The Ohio Leading Indicators report uses an annualized growth rate to forecast employment growth for Ohio and its eight largest MSAs for the next six months. The model examines seasonally adjusted total nonfarm employment. These data are seasonally adjusted by the leading indicators model and should not be compared to other seasonally adjusted data.

Ohio’s forecasted August 2019 annualized employment growth rate is 1.12 percent. The following MSAs are also predicted to grow: the Youngstown-Warren-Boardman MSA at 0.22 percent; the Cleveland-Elyria MSA at 0.83 percent; the Dayton MSA at 0.85 percent; the Akron MSA at 0.90 percent; the Toledo MSA at 1.05 percent; the Canton-Massillon MSA at 1.41 percent; the Cincinnati MSA at 1.57 percent; and the Columbus MSA at 1.96 percent.
Ohio Leading Indicators • August 2019

Leading Indicators and Components

United States
The U.S. Composite of Leading Indicators did not change from July but increased 1.1 percent from August 2018. The U.S. industrial production in manufacturing increased 0.5 percent over the month but decreased 0.4 percent over the year.

Ohio
Ohio’s seasonally adjusted total nonfarm employment was 5,599,800 in August 2019, down 0.01 percent over the month but up 0.5 percent over the year. Initial unemployment claims increased 1.0 percent from July but decreased 0.8 percent from August 2018. Ohio’s average weekly manufacturing hours dropped to 41.4 in August. Housing permit valuation increased 6.8 percent from the previous month and 17.4 percent from the previous year.
### Leading Indicators and Components

#### United States

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S. Composite Index of Leading Indicators (2016 = 100)</td>
<td>110.9</td>
<td>111.5</td>
<td>111.4</td>
<td>111.5</td>
<td>111.3</td>
<td>111.5</td>
<td>111.7</td>
<td>111.8</td>
<td>111.7</td>
<td>112.1</td>
<td>112.1</td>
<td>0.0%</td>
<td>1.1%</td>
<td></td>
</tr>
<tr>
<td>(Seasonally Adjusted)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>U.S. Industrial Production: Manufacturing (2012 = 100)</td>
<td>106.7</td>
<td>106.7</td>
<td>106.6</td>
<td>106.8</td>
<td>107.5</td>
<td>106.9</td>
<td>106.3</td>
<td>105.4</td>
<td>105.6</td>
<td>106.2</td>
<td>105.8</td>
<td>106.3</td>
<td>0.5%</td>
<td>-0.4%</td>
</tr>
<tr>
<td>(Seasonally Adjusted)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Ohio

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Nonagricultural Wage and Salary Employment (Seasonally Adjusted in Thousands)</td>
<td>5,569.5</td>
<td>5,572.0</td>
<td>5,570.1</td>
<td>5,564.3</td>
<td>5,574.0</td>
<td>5,589.7</td>
<td>5,590.8</td>
<td>5,589.9</td>
<td>5,589.6</td>
<td>5,587.5</td>
<td>5,599.4</td>
<td>5,600.4</td>
<td>5,599.8</td>
<td>0.0%</td>
</tr>
<tr>
<td>Initial Claims for Unemployment Insurance (Seasonally Adjusted)</td>
<td>27,694</td>
<td>26,742</td>
<td>27,543</td>
<td>29,261</td>
<td>28,187</td>
<td>29,620</td>
<td>27,818</td>
<td>29,240</td>
<td>29,012</td>
<td>31,408</td>
<td>28,297</td>
<td>27,184</td>
<td>27,468</td>
<td>1.0%</td>
</tr>
<tr>
<td>Average Weekly Hours for Manufacturing (Seasonally Adjusted)</td>
<td>42.1</td>
<td>42.6</td>
<td>42.6</td>
<td>42.8</td>
<td>42.9</td>
<td>42.4</td>
<td>41.9</td>
<td>41.5</td>
<td>41.5</td>
<td>41.3</td>
<td>41.4</td>
<td>41.6</td>
<td>41.4</td>
<td>-0.5%</td>
</tr>
<tr>
<td>Valuation of Housing Permits (Seasonally Adjusted in Millions)</td>
<td>$334.0</td>
<td>$362.2</td>
<td>$385.4</td>
<td>$420.9</td>
<td>$371.4</td>
<td>$395.6</td>
<td>$463.1</td>
<td>$430.4</td>
<td>$404.4</td>
<td>$343.0</td>
<td>$383.8</td>
<td>$367.2</td>
<td>$392.0</td>
<td>6.8%</td>
</tr>
</tbody>
</table>
Akron Metropolitan Statistical Area
Portage and Summit Counties

The leading indicator for the Akron metropolitan area for August 2019 forecasts employment growth at an annual rate of 0.90 percent for the next six months. Seasonally adjusted nonfarm payroll employment was 342,100 in August, down 0.1 percent from July.

The number of initial claims for unemployment insurance in August was 1,550 claims, 3.8 percent less than the number of claims filed last month. The valuation of permits for new housing construction in August was $22.5 million, a 10.4 percent decrease from July but a 5.1 percent increase from August 2018.

**Nonagricultural Wage and Salary Employment**
(Seasonally Adjusted in Thousands)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Akron</td>
<td>341.3</td>
<td>339.3</td>
<td>340.3</td>
<td>339.8</td>
<td>341.1</td>
<td>341.8</td>
<td>342.0</td>
<td>340.2</td>
<td>342.2</td>
<td>342.5</td>
<td>342.1</td>
<td>342.1</td>
<td>-0.1%</td>
<td>0.2%</td>
<td></td>
</tr>
</tbody>
</table>

**Initial Claims for Unemployment Insurance**
(Seasonally Adjusted)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Akron</td>
<td>1,553</td>
<td>1,521</td>
<td>1,484</td>
<td>1,720</td>
<td>1,620</td>
<td>1,680</td>
<td>1,514</td>
<td>1,629</td>
<td>1,633</td>
<td>1,686</td>
<td>1,769</td>
<td>1,612</td>
<td>1,550</td>
<td>-3.8%</td>
<td>-0.2%</td>
</tr>
</tbody>
</table>

**Valuation of Housing Permits**
(Seasonally Adjusted in Millions)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Akron</td>
<td>$21.4</td>
<td>$22.5</td>
<td>$22.7</td>
<td>$25.8</td>
<td>$18.1</td>
<td>$21.1</td>
<td>$24.4</td>
<td>$17.6</td>
<td>$19.8</td>
<td>$22.0</td>
<td>$19.4</td>
<td>$25.1</td>
<td>$22.5</td>
<td>-10.4%</td>
<td>5.1%</td>
</tr>
</tbody>
</table>

**Average Weekly Hours for Manufacturing**
(Seasonally Adjusted)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Akron</td>
<td>42.1</td>
<td>42.6</td>
<td>42.6</td>
<td>42.8</td>
<td>42.9</td>
<td>42.4</td>
<td>41.9</td>
<td>41.5</td>
<td>41.5</td>
<td>41.3</td>
<td>41.4</td>
<td>41.6</td>
<td>41.4</td>
<td>-0.5%</td>
<td>-1.7%</td>
</tr>
</tbody>
</table>

*In 2005, the BLS stopped producing manufacturing hours for Akron, Canton, Dayton, Toledo, and Youngstown. Starting in February 2005, data for the manufacturing hours for those MSAs are the state values.
The leading indicator for the Canton-Massillon metropolitan area for August 2019 forecasts employment growth at an annual rate of 1.41 percent for the next six months. Seasonally adjusted nonfarm payroll employment was 176,200 in August, down 0.2 percent from July.

The number of initial claims for unemployment insurance in August was 1,305 claims, 5.0 percent more than the number of claims filed last month and 25.8 percent more than last year. The valuation of permits for new housing construction in August was $8.4 million, a 17.6 percent decrease from one month ago and a 3.4 percent decrease from one year ago.
The leading indicator for the Cincinnati metropolitan area for August 2019 forecasts employment growth at an annual rate of 1.57 percent for the next six months. Seasonally adjusted nonfarm payroll employment was 1,136,500 in August, an increase of 0.2 percent from July.

The number of initial claims for unemployment insurance in August was 3,123 claims, 0.1 percent more than the number of claims filed last month but 2.1 percent less than last year. The valuation of permits for new housing construction in August was $94.5 million, a 2.8 percent increase from July but a 0.3 percent decrease from August 2018.
The leading indicator for the Cleveland-Elyria metropolitan area for August 2019 forecasts employment growth at an annual rate of 0.83 percent for the next six months. Seasonally adjusted nonfarm payroll employment was 1,083,000 in August, a 0.3 percent increase from July.

The number of initial claims for unemployment insurance in August was 4,682 claims, 2.1 percent less than the number of claims filed last month and 8.9 percent less than last year. The valuation of permits for new housing construction in August was $67.7 million, a 21.8 percent increase from July and a 34.3 percent increase from August 2018.
The leading indicator for the Columbus metropolitan area for August 2019 forecasts employment growth at an annual rate of 1.96 percent for the next six months. Seasonally adjusted nonfarm payroll employment was 1,112,300 in August, down 0.1 percent from July.

The number of initial claims for unemployment insurance in August was 3,186, 6.2 percent less than the number of claims filed last month and 4.1 percent less than last year. The valuation of permits for new housing construction in August was $119.5 million, 8.4 percent less than July but 26.5 percent more than August 2018.
The leading indicator for the Dayton metropolitan area for August 2019 forecasts employment growth at an annual rate of 0.85 percent for the next six months. Seasonally adjusted nonfarm payroll employment was 390,100 in August, up 0.2 percent from July.

The number of initial claims for unemployment insurance in August was 1,485 claims, 6.0 percent more than the number of claims filed last month and 0.2 percent more than last year. The valuation of permits for new housing construction in August was $27.7 million, a 6.1 percent increase from July but a 4.5 percent decrease from July 2018.
The leading indicator for the Toledo metropolitan area for August 2019 forecasts employment growth at an annual rate of 1.05 percent for the next six months. Seasonally adjusted nonfarm payroll employment was 311,400 in August 2019, a 0.3 percent decrease from July.

The number of initial claims for unemployment insurance in August was 1,533 claims, 1.9 percent more than the number of claims filed last month but 16.8 percent less than last year. The valuation of permits for new housing construction in August was $12.9 million, a 29.9 percent decrease from July and a 16.8 percent decrease from August 2018.
The leading indicator for the Youngstown-Warren-Boardman metropolitan area for August 2019 forecasts employment growth at an annual rate of 0.22 percent for the next six months. Seasonally adjusted nonfarm payroll employment was 216,300 in August, a 0.6 percent decrease from July.

The number of initial claims for unemployment insurance in August was 1,358 claims, 23.4 percent more than the number of claims filed last month and 6.6 percent more than last year. The valuation of permits for new housing construction in August was $3.4 million, a 25.9 percent increase from July and a 21.4 percent increase from August 2018.
**Ohio Leading Indicators • August 2019**

**Ohio Metropolitan Statistical Areas (MSAs)**

Developed by the U.S. Office of Management and Budget, Metropolitan Statistical Areas are integrated geographic regions comprised of at least one city or urban area (with a population of at least 50,000) and adjacent communities. Metropolitan Statistical Areas make it possible for federal statistical agencies to utilize the same boundaries when publishing statistical data. These are definitions based on analysis of 2010 Census data.

A. **Akron**: Portage and Summit counties

B. **Canton-Massillon**: Carroll and Stark counties

C. **Cincinnati**: Brown, Butler, Clermont, Hamilton, and Warren counties in Ohio; Dearborn, Ohio, and Union counties in Indiana; Boone, Bracken, Campbell, Gallatin, Grant, Kenton, and Pendleton counties in Kentucky

D. **Cleveland-Elyria**: Cuyahoga, Geauga, Lake, Lorain, and Medina counties

E. **Columbus**: Delaware, Fairfield, Franklin, Hocking, Licking, Madison, Morrow, Perry, Pickaway, and Union counties

F. **Dayton**: Greene, Miami, and Montgomery counties

G. **Huntington-Ashland**: Lawrence County in Ohio; Boyd and Greenup counties in Kentucky; Cabell, Lincoln, Putnam, and Wayne counties in West Virginia

H. **Lima**: Allen County

I. **Mansfield**: Richland County

J. **Springfield**: Clark County

K. **Toledo**: Fulton, Lucas, and Wood counties

L. **Weirton-Steubenville**: Jefferson County in Ohio; Brooke and Hancock counties in West Virginia

M. **Wheeling**: Belmont County in Ohio; Marshall and Ohio counties in West Virginia

N. **Youngstown-Warren-Boardman**: Mahoning and Trumbull counties in Ohio; Mercer County in Pennsylvania

---

*Developed by the U.S. Office of Management and Budget, Metropolitan Statistical Areas are integrated geographic regions comprised of at least one city or urban area (with a population of at least 50,000) and adjacent communities. Metropolitan Statistical Areas make it possible for federal statistical agencies to utilize the same boundaries when publishing statistical data. These are definitions based on analysis of 2010 Census data.*
TECHNICAL NOTES

The leading economic indicators for Ohio and the eight largest Metropolitan Statistical Areas (MSAs) are designed to anticipate changes in area economies. The Gross National Product is the accepted measure of economic activity at the national level, but there are no monthly measures of the dollar value of goods and services at the state and metropolitan levels. Instead, the Ohio leading indicators forecast the growth rates of total nonfarm employment for each area.

The leading indicators are generated with vector auto regression models using five inputs. The inputs are statistically significant predictors of Ohio total nonfarm growth rates at the 90 percent confidence level.

The five inputs are:

- U.S. Industrial Production in the Manufacturing Sector (Source: Federal Reserve Bank of St. Louis, https://fred.stlouisfed.org/series/IPMAN)
- Unemployment Insurance Claims (Source: Ohio Department of Job and Family Services, http://ohiolmi.com/uc/UCReports.htm)
- Housing Valuations (Source: U.S. Census Bureau, https://www.census.gov/construction/bps/)

The models forecast growth rates for six time-horizons (one to six months); the published forecast is an annualized average of those forecasts. The models use rolling 120-month windows of data. Each month, a new month of data is added (the most current available) and the oldest month is dropped. This approach allows for possible structural changes in the economy over time. All data series are converted monthly growth rates using the first difference of the natural logarithms multiplied by 100. Seasonal adjustments are made within the models using the U.S. Census’ X-13ARIMA-SEATS program; seasonally adjusted data from the leading indicator models will not match data from original sources.

The forecasting models for the Ohio leading indicators are ‘real time’ processes that do not build on previous forecasts. For this reason, the Ohio leading indicators should not be used as a time series. The models use data as they are available each month, including revisions to older data. For example, monthly data releases may be preliminary and later revised, other series are revised during annual ‘benchmarking,’ and occasionally a series may be reindexed to new time point. Some of these revisions could be substantial.
Bureau of Labor Market Information
Business Principles for Workforce Development

• Partner with the workforce and economic development community.

• Develop and deploy new information solution tools and systems for the workforce and economic development community.

• Provide products and services that are customer- and demand-driven.

• Be known as an important and reliable source for information solutions that support workforce development goals and outcomes.

This periodical is published under the direction of Bureau Chief Coretta Pettway. For further information, visit http://OhioLMI.com or call the Ohio Bureau of Labor Market Information at 1-888-296-7541 option 6, or (614) 752-9494.

If you would like to receive email notification when this publication is posted on our website, call (614) 752-9494 or email ContactLMI@jfs.ohio.gov to be placed on the email notification list.

Mike DeWine, Governor
State of Ohio
http://Ohio.gov

Kimberly Hall, Director
Ohio Department of Job and Family Services
http://ifs.ohio.gov

Office of Workforce Development
http://ifs.ohio.gov/owd/

Bureau of Labor Market Information
http://OhioLMI.com

Production of this report was funded by a grant awarded by the U.S. Department of Labor’s Employment and Training Administration. See http://ohiolmi.com/grant_product_attribution.htm for full details. This institution is an equal opportunity provider and employer. A proud partner of the American Job Center network.