

Imagining next-generation statistical news releases

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Background

In the summer of 2015, the U.S. Bureau of Labor Statistics (BLS) began a year-long initiative to solicit feedback from readers and producers of our statistical news releases in order to assess whether this product still effectively satisfies data users' needs and desires. Stakeholder outreach included a reader survey, focus groups for journalists, listening sessions with BLS staff, and a presentation to the BLS Data Users Advisory Committee. The feedback indicated that BLS could serve its data users better by changing the content, style, and presentation of its news releases. Although each of the different respondent populations stated their opinions with somewhat different emphases, for the most part all expressed similar concerns and comparable suggestions for improvement.¹

Based on this stakeholder feedback, the next-generation news release (NextGen) working group developed a project vision and list of high-level objectives.

Vision and Objectives

The next generation of BLS news releases will better serve all readers, including journalists, analysts, and the public, by

1. Providing more information at the time of release
2. Providing greater context to the data being issued
3. Serving as a portal for exploring more aspects of the data
4. Making the data easy to export
5. Being accessible on mobile devices
6. Relying upon automated scripts as much as possible.

In addition, next-generation news releases will continue to serve as the historical record of the data at the time they were issued.

A significant conceptual shift explicit in this vision, though not necessarily obvious, is that the NextGen working group recognizes the audience for statistical news releases is no longer limited to the media. BLS news releases have effectively become one more publication product accessed by a broad spectrum of

¹ See Levi, Liddel, and Flores, "Reaching out to data users regarding next-generation news releases", http://www.unece.org/fileadmin/DAM/stats/documents/ece/ces/ge.45/2016/Session_3_-_Michael_Levi.pdf

readers. Only 7.4 percent of the online survey respondents self-identified as journalists (where “journalist” was defined to include social media).

Some of the major structural changes the NextGen working group is exploring include:

Orient the product around interactive charts. Data visualizations will become the focal point of news releases and the primary interface for users navigating through the data.

Replace narrative text with bullet points, many of which are generated automatically. Most current news releases are, to a large degree, composed of fairly routine text (e.g. “The unemployment rate [rose/fell] to [x.x] percent in [month, year].”) Such boilerplate can be programmed. The biggest challenge will not be technical, it will be to enforce standardization across programs to generate the correct verb (“rose” vs. “fell” vs. “remained unchanged”) based upon to-be-developed agency-standard confidence intervals. The NextGen working group also expects that the objectivity of BLS news releases can be buttressed through such standardization of language and concepts.

Programs will always have the ability to add custom bullets that highlight additional analytically important data movements and trends.

Add tool tips (text displayed when the user moves their mouse over a word or phrase) with key definitions and concepts. Allow readers to easily obtain methodological clarification, on demand and in context. Pull explanatory material from a global glossary of terms.

Incorporate interactive tables into news releases. Replace the existing plethora of standard tables with a new tabular data interface that enables users to expand, contract, and rearrange values to create the views that are most useful to their specific needs. Though news releases will most likely still retain a small number of default views, reading tables can become a primarily user-controlled experience. The new interactive tables may be native Excel.

Meet accessibility and multiple-device standards. Provide HTML text optimized for screen readers and other assistive technology, and implement adaptive design to ensure high-quality readability on workstations, tablets, phones, and other mobile devices.

Allow video and audio components. Though implementation is likely to be delayed past early versions of next-generation news releases, they will be designed to facilitate the integration of streaming media types.

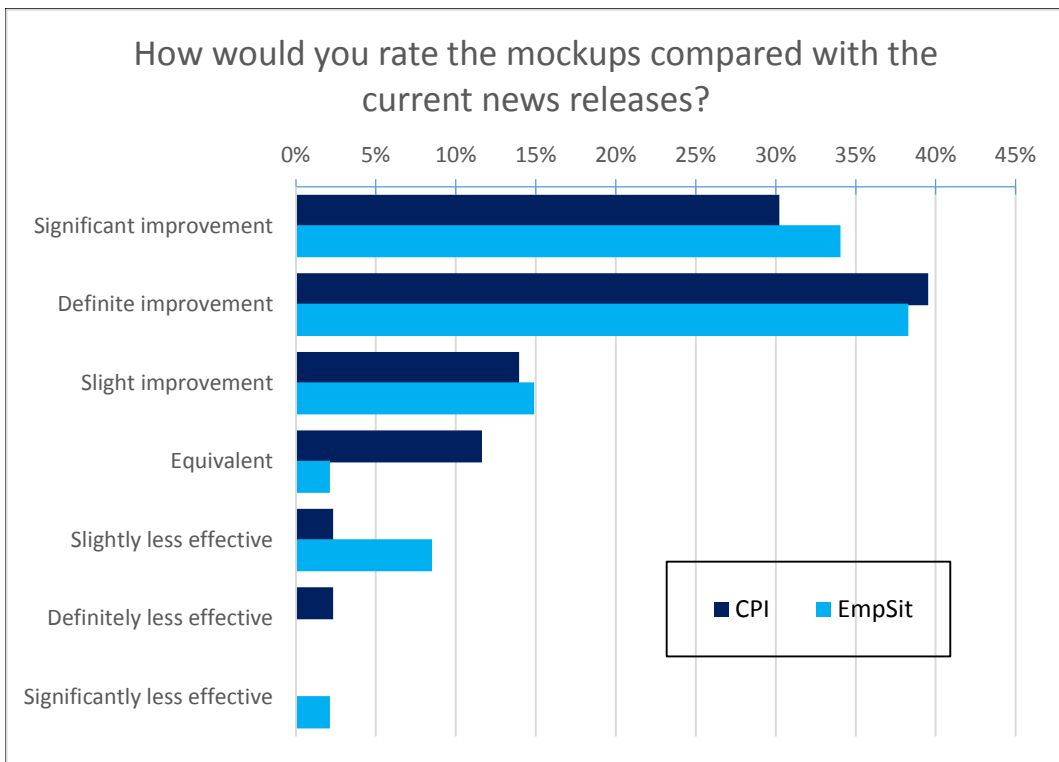
Combine releases where possible. When data are available simultaneously (the most common circumstance is national and regional-level data, which are currently issued independently) a combined release will give readers a single point of entry into the full data set with the ability to compare and contrast data up and down a taxonomic hierarchy as well as across levels.

Mockups and Feedback from BLS Staff

In order to validate that NextGen working group members all actually shared a compatible vision, and then to more easily communicate that vision to other stakeholders, the working group developed two mockups, each taking a slightly different approach to the same set of goals (see appendix.)² These mockups have been presented to over 100 BLS staff who work on producing news releases or are involved in public information dissemination services.

² For comparison purposes, the traditional news releases upon which the mockups are based are at https://www.bls.gov/news.release/archives/empsit_01062017.pdf and https://www.bls.gov/news.release/archives/cpi_01182017.pdf

A follow-up survey was conducted of BLS employees who attended a next-generation news release demonstration. Overall, the response to the mockups was quite favorable.

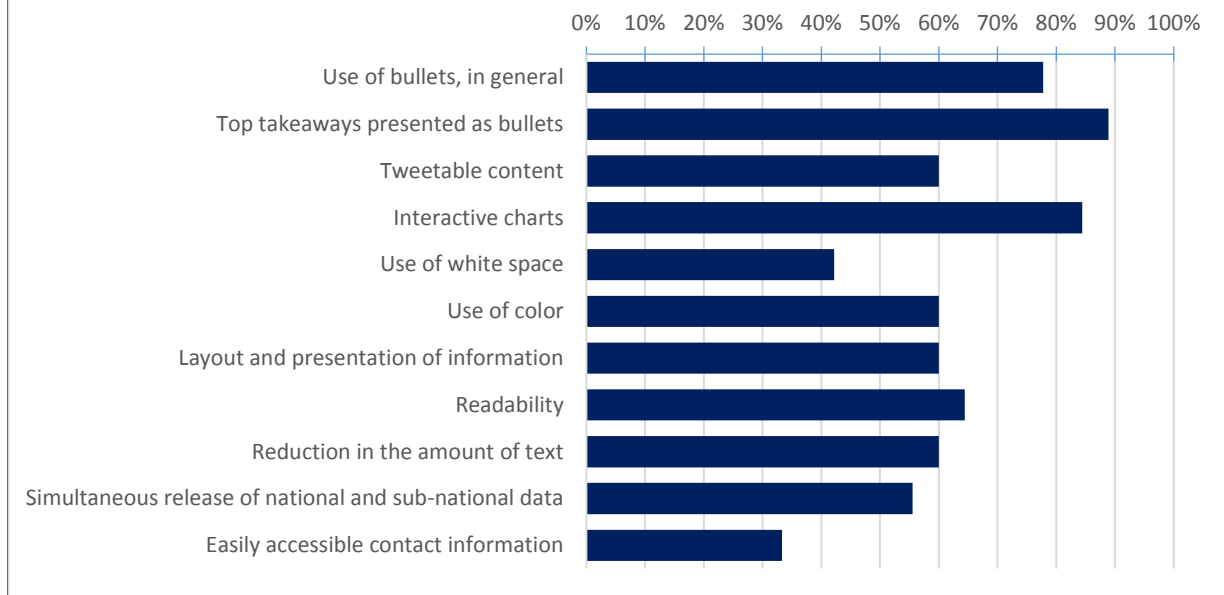


Eighty-five percent of BLS respondents view the mockups as an improvement over the current news release format, with most of those reporting a definite or significant improvement.

Free-form comments give more nuanced perspectives:

- “Much more ‘modern’ and I love being able to interact with the information”
- “This is difficult to directly compare insomuch as the mockup and the current release are, in my observation, very different products and are useful in different ways. The mockup offered a great way to consume and interact with data but I think presupposes the users knowing specifically what they are looking for, as opposed to the broader, but more static, snapshot of the national labor market offered by the current release format”
- “The shift away from a release format with lots of text is an improvement”
- “Definite improvement because the mockup gives quick, easily found information. But I feel we're losing some of the perspective typically provided within the text”
- “Easier if you want most generalized (top-side only) information. More difficult if you want anything besides top level details”
- “I liked the look and the simplicity of the mock-up. I think reporters especially will find it helpful”
- “If we adopted the mockup today, it would be better than what we are currently publishing.”

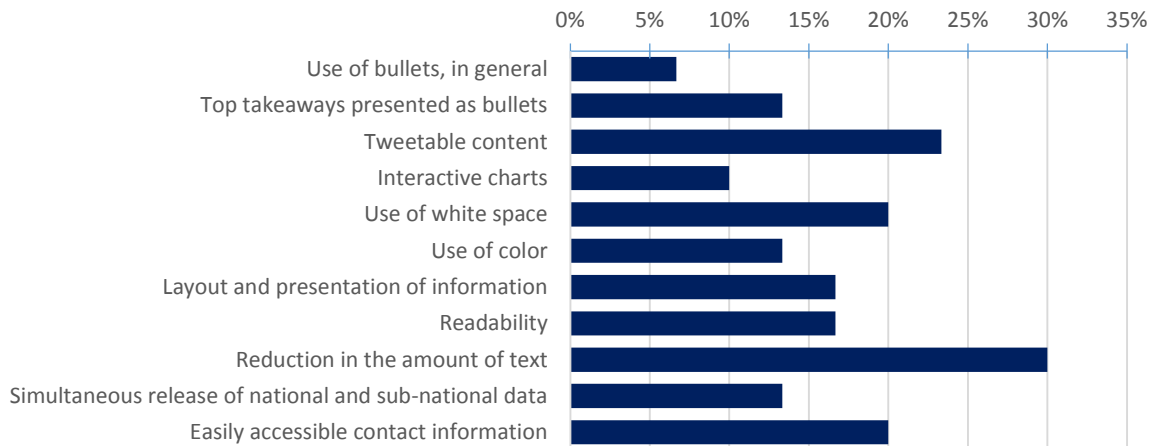
Which of the following changes do you consider to be improvements to the current news release format? (Check all that apply)



Most of the new features were perceived as improvements, with text in bullet form and interactive charts leading in favorability.

- "... the new format reduces the amount of time a reader needs to find information"
- "Bullets are easier to read, especially for nontechnical audience. Charts, especially interactive ones, are better at displaying trends than text. Color used effectively can make things easier to read and comprehend, as can the layout and presentation of information"
- "Readability is critical. Our current releases (sorry) are dull as dishwater. This new approach feels like we get it --"it" being what the reader wants/needs"
- "Everybody likes charts, provided the data are presented clearly"
- "I think few data users actually read our press releases. Presenting less data but the most important data in a more strategic and attention-grabbing way may actually help to stimulate more interest in our data than presenting users with a wall of text in a 5-10 page news release that they are likely to either skim through or not read at all"
- "A major improvement: hyperlinks and hover popups within the release"
- "I really think all of the changes are a step in the right direction. Users rarely print documents anymore and this creates a more visually appealing publication while also hitting the highlights and important features easily. The reduction in text will serve us well as more users are able to digest the important information and I think these new publications will appeal to a much larger audience"
- "The reduction of much text will make fact checking a lot easier."

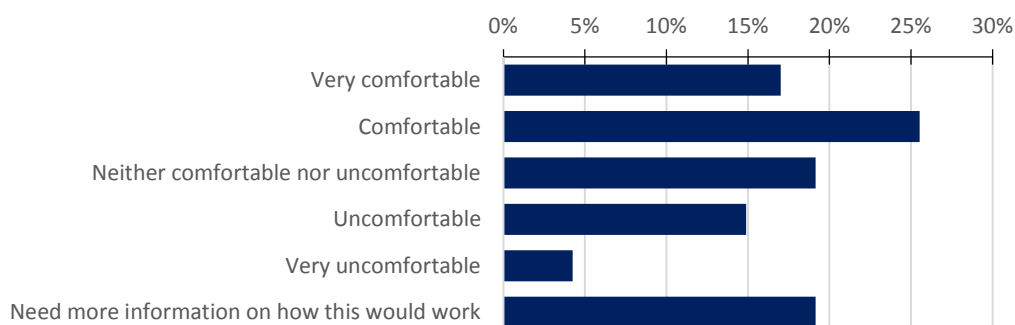
Which of the following changes do you consider not to be improvements to the current news release format? (Check all that apply)



A fairly high proportion of BLS employees, however, noted a reduction in the amount (and quality) of text included in the mockups, and viewed that as problematic.

- “I prefer reading information before hunting for pictures. Maybe more top-level or secondary bullet points. (I don't care about picture unless I know that the chart is meaningful beforehand)”
- “While the reduction in the amount of text is good, it's been reduced too much and seems to be just bare bones”
- “While interactive charts are nice, I think it will be easy for content to be missed”
- “It's not simply the amount of text reduced; it's the analysis being drastically reduced that I think is the biggest detractor from the new news release mockups”
- “I also don't think we need less text, I think it just needs more charts to be interspersed to more effectively display trends and to be easier to read.”

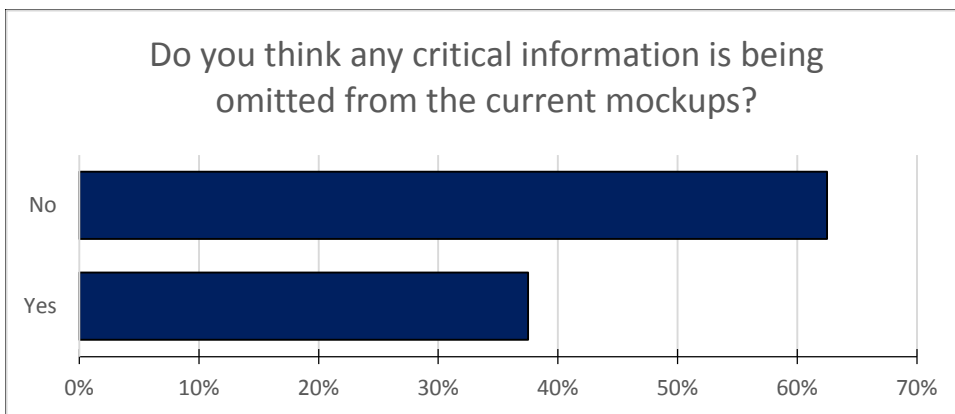
How comfortable are you with the use of automatically-generated bullet points that use statistical significance to determine verbs (for example, rose, fell, essentially unchanged)?



Thought a plurality of BLS respondents expressed feeling comfortable with the use of automatically generated bullet points that use statistical significance to determine verbs, a high proportion were neutral

or expressed unease. Their concerns had little to do with the technical feasibility of accurate text, but rather focused on the value of expert human judgment when analyzing and describing complex data sets.

- “The automated determination of statistical significance and verb generation should at least be vetted and verified by a human mind before release”
- “Creating automated bullet points based on a clearly defined set of rules for verbs used for various levels of statistical significance can be useful, but I think automated generated text should only be used as another tool in the process of crafting the releases. In other words, it can be the first draft, but the text still needs extensive review by staff”
- “Analysts may look beyond significance to determine is something is noteworthy”
- “There should be options so the reader does not get bored with repetition of text.”



Again, a significant minority (a little over one third) of BLS respondents perceived the mockups as lacking important detail.

- “One advantage of the current Employment Situation release is the logical progression. We control what aspects of the data to highlight, and the order with which we discuss them. The ‘dashboard’ setup of the NextGen release takes away that logical progression”
- “I think that in both new release mockups, the amount and degree of analysis is significantly diminished”
- “Distilling the take-away bullets to Tweet-able statements significantly limits the ability to provide meaningful content”
- “I don't believe an automatize system would have details (significant sector for an insignificant supersector). How flexible will an automatize system be?”
- “While BLS has never offered much insight as to the "why" surrounding the movement of series, BLS does put the monthly or quarterly change into context within the text of current releases.”

Analysis and next steps

The feedback received to date indicates general interest on the part of BLS employees, and even real enthusiasm, for the new direction illustrated in the mockups. The NextGen working group will, however, need to address the concerns that knowledgeable staff have expressed.

Perhaps the most troubling objection regards the potential loss of analysis. To a large extent, this concern is based on a misunderstanding. In fact, the bullet points included in the mockups represent very little reduction in content over the traditional news releases on which they are based. Descriptive and analytic points are simply distributed differently. Since these points are no longer displayed as a single block of text, it only appears that substance has been lost.

In addition, the NextGen working group expects subject matter experts to provide supplemental bullet points that highlight or explain trends, patterns, and outliers which would not be captured by an automated process. This does not appear to have been conveyed effectively.

Thus the NextGen working group has an internal communications task ahead of it, which may include mocking up or prototyping a news release authoring system to explore and illustrate the flexibilities BLS staff will have to review, enhance, and expand upon machine-generated text.

The NextGen working group is not, however, dismissing the feedback it received purely as a communications failure.


First of all, BLS responses to the mockups included many suggestions for improvement in areas such as the choice of charts and maps, placement of components, wording of titles and labels, use of color and white space, etc. These need to be considered and incorporated as appropriate.

Second, BLS responses highlighted some intrinsic differences in the spectrum of data sets produced by the agency (e.g. cross-sectional vs. time series data) that affect how different news releases may need to be structured. To date, the NextGen working group has focused on time series indicators; sustained thought and consultation will need to be devoted to other models, as well.

Finally, respondents were correct in observing that the mockups illustrate a substantial departure from current and historical practice which will affect how readers are introduced to data releases and possibly how they understand the data. The new approach relies heavily on data visualizations, which may not be suitable for all users. And rather than being guided through a narrative by subject matter experts, the approach illustrated by the mockups will make news release readers themselves responsible for the selection and sequencing of information. On the one hand, this puts control in the hands of the users and enables them to focus on their unique interests. On the other hand, it may result in inexperienced users feeling lost and overwhelmed by massive data sets, or in overlooking important data movement or trends.

Thus the NextGen working group plans to adopt many of the specific suggestions made to date and further develop the mockups into functional prototypes that can be shared with, and tested by, end users. The purpose of statistical news releases is to announce the availability of new data and provide an entry point into that data so readers can rapidly understand their most significant aspects. Any new approach must meet users' needs better than what it is replacing. Ultimately, it is the experience and perception of public news release readers that matters the most and that will determine just how the next generation of BLS statistical news releases appear and function.

Appendix: Mockups of the Employment Situation and Consumer Price Index News Releases



Employment Situation--December 2016

Top Takeaways


- Total nonfarm payroll employment rose by 156,000 in December
- The unemployment rate was little changed at 4.7 percent
- Job growth occurred in health care and social assistance

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 USDL 17-XXXX
 Media contact: PressOffice@bls.gov
 202.691.5902
 Household data: www.bls.gov/cps
CPSinfo@bls.gov
 202.691.6378
 Payroll data: www.bls.gov/ces
CESinfo@bls.gov
 202.691.6555

Charts

UNEMPLOYMENT CHARTS

Civilian unemployment rate, seasonally adjusted
Click and drag within the chart to zoom in on time periods

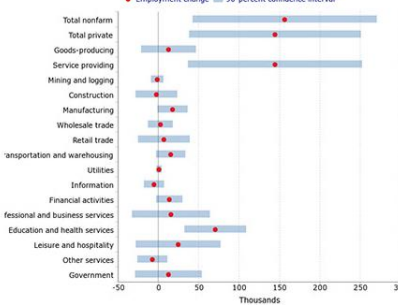


Total — Men, 20 years and over Women, 20 years and over 16 to 19 years old
 White — Black or African American Asian — Hispanic or Latino

Hover over chart to view data.
 Note: Shaded areas represent recessions, as determined by the National Bureau of Economic Research.
 Persons whose ethnicity is identified as Hispanic or Latino may be of any race.
 Source: U.S. Bureau of Labor Statistics.

PAYROLL EMPLOYMENT CHARTS

Employment change by industry with confidence intervals, December 2016, seasonally adjusted, in thousands, 1-month net change



Total nonfarm
 Total private
 Goods-producing
 Service providing
 Mining and logging
 Construction
 Manufacturing
 Wholesale trade
 Retail trade
 Transportation and warehousing
 Utilities
 Information
 Financial activities
 Professional and business services
 Education and health services
 Leisure and hospitality
 Other services
 Government

Hover over chart to view data.
 The 90-percent confidence interval represents the symmetric range of values around the estimate for which there is a 90-percent probability that the actual change is contained within that range of values. If the change is statistically significant, the blue bar does not cross the zero line.
 Source: U.S. Bureau of Labor Statistics.

• Unemployment rates for major worker groups little changed in December 1-7 >

• Unemployment rate for adult men declined to 4.5 percent in December

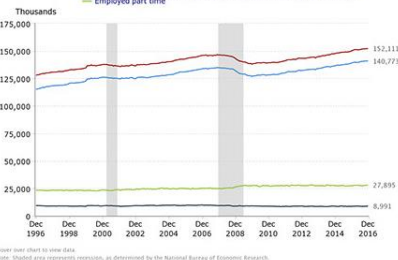
• Employment in health care rose by 43,000 in December, with job growth in ambulatory health care services (+30,000) and hospitals (+11,000) 1-3 >

• Social assistance added 20,000 jobs in December, with job growth in individual and family services (+21,000)

OTHER HOUSEHOLD CHARTS

Civilian employment, seasonally adjusted

Click and drag within the chart to zoom in on time periods




Total — Nonagricultural wage and salary Nonagricultural self-employment
 Employed part time

Hover over chart to view data.
 Note: Shaded areas represent recessions, as determined by the National Bureau of Economic Research.
 Source: U.S. Bureau of Labor Statistics.

PAY AND HOURS CHARTS

Average weekly hours of production employees in manufacturing, seasonally adjusted
Click and drag inside chart to change dates displayed



Manufacturing — Durable goods — Wood products — Nonmetallic mineral products— Primary metals
 — Fabricated metal products— Machinery — Computer and electronic products
 — Electrical equipment and appliances Transportation equipment— Furniture and related products
 — Miscellaneous durable goods manufacturing/Nondurable goods — Food manufacturing— Textile mills
 — Textile product mills— Apparel — Paper and paper products— Printing and related support activities
 — Petroleum and coal products— Chemicals — Plastics and rubber products
 — Miscellaneous nondurable goods manufacturing

Hover over chart to view data.
 Note: Shaded areas represent recessions, as determined by the National Bureau of Economic Research.
 Source: U.S. Bureau of Labor Statistics.

• Civilian employment was little changed in December 1-5 >

• The average workweek for all employees on private nonfarm payrolls was unchanged at 34.3 hours in December. In manufacturing, the workweek edged up by 0.1 hour to 40.7 hours, and overtime edged up by 0.1 hour to 3.3 hours. The average workweek for production and nonsupervisory employees on private nonfarm payrolls remained at 33.6 hours. 1-3 >

Tables

[Summary Table A: Household data, seasonally adjusted](#)
[Summary Table B: Establishment data, seasonally adjusted](#)

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**Consumer Price Index--U.S. City Average--
December 2016**

U. S. CITY
AVERAGE CPI

DALLAS-FT
WORTH CPI

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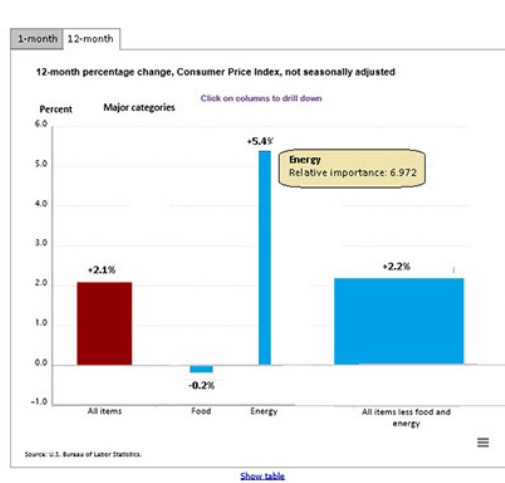
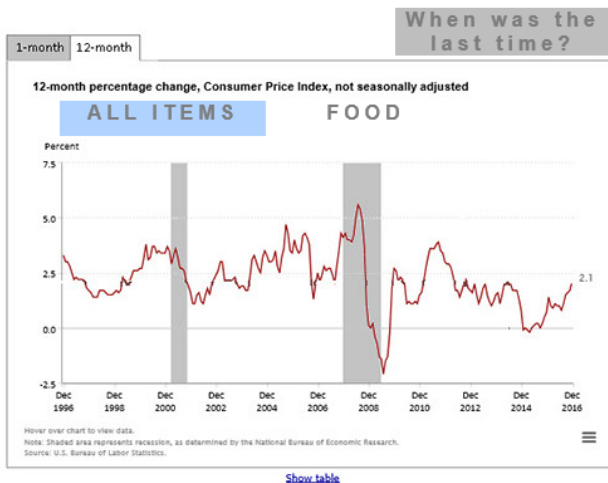
Media contact: PressOffice@bls.gov

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CPI staff: www.bls.gov/cpi

CPI_Info@bls.gov

202.691.7000



Top Takeaways

- Consumer Price Index (CPI) for all items increased **0.3%** in December (seasonally adjusted) and increased 2.1% over the year (not seasonally adjusted) [Tweet](#)
- CPI for all items less food and energy increased 0.2% in December and increased 2.2% over the year [Tweet](#)
- Continuing their recent trends, the shelter (+0.3%) and gasoline (+3.0%) indexes increased in December and were largely responsible for the seasonally adjusted all items increase [Tweet](#)

Charts

Tables

More Info + Announcements

- Consumer Price Index for all items was unchanged in December (not seasonally adjusted).
- CPI for Urban Wage Earners and Clerical Workers (CPI-W) increased 0.1 percent in December (not seasonally adjusted).
- CPI-W increased 2.0 percent over the last 12 months (not seasonally adjusted).
- Chained Consumer Price Index was unchanged in December (not seasonally adjusted).
- Chained Consumer Price Index increased 2.0 percent over the last 12 months (not seasonally adjusted).