

ANNUAL UPDATE

FULL TIME EMPLOYMENT ESTIMATES

Nielsen Audio will update estimates of adults (18+) employed full time for the October 2018 PPM Survey using an average of 12 monthly estimates from the Bureau of Labor Statistics' Current Population Survey (CPS). The CPS data is a monthly survey and the source of the monthly unemployment statistics reported by the news media. These estimates are used in weighting the In-Tab sample in PPM markets only. The next update is scheduled for the October 2019 survey.

We continue to anticipate that future changes in employment estimates will be gradual. The employment estimates difference reflected in the October 2018 refresh are nominal as the average difference across all markets is approximately +0.5 of a percentage point compared to the most recent refresh that occurred in October 2017. Further, the differences in local markets range from a 2.7 percentage point increase to a 4.1 percentage point decrease. Overall, employment estimates in 30 Metros increased whereas 18 metros experienced a decrease. This is a 6.7% increase in Metros experiencing greater full time employment over the previous refresh.

Markets where the Persons 18+ Employed Full Time population estimates increase may see that group have more of an impact on the Total Persons Ratings than seen previously as that group will begin to be weighted to a larger population. Likewise, markets where the Persons 18+ Employed Full Time population estimates decrease may see that group have less of an impact on the Total Persons Ratings as that group will begin to be weighted to a smaller population. Persons Employed Full-time tend to listen to more radio and contribute higher Time Spent

Listening (TSL) than those who are not employed. Therefore markets with an increase in the Persons 18+ Employed Full Time population estimate may see those higher TSL individuals begin to be weighted higher than they previously had been.

The final impact of full time employment changes on ratings is not possible to reliably predict since other factors may also impact listening levels. Other factors to consider when analyzing audience estimate changes include:

- Programming changes in the market.
- Events such as weather or major news stories which can influence radio listening behavior.
- Typical survey to survey variance in estimates that is characteristic of survey samples.
- Panel changes that may occur from month-to-month
- Other changes and improvements in the PPM service.

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Percentage of Persons 18+ Employed Full Time

Source: Claritas, LLC (Average monthly CPS data)

October 2017 Refresh includes June 2016 - May 2017 monthly CPS

October 2018 Refresh includes June 2017 - May 2018 monthly CPS

Metro	October 2017 Estimate	October 2018 Estimate	Difference
Atlanta	57.1%	58.7%	1.6%
Austin	61.8%	60.8%	-1.0%
Baltimore	55.0%	53.1%	-1.9%
Boston	54.2%	55.0%	0.8%
Charlotte-Gastonia-Rock Hill	54.1%	56.2%	2.1%
Chicago	51.7%	52.4%	0.7%
Cincinnati	52.3%	52.6%	0.3%
Cleveland	47.2%	48.8%	1.6%
Columbus, OH	54.7%	55.0%	0.3%
Dallas-Ft. Worth	58.8%	58.8%	0.0%
Denver-Boulder	57.0%	58.9%	1.9%
Detroit	48.2%	49.1%	0.9%
Greensboro-Winston-Salem-High Point	52.7%	52.4%	-0.3%
Hartford-New Britain-Middletown	51.9%	51.8%	-0.1%
Houston-Galveston	53.6%	54.1%	0.5%
Indianapolis	56.8%	58.7%	1.9%
Jacksonville	50.5%	50.6%	0.1%
Kansas City	57.1%	57.1%	0.0%
Las Vegas	49.1%	51.6%	2.5%
Los Angeles	50.9%	51.4%	0.5%
Memphis	49.6%	50.8%	1.2%
Miami-Ft. Lauderdale-Hollywood	53.1%	52.8%	-0.3%
Middlesex-Somerset-Union	54.9%	53.6%	-1.3%
Milwaukee-Racine	54.3%	55.8%	1.5%
Minneapolis-St. Paul	56.2%	58.9%	2.7%
Nashville	58.2%	58.0%	-0.2%
Nassau-Suffolk (Long Island)	53.3%	52.0%	-1.3%

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Metro	October 2017 Estimate	October 2018 Estimate	Difference
New York	51.7%	50.5%	-1.2%
Norfolk-Virginia Beach-Newport News	53.7%	49.6%	-4.1%
Orlando	53.1%	54.1%	1.0%
Philadelphia	50.8%	52.2%	1.4%
Phoenix	51.4%	51.7%	0.3%
Pittsburgh, PA	47.6%	49.9%	2.3%
Portland, OR	53.8%	53.5%	-0.3%
Providence-Warwick-Pawtucket	51.2%	52.1%	0.9%
Raleigh-Durham	59.5%	59.3%	-0.2%
Riverside-San Bernardino	47.1%	49.8%	2.7%
Sacramento	44.5%	46.5%	2.0%
Salt Lake City-Ogden-Provo	55.1%	54.8%	-0.3%
San Antonio	51.5%	49.9%	-1.6%
San Diego	51.2%	51.1%	-0.1%
San Francisco	52.6%	53.8%	1.2%
San Jose	55.9%	56.8%	0.9%
Seattle-Tacoma	54.3%	55.7%	1.4%
St. Louis	53.4%	53.0%	-0.4%
Tampa-St. Petersburg-Clearwater	51.8%	53.4%	1.6%
Washington, DC	60.7%	61.2%	0.5%
West Palm Beach-Boca Raton	53.4%	53.1%	-0.3%

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