31.0 percent. The differences between the “Animal Slaughtering and Processing” subsector and the balance of the industry are more pronounced when looking

**Table 5**

**Establishment Characteristics for the Food Manufacturing Industry (NAICS 311),  
Animal Slaughtering and Processing (NAICS 3116),  
and Other Food Manufacturing, 2012**

|  | <b>NAICS 3116</b>     |                         |                      |
|--|-----------------------|-------------------------|----------------------|
|  | <b>NAICS 311 Food</b> | <b>Animal</b>           | <b>Other Food</b>    |
|  | <b>Manufacturing</b>  | <b>Slaughtering and</b> | <b>Manufacturing</b> |
|  |                       | <b>Processing</b>       |                      |
| Number of Companies                          | 21,464                | 3,058                   | 18,406               |
| Number of Establishments                     | 25,619                | 3,597                   | 22,022               |
| Est. - with 20+ Employees                    | 8,222                 | 1,360                   | 6,862                |
| Est. - with 20+ Emp (% of Total)             | 32.1                  | 37.8                    | 31.2                 |
| Est. - with 100+ Employees                   | 3,158                 | 725                     | 2,433                |
| Est. - with 100+ Emp (% of Total)            | 12.3                  | 20.2                    | 11.0                 |
| Establishments per Company                   | 1.19                  | 1.18                    | 1.20                 |
| Production Workers                           | 1,401,968             | 413,763                 | 988,205              |
| Average Production Workers per Establishment | 54.7                  | 115.0                   | 44.9                 |
| Value Added (Million \$)                     | 258,933.6             | 52,617.0                | 206,317              |
| Per Establishment (Thousand \$)              | 10,107.1              | 14,628.0                | 9,369                |
| Per Production Worker (\$)                   | 184,692.9             | 127,167.0               | 208,779              |
| Value of Shipments (Million \$)              | 739,272.4             | 199,563.4               | 539,709              |
| Per Establishment (Thousand \$)              | 28,856.4              | 55,480.5                | 24,508               |
| Per Production Worker (\$)                   | 527,310.5             | 482,313.4               | 546,151              |

Sources: U.S. Bureau of the Census, *Census of Manufactures, Industry Series: Detailed Statistics by Industry for the United States, 2012*.



at the number and share of establishments with 100 or more employees. For the food manufacturing industry as a whole, 12.3 percent of the establishments had 100 or more employees. This statistic for the animal slaughtering and processing manufacturing industry was 20.2 percent, compared to only 11.0 percent of establishments with 100 employees or more for the balance of the industry.

The average establishment in the food manufacturing industry had 54.7 production workers in 2012. Further review of the data in Table 5 indicate establishments in the “Animal slaughtering and processing” subsector were much larger, with an average of 115.0 production workers per establishment, which was 2.6 times the average size of 44.9 production workers per establishment for the balance of the industry. Obviously, a few very large plants and many small establishments characterize the “Food Manufacturing” sector.

Companies in the food manufacturing industry tend to locate plants in areas that provide a balance between access to material inputs and market orientation. Over the past few years, however, the location orientation has shifted somewhat, with access to material inputs combined with access to national markets gaining in importance, relative to a location orientation to local and regional markets.

The data in Table 6 show the transportation characteristics of commodities produced by the food manufacturing industry. Data in Table 6

indicate shipping distances for “Meat, Poultry, Fish, Seafood, and their Preparations” and “Milled Grain Products and Preparation, and Bakery Products” have increased, while shipping distances for “Animal Feed, Eggs, Honey, and Other Products of Animal Origin” and “Other Prepared Foodstuffs, and Fats and Oils” have decreased. In 2012, the average distance shipped for “Animal Feed, Eggs, Honey, and Other Products of Animal Origin” was slightly less than 400 miles and the average shipping distances for the other three categories ranged between 230 miles for “Other Prepared Foodstuffs, and Fats and Oils” and 262 miles for “Milled Grain Products and Preparation, and Bakery Products.”

To provide an indication of the geographic dispersion of the food manufacturing industry, Table 7 (following page) presents 2016 data, the most recent year these data are available for this report, on employment, production workers, value added by manufacturer, and value of shipments for 16 selected states. As indicated in the table, establishments located in the 16 states for which data are presented contribute 64.6 percent of total industry shipments and 60.5 percent of total production workers in the food manufacturing industry.

Included among these states are Nebraska and neighboring states that typically compete with Nebraska for plant locations. Also included are the leading states with the greatest concentrations of food processing activity. The 16 states are included in this study as alternative sites for plant locations and are evaluated in Appendix A of this

**Table 6**

**Shipment Characteristics for the Food Manufacturing Industry (NAICS 311)  
Related Commodities, Selected Commodities, 2007 and 2012**

| Commodity Sector   | Value (Mil. \$)<br>2012 | Tons (1,000)<br>2012 | Ton-miles<br>2012 (Mil.) | Average Miles |      | % Change<br>2007-2012 |
|--|-------------------------|----------------------|--------------------------|---------------|------|-----------------------|
|  |                         |                      |                          | 2012          | 2007 |                       |
| Animal Feed, Eggs, Honey, and Other<br>Products of Animal Origin | 114,147                 | 223,393              | 57,800                   | 383           | 494  | -22.5                 |
| Meat, Poultry, Fish, Seafood, and<br>Their Preparations          | 302,921                 | 90,439               | 43,185                   | 243           | 206  | 18.0                  |
| Milled Grain Products and<br>Preparations, and Bakery Products   | 164,323                 | 120,915              | 58,984                   | 262           | 169  | 55.0                  |
| Other Prepared Foodstuffs, and Fats<br>and Oils                  | 597,943                 | 522,932              | 180,437                  | 230           | 318  | -27.7                 |

Source: U.S. Bureau of the Census, *Census of Transportation, 2007 and 2012 Commodity Flow Survey*.

report using the geographically variable labor and energy costs.

In 2016, California, with value of shipments by food processing establishments of \$76,519 million, was the largest food manufacturing state, accounting for 9.9 percent of the total U.S. food product shipments. Illinois, with shipments of food products totaling \$45,172 million, ranked second among the states and contributed 5.8 percent of the total industry shipments. In terms of the value of shipments of food products, Wisconsin ranked third,

followed by Texas, Iowa, Pennsylvania, and Ohio. Nebraska, with shipments of food products totaling \$28,825.3 million, ranked eighth among the states and accounted for 3.7 percent of total industry shipments.

The average hourly earnings of production workers in the food manufacturing industry shown in Table 7 indicate Nebraska production workers had average hourly earnings (\$19.84) that were 8.7 percent higher than the U.S. average of \$18.25, and 0.8 percent higher than the average of \$19.68 for the other 15 selected states.

**Table 7**  
**Food Manufacturing Industry (NAICS 311)**  
**Production Workers, Average Wages, Value Added, and Value of Shipments,**  
**Selected States and the U.S., 2016**

| State                    | Production Employees  | Workers        | Average Hourly Earnings | Capital Expenditures | Value of Shipments | % of U.S. Value of Shipments |
|--------------------------|-----------------------|----------------|-------------------------|----------------------|--------------------|------------------------------|
|                          | --- (Thousand \$) --- |                | (\$)                    | --- (Million \$) --- |                    | (%)                          |
| <b>Nebraska</b>          | <b>35.2</b>           | <b>29.5</b>    | <b>19.84</b>            | <b>443.4</b>         | <b>28,825.3</b>    | <b>3.7</b>                   |
| California               | 156.2                 | 118.0          | 19.37                   | 1,541.9              | 76,518.7           | 9.9                          |
| Florida                  | 27.2                  | 20.5           | 20.47                   | 262.2                | 15,857.8           | 2.0                          |
| Illinois                 | 75.8                  | 58.2           | 20.48                   | 1,064.5              | 45,171.6           | 5.8                          |
| Indiana                  | 34.6                  | 26.3           | 21.13                   | 413.7                | 22,291.0           | 2.9                          |
| Iowa                     | 49.9                  | 41.1           | 21.50                   | 827.2                | 36,930.2           | 4.8                          |
| Kansas                   | 28.4                  | 23.8           | 17.96                   | 409.5                | 22,820.0           | 2.9                          |
| Michigan                 | 28.1                  | 21.7           | 20.47                   | 576.8                | 16,310.0           | 2.1                          |
| Minnesota                | 45.9                  | 35.9           | 19.30                   | 415.8                | 27,061.9           | 3.5                          |
| Missouri                 | 36.2                  | 31.3           | 18.27                   | 581.1                | 22,612.0           | 2.9                          |
| New Jersey               | 30.1                  | 21.1           | 19.10                   | 364.5                | 13,101.5           | 1.7                          |
| New York                 | 41.7                  | 30.0           | 20.06                   | 493.9                | 19,669.4           | 2.5                          |
| Ohio                     | 52.7                  | 41.4           | 20.40                   | 1,159.1              | 32,233.7           | 4.2                          |
| Pennsylvania             | 66.2                  | 50.3           | 20.24                   | 722.3                | 34,295.2           | 4.4                          |
| Texas                    | 82.4                  | 65.5           | 17.22                   | 672.7                | 43,330.7           | 5.6                          |
| Wisconsin                | 65.1                  | 51.5           | 20.46                   | 1,148.4              | 43,356.6           | 5.6                          |
| <b>Total Sel. State:</b> | <b>855.7</b>          | <b>666.1</b>   | <b>19.68</b>            | <b>11,097.0</b>      | <b>500,385.6</b>   | <b>64.6</b>                  |
| Percent of U.S.          | 61.5                  | 60.5           | 107.80                  | 63.3                 | 64.6               | 64.6                         |
| <b>Total U.S.</b>        | <b>1,390.9</b>        | <b>1,100.2</b> | <b>18.25</b>            | <b>17,537.5</b>      | <b>774,131.8</b>   | <b>100.0</b>                 |

Source: U.S. Bureau of the Census, *Annual Survey of Manufactures, Geographic Area Statistics, 2016*.

#### IV. Capital Expenditures and Industry Outlook

Capital expenditures in the food manufacturing industry was more than \$17.8 million in 2016. As the data presented in Table 8 show, capital expenditures totaled \$17,809.7 million, a 35.0 percent increase from 2007.

As data provided in Table 8 also indicate, the growth and rate of capital expenditures in the food manufacturing industry varied significantly among the industry subgroups. The “Animal Food Manufacturing” subsector (NAICS 3111) recorded the greatest increase (98.1 percent) in capital expenditures between 2007 and 2016, followed by “Dairy Product Manufacturing” (NAICS 3113 - 75.0 percent), and “Animal Slaughtering and Processing” (NAICS 3116 - 53.2 percent).

One subgroup experienced a decline in capital expenditures. The “Grain and Oilseed Milling Manufacturing” (NAICS 3112) subgroup declined 17.9 percent.

The food manufacturing industry in the United States is expected to record stable or slightly declining employment change and moderate output growth over the long term. As indicated by the data presented in Table 9 (next page), employment in the “Food Manufacturing Industry” (NAICS 311) increased moderately during the 2006–2016 period and is projected to decline by an average rate of 0.1 percent per year between 2016 and 2026. This projected decline is

less than an average annual decline of 1.4 percent per year for all manufacturing employment between 2006 and 2016 and a projected average annual decline of 0.6 percent for the 2016–2026 period.

Real, constant-dollar, output in the food manufacturing industry is projected to increase by 13.0 percent, or by an average annual rate of 1.2 percent, in real, inflation-adjusted terms between 2016 and 2026. As the data presented in Table 9 indicate, this is slightly less than the projected increase in output for the total manufacturing sector (19.4 percent, or an average annual rate of 1.8 percent) for the 2016–2026 projection period.

The long run outlook for the food manufacturing industry is very positive. Expanding global markets and incomes will provide large and growing markets for this industry. On balance, the factors affecting individual companies producing food products will depend to a great extent on their ability to compete within their industry and in the markets for their products. While many external factors will influence the overall performance of the industry, the outlook for the individual companies that can control costs and respond to emerging and changing market opportunities and consumer tastes and behavior will be significantly enhanced. Appendix A of this study discusses how food processing establishments can better respond to market conditions and significantly improve their competitive positions with a Nebraska plant location.

**Table 8**  
**Capital Expenditures in the Food Manufacturing Industry (NAICS 311)**  
**by Industry Subgroup, 2007, 2012, and 2016**

| NAICS Industry Group   | Capital Expenditures  |                   |                   |                  |             | 2016 Cap. Exp.<br>as Percent of<br>Total |
|--|-----------------------|-------------------|-------------------|------------------|-------------|--|
|  | 2007                  | 2012              | 2016              | 2007-2012        | 2012-2016   |  |
|  | --- (Thousand \$) --- |                   |                   | -- (% Change) -- |             | (%)                                      |
| <b>311 Food Manufacturing</b>  | <b>13,193,895</b>     | <b>15,359,395</b> | <b>17,809,728</b> | <b>16.4</b>      | <b>16.0</b> | <b>100.0</b>                             |
| 3111 Animal Food Manufacturing                                       | 693,816               | 893,856           | 1,374,710         | 28.8             | 53.8        | 7.7                                      |
| 3112 Grain and Oilseed Manufacturing                                 | 1,565,527             | 1,716,932         | 1,284,556         | 9.7              | -25.2       | 7.2                                      |
| 3113 Sugar and Confectionery Product Manufacturing                   | 774,646               | 1,168,551         | 793,122           | 50.8             | -32.1       | 4.5                                      |
| 3114 Fruit and Vegetable Preserving and Specialty Food Manufacturing | 1,635,954             | 2,149,473         | 1,707,536         | 31.4             | -20.6       | 9.6                                      |
| 3115 Dairy Product Manufacturing                                     | 1,871,167             | 2,123,039         | 3,274,720         | 13.5             | 54.2        | 18.4                                     |
| 3116 Animal Slaughtering and Processing                              | 2,721,383             | 3,305,232         | 4,169,792         | 21.5             | 26.2        | 23.4                                     |
| 3117 Seafood Product Preparation and Packaging                       | 299,444               | 217,011           | 338,599           | -27.5            | 56.0        | 1.9                                      |
| 3118 Bakeries and Tortilla Manufacturing                             | 1,521,823             | 1,519,185         | 1,975,502         | -0.2             | 30.0        | 11.1                                     |
| 3119 Other Food Manufacturing  | 2,110,135             | 2,266,116         | 2,891,190         | 7.4              | 27.6        | 16.2                                     |

Sources: U.S. Bureau of the Census, *Summary Series 2007 and 2012*; and *Annual Survey of Manufactures, 2016*.

**Table 9****Employment and Output, Food Manufacturing Sector by Industry Subgroup, and  
for All Manufacturing, 2006, 2016, and Projected 2026**

| NAICS Industry Sector / Subgroup |   | Part A -- Employment |                 |                 |                          |             |
|----------------------------------|---|----------------------|-----------------|-----------------|--------------------------|-------------|
|                                  |   | Thousands of Jobs    |                 |                 | Avg. Ann. Rate of Change |             |
|                                  |   | 2006                 | 2016            | 2026            | 2006-2016                | 2016-2026   |
| <b>31-33</b>                     | <b>Manufacturing</b>  | <b>14,155.8</b>      | <b>12,348.1</b> | <b>11,611.7</b> | <b>-1.4</b>              | <b>-0.6</b> |
| <b>311</b>                       | <b>Food Manufacturing</b>                                       | <b>1,479.3</b>       | <b>1,554.2</b>  | <b>1,540.2</b>  | <b>0.5</b>               | <b>-0.1</b> |
| 3111                             | Animal Food Manufacturing                                       | 49.4                 | 58.0            | 57.8            | 1.6                      | 0.0         |
| 3112                             | Grain and Oilseed Manufacturing                                 | 60.5                 | 59.7            | 56.4            | -0.1                     | -0.6        |
| 3113                             | Sugar and Confectionery Product Manufacturing                   | 75.1                 | 76.5            | 71.8            | 0.2                      | -0.6        |
| 3114                             | Fruit and Vegetable Preserving and Specialty Food Manufacturing | 176.2                | 173.3           | 165.3           | -0.2                     | -0.5        |
| 3115                             | Dairy Product Manufacturing                                     | 131.2                | 140.7           | 141.7           | 0.7                      | 0.1         |
| 3116                             | Animal Slaughtering and Processing                              | 506.0                | 494.5           | 493.1           | -0.2                     | 0.0         |
| 3117                             | Seafood Product Preparation and Packaging                       | 40.7                 | 39.7            | 35.8            | -0.2                     | -1.0        |
| 3118                             | Bakeries and Tortilla Manufacturing                             | 280.4                | 304.0           | 300.5           | 0.8                      | -0.1        |
| 3119                             | Other Food Manufacturing  | 159.8                | 207.8           | 217.7           | 2.7                      | 0.5         |

| NAICS Industry Sector / Subgroup |   | Part B -- Value of Output                  |                |                |                          |            |
|----------------------------------|---|--|----------------|----------------|--------------------------|------------|
|                                  |   | Billions of Chain-Weighted<br>2009 Dollars |                |                | Avg. Ann. Rate of Change |            |
|                                  |   | 2006                                       | 2016           | 2026           | 2006-2016                | 2016-2026  |
| <b>31-33</b>                     | <b>Manufacturing</b>  | <b>5,298.3</b>                             | <b>5,449.9</b> | <b>6,509.8</b> | <b>0.3</b>               | <b>1.8</b> |
| <b>311</b>                       | <b>Food Manufacturing</b>                                       | <b>604.8</b>                               | <b>687.3</b>   | <b>776.8</b>   | <b>1.3</b>               | <b>1.2</b> |
| 3111                             | Animal Food Manufacturing                                       | 43.6                                       | 52.2           | 67.1           | 1.8                      | 2.5        |
| 3112                             | Grain and Oilseed Manufacturing                                 | 75.8                                       | 100.9          | 112.9          | 2.9                      | 1.1        |
| 3113                             | Sugar and Confectionery Product Manufacturing                   | 31.9                                       | 32.5           | 34.9           | 0.2                      | 0.7        |
| 3114                             | Fruit and Vegetable Preserving and Specialty Food Manufacturing | 65.9                                       | 66.2           | 69.5           | 0.0                      | 0.5        |
| 3115                             | Dairy Product Manufacturing                                     | 78.2                                       | 102.7          | 119.2          | 2.8                      | 1.5        |
| 3116                             | Animal Slaughtering and Processing                              | 158.6                                      | 178.2          | 202.0          | 1.2                      | 1.3        |
| 3117                             | Seafood Product Preparation and Packaging                       | 11.6                                       | 10.5           | 11.9           | -1.0                     | 1.3        |
| 3118                             | Bakeries and Tortilla Manufacturing                             | 63.1                                       | 51.4           | 55.8           | -2.0                     | 0.8        |
| 3119                             | Other Food Manufacturing  | 77.6                                       | 90.2           | 99.9           | 1.5                      | 1.0        |

Source: U.S. Bureau of Labor Statistics, Office of Occupational Statistics and Employment Projections, [bls.gov/emp/](https://www.bls.gov/emp/),  
Employment and Output Projections for 2026 (2017).

## PART B

### NEBRASKA ADVANTAGES FOR MANUFACTURERS OF FOOD PRODUCTS

The food manufacturing industry appears to have both a market orientation and a resource orientation depending on the specific product produced, the type of establishment, and the market area served. Those establishments which appear to be oriented to plant locations near markets they are serving tend to be the smaller industry establishments which may have identified local market opportunities. Establishments which appear to be more resource oriented in terms of their plant locations tend to be the larger establishments, which produce goods for national distribution or serve significant regional markets. For the industry as a whole, the location orientation tends to favor a combination of resource availability and market access.

#### I. Availability of Inputs in Nebraska

Agriculture and agribusiness represent an important segment of the Nebraska economy and provide the basic economic foundation for continued expansion of the state's economy.

Essential services available to the agricultural sector and the processing, distribution, and packaging for related food products have provided much of the impetus for growth of the Nebraska economy. The substantial availability of agricultural and agriculturally related resources represent a significant advantage for Nebraska's existing food manufacturing sector and for new and expanding food processing establishments.

Table 10 provides data on Nebraska companies engaged in various types of food processing activity. The largest concentration of Nebraska food industry establishments is found in NAICS 31161, "Animal Slaughtering and Processing," followed by NAICS 31111, "Animal Food Manufacturing." As indicated by the data provided in the table, 119 establishments in the state slaughter and further process animal and meat products. Moreover, this industry subgroup employs the most workers, with 27 of these establishments employing 100 or more

### Table 10

#### Nebraska Food Manufacturing Establishments by Industry and Employment Size, 2016

| NAICS | Industry Group                                      | Employment Size          |           |         |         |           |
|-------|---|--------------------------|-----------|---------|---------|-----------|
|       |   |                          | Less than | 100-499 | 500-999 | 1,000 or  |
|       |   | Total                    | 100 Emp.  | Emp.    | Emp.    | More Emp. |
|       |   | Number of Establishments |           |         |         |           |
| 311   | Food Manufacturing                                  | 278                      | 231       | 31      | 8       | 8         |
| 31111 | Animal Food Manufacturing                           | 58                       | 54        | 3       | 1       | 0         |
| 31121 | Flour Milling and Malt Manufacturing                | 7                        | 6         | 1       | 0       | 0         |
| 31122 | Starch and Vegetable Fats and Oils Manufacturing    | 9                        | 6         | 2       | 1       | 0         |
| 31123 | Breakfast Cereal Manufacturing                      | 2                        | 0         | 1       | 1       | 0         |
| 31131 | Sugar Manufacturing                                 | 1                        | 0         | 1       | 0       | 0         |
| 31134 | Nonchocolate Confectionery Manufacturing            | 2                        | 2         | 0       | 0       | 0         |
| 31135 | Chocolate and Chocolate Confectionery Manufacturing | 2                        | 2         | 0       | 0       | 0         |
| 31141 | Frozen Food Manufacturing                           | 4                        | 3         | 1       | 0       | 0         |
| 31142 | Fruit and Vegetable Canning, Pickling, and Drying   | 4                        | 4         | 0       | 0       | 0         |
| 31151 | Dairy Product (except frozen) Manufacturing         | 9                        | 7         | 2       | 0       | 0         |
| 31152 | Ice Cream and Frozen Dessert Manufacturing          | 2                        | 2         | 0       | 0       | 0         |
| 31161 | Animal Slaughtering and Processing                  | 119                      | 92        | 14      | 5       | 8         |
| 31181 | Bread and Bakery Product Manufacturing              | 44                       | 41        | 3       | 0       | 0         |
| 31182 | Cookie, Cracker, and Pasta Manufacturing            | 1                        | 1         | 0       | 0       | 0         |
| 31183 | Tortilla Manufacturing                              | 3                        | 2         | 1       | 0       | 0         |
| 31191 | Snack Food Manufacturing                            | 2                        | 2         | 0       | 0       | 0         |
| 31192 | Coffee and Tea Manufacturing                        | 1                        | 1         | 0       | 0       | 0         |
| 31199 | All Other Food Manufacturing                        | 8                        | 6         | 2       | 0       | 0         |

Source: U.S. Census Bureau County Business Patterns: 2016



workers, 13 employing 500 or more workers, and 8 employing 1,000 or more workers.

A review of the types of existing food product manufacturers reported in Table 10 (previous page) reveals that many of the significant inputs required by other food manufacturing industry establishments are currently available in Nebraska. Major beef processors operate some of the industry's largest processing facilities in Nebraska. A variety of additional food processors will be able to take advantage of these significant and important local inputs.

The significant concentration of major food processors within Nebraska is related to the substantial availability of agricultural commodities produced in the state. Nebraska provides substantial agricultural inputs for beef, poultry, and dairy products processors. Moreover, the food and feed grains and other crops in the state represent an important agricultural resource both for supporting the livestock, poultry, dairy, and related products industry and as a raw materials input for further processing by Nebraska's food products manufacturers.

Table 11 provides data on agricultural production for selected crops (Part A) and livestock commodities (Part B on next page) in Nebraska. As these data illustrate, the state accounts for a substantial share of total U.S. production for these agricultural commodities.

Nebraska ranks third in the production of corn for grain with 1,770.0 million bushels in 2019. As shown in Part A of Table 11, Nebraska's corn crop accounted for 12.9 percent of total U.S. production. Sorghum for grain production in Nebraska totaled 13.7 million bushels, accounting for 4.0 percent of the total U.S. production. Nebraska also produced significant amounts of soybeans (7.9 percent of U.S. production), wheat (2.9 percent of U.S. production), hay (4.8 percent of U.S. production), and dry edible beans (10.7 percent of U.S. production).

One of the most significant attributes of Nebraska, in terms of agricultural output, is the production of livestock and livestock products. As the data provided in Part B of Table 11 show (next page), 19.1 percent of the nation's cattle on feed as of January 1, 2019, were in Nebraska,

**Table 11**  
**Production of Selected Agricultural Commodities in Nebraska**

|            | <b>Part A -- Selected Crops</b> |                   |                                |                   |
|------------|---------------------------------|-------------------|--------------------------------|-------------------|
|            | <b>Corn for Grain, 2019</b>     |                   | <b>Sorghum for Grain, 2019</b> |                   |
|            | <b>Acres Harvested</b>          | <b>Production</b> | <b>Acres Harvested</b>         | <b>Production</b> |
|            | (1,000 Acres)                   | (1,000 Bu.)       | (1,000 Acres)                  | (1,000 Bu.)       |
| Nebraska   | 9,750                           | 1,770,000         | 140                            | 13,700            |
| % of U.S.  | 12.0%                           | 12.9%             | 3.0%                           | 4.0%              |
| U.S. Total | 81,482                          | 13,691,561        | 4,675                          | 341,460           |
|            |                                 |                   |                                |                   |
|            | <b>Wheat, 2019</b>              |                   | <b>Soybeans, 2019</b>          |                   |
|            | <b>Acres Harvested</b>          | <b>Production</b> | <b>Acres Harvested</b>         | <b>Production</b> |
|            | (1,000 Acres)                   | (1,000 Bu.)       | (1,000 Acres)                  | (1,000 Bu.)       |
|            |                                 |                   |                                |                   |
| Nebraska   | 970                             | 55,300            | 4,950                          | 282,000           |
| % of U.S.  | 2.6%                            | 2.9%              | 6.6%                           | 7.9%              |
| U.S. Total | 37,162                          | 1,920,139         | 75,021                         | 3,558,281         |
|            |                                 |                   |                                |                   |
|            | <b>All Hay, 2019</b>            |                   | <b>Dry Edible Beans, 2019</b>  |                   |
|            | <b>Acres Harvested</b>          | <b>Production</b> | <b>Acres Harvested</b>         | <b>Production</b> |
|            | (1,000 Acres)                   | (1,000 Tons)      | (1,000 Acres)                  | (1,000 CWT)       |
|            |                                 |                   |                                |                   |
| Nebraska   | 2,500                           | 6,230             | 110                            | 2,220             |
| % of U.S.  | 4.8%                            | 4.8%              | 9.4%                           | 10.7%             |
| U.S. Total | 52,425                          | 128,864           | 1,176                          | 20,811            |

Table continued on following page (including source notes).

## Table 11, continued

| Part B -- Selected Livestock, Poultry and Related Products |                                 |           |  |                |
|--|---------------------------------|-----------|--|----------------|
|  | Cattle on Feed, January 1, 2019 |           | All Cattle and Calves, January 1, 2019 |                |
|  | Number                          |           | Number                                 |                |
|  | (1,000 Head)                    |           | (1,000 Head)                           |                |
| Nebraska   | 2,750                           |           | 6,800                                  |                |
| % of U.S.  | 19.1%                           |           | 7.2%                                   |                |
| U.S. Total   | 14,371                          |           | 94,759                                 |                |
|  |                                 |           |  |                |
|  | Milk Cows, January 1, 2019      |           | Commercial Cattle Slaughter, 2019*     |                |
|  | Number                          |           | Number                                 | Live Weight    |
|  | (1,000 Head)                    |           | (1,000 Head)                           | (1,000 Pounds) |
| Nebraska   | 59                              |           | 7,640                                  | 10,629,473     |
| % of U.S.  | 0.6%                            |           | 22.9%                                  | 23.7%          |
| U.S. Total   | 9,353                           |           | 33,379                                 | 44,756,375     |
|  |                                 |           |  |                |
|  | Hogs and Pigs, Dec. 1, 2019     |           | Commercial Hog Slaughter, 2019*        |                |
|  | Number                          |           | Number                                 | Live Weight    |
|  | (1,000 Head)                    |           | (1,000 Head)                           | (1,000 Pounds) |
| Nebraska   | 3,750                           |           | 7,991                                  | 2,268,311      |
| % of U.S.  | 5.0%                            |           | 6.2%                                   | 6.2%           |
| U.S. Total   | 74,600                          |           | 128,982                                | 36,734,812     |
|  |                                 |           |  |                |
|  | Milk Produced, 2019             |           | Chicken (excl. Broilers), Dec. 1, 2018 |                |
|  | Quantity                        |           | Number                                 | Production     |
|  | (Million Pounds)                |           | (1,000 Head)                           | (\$1,000)      |
| Nebraska   | 1,408                           |           | 10,192                                 | 41,787         |
| % of U.S.  | 0.6%                            |           | 1.9%                                   | 1.8%           |
| U.S. Total   | 218,136                         |           | 527,573                                | 2,284,164      |
|  |                                 |           |  |                |
|  | Layers and Eggs, 2018           |           |  |                |
|  | Avg. Number                     |           |  |                |
|  | of Layers                       | Eggs      |  |                |
|  | (1,000 Head)                    | (Million) |  |                |
| Nebraska   | 7,830                           | 2,390     |  |                |
| % of U.S.  | 2.0%                            | 2.2%      |  |                |
| U.S. Total   | 391,311                         | 109,192   |  |                |

Source: U.S. Department of Agriculture, National Agricultural Statistics Service (USDA, NASS),

*Agricultural Statistics, 2019*, [nass.usda.gov/](http://nass.usda.gov/)

\*December 2018 - November 2019

which ranked first among the states in terms of this measure. Nebraska also led the nation in the commercial cattle slaughter in 2019, accounting for 23.7 percent of the total live weight.

Other livestock and livestock products, of which Nebraska produced significant quantities in 2018, include hogs (6.2 percent of the U.S. total, commercial slaughter), chickens excluding broilers (1.8 percent of the U.S. total inventory), and layers (2.0 percent of U.S. total inventory), and egg production (2.2 percent of the total, U.S. eggs produced).

### New Fremont Nebraska Plant Increases Nebraska Broiler Production by 17 Million Birds Per Year



In 2016, Lincoln Premium Poultry and Costco Wholesale Corporation announced plans to construct a new broiler facility with hatchery and feed mill in Fremont, Nebraska. Operations began in September 2019. The facility will employ approximately 1,000 when operating at full capacity.

## II. Nebraska Location Resources

In addition to the significant availability of raw materials and intermediate inputs, Nebraska offers a wide range of other locational advantages for food processors. In this section of the study, Nebraska resources and location attributes important to establishments in the food manufacturing industry are presented and discussed. An evaluation of geographically variable labor and energy costs for selected states is presented in Appendix A, which follows this section, using a model manufacturing establishment producing a representative food product.

Nebraska lies near both the population and the geographic centers of the United States (Figure 3). The nation's population center moved across the Mississippi River for the first time in 1980 and continues to shift westward. The current population center is near Plano, Missouri, and the geographic center is in Butte County, South Dakota (the geographic center of the 48 contiguous states is Smith County, Kansas). Within one day, goods shipped by truck from Nebraska reach more than 25 percent of the U.S. population; add a second day and the percentage skyrockets to more than 90 percent.

In addition to being a prominent location for national markets, Nebraska is well situated to

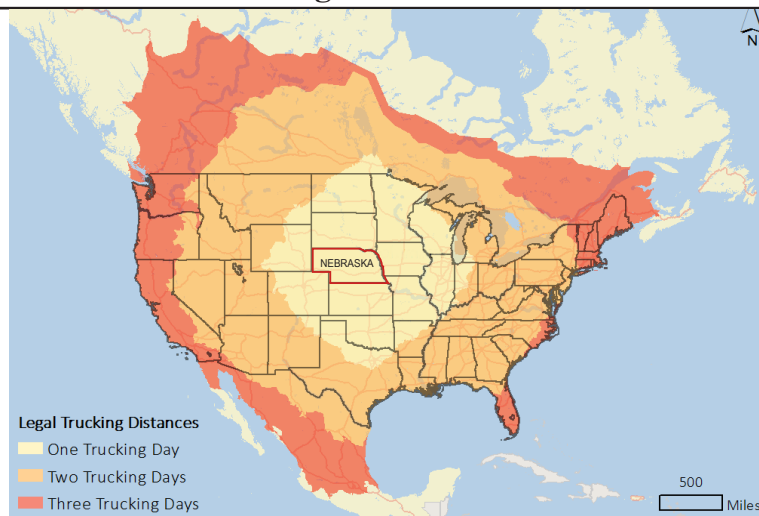
serve international markets, which are important to many food products manufacturers. For example, the Union Pacific's main railroad line in central Nebraska is the busiest freight corridor in the world; many of the trains carry grain to West Coast ports for shipment around the world. Also, the state currently has operating Foreign Trade Zones in Omaha (Zone No. 19, Grantee/Operator: Dock Board of the city of Omaha/Douglas Civic Center) and in Lincoln (Zone No. 59, Grantee/Operator: Lincoln Chamber of Commerce Foreign Trade Zone). Foreign trade zones reduce or eliminate duties and excise taxes by allowing "domestic activity involving foreign items to take place as if it were outside of U.S. Customs territory."

### Access to Markets - Transportation

Nebraska's central location is especially advantageous for transportation services. The state's communities are connected by a good highway system that includes 8,539 miles of interstate, freeway, and arterial roads. That system includes a 455-mile stretch of Interstate 80, the most traveled east-west transcontinental route of the interstate highway system. North-south interstate highways that add to Nebraska's market include Interstate 29, which passes along the state's eastern border in Iowa, and Interstate 25, which passes in close proximity to the state's western border.

**Figure 3**

### Truck Access to Regional and National Markets



Source: Nebraska Department of Economic Development. Legal Trucking Distances from Nebraska. Generated by Andrew Eckerson using ESRI Business Analyst Desktop.

More than 13,500 licensed motor carriers with worldwide connections are based in Nebraska and serve businesses throughout North America. Largely because of Nebraska's good interstate connections, the state is home to one of the largest trucking companies in the country, Werner Enterprises, headquartered in Omaha.

The nation's two largest rail companies—BNSF Railway Company and Union Pacific Railroad—provide rail service to many Nebraska communities. Ten freight railroads operate more than 3,200 miles of track throughout Nebraska. No major city in the United States is more than five days by rail from Nebraska. Amtrak provides passenger service in Nebraska with stops in five communities.

The Union Pacific (UP) maintains headquarters in Omaha and is one of the largest railroads in North America with 32,000 miles of track in the western two-thirds of the country. UP operates more than 1,000 miles of track in Nebraska. The Harriman Dispatching Center in Omaha is one of the most technologically advanced dispatching facilities in the country. Union Pacific's Bailey Yard in North Platte is the largest rail freight car classification yard in the world. The yard covers 2,850 acres, switches 10,000 rail cars daily, and has more than 300 miles of track. Union Pacific's main line in central Nebraska is the busiest rail freight corridor in the world, with more than 115 trains operating over the line every 24 hours.

BNSF Railway Company (BNSF) operates more than 1,500 route miles of track in Nebraska, is one of the state's primary railroads transporting two million carloads of freight in Nebraska each year, and employs more than 4,000 people in the state. BNSF has rail yards in Alliance, Lincoln, McCook, and Omaha; intermodal and automotive facilities in Omaha; and mechanical shops in Alliance and Lincoln.

Commercial airline service is available in nine Nebraska cities, providing direct service to major hubs and several regional destinations. Scheduled air freight service is provided to five additional communities with on-demand service available. A total of 81 public-use airports are located throughout the state.

With the Missouri River forming Nebraska's eastern border, the state is a western terminus for barge traffic. Barges have access to both the Gulf of Mexico via the Mississippi River and to the Atlantic Ocean via the Great Lakes and the St. Lawrence Seaway.

### Low Cost Utilities

In providing a full range of reliable utilities with many cost advantages, Nebraska offers additional benefits to food processors. Nebraska's electric rates for typical industrial customers are 25.4 percent less than the U.S. average and are among the lowest of the 48 contiguous states (Figure 4, next page). This benefit is of particular importance to the food manufacturing industry, with its high level of electricity use relative to total energy consumption. A statewide grid system with regional interconnections assures reliability of service and adequacy of supply.

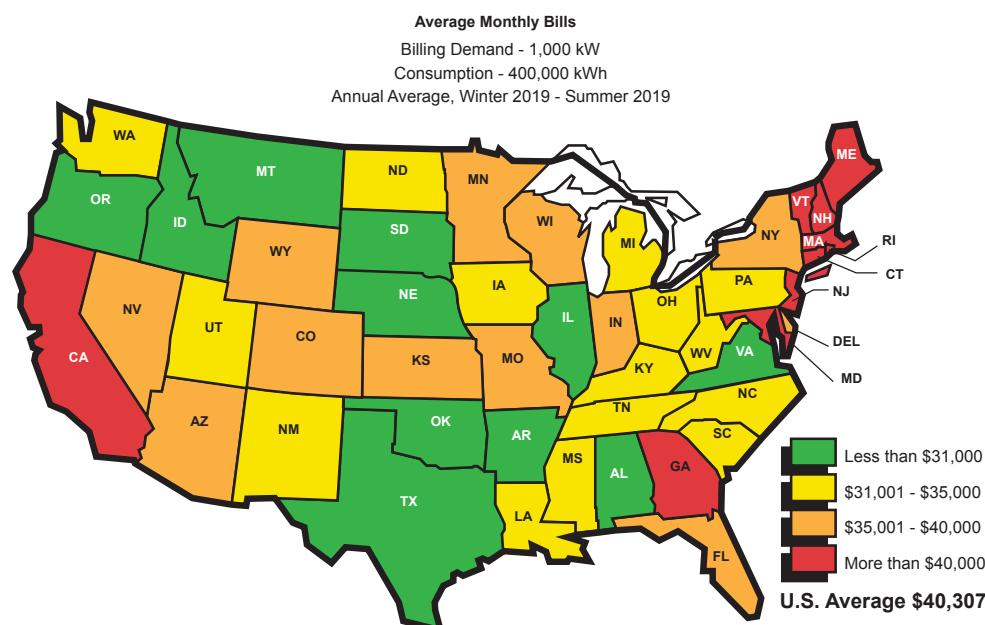
One of the reasons for Nebraska's low electric rates is its close proximity to the vast low-sulfur coal fields of eastern Wyoming. It is also the only state in the nation with electric service provided entirely by public power. Nebraska's two largest utilities, Nebraska Public Power District (NPPD) and Omaha Public Power District (OPPD), have under their control an efficient and dependable "mix" of generating systems to supply current and projected needs; the mix includes coal, nuclear, hydro, wind, gas, oil, and diesel sources.

Some major electric-generating facilities in Nebraska are:

- 1,300-megawatt (MW) NPPD coal-fired Gerald Gentleman Station near Sutherland, Unit No. 1 on-line in 1979 and Unit No. 2 on-line in 1982
- 1,330-megawatt OPPD coal-fired plant at Nebraska City, Unit No. 1 on-line in 1979 and Unit No. 2 on-line in 2009
- 800-megawatt NPPD Cooper Nuclear Station near Brownville, on-line in 1974

NPPD owns and operates a 59 MW wind generation facility near Ainsworth. NPPD has

**Figure 4**  
**Electric Costs for Industrial Service, Winter 2019–Summer 2019**



Source: Edison Electric Institute, “Typical Bills and Average Rates Report,” January 2019 and July 2019. State averages are weighted using eight months of January 2019 data and four months of July 2019 data. Nebraska data represent the average for Omaha Public Power District, Lincoln Electric System, and Nebraska Public Power District using the same seasonal weighting.

long-term agreements to purchase 122 MW of wind generated power from Nebraska facilities located near Bloomfield, 80 MW from a facility near Petersburg, 75 MW from a facility located in Custer County, and 75 MW from a facility near Steele City.

Nebraska utilities also operate 12 hydroelectric plants and receive a power allotment from the Western Area Power Administration (WAPA) hydroelectric facilities on the Missouri River. The utilities operate with a reserve capacity that protects users against voltage reductions and brownouts. Furthermore, the utilities are members of the Mid-Continent Area Power Pool (MAPP), the Southwest Power Pool (SPP), and the Western System Power Pool (WSPP).

Natural gas in Nebraska is also attractive to industry for service, supply, and price. A gas-producing state, Nebraska is close and well connected by pipeline to the major gas fields of the central and southern plains. The state’s average cost of industrial gas is less than both the regional and national averages.

The pipelines of two major companies, Northern Natural Gas and Kinder Morgan, provide an ample supply of natural gas to most areas of Nebraska. Depending on usage requirements, natural gas is offered both on a “firm” and “interruptible” basis.

### High Quality Work Force

Any industry derives benefits from a productive and well-educated labor force. Nebraska’s labor force has a strong work ethic and technical proficiency. Individuals with the foresight and diligence to transform it into a world center of agricultural production settled the state. Their descendants maintain a work ethic and mechanical aptitude that carry over into the state’s manufacturing sector. Contributing to Nebraska’s high labor productivity are very low absenteeism and labor turnover rates. Furthermore, Nebraska employers pay among the lowest unemployment insurance and workers’ compensation costs in the nation.

Nebraska’s work force quality is also highly rated by the state’s employers and by various



national comparisons. In 2016, 90.9 percent of the state's population 25 years of age and older were high school graduates, compared to 87.5 percent nationally. In addition, the 2014–2015 Nebraska public high school graduation rate was 90.0 percent. One reason for the high graduation rate is the state's comparatively low student-teacher ratio—13.60:1 in 2014–2015 compared to 16.07:1 for the nation. Finally, Nebraska students consistently score above the U.S. average on both standardized achievement tests and college entrance exams. In 2017 Nebraska students averaged 21.4 on the ACT college entrance test, compared to 21.0 nationally. Moreover, Nebraska's average composite ACT score was achieved with 84.0 percent of graduates taking the exam, compared to 60.0 percent of graduates nationwide.

### **Higher Education Resources and Research**

Companies within the food manufacturing industry can be major beneficiaries of flexible, state-of-the-art education resources helping assure a trained, technically skilled work force in Nebraska.

#### **UNIVERSITY OF NEBRASKA SYSTEM**

The industry relies on the presence of quality institutions of higher learning for research, teaching, and a flow of skilled workers. The University of Nebraska (NU) system, with campuses in Lincoln, Omaha, and Kearney, has the largest facilities among the state's 20 colleges and universities and offers advanced degrees in most professional fields. It is a major center for both basic and applied research and has a combined student enrollment of more than 45,000.

Founded in 1869, the Lincoln campus of the University of Nebraska is the state's land-grant university. Nebraska was the first university west of the Mississippi to establish a graduate college (in 1896); today, NU is one of the top 50 American universities in the number of doctoral degrees granted annually. The University of Nebraska boasts 22 Rhodes scholars and 2 Nobel laureates among its alumni. In 2015, U.S. News & World Report recognized four University of Nebraska-Lincoln online programs as some of the top programs in the nation. These included

NU's online graduate education, bachelor of science in applied science, master of engineering management programs, and the master of business administration. These programs are among the more than 100 degree, certificate, and endorsement online programs offered by the four campuses of the University of Nebraska system.

The Food Processing Center - University of Nebraska-Lincoln ([fpc.unl.edu](http://fpc.unl.edu)) is a major resource available to food manufactures. The Food Processing Center understands that food is both a science and a business but are also two different, yet interconnected worlds. The Food Processing Center at the University of Nebraska-Lincoln provides technical support to the food industry in product and process development as well as business assistance to small companies and entrepreneurs. Through a unique combination of science, engineering, and business development services that parallel the growing needs of the industry, the Food Processing Center supports the food industry by way of improving their market and economic vitality.

The mission statement of the Food Processing Center is to advance the value-added food manufacturing industry by partnering on technical and business development from idea through ongoing market support. The Center's goals are to stimulate the development of new food businesses, assist current manufacturers to become more efficient, productive, and diverse. The Food Processing Center assists new, as well as existing food processors, through educational programs for administrators, managers, and employees within the industry. Current programs and services are provided to meet the ever-changing challenges of the food industry, with new, innovative services and workshops continually added in order to meet these needs. All services are provided on a strictly confidential basis.

### **The Food Processing Center Team**

The Food Processing Center team is made up of food scientists and business professionals that are wholly committed to providing services to the food industry. Services are provided to food processors ranging from micro-entrepreneur start-ups to established Fortune 500 food

companies. The Food Processing Center's team has access to state-of-the-art pilot plants and labs which allow them to provide outstanding assistance within the following service areas:

- Applied Research & Engineering
- Labeling & Regulatory Compliance
- Laboratory Services
- Pilot Plants
- Product & Process Development
- Professional Development Opportunities & Education
- Sensory Analysis Laboratory
- Small Business Development Services

The Food Processing professional team works in conjunction with the Food Science and Technology faculty as well as faculty in other departments within the University of Nebraska, such as Agricultural Economics, Animal Science, Agronomy and Horticulture, Plant Sciences, and Biological Systems Engineering.

### **Applied Research & Engineering**

This unit, known as ARE, serves as the bridge between fundamental research and the food industry. ARE utilizes and adapts the findings of original scientific research to meet specific industry needs. ARE helps businesses improve efficiencies and sharpen their competitive edge.

### **Labeling & Regulatory Compliance**

Understanding FDA and USDA labeling regulations can be a daunting task for any company. Labeling assistance and reviews are provided to ensure that packaging is in compliance with regulations.

### **Laboratory Services**

From routine analysis to specialized research projects, the Food Processing Center provides rapid and accurate microbiological testing so companies can make appropriate decisions regarding the safety of their food products. These comprehensive services allow companies to bring safe products to the market and quickly address food safety issues.

### **Pilot Plants**

The Food Processing Center has extensive equipment that can be used to produce samples or to develop, scale-up, and test product formulas and food ingredients. Utilizing the Center's equipment saves a company time and money in bringing finished products to the marketplace.

### **Product & Process Development**

The Food Processing Center provides innovative formulation and process development for a wide range of food and beverage products. This includes concept and prototype development, scale-up, ingredient application, and line extensions.

### **Professional Development Opportunities**

Providing the opportunity for employees to learn new skills and update their knowledge is critical for any company to remain viable in the marketplace. The Food Processing Center provides companies with a variety of unique educational and training opportunities so companies can continue to be successful.

### **Sensory Analysis Laboratory**

Sensory analysis studies allow companies to better understand, determine, and target specific markets. The Center designs and conducts studies in their sensory facility to meet the objective of each client.

### **Small Business Development Services**

Launched in 1989, the National Food Entrepreneur Program has helped thousands of entrepreneurs nationwide realize their dream of starting a food company. The program begins with the one-day Recipe to Reality Seminar and individualized consultation is provided through Product to Profit.

### **OTHER STATE COLLEGES**

In addition to the University of Nebraska system, Nebraska operates a state college system with campuses at Chadron, Peru, and Wayne. A variety of private colleges and universities are also located in Nebraska including Creighton University in Omaha, Nebraska Wesleyan

## Nebraska Department of Environment and Energy

The Nebraska Department of Environment and Energy (NDEE) has established several tools to assist businesses and industries in obtaining permits and complying with environmental standards. They have placed an emphasis on streamlining the permit application and environmental compliance process for businesses while still maintaining protection of Nebraska's natural resources. NDEE has the stated goal of "Making Compliance Easy" and wants to actively work alongside business and industry to help them through the permit and compliance process. Further information about NDEE and its programs for business and industry can be found at <http://deq.ne.gov>.

### ***Small Business and Public Assistance Program***

Established as a result of the Clean Air Act Amendments of 1990 to assist businesses in complying with air quality regulations, the Small Business and Public Assistance Program was later expanded to include all environmental media. The program includes a Small Business Compliance Advisory Panel, a Public Advocate, an Assistance Program, and the One-Stop Permitting Program.

### ***Permit Matrix***

NDEE created the permit matrix as an online tool for easily gathering relevant permit information. The matrix contains links to guidance documents, program overviews, regulations, relevant web pages and additional local, regional and state-wide resources. It is a downloadable excel file that is frequently updated. The goal of the Matrix is to make compliance easy by readily presenting relevant information.

### ***One-Stop Permit Program***

The One-Stop Permit Assistance program was designed to serve as a "clearinghouse" for information related to the Department's various permitting processes. Their goal is to ensure that businesses and industry can easily understand what permits they are required to apply for, what information they will need to provide in the application, and the general workings of the application process. The One-Stop Coordinator acts as a point of contact for Nebraska businesses by bringing together the appropriate NDEE staff to address concerns or questions about permits, processes, and other issues in a timely manner.

### ***Grow Nebraska: One Stop Meetings***

One-stop meetings allow business owners to streamline their planning process and engage with NDEE permitting programs and other regulatory agencies. These meetings provide an opportunity to ask questions and receive direction so that business owners have the necessary information to obtain the permits they need to achieve regulatory compliance.

### ***Compliance Assistance Visit***

NDEE offers on-site visits upon request so that businesses can receive support for one or more environmental programmatic areas. Compliance visits focus on providing guidance to help businesses understand and meet regulatory obligations. The benefit of an onsite visit is that NDEE can provide personalized, one-on-one answers to any questions or problems a business may be facing in the compliance process.

More helpful tools and information can be found at <http://deq.ne.gov>.

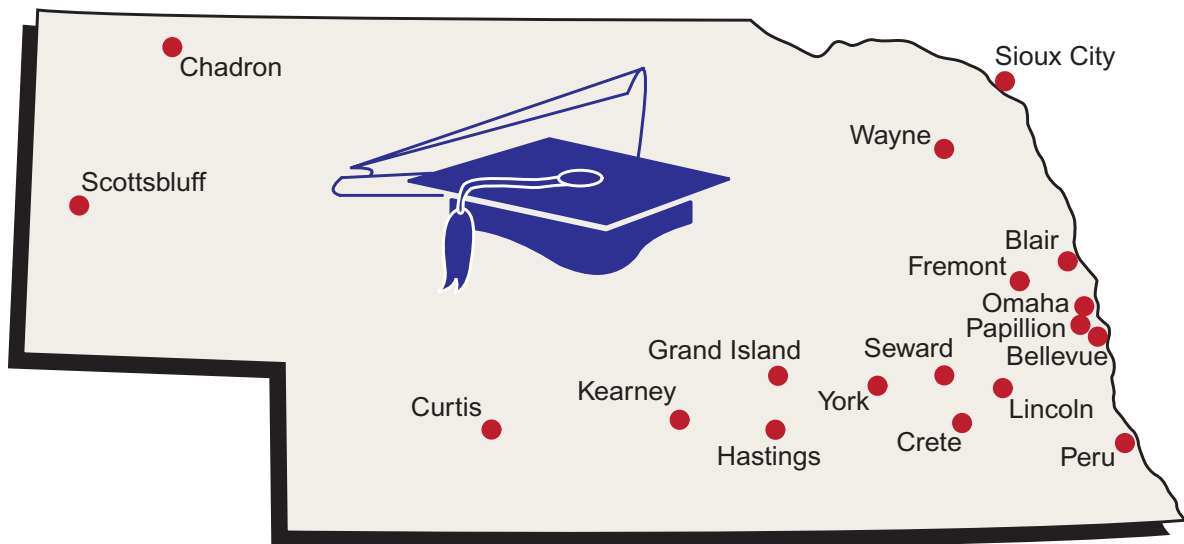
University in Lincoln, and others located throughout the state (see Figure 5A, next page).

Another important facet of higher education in Nebraska is the statewide community college system that provides specialized training programs for new and expanding industries. As indicated in Figure 5B (next page), the state has six community college areas, which provide services in 26 cities across the state. The colleges offer a full curricula of occupational

courses, which provide a steady flow of skilled graduates to Nebraska industries. As examples, Hastings and Milford Community College campuses offer vocational/technical training in more than 50 different one-year and two-year programs. Training is accomplished through the extensive use of hands-on activities and is centered around practical application of technical knowledge gained in lecture and laboratory sessions.

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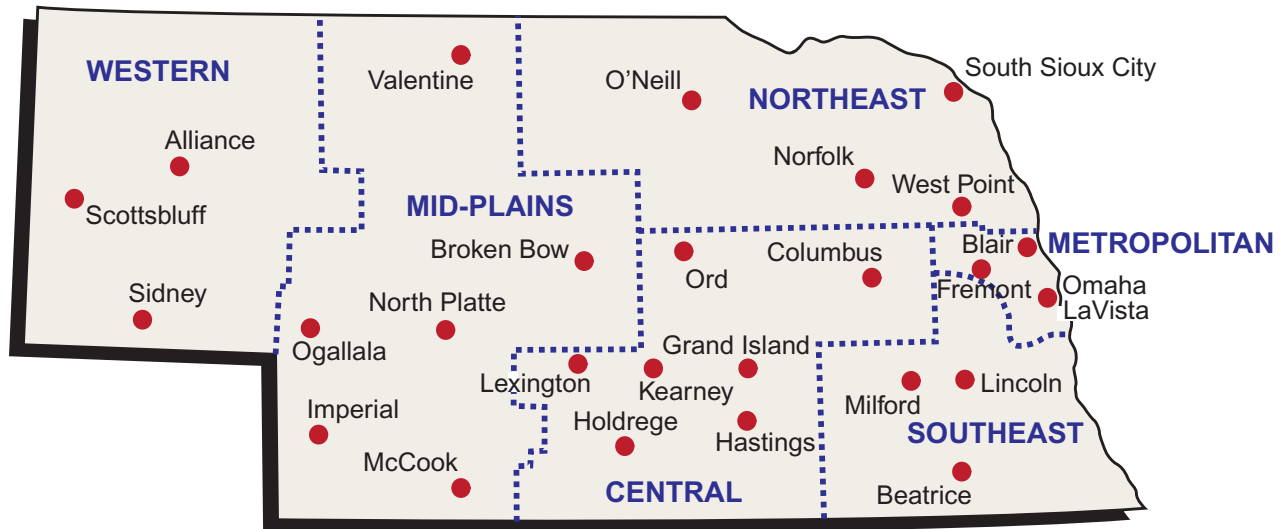
**Figure 5A**  
**Location of Nebraska Area Colleges and Universities**



Source: Nebraska Coordinating Commission for Postsecondary Education.

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**Figure 5B**  
**Community Colleges in Nebraska**



Source: Nebraska Community College System.

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## Performance-Based Tax Incentives

In 2005 the Nebraska Legislature enacted the Nebraska Advantage Tax Incentive Program and amended the program in 2008 and 2010. The Nebraska Advantage package replaced and improved on Nebraska's existing tax incentive programs and created a business climate that makes Nebraska the preferred location for business start-ups and expansions. The Nebraska Advantage rewards businesses that invest in the state and hire Nebraskans. In this progressive, pro-business climate, corporate income and sales taxes are reduced or virtually eliminated. Further information about the Nebraska Advantage is summarized in this study and is available at [opportunity.nebraska.gov/why-nebraska/incentives/](http://opportunity.nebraska.gov/why-nebraska/incentives/).

The legislative components of the Nebraska Advantage package include:

### Nebraska Advantage Act (LB 312)

- Expanded incentives for six “tiers” of investment and/or job creation
- Small business advantage
- Research and development advantage
- Microenterprise tax credit advantage
- Rural development advantage
- State and local sales tax exemptions of manufacturing machinery, equipment, and related services

Qualified businesses for Tier One include scientific testing, research and development, manufacturing, and targeted export services. Qualified businesses for Tiers Two, Three, Four, and Five include the above plus data processing, telecommunications, insurance, financial services, distribution, storage,



### Scoular Breaks Ground in Seward

Scoular, a company producing freeze-dried protein ingredients for the pet food industry, broke ground in Seward in August 2019. The 105,000 sq. ft. facility, with an investment of greater than \$50 million, will create close to 100 new jobs when operations begin in 2020. The 127-year-old, employee owned company, provides a variety of grain, feed ingredients, and food ingredients around the globe.

transportation, headquarters (administrative), and the production of electricity using renewable energy sources. All businesses other than retail qualify for Super Tier Six. Retail sales of tangible personal property to specified markets can also qualify under Tiers Two through Six.

### Nebraska Agricultural Innovation Advantage (LB 90)

- Agriculture opportunities and value-added partnership act
- Building entrepreneurial communities act
- Ethanol production incentive cash fund enhancement

Other components in the Nebraska Advantage package are:

Nebraska Customized Job Training Advantage - Provides a flexible job training program with grants from \$500 to \$4,000 per job. Additional funds may be available for new jobs created in rural or high poverty areas. Companies can design their own training or a statewide training team can assist with training assessments, training plans, curriculum development, and instruction.

Nebraska Research and Development Advantage - Offers a refundable tax credit for research and development activities undertaken by a business entity. The credit is equal to 15 percent of the federal credit allowed under Section 41 of the Internal Revenue Code of 1986. The credit is increased to 35 percent of the federal credit allowed under Section 41, if the business firm makes expenditures on the campus of a Nebraska college or university or a facility owned by a college or university in Nebraska. An important feature—businesses with little or no income may take advantage of the tax credit by receiving a sales tax refund or a refundable income tax credit.

Nebraska Microenterprise Tax Credit Advantage - Provides a 20 percent refundable investment tax credit to micro businesses on new investment in targeted communities. Applicants may qualify for a maximum \$10,000 throughout the life of the program. The credit is geared to companies



with five or fewer employees, including start-ups. Credits are approved through an application process with the Nebraska Department of Revenue and evaluated on expected local economic impacts. The credits are earned on new expenditures for wages, buildings, certain expenses, and non-vehicle depreciable personal property.

**Additional Tax Savings:**

- Sales Tax Exemption On:
  - Manufacturing equipment
  - Manufacturing or processing raw materials
  - Common carrier vehicles
  - Utilities used in manufacturing
- No Tangibles Tax
- No Inventory Tax
- Sales Tax Refund on Pollution Control Equipment
- 100% Tax Exemption on Certain Personal Property

In a tax policy incentive, Nebraska determines the taxable income attributable to Nebraska operations using a single factor, or “sales only,” formula. This method for determining corporate income tax allocation provides a significant advantage to multi-state unitary firms that sell products or services outside Nebraska. Nebraska also provides a capital gains exemption. State residents may elect, on a one-time basis, to subtract from their income tax liability the gain from the sale of capital stock of a corporation acquired during Nebraska-based employment with the corporation.

### **New Economic Development Initiatives**

Nebraska has recently adopted several new legislative initiatives and programs designed to build Nebraska’s innovation economy and foster new high-quality job opportunities. Additional information on all these initiatives can be viewed at [opportunity.nebraska.gov](http://opportunity.nebraska.gov).

Talent & Innovation Initiative (TI2) - The four-part TI2 was developed to enhance momentum in Nebraska’s fastest growing industries, maintain Nebraska’s world class workforce, and leverage private sector innovation.

Nebraska Internship Program (InternNE), LB 476, is a partnership with Nebraska businesses to create paid internship opportunities for full-time students who are in the eleventh or twelfth grade in a public or private high school, enrolled full time in a college, university, or other institution of higher education, or applies for an internship within six months following graduation from a college, university, or other institution of higher education. Grant awards are capped at ten per business, five per location. Internships must pay at least minimum wage and have a duration of at least 160 hours. Applications are accepted continuously and reviewed for consideration by-monthly. The program will reimburse a business 50 percent of their cost of wages paid, up to \$5,000 per internship.

Business Innovation Act, LB 387, is intended to help businesses develop new technologies and leverage innovation to enhance quality job opportunities in the state. It will provide competitive matching grants for research, development, and innovation and will also help expand small business and entrepreneurial outreach efforts. Eligible grant activities may include: prototype development, product commercialization, applied research in the state, and support for small business and microenterprise lending.

Site & Building Development Fund, LB 388, makes state resources available to increase industrial site and building availability and support site ready projects. State funding will be focused initially on land and infrastructure development and building rehabilitation, with 40 percent of funding available to non-metro areas. Communities will provide matching funds. This program also makes funding available to assist with demolition of dilapidated residential and industrial buildings and offers direct support to communities that lose a major employer.

Angel Investment Tax Credit, LB 389, encourages investment in high-tech startup enterprises in Nebraska by providing a 35–40 percent refundable state income tax credit to qualified Nebraska investors investing in qualified early-state companies. Capped at \$3,000,000 annually, the program requires a minimum investment of \$25,000

for individuals and \$50,000 for investment funds. Eligible small businesses must have fewer than 25 employees, with the majority based in the state.

### **Other Development Assistance Programs**

Building on traditional advantages, Nebraska offers additional development assistance programs. Among those programs are the following:

Tax Increment Financing (TIF) - An additional incentive program of note is Nebraska's Tax Increment Financing. TIF is a method of financing the public improvements associated with a private development project in a blighted area by using the projected increase in property tax revenue that will result from the private development.

Community Development Block Grants (CDBG) - Eligible businesses may be able to qualify for CDBG through local governments so they may make improvements to the public infrastructure serving the project site. Performance based loans of up to \$1,000,000 may be awarded to qualifying companies creating new investments and jobs. Fifty-one percent of the new jobs must be held by or made available to low- or moderate-income persons. Other federal requirements apply. The program is administered by the Nebraska Department of Economic Development. More details are available at [opportunity.nebraska.gov](http://opportunity.nebraska.gov).

Industrial Revenue Bonds - All Nebraska counties and municipalities, as well as the Nebraska Development Finance Fund, are authorized to issue industrial revenue bonds to finance land, buildings, and equipment for industrial projects. No general election is required for an issue.

Other Financing Assistance - Supplementing traditional sources, financing assistance is also available through the Nebraska Investment Finance Authority, the Business Development Corporation of Nebraska, and the local development corporations. The Nebraska Department of Economic Development also administers development finance services,

with staff helping assemble government financing with conventional financing to put together the best comprehensive package.

It is important to recognize the Nebraska Advantage package replaces and significantly enhances Nebraska's previous performance-based tax incentive programs. Those earlier incentives, the first of which was passed by the Nebraska Legislature in 1987, had a profound effect in stimulating business investment, expansion, and job creation. Nebraska's previous tax incentive programs contributed to substantial investment and job creation, including total investment of more than \$23.5 billion and 121,000 jobs.

The combination of many factors, including Nebraska's attractive business climate, tax incentives, labor productivity, and effective job training programs as well as other positive attributes, has resulted in Nebraska's manufacturing sector significantly outperforming both that of the surrounding states and the U.S. as a whole. Manufacturing employment in Nebraska grew by 17.1 percent between 1990 and 2000. As the U.S. economy experienced two major recessions between 2000 and 2010, manufacturing employment in Nebraska declined but outperformed the Plains Region and the nation (Figure 6, next page). These data suggest that companies with Nebraska manufacturing plants benefit from location and other competitive advantages associated with doing business in Nebraska.

### **Quality of Life**

For a potential newcomer to Nebraska, the state's livability is obviously also a consideration. Nebraska ranks high in quality of life studies. The state's landscape is clean and spacious, both in urban and rural areas. Residents blend Midwestern values with Western enthusiasm for growth and change. This helps create a high degree of citizen participation in both neighborhood and community-wide activities.

The cost of living in non-metropolitan Nebraska is consistently at or slightly below the national average. Data presented in Table 12 (next page) indicates on average, the cost of living

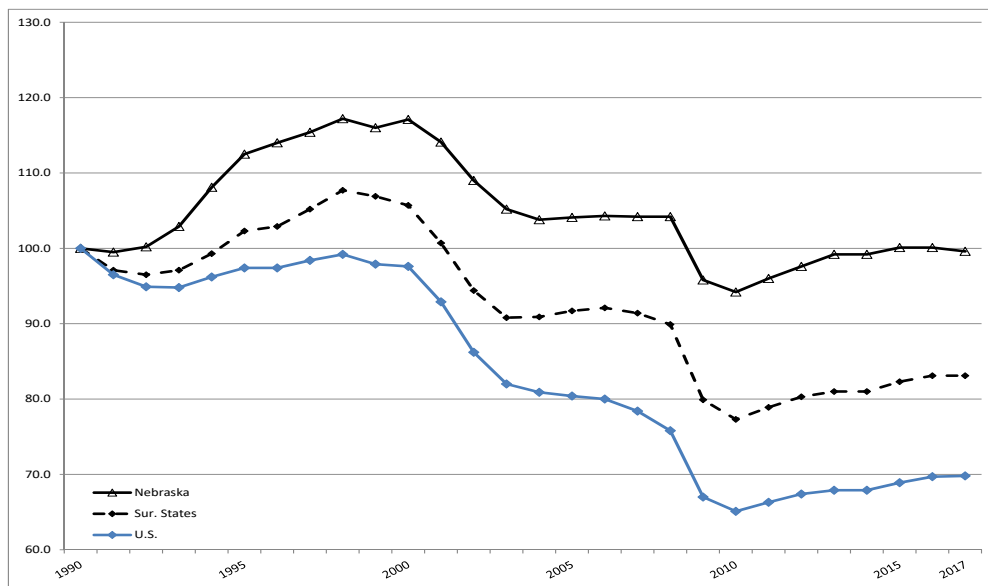
**Table 12**  
**Cost of Living in Nebraska, Compared to the National Average,**  
**As of January 1, 2020**

|                            | All<br>Items<br>Index <sup>(a)</sup> | Consum-<br>ables | Transpor-<br>tation <sup>(b)</sup> | Health<br>Services | Monthly<br>Rent <sup>(c)</sup> | Home<br>Value <sup>(c)</sup> | Utilities | Income/<br>Payroll<br>Taxes |
|----------------------------|--------------------------------------|------------------|------------------------------------|--------------------|--------------------------------|------------------------------|-----------|-----------------------------|
| U.S. Average               | 100.0                                | 100.0            | 100.0                              | 100.0              | 100.0                          | 100.0                        | 100.0     | 100.0                       |
| Nebraska                   | 94.7                                 | 94.9             | 96.9                               | 101.4              | 91.5                           | 81.6                         | 91.4      | 89.3                        |
| Omaha, NE                  | 96.1                                 | 98.4             | 96.9                               | 93.2               | 115.6                          | 81.9                         | 99.3      | 89.3                        |
| Lincoln, NE                | 100.3                                | 97.3             | 96.9                               | 104.7              | 103.8                          | 94.4                         | 89.7      | 89.3                        |
| Nonmetro NE <sup>(d)</sup> | 91.8                                 | 93.5             | 96.9                               | 102.7              | 81.4                           | 76.2                         | 89.7      | 89.3                        |

Source: Index values computed from cost-of-living data obtained from Economic Research Institute (ERI),  
Relocation Assessor Database as of January 1, 2020

- (a) Cost of living values computed for a family of four renting a home with an annual income of \$50,000.  
(b) Transportation costs assumes ownership of two cars valued at \$14,312, which are driven a total of 20,000 miles annually.  
(c) Assumes a house of 1,613 square feet for both rental assumption and home value.  
(d) Nonmetro Nebraska data represent the average of 14 Nebraska cities outside of the Omaha and Lincoln metropolitan areas. These cities include Beatrice, Columbus, Dakota City, Fremont, Grand Island, Hastings, Kearney, McCook, Norfolk, North Platte, O'Neill, Scottsbluff, South Sioux City, and Valentine, Nebraska.

**Figure 6**  
**Manufacturing Employment, Nebraska, Surrounding States,**  
**and the U.S., 1990–2017, 1990=100**



Surrounding States include data for the states contiguous to Nebraska, as a group, including Colorado, Iowa, Kansas, Missouri, South Dakota, and Wyoming.

Source: Bureau of Labor Statistics, [bls.gov](https://www.bls.gov).

in Nebraska is 6.7 percent below the U.S. average. Of particular interest is the cost of housing, which in Nebraska averages 14.7 percent less than for the U.S. as a whole

for families owning a home and the cost of utilities, which is 7.3 percent less than the U.S. average.

## CONCLUSIONS

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This study concludes the food manufacturing industry is desirable for Nebraska and a Nebraska location is desirable for the industry. The locational advantages Nebraska offers appear well-suited to food products manufacturers. They cover a wide spectrum, ranging from an attractive business climate to a high quality of life at a relatively low cost, to the substantial raw materials and intermediate inputs Nebraska provides for food products manufacturers. But, as the study's model plant analysis demonstrates, in Appendix A (Page A-1), the competitive advantages Nebraska offers in important cost areas which vary geographically, such as labor and energy costs, are particularly noteworthy. The

state's well-educated and productive labor force is a long-standing asset, as are its very favorable electric and natural gas rates.

Essentially, the analysis presented in this study was based on state-to-state comparisons applicable to the food manufacturing industry generally. Individual manufacturers will therefore need to further consider the locational requirements of their manufacturing as well as the merits of specific sites within states. Certainly in terms of a general location situation for food products manufacturers, Nebraska has much to offer.

The three organizations cooperating in the preparation of this study can also assist food manufacturers in assessing advantages in

Nebraska for a specific new location or expansion project. To obtain this assistance, write or call:

Economic Development Department  
**NEBRASKA PUBLIC POWER DISTRICT**  
PO Box 499  
Columbus, Nebraska 68602-0499  
(402) 563-5534  
(877) 275-6773  
Email: [mmplett@nppd.com](mailto:mmplett@nppd.com)  
[sites.nppd.com](http://sites.nppd.com)

**NEBRASKA**  
*Advantage*

Food Processing Center  
**UNIVERSITY OF NEBRASKA-LINCOLN**  
Institute of Agriculture and Natural Resources  
143 Food Industry Complex  
Lincoln, Nebraska 68583-0930  
(402) 472-2832  
Email: [fpc@unl.edu](mailto:fpc@unl.edu)  
[fpc.unl.edu](http://fpc.unl.edu)



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**THE FOOD PROCESSING CENTER**

*University of Nebraska-Lincoln*



## APPENDIX A

### LABOR AND ENERGY COST ANALYSIS

As shown in the previous sections, Nebraska offers a wide range of locational advantages for manufacturers of food and related products. In this appendix, labor and energy production cost factors that have geographic variability are analyzed. Such analysis permits the identification of the plant site providing the greatest advantage relative to these important input factors.

In the analysis of geographically variable labor and energy costs, the following procedures are used:

- 1) Selection of alternative plant locations for evaluation of the geographically variable labor and energy costs.
- 2) Definition of a model manufacturing plant for identifying labor and energy inputs and costs.
- 3) Evaluation of labor-related costs associated with each alternative plant location.
- 4) Evaluation of energy costs for each alternative plant location.

#### Alternative Plant Locations

Sixteen alternative plant locations were selected for comparison in this analysis. The plant locations essentially included two groups of states: (1) states that currently have the largest concentration of manufacturers of food products and (2) neighboring states that typically compete with Nebraska for industrial location projects. The first group of states includes California, Florida, Illinois, Indiana, Michigan, Minnesota, New Jersey, New York, Ohio, Pennsylvania, Texas, and Wisconsin. The second group of states includes Iowa, Kansas, Missouri, and Nebraska. Combined, these two groups of states account for 64.6 percent of the value added by manufacture in the food manufacturing industry (see Table A-1).

#### The Model Plant

To facilitate the analysis of the comparative labor and energy costs for the alternative states, it is useful to define a model plant for which the geographically variable costs can be quantified. The model plant is assumed to

**Table A-1**  
**Alternative Locations for a Model Plant**  
**for the Food Manufacturing**  
**Industry (NAICS 311)**

| State                         | Percent of<br>Value Added by<br>Manufacture <sup>(a)</sup> |
|-------------------------------|--|
| <b>Nebraska</b>               | <b>3.7</b>   |
| California                    | 9.9  |
| Florida                       | 2.0  |
| Illinois                      | 5.8  |
| Indiana                       | 2.9  |
| Iowa                          | 4.8  |
| Kansas                        | 2.9  |
| Michigan                      | 2.1  |
| Minnesota                     | 3.5  |
| Missouri                      | 2.9  |
| New Jersey                    | 1.7  |
| New York                      | 2.5  |
| Ohio                          | 4.2  |
| Pennsylvania                  | 4.4  |
| Texas                         | 5.6  |
| Wisconsin                     | 5.6  |
| <b>Total Selected States*</b> | <b>64.6</b>  |

Source: U.S. Bureau of the Census, *Annual Survey of Manufactures, 2016*.

<sup>(a)</sup> Percent of the 2016 U.S. total value added by manufacture for establishments in NAICS 311.

\* Values may not sum due to rounding.

manufacture a product representative of the "Food Manufacturing Industry" (NAICS 311) as a whole. To specify the relevant labor and energy costs, information was obtained from the *Annual Survey of Manufactures, 2016*, and the U.S. Energy Administration *2014 Manufacturing Energy Consumption Survey*.

Table A-2 (following page) presents industry characteristics used in developing the model plant, which is assumed to employ 50 production workers. Estimated production worker hours total 104,000 annually or 2,080 hours per worker. Value added by manufacture is estimated to be \$13,096,250 and the total annual output (value of shipments) is estimated to be \$34,204,400. Energy inputs are estimated at 21,724.3 million BTUs, with all energy inputs supplied by electricity and natural gas.

**Table A-2****Characteristics of a Model Plant for  
the Food Manufacturing Industry (NAICS 311)**

|   | <b>Total<br/>Model Plant</b> | <b>Per Production<br/>Worker</b> |
|---|------------------------------|----------------------------------|
| Production Workers                          | 50                           | ---                              |
| Value Added [dollars] <sup>(a)</sup>        | 13,096,250                   | 261,925                          |
| Total Output [dollars] <sup>(b)</sup>       | 34,204,400                   | 684,088                          |
| Energy Inputs [million BTUs] <sup>(c)</sup> | 21,724                       | 434                              |

Source: Calculated from data presented in Table A-3 and from U.S. Bureau of the Census, *Annual Survey of Manufactures, 2016*.

<sup>(a)</sup> Estimated value added applies the 2016 value added per production worker for the "Food Manufacturing" Industry (NAICS 311) to the model plant (see Table 4).

<sup>(b)</sup> Estimated value of shipments derived by applying the 2016 value of shipments per production worker to the model plant (see Table 4).

<sup>(c)</sup> Estimated by applying the 2016 ratio of energy inputs per production worker to the model plant (see Table A-3).

**Energy Used in the Model Plant**

The assumption that the model plant is representative of the industry as a whole leads to the assumption that energy used in the plant also should be characteristic of industry use patterns. Part A of Table A-3 presents data estimating energy use for the industry in 2016. The estimated energy use for the model plant was derived using the ratio of energy inputs to industry value added. It was further assumed all energy inputs for the

model plant are derived from electricity and natural gas.

Part B of Table A-3 indicates the model plant, employing 50 production workers, will have annual energy inputs of 21,724.3 million BTUs. Electric energy inputs are estimated to be 11,274.9 million BTUs (3,304,481 kWhs), or 51.9 percent of the total energy inputs, while natural gas inputs are estimated at 10,449.4 million BTUs, 48.1 percent of the total energy requirements.

**Table A-3****Energy Use in Food Manufacturing Establishments**

**Part A**  
**Estimated 2016 Industry Energy Inputs**

|                                     | <b>Trillion BTUs</b> | <b>Percent</b> |
|-------------------------------------|----------------------|----------------|
| Purchased Fuels and Electric Energy | 485.7                | 100.0          |
| Purchased Electric Energy           | 252.1                | 51.9           |
| Purchased Fuels                     | 233.6                | 48.1           |

Source: Energy use estimated from data from the U.S. Bureau of the Census, *Annual Survey of Manufactures, 2016* and U.S. Energy Information Administration, *2014 Manufacturing Energy Consumption Survey*.

**Part B**  
**Energy Inputs for the Food Manufacturing Model Plant**

|                       | <b>Million BTUs</b>          | <b>Percent</b> |
|-----------------------|------------------------------|----------------|
| Purchased Electricity | 11,274.9<br>(3,304,481 kWhs) | 51.9           |
| Natural Gas           | 10,449.4                     | 48.1           |
| Total Energy Inputs   | 21,724.3                     | 100.0          |

Source: Calculated from data in Table A-2 and Part A of this table.

## Labor-Related Costs

Labor costs in the food manufacturing industry are affected by several factors: wage rates, productivity of workers, fringe benefits, and unemployment insurance and workers' compensation costs. Estimated labor-related costs for a model, food processing plant operating in Nebraska and in each of the 15 alternative state locations are presented in Table A-4 and Figure A-1 (next pages).

Table A-4 also includes data on wage rates for the states identified as alternative plant locations.

An analysis of state wage levels indicates Nebraska's food manufacturing production workers have hourly earnings, which are significantly less than all but six of the alternative plant sites. For example, 2016 average hourly earnings for Nebraska food processing workers (\$19.84) are 3.2 percent less than the average hourly wage rates for the other 15 states included as alternative plant locations.

The Nebraska costs for unemployment insurance and workers' compensation are significantly less



The  
Food  
Processing  
Center

### eCreamery, Personalized Ice Cream Gifts

Becky App and Abby Jordan wanted to provide gift-givers a new personalized gift; something the receiver would like and that would connect the gift to the receiver in a way only the giver could communicate.

The model for **eCreamery.com** materialized in 2006 when their investor, Mark Hasebroock, purchased an existing, though somewhat dysfunctional, website that allowed users to create custom ice creams. Immediately, Abby and Becky had the idea to move away from customized self-purchase and create a space that invited personalized gifting.

To learn more about the intricacies of starting a food business Abby and Becky attended the Food Processing Center's seminar "From Recipe to Reality." This nationally recognized workshop is specifically designed for food entrepreneurs and provides an overview of the marketing, business, and technical aspects that need to be taken into consideration.

The education they received from this course included information on federal and state regulations, packaging requirements, distribution channels, and valuable contacts with industry experts. The pair subsequently worked on recipe development, distribution (shipping), and revamping the website. The duo launched **eCreamery.com** in mid-2007.

In 2011, Abby and Becky were approached by The Food Processing Center to take part in a new initiative pioneered by Gallup, Inc. Since that time, Gallup has been adapting their globally validated behavioral economic sciences/systems specifically to help entrepreneurs increase sales, profits, and ultimately, to sustainably grow their businesses. The end product—the Entrepreneur Acceleration System (EAS)—uses one-on-one mentoring to facilitate an entrepreneur's growth strategy.

Since Recipe to Reality and the knowledge that The Food Processing Center has been able to give to **eCreamery.com**, they have seen tremendous sales and growth. As people continue to learn ice cream gifts exist and the public's comfort level with shipping frozen foods increases, **eCreamery.com** is confident in the continued growth of their company. Currently, as they look towards expansion they have begun researching ways to lower shipping costs to their customers. Production and distribution capabilities on either coast are their latest move in order to better serve the needs of their target audience.

**Table A-4**

Total Annual Labor-Related Costs for a Model Plant  
for the Food Manufacturing Industry (NAICS 311)

| Plant Location | Hourly Wage Rate (\$) | Number of Production Workers | Total Payroll (\$) | Workers' Compensation (\$) | Unemployment Insurance (\$) | Social Security <sup>(a)</sup> (\$) | Fringe Benefits <sup>(b)</sup> (\$) | Total Labor Costs (\$) | Cost Difference Other States (-) Nebraska (\$) | Cost Relative Other States (/) Nebraska (/) |
|----------------|-----------------------|------------------------------|--------------------|----------------------------|-----------------------------|-------------------------------------|-------------------------------------|------------------------|--|---|
| Nebraska       | 19.84                 | 50                           | 2,063,400          | 34,459                     | 4,539                       | 157,850                             | 619,020                             | 2,879,268              | 0  | 100.0                                       |
| California     | 19.37                 | 50                           | 2,014,500          | 65,270                     | 12,893                      | 154,109                             | 604,350                             | 2,851,122              | -28,146  | 99.0  |
| Florida        | 20.47                 | 50                           | 2,128,900          | 35,340                     | 4,684                       | 162,861                             | 638,670                             | 2,970,455              | 91,187   | 103.2                                       |
| Illinois       | 20.48                 | 50                           | 2,129,900          | 47,497                     | 14,696                      | 162,937                             | 638,970                             | 2,994,000              | 114,732  | 104.0                                       |
| Indiana        | 21.13                 | 50                           | 2,197,500          | 23,074                     | 10,768                      | 168,109                             | 659,250                             | 3,058,701              | 179,433  | 106.2                                       |
| Iowa           | 21.50                 | 50                           | 2,236,000          | 41,590                     | 19,230                      | 171,054                             | 670,800                             | 3,138,674              | 259,406  | 109.0                                       |
| Kansas         | 17.96                 | 50                           | 1,867,800          | 26,336                     | 8,405                       | 142,887                             | 560,340                             | 2,605,768              | -273,500                                       | 90.5  |
| Michigan       | 20.47                 | 50                           | 2,128,900          | 33,424                     | 14,902                      | 162,861                             | 638,670                             | 2,978,757              | 99,489   | 103.5                                       |
| Minnesota      | 19.30                 | 50                           | 2,007,200          | 38,338                     | 12,445                      | 153,551                             | 602,160                             | 2,813,694              | -65,574  | 97.7  |
| Missouri       | 18.27                 | 50                           | 1,900,100          | 36,482                     | 7,790                       | 145,358                             | 570,030                             | 2,659,760              | -219,508                                       | 92.4  |
| New Jersey     | 19.10                 | 50                           | 1,986,400          | 58,003                     | 16,686                      | 151,960                             | 595,920                             | 2,808,969              | -70,299  | 97.6  |
| New York       | 20.06                 | 50                           | 2,086,200          | 59,039                     | 11,265                      | 159,594                             | 625,860                             | 2,941,958              | 62,690   | 102.2                                       |
| Ohio           | 20.40                 | 50                           | 2,121,600          | 30,763                     | 13,154                      | 162,302                             | 636,480                             | 2,964,299              | 85,031   | 103.0                                       |
| Pennsylvania   | 20.24                 | 50                           | 2,105,000          | 38,732                     | 24,629                      | 161,033                             | 631,500                             | 2,960,894              | 81,626   | 102.8                                       |
| Texas          | 17.22                 | 50                           | 1,790,900          | 25,968                     | 9,134                       | 137,004                             | 537,270                             | 2,500,276              | -378,992                                       | 86.8  |
| Wisconsin      | 20.46                 | 50                           | 2,127,800          | 43,833                     | 14,043                      | 162,777                             | 638,340                             | 2,986,793              | 107,525  | 103.7                                       |

Sources: Oregon Department of Consumer & Business Services, *Oregon Workers' Compensation Premium Rate Rankings Calendar Year 2016, October 2016*.

U.S. Department of Labor, Bureau of Labor Statistics, August 2016.

U.S. Bureau of the Census, *Annual Survey of Manufactures, 2016*.

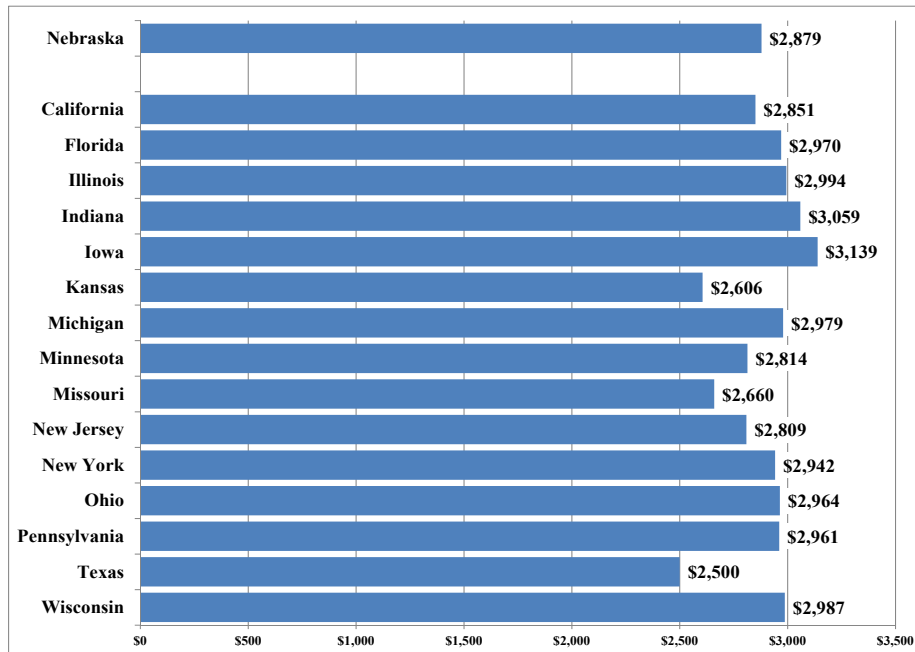
U.S. Department of Labor, Employment and Training Administration, *Unemployment Insurance Data, 2018*.

<sup>(a)</sup> Employer Social Security costs are 7.65 percent of payroll (wages).

<sup>(b)</sup> Fringe benefit costs are assumed to be 30 percent of payroll.

## Figure A-1

### Estimated Total Labor Costs\* for a Model Plant for the Food Manufacturing Industry, Alternative Plant Locations



\*Calculated labor costs include wages, workers' compensation insurance, unemployment insurance, social security, and fringe benefits.

Source: See Table A-4.

than the other states. In the case of unemployment insurance contributions, the average cost per employee for the 15 alternative states is estimated at \$259.73, 185.4 percent higher than the Nebraska cost of \$90.78. Insurance rates for workers' compensation average \$1.96 per \$100 of payroll for the 15 alternative states, 16.9 percent more than Nebraska's rate of \$1.74.

If located in Nebraska, the model plant has a significant labor cost advantage over the alternative locations. The Nebraska labor cost advantage reaches as high as \$259,406 in annual savings when compared to Iowa. When compared to the average labor costs for the 15 alternative locations, Nebraska's annual labor cost advantage is \$3,007 or 0.1 percent lower.

## Energy Costs

The availability and cost of energy are increasingly important factors in the industrial location process. Rates for industrial electricity and natural gas for the alternative plant locations are presented in Table A-5 (next page). For both energy sources, Nebraska's rates are substantially less than all but one of the alternative locations. The average electric rate for a 1,000 kW billing demand with monthly usage of 400,000 kWhs for the 15 alternative plant sites is \$0.0919 per kWh or 20.7 percent more than the Nebraska rate of \$0.0761.



In the case of industrial rates for natural gas, the average for the 15 other states is 31.4 percent more than the Nebraska rate of \$4.04 per million BTUs.

Table A-5 and Figure A-2 (following page) provide an analysis of the energy costs for the operation of the model plant. The total energy costs for the alternative locations include the cost for the assumed level of electrical energy and natural gas inputs for the operation of the plant.

Nebraska provides a significant energy cost savings compared to the average of the alternative plant locations. When considering the California and New Jersey locations, energy costs are more than 50 percent greater than the Nebraska energy costs. In the case of the California plant location, energy costs exceed the Nebraska costs by 98.7 percent. When compared to the average total energy costs for the 15 alternative states, Nebraska energy costs are 18.2 percent lower, translating into an average annual savings of \$65,372.

**Table A-5**  
**Annual Energy Costs for a Model Plant for the Food Manufacturing Industry (NAICS 311)**

| Plant Locations | Electricity         |                | Natural Gas         |               | Total Energy Cost | Cost Difference           | Cost Relative             |
|-----------------|---------------------|----------------|---------------------|---------------|-------------------|---------------------------|---------------------------|
|                 | Rate <sup>(a)</sup> | Cost           | Rate <sup>(b)</sup> | Cost          |                   | Other States (-) Nebraska | Other States (/) Nebraska |
|                 | (\$)                | (\$)           | (\$)                | (\$)          | (\$)              | (\$)                      | (/)                       |
| <b>Nebraska</b> | <b>0.0761</b>       | <b>251,471</b> | <b>4.04</b>         | <b>42,216</b> | <b>293,687</b>    | <b>0</b>                  | <b>100.0</b>              |
| California      | 0.1551              | 512,525        | 6.79                | 70,951        | 583,476           | 289,789                   | 198.7                     |
| Florida         | 0.0904              | 298,725        | 5.77                | 60,293        | 359,018           | 65,331                    | 122.2                     |
| Illinois        | 0.0753              | 248,827        | 5.03                | 52,560        | 301,387           | 7,700                     | 102.6                     |
| Indiana         | 0.0894              | 295,421        | 4.99                | 52,143        | 347,564           | 53,877                    | 118.3                     |
| Iowa            | 0.0713              | 235,609        | 4.70                | 49,112        | 284,721           | -8,966                    | 96.9                      |
| Kansas          | 0.0876              | 289,473        | 3.69                | 38,558        | 328,031           | 34,344                    | 111.7                     |
| Michigan        | 0.0959              | 316,900        | 5.75                | 60,084        | 376,984           | 83,297                    | 128.4                     |
| Minnesota       | 0.0870              | 287,490        | 4.19                | 43,783        | 331,273           | 37,586                    | 112.8                     |
| Missouri        | 0.0912              | 301,369        | 6.29                | 65,727        | 367,096           | 73,409                    | 125.0                     |
| New Jersey      | 0.1249              | 412,730        | 6.59                | 68,862        | 481,592           | 187,905                   | 164.0                     |
| New York        | 0.0975              | 322,187        | 5.92                | 61,860        | 384,047           | 90,360                    | 130.8                     |
| Ohio            | 0.0790              | 261,054        | 4.81                | 50,262        | 311,316           | 17,629                    | 106.0                     |
| Pennsylvania    | 0.0700              | 231,314        | 7.40                | 77,326        | 308,640           | 14,953                    | 105.1                     |
| Texas           | 0.0718              | 237,262        | 2.65                | 27,691        | 264,953           | -28,734                   | 90.2                      |
| Wisconsin       | 0.0917              | 303,021        | 5.05                | 52,769        | 355,790           | 62,103                    | 121.1                     |

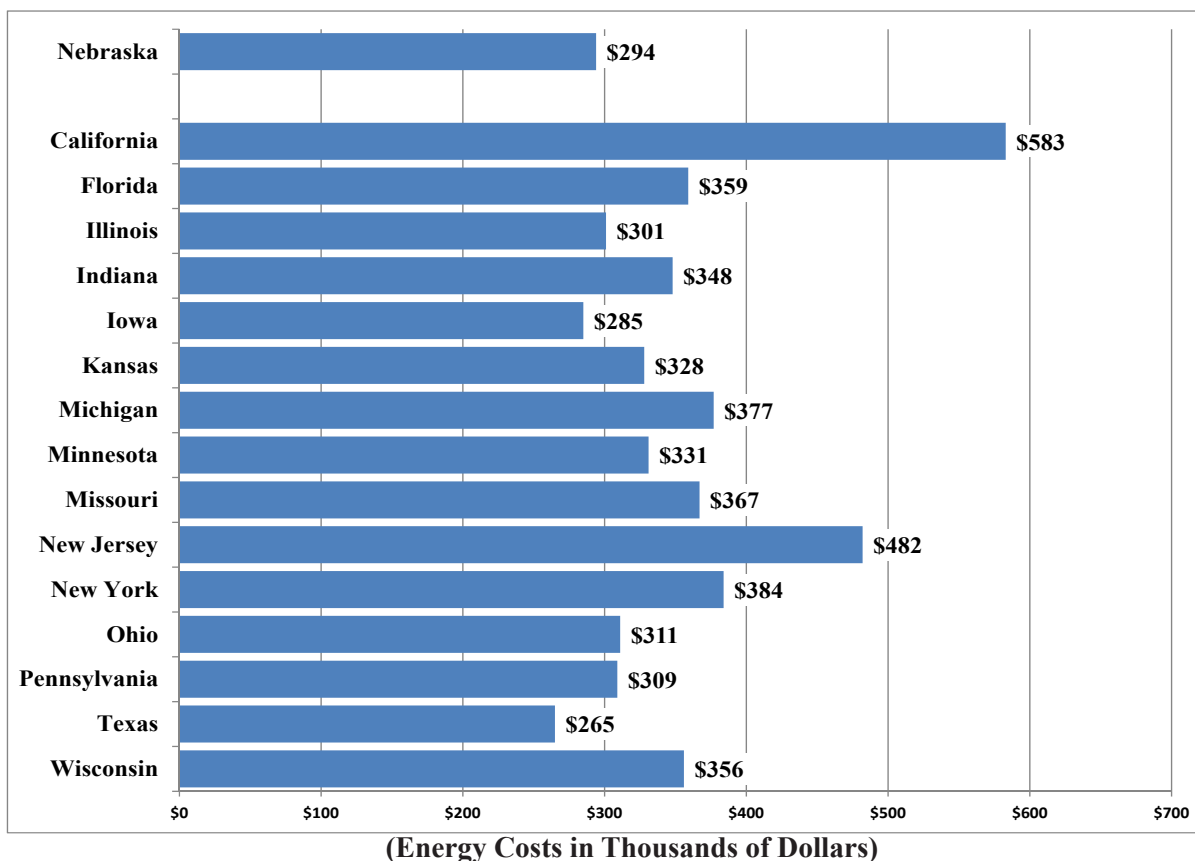
Sources:

(a) Electric rate is cost per kWh using the average per kWh cost for 1,000 kW monthly demand with 400,000 kWh of consumption. The model plant is assumed to use 3,304,481 kWh annually.

(b) U.S. Energy Information Administration, Natural Gas Data, available at [http://www.eia.gov/dnav/ng/ng\\_pri\\_sum\\_a\\_epg0\\_prs\\_dmcf\\_m.htm](http://www.eia.gov/dnav/ng/ng_pri_sum_a_epg0_prs_dmcf_m.htm). Accessed January 2019. Natural Gas rate is per million BTUs. The model plant is assumed to use 10,449.9 million BTUs annually.

## Figure A-2

Estimated Total Energy Costs\* for a Model Plant for the  
Food Manufacturing Industry, Alternative Plant Locations



\*Calculated energy costs include electricity and natural gas costs.

Source: See Table A-5.

## Labor and Energy Cost Summary

Combining the labor and energy cost findings, the results of the model plant analysis are summarized in Table A-6. As the table shows, the comparative annual cost advantage associated with the Nebraska location reaches a high of \$261,643 when compared to the California site. When considering the average labor and energy costs for the 15 alternative states, the cost advantage of the Nebraska location is \$68,379 annually, or 2.1 percent less than the average costs for the other 15 plant sites considered.

Conversely, the average labor and energy costs for the alternative states are 2.2 percent more than the costs associated with a Nebraska location. Inescapable from these results is the conclusion that, in terms of major labor and energy input costs, manufacturers of food products with Nebraska facilities have a clear competitive advantage over manufacturing establishments in the industry not so fortunately located.

**Table A-6**  
Summary of Labor and Energy Costs for a Model Plant for  
the Food Manufacturing Industry (NAICS 311)

| Plant<br>Locations | Total<br>Labor Cost<br>(\$) | Total<br>Energy Cost<br>(\$) | Total<br>Labor and<br>Energy Cost<br>(\$) | Cost<br>Difference<br>Other<br>States (-)<br>Nebraska<br>(\$) | Cost<br>Relative<br>Other<br>States (/)<br>Nebraska<br>(%) |
|--------------------|-----------------------------|------------------------------|---|---|--|
| <b>Nebraska</b>    | <b>2,879,268</b>            | <b>293,687</b>               | <b>3,172,955</b>                          | <b>0</b>  | <b>100.0</b>   |
| California         | 2,851,122                   | 583,476                      | 3,434,598                                 | 261,643   | 108.2  |
| Florida            | 2,970,455                   | 359,018                      | 3,329,473                                 | 156,518   | 104.9  |
| Illinois           | 2,994,000                   | 301,387                      | 3,295,387                                 | 122,432   | 103.9  |
| Indiana            | 3,058,701                   | 347,564                      | 3,406,265                                 | 233,310   | 107.4  |
| Iowa               | 3,138,674                   | 284,721                      | 3,423,395                                 | 250,440   | 107.9  |
| Kansas             | 2,605,768                   | 328,031                      | 2,933,799                                 | -239,156  | 92.5   |
| Michigan           | 2,978,757                   | 376,984                      | 3,355,741                                 | 182,786   | 105.8  |
| Minnesota          | 2,813,694                   | 331,273                      | 3,144,967                                 | -27,988   | 99.1   |
| Missouri           | 2,659,760                   | 367,096                      | 3,026,856                                 | -146,099  | 95.4   |
| New Jersey         | 2,808,969                   | 481,592                      | 3,290,561                                 | 117,606   | 103.7  |
| New York           | 2,941,958                   | 384,047                      | 3,326,005                                 | 153,050   | 104.8  |
| Ohio               | 2,964,299                   | 311,316                      | 3,275,615                                 | 102,660   | 103.2  |
| Pennsylvania       | 2,960,894                   | 308,640                      | 3,269,534                                 | 96,579  | 103.0  |
| Texas              | 2,500,276                   | 264,953                      | 2,765,229                                 | -407,726  | 87.1   |
| Wisconsin          | 2,986,793                   | 355,790                      | 3,342,583                                 | 169,628   | 105.3  |

Source: Calculated from data presented in Tables A-4 and A-5.

# Nebraska

## PROFIT OPPORTUNITIES FOR FOOD MANUFACTURING



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