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 October 2019 annualized employment growth rate is 1.01 percent. The following MSAs are also predicted to grow: the Akron MSA at 0.56 percent; the Canton-Massillon MSA at 0.72 percent; the Dayton MSA at 0.91 percent; the Cleveland-Elyria MSA at 1.09 percent; the Toledo MSA at 1.26 percent; the Cincinnati MSA at 1.87 percent; and the Columbus MSA at 2.17 percent. The Youngstown-Warren-Boardman MSA has a negative annual growth rate projected at -0.54 percent.
**United States**

The U.S. Composite of Leading Indicators decreased 0.1 percent from September but increased 0.3 percent from October 2018. The U.S. industrial production in manufacturing decreased 0.6 percent over the month and 1.3 percent over the year.

**Ohio**

Ohio’s seasonally adjusted total nonfarm employment was 5,593,400 in October 2019, down 0.1 percent over the month but up 0.4 percent over the year. Initial unemployment claims increased 2.2 percent from September and 17.5 percent from October 2018. Ohio’s average weekly manufacturing hours dropped to 41.6 in October. Housing permit valuation decreased 10.8 percent from the previous month but increased 13.3 percent from the previous year.
## Leading Indicators and Components

### United States

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<td>111.3</td>
<td>111.3</td>
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<td>of Leading Indicators</td>
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<td>5,599.3</td>
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<td>5,593.4</td>
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<td>29,395</td>
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<td>28,809</td>
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<td>$370.7</td>
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<td>$384.8</td>
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The leading indicator for the Akron metropolitan area for October 2019 forecasts employment growth at an annual rate of 0.56 percent for the next six months. Seasonally adjusted nonfarm payroll employment was 338,100 in October, unchanged from September.

The number of initial claims for unemployment insurance in October was 1,628 claims, 6.0 percent more than last month and 10.9 percent more than last year. The valuation of permits for new housing construction in October was $26.0 million, a 12.5 percent decrease from September and a 15.6 percent increase from October 2018.
The leading indicator for the Canton-Massillon metropolitan area for October 2019 forecasts employment growth at an annual rate of 0.72 percent for the next six months. Seasonally adjusted nonfarm payroll employment was 176,000 in October, down 0.2 percent from September.

The number of initial claims for unemployment insurance in October was 2,692 claims, 73.3 percent more than the number of claims filed last month and 173.4 percent more than last year. The valuation of permits for new housing construction in October was $7.7 million, unchanged from one month ago and 29.4 percent less than one year ago.
The leading indicator for the Cincinnati metropolitan area for October 2019 forecasts employment growth at an annual rate of 1.87 percent for the next six months. Seasonally adjusted nonfarm payroll employment was 1,137,900 in October, unchanged from September.

The number of initial claims for unemployment insurance in October was 3,186 claims, 2.1 percent less than the number of claims filed last month but 4.5 percent more than last year. The valuation of permits for new housing construction in October was $113.8 million, a 13.9 percent decrease from September and a 14.8 percent decrease from October 2018.
The leading indicator for the Cleveland-Elyria metropolitan area for October 2019 forecasts employment growth at an annual rate of 1.09 percent for the next six months. Seasonally adjusted nonfarm payroll employment was 1,080,000 in October, a 0.3 percent decrease from September.

The number of initial claims for unemployment insurance in October was 4,836 claims, 3.1 percent less than the number of claims filed last month and 2.2 percent more than last year. The valuation of permits for new housing construction in October was $61.2 million, a 7.2 percent increase from September and a 9.9 percent increase from October 2018.
COLUMBUS METROPOLITAN STATISTICAL AREA
Delaware, Fairfield, Franklin, Hocking, Licking, Madison, Morrow, Perry, Pickaway, and Union Counties

The leading indicator for the Columbus metropolitan area for October 2019 forecasts employment growth at an annual rate of 2.17 percent for the next six months. Seasonally adjusted nonfarm payroll employment was 1,115,100 in October, down 0.1 percent from September.

The number of initial claims for unemployment insurance in October was 3,412 claims, 0.8 percent less 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 October was $116.8 million, 16.7 percent less than September but 3.5 percent more than October 2018.
The leading indicator for the Dayton metropolitan area for October 2019 forecasts employment growth at an annual rate of 0.91 percent for the next six months. Seasonally adjusted nonfarm payroll employment was 393,600 in October, up 0.3 percent from September.

The number of initial claims for unemployment insurance in October was 1,804 claims, 4.7 percent less than the number of claims filed last month but 29.4 percent more than last year. The valuation of permits for new housing construction in October was $33.3 million, a 31.9 percent decrease from September and a 31.1 percent increase from October 2018.
The leading indicator for the Toledo metropolitan area for October 2019 forecasts employment growth at an annual rate of 1.26 percent for the next six months. Seasonally adjusted nonfarm payroll employment was 309,300 in October 2019, a 0.1 percent decrease from September.

The number of initial claims for unemployment insurance in October was 1,661 claims, 9.4 percent less than the number of claims filed last month and 13.9 percent less than last year. The valuation of permits for new housing construction in October was $16.4 million, a 16.3 percent increase from September but a 9.4 percent decrease from October 2018.
The leading indicator for the Youngstown-Warren-Boardman metropolitan area for October 2019 forecasts negative employment growth at an annual rate of -0.54 percent for the next six months. Seasonally adjusted nonfarm payroll employment was 214,900 in October, a 0.5 percent decrease from September.

The number of initial claims for unemployment insurance in October was 1,933 claims, 45.8 percent more than the number of claims filed last month and 41.3 percent more than last year. The valuation of permits for new housing construction in October was $4.5 million, a 66.7 percent increase from September but a 15.1 percent decrease from October 2018.

### Ohio Leading Indicators • October 2019

**Youngstown-Warren-Boardman Metropolitan Statistical Area**

Mahoning and Trumbull Counties in Ohio and Mercer County in Pennsylvania

The leading indicator for the Youngstown-Warren-Boardman metropolitan area for October 2019 forecasts negative employment growth at an annual rate of -0.54 percent for the next six months. Seasonally adjusted nonfarm payroll employment was 214,900 in October, a 0.5 percent decrease from September.

The number of initial claims for unemployment insurance in October was 1,933 claims, 45.8 percent more than the number of claims filed last month and 41.3 percent more than last year. The valuation of permits for new housing construction in October was $4.5 million, a 66.7 percent increase from September but a 15.1 percent decrease from October 2018.

![Total Nonfarm Employment](image1)

**Total Nonfarm Employment** (Seasonally Adjusted)

- **October 2019:** 220,000
- **October 2018:** 222,000
- **Year-to-Year Change:** -0.9%

![Initial Claims for Unemployment Insurance](image2)

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

- **October 2019:** 1,933
- **September 2019:** 1,386
- **Year-to-Year Change:** 45.8%

![Valuation of Housing Permits](image3)

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

- **October 2019:** $4.5 million
- **September 2019:** $2.9 million
- **Year-to-Year Change:** 66.7%

### Youngstown

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<td>218.3</td>
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<td>217.3</td>
<td>216.8</td>
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<td>216.6</td>
<td>215.9</td>
<td>214.9</td>
<td>-0.5%</td>
<td>-1.6%</td>
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<tr>
<td>Initial Claims for Unemployment Insurance</td>
<td>1,368</td>
<td>1,645</td>
<td>1,218</td>
<td>1,313</td>
<td>1,350</td>
<td>2,444</td>
<td>1,666</td>
<td>1,682</td>
<td>1,341</td>
<td>1,105</td>
<td>1,365</td>
<td>1,325</td>
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<td>Average Weekly Hours for Manufacturing*</td>
<td>42.6</td>
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<td>42.9</td>
<td>42.4</td>
<td>41.9</td>
<td>41.6</td>
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*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.
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
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](https://fred.stlouisfed.org/series/IPMAN))
- Unemployment Insurance Claims (Source: Ohio Department of Job and Family Services, [http://ohiolmi.com/uc/UCReports.htm](http://ohiolmi.com/uc/UCReports.htm))
- Housing Valuations (Source: U.S. Census Bureau, [https://www.census.gov/construction/bps/](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.
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](http://OhioLMI.com) or call the Ohio Bureau of Labor Market Information at 1-888-296-7541 option 6, or (614) 752-9494.

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Mike DeWine, Governor
State of Ohio
[http://Ohio.gov](http://Ohio.gov)

Kimberly Hall, Director
Ohio Department of Job and Family Services
[http://jfs.ohio.gov](http://jfs.ohio.gov)

Office of Workforce Development
[http://jfs.ohio.gov/owd/](http://jfs.ohio.gov/owd/)

Bureau of Labor Market Information
[http://OhioLMI.com](http://OhioLMI.com)

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