OSU Extension Area 3 is a five-county area in the north-central part of the state, including Ottawa, Erie, Sandusky, Seneca, and Huron counties. In 2020, the combined Area 3 footprint is 1,962 square miles (mi²) supporting a population of 288,183 residents and an overall population density of 146 residents per square mile. Population density is a ratio of total population to total land area, simply described as a count of residents per square mile. As illustrated in Image 1, Erie County has the highest population density of 291, followed by Ottawa County with a population density of 158, while Sandusky, Huron, and Seneca counties ranged between 143 to 100 residents per square mile.

Overall, the combined population in Area 3 has remained consistent decreasing slightly by 4% from 300,107 in 2001 to a total population of 288,183 in 2020. However, there were some notable shifts in the population trends of individual counties between 2001 and 2020. All counties in Area 3 experienced modest decreases in growth as the overall population decreased by 4% from 2001 to 2020. During this period, Seneca County underwent the largest population decrease of -5.8% to a total of 54,990 in 2020, followed by Erie County and Sandusky County with a population decrease of -4.9% (75,429) and -4.8% (58,832), respectively. Between 2001 and 2020 there were minor shifts in population as Ottawa County had 40,493 residents and Huron County had 58,439 in 2020.
Regional Industry Sector Overview

IMPLAN defines the total annual production value of each Industry or Commodity as Output. Total output represents the total production value of an industry including intermediate inputs, employee compensation, proprietor income, taxes on production and imports, and other property income.

Table 1 below ranks the top 10 industries in Area 3 by total output in 2020. Owner-occupied dwellings was the highest ranked industry with a total output of $1.13 billion. The owner-occupied dwellings sector represents the wealth generated from home ownership. Owning and maintaining a home is also a major area of spending and the owner-occupied dwellings sector captures that economic effect. However, there is no labor or employment income generated in the owner-occupied dwellings sector, as the employment positions such as property managers and real estate agents is captured in the other real estate sector.

The industry with the second highest output in Area 3 was monetary authorities and depository credit intermediation with a total output of $708.8 million. However, when comparing 2020 to 2019, the data shows this industry experienced a 5% increase in total output and a 1% increase in total employment from 1,465 in 2019 to 1,478 jobs in 2020.

The industry with the third highest total output in Area 3 was hospitals with a total output of $671.2 million, supporting 4,168 jobs, and an average employee compensation of $63,027 per year.

Of the top 10 industries by total output, the sector with the most employees in the region was employment and payroll of local government and education with 6,654 employees. The average annual income for these workers was $74,249 per year.

Table 1: Area 3 Top 10 Industries by Total Output

<table>
<thead>
<tr>
<th>Industry Description</th>
<th>Output</th>
<th>Total Employment</th>
<th>Average Employee Compensation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Owner-occupied dwellings</td>
<td>$1,137,956,078</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Monetary authorities and depository credit intermediation</td>
<td>$708,817,881</td>
<td>1,478</td>
<td>$67,604</td>
</tr>
<tr>
<td>Hospitals</td>
<td>$671,294,072</td>
<td>4,168</td>
<td>$63,027</td>
</tr>
<tr>
<td>Other real estate</td>
<td>$666,164,107</td>
<td>4,538</td>
<td>38,510</td>
</tr>
<tr>
<td>Household refrigerator and home freezer manufacturing</td>
<td>$662,946,012</td>
<td>1,108</td>
<td>$69,896</td>
</tr>
<tr>
<td>Household laundry equipment manufacturing</td>
<td>$611,400,409</td>
<td>1,044</td>
<td>$69,896</td>
</tr>
<tr>
<td>Soybean and other oilseed processing</td>
<td>$603,286,460</td>
<td>146</td>
<td>$107,249</td>
</tr>
<tr>
<td>Electric power generation- Nuclear</td>
<td>$576,076,580</td>
<td>616</td>
<td>$178,896</td>
</tr>
<tr>
<td>Employment and payroll of local govt, education</td>
<td>$567,301,858</td>
<td>6,654</td>
<td>$74,249</td>
</tr>
<tr>
<td>Other plastics products manufacturing</td>
<td>$532,592,732</td>
<td>1,888</td>
<td>$61,081</td>
</tr>
</tbody>
</table>
Area 3 Annual Employment Trends

The Total Employment figure reported by IMPLAN represents a full and part-time annual average including the self-employed, all federal, state, and local government employment and military employment (including overseas military).

Chart 1 provides a visual reference of the Area 3 annual employment trends between 2001 and 2020. As shown in the chart, Area 3 experienced even growth between 2002 and 2007 when the U.S. housing market collapsed, stressing global financial markets, and ultimately triggering the U.S. economy into a period of recession. Since 2010 annual employment in Area 3 decreased by -9.4% reaching a peak employment of 161,702 jobs in 2017. However, between 2019 and 2020 Area 3 experienced the greatest year to year job loss, losing 8,759 jobs, leaving an annual employment of 152,483 in 2020.

When considering the long-term employment trends by county, Huron County saw the greatest loss in total employment of -17.03%, decreasing from 34,505 in 2001 to 28,629 in 2020.

“Year-to-year, Area 3 total employment is down 8,759 Jobs in 2020”

Similarly, Seneca County total employment decreased by -12.47%, from 29,719 jobs in 2001 to 26,013 in 2020. During the same period (2001–2020) three of the counties in Area 3 experienced a decline in total employment including Erie County (-8.79%), Ottawa County (-4.78%), and Sandusky County (-2.71%).

Chart 1: Area 3 Annual Employment
A location quotient (LQ) is a metric that compares the relative concentration of a local region's workers in a specific industry sector to the concentration of workers nationally in the same sector. An LQ equal to 1 signifies that the local share is equal to the national share, while an LQ greater than 1 means the local share is greater than the national share and is typically an exporter or perhaps has a specialization in that sector. Where there is an occupational concentration, there also tends to be higher core competencies relative to other areas, creating a competitive advantage. In addition, training and education opportunities associated with the occupation are often readily available to meet hiring demands.

Illustrated above, Chart 2 lists the top 15 occupations with the highest LQ in Area 3 demonstrating a significant concentration of workers relative to the nation. In 2020, the top occupation by LQ in Area 3 was rail transportation workers, with an LQ of 6.52. This suggests the region has more than six times the number of rail transportation workers compared to the national average. The second highest occupation by LQ in Area 3 was assemblers and fabricators at 3.41 followed by metal and plastic workers with an LQ of 3.29, and supervisors of production workers at 2.30.
Image 2: Average Employee Compensation by County

2020 Data and Dollar Year

Image 2 illustrates the average employee compensation by county for 2020. Employee Compensation is the total payroll cost of an employee including wages and salaries, all benefits, and payroll taxes. The average employee compensation is calculated as Employee Compensation divided by wage and salary employment.

Of the counties in Area 3, Huron County had the highest average employee compensation of $60,402. The next highest average employee compensation in Area 3 was Ottawa County ($60,208), followed by Sandusky County ($59,005), Erie County ($55,126), and Seneca County ($52,994).
THE Ohio State University
EXTENSION

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OSU Extension Community Development Mission:
We help communities enhance their well-being and create social, economic and environmental conditions in which they can thrive.

IMPLAN® model, 2020 Data, using inputs provided by the user and IMPLAN Group LLC. IMPLAN System (data and software). 16905 Northcross Drive, Suite 120, Huntersville, NC, 28078. www.implan.com