



This document was prepared by and for Census Bureau staff to aid in future research and planning, but the Census Bureau is making the document publicly available in order to share the information with as wide an audience as possible. Questions about the document should be directed to Kevin Deardorff at (301) 763-6033 or kevin.e.deardorff@census.gov

June 20, 2012

2010 CENSUS PLANNING MEMORANDA SERIES

No. 202

MEMORANDUM FOR The Distribution List

From: Arnold Jackson *[signed]*
Acting Chief, Decennial Management Division

Subject: 2010 Census Integrated Communications Program - Emerging Trends
and Best Practice: The Census Bureau and Web 2.0

The Census Bureau contracted with Abt Associates to conduct an independent evaluation of the web site portion of the Integrated Communications Program for the 2010 Census. Attached is Abt Associate's Final Report for the Emerging Trends and Best Practice: The Census Bureau and Web 2.0 study. We are issuing this document in our memo series for the record.

The U.S. Census Bureau conducted other evaluations and assessments pertaining to the Integrated Communications Campaign, such as the Census in Schools, Census Barriers, Attitudes, and Motivators Survey II, and the 2010 Census Integrated Communications Program. Those reports are being issued separately.

If you have any questions about this document, please contact Mary Bucci at (301) 763-9925.

Attachment

This report provides a roadmap for integrating emerging trends and best practice for online communication with the Census Bureau mission and operation.

Emerging Trends and Best Practice: The Census Bureau and Web 2.0

The U.S. Census Bureau

Contract No. YA132309CQ0045, Task Order (TO) 001:

Web Discovery: Data Visualization and the Future of

The Census Bureau.gov

Abt Associates, April 1, 2011

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Executive Summary

In an age when information has become one of the most valuable commodities in the Nation, the U.S. Census Bureau sits in the enviable position of producing some of the most highly sought after data in the Nation. The Census Bureau is respected by experts as a world class data producer; however, the rapid evolution of Web 2.0 solutions,¹ online culture, and the expanding expectations of the Census Bureau customers have created a gap between the high-quality products the Census Bureau produces and the ability to disseminate them effectively. Since its inception, Census Bureau operations have focused primarily on the timely and accurate *collection* of impartial survey and administrative data. The primary consumers of its information were initially other Federal agencies, states, and local governments, but over time have expanded to politicians, academics, journalists, business people, and the public. While the Census Bureau data collection processes have steadily improved over the years, the adoption of *dissemination* processes for sharing the results of Census Bureau data collection has not kept pace for two primary reasons:

- 1) Overall the Census Bureau staff has defined organizational success as the creation of clean valid datasets and has given significantly less priority to dissemination. This inward focus resulted in a “stove-piped” organizational structure optimized for data assembly but lacking the centralized governance structures and resources necessary for dissemination success in the Web 2.0 information world.
- 2) The explosion of new information solutions including mobile phone technologies, data visualization and sharing tools, and social media platforms (e.g., Facebook, Twitter) has resulted in a pace of innovation completely unprecedented in world history. The active user base for Census Bureau data has diversified considerably both in terms of **who they are** and in **how they access information**. Today’s Census Bureau is no longer an organization that must generate final data suitable for consumption only by civic leaders. Census Bureau data are now consumed by a broad Web audience with different interests around formats, timeliness, and complexity.

With rapid changes brought about by the Internet and these rising expectations around information dissemination, the Census Bureau launched an initiative in September 2010 to address the gap between their current dissemination practices and emerging best practices, some of which are demonstrated within pockets at the Census Bureau and similar government organizations. This document presents a set of recommended best practices targeted specifically at the Census Bureau goals for improvement. Recommendations are based on the results of a web discovery process consisting of a structured review of Census.gov and 11 relevant external sites, 22 Census Bureau staff interviews, and literature research; the results of this review are summarized below.

*“It’s like they added another mile to the marathon and we don’t finish.”
– An interviewed Census Bureau leader describing the Census Bureau’s rapidly changing online environment*

¹ According to [Webopedia](#), “Web 2.0 is the term given to describe a second generation of the World Wide Web that is focused on the ability for people to collaborate and share information online.” Web 2.0 solutions include web applications, APIs, mashups, interactive displays, messaging services, social networking sites, blogs, wikis, and video sharing sites.

I Global Findings

Abt Associates conducted a web discovery investigation composed of 17 different interviews with 22 Census Bureau staff members across 7 directorates, an expert review of the Census Bureau online presence and 11 other government/ statistical websites, and a review of Census documents and external best practice literature. All individuals interviewed (internally, externally, and without exception) held the Census Bureau in high esteem in regard to its production of valuable data. Census Bureau interviewees were proud of their work and the Census Bureau's reputation for accuracy and impartiality. There was universal agreement that any organizational changes must protect the Census Bureau's core competency in this area.

“Internal to the Census Bureau, we think of Census.gov as many sites; to the public it is just one big confusing site” – an interviewed Census Bureau leader

While clearly and affirmatively acknowledging the high quality underlying Census Bureau data products, the interviews and web discovery process identified significant quality gaps between the assembled data for in-house analysis and the Census Bureau's capacity to communicate information to its customers. While evidence of strong best practices exists in places throughout the Census Bureau, the review revealed these global issues:

- The different layouts, styles, file formats, and navigation structures throughout Census.gov create a confusing and disappointing online experience for customers.²
- The Census Bureau misses many opportunities for communicating with customers elegantly through data storytelling and visualization (e.g., interactive maps and graphics).
- The Census Bureau is not providing the public with the full value of the information it produces.
- Overall, Census.gov does not reflect well the high-quality precision work conducted by the Census Bureau.

II Underlying Challenges

As mentioned above, the web discovery process revealed pockets of effective activity in almost every category of dissemination discussed in this document, including data visualization, data storytelling, social media engagement, and web design. The primary challenge facing Census Bureau leaders is creating a consistent high-quality experience across the entire Census Bureau public face.

Stove-Piped Governance. The majority of interviewed Census leaders cited “governance” as the most critical area for improvement. These leaders wanted a more centralized, top-down leadership with respect to Web 2.0 efforts. Most cited the current stovepipe approach to organization, dissemination, and communication as being a significant impediment to creating a unified and efficient online experience. Several organizations charged with innovating, visioning, and standardizing data dissemination cited the lack of an agency-wide strategic plan, the lack of enforced standards, and the lack of common tools as being major impediments.

² A link scan of the Census.gov website on January 19, 2011, revealed 384 different cascading style sheets, which manage the look and feel of the website; essentially this translates into having 384 competing design criteria operating at one time on the Census.gov site.

Lack of a Dissemination Culture. The primary focus for most organizations in the Census Bureau has been the accuracy and timeliness of data creation. Only limited attention is paid to communicating results and few incentives or metrics are in place to reinforce best practice. Nearly every group interviewed stated the need for increased and improved data visualization in order to bring Census Bureau data to life. Several groups reported wanting to improve dissemination but said they were hampered by such things as support from management, hiring constraints (cannot hire a web programmer, or GIS person), and incentives.

Few Uniform Best Practices. With some noteworthy exceptions, the Census Bureau does not promote, enforce, or resource a coherent web dissemination environment. Tools and skills exist in pockets across the directorates; however, the Census Bureau does not institutionalize the learning from these activities nor does it scale best practices.

Lack of Customer Focus. Most Census Bureau staff members do not have access to feedback from Census Bureau customers and have only a limited view into each customer group’s specific interests. As a result, the designs and language in Census Bureau data/products are generally suitable only for experts intimately familiar with the Census Bureau structures and methods. Non-expert users struggle to access, synthesize, or draw conclusions using Census Bureau data.

Recommendations

This document defines a user-centric strategy for identifying and engaging the Census Bureau customers, outlines an internal organizational strategy for building the culture to succeed with these customers, and identifies technology solutions that can enable the Census Bureau to support these strategies. The table below previews these challenges and solutions.

Challenge	Recommendation
Stovepipe approach to organization, dissemination, and communication	Institute new governance structure and reinvigorated policies and procedures
Lack of a defined dissemination mission	Initiate new dissemination structure, incentives, and metrics
Few uniform best practices or approaches	Create a Census Bureau-wide strategic plan
Lack of customer focus	Integrate customer-focused practices in all dissemination activities

1. Road Map

Through the web discovery and best practices research, we identified numerous opportunities for improving the Census Bureau online presence. These are divided into “quick wins” that can be accomplished within a year and which require no major investments (e.g., will not require an enterprise content management system investment) and “long-term wins” that will require more-substantial planning and/or investment. The tables below capture our recommended top strategies for increasing the use of Census Bureau data by its users:

Top Quick Wins	
1	Redesign homepage to engage non-expert users.
2	Provide a visual site map organized by intuitive topics to help casual users find answers.
3	Provide XML sitemaps to all major search engines to improve a user’s ability to find the Census Bureau products.
4	Begin a “user-first” campaign at the Census Bureau to make people aware of the customers they are serving. Create “personas,” individuals representing each Census Bureau audience, and market these to all staff members responsible for dissemination.
5	Use the revised Data.gov platform to provide sophisticated data users with a powerful data exploration and visualization tool.
6	Pilot best practice storytelling and engagement practices on the subject area pages of Census.gov.
7	Launch a “U.S. Census Bureau in the World” feature to show stakeholders all the places Census Bureau data travels or is being used.
8	Form a pilot group to create data visualizations for high-visibility communications (e.g., all data-related press releases).
9	Integrate a “Powered by the U.S. Census Bureau” brand logo or watermark into all Census Bureau data feeds, data sharing agreements, and final data products to increase brand awareness and credibility.
10	Identify 3-5 Census Bureau employees capable of data visualization and data storytelling and equip them with near-term software solutions and guidance. Pilot the concept of actively publishing stories about the data.

Top Longer-Term Wins	
1	Adopt an enterprise content management system (CMS) to manage improved services.
2	Design topic or theme pages (e.g., Poverty) that engage the non-expert users.
3	Integrate user experience disciplines throughout Census Bureau dissemination activities.
4	Develop an organization-wide data visualization standard for communicating with each persona group.
5	Enable sophisticated and expert users to access Census Bureau data in the manner in which they use the data, not in the manner in which the Census Bureau collects and organizes it, through use of API or better data extraction tools.

iii Methodology

The observations and recommendations contained in this report are based on a structured investigation conducted in four parts: 1) an ongoing discussion of the Census Bureau needs and Abt Associates findings with the Census Bureau **web discovery team**, 2) 17 key informant **interviews** with Census Bureau leaders representing 7 of the Census Bureau directorates, 3) an **expert review** of Census.gov including Census 2010 and relevant Federal and foreign agencies, and 4) a literature review of relevant technology strategies and solutions.

2. Web Discovery team

Throughout the course of the web discovery process Abt Associates had access to members of the Census Bureau web discovery team, led by Stephen Buckner, Assistant Division Chief of the Census Bureau Public Information Office. Our team met with the web discovery team during the project kick-off meeting and on weekly conference calls in which Abt Associates received feedback on preliminary findings and research. Abt Associates also asked for and received input from the team via one-on-one phone calls and emails.

3. Key Staff Member Interviews

Abt Associates conducted 17 different interviews with Census Bureau staff representing a range of organizations and the Census Bureau information tools. **Figure 1** shows the distribution of key informants. The lighter shading at the Directorate level indicates that one or more interviews occurred within that Directorate. The stars indicate the immediate organizational unit where an interviewee sits.

4. Expert Review of Census.gov and External Sites

Abt Associates conducted a systematic review of the Census.gov website and 51 subsites that included analysis by the senior-level web designers and developers, a review and expansion on ForeSee user experience results, and a web audit framed by the three personas established for the purpose of this research. (The Expert Review results are contained in a separate report.) In addition, our team reviewed external sites from Federal and foreign agencies to discover relevant best practices.

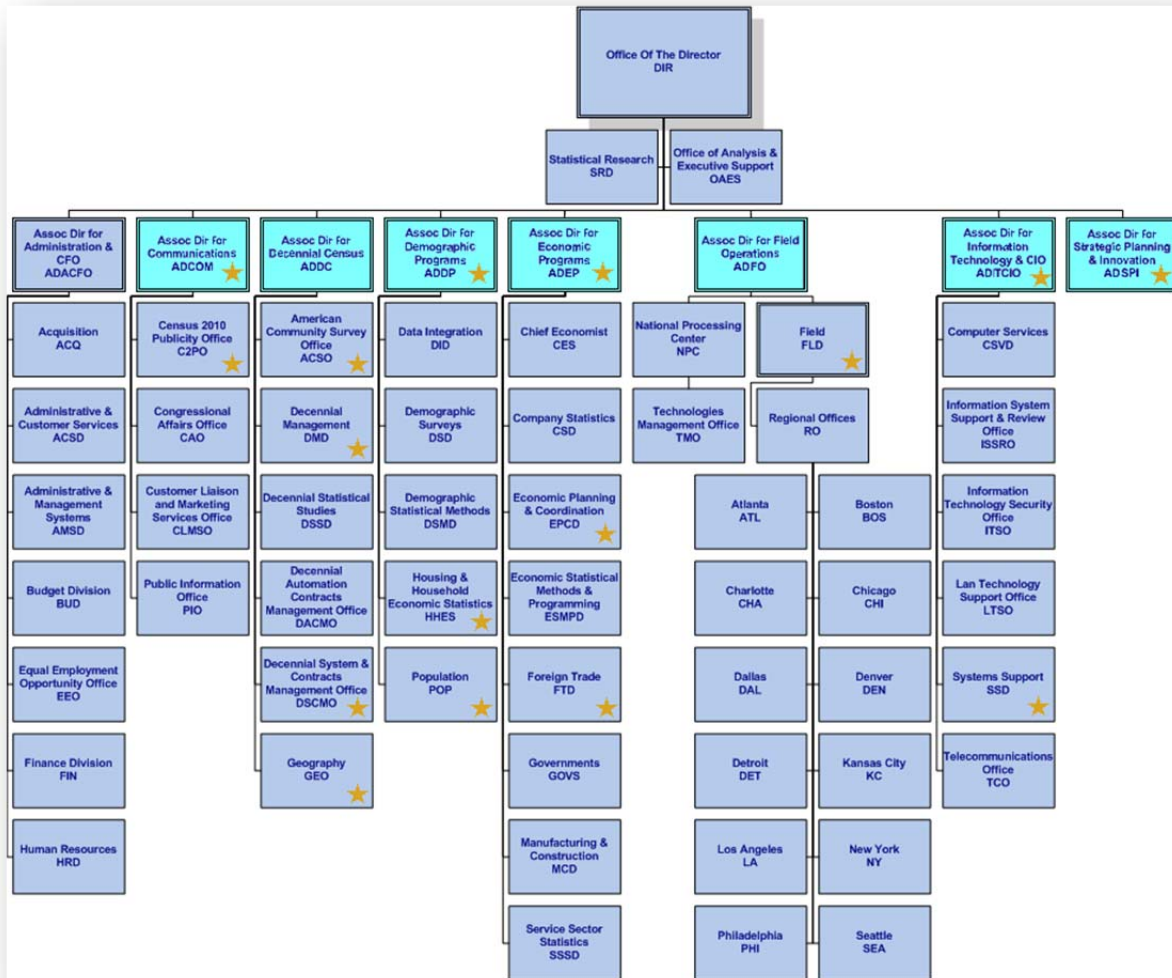
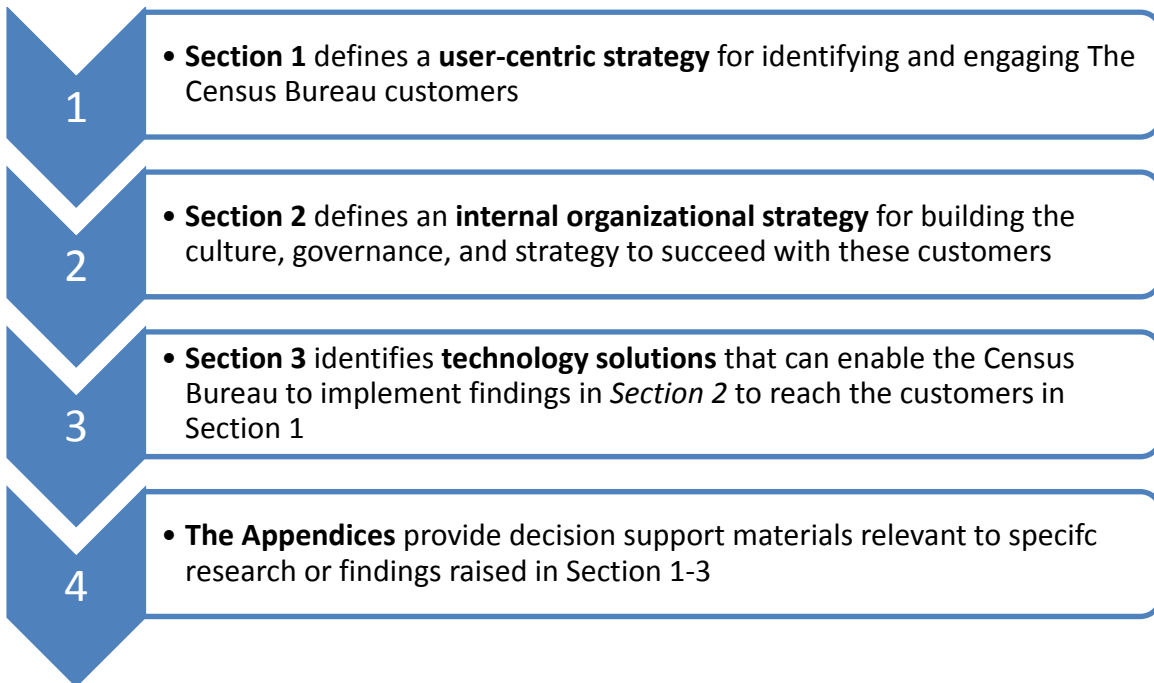


Figure 1 - Distribution of the Census Bureau key informant interviews across the directorates

Overview of the Document

Census Bureau leaders have committed themselves and the Census Bureau to modernize the Census.gov website according to best practices in order to better serve the Census Bureau's mission and the American public. The Census Bureau has already taken steps in adopting Web 2.0 strategies, as evidenced by the Census Bureau2010 website designed to engage the public in support of the 2010 Decennial Census. This document expands on the Census Bureau's ongoing effort.

The document is structured in four parts:



iv. Understanding the Census Bureau Mission

The U.S. Census Bureau has a long and respected history of providing U.S. residents and their political leaders with information critical to the effective functioning of Federal, state, and local governments and economies. The Census Bureau mission statement (see callout box) highlights the Census Bureau's commitment to quality, respect for individuals, and transparency. The Census Bureau mission also calls for innovation and a commitment to meet the needs of its customers, the residents of the United States and their political and business leaders.

In pursuing new strategies for engaging the American public and making information more readily available, the Census Bureau continues its faithful pursuit of its congressional mandate and mission. These new strategies also serve President Obama's [Open Government Directive](#) (December 8, 2009) and pursuant executive orders, which make transparency of government data a primary responsibility of each agency.

[The U.S. Census Bureau Strategic Plan FY 2007-2012](#)

The Census Bureau's current strategic plan reflects the commitments addressed above and calls out two challenges that must be met to fulfill these commitments:

- **Use new technologies to improve services and products.** As technological capabilities increase, customers will expect easier access, quicker turnaround, and greater comparability among different datasets.
- **Make information readily available to everyone, from the least to the most experienced data user.** The Census Bureau has a varied and diverse customer base that ranges from the U.S. Congress to the local resident in search of information for his or her neighborhood or block. The challenge is to develop cost-effective strategies for the continued delivery of useful information to this diverse customer base.

This document and supporting materials contain recommendations supporting these strategic objectives.

The Census Bureau Mission

The Census Bureau serves as the leading source of quality data about the nation's people and economy. We honor privacy, protect confidentiality, share our expertise globally, and conduct our work openly. We are guided on this mission by our strong and capable workforce, our readiness to innovate, and our abiding commitment to our customers.

Section 1 – Engaging Diverse Audiences

This section describes the creation of three user “personas” as a method for better understanding the users of Census Bureau data today. These personas enable focused exploration of improvements that the Census Bureau can make.

I. Help People Engage and Find Answers

Woven throughout the Census Bureau mission documents and strategic plan are goals that emphasize building the public and the government’s trust in the Census Bureau’s capacity to collect and disseminate accurate data. The Census Bureau succeeds in collecting and disseminating accurate data. However, the web discovery process uncovered fragmentation and presentation issues on Census.gov that might undermine public or government trust in the Census Bureau. This is an issue most directly relevant to the general public user who comes to Census.gov with little context about the Census Bureau’s work, but the issues are important to expert users as well.

Research has shown that websites should be designed with specific user personas in mind. Personas, short descriptions of the typical user in an audience segment, are an established method for creating more user-friendly information systems where customers stay longer and get more out of the experience. For web discovery, the expert review of the Census Bureau web properties, and this best practice report, our team created three personas that matched the target audiences described by Census Bureau leaders.

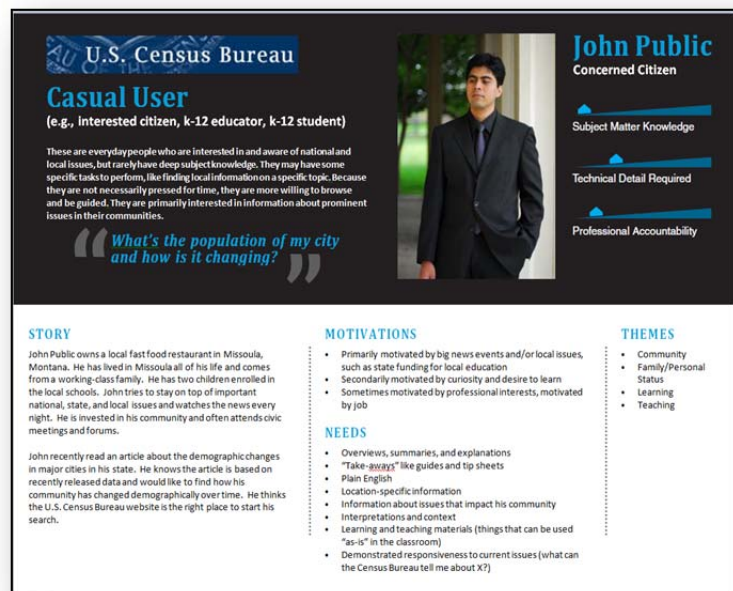


Figure 2 - Example Census Bureau persona

These personas are:

- **Casual user** – a first-time or infrequent user who has a question Census.gov can answer; a student working on an assignment; a researcher from a field not covered by the Census Bureau; or, a member of Congress or congressional staff person. Most often this user wants to know a general fact about the Nation or some specifics about a location (e.g., his or her home state). The casual user is not overly concerned with fine points about data methods or the Census Bureau program responsible for the information. This user is best served with curated answers, selected by the Census Bureau, and presented in everyday terminology.
- **Sophisticated user** – a business or government official, or a journalist, who is interested in obtaining detailed information to assist in business or policy decisions. For example, a

sophisticated user may be a small business owner attempting to locate information about his or her industry, or a journalist writing an article on the increase of state unemployment over time. They are best served by moderately powerful data exploration and visualization tools.

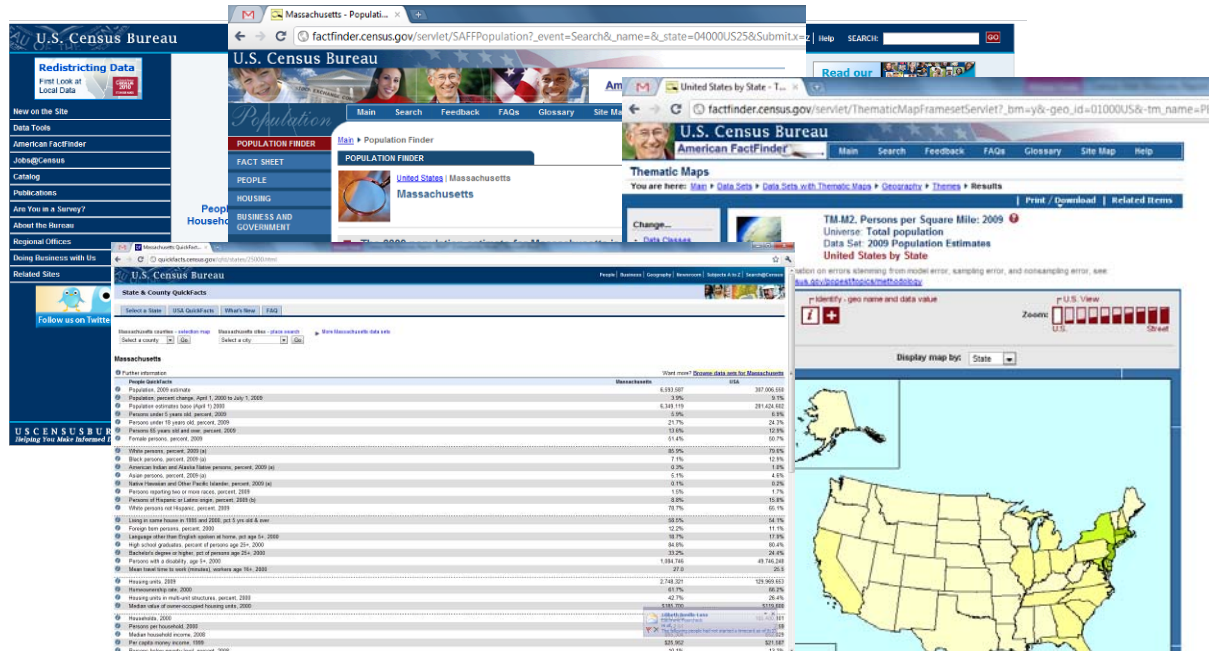
- **Expert user** – a researcher or government official who routinely uses the data as part of his or her work. The expert user tends to want timely, granular, and specific information. These experts will have their own tools for analyzing and manipulating datasets. The expert user wants timely, clean datasets and deep understanding of methodologies. These users are best served with thoughtful business-to-business processes that allow them to automate routines (e.g., APIs, new data alerts, standard formats).

These personas are offered as a simple starting point for analyzing Census.gov and its environment. Census Bureau leaders should reexamine personas in light of future research as they change over time. Program leaders may consider personas more closely aligned to their subject area, (e.g., the Economic Directorate might create an economist persona).

In general, Census.gov pages and information content appear targeted at expert users. Achieving the goal of reaching a broader audience will require planning and implementation targeted at the casual and sophisticated users.

1. Appreciate the Casual User’s Perspective

A casual user – a student, a non-profit planner, a member of Congress – who comes to Census.gov trying to answer “How many people are in my state?” might pass through five completely different Census Bureau subsites (all with different visual cues, navigation bars, fonts, and color schemes) on the way to finding this one simple answer.



Over and above simple confusion, these multiple locations and these differences in layout and visual metaphor influence deeper perceptions of the site, and, by extension, of the Census Bureau. Users traveling through these sites are likely, unconsciously or consciously, to draw these conclusions:

- It took a lot of effort to find the answer I wanted (*high transaction cost*).
- I am not sure if I have the complete answer since the different web properties appear to be discussing the same issues, but not in a coordinated manner (*distrust of the answer they found*).
- Navigation was not intuitive; I would not know how to find my way back to this answer if I came back in the future (*distrust of the discovery experience*).
- The Census Bureau is disorganized (*distrust of the organization itself*).

The bad news: Casual users experience higher than necessary transaction costs when obtaining information, and may conclude their discovery experience less trusting of the organization or its content than when they started.

The good news: The Census Bureau has mastered far and away the most important element of any web experience—outstanding expertise at **producing valuable information**. The next step is to improve the user experience to reflect the Census Bureau’s value. The following recommendations are drawn from industry best practice.

2. Use the Homepage to Engage All Audiences

A homepage creates the first impression for all new users and sets their expectations. The homepage should reflect the Census Bureau’s values (e.g., reliability, thoughtfulness, professionalism), the level of commitment to the public, and a unified Census Bureau experience.

Currently, the Census Bureau homepage functions mainly as a site map. The following changes would improve the user experience:

1. Revise homepage to visually invite users in with graphics and current information.
2. Conduct card sorting or equivalent exercises with customers to reconstruct navigation according to the customers’ mental maps, which may not be the same as navigation according to organizational structure, or

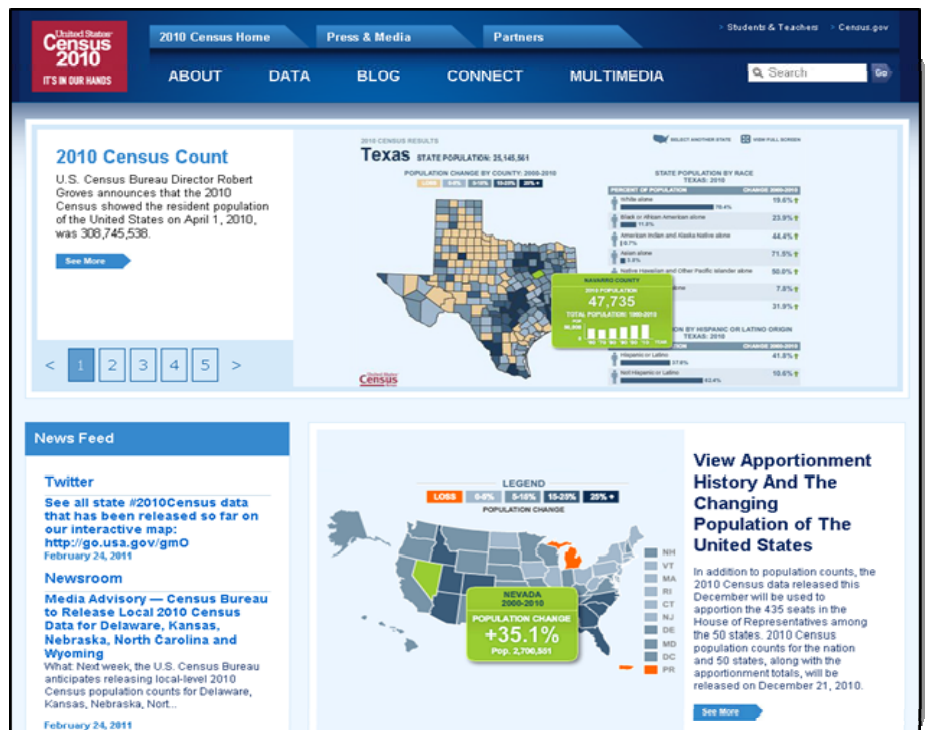


Figure 3. The Census 2010 Site Exhibits Many Best Practices

- according to products or survey names.
- 3. Provide content sections that illustrate a sense of timely relevance.
- 4. Control width to make page more easily explored.
- 5. Create channels for the main personas.
- 6. Directly address the casual users' most common questions.

These three Federal sites demonstrate strong engagement³ practices:

- [The White House](#)
- [Department of Housing and Urban Development](#)
- [Department of the Treasury](#)

3. Create Channels for the Main Personas

The expert review and interviews suggest that the overall design of the Census Bureau sites targets expert users. This is understandable given the Census Bureau's service history. With the notable exceptions of "Quickfacts" and "Population Finder," Census.gov pages do not engage casual and sophisticated users. The Census 2010 site features a smart use of channeling using tabs on the top of the page.

While a designer can often meet the needs of multiple audiences on a single page, he or she should be cognizant of the different audience perspectives. For example, on the Census.gov homepage, the central navigation mixes thematic pages like "Poverty" with programmatic pages like the "American Community Survey." Themes and programs should be separated out to reflect the different frameworks of the casual and expert user. A casual user does not know what the "American Community Survey" is but understands the word "Poverty."

[Find out more about personas at Usability.gov](#)



Figure 4 - Recovery.gov demonstrates one strategy for user self-assignment or self-selection

³ Engagement refers to the user's level of interest in the content of the site and willingness to interact further.

4. Cultivate Storytelling

Today, the student, teacher, or ordinary resident looking for answers is confronted with a glut of information. An Internet search on topics such as population, poverty, homelessness, or housing yields hundreds of thousands of possible resources in dozens of different formats. Although the Census Bureau has an enormous quality and volume advantage over most competing sites, the Census Bureau is still in heated contention for top billing on search results against less reliable and less informed sources. While culling through datasets on Census.gov will satisfy expert users, the general public needs answers served up in formats that are readily found and comprehended. “Quickfacts” and “Population Finder” are good examples of directly addressing casual users’ high-level questions about their state. This approach of offering curated data should be continued and expanded. The Census Bureau can provide additional value to the public by drawing out the *meaning* of the data in these sources.

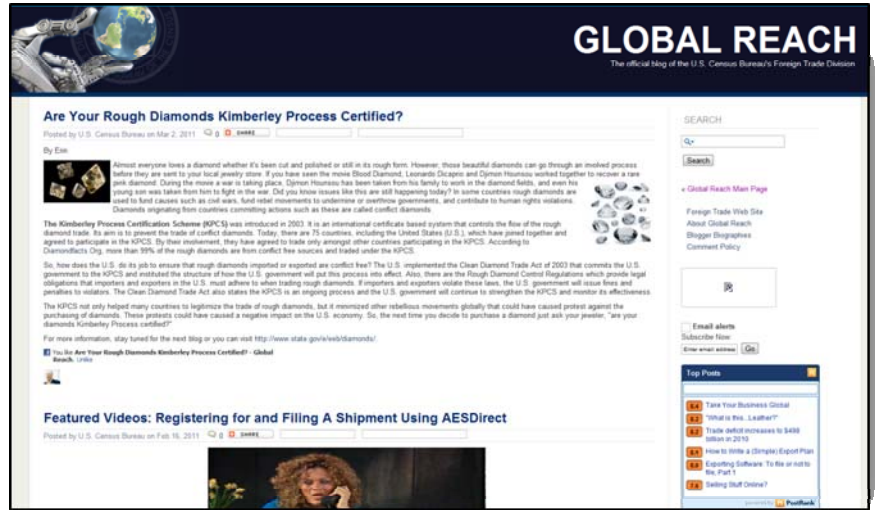


Figure 5 - The Global Reach Blog demonstrates effective storytelling

While a large portion of site users are looking for a single data point, (e.g. the population of a state), many want conclusions about trends or comparisons across populations, locations, or industries. Good storytelling engages customers in a way that standalone statistics cannot by identifying and interpreting these trends.

We recommend that the Census Bureau grow a centralized storytelling unit that interprets information to address topical issues. These storytellers would frame user interests, identify important data stories, classify each story’s proper media presentation (e.g., static data presentation, blog, article, report, interactive feature), and select appropriate visual displays (e.g., tables, graphs, infographics, article, interactive map).

A Note about Census Bureau Neutrality

The Census Bureau leaders made it clear that while telling stories with the Census Bureau data was highly valuable for users, the Census Bureau had a responsibility to the American public to remain politically neutral. In Section 2, we recommend a safe path for defining storytelling limits in the emerging information age and governance structures for ensuring only appropriate interpretations reach the public.

Statistical Storytelling Resources:

- [The United Nations Economic Commission for Europe \(UNECE\)'s Making Data Meaningful](#)
- [Hans Rosling's 200 Countries, 200 Years, 4 Minutes - The Joy of Stats - BBC Four](#)

5. Create a Curated Theme-Based Layer on Census.gov

The Census Bureau produces an enormous volume of valuable information, too much for a single homepage to deliver even to casual users with diverse questions about the Nation. Currently, the Census Bureau maintains some theme-based pages that pull information from across multiple data sources. We recommend these pages be updated in much the same manner described for the homepage. This improved navigation layer should target the infrequent visitors and produce a unified navigational experience that underscores the value of the information and orients casual users to the location with answers to their specific questions. These tools will help engage the infrequent user:

- A landing page that explains what the Census Bureau offers on this topic
- Stories, snapshots, graphs, and blogs related to frequently explored information
- Common questions linked to common data views (particular displays of data)
- Topical take-away materials for sharing (e.g., a snapshot graphic suitable for Facebook)

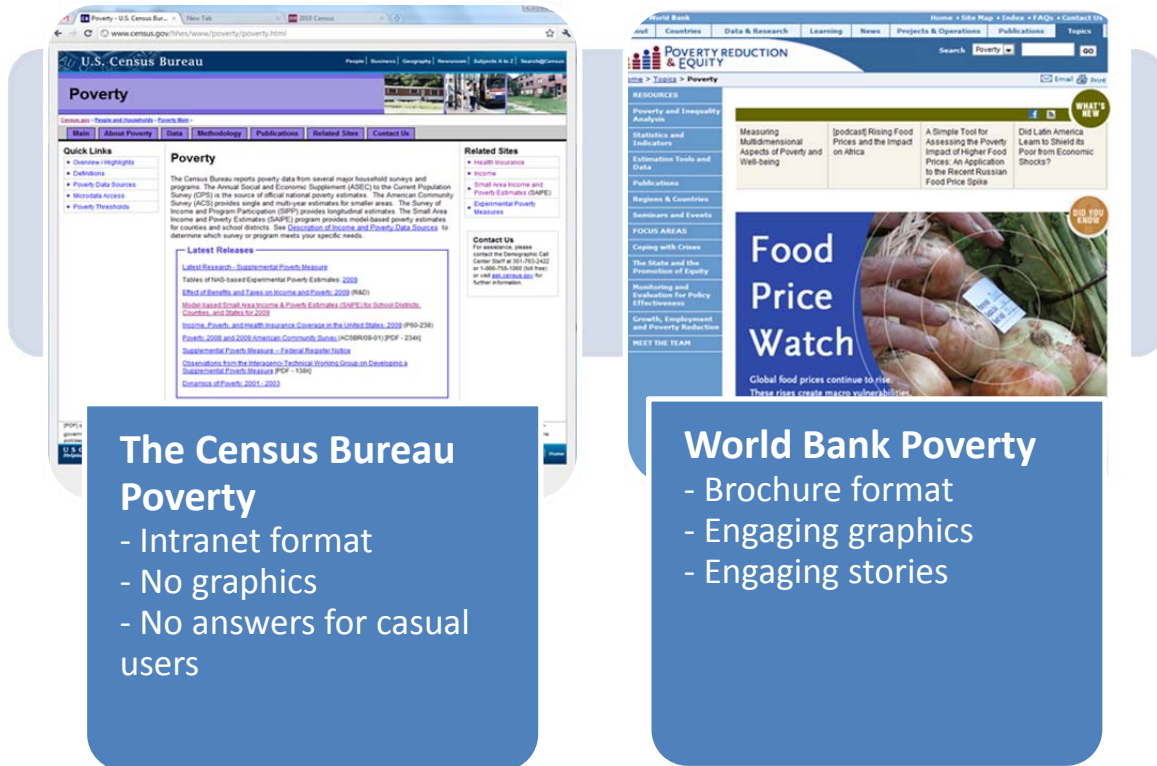
Our expert review of 51 Census Bureau subsites showed that while all three persona testers experienced some difficulty finding answers on these sites, the subsite navigation and layouts was serviceable overall. Census Bureau leaders should focus on creating an overarching information layer that ties Census.gov's many information sources together. We recommend creating a tier of navigation targeting the casual and sophisticated personas. These pages would be organized by familiar topics (e.g., poverty). Each topic or theme would have a curated page designed to guide the user to answers for the most common topics. When possible, information or a tool on the page would address the need directly, such as the population clock or the location finder on the current homepage. When referring users to specific datasets, the thematic layer should provide the users with guidance on choosing the appropriate data source for their needs. These thematic pages should be entirely "owned" by a central authority representing customer interests and the overall Census Bureau mission rather than competing program priorities. This central authority should select materials generated by the directorates and, with appropriate review by content owners, repackage for the casual persona.

Examples of sites with thematic layers:

- [World Bank Group](#)
- [Australian Bureau of Statistics](#)
- [Statistics Netherlands](#)

Comparing the Census Bureau and World Bank Treatment of Poverty

The World Bank poverty page, while not perfect, more successfully engages the casual user.



6. Expand and Improve Blogs Based on Customer Input

Blogs are a relatively low-cost way to increase transparency in a government agency and engage the public. ExecutiveGov.com ranks the five best government blogs from these CIO sites: the CIO of the GSA, the CIO of the Department of Navy, the Federal CIO, the FDA Transparency Blog, and NASA CIO's blog. These sites demonstrate what ExecutiveGov.com authors identify as the most important aspects of a blog: 1) allows direct feedback from the public; 2) provides a direct link to the thought leaders shaping agency activities; 3) puts a human face on the group; and 4) demonstrates a willingness to communicate.



Census has three official blogs: "Random Samplings," "The Director's Blog," and the "Global Reach Blog." These sites represent strong best practice. In addition to meeting the four criteria above, the blogs are interesting, well maintained, and strike the correct tone for engaging audiences. The next step for the Census Bureau leaders is to measure existing blog activities and study how increased marketing activities (e.g., outreach to professional groups) and experimentation with different styles and topics increase the blog readership. After getting a better understanding of existing blogs, Census leaders might study users' interests in blogs representing other thematic areas at Census.gov.

Learn more about Federal blogs at these sites:

[ExecutiveGov.com The Five Best Government Blogs and The Six Reasons Why They Work.](#)
(Accessed March 28, 2011)

[USA.gov's list of Government agencies with Blogs is identified](#)

Two Excellent Resources for Improving User Engagement

<p>For the Census Bureau Business Leaders</p> 	<p>For the Census Bureau IT Leaders</p> 
<p><i>“HowTo.gov provides the tools and ideas you need to effectively serve, engage, and support your customers, no matter how they choose to interact with you.”</i></p>	<p><i>“A one-stop source for government web designers to learn how to make websites more usable, useful, and accessible. The site addresses a broad range of factors that go into web design and development.”</i></p>
<ul style="list-style-type: none"> • Strategic planning and coordinating customer service channels; • Federal web requirements and policies; • Cloud computing, apps, data and web infrastructure tools; • Online resident engagement through social media and open government; • Web content management, usability, and design; and • Contact center services. 	<ul style="list-style-type: none"> • Plan and design usable sites by collecting data on what users need; • Develop prototypes; • Conduct usability tests and write up results; and • Measure trends and demographics.
<p>http://www.howto.gov/about-us</p>	<p>http://usability.gov/</p>

One of the best ways to demonstrate the benefits to Census Bureau leadership of using these two websites is to determine how other U.S. government agencies have taken advantage of the best practice guidance, recommendations, and tools provided on these websites. This can be accomplished by assigning an appropriate staff member to closely examine each site with an eye towards success stories.

QUICK WINS

- Revise the homepage to include more inviting graphics and stories pulled from existing sources.
- Revise the existing thematic pages to include answers to frequent questions and context information for casual users.
- Generate new materials using desktop visualization software and a focused pilot team.

LONGER-TERM WINS

- Place homepage and thematic tier on enterprise level content management system.
- Create new thematic pages and Web 2.0 features.
- Centralize the services underlying the content of each web property (e.g., search and indexing, compliance testing, style sheets).
- Enforce usability design and testing requirements for major investments.

II. Help People Find a Resource

The first challenge facing all information efforts today is attracting viewers to material and helping them find the resource they need. While individual behaviors vary, a typical user might use the following strategy for locating information:

- Find site though a seemingly relevant content snippet, through a Search Engine or referral link.
- Scan arrival page for relevant information.
- Navigate on promising links.
- If still engaged, use the search box to find more relevant material within that specific site domain.

A well-designed web campaign will support users at each stage of the search. Search engine results will be manipulated to raise prominent material higher in rank. Pages will orient the user to site content and most-requested material faster. Navigation will be targeted to the anticipated audience’s expectations, making its use more attractive. Finally, onsite search will be engineered to drive users to the best/preferred resources for the highest-value terms.

7. Target the Casual User

While all users will benefit from improved search and navigation, the Census Bureau web designers should focus on the casual user. Expert and sophisticated users will tolerate having less support in finding materials given their professional demands, the frequency of their visits, and their typically more precise search terms. The casual user, on the other hand, will have less motivation to stay on the Census Bureau website if disappointed with search results.

8. Improve the Search Experience for Users

Search Engine Optimization (SEO)

Search Engine Optimization is a process that web developers use to ensure their site’s web pages are ranked as highly as possible in the results listed at major search engines. There are many factors that influence search rankings, including:

- Number of unique visitors
- Relevance of page text to the search term
- The use of meta-tags describing the data itself
- Consistency of terms between page text and meta-tags
- Frequency with which the content is updated
- Number of referring links
- Government status



Figure 6 - U.S. Census Bureau beats Wikipedia on poverty search

The Census Bureau does extremely well in some search terms due in large part to its status as a government agency and the high volume and value of Census Bureau data. For example, the Census Bureau succeeds in overall rankings for major keywords like “poverty” (ranks #1, with an estimated 1.8 million monthly searches), or “the Census Bureau” (ranks #1-#6, with an estimated 3.35 million monthly searches), or “population” (ranks #5 & #6, with an estimated 9.14 million monthly searches). However, in many cases key terms bring back multiple Census Bureau pages that compete for the user’s attention. This unintended “noise” can confuse users or misdirect them to outdated data. The Census Bureau should focus on SEO efforts that not only promote Census.gov in general but also drive the optimum order within the Census Bureau page returns.

Improve the Onsite Search

Census.gov uses the Google Search Appliance to enhance onsite search. The Appliance is an industry leader and a sound investment. However, at present, onsite search using the Google Appliance does not perform as well for the casual and sophisticated user as the external Google search engine. Searches for many common terms bring results from a mix of different sub-sites or media, and do so at varying levels of detail. For example, typing in “home sales” brings back a list of pages that would confuse the user. Experts would have similar issues searching for certain terms such as “Statistical Abstract,” which returns the “State & Local Gov’t Finances & Employment” page within the website as the first search result, but does not return the Statistical Abstract main page within the first few pages of search results. (Many component website main pages do not appear in search results when querying using page titles [52%] or text from the page [46%].)

Census Bureau IT staff members already have the skills to improve these search results; however, they may lack the resources. Google Search allows web masters to tag pages and provide weights to pages to indicate relevance on the site. The “Key terms” feature can “push results” to guide users to the appropriate landing pages. By varying these settings and tags, the Census Bureau can drive all simple term searches to thematic pages like “poverty” or “housing” while allowing expert users to use more-specific terms like “decennial housing the Census Bureau units in structure” to land on dataset-specific pages (non-thematic).

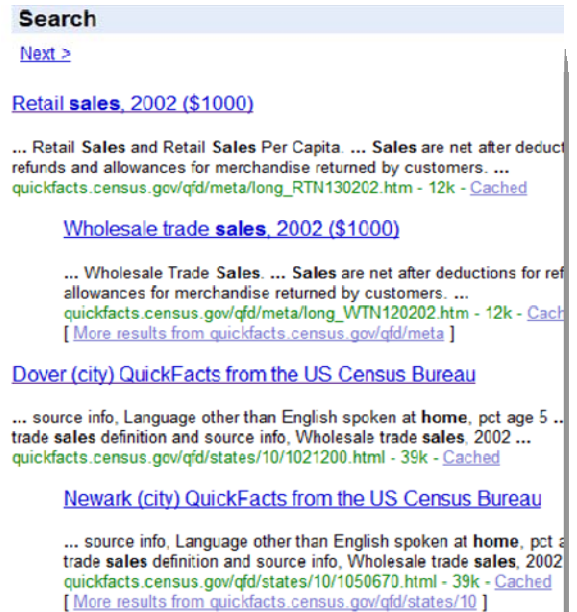


Figure 7 - Onsite search for “Home Sales” brings back a confusing results page.



Figure 8 - Visit TrueKnowledge and see an intuitive and powerful search engine

The “Key Term” strategy is already demonstrated on Census.gov. However, having component websites managed by different teams on different platforms makes managing these federated searches complicated.

9. Provide a Visual Site Map for Casual Users

Casual users visit the site with little understanding of the Census Bureau’s organizational structure or the specific information products (e.g. American Community Survey) it provides. While the current “[Subjects A to Z](#)” page may serve the expert user with a mental framework of Census.gov, numerous white papers and best practice studies indicate that a casual user will not read through an alphabetical list of 400+ links to find the next navigation link. By comparison, users of a search engine rarely look at results 11-20 on Page 2 of a keyword search, let alone results 391-400 on Page 40. Casual users do understand the topic they are investigating (e.g., income levels.) They should be presented with a visual site map organized by themes and their subtopics.

Examples of Government Sites with Good Visual Sitemaps

- [NASA Sitemap](#)
- [Department of Defense](#)

10. Prune and Collapse Material

As mentioned, Census.gov has an enormous amount of content by any standard or measure. While offering a great deal of information is generally a blessing in the new world of Web 2.0, there are serious negative implications for maintaining out of date, unpopular, or redundant information. Issues that frustrate and drive away users include:

- Crowded search results and navigation options
- Out-of-date information
- Competing information sources⁴

Census leaders can address these issues by enforcing life cycle management policies that track online postings and assign dates when responsible parties must update or remove material. This process will be greatly improved and simplified by a content management system that can automatically alert content owners that material is “aging out,” and automatically archive expired materials. Content with ongoing relevance (e.g., historical analysis) should still have an owner and be periodically updated for presentation issues such as emerging browser standards or new Census look and feel templates. Online items that serve the same audience and purpose should be consolidated to reduce confusion. Archive policies should be flexible to avoid two common mistakes: 1) archiving old but relevant material (e.g., historical datasets), and 2) organizing review

⁴ For example, both the American Community Survey (<http://www.census.gov/acs/www/>) and Current Population Survey (<http://www.census.gov/cps/>) provide information about household income. The income website here <http://www.census.gov/hhes/www/income/method/guidance/index.html> provides guidance about which data source to use for different types of questions. However, this is unlikely to help the casual user.

systems around individuals and failing to anticipate content owner turnover.

QUICK WINS

- Publish the search engine site map provided by Abt Associates. This map will inform search engines about the sites hierarchy and help rank-order results.
- Create a visual site map for end users to replace the “Subjects A to Z” site map, or to stand beside it.
- Pare down unused materials that may distract users from more-relevant material.
- Conduct a proactive marketing campaign to partnering agencies to help position targeted/related links on their sites.
- Include the Census Bureau links on all hard copy and PDF materials sent out by the Census Bureau.
- Prioritize content (currently, all links in the XML sitemaps are ranked 8 out of 10, showing no distinction in value of the link between the best content and the worst). By showing depth, search engines will push users to the most appropriate pages.
- Consider buying AdWords to advertise the Census Bureau products in areas with poor native search rankings.
- Create a 301 redirect for <http://census.gov>, which should automatically redirect users to <http://www.census.gov>.

American Mobile Use Is Ubiquitous

- 293 million [wireless subscriptions](#)
- 93% penetration
- \$155B annual revenue
- 173B annual SMS messages

LONGER-TERM WINS

- Create a system for entering metadata on all web content.
- Integrate tags and HTML 5 flags into web content.
- Introduce indexing across all sites.
- Adopt an enterprise CMS that will automate and standardize site mapping, tagging, indexing, and, most importantly, the site search.
- Set lifecycle management policies on all online materials, forcing them to be reviewed or archived by owners.

III. Help People Connect with Mobile Strategies

Mobile phone use has surpassed all other technical media in rate of adoption and total adoption. Across the world the smartphone is becoming the most frequently accessed computer platform. Staying relevant to a new generation of users who use the phone to explore the world and research information requires a new mental framework for information workers. With smaller screens and narrower transmission pipes, mobile sharing does not lend itself to exploring datasets or to exhaustive navigation strategies. Mobile information must be intelligently targeted to its audience and the strengths of the small-screen interface.

11. Enhance the Mobile Browsing Experience

Mobile browsing is the equivalent of surfing the web on a computer. Mobile browsing avoids the tremendous technical complications involved in creating programs (apps) for the many different operating systems and versions on the market; however, some automated features are not available through these apps, (e.g. integration with other applications).

On smaller-screen mobile devices, browsing standard websites can be a painful experience, with too much scrolling, too many magnifications, and long page load delays. Effectively serving a mobile audience calls for the development of dedicated mobile pages with simplified navigation, limited graphics, and screen accommodations. Many modern content management systems simplify the web programmer’s work by automatically producing mobile pages that reduce page clutter in logical ways.

12. On-Device Mobile Applications Are Different from Mobile Browsing

Mobile apps are programs designed specifically for handheld computers or smartphones. While there have been hundreds of government experiments with mobile apps, the vast majority go un-downloaded and unused. The ones that do succeed offer customers a practical solution to a real challenge, and often roll out with a customer awareness campaign. Successful mobile apps typically share these features:

- Built for repeated use
- Targeted toward one goal
- Location-oriented

The trick to creating a successful app in the United States is finding a solution that a mobile phone can provide better than a personal computer. Apps must be targeted to a specific group with a specific repeated need. This generally equates to a job (e.g., a realtor or developer frequently exploring different locations).

Example of Mobile Web Browsing

We understand that the Census Bureau is looking into mobile Web browsing for delivering information. In our review of external



statistical agencies we identified Statistics Singapore as a good example of delivery of latest key indicators of Singapore’s economy and society by using “Data on SMS”. Mobile Web browsing has been implemented at the Australian Bureau of Statistics. The ABS has implemented a handheld style sheet that removes images. Their approach makes it feasible to provide fast-loading pages to data users on a handheld device.

“My TSA”, a Role Model for Targeted Apps

The Transportation Security Administration recently won the Best Government Mobile App Award for their “My TSA” app from the American Council for Technology and Industry Advisory Council. The application demonstrates a strong appreciation for matching information solutions to real-world consumer needs. The tool’s four features offer travelers timely information on 1) airport delays, 2) items that are and are not allowed on flights, 3) packing and dressing for accelerating security transits, and 4) security area wait times. The tool further demonstrates best practice by leveraging information from external sources like the F.A.A. and passengers entering their own wait times.

13. Give the Sophisticated User a Targeted On-Device App

We believe the main target for a successful app is the sophisticated user, i.e., a specific professional with a specific recurring task that warrants use of an app or online mobile application. In the short term, casual users are unlikely to have a sustained relationship with Census Bureau data and expert users are likely to require only alerts (via email or RSS) for new data and resources.

An Example of a Targeted App for Census

In the 1990s the Census Bureau and FEMA leaders met to discuss the idea of an online system for feeding timely information to disaster workers in the field. While the effort was not advanced at the time, Census Bureau leaders mentioned this as a promising collaboration. An app that provided FEMA workers with Census Bureau data about a disaster area over a cell phone would have many success factors: 1) high portability, 2) easily localized information, 3) relevant information, 4) prescribed hardware and operating systems, and 5) no better alternative. Moreover, the most difficult part of this programming may already be available through an existing open source app produced by ESRI, the leading GIS vendor.

View the ESRI Population App and watch the demo at: <http://www.esri.com/software/bao-ios/demos.html>



Figure 9 - ESRI BOA iPhone App localizes the Census Bureau data

QUICK WINS

- As new pages are created, particularly the thematic pages accessed by general users and frequently accessed items (like blogs for expert users), ensure that each webpage has a mobile browsing page.
- Advertise the upcoming API features on American FactFinder and Data.gov to programmer audiences who currently create apps using population or economic data. (Remember to ask them to include the Census Bureau brand on appropriate tools!)
- Hold a “Challenge” in which the Census Bureau offers prizes to developers for creating a compelling Census Bureau app. Support for Challenges is available at Challenge.gov.

LONGER-TERM WINS

- The Census Bureau should conduct a user study to determine how customers use or would like to use the Census Bureau tools on smartphones and tablets.
- The Census Bureau leadership should create a mobile strategy that defines how internal and external mobile solutions serve the Census Bureau mission.
- The Census Bureau should look for a Content Management System that 1) automatically creates mobile pages by stripping out non-essential images and 2) automatically detects mobile devices and serves mobile pages.

Visit these sites to learn about Government apps:

- TSA’s Award Winning
- [Civic Apps for Greater Portland](#)
- [Usa.gov Apps Showcase](#)
- [NASA Apps for Smartphones](#)
- [Android Marketplace](#)
- [iPhone Apps Store](#)
- [Mining Government Data: The Future of the Mobile City](#)
- [ESRI Case Studies](#)

IV. Help People Explore Data

A common theme across the web discovery interviews was the desire to provide users with an easier and more fulfilling experience examining data. Items mentioned included:

- Standardizing the formats in which similar data were displayed across the Census Bureau
- Providing interactive mapping and graphs in more reports, blogs, and press releases
- Giving Census Bureau staff members tools for creating better visualizations
- Allowing users to share their visualizations

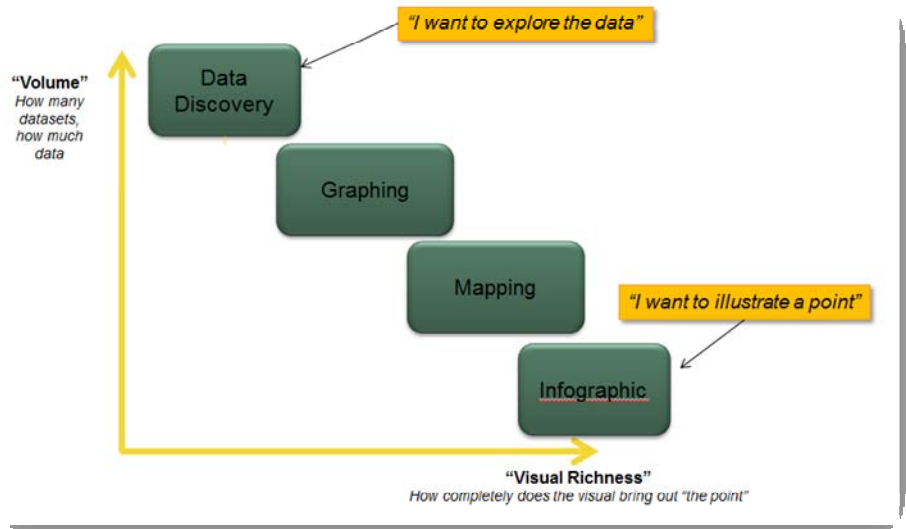
Tools abound for providing all manner of users with data exploration tools. We provide analysis and decision support materials for selecting data exploration solutions in Appendix B. In this section we discuss the strategy driving implementation of these tools.

We recommend that the Census Bureau consider data exploration not as a single solution but a spectrum of solutions. The adjacent figure illustrates a common method for distinguishing data

exploration approaches. Here data discovery platforms that manipulate data in table format are more appropriate for, say, researchers familiarizing themselves with datasets, while an infographic illustrating a single conclusion is more appropriate for the casual user. Web designers want to match the data exploration experience to the situation. The most important factors to consider include:

- The data story you are trying to tell
- The target audience or persona you are trying to reach
- The technology you anticipate users viewing on (e.g., mobile phone, PC, Facebook)

There are several general assumptions we can make about the three Census Bureau personas; implications are drawn out below.



14. Give the Casual User Prepared Data Views

As mentioned above, the casual user comes to the site with a specific type of question in mind. The agency’s best practice approach is to anticipate the nature of those questions and provide an answer in the most appropriate format. Data discovery and visualization tools offered to the casual user should have an initial view state that clearly shows the kind of answers available on the tool and limited options for exploring. For example, if the users are interested in income in their state, they may be offered a map of the United States with income levels grouped by color and the choice to select their state (by dropdown or point and click.) These displays are most effective in the context of a story. In this example, the map could be embedded in the poverty thematic page explaining the Census Bureau mission on Poverty.

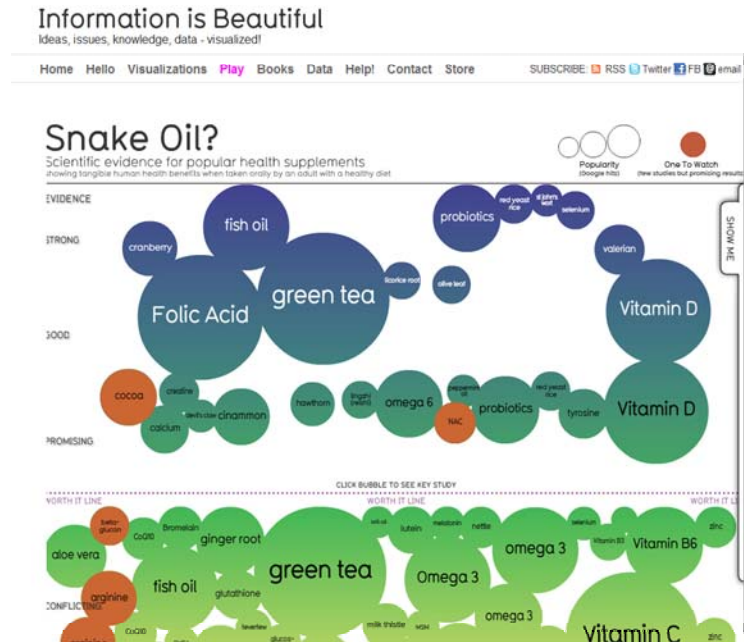


Figure 10 -Information is Beautiful demonstrates impressive visualizations

The Census Bureau reporters or storytellers should construct visuals for the casual user as part of an organized campaign to reach and engage these users. The visuals provide opportunities to explore further and may rest on the more advanced tools used by sophisticated or expert users. However, the Census Bureau should not overtax the casual user, nor assume a level of patience, or knowledge of the data structure, the topic, or facility with online applications, that matches the sophisticated users. In Section 3, we describe tools that will empower the reporters to create engaging graphics.

Be careful to avoid designing complicated solutions for simple answers. The Census Bureau Quickfacts, for example, are probably still excellent data displays for some purposes.

Get inspired with these visualization sites:

- [The Chronicle of Higher Education – Adults with College Degrees](#)
- [The Infographics Showcase](#)
- [Well Being of the Nation Mapped](#)
- [Data Church](#)
- [Information is Beautiful](#)
- [The Gallery of Best and Worst Data Visualizations](#)
- [Infographic World](#)
- [David McCandless](#)
- [Martin Wattenberg](#)

15. Give the Sophisticated User Interactive Tools

The sophisticated users, people searching for answers or ideas related to their professions, are likely the Census Bureau audience most desiring interactive tools. (The expert user is most grateful for a simple data download or web service data stream.)

The professional is likely to use data discovery tools to accomplish these types of activities:

- Explore new data for patterns or trends
- Find evidence to support or refute an investigation
- Become familiar with a dataset prior to downloading
- Check a fact

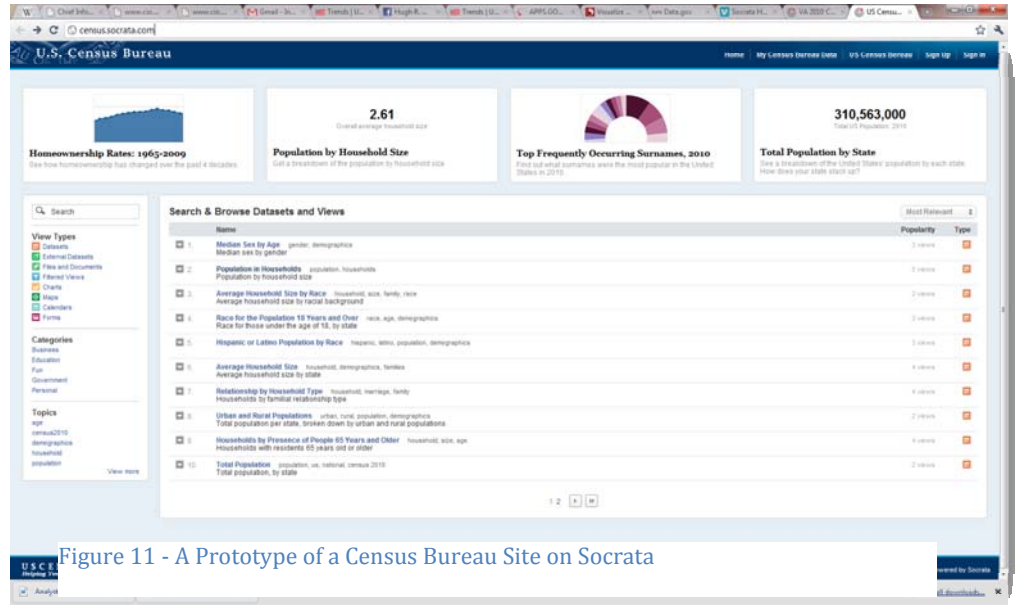


Figure 11 - A Prototype of a Census Bureau Site on Socrata

16. Experiment Before Investing in Data Exploration Platforms

Before investing a great deal of money and effort in an enterprise-level public-facing data visualization platform, the Census Bureau should experiment with free or small investment systems to better understand their users' needs and choose wisely. As information workers, we are inclined to overestimate the capacity for the general public, our casual user, to understand or tolerate online data tools. Meanwhile, the expert user may skip over the online data tools, preferring to download the desired data and manipulate it on tools (e.g., SAS) with which he or she is proficient. Fortunately, there are several opportunities for bringing data exploration tools to Census Bureau visitors with little technology investment.

Embrace the Data.Gov Initiative

Data.gov offers a tremendous opportunity for the Census Bureau to explore the potential of a powerful (and expensive) data discovery and visualization engine while incurring relatively very little cost. Using datasets cleaned and standardized for the American FactFinder effort, the Census Bureau can shift all maintenance and licensing efforts to this central service. Once on board, the Census Bureau storytellers can use the engine to expand visualizations in stories and engage the Census Bureau audience directly via the Data.gov sharing features.

This data discovery system can be used in this way:

1. Allow Census Bureau staff members to gain familiarity with this type of platform.
2. Conduct user tests on platform with target audiences.
3. Embed the Census Bureau branding, redirects, and metadata tags into system.
4. Provide a free, powerful API

Powered by Socrata

Socrata is one of five companies selected by data.gov to power different aspects of their upcoming online data discovery tools. Socrata will offer:

- A branded homepage for agencies
- Data visualization and filtering
- A flexible API and embeddable code
- Public discussion and view state sharing

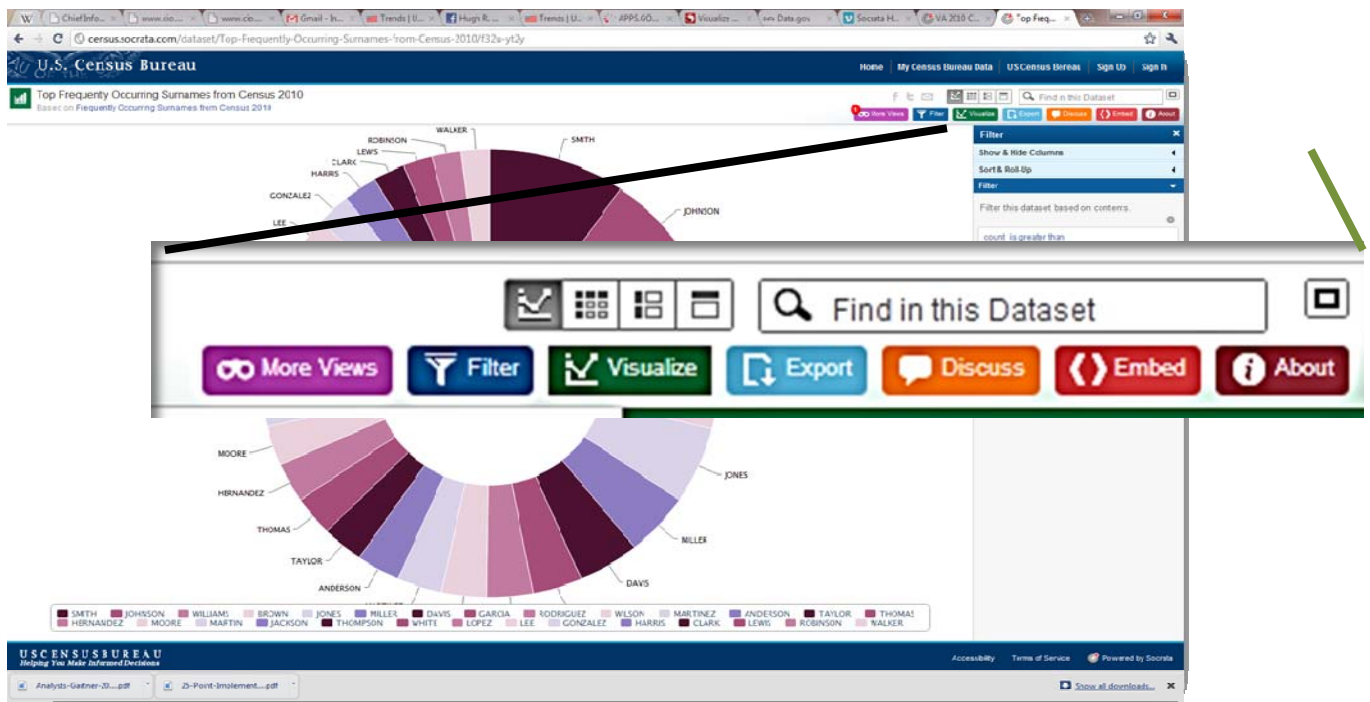


Figure 12 - Socrata produced Census Bureau demonstration site at <http://census.socrata.com>

View these Socrata Demonstrations:

- <http://census.socrata.com/>
- [Census Bureau data on Socrata](#)
- [Socrata overview Video](#)
- [A video demonstration of putting branding on Socrata](#)

Alternative: [Google Public Data Explorer](#)

Google Labs has produced a beta product that allows the public to upload datasets to an automated visualization tool. The Census Bureau might consider this embeddable mapping tool as an alternative to its more powerful engines (e.g., ArcGIS and AFF). The Google team is interested in speaking with potential users to shape their offer. Census Bureau leaders can experiment with the tool today using Census Bureau data already loaded. As a source of some of the most desirable data in the Nation, Google is likely to pay attention to any serious suggestions from the Census Bureau. The Census Bureau might explore:

- More-sophisticated metadata annotation to flag nuances in the information
- Overlay options for displaying other Census Bureau data in accurate ways
- Better Census Bureau branding (there are citations linking back to the Census Bureau currently)
- Capacity for embedding Google PDE in the Census Bureau pages

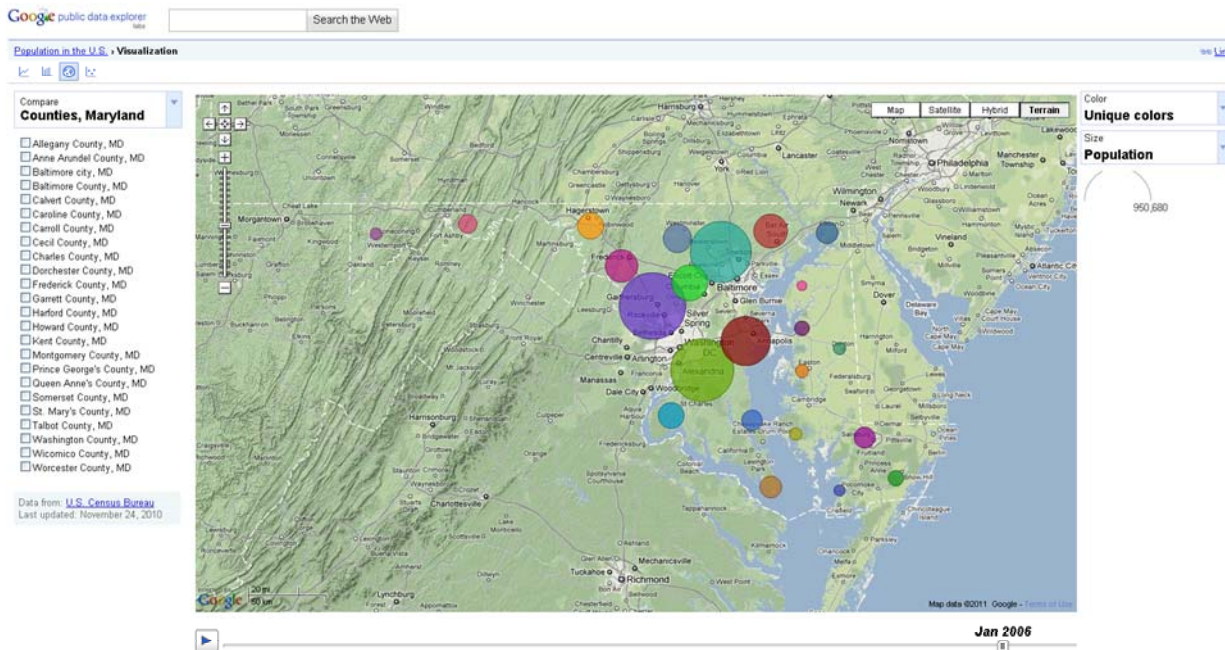


Figure 13 - A Google Public Data Explorer view of Census Bureau data in Maryland

[Read an article about embedding Google Public Data Explorer in your site](#)

Note: Census Bureau leaders have mentioned Google visualization as a competitor with the Census Bureau in storytelling. We, however, see Google as a potential benefit for the Census Bureau for several reasons. 1) The Census Bureau is cited on these tools and associating with another strong brand. 2) Redirects from the Google tool to the Census Bureau raise the Census Bureau's profile on search engines. 3) The Census Bureau might in the future leverage Google tools within its own site navigation.

17. Tailor American FactFinder to Experts

While experts may benefit from other data discovery tools envisioned by the Census Bureau, American FactFinder provides the primary resource these professionals intimately familiar with the Census Bureau require: direct access to the data files. The Census Bureau should focus on understanding this user group's experience using AFF and tailor the product to support the expert user's reuse and redistribution of the Census Bureau datasets. Ongoing refinements to AFF may in time make it popular with sophisticated users; however, casual users are unlikely to experiment long with a system that retrieves tables.

Visit Federal Sites with Interesting Data Exploration Solutions

- [IT Dashboard](#)
- [FedStat list of Federal Data Sources](#)

QUICK WINS

- Select a desktop visualization tool with which to experiment as a standard storytelling tool.
- Form a small pilot group to create data visualizations for a circumscribed product (e.g., all data-related press releases).
- Place interactive maps on existing theme pages using selection tools.
- Create and brand 12 new Census Bureau data views on data.gov and market them to sophisticated users.
- Embed a Census Bureau Google Public Data Explorer data view into Census.gov to demonstrate capacity to leverage outside services while retaining brand ownership.

LONGER-TERM WINS

- Create a Census.gov data visualization standard and support service aligned with the needs of major audiences. This would include map and data discovery service configurable by storytellers and engaging for casual users; a data discovery platform for sophisticated users; and an ever-improving AFF for experts. (Services and tools may overlap.)
- Create standards and policies for leveraging outside services to accomplish the Census Bureau goals.

V. Help People Share Census Bureau Information

The best information sites go beyond data downloads and onsite tools. These sites allow customers to take information products like maps, data visualizations, articles, and data extracts and share them with others. The Census Bureau already demonstrates pockets of expertise in using the best dissemination strategies. These are effective strategies that should be expanded and improved:

- Share this and “Likes” – This feature allows users to share interesting material (an article, a blog entry)
- API – Allow programmers to readily stream data from the Census Bureau to other external (or internal) programs
- Mobile apps and browsing expands utility and presence of the Census Bureau information
- Widgets, small code inserts, allow other developers to embed the Census Bureau products or information on their sites
- Social Media Presence (some Census Bureau programs use sites’ social media strategies such as Facebook and YouTube successfully)

Facts on Census Bureau Feeds

The Census Bureau has 48 RSS feeds including 2 audio feeds (podcasts).
<http://www.census.gov/main/www/feeds.html>

- 4 general feeds
- 4 news release feeds also in 35 subject news release feeds
- 3 blog feeds
- 2 audio feed podcasts

18. Create a Strategic Plan for Casual and Sophisticated Users Sharing Census Bureau Data

While low-cost, low-effort solutions like “Share this” might not call for an elaborate campaign plan, sharing tools such as APIs, mobile apps, widgets, and even social media site participation require thoughtful planning. The tools themselves are well established; however, more often than not, organizations fail to create products or marketing strategies that end with wide customer adoption.

Study the Customer

The key to creating a successful dissemination strategy and tool is understanding the intended audience and their needs. There are several complementary strategies for understanding user needs:

- Measure the use of each tool and track its use across the web.
- Conduct a landscape analysis studying the target audiences’ activities/interests on other sites.
- Conduct focus groups, surveys, or thought leader interviews.
- Host online discussions associated with existing tools.
- Interview data-repackaging organizations like those businesses supplying visualizations to media outlets.

Finally, the leaders identified problems with filtering, which affect results when small changes occur in subgroups in any part of the country. Similarly, the structure of standard errors affects point estimates when there are very small samples for any subgroup. For example, 20 non-

Hispanic Asians would expand to 600 Asians as a point estimate +/- 1800. This filters out the small subgroups.

19. Prepare Census Bureau Data Files for Distributors

Researchers, media outlets, civic planners, and business leaders are among the many people who download Census Bureau data files. These are the change agents that turn Census Bureau data into action. The research, articles, and decisions made by these distributors touch millions of people and represent the majority of the Census Bureau’s real-world impact.

Given the importance of these change agents to the Census Bureau Data’s ultimate value, Census Bureau leaders should make a concerted effort to provide data in formats most conducive to reuse.

While AFF has made strides to standardize many datasets in one place and some datasets are prepared for data.gov, interviewed Census Bureau leaders pointed to the need for an agency-wide strategic plan for providing a uniform approach to formatting and distributing all data files. Such a strategic plan would address:

- Customer research, segmentation, and outreach (e.g., user groups)
- Standards-based data formats and APIs
- Targeted marketing efforts
- Metrics on satisfaction and impact

One Customer’s Perspective

We spoke with a company that specializes in redistributing Census Bureau data. They aggregate and visualize Census Bureau data. This organization creates the interactive displays for news organizations. Our interview with several company leads illustrates the potential value in holding discussions with retellers and other customers.

While staff members of this company respected Census Bureau efforts overall, their leaders voiced several frustrations with recent Census data releases. First, they were concerned about the lack of embargoes at the time of data release. Census did not implement an embargo on the 2009 ACS data release, and this made it impossible to analyze the data before public release. In the past, Census used to provide a 3 to 5 day embargo that would allow the analysts to analyze the data and take it to press. Additionally, 51 effective data releases occurred in one day and the releases occurred at 9:15 PM, making it virtually impossible to analyze the data by morning.

Emerging Trends and Best Practice: The Census Bureau and Web 2.0 by Abt Associates



Figure 14 - Retellers, like the *Washington Post* and *New York Times*, expand the reach and value of Census Bureau data

“Census basically releases the data flipped upside down from what we need. Census has all the summaries and then splits them into 50 states; we need it the opposite – we need all the states together and then split out by summary.” An interviewed Redistributor of Census Bureau Data

Second, they were concerned about notification of data releases. Currently, the Census releases data via the FTP site and AFF, but files were not always available on AFF. The FTP pipe was also slow, with one user getting 1MBPS with 10 connections. This was caused by a large number of users who received notification through a webinar and press release. Third, the current census data structure makes it hard to prepare the data for analysis. Presently, Census releases 117 files for each state that have to be horizontally merged and then prepared for use. The data would be considerably easier to use if the states were split by summary level.

20. Experiment with American FactFinder and Data.Gov APIs for Expert Users and Developers

American FactFinder and Data.gov will soon offer API services for many Census Bureau datasets. These two platforms could offer a rich opportunity for planning, implementing, and studying how Census Bureau data consumers approach the service. Following their strategic plan, Census Bureau leaders might conduct a pilot effort promoting the service to a targeted type of consumer and asking them to evaluate the service. Another approach might be to host a challenge by offering money to programming teams who use the API in the service of a tool furthering the Census Bureau's goals. In either case, the initial goal for Census Bureau leaders should be to establish a clear understanding of what their most important customers need.



Host a Challenge

Many agencies have used challenges as a low-cost way to engage the public and shift their development focus outside the agency. Challenge contests invite the general public to create a solution to a problem or unmet opportunity posed by the agency. The [U.S. General Services Administration](#) (GSA) in partnership with [ChallengePost](#) provides a platform and business support for launching challenges. Existing Challenges range from “suggestions, creation of logos, videos, digital games, and mobile applications to proofs of concept, designs, or finished products that solve the grand challenges of the 21st century.”

(<http://challenge.gov/search?utf8=%E2%9C%93&terms=apps>)

See [Congress Grants Broad Prize Authority to All Federal Agencies](#).

21. Reinforce Existing Successes in Social Media

The Census Bureau has already demonstrated a capacity for capitalizing on social media tools to better engage its customers and raise the profile of the Census Bureau across the web. The Census Bureau 2010 effort made extensive and thoughtful use of Facebook, YouTube, Twitter, Flickr, and various sharing feeds; Foreign Trade has used “Like” hood-ins to Facebook to allow users to share their blog stories; and many sites offer RSS feeds and/or email alerts.

The next step for the Census Bureau is to carry those lessons learned forward to other Census Bureau content and efforts. Restructuring the Census Bureau top tier navigation to include curated theme pages, as recommended in Section 2, will provide an opportunity to engage customers with stories and conversations.

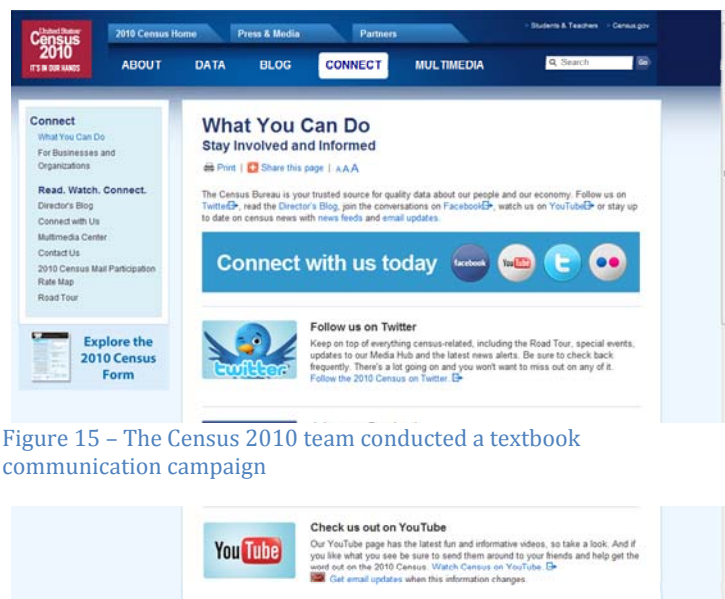


Figure 15 – The Census 2010 team conducted a textbook communication campaign

22. Prepare Several Cross-Platform Social Media Campaigns

When planning an organization’s presence in Social Media, web strategists use the term “campaign.” They recognize that while agency leaders can control the tools and messages they develop, they cannot control the public’s reaction to those messages. Instead, the campaign must plan, monitor, and react to the responses generated by each of their actions. This approach may not be familiar to all the Census Bureau leaders. Fortunately, the Census Bureau as a whole has experience conducting successful campaigns. A social media campaign should involve:

- A specific actionable goal (e.g., increase the Census Bureau survey response)
- A target audience
- A clear empirical understanding of the target audience
- A landscape analysis defining where the target audience “lives” online
- A marketing and technology plan for reaching them

The Census Bureau Social Media Presence

Facebook – 105,985 people like the Census Bureau page on Facebook. The page also has discussions with 15 current discussion topics (as of March 11, 2011).

Twitter – 10,659 followers, 1,320 tweets, RSS feed of Census Bureau tweets available.

YouTube – 233,478 channel views, 621,085 upload views, 1,104 subscribers, 210 uploads and 5 playlists.

Flickr – The Census Bureau Flickr site includes 14 galleries. These include photos from past and present apportionments, historical Census Bureau photos, and graphs of results.

- Compelling campaign content
- Solid metrics for measuring progress toward the goal

23. Capitalize on the Social Media Opportunities

All social media opportunities should define the end user, the Census Bureau's goal, and the value the end user will experience with the social media interaction. For example, when the Foreign Trade Division publishes a Global Reach blog article encouraging people to buy diamonds that adhere to the Kimberley trade process, the Census Bureau bloggers do several things well. They create a story that has human interest and may travel. They reinforce the value and values of the Census Bureau (the process retards human rights abuse and immoral war). They provide simple ways to share this experience by "liking" it on Facebook or syndicating it through feeds such as Del.icious.

The three active Census Bureau blogs demonstrate best practice in "stratifying" end users. The Global Reach blog is oriented to business/economic end users, while the Random Sampling blog contains expert articles/notes on specific topics of interest to the general public and more-experienced end users interested in a specific topic. Recent examples of blog posts include "New Orleans: Still in Transition" and "Black-Owned Businesses Grow at Triple the National Rate." The Director's blog is primarily oriented to the general public, as recent blog posts such as "Snowbirds" and "College Students" indicate, and based on the number of comments posted. When appropriate, a Census bureau staff member responds to comments. These three blogs do a good job of conveying information, and do not appear to need any major improvements or modifications.

A resource for planning Social Media Campaigns:

[CDC's The Health Communicator's Social Media Toolkit](#)

Visit these sites that help people share information:

- [Treasury Blog](#)
- [Statistics Netherlands](#)

QUICK WINS

- Place the Facebook "like" feature on all existing popular content on Census.gov and any new stories.
- Create Twitter feeds for all Census Bureau data releases and related updates.
- Move existing video to the Census Bureau YouTube channels.
- Place iCAL (the Apple calendar) to allow users to get calendar feeds for events such as data releases.
- Promote "buzzworthy" stories through existing distribution channels.
- Encourage use of data.gov API to study retellers' use of datasets across the web.
- Open American FactFinder's planned API and study use by existing experts.
- Analyze sharing tool use across existing Census Bureau sites.

LONGER-TERM WINS

- The Census Bureau leadership should create a social media strategy that establishes the purpose, methods, and rules of engagement for social media.
- The Census Bureau should conduct a user study to determine how customers use or would like to interact with the Census Bureau.
- Provide program contributors with a standard sharing system (through an enterprise content management system).
- Connect all streams through Feedburner, the free Google service that provides mass media distribution and audience engagement services for blogs and RSS feeds.
- Introduce standard sharing tools on a new enterprise content management system.
- Create a targeted mobile app as described in [Give the Sophisticated User a Targeted On-Device App](#).
- Conduct a survey of potential API consumers and develop distribution plan.

VI. Help People Appreciate the Census Bureau

Visibility and reputational capital are the keys to standing out in the information age. To fulfill the Census Bureau mission and serve the Nation, the Census Bureau must find improved methods for engaging the public and relevant professionals, making them aware of all the Census Bureau has to offer. All the methods described in this document will serve to improve the reach of Census Bureau information. Below we describe some specific actions the Census Bureau can take to raise awareness.

24. Manage a “Census Bureau in the News” Showcase

U.S. Census Bureau data inform a staggering number of reports, articles, analyses, and decisions every year. For very little investment, the Census Bureau could use the existing [Vocus, Inc.](#) automated clipping service and a staff member’s time to cull interesting stories in the media (including external data sites) and post them on prominent pages on Census.gov (e.g., the proposed theme-based pages). This showcase would be curated to emphasize the stories that best capture the valuable role Census Bureau data play in the country’s wellbeing. Done correctly, this service would educate visitors to the breadth and value of the Census Bureau. Simultaneously, this service could remind Census Bureau staff and stakeholders about the true value and impact of the Census Bureau. An end of the year report featuring the best stories of the year would underscore this point.

25. Reclaim the Branding for Census Bureau Data Outside of the Census.gov Domain

As the Census Bureau increasingly enters into the public discussion space through story dissemination and consumable data products, leaders will want to consider ways to effectively brand products that have left Census.gov. There are several ways to improve the Census Bureau branding and engagement:

- Integrate a “Powered by the Census Bureau” brand logo or watermark into all Census Bureau data feeds, data sharing agreements, and final data products to increase brand awareness and credibility. (Census Bureau staff members have already developed a logo graphic.)
- Reach out to the Census Bureau retellers and ask that branding be included.
- Participate in public discussions citing further research available at Census.gov. (Be sure to control where and how the Census Bureau is represented, and always be frank about the Census Bureau’s status as a government statistical agency.)

26. Publish Metrics on Census Bureau Media Coverage

In Section 3, we recommend several strategies for measuring not only traffic on Census.gov but also the impact the Census Bureau has on news, business, and research. These metrics are not only valuable tools for honing the Census Bureau service strategies; they can also be repurposed to document the Census Bureau’s pursuit of its mission. An end of the year report that frames the Census Bureau’s mission and strategic plan for serving the Nation could include information that underscores the Census Bureau’s march toward increasingly useful service. Internally, Census Bureau leaders might use metrics to identify staff members who improve their content dissemination and recognize their efforts.

QUICK WINS

- Create “the Census Bureau in the News” clipping service.
- Place a “Powered by the Census Bureau” logo on all new data products.

LONGER-TERM WINS

- Produce an annual report capturing the impact of the Census Bureau across the information world.
- Publish the Census Bureau product use metrics on site.
- Embed the Census Bureau citations, annotation, links, and “Powered by the Census Bureau” logo on all API, widget, mobile apps, and datasets.
- Launch a branding campaign to reclaim the Census Bureau products in the wild.

Section 2 – Adapting to an Evolving Business

This section describes the organizational processes recommended to serve the three user personas. The framework provides the ability to quickly identify short-term and long-term “wins” and understand how each initiative balances the cost of implementation against the scale of the improvement to be expected.

The Census Bureau leaders, as evidenced by the web discovery interviews, are well aware that meeting their goals around introducing new Web 2.0 technologies and making information available to a broader audience requires changes in the way the Census Bureau conducts its internal business. Our interviewers heard from many interviewees that the Census Bureau must transform the print material mindset—effective in the past—to an online and interactive approach. In the same vein, the Census Bureau must change its technological mindset from producing static web displays to interacting with customers via dynamic tools. Both these transformations require changes to the way the Census Bureau conducts business. Finally, many interviewed staff members cited a lack of time or competing demands as reasons why dissemination efforts (e.g., creating metatags for data files or holding council meetings) were not completed. Census Bureau leaders must create a business environment that values and resources dissemination efforts.

The technologies and expectations of today’s information users are drastically different than those from just 15 years ago, back before Google was the #1 search engine or Twitter and Facebook even existed. To keep pace with the changing users described in Section 1, this section provides a prescriptive framework for internally orchestrating the processes to serve this dynamic audience.

The first generation of the Internet, Web 1.0, emphasized creating materials that could be “pushed” to users. This was generally an adaptation of traditional content into electronic formats. For example, websites routed users to a phone line or store location, or they simply operated as a glorified sales brochure. At best, they lived as a passive library of documents or data, waiting to be proactively discovered by curious web users. In the world of Web 2.0, however, agencies must engage customers in a **two-way conversation** and integrate their materials into a flowing online interaction. Shaping materials for diverse communication / distribution channels (e.g., mobile phones, Facebook entries) and interactive experiences (e.g., dynamic mapping) requires a revolution in the underlying business processes that produce these kinds of information and tools.

Section 2 uses the framework below to discuss these process improvements. One might think of traditional Census Bureau information workers as “Sources,” people who provide insight into the data stories produced by the agency. “Reporters” are trained to create online information stories and to uncover and produce information products. “Editors” ensure accuracy, quality, and adherence to the Census Bureau publication standards. And “Monitors” maintain and measure the story across its lifecycle and the Internet.



VII. Create a Web 2.0 Culture

Census Bureau staff members are rightfully proud of their capacity to conduct enormous and scientifically rigorous data capture and analysis efforts. They are also well aware of their trusted role as a neutral source of information for the United States. No modernization effort should do anything to endanger the integrity of the Census Bureau’s first mission to report information accurately to political and business leaders and the American public.

27. Develop Ongoing Relationships with Customers

Best practice in online websites is predicated on a clear understanding of the customers’ needs, interests, and skills. The most effective way to build that understanding is through interactions. The goals of this type of outreach are: 1) identify what information each customer group (persona) finds most valuable, 2) identify what dissemination channels are most effective, 3) identify how well the Census Bureau is satisfying their current desire for data, and 4) identify their evolving (future) data needs.

The first goal helps Census understand how best to prioritize its data marketing efforts in order to succeed with this customer. This can drive whether and how to apply resources towards data visualization, storytelling, or content messaging. The second goal helps Census select which channels—of the hundreds possible—to spend money buying into, managing, and improving. Without this understanding, organizations waste money building iPhone applications to reach state government employees who are all operating on Blackberry RIM devices (and not iPhones), for example. The third goal helps Census determine whether to expend additional resources in satisfying this persona or whether there are diminishing returns on further investment. The fourth goal helps Census focus its research and development efforts to prevent hitting a “gap” where user needs have changed but Census’s delivery has not, leaving those users unserved.

The web discovery interviews revealed that while Census Bureau staff members had a good

understanding of the expert users who communicated with them regularly through help desk conversations and press events, there was far less understanding around the casual and sophisticated users' relationship with the Census Bureau. Census Bureau leaders should develop plans for engaging customers at each stage of Census.gov redesign. Engagement activities can include:

- Online discussions through blogs, town hall events, or page comments
- Focus groups, surveys, and interviews
- User groups (e.g., 5-year ACS data users)
- Analysis of social media metrics

28. Expand User Experience Design and Usability Testing

The Federal CIO Council, Usability.gov, and the Federal CIO all discuss usability testing and user-centric design as a required tool for successful Federal websites. This step is frequently skipped in Federal development efforts, due to schedule and cost impact. Research has shown, however, that studying user experience and testing products against real world use is a critical factor in creating websites and information tools most embraced by users. User-centric design costs, which vary depending on the size and complexity of the solution, will increase the initial development costs; however, these costs will be more than offset by the increased value of the product and decreased need for revision or abandonment.

Census Bureau leaders should institutionalize user experience design by requiring it in all internal and external proposals for online tools. Census Bureau public-facing products should all go through usability testing leveraging the existing Census Bureau usability lab investment. Results from the usability tests and ForeSee results should travel through a central committee empowered to enforce standards.

Note: Products using the same templates and tools will not need rigorous retesting. Census Bureau leaders will want to streamline usability testing by identifying product families that can share an expedited review process in which usability experts simply look for changes in terminology, volume, or format that could pose issues for users.

Find out more about implementing user experience design and usability testing at:

- Usability.gov

The Census Bureau Usability Lab

The Census Bureau maintains an outstanding usability lab with trained personnel capable of testing websites, surveys, forms, PDF tables, e-Learning sites, and multimedia products. (The lab can also test for Section 508 compliance.) The lab is equipped with eye-tracking devices and video equipment to record participants, and can provide Census Bureau web masters with reports on suggested design changes and video recordings.

29. Address Concerns of Privacy, Accuracy, and Compliance

Many interviewed leaders cited privacy and accurate reporting of data, metadata, and methodological issues as a major impediment to changing the information dissemination culture at the Census Bureau. There is an understandable fear that telling data stories, providing data discovery tools to lay people, and allowing data sets to travel into the wild without methodological context will result in misinterpretation and misuse of data. Others fear that careless automation of data will invite the invasion of privacy.

These concerns are legitimate. The Census Bureau's reputation is predicated on accuracy and protection of individuals. Laws protect individual privacy. Still, these risks can be addressed and the full value of the Census Bureau public datasets realized. Census Bureau leaders might take three steps to address these concerns. 1) Set up review processes for web product releases that include staff members with skills in addressing privacy and accuracy issues. 2) Integrate methodological links, annotations, and caveats into data products. 3) Introduce automated constraints on data discovery tools if potential privacy issues are involved (e.g., limiting cell numerical sizes in queries in a Google map mashup.)

The Census Bureau contains experts on protecting privacy in statistical products. These experts publish papers on privacy controls, develop referenced products, and participate in international organizations on the topic. Consider tapping this internal expertise to create actionable policies for storytellers and web developers to ensure privacy.

Frame policies and procedures for ensuring neutrality

Census Bureau leaders made it clear that while telling stories with Census Bureau data was highly valuable for users, the Census Bureau had a responsibility to the American public to remain politically neutral. These leaders did not wish to see the Census Bureau's reputation impugned by data interpretations that appeared biased toward a particular political agenda. We believe the value of data interpretation and the Census Bureau's need to remain politically impartial can be balanced. In Section 2, we recommend a safe path for defining storytelling limits in the emerging information age, and governance structures for ensuring that only appropriate interpretations reach the public.

QUICK WINS

- Study existing Web 2.0 customer interactions and guidelines.
- Revise or create guidelines for Web 2.0 engagement that clearly spell out positive engagement.
- Create detailed personas for each Census Bureau thematic area.
- Create a campaign highlighting these personas and the Census Bureau mission to help them.

LONGER-TERM WINS

- Ensure all major product development efforts include usability design and testing.
- Create a review structure that ensures that privacy, accuracy, and compliance policies are met in the most efficient way possible.

[Read the Department of Commerce Open Government Plan](#)

VIII. Align with Federal CIO and CIO Council

The Federal CIO, Vivek Kundra, has released a sweeping implementation plan targeted at all Federal agencies and bureaus. This plan touches upon many of the core technology and business decisions facing the Census Bureau. We recommend the Census Bureau Web Council discuss these changes and form an understanding of how these changes might impact emerging plans.

30. Relevant Highlights of Plan

- Shift to “Cloud First” policy
- Only approve funding of major IT programs that:
 - Have a dedicated program manager and a fully staffed integrated program team
 - Use a modular approach with usable functionality delivered every six months
 - Use specialized IT acquisition professionals
- Design and develop a cadre of specialized IT acquisition professionals
- Launch a best practices collaboration platform
- Redefine role of Agency CIOs and Federal CIO Council
- Reform and strengthen Investment Review Boards
- Roll out “TechStat” model at bureau-level (an oversight and review process for departments)
- Streamline governance and improve accountability



Read: [U.S. Chief Information Officer 25-Point Plan to Reform Information Technology Implementation Management](#). Vivek Kundra. U.S. Chief Information Officer, December 9, 2010

QUICK WINS

- Monitor CIO council activities to benefit from or influence central resources.
- Frame all short-term initiatives in implementation plan terms to avoid policy conflicts that could threaten Census Bureau efforts.

LONGER-TERM WINS

- Develop a strategic framework for integrating long-term efforts into the CIO’s resources and policies.

IX. Introduce a More Centralized Web 2.0 Operational Structure

The Census Bureau has an existing governance structure for managing its web content and efforts. This structure includes the Web E.G.G. and Web Council, standards, style templates, regulations, topical working groups, and technology services. While this infrastructure has valuable components, interviewed subjects were almost unanimous in selecting governance as the number one challenge impacting the Census Bureau's progress toward a fully realized technology vision. The most significant issues discovered were:

- Census.gov is a collection of websites rather than a unified online presence.
- Central standards were hard to enforce and impacted central services.
- A staffing structure including 200+ data disseminators creating content resulted in difficulty with user interface continuity, standards compliance, and management.
- Centralized services around information architecture, multimedia, and design templates are underused, resulting in an inefficient development process and fragmented services online.
- Dissemination efforts are neglected when staff members are pulled onto major product deliveries (e.g., the Decennial Census).

As mentioned in Section 1, this fragmentation across the Census Bureau's operations results in a confusing user experience for the infrequent visitor and hampers the Census Bureau's ambitions to offer best practice services to the public. In this situation, best practice dictates the following steps:

- Empower a central governing body to represent the interest of Census Bureau customers (rather than programs or departments).
- Introduce a "user first" initiative that includes user needs assessments and usability design and testing.
- Assign a dedicated qualified project manager and central resources to oversee these activities.
- Engage a single professional team to redesign the top tier navigation on Census.gov (thereby uniting all programs into one thematic layer).
- Migrate or develop content into the new designed tier (preferably on a unified content management system).
- Design and grow an operational process that supports a Web 2.0 online presence.

Below we describe in high-level terms an optimum organizational design for generating successful online interaction with customers. Implementing an organizational change that involves new skillsets and cultural perspectives is difficult. We recommend a pilot approach in which the Census Bureau identifies a cadre of enthusiastic leaders that can focus on the top tier pages on Census.gov and experiment with the ideal policy and staffing relationships for the Census Bureau. With experience and demonstrated success, Census Bureau leaders can then expand down into program sites and further unify the Census.gov website.

Caution: When introducing new development processes, make sure to measure the overall burden on staff members and the impact on the overall production time. Many interviewed staff members feared the addition of new management processes without new compensating efficiencies or resources.

Visit these sites for examples of Governance Policies in other agencies

[View Governance Policies from around Federal Government on Govloop.com](#)
[Social Media Policies across the web](#)

31. Pilot New Roles and Responsibilities

Figure 16 below lays out the proposed roles and responsibility for an operational structure governing the development of new web materials and the revision of the existing top tier of Census.gov. This structure achieves several necessary aims: 1) it avoids disrupting the existing data capture and analysis layer that functions exceptionally well but is not geared toward interaction through Web 2.0 strategies; 2) it introduces a relatively small storyteller layer, composed of staff members with skills in turning data into information with engaging content; 3) it introduces formal review and monitoring responsibilities to centralize the Census Bureau message and avoid compliance errors; and 4) it calls for a stronger, more centralized governance layer focused on the customers. Below we describe the roles and responsibilities underpinning this model. Bear in mind roles such as “Editors” or “Monitors” could be held by multiple people or the same person.

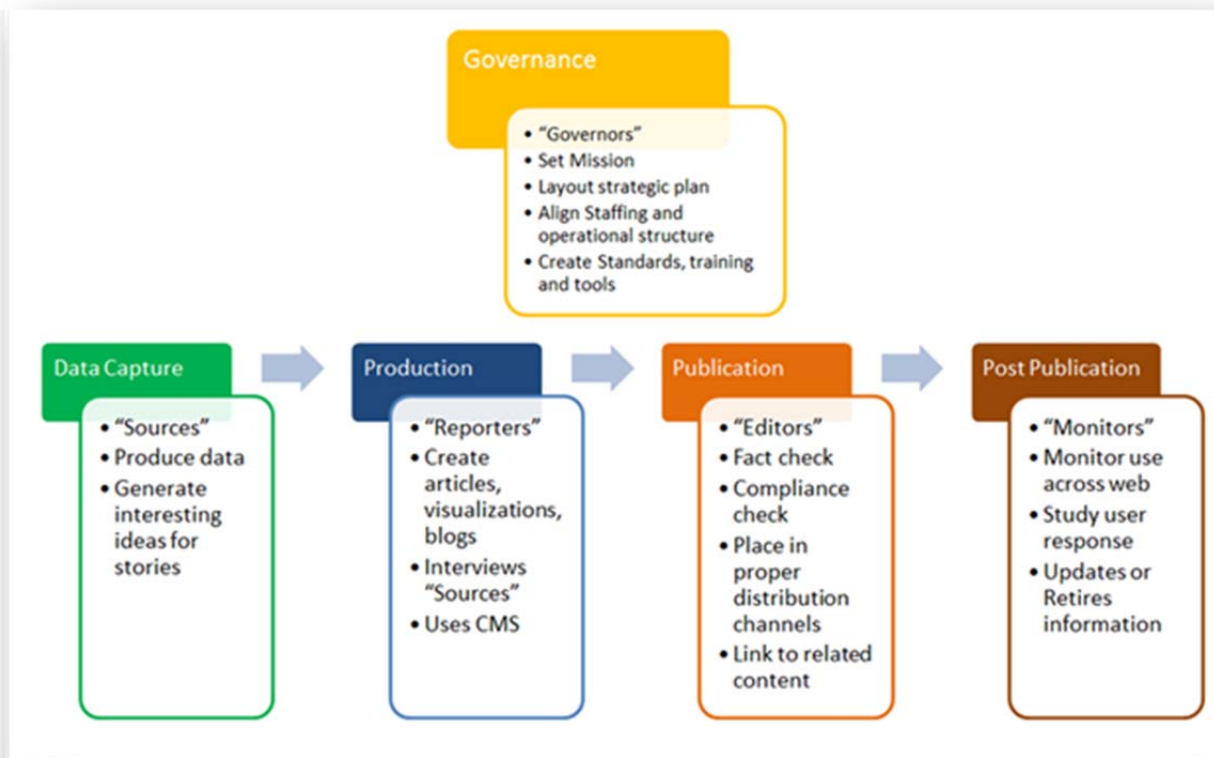


Figure 16 - A proposed organizational structure for the Census Bureau Web 2.0 Engagement

“Governors” - Represent the Customer and the Census Bureau Mission

When asked the most important step to take to realize the Census Bureau online vision, the vast majority of Census Bureau leaders interviewed pointed to the need for strengthened internal governance.⁵ There was a clear call for stronger central decision-making and authority to coordinate activities and raise the overall quality of online information products and tools.

These specific actions were called for by interviewed Census Bureau leaders:

- Spell out the Census Bureau’s mission around transparency and information dissemination, and address the perception that the Census Bureau mission ends with clean datasets presented as tables.
- Take on a customer focus (user groups, focus groups, landscape analysis).
- Create a clear distinction between central Census Bureau standards and operations versus program roles.
- Introduce a layer of professional Web 2.0 experts.
- Consolidate web content managers and other web support staff.

These activities should be taken on by a new or reinvigorated governance team empowered to enforce compliance on activities essential to the Census Bureau mission (e.g., the homepage and thematic layer of Census.gov). This team will set the Web 2.0 mission, lay out the strategic plan, ensure correct staffing and operational patterns, and improve or create policies and procedures. This team should have sufficient time and resources to ensure efforts remain concentrated and governance activity does not lapse during busy business periods (e.g., the Census Bureau 2020 decennial census.) Given the size of the Census Bureau, the identified cultural challenges, and the Federal CIO’s priorities, this team should be coordinated using formal IT governance procedures and headed by a professional with expertise in IT project management.

“Data Sources” - Provide Insight and Data Extracts

Data sources are the Census Bureau teams that have traditionally prepared and analyzed Census Bureau datasets. In our proposed operational structure, these sources will:

- Create clean, accurate datasets and extracts appropriate for each communication channel (e.g., annotating datasets appropriately for API feeds).
- Identify meaningful relationships and trends in data.
- Contribute data story ideas.
- Assist reporters in creating interesting and accurate material for casual and sophisticated users.
- Confirm the accuracy of pre-posted content.

⁵See http://en.wikipedia.org/wiki/Website_governance for an introduction to website governance.

“Reporters” - Create Stories with Data Visualizations and Web 2.0 Hooks

Earlier in this discussion, we described a strategy for creating a distinct layer of storytellers at the Census Bureau. These storytellers, while always subordinate to the Census Bureau’s responsibilities to accuracy and privacy, will have the skills and instincts for engaging the public user in the meaning within the statistics. These storytellers will have an understanding and appreciation of data but will not necessarily have advanced statistical or programming skill. Reporters will:

- Propose story assignments to editors.
- Work with sources to extract meaning from data.
- Develop stories.
- Create visualizations for casual users.
- Revise materials based on editor comments.

“Editor” - Provide Central Services and Review

Editors are Census Bureau leaders responsible for reviewing all significant communication content emanating from the Census Bureau. In addition, they might be the decision makers responsible for planning information campaigns and selecting the channels the message will be relayed through (e.g., a story about Economic Indicators might be announced through Twitter and email, published on Census.gov home and Facebook, and made available to share). Editors will:

- Give or approve reporter assignments that support the Web 2.0 strategic plan.
- Review draft materials.
- Fact-check information.
- Fit each information effort into the appropriate Web 2.0 communication channel.
- Ensure linkage to related material.

In our model there are two types of editors: 1) business leaders reviewing the information to ensure it supports the Census Bureau mission and provides accurate information, and 2) technology specialists who ensure the media produced complies with the visual, accessibility, and technical standards enforced by the agency. While both these roles are already in evidence at the Census Bureau, we recommend that they be revisited to ensure their activities directly support the best practices described above. We also recommend that these editing functions be centralized and strengthened for content emanating from the Census Bureau top tier navigation. These central leaders should have focused responsibility on this work, professional support staff, and improved technology supports (e.g., an enterprise content management system and better-automated compliance testing software).

“Monitors” - Measure Customer Experience and Census Bureau Success

Monitors are responsible for ensuring that Census Bureau products are measured for success and supported through their lifecycle. Monitors will:

- Monitor product use inside and outside the Census Bureau.
- Engage customers in discussion around products (e.g., participate in the Data.gov comments section).

- Conduct focus groups and usability testing.
- Participate in user groups.
- Promote products to targeted audiences (e.g., a poverty research community).
- Update or remove old products.
- Evaluate metrics on user engagement and satisfaction and pass recommendations back to governors and editors.

[See Omygov.com](http://omygov.com) for a list of user engagement metrics

32. Grow an operational process that supports a Web 2.0 online presence

Figure 17 provides another conceptual framework for the reorganizational pilot proposed above. A strategy layer (led by the Governors) prepares a strategic plan that matches the Census Bureau mission and resources to target audiences (represented by personas). The strategy layer defines the key indicators for success, allocates resources, and oversees the work of the marketing team (composed of reporters and editors.) The marketing team’s messaging layer shapes the material for each target audience and assigns it to proper communication channels, while the channels layer (serviced by technical editors and monitors) ensures distribution and captures impact metrics.

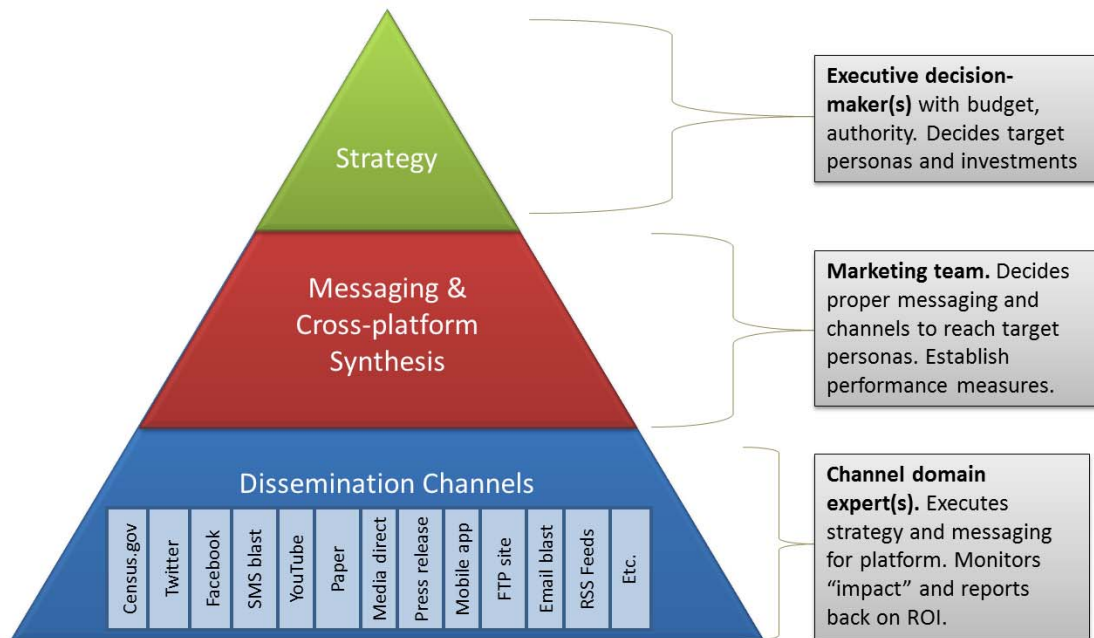


Figure 17 - An operational process that supports a Web 2.0 presence

QUICK WINS

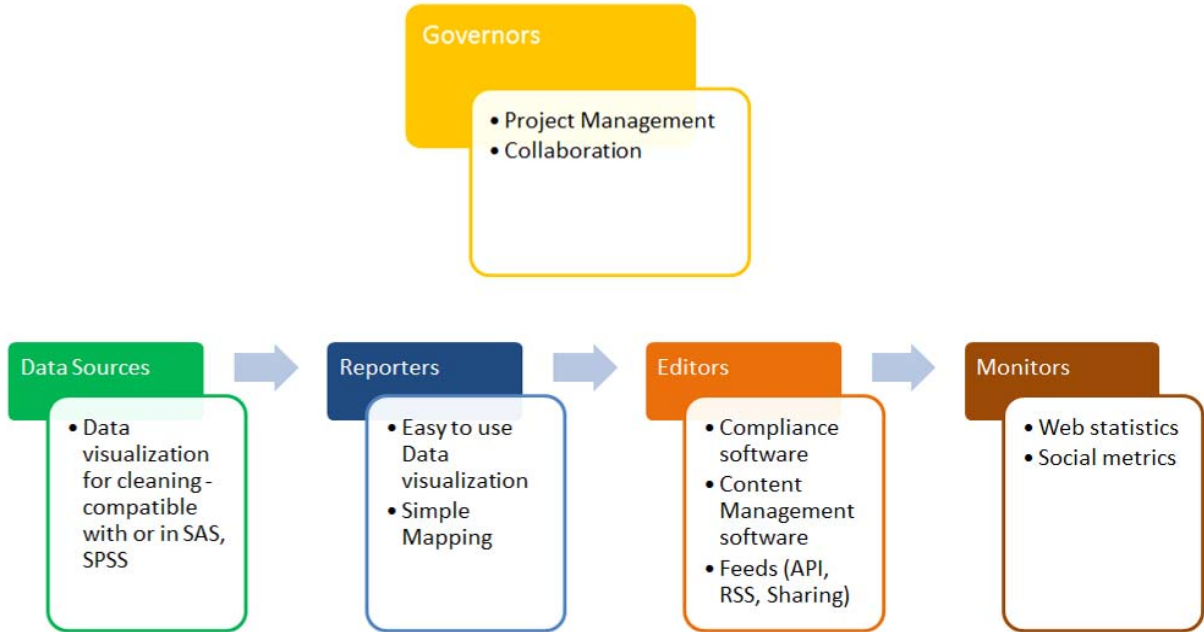
- Create a small pilot group of enthusiastic staff members and experiment with roles and responsibilities in the context of revising the Census Bureau homepage and thematic layer.
- Introduce user feedback into all new products produced by pilot.
- Create metrics for evaluating impact of new materials produced by pilot.

LONGER-TERM WINS

- Generate a plan for integrating the piloted operational model into the Census Bureau.
- Expand operational model to all products impacting the core Census Bureau mission.

Section 3 - Tools for Success

This section discusses technology solutions and software that will enable the Census Bureau to enact its strategic plan in the most efficient and effective manner possible.



X. Tools to Help People Engage and Find Answers

33. Invest in an Enterprise-level Web Content Management System

The most successful modern government sites rely on a robust, enterprise-level web content management system (WCMS). A WCMS provides automated processes that allow far greater control of web content and tools with far less effort and error compared to sites developed with hand-coded pages. An enterprise level CMS is superior for its capacity to handle larger volumes of pages, and provides centralized services such as Section 508 testing or search indexing. A strong WCMS is the underpinning for most of the success Census Bureau leaders want to achieve.

A strong web content management system is the underpinning for most of the improvements the Census Bureau leaders want to achieve

Currently Census.gov consists of multiple distinct sites operating according to a set of standards. The Census Bureau IT offers a Movable Type service for program areas that do not build their own sites. In total there are 35 program websites using MT and six websites on Census 2010. IT leaders are rightfully concerned about remaining on MT as the vendor; the company has struggled in recent years, being bought by two different companies and being dropped from Gartner and Forrester reviews.

Selecting the proper WCMS for the Census Bureau will require careful internal consideration that exceeds the scope of this document. The Census Bureau will want to put together a committee directed by an IT project manager and go through a structured process to determine the proper technology to match the emerging pilot need and the long-term organizational need. (The appropriate pilot technology might vary significantly from the Census Bureau long-term commitment. For example, a solution for hosting the redesign of the homepage and top tier navigation might not need advanced features for managing enormous amounts of content, while a long-term solution targeted at controlling the entire Census Bureau online offering might require enterprise document management, sophisticated workflows, and automated lifecycle management.) Decision makers will want to consider:

- Requirements drawn from a yet-to-be drafted strategic plan
- Total cost of ownership (cost categories include purchase price, maintenance, development, third-party tool integration, FISMA compliance, and savings derived from gained labor efficiency or replacement of other products)
- Staffing skills and resource availability
- Content migration costs
- Federal Regulations and Policies

Census leaders should be aware that successfully migrating to an enterprise-level WCMS represents a significant capital investment that goes beyond the cost of software and includes:

- Project planning and management
- Change management activities to promote the new operational requirements
- Software selection, purchase, design, and implementation
- Content migration
- Software testing
- Staff member training
- Rollout

The following section introduces an approach for understanding the overall impact of migrating to an enterprise-level system.

Return on Investment for a Web Content Management System

Return on investment is a business concept that refers to the gains from an investment relative to the cost of the investment. In business IT this is traditionally measured in monetary terms, but government has to estimate the return on investment based on saved labor and the estimated value of improved service. Cresswell, Burke, and Pardo (2006) developed a framework to measure return on investment in

	A	B	C	D	E	F	G
ROI Calculator Comparing Web Page and Site Development Costs with and without a CMS system							
Replace placeholder values with Census Bureau estimates to calculate ROI.							
Costs	Formula			Values			
Web Page Design and Development Costs							
A	Average time to design, develop, review, and deploy a web page (hours)			2	2	2	2
B	Fully Burdened Cost of a web developer (per hour)			\$ 50	\$ 50	\$ 50	\$ 50
C	Cost of One Web Page			A x B	\$ 100	\$ 100	\$ 100
D	Average Time spent in Examining and Correcting a Page for 508 Compliance (hours)			0.5	0.5	0.5	0.5
E	Fully Burdened Cost of a 508 Compliance Expert (per hour)			\$ 50	\$ 50	\$ 50	\$ 50
F	Cost of 508 Compliance for 1 Web Page			D x E	\$ 25	\$ 25	\$ 25
G	Total Cost of 1 Web Page			(A x B) + (D x E)	\$ 125	\$ 125	\$ 125
H	Number of Web Pages to be Designed and Developed			100	100	100	100
I	Total Estimated Web page design and development costs without Template			G x H	\$ 12,500	\$ 12,500	\$ 12,500
Web Template Design and Development Costs							
A	Average time to design, develop, review, and deploy a web template (hours)			2	5	10	25
B	Average hourly consultant development rate			\$ 50	\$ 50	\$ 50	\$ 50
C	Cost of one web template			A x B	\$ 100	\$ 250	\$ 500
D	Average Time spent in Examining and Correcting a Template for 508 Compliance			0.5	0.5	0.5	0.5
E	Fully Burdened Cost of a 508 Compliance Expert			\$ 50	\$ 50	\$ 50	\$ 50
F	Cost of 508 Compliance for 1 Web Template			D x E	\$ 25	\$ 25	\$ 25
G	Total Cost of 1 Web Template			(A x B) + (D x E)	\$ 125	\$ 275	\$ 525
H	Number of Web templates to be designed, developed, and deployed			5	5	5	5
I	Total estimated web template design and development costs				\$ 625	\$ 1,375	\$ 2,625
Costs of Developing a Website Using the Template							
A	Average time to design, develop, review, and deploy a web page using Template (hours)			0.5	0.5	0.5	0.5
B	Fully Burdened Cost of a web developer (per hour)			\$ 50	\$ 50	\$ 50	\$ 50
C	Cost of One Web Page			A x B	\$ 25	\$ 25	\$ 25
D	Number of Web Pages to be Developed			100	100	100	100
E	Total Estimated Web page design and development costs			C x D	\$ 2,500	\$ 2,500	\$ 2,500
Summary							
	Total Cost including Template Development				\$ 3,125	\$ 3,875	\$ 5,125
	Net Savings from Development without Templates in CMS in US\$				\$ 9,375	\$ 8,625	\$ 7,375
	Percentage Savings				75%	69%	59%

Figure 18 - Refer to Appendix E-1 and E-2 for a Return on Investment Calculator Template

government IT.⁶ (Please see Appendix E-1 and E-2 for a calculator based on their work.) They argue that government IT investments can return value to the public through one or more of the following four value-generating mechanisms:

- **Increases in Efficiency:** This refers to increased output with lower resource consumption, is similar to the business case for ROI, and focuses on efficiency gains through financial and other resource constraints.
- **Increases in Effectiveness:** This refers to improvements in the quantity or quality of the good or service provided or desired.
- **Enablement:** This refers to “providing means or allowing otherwise infeasible or prohibited desirable activity, or preventing or reducing undesirable events or outcomes.” (p.3 and p.13)
- **Intrinsic Enhancements:** This involves “changing the environment or circumstances of a stakeholder in ways that are valued for their own sake.” An example of this is implementing a system that leads to improved transparency.

Be aware of hidden costs!

- The cost of training
- The cost to quality
- The cost to functionality
- The cost of redundancy and flexibility
- The cost of commitment (getting staff members to use system)

From [The 5 hidden costs of running a CMS](#), by Paul Boag, 06 August 2008

Using these metrics, the Census Bureau is likely to realize a high return on investment based on two general returns: 1) the overall savings in managing, servicing, and training staff members on multiple website installations and 2) the increased value of Census Bureau online customer service.

Consider *Drupal* and its strong fit with the Census Bureau IT

Our interviews of the Census Bureau IT leaders indicated an interest in Drupal as a possible replacement for the Movable Type installations. Drupal, an open source content management system, with a large programmer base and strong representation across the government, appeals to IT leaders for several reasons: 1) It is an industry standard in open source. 2) It provides enterprise-level potential for hosting multiple sites and introducing centralized search optimization, metrics, and business rules. 3) It has a broad Federal government installation base.

Gartner, a leading company in software review, has placed Drupal in the “Magic Quadrant for Social Software in the Workplace.” Gartner identified the following strengths and cautions in Drupal.

⁶ Anthony M. Cresswell, G. Brian Burke, Theresa A. Pardo 2006. "Advancing Return on Investment Analysis for Government IT A Public Value Framework", Center for Technology in Government University at Albany, SUNY.

http://www.ctg.albany.edu/publications/reports/advancing_roi/advancing_roi.pdf Accessed March 28, 2011

- **Strengths:** Drupal has an active developer community of 600,000 members and has had large deployments. The system is web-centric and offers hundreds of modules including those for social interaction support.
- **Cautions:** The quality of third party modules varies considerably and their use requires careful consultation with the developer or specialized consulting firms. The variety of available functions leads to development complexity.

Visits these sites to learn more about selecting a CMS:

- [Issues to consider while choosing a CMS system](#)
- [Caveats to consider while selecting a CMS system](#)
- [Guidelines for Selecting a CMS System](#)
- [Requirements toolkit with commonly used requirements for CMS system RFPs \(Australian\)](#)
- [The Gartner Magic Quadrant 2010 Report on Content Management Platforms⁷](#)
- [Start exploring the universe of CMS products](#)
- [A List of Government sites using Drupal](#)

34. **Expand Standout Social Media Sharing Tools used at the Census Bureau**

The Census Bureau currently uses industry standard tools for sharing on the Census 2010 and the Census.gov blogs. We recommend simply expanding the use of these tools and standardizing their deployment through a content management system. Focus on the quality and marketing of products. The tools in Table 1 will assist the Census Bureau in managing their social media campaigns.



While there is overlap in some of the functions, each of these tools has a specific value proposition to the Census Bureau. The decision about whether any or all of these tools are used at the Census Bureau should be based on: 1) the stated data marketing priorities for the organization, 2) the selection of target user persona(s) and the designated marketing message(s) for each, and 3) the dissemination channels that most effectively deliver the high-priority content to the targeted user persona. These are three relatively inexpensive tools to get Census started on launching and understanding a cross-platform social media campaign. As Census Bureau leaders refine their marketing campaigns, they may choose to purchase more-expensive tools or services.

Argyle Social is a solid platform for managing the production and dissemination of marketing messages across multiple platforms. It provides a manageable foundation for dealing with the "push" element of social media.

⁷ Gartner Research and Forrester Research reports are considered the industry gold standard for product reviews. Abt Associates cannot share these proprietary reports. However, you can access them for limited durations or in abridged versions on vendor sites.

Sprout Social's unique value is its ability to identify new "potential" consumers of Census information. It takes profiles of an existing follower base and maps it onto the "at large" community, highlighting individuals. This would enable the Census Bureau to "follow" or "like" or "friend" those individuals and potentially cultivate a social media connection, thus expanding the user base of Census data.

BuzzMgr is a recognized platform for monitoring sentiment. If the Census Bureau wants to know whether social media followers are reacting positively or negatively towards the data marketing the Census is doing, this tool will enable Census to estimate whether their marketing efforts are having the desired impact.

Table 1. Social Media Campaign Management Tools

Name and URL	Labor Cost	Software Cost	the Census Bureau Use	General Use
Argyle Social (http://argylesocial.com/)	Medium	Agency edition: \$199/month Marketer Edition: \$149/month Advanced Edition: \$499/month	Allows the Census Bureau to unify publication of social media content. Provides for coordinated communication across platform. Measures Return on Investment (ROI) for each social media campaign.	Single platform to publish content and track "conversions" across all Twitter, Facebook, etc. accounts.
Sprout Social (http://sproutsocial.com/)	Low	Sprout Social Professional: \$9/month Sprout Social Business: \$49/month	Allows the Census Bureau to identify new potential "customers" who fit similar profile to the Census Bureau's most active social media followers, and proactively build customer base.	Less powerful than Argyle Social in publication but has unique "find similar people" based on their Facebook, Twitter, and LinkedIn pages.
BuzzMgr (http://www.buzzmgr.com/)	Low	Low	Enables the Census Bureau to monitor the sentiment of social media about the Census Bureau. Helps steer successful campaigns, quickly identify and resolve negative press, and demonstrate social impact of the Census Bureau communications.	Social media monitoring platform that watches Twitter, Facebook, and other SM sites and assigns sentiment scores to comments, re-tweets, shares, etc.

XI. Tools to Help People Find a Resource

35. Manage Search Engine Optimization

As mentioned above, the Census Bureau products rank high in external search engines overall. The Census Bureau should focus on honing search results to ensure users find the most appropriate materials. An Enterprise WCMS will make SEO efforts more efficient by providing automated controls for tagging and indexing pages, and integrate more easily with search appliances. The WebCEO tool is a strong tool for providing detailed insight into search engine ranks across almost the entire universe of engines.

Table 2 - Search Engine Monitoring Software

Name and URL	Labor Cost	Software Cost	the Census Bureau Use	General Use
WebCEO (http://www.webceo.com/)	Low	WebCEO Online <ul style="list-style-type: none"> • Free • Silver \$49/month • Gold \$149/month • Pro \$99/month Web CEO Professional Suite v8.11 \$499	Enables the Census Bureau to monitor and continually improve its web property's search engine optimization (SEO).	SEO campaign management software to see keyword rankings, trends, links (in/out), ad campaigns, etc. across over 200 international search engines.

36. Stay with Google Search Appliance for Onsite Search

We recommend you maintain the **Google Search Appliance** investment and focus on optimizing it through the introduction of tagging, indexing, and matching common search terms to forced return rankings.

XII. Tools to Help People Connect with Mobile Strategies

As mentioned in Section 1, Selecting Mobile platforms is highly dependent on the specific purpose of the application or required browsing experience. In general terms, we recommend selecting a CMS that includes the automated creation and management of lightweight mobile pages for mobile browsing and use of mobile platforms such as ArcGIS or Google Maps. We recommend two standout software products in Table 3. Techneos is a service for creating mobile surveys with a broad platform base. FrontlineSMS is a free and open source for SMS (text) messaging.

Table 3 - Mobile Software

Name and URL	Labor Cost	Software Cost	the Census Bureau Use	General Use
Techneos (www.techneos.com)	Medium	Medium (Varies widely by scope)	Enables the Census Bureau to quickly build and deploy mobile data collection apps that run on all major handset OS without needing to understand the 5,000+ handset/OS variations in the market.	A web-based survey-building tool that auto-creates apps for data collection from the web-survey and deploys them to Blackberry, Android, iPhone, and other mobile OS.
FrontlineSMS (www.frontlinesms.com)	Low	Free, open source	Enables the Census Bureau to build and deploy SMS-based mobile applications quickly and at low cost.	Free, open source platform for creating and managing SMS applications. Used extensively by USAID, State Department.

XIII. Tools to Help People Explore Data

In Section 1, we discuss the importance of matching the data discovery, visualization, or mapping tool to the audience and data exploration features you intend to offer. In practical terms, you also want to choose a toolset that maps well to your organization. We recommend three distinct tool sets for creating an optimum workflow: data analysis visualizations for data sources, desktop data visualization software for reporters, and data exploration platforms for servicing expert and sophisticated users.

37. Give Data Sources Data Tools in Line with Their Advanced Skills

Our assumption is that these staff members would be most interested in using tools that are embedded in either their statistical packages (e.g., SAS, SPSS) or those that work most closely with them. In our approach, these data experts draft visualizations on their statistical software packages, while reporters produce more visually accessible materials on desktop visualization software.

Data Sources may be interested in one desktop visualization software we reviewed, Spotfire. Spotfire offers a powerful statistical modeling display.

38. Pilot a High-Quality Data Visualization Software with Reporters

In addition to generating articles and managing Web 2.0 communications, we anticipate successful storytellers using the new generation of online or desktop data discovery tools to explore data to find stories and to find the best visual representations of these stories. Perhaps this group could largely replace the 200+ web content managers now performing the service at 10% time and create a more efficient and effective team.

Four Data Visualization Tools to Consider

Table 4 - Data Visualization Software

Data Visualization Software				
	Tableau	Qlikview	Spotfire	Power Pivot
	Tableau Software	Qliktech	Tibco	Microsoft
Best use for the Census Bureau	Strong online visuals and controls for casual users with shape file import capability.	Strong online visuals with strong drill-down capacity. GeoClick for shape files.	Good online visuals but more difficult to use. Strong analytic computing, native GIS .	Excel-style graphics with better user interface.

Data Visualization Software				
	Tableau	Qlikview	Spotfire	Power Pivot
Target Staff	Reporters	Reporters	Data Sources	All staff
Cost	1-2k per seat Free web publisher Desktop Personal Edition \$999 Desktop Professional Edition \$1999	No response	TIBCO Spotfire Express (\$79/month) TIBCO Spotfire for Analytics (\$399/month)	Free with Excel 2010
Strengths	Most popular in class, visual controls, online analysis	Fastest to implement, drill down	GIS integration, powerful statistical renderings, dashboards, API	Familiar Office approach, free

As mentioned in Section 1, the casual user is best served with a data visualization experience that provides an easily-understood message and, if necessary, simple to learn and use interactive features like point and click on a map or select a variable to alter the view. These structured experiences should be prepared by the Census Bureau reporters and placed into an appropriate context for the user. For example, the Income theme page might have a graphic showing average income across states. Here the user has, at minimum, an indication of the kind and quality of information available on the site and, even better, perhaps an answer to the question that brought the user to the Census Bureau.

The appropriate software for the Census Bureau to serve the casual user will have high-quality graphics, a simple user interface with optional controls (e.g., variable filtering), and easy-to-master configuration controls for the relatively small group of reporters using it.

Application and Vendor				
	Tableau Tableau Software http://www.tableausoftware.com/	Qlikview Qlikview http://www.qlikview.com/	Spotfire TIBCO http://spotfire.tibco.com/	PowerPivot Microsoft http://www.powerpivot.com/
Criteria				
Best use for Census	Excellent for storytellers to create visualizations to publish easily without programming	Excellent for storytellers or data producers doing large scale mashups and visualizations.		Consider leveraging SharePoint Intranet investment and offering this solution as low-level analysis support for data producers. Not a solution
Business Considerations				
Scalability	Very Good	Limited by RAM	Unlimited	Very Good with SharePoint
Cost				
Technical Considerations				
Maximum Dataset Size	Unlimited	Billions of rows		
Multiple Data Source	Yes	Yes	Yes	
Multiple Table Access	Yes	Yes		
Online Data Access	Limited	Yes		
In-Memory Engine	Desktop or Server	Desktop or Server		
Interactive Visualization	Very Good	Excellent	Very Good	As good as Excel
Data Integration	Excellent	Good	Good	Good
Visual DrillDown	Good	Excellent	Very Good	Average
Standard Visualizations	table, bar, line, plot, crosstab	table, bar, line, plot, crosstab	table, bar, line, plot, crosstab	table, bar, line, plot, crosstab
Advanced Visualizations	Bullet	Dial, sparkline, radar		
Dashboards	Good	Excellent	Very Good	Below Average
Statistical Capabilities	Medium	Medium	Very Powerful - Direct interface with R/S-	
Drag and Drop				
Development Environment			Rich API, S+ - API in Developer Edition allows development in .NET framework	
Gartner Description of Visualization Capabilities				
Forrester Summary Rating - Best For:	Visual OLAP	Data Visualization, Drilldown	Visual Analytics	Self-service Business Intelligence

Figure 19 - View Our Data Visualization Tools Decision Matrix

Our scan of the data visualization software market produced four products with the best feature mix for the casual user audience: Tableau, Qlikview, Spotfire, and Power Pivot. Tableau and Qlikview are in direct competition. Both are considered “best of breed” for easy-to-learn user interfaces, strong online graphics, intuitive end user controls, and management ease. The Census Bureau representatives should explore both products head to head. Spotfire is likely to appeal less to reporters or storytellers due to its clumsier user interface. However, Spotfire might be considered for its strong points: GIS integration and more-powerful statistical modeling resources.

Finally, Power Pivot is presented here as a back office option for exploring data prior to publication. Since many Census Bureau products are currently produced in Excel, Power Pivot, free with Excel 2010, could be a good tool to integrate into data cleaning and in-house exploration.

Explore two relevant demonstrations:

- [Tableau Software](#)
- [Qlickview](#)

39. Study Sophisticated and Expert User Needs on Data.gov and AFF

As mentioned in Section 2, we do not recommend the Census Bureau make any further investment in online data discovery platforms until leaders experiment with Data.gov and American FactFinder. Census Bureau leaders should focus on these efforts:

- Engaging sophisticated and expert users to understand their needs
- Create a data exploration strategy for these personas
- Ensure the correct datasets are available in correct format
- Configure data views and branding on Data.gov
- Market the available tools
- Study metrics and feedback on tools

Visit other data discovery application vendors selected by Data.gov:

- [QBase](#)
- [Smartronix](#)
- [CGI](#)
- [Socrata](#)

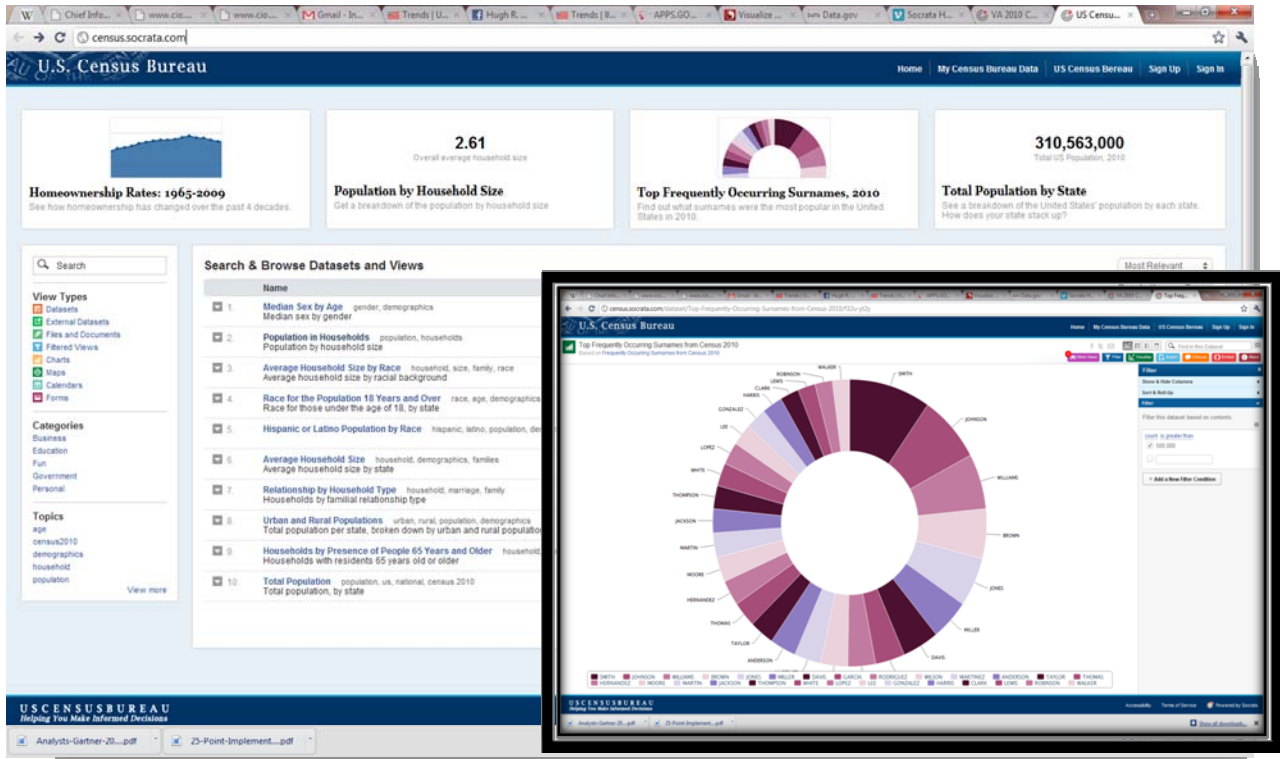


Figure 20 - A Design Prototype Designed by Socrata for the Census Bureau

40. Maintain investment in ESRI ArcGIS and AFF Mapping

Census Bureau leaders have expressed interest in offering clients interactive mapping experiences in several different scenarios.

For the Casual User

Investments in any of the three data visualizations publishers (Tableau, Qlikview, and Spotfire) will provide the Census Bureau with the capacity to publish high-quality maps with multiple data layers. Reporters, selected for their capacity to interpret data rather than program, will find these tools are easier and faster to use than ArcGIS, and enable them to create timely content. Casual users will find the simplified interfaces intuitive and more visually appealing. These tools should provide little extra burden for Census data preparers already producing shapefiles, as all these products can import these files to create maps.

Visit these links for details on creating geographies

- [Census Bureau ESRI shapefiles](#)
- [In Tableau](#)
- [In Qlikview](#)
- [In Spotfire](#)

For the Sophisticated User and Expert User

ESRI ArcGIS is the industry standard in generating data-rich, multilayered GIS data mapping tools and the Census Bureau has an existing investment in these tools across the organization. For customers who need a rich mapping application experience the Census Bureau should continue using this software. The ArcGIS is also a strong platform for creating mobile apps and should be considered when creating a Census app.

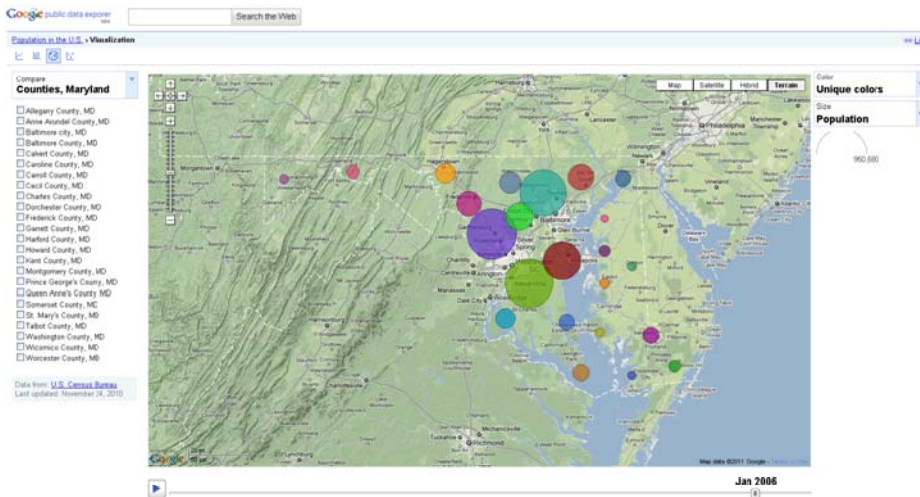
Note: AFF currently offers geo mapping using IBM’s Chart FX software. While its integration with the IBM platform makes it an attractive choice for AFF, it offers no advantages over ArcGIS for other Census Bureau purposes.

41. Consider Google Public Data Explorer and Google Maps

While Google’s online data exploration tools do not offer all the features of the data visualization and data discovery platforms mentioned above, they deserve serious consideration as part of the overall storytelling strategy. Google Public Data Explorer offers basic data visuals for small datasets, including most common graph types and a Google Maps layer. Google Maps is one of the two most popular and familiar mapping platforms in the country (with Bing Maps), has an Open API for inserting external data, and works well on most platforms including mobile. The Google visualization options have these advantages:

- Free to use
- Wide audiences
- Lightweight (ideal for an inexpensive mobile browsing solution)
- Open API allows data inserts
- Embeddable in Census.gov products

Consider using Google as 1) an alternative dissemination channel for reaching audiences who do not visit the Census Bureau when looking for information, 2) an inexpensive mobile browsing platform, and 3) a simple embeddable map when high-quality graphics or advanced features are not necessary.



XIV. Tools to Help People Share the Census Bureau Information

The Census Bureau has investments in two excellent data discovery and API platforms: American FactFinder and Data.gov. Given the difficulty and expense in purchasing and maintaining these platforms and the quality of those available, there really is no immediate need for further investment or exploration. Rather, the Census Bureau should focus on preparing data feeds that best suit users and creating marketing and operational support to ensure high user adoption. Google Feedburner is an industry standard for coordinating and measuring multiple feeds.

Table 5 - Tools to Help People Share the Census Bureau Information

Name and URL	Labor Cost	Software Cost	the Census Bureau Use	General Use
Google Feedburner	Low	Free	Enables the Census Bureau IT to coordinate all the Census Bureau feeds through one service and study analytics to improve services.	A web-based service for managing, distributing, and receiving analytics on syndicated content (RSS and Atom feeds).

XV. Tools to Help People Appreciate the Census Bureau

There are four major tool groups to consider for measuring the success of the Census Bureau: web analytics packages, compliance standards, out-of-date materials, and content aggregators. Currently, the Census Bureau uses the open source web analytics package AW Stats. While this product does not achieve all the Census Bureau leader goals, we recommend staying with the software for the time being and selecting an enterprise-level product in the context of the enterprise CMS decision. Different platforms offer different internal metrics, and software compatibility may play a role in the selection. For example, if leaders select Drupal, the Census Bureau may inherit an integrated solution from the Department of Commerce. In the same vein, many CMS include lifecycle management modules for locating out-of-date material and broken links and code objects. In Table 6, we recommend two products that have immediate and possibly long-term utility.

Table 6 - Tools to Monitor Success

Name and URL	Labor Cost	Software Cost	The Census Bureau Use	General Use
SortSite (http://www.powermapper.com/products/sortsite/index.htm)	Low	<ul style="list-style-type: none"> SortSite Standard Single User \$149 SortSite Pro Single User \$349 	Allows the Census Bureau to do post-production analysis of the content it publishes. Results in higher levels of compliance for published materials with best practice.	Desktop software for checking web pages / links against 20+ compatibility and compliance standards such as W3C, SEO, Section 508, Usability, Cross Browser Compatibility, etc.
Yahoo Pipes (http://pipes.yahoo.com/pipes/)	Low	N/A, free	Allows Bureau to monitor “the Census Bureau in the News” in a targeted and efficient manner.	Composition tool to aggregate, manipulate, and mash up content from around the web.

**Appendix A:
Quick and Longer Term Wins
Decision Matrix**

Appendix A - Quick and Longer Term Wins Decision Matrix

Section	Win	Census & Web 2.0	Labor Effort	Software Cost	Impact	Priority	Area
Align with Federal CIO and CIO Council	Frame all short term initiatives in Implementation plan terms to avoid policy conflicts that could threaten Census Bureau efforts	Quick	Low	Low	High	High	Governance
Create a Web 2.0 Culture	Create detailed personas for each Census Bureau thematic area	Quick	Low	Low	High	High	Governance
Help People Explore Data	Select a desktop visualization tool with which to experiment and build enthusiasm	Quick	Low	Low	High	High	Data Visualization
Help people Share Census Bureau Information	Promote “buzzworthy” stories through existing distribution channels	Quick	Low	Low	High	High	Content
Introduce a More Centralized Web 2.0 Operational Structure	Introduce user feedback into all new products produced by pilot	Quick	Low	Low	High	High	Governance
Introduce a More Centralized Web 2.0 Operational Structure	Create metrics for evaluating impact of new materials produced by pilot	Quick	Low	Low	High	High	Governance
Create a Web 2.0 Culture	Create a campaign highlighting these personas and the Census Bureau mission to help them	Quick	Medium	Low	High	High	Governance
Help People Connect with Mobile Strategies	Hold a “Challenge” in which the Census Bureau offers prizes to developers for creating a compelling Census Bureau app. Support for Challenges is available at Challeng.gov	Quick	Medium	Low	High	Low	Governance
Help People Engage and Find Answers	Revise the existing thematic pages to include answers to frequent questions and context information for casual users	Quick	Medium	Low	High	High	Content
Help People Explore Data	Form a small pilot group to create data visualizations for a circumscribed product (e.g., all data-related press releases)	Quick	Medium	Low	High	High	Governance
Help people Share Census Bureau Information	Open American Factfinder’s planned API and study use by existing experts	Quick	Medium	Low	High	High	API
Introduce a More Centralized Web 2.0 Operational Structure	Create a small pilot group of enthusiastic staff members and experiment with roles and responsibilities in the context of revising the Census Bureau homepage and thematic layer	Quick	Medium	Low	High	High	Governance
Help People Engage and Find Answers	Generate new materials using desktop visualization software and a focused pilot team	Quick	High	Medium	High	High	Data Visualization
Help People Explore Data	Create and brand 12 new Census Bureau data views on data.gov and market them to sophisticated users	Quick	Low	Low	Low	Medium	Data Visualization
Help People Find a Resource	Create a visual site map for end users to replace or stand beside the “Subjects A to Z” site map	Quick	Low	Low	Low	Medium	Search

Appendix A - Quick and Longer Term Wins Decision Matrix

Section	Win	Census & Web 2.0	Labor Effort	Software Cost	Impact	Priority	Area
Help people Share Census Bureau Information	Move existing video to the Census Bureau YouTube channels	Quick	Low	Low	Low	Low	Share
Help people Share Census Bureau Information	Place iCAL (the Apple calendar) to allow users to get calendar feeds for events such as data releases	Quick	Low	Low	Low	Low	Share
Help People Explore Data	Place interactive maps on existing theme pages using selection tools	Quick	Medium	Low	Low	Medium	Data Visualization
Help People Find a Resource	Pare down unused materials that may distract users from more relevant material	Quick	Medium	Low	Low	Medium	Search
Help People Find a Resource	Consider buying AdWords to advertise the Census Bureau products in areas with poor native search rankings	Quick	Low	Medium	Low	Low	Search
Help People Find a Resource	Conduct a proactive marketing campaign to partnering agencies to help position targeted / related links on their sites	Quick	High	Low	Medium	Low	Governance
Align with Federal CIO and CIO Council	Monitor CIO council activities to benefit from or influence central resources	Quick	Low	Low	Medium	Medium	Governance
Help People Appreciate Census Bureau	Create "the Census Bureau in the News" clipping service	Quick	Low	Low	Medium	High	Share
Help People Appreciate the Census Bureau	Place a "Powered by the Census Bureau" logo on all new data products	Quick	Low	Low	Medium	High	Content
Help People Connect with Mobile Strategies	Advertise the upcoming API features on American Fact Finder and Data.gov to programmer audiences who currently create apps using population or economic data. (Remember to ask them to include the Census Bureau brand on appropriate tools!)	Quick	Low	Low	Medium	High	API
Help People Explore Data	Embed a Census Bureau Google Public Data Explorer Census Bureau data view into Census Bureau.gov to demonstrate capacity to leverage outside services while retaining brand ownership	Quick	Low	Low	Medium	High	Data Visualization
Help People Find a Resource	Publish the search engine site map provided by Abt Associates. This map will inform search engines about the sites hierarchy and help rank order results	Quick	Low	Low	Medium	High	Search
Help People Find a Resource	Include the Census Bureau links on all hard copy and PDF materials sent out by the Census Bureau	Quick	Low	Low	Medium	Medium	Content

Appendix A - Quick and Longer Term Wins Decision Matrix

Section	Win	Census & Web 2.0	Labor Effort	Software Cost	Impact	Priority	Area
Help People Find a Resource	Prioritize content (currently, all links in the XML sitemaps are ranked 8 out of 10, showing no distinction in value of the link between the best content and the worst). By showing depth, search engines will push users to the most appropriate pages	Quick	Low	Low	Medium	Medium	Search
Help People Find a Resource	Create a 301 redirect for http://census.gov which should automatically redirect users to http://www.census.gov	Quick	Low	Low	Medium	Low	Search
Help people Share Census Bureau Information	Place Facebook "Like" feature on all existing popular content on Census.gov and any new stories	Quick	Low	Low	Medium	Low	Share
Help people Share Census Bureau Information	Create Twitter feeds for selected Census Bureau data releases and related updates	Quick	Low	Low	Medium	Low	Share
Help people Share Census Bureau Information	Encourage use of data.gov API to study use of datasets in "the wild" among retellers	Quick	Low	Low	Medium	Medium	API
Help people Share Census Bureau Information	Analyze sharing tool use across existing Census Bureau sites	Quick	Low	Low	Medium	Medium	Share
Create a Web 2.0 Culture	Study existing Web 2.0 customer interactions and guidelines	Quick	Medium	Low	Medium	High	Governance
Create a Web 2.0 Culture	Revise or create guidelines for Web 2.0 engagement that clearly spell out positive engagement	Quick	Medium	Low	Medium	Medium	Governance
Help People Connect with Mobile Strategies	As new pages are created, particularly the thematic pages accessed by general users and frequently accessed items (like blogs for expert users) ensure that each webpage has a mobile browsing page	Quick	Medium	Low	Medium	Low	Content
Help People Engage and Find Answers	Revise the home page to include more inviting graphics and stories pulled from existing sources	Quick	Medium	Low	Medium	High	Content
Help People Engage and Find Answers	Place homepage and thematic tier on enterprise level content management system	Long	High	High	High	High	CMS
Create a Web 2.0 Culture	Ensure all major product development efforts include usability design and testing	Long	High	Low	High	High	Governance
Help People Appreciate the Census Bureau	Launch a branding campaign to reclaim the Census Bureau products in the wild	Long	High	Low	High	High	Governance

Appendix A - Quick and Longer Term Wins Decision Matrix

Section	Win	Census & Web 2.0	Labor Effort	Software Cost	Impact	Priority	Area
Help People Connect with Mobile Strategies	The Census Bureau leadership should create a mobile strategy that defines how internal and external mobile solutions serve the Census Bureau mission	Long	High	Low	High	High	Governance
Help People Engage and Find Answers	Centralize the services underlying the content of each web property (e.g., search and indexing, compliance testing, style sheets)	Long	High	Low	High	High	CMS
Help People Engage and Find Answers	Enforce usability design and testing requirements for major investments	Long	High	Low	High	High	Governance
Help People Explore Data	Create a Census.gov data visualization standard and support service aligned with the needs of major audiences including: map and data discovery service configurable by storytellers and engaging for casual users; a data discovery platform for sophisticated users; and an ever improving AFF for experts. (Services and tools may overlap.)	Long	High	Low	High	High	Governance
Introduce a More Centralized Web 2.0 Operational Structure	Expand operational model to all products impacting the core Census Bureau mission	Long	High	Low	High	Low	Governance
Help People Explore Data	Create standards and policies for leveraging outside services to accomplish the Census Bureau goals	Long	Medium	Low	High	High	Governance
Help people Share Census Bureau Information	The Census Bureau leadership should create a social media strategy that establishes the purpose, methods, and rules of engagement for social media	Long	Medium	Low	High	High	Governance
Help people Share Census Bureau Information	The Census Bureau should conduct a user study to determine how customers use or would like to interact with Census Bureau	Long	Medium	Low	High	High	Governance
Help people Share Census Bureau Information	Conduct a survey of potential API consumers and develop distribution plan	Long	Medium	Low	High	High	API
Introduce a More Centralized Web 2.0 Operational Structure	Generate a plan for integrating the piloted operational model into the Census Bureau	Long	Medium	Low	High	High	Governance
Help People Connect with Mobile Strategies	The Census Bureau should select a Content Management System that 1) automatically creates mobile pages by stripping out non-essential images and 2) automatically detects mobile devices and serves mobile pages	Long	High	Medium	High	High	CMS

Appendix A - Quick and Longer Term Wins Decision Matrix

Section	Win	Census & Web 2.0	Labor Effort	Software Cost	Impact	Priority	Area
Help People Find a Resource	Adopt an enterprise content management system that will automate and standardize site mapping, tagging, indexing, and, most importantly, the site search	Long	High	Medium	High	High	CMS
Help people Share Census Bureau Information	Create a targeted mobile app as described in Give the Sophisticated User a Targeted On-Device App	Long	High	High	Low	Low	Mobile
Help People Find a Resource	Introduce indexing across all sites	Long	High	Low	Low	Medium	Search
Help people Share Census Bureau Information	Provide program contributors with a standard sharing system (through an enterprise content management system)	Long	Low	Low	Low	Low	CMS
Help People Find a Resource	Integrate tags and HTML 5 flags into web content	Long	Medium	Low	Low	Low	Search
Help People Find a Resource	Set lifecycle management policies on all online materials forcing them to be reviewed or archived by owners	Long	Medium	Low	Low	Low	Content
Align with Federal CIO and CIO Council	Develop a strategic framework for integrating long term efforts into the CIO's resources and policies	Long	High	Low	Medium	Medium	Governance
Help People Engage and Find Answers	Create new thematic pages and Web 2.0 features	Long	High	Low	Medium	Medium	Content
Help People Appreciate the Census Bureau	Produce an annual report capturing the impact of the Census Bureau across the information world	Long	Low	Low	Medium	High	Share
Help People Appreciate the Census Bureau	Publish the Census Bureau product use metrics on site	Long	Low	Low	Medium	Medium	Share
Help people Share Census Bureau Information	Connect all streams through Feedburner, the free Google service that provides mass media distribution and audience engagement services for blogs and RSS feeds	Long	Low	Low	Medium	Medium	CMS
Help people Share Census Bureau Information	Introduce standard sharing tools on a new enterprise content management system	Long	Low	Low	Medium	Low	CMS
Create a Web 2.0 Culture	Create a review structure that ensures privacy, accuracy, and compliance policies are met in the most efficient way possible	Long	Medium	Low	Medium	Medium	Governance
Help People Appreciate the Census Bureau	Embed the Census Bureau citations, annotation, links, and "Powered by the Census Bureau" logo on all API , widget, mobile apps, and datasets	Long	Medium	Low	Medium	High	Governance

Appendix A - Quick and Longer Term Wins Decision Matrix

Section	Win	Census & Web 2.0	Labor Effort	Software Cost	Impact	Priority	Area
Help People Connect with Mobile Strategies	The Census Bureau should conduct a user study to determine how customers use or would like to use Census Bureau tools on smartphones and tablets	Long	Medium	Low	Medium	Medium	Governance
Help People Find a Resource	Create a system for entering metadata on all web content	Long	Medium	Low	Medium	Medium	Search

Appendix A - Quick and Longer Term Wins Decision Matrix Guide

	Low	Medium	High
Labor Effort	A single person or small group for a short period	A dedicated team over an extended period	Coordination across multiple teams for and extended period
Software Cost	\$0-\$2,500	\$2,500-\$50,000	\$50,000+
Impact	A small impact for a small audience	Should make either a significant impact for a small group or a small impact for a large group	Should impact multiple Census Bureau goals either across multiple directorates or assist a large group of stakeholders
Priority	Wait until high priority items are closed	Wait until resources are free from high priority items	Place key resources on these issue as soon as possible and until completion
Area	Most significant corresponding section of Emerging Trends Report		

**Appendix B:
Data Visualization Tools
Comparison**

Appendix B - Data Visualization Tools Comparison

Vendor Application Website	Tableau Software http://www.tableausoftware.com/	Qlikview Qliktech http://www.qlikview.com/	Spotfire Tibco http://spotfire.tibco.com/	PowerPivot Microsoft http://www.powerpivot.com/
Best Use for Census	Excellent for storytellers to create visualizations to publish easily without programming	Excellent for storytellers or data producers doing large scale mashups and visualizations.	Excellent for storytellers creating visualizations and when working with statisticians to visualize the results of advanced statistical models.	Consider leveraging SharePoint Intranet investment and offering this solution as low-level analysis support for data producers. Not a solution for publishing to website.
Business Consideration: Scalability	Very Good	Limited by RAM	Unlimited	Very Good with SharePoint and SQL Server version of PowerPivot
Business Consideration: Cost	High	Above Average	High	Average/low with desktop
Technical Consideration: Maximum Dataset Size	Unlimited	Billions of rows	Unknown	Limited
Technical Consideration: Multiple Data Source Access	Yes	Yes	Yes	Yes
Technical Consideration: Multiple Table Access	Yes	Yes	Yes	No
Technical Consideration: Online Data Access	Limited	Yes	Yes	N/A
Technical Consideration: In-Memory Engine	Desktop or Server	Desktop or Server	Server	Desktop
Technical Consideration: Interactive Visualization	Very Good	Excellent	Very Good	As good as Excel
Technical Consideration: Data Integration	Excellent	Good	Good	Good
Technical Consideration: Visual DrillDown	Good	Excellent	Very Good	Average
Technical Consideration: Standard Visualizations	Yes	Yes	Yes	Yes
Technical Consideration: Advanced Visualizations	Bullet	Dial, sparkline, radar	Sparkline, 3D Nets	No

Appendix B - Data Visualization Tools Comparison

Vendor Application Website	Tableau Tableau Software http://www.tableausoftware.com/	Qlikview Qliktech http://www.qlikview.com/	Spotfire Tibco http://spotfire.tibco.com/	PowerPivot Microsoft http://www.powerpivot.com/
Technical Consideration: Dashboards	Good	Excellent	Very Good	Below Average
Technical Consideration: Statistical Modeling and Analytics Capabilities	Excellent OLAP	Weak	Excellent - Direct Interface with R/S+.	Good with SQL Server Analysis Services
Technical Consideration: UI & Visual Controls	Very Good	Best	Very Good	Good
Technical Consideration: Development Environment	Average	Scripting Rich API	Rich API, S+ - API in Developer Edition allows development in .NET framework	Excellent
Technical Consideration: Integration with GIS	Good	Good	Excellent	Average
Technical Consideration: Gartner (2011) Description of Visualization Capabilities	"It gained overwhelmingly positive customer survey feedback across the board in all measures in the survey, including for ease of use, functionality, product quality, product performance, support, customer relationship, success, achievement of business benefits and view of the vendor's future — indeed, it earned a top score in virtually all of these key categories."	"Ease of use drives user adoption. QlikTech's QlikView product is a self-contained BI platform, based on a wholly in-memory data store, with a set of well-integrated BI tools for building highly interactive applications. Anecdotal feedback from QlikView end users invariably centers on how intuitive and likable the product is to use. More than three-quarters of QlikView customers said they selected it primarily for its ease of use for end users (the only vendor on the quadrant where above 75% of those surveyed said this was the case)."	"Its focus on advanced and real-time analytic applications and dashboards delivered to mobile devices contributes to its strong vision. Unlike the other data discovery platforms (for example, QlikView and Tableau), Tibco Spotfire is leveraging its acquisition of Insightful for data mining as well as its integration with Tibco middleware to broaden the possible spectrum of end-user-driven interactive analysis to incorporate business events, predictive analytics, statistical analysis and "what if" modeling."	"Use of OLAP functionality by Microsoft customers is more than double that for the rest of the survey respondents. This can be attributed to the success and adoption of Microsoft SQL Server Analysis Services functionality bundled with Microsoft SQL Server and its optimizations with Microsoft front-end tools. Increasingly, organizations are turning to newer in-memory OLAP architectures over traditional multidimensional OLAP architectures to support dynamic and interactive analysis of large datasets"
Technical Consideration: Pandre Summary Rating - Best For:	Visual OLAP	Data Visualization, Drilldown	Visual Analytics	Self-service Business Intelligence

Sources:

Pandre, Andrew (2010). "Comparison", Data Visualization Blog, <http://apandre.wordpress.com/tools/comparison/> Accessed March 11, 2011

Antheon Analytics (2010), "Product Comparison", <http://www.atheonanalytics.com/product-comparison/> Accessed March 11, 2011

Gartner (2011)

Product Websites

**Appendix C:
Tools Table Appendix**

Appendix C - Tools Table

Name and URL	Labor Cost	Software Cost	Census Use	General Use	Category	Pricing
Tableau www.tableausoftware.com	Medium	High	Allows Census storytellers to explore data and create complex visualizations without programming.	Drag and drop data discovery and data visualization.	Data visualization	Desktop Personal Edition \$999 Desktop Professional Edition \$1999
Qlikview www.qlikview.com	High	High	Allows Census storytellers to explore data, mash together large data sets, and produce visualizations without programming	Visualizations using large datasets especially when datasets need to be combined. Large number of built in advanced visualizations	Data visualization	Unknown
Spotfire http://spotfire.tibco.com/	High	High	Allows Census storytellers to explore data and create visualizations. Allows Census statisticians to connect the visualization platform with R/S+ code for advanced statistical capabilities	Drag and drop visualization capabilities combined with ability to interface with statistical languages.	Data visualization	TIBCO Spotfire Express (\$79/month) TIBCO Spotfire for Analytics (\$399/month)
PowerPivot www.powerpivot.com	Low (Desktop)	Low (Desktop)	Allows storytellers to leverage Excel functionalities with added visualization. Can be used to leverage SharePoint investment in intranet	Excel plug in to improve visualization capabilities. Can be used with Microsoft SharePoint for server solution	Data visualization	Excel Plug In - Free
Argyle Social http://argylesocial.com/	Medium	Low	Allows Bureau to unify publication of social media content. Provides for coordinated communication across platform. Measures Return on Investment (ROI) for each social media campaign.	Single platform to publish content and track "conversions" across all Twitter, Facebook, etc. accounts	Social media	Agency edition: \$199/month Marketer Edition - \$149/month Advanced Edition \$499/month
Sprout Social http://sproutsocial.com/	Low	Low	Allows Bureau to identify new potential "customers" who fit similar profile to Census' most active social media followers, and proactively build customer base.	Less powerful than Argyle Social in publication but has unique "find similar people" based on their Facebook, Twitter, and LinkedIn pages.	Social media	Sprout Social Professional \$9/month Sprout Social Business \$49/month

Appendix C - Tools Table

Name and URL	Labor Cost	Software Cost	Census Use	General Use	Category	Pricing
BuzzMgr http://www.buzzmgr.com/	Low	Low	Enables Bureau to monitor the sentiment of social media about the Bureau. Helps steer successful campaigns, quickly identify and resolve negative press, and demonstrate social impact of Census communications.	Social media monitoring platform that watches Twitter, Facebook, and other SM sites and assigns sentiment scores to comments, re-tweets, shares, etc.	Social media	Varies based on requirements
WebCEO http://www.webceo.com/	Low	Low	Enables Bureau to monitor and continually improve its web property's search engine optimization (SEO).	SEO campaign management software to see keyword rankings, trends, links (in/out), ad campaigns, etc. across over 200 international search engines	SEO	<ul style="list-style-type: none"> • Free \$0 • Silver \$49/month • Gold \$149/month • Pro \$99/month Web CEO Professional Suite v8.11 \$499
Informatica http://www.informatica.com	High	High	Enables Bureau to prune old content or duplicate data, reducing "noise" for a user and helping the user find the intended, current version data they seek.	Software to identify inconsistent, duplicate or outdated data and align content lifecycle with an organizations goals.	Content Lifecycle Management	Varies based on functionality
Techneos www.techneos.com	Medium	Medium	Enables Bureau to quickly build and deploy mobile data collection apps that run on all major handset OS without needing to understand the 5,000+ handset/OS variations in the market.	A web-based survey-building tool that auto-creates apps for data collection from the web-survey and deploys them to Blackberry, Android, iPhone, and other mobile OS.	Mobile	Varies based on requirements

Appendix C - Tools Table

Name and URL	Labor Cost	Software Cost	Census Use	General Use	Category	Pricing
FrontlineSMS www.frontlinesms.com	Low	N/A, open source	Enables Bureau to build and deploy SMS-based mobile applications quickly and at low cost.	Free, open source platform for creating and managing SMS applications. Used extensively by USAID, State Department.	Mobile	Free
SalesForce www.SalesForce.com	Medium	Low	Enables Bureau to manage prospective social media customers and monitor their engagement across all social media platforms. An increased understanding of this customer behavior will inform communications strategy and channel selection.	Widely-used and GSA-approved Customer Relationship Management (CRM) solution	Social Media, CRM	<ul style="list-style-type: none"> • Unlimited \$250/user/month • Enterprise \$125/user/month • Professional \$65/user/month • Group \$25/user/month • Contact Manager \$5/user/month
SortSite http://www.powermapper.com/products/sortsite/index.htm	Low	Low	Allows Bureau to do post-production analysis of the content it publishes. Results in higher levels of compliance for published materials with best practice.	Desktop software for checking web pages / links against 20+ compatibility and compliance standards such as W3C, SEO, Section 508, Usability, Cross Browser Compatibility, etc.	Compliance Testing	<ul style="list-style-type: none"> • SortSite Standard Single User \$149 • SortSite Pro Single User \$349
Yahoo Pipes http://pipes.yahoo.com/pipes/	Low	N/A, free	Allows Bureau to monitor "Census in the News" in a targeted and efficient manner.	Composition tool to aggregate, manipulate, and mash up content from around the web.	"Census in the News"	Free

**Appendix D:
Content Management Systems at
other Agencies**

Appendix D - Content Management Platforms Used by Federal Agencies

Below is a list of content management systems (CMSs) used by various government agencies. Most are commercial products, but some are products developed in-house. You can contact them for more information about an agency's experience with that product or system.

Source: *Howto.gov*

Agency (or Website)	Product or Service	Year Obtained
Air Force	Broadvision (Portal)	
Arizona Government Information Technology Agency	Mambo	
Arlington County	Rhythmyx	
Bureau of Labor Statistics	In-house system	2003
Central Intelligence Agency	Plone	
City of Fort Worth	Ektron	
City of Killeen, Texas	ExponentCMS.org	
City of Newport News	Plone	
Commodity Futures Trading Commission	Stellent	
Commonwealth of Massachusetts	Interwoven TeamSite	
County of Santa Clara Public Portal	Vignette	
Cuyahoga County, Ohio	Synapse Publisher CMS	2010
Defense Finance and Accounting Service - Documentum	Documentum	
Defense Finance and Accounting Service - Plumtree (Portal)	Plumtree (Portal)	
Defense Finance and Accounting Service BizFlow (Workflow)	BizFlow (Workflow)	
Dept. of Agriculture	Stellent (used agency-wide)	
Dept. of Commerce	Drupal	2010
Dept. of Defense - Military Health System	Sitefinity	2010
Dept. of Education	Interwoven TeamSite	1999
Dept. of Energy - Office of Energy Efficiency & Renewable Energy	OpenText	2011
Dept. of Energy - Lawrence Livermore Labs	Stellent	
Dept. of Energy - Western Area Power Administration	Serena Collage	2005
Dept. of Health & Human Services	Percussion	
Dept. of Health & Human Services - National Library of Medicine	Interwoven TeamSite	2001
Dept. of Health & Human Services - CDC	Documentum	2002
Dept. of Health & Human Services - Administration on Aging	Content Studio	
Dept. of Health & Human Services - FDA	Oracle/Stellent Universal Content Management (agency-wide)	
Dept. of Health & Human Services - National Cancer Institute/Division of Cancer Epidemiology and Genetics	PLONE	2011
Dept. of Health & Human Services - Office of Communications and Education	Percussion	2011

Agency (or Website)	Product or Service	Year Obtained
Dept. of Homeland Security	Interwoven TeamSite	2003
Dept. of Homeland Security - Citizenship and Immigration Services	Vignette	2006
Dept. of Homeland Security - Customs & Border Protection	eXpressroom	
Dept. of Homeland Security - Transportation Security Administration (TSA)	Interwoven TeamSite	2006
Dept. of Homeland Security - Immigration & Customs Enforcement (ICE)	Interwoven	1999
Dept. of Homeland Security - FEMA	Interwoven TeamSite	2005
Dept. of Homeland Security - Coast Guard	Broadvision (used for Intranet)	
Dept. of Justice - National Institute of Justice	Percussion	
Dept. of Justice - The DNA Initiative	EZRO (open source)	
Dept. of Justice - Environmental and Natural Resources Division	RedDot	
Dept. of Labor - Bureau of Labor Statistics	In-house system	2003
Dept. of Labor - Employment and Training Administration	webZerve	
Dept. of State	WaterFall	2003
Dept. of State - Consular Affairs (Intranet)	Percussion	2000
Dept. of State - International Information Programs	WaterFall	2003
Dept. of State - IRM Business Center	In-house (PortalX 1.3)	
Dept. of State - America.gov	WebGUI	
Dept. of Transportation	None	2004
Douglas County, CO	Stellent	
EPA	Documentum	2010
EPA - EPA (Region 8)	Documentum	2010
EPA - Office of Water	CommonSpot	2010
Farm Credit Administration	Serena Collage (not presently using it)	2006
Georgia Department of Human Services	Vignette	
GSA (GSA.gov)	Websphere	
GSA - GSA Intranet site	Websphere	
GSA - HowTo.gov	Drupal	2010
GSA - USA.gov and GobiernoUSA.gov	Percussion	
Interstate Commission for Adult Offender Supervision	DotNetNuke Professional Edition	2010
IRS	Vignette	
Library of Congress	Interwoven	2002
Marine Corps Community Services	In-house (ColdFusion with Oracle database)	
Millenium Challenge Corporation	ExpressionEngine	2011

Agency (or Website)	Product or Service	Year Obtained
NASA	Digital Asset Manager	2003
NASA - Kennedy Space Center	Inmagic Presto	2007
NASA - Jet Propulsion Laboratory	Plone	
National Institute of Standards and Technology	CommonSpot	2008
National Institutes of Health - Office of Human Resources	Adobe Contribute	
National Labor Relations Board	Drupal	2011
National Oceanic and Atmospheric Administration	Stellant	
National Oceanic and Atmospheric Admin. - Northwest Regional Office	CommonSpot	
National Park Service (Dept. of Interior)	CommonSpot (www.paperthin.com)	
Navy Enterprise Maintenance System	Documentum	
Navy Personnel Command	Microsoft's Content Management Server	
OPM	Percussion	2005
Pension Benefit Guaranty Corporation	Percussion	2004
Patent and Trademark Office	None	
Securities and Exchange Commission	Percussion	2005
Senate	Documentum	
Smithsonian Institution	Interwoven	2002
Social Security Administration	None	
State of California	Broadvision	
State of California - Department of Fish and Game	DotNetNuke	
State of Hawaii, Dept. of Taxation	Plone 3.0.5	
State of Illinois	Microsoft SharePoint	2009
State of Michigan	Vignette	
State of Missouri, Dept. of Conservation	Drupal	2010
State of New York Department of Environmental Conservation	RedDot	2006
State of Texas	Plone	2010
State of Texas - Parks and Wildlife Department	Plone	2010
State of Washington - Department of Retirement Systems	Interwoven TeamSite	
State of Washington - Department of Ecology	Interwoven TeamSite	
State of Washington - Employment Security Department	Interwoven TeamSite	
USA.gov	Percussion	2010
U.S. Courts (Intranet)	Sitefinity	2010
US Forest Service	None	

Agency (or Website)	Product or Service	Year Obtained
U.S. Mint (Intranet)	Web Publisher (Documentum)	2004
USAID	Documentum	
USPS (Postal Service)	Broadvision (e-commerce)	
USPS (Postal Service)	Interwoven (usps.gov)	
Small Business Administration	Alfresco	
Veterans Affairs	Interwoven TeamSite	2003
Veterans Affairs - VA Information Resource Center	Adobe Contribute	2003
Veterans Affairs - Veterans Health Administration	Interwoven TeamSite	2003
Voice of America	Clickability	2011
White House	Drupal	2009

+ These offices within FDA use their CMS to develop, but not publish, content.

**Appendix E-1:
CMS ROI**

Evaluating Return on Investment to Census from a Content Management System

Return on investment is a business concept that refers to the gains from an investment relative to the cost of the investment. In business IT this is traditionally measured in a monetary sense but government has to estimate the return on investment using a broader set of indicators because the government has to answer to citizens. Cresswell, Burke, and Pardo (2006) developed a framework to measure return on investment in government IT.¹ They argue that government IT investments can return value to the public through one or more of the following four value-generating mechanisms:

- **Increases in Efficiency:** This refers to increased output with lower resource consumption and is similar to the business case for ROI and focuses on efficiency gains through financial and other resource constraints.
- **Increases in Effectiveness:** This refers to improvements in the quantity or quality of the good or service provided or desired.
- **Enablement:** This refers to “providing means or allowing otherwise infeasible or prohibited desirable activity, or preventing or reducing undesirable events or outcomes.” (p.3 and p.13)
- **Intrinsic Enhancements:** This involves “changing the environment or circumstances of a stakeholder in ways that are valued for their own sake”. An example of this is implementing a system that leads to improved transparency

There are no existing studies that examine the value generated by CMS systems in all four of these areas in a government context. We therefore use information from external sources about ROI benefits through a CMS system and combine it with logical extrapolations that are unique to Census. Through this process we developed the following calculator to estimate the ROI benefits to Census’ implementing a CMS system.

The Gilbane Group (2009) developed an ROI calculator for web CMS systems that identify benefits in two dimensions: site development costs, and costs of training content authors and web developers in proprietary authoring tools.² We took their ROI calculator as a base and built functionalities specific to Census using it. We assume that training costs of web developers is a sunk cost and do not include it in the calculation. The calculator also does not include the startup cost of purchasing and implementing a CMS system. The only costs compared here are the costs of site development with and without pre-existing CMS templates.

¹ Anthony M. Cresswell, G. Brian Burke, Theresa A. Pardo 2006. "Advancing Return on Investment Analysis for Government IT A Public Value Framework", Center for Technology in Government University at Albany, SUNY. http://www.ctg.albany.edu/publications/reports/advancing_roi/advancing_roi.pdf Accessed March 28, 2011

² Gilbane Group Inc. 2009. "Justifying Web Content Management: The Business Case and ROI", Whitepaper. <http://gilbane.com/whitepapers/Tridion/Tridion-ROI-wp-final-040209.pdf>

Note: This study was sponsored by SDL Tridion who develop web content management systems.

The worksheet predicts considerable returns on investment on per web page and per site development basis with the use of CMS based templates. To illustrate the savings, we varied the number of hours spent on developing the template from 2 to 25 hours. Even at 25 hours per template the net cost of developing the site, *ceteris paribus*, declines by 29%. A caveat is that this ROI calculation is sensitive to the assumptions used. This is the increase in efficiency on an ongoing basis defined above.

The quality of service improves because Census seeks to provide the best quality content to citizens and data users. Census can devote more resources to improving content quality rather than expending resources on developing each page and ensuring 508 compliance. Simultaneously, Census can increase the number of pages because they follow a predefined layout that is already 508 compliant. Content authors can simply provide content to the web developers who can quickly create pages or can create the pages themselves by inserting content on the templates. More information availability can help Census achieve its goals of transparency.

**Appendix E-2:
CMS ROI Calculator**

Appendix E-2 ROI Calculator Comparing Web Page and Site Development Costs with and without a CMS system

Replace placeholder values with Census Bureau estimates to calculate ROI.

Costs	Formula	Values			
Web Page Design and Development Costs					
A Average time to design, develop, review, and deploy a web page (hours)		2	2	2	2
B Fully Burdened Cost of a web developer (per hour)		\$ 50	\$ 50	\$ 50	\$ 50
C Cost of One Web Page	A x B	\$ 100	\$ 100	\$ 100	\$ 100
D Average Time spent in Examining and Correcting a Page for 508 Compliance (hours)		0.5	0.5	0.5	0.5
E Fully Burdened Cost of a 508 Compliance Expert (per hour)		\$ 50	\$ 50	\$ 50	\$ 50
F Cost of 508 Compliance for 1 Web Page	D x E	\$ 25	\$ 25	\$ 25	\$ 25
G Total Cost of 1 Web Page	(A x B) + (D x E)	\$ 125	\$ 125	\$ 125	\$ 125
H Number of Web Pages to be Designed and Developed		100	100	100	100
I Total Estimated Web page design and development costs without Template	G x H	\$ 12,500	\$ 12,500	\$ 12,500	\$ 12,500
Web Template Design and Development Costs					
A Average time to design, develop, review, and deploy a web template (hours)		2	5	10	25
B Average hourly consultant development rate		\$ 50	\$ 50	\$ 50	\$ 50
C Cost of one web template	A x B	\$ 100	\$ 250	\$ 500	\$ 1,250
D Average Time spent in Examining and Correcting a Template for 508 Compliance		0.5	0.5	0.5	0.5
E Fully Burdened Cost of a 508 Compliance Expert		\$ 50	\$ 50	\$ 50	\$ 50
F Cost of 508 Compliance for 1 Web Template	D x E	\$ 25	\$ 25	\$ 25	\$ 25
G Total Cost of 1 Web Template	(A x B) + (D x E)	\$ 125	\$ 275	\$ 525	\$ 1,275
H Number of Web templates to be designed, developed, and deployed		5	5	5	5
I Total estimated web template design and development costs		\$ 625	\$ 1,375	\$ 2,625	\$ 6,375
Costs of Developing a Website Using the Template					
A Average time to design, develop, review, and deploy a web page using Template (hours)		0.5	0.5	0.5	0.5
B Fully Burdened Cost of a web developer (per hour)		\$ 50	\$ 50	\$ 50	\$ 50
C Cost of One Web Page	A x B	\$ 25	\$ 25	\$ 25	\$ 25
D Number of Web Pages to be Developed		100	100	100	100
E Total Estimated Web page design and development costs	C x D	\$ 2,500	\$ 2,500	\$ 2,500	\$ 2,500
Total Cost including Template Development		\$ 3,125	\$ 3,875	\$ 5,125	\$ 8,875
Net Savings from Development without Templates in CMS in US\$		\$ 9,375	\$ 8,625	\$ 7,375	\$ 3,625
Percentage Savings		75%	69%	59%	29%

Gilbane Group Inc. 2009. "Justifying Web Content Management: The Business Case and ROI", Whitepaper. <http://gilbane.com/whitepapers/Tridion/Tridion-ROI-wp-final-040209.pdf>

Note: This study was sponsored by SDL Tridion who develop web content management systems.

**Appendix F-1:
External Statistical Website
Results**

External Website Review

Question	External Websites (11)				Census.gov
	✓+	✓	✗	✗	
Information Availability	✓+	✓	✗	✗	
Is it possible to easily locate answers to common questions on the website (e.g., What is the population of the country?)?	2	5	2	2	✓
Are the homepage and introductory pages organized to provide access to the following types of data for different user groups (e.g., casual, sophisticated, expert)?	2	1	2	6	✗
Geographic (national/local)	6	1	2	2	✓+
Topics (economic/demographic)	6	0	4	1	✗
Trends (over time)	3	4	3	1	✗
Website Functionality	✓+	✓	✗	✗	
Is there a way to search for data sources on the website?	3	6	1	1	✗
Is there a way to compose a query to retrieve a specific answer on the website?	3	1	2	5	✓
How do you download microdata & metadata from the website?	0	2	1	8	✓
What visualization tools are offered and to what extent (e.g., graphics, maps, trends)?	3	4	4	0	✗
Does website employ consistent formatting throughout?	1	4	6	0	✗
Does the website provide mobile access to some of its features?	1	2	1	7	✗
Can users subscribe for updates about new data releases, etc?	6	3	2	0	✗
User Support	✓+	✓	✗	✗	
Does the website provide text indicating the breadth of information available on the site?	4	3	2	2	✗
Does the website provide a site map that organizes the content by topic without overwhelming the user with too much information?	3	2	4	2	✗
Does the website provide information about relevance and appropriate use and/or contextual information for similar data sets (e.g., which is the right data source for the information you are searching)?	0	0	4	7	✗

Grade Color Key

Grade	Meaning
✓+	Best
✓	Adequate
✗	Poor
✗	Not Present
●	Average Score

Question	U.S. Census	Statistics Netherlands	Australian Bureau of Statistics	Statistics Canada	Statistics Singapore	Statistics Denmark	Bureau of Labor Statistics	Bureau of Justice Statistics	National Center for Education Statistics	Bureau of Economic Analysis	Stats Indiana	KIDS COUNT Data Center
Information Availability												
Is it possible to easily locate answers to common questions on the website (e.g., What is the population of the country?)?	3	2	3	2	4	3	3	4	1	1	3	3
Are the homepage and introductory pages organized to provide access to the following types of data for different user groups (e.g., casual, sophisticated, expert)?	1	2	4	4	1	1	3	1	2	1	1	1
Geographic (national/local)	4	2	4	4	1	1	4	2	3	4	4	4
Topics (economic/demographic)	2	4	2	4	2	4	4	4	2	1	4	2
Trends (over time)	2	4	3	3	3	4	3	4	2	2	2	1
Website Functionality												
Is there a way to search for data sources on the website?	2	3	3	4	3	2	3	4	4	3	3	1
Is there a way to compose a query to retrieve a specific answer on the website?	3	4	1	2	1	4	4	2	3	1	1	1
How do you download microdata & metadata from the website?	3	1	1	2	1	1	3	1	3	1	1	1
What visualization tools are offered and to what extent (e.g., graphics, maps, trends)?	2	4	2	3	3	4	2	2	3	2	3	4
Does website employ consistent formatting throughout?	1	4	2	2	3	3	3	2	2	2	2	3
Does the website provide mobile access to some of its features?	1	3	3	1	2	1	1	1	1	1	1	4
Can users subscribe for updates about new data releases, etc?	2	2	2	4	4	4	4	3	4	4	3	3
User Support												
Does the website provide text indicating the breadth of information available on the site?	1	3	2	4	2	3	4	4	1	1	4	3
Does the website provide a site map that organizes the content by topic without overwhelming the user with too much information?	1	3	2	2	2	3	4	4	2	1	4	1
Does the website provide information about relevance and appropriate use and/or contextual information for similar data sets (e.g., which is the right data source for the information you are searching)?	1	2	1	1	1	2	2	2	1	1	1	1

**Appendix F-2:
External Website Review**

External Website Evaluations

The U.S. Census Bureau

Contract No. YA132309CQ0045, Task Order (TO) 001:
Web Discovery: Data Visualization and the Future of
Census.gov

Abt Associates, March 12, 2011

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External Website Evaluations

U.S. Census - www.census.gov

Question	Evaluation	Comment (Compared to U.S. Census)
Information Availability		
Is it possible to easily locate answers to common questions on the website (e.g., What is the population of the country?)?	3 – Adequate	The website provides decent access to common geographic and economic statistics through the data finder links on the homepage.
Are the homepage and introductory pages organized to provide access to the following types of data for different user groups (e.g., casual, sophisticated, expert)?	1 – Not Present	The website does not provide different introductory pages for user types.
Geographic (national/local)	4 – Best	The website does a good job of providing access to geographic data through the population finder and area profiles links on the homepage.
Topics (economic/demographic)	2 – Poor	Although the website is generally organized into economic and demographic topics, it is difficult to navigate within and between these topics and to understand the true breadth of information available from the website.
Trends (over time)	2 – Poor	Although historical data is available for many surveys, it is difficult to find the data without knowing where to look.
Website Functionality		
Is there a way to search for data sources on the website?	2 – Poor	The census search engine does not provide useful search results – results are not sorted by relevance and it is difficult to find information using search.
Is there a way to compose a query to retrieve a specific answer on the website?	3 – Adequate	The website does a decent job of allowing users to query for specific information in American Fact Finder.
How do you download microdata & metadata from the website?	3 – Adequate	It is straightforward to find micro and meta data on individual survey pages, and American Fact Finder and DataFerrett provide central locations for downloading data across surveys.
What visualization tools are offered and to what extent (e.g., graphics, maps, trends)?	2 – Poor	There are limited mapping/visualization abilities in some areas of the site, e.g. American Fact Finder and the LEHD page; however visualization is not emphasized throughout the different sections of the website.
Does website employ consistent formatting throughout?	1 – Not Present	The website fails to standardize formatting throughout different sub-sections.
Does the website provide mobile access to some of its features?	1 – Not Present	The website does not provide a mobile access option.
Can users subscribe for updates about new data releases, etc?	2 – Poor	Subscriptions for updates are only available for a limited set of surveys/sections of site, and there is no

Question	Evaluation	Comment (Compared to U.S. Census)
		centralized update service. It is possible to sign up for news releases , and some individual surveys provide notification services.
User Support		
Does the website provide text indicating the breadth of information available on the site?	1 – Not Present	The website fails to provide text indicating what is available on the website as a whole, and there is no centralized listing of topics.
Does the website provide a site map that organizes the content by topic without overwhelming the user with too much information?	1 – Not Present	There is no site map on the website other than the A to Z list of topics. The alphabetical index is comprehensive but does not group content by topic and provides too much information in some areas.
Does the website provide information about relevance and appropriate use and/or contextual information for similar data sets (e.g., which is the right data source for the information you are searching)?	1 – Not Present	The website does not provide information about relevance and appropriate use of similar data sets in American Fact Finder.
Noteworthy Features (list)		
<ul style="list-style-type: none"> American Factfinder provides mapping abilities, LEHD and other sites provide some visualization of data. It is easy to search for geographic information directly from the homepage. 		

Question	Evaluation	Comment (Compared to U.S. Census) (Are features paid access only?)
Information Availability		
Is it possible to easily locate answers to common questions on the website (e.g., What is the population of the country?)?	2 – Poor	There are a limited number of key statistics available on the homepage and figures page; otherwise users must delve through topics and view complex tables to find answers to even common questions.
Are the homepage and introductory pages organized to provide access to the following types of data for different user groups (e.g., casual, sophisticated, expert)?	2 – Poor	The website attempts to provide introductory pages for user types, but these pages are generally not helpful for orienting users to the information available on the website.
Geographic (national/local)	2 – Poor	The website does not emphasize geographic information as an organizing principle. The only way to find geographic information is by searching in Statline .
Topics (economic/demographic)	4 – Best	The website successfully organizes itself by themes , which are carried through all sections of the website.
Trends (over time)	4 – Best	The website succeeds in consistently providing trends data in all tables and many visualizations throughout the website.
Website Functionality		
Is there a way to search for data sources on the website?	3 – Adequate	The website search is mediocre in terms of its helpfulness for finding data, but the Statline search results include links to the appropriate theme.
Is there a way to compose a query to retrieve a specific answer on the website?	4 – Best	Statline does a good job of allowing users to compose queries when searching by theme or geography.
How do you download microdata & metadata from the website?	1 – Not Present	It is not possible to download microdata from the website. Users must apply and pay a fee to view microdata.
What visualization tools are offered and to what extent (e.g., graphics, maps, trends)?	4 – Best	The website places a strong emphasis on visualization, including interactive infographics linked from the homepage, visualizations available for most themes , and map and chart options for viewing data in Statline .
Does website employ consistent formatting throughout?	4 – Best	The website successfully standardizes formatting by showing all tables in Statline.
Does the website provide mobile access to some of its features?	3 – Adequate	Statline can be accessed on the iPhone .
Can users subscribe for updates about new data releases, etc?	2 – Poor	The website does not provide an option to subscribe for updates about data releases, but it is possible to subscribe to receive press releases, web magazine, and discussion papers.

Question	Evaluation	Comment (Compared to U.S. Census) (Are features paid access only?)
User Support		
Does the website provide text indicating the breadth of information available on the site?	3 – Adequate	The website provides a single, comprehensive list of themes of information available, but it is not available directly on the homepage.
Does the website provide a site map that organizes the content by topic without overwhelming the user with too much information?	3 – Adequate	The site map does a decent job of organizing the content of the website by theme and section.
Does the website provide information about relevance and appropriate use and/or contextual information for similar data sets (e.g., which is the right data source for the information you are searching)?	2 – Poor	Statline provides context for data sets on both in the search and results, but does not provide information to distinguish between similar data sets.
Noteworthy Features (list)		
<ul style="list-style-type: none"> • The website provides introductory pages for the media, policymakers, researchers, and survey respondents. • Statline search results include links to the appropriate theme. • Statline uses an interactive map to allow users to search by geography. • Statline allows users to view results in charts and maps. • Interactive infographics are linked from the homepage. • Users can use Statline from the iPhone at no cost. • It is possible to transpose tables in Statline. 		

Australian Bureau of Statistics <http://abs.gov.au/>

Question	Evaluation	Comment (Compared to U.S. Census) (Are features paid access only?)
Information Availability		
Is it possible to easily locate answers to common questions on the website (e.g., What is the population of the country)?	3 – Adequate	The website allows users to easily access common statistics through links to population data and key national indicators from the home page.
Are the homepage and introductory pages organized to provide access to the following types of data for different user groups (e.g., casual, sophisticated, expert)?	4 – Best	The website does a good job of providing access to different user types through its introduction page and user type pages.
Geographic (national/local)	4 – Best	The website succeeds in guiding users to regional data from the homepage and providing data for local regions. Geography is used as an organizing principle throughout the website.
Topics (economic/demographic)	2 – Poor	The website topics are not consistently implemented throughout the website – they are not always emphasized and topics change in some areas of the site.
Trends (over time)	3 – Adequate	The website does not emphasize trends as an organizing principle, however many tables include data from past years and some pages include options to graph trends.
Website Functionality		
Is there a way to search for data sources on the website?	3 – Adequate	The website search engine does a decent job of guiding users to data, including highlighting suggested pages and offering an option to search using Google.
Is there a way to compose a query to retrieve a specific answer on the website?	1 – Not Present	The website does not offer a useful tool allowing users to query for data. There is a filter option for browsing data sets, but this is insufficient.
How do you download microdata & metadata from the website?	1 – Not Present	It is not possible to download microdata from the website. Users must apply and pay a fee to view microdata.
What visualization tools are offered and to what extent (e.g., graphics, maps, trends)?	2 – Poor	The website does not emphasize visualization options. While there are some interesting visualization features, such as an interactive map and the use of charts in many sections, these features are not used extensively on the site.
Does website employ consistent formatting throughout?	2 – Poor	The website fails to standardize table and page formats across different sections of the site.
Does the website provide mobile access to some of its features?	3 – Adequate	The website provides a mobile site , but it is limited in scope.
Can users subscribe for updates about new data releases, etc?	2 – Poor	There is no centralized option for subscribing to data releases, although it is possible to subscribe to newsletters within topic areas.

Question	Evaluation	Comment (Compared to U.S. Census) (Are features paid access only?)
User Support		
Does the website provide text indicating the breadth of information available on the site?	2 – Poor	The website fails to alert the reader to the breadth of information available on the site. The list of topics somewhat addresses this but is not used consistently throughout the website.
Does the website provide a site map that organizes the content by topic without overwhelming the user with too much information?	2 – Poor	The organizing principle of the website's site map is unclear and usefulness is limited.
Does the website provide information about relevance and appropriate use and/or contextual information for similar data sets (e.g., which is the right data source for the information you are searching)?	1 – Not Present	Website does not provide explanatory text for distinguishing between surveys in lists .
Noteworthy Features (list)		
<ul style="list-style-type: none"> • Website includes an introduction page with links to pages for different user groups • Website uses an interactive map to guide users to regional data. • Website offers a page for mobile access. • Supertable is software users can download to manipulate data in tables. 		

Statistics Canada <http://www.statcan.gc.ca/start-debut-eng.html>

Question	Evaluation	Comment (Compared to U.S. Census) (Are features paid access only?)
Information Availability		
Is it possible to easily locate answers to common questions on the website (e.g., What is the population of the country?)?	2 – Poor	The website provides a limited number of popular statistics on the homepage (e.g., population); otherwise it is necessary to navigate through the various subject areas and tables to locate data.
Are the homepage and introductory pages organized to provide access to the following types of data for different user groups (e.g., casual, sophisticated, expert)?	4 – Best	The website prominently uses landing pages for different user groups which guide the user types to the most relevant resources within the site. The first resource listed for analysts and researchers is CANSIM, a paid database.
Geographic (national/local)	3 – Adequate	It is easy to search for local data using the community profiles tool, which includes options to view data in maps and graphics. However, this tool is not linked prominently from the homepage. Geographic data are available for most data on the site.
Topics (economic/demographic)	4 – Best	It is easy to navigate subjects as they are one of the key organizing principles of the website, including being featured on the homepage .
Trends (over time)	3 – Adequate	The website does not emphasize trends as an organizing principle, but does include trends page that visualizes data from past censuses and many tables present data for multiple years.
Website Functionality		
Is there a way to search for data sources on the website?	4 – Best	The website’s central search engine surpasses that of U.S. Census in providing options to limit and focus results by subject, type, and geography. Some of the tables linked from the search engine require payment for viewing. As with U.S. census, the search appears as a navigation option on most pages.
Is there a way to compose a query to retrieve a specific answer on the website?	2 – Poor	The website fails to provide a centralized data query tool (other than the main search), and it is difficult to locate query tools within sub-sections of the website. CANSIM appears to be a statistics search tool however you must pay for access.
How do you download microdata & metadata from the website?	2 – Poor	The website provides access to metadata and microdata , but fails to connect the two areas, and it is difficult to navigate

Question	Evaluation	Comment (Compared to U.S. Census) (Are features paid access only?)
		to the sections of the website containing meta and microdata. It appears that additional data is available from CANSIM, a paid service.
What visualization tools are offered and to what extent (e.g., graphics, maps, trends)?	3 – Adequate	The website provides many visualization options for viewing data (such as thematic maps, different chart and graph options, etc) that are available for many results tables and search engines.
Does website employ consistent formatting throughout?	2 – Poor	The website fails to standardize table formats across different sections of the site.
Does the website provide mobile access to some of its features?	1 – Not present	The website does not have a mobile access option.
Can users subscribe for updates about new data releases, etc?	4 – Best	The website allows users to sign up for accounts in order to receive email notifications, purchase detailed tables, and access product subscriptions.
User Support		
Does the website provide text indicating the breadth of information available on the site?	4 – Best	The website succeeds in providing a single, comprehensive list of subjects available directly on the homepage
Does the website provide a site map that organizes the content by topic without overwhelming the user with too much information?	2 – Poor	The website has a site map ; however the organization is by generic areas (“search”, “statistics and studies”) rather than by topic, limiting its usefulness.
Does the website provide information about relevance and appropriate use and/or contextual information for similar data sets (e.g., which is the right data source for the information you are searching)?	1 – Not present	The website does not do a good job of providing information allowing users to distinguish between similar data sets in search results.
Noteworthy Features (list)		
<ul style="list-style-type: none"> • Website provides entry pages for analysts and researchers, students and teachers, and media from the homepage. • The Community profiles tool allows users to search for data for local areas and view results maps. • You can download and view thematic maps that show trends over time. • Some search engines provide options to view data in different kinds of graphs and charts, as well as to download data in different formats. • Visualization options (charts, maps) are widely available in different sections of the website. • Search engine is robust in allowing users to limit search results by subject, geography, type of information, and section of website. 		

Question	Evaluation	Comment (Compared to U.S. Census) (Are features paid access only?)
Information Availability		
Is it possible to easily locate answers to common questions on the website (e.g., What is the population of the country)?	4 – Best	Website succeeds by listing recent key indicators on homepage and including a link for more information for a variety of common statistics.
Are the homepage and introductory pages organized to provide access to the following types of data for different user groups (e.g., casual, sophisticated, expert)?	1 – Not Present	Website does not provide entry pages for different user groups.
Geographic (national/local)	1 – Not Present	Website does not offer data by geography.
Topics (economic/demographic)	2 – Poor	The website themes are not consistently implemented throughout the website – they are not emphasized and change in different areas of the site.
Trends (over time)	3 – Adequate	The website does a decent job of providing trends data in different sections of the website.
Website Functionality		
Is there a way to search for data sources on the website?	3 – Adequate	The website search engine does a decent job of guiding users to relevant data sources.
Is there a way to compose a query to retrieve a specific answer on the website?	1 – Not Present	The website fails to provide a data query tool.
How do you download microdata & metadata from the website?	1 – Not Present	Website does not provide access to download microdata. Link to metadata goes to external website.
What visualization tools are offered and to what extent (e.g., graphics, maps, trends)?	3 – Adequate	Website provides interesting visualization tools linked from the homepage as well as charts , but fails to integrate features throughout website.
Does website employ consistent formatting throughout?	3 – Adequate	Formatting is mostly consistent throughout the website.
Does the website provide mobile access to some of its features?	2 – Poor	Website provides option to receive data via SMS .
Can users subscribe for updates about new data releases, etc?	4 – Best	Website succeeds in providing a single page where users can sign up for updates across all surveys offered on the site.
User Support		
Does the website provide text indicating the breadth of information available on the site?	2 – Poor	The website fails to provide text indicating the breadth of information available on the website. There is a list of topics but it is limited to a section of the website rather than used consistently throughout.
Does the website provide a site map that organizes the content by topic without overwhelming the user with too much information?	2 – Poor	The website has a site map ; however the organization is by areas of the website, limiting its usefulness.
Does the website provide information about relevance and appropriate use and/or contextual information for similar data sets (e.g., which is the right data source for the information	1 – Not Present	Website does not provide explanatory text for distinguishing between surveys and data sets.

Question	Evaluation	Comment (Compared to U.S. Census) (Are features paid access only?)
you are searching)?		
Noteworthy Features (list)		
<ul style="list-style-type: none"> • Website provides a centralized location to sign up for press releases and updates for various surveys offered by the site. • Website provides option to receive data via SMS. • Website provides animated visualizations. • Many tables have accompanying charts. There is also a separate charts section of the website. • There is a first visit page • Customized data are available for a fee. It is possible to pay online. 		

Statistics Denmark <http://www.dst.dk/HomeUK.aspx>

Question	Evaluation	Comment (Compared to U.S. Census) (Are features paid access only?)
Information Availability		
Is it possible to easily locate answers to common questions on the website (e.g., What is the population of the country?)?	3 – Adequate	The website provides decent access to common statistics through the key indicators page which is linked from the homepage.
Are the homepage and introductory pages organized to provide access to the following types of data for different user groups (e.g., casual, sophisticated, expert)?	1 – Not Present	Website does not provide introductory pages for different user groups.
Geographic (national/local)	2 – Poor	The website does not emphasize geography as an organizing principle. While data for regions are available in StatBank , it is not easy to find.
Topics (economic/demographic)	4 – Best	The website successfully organizes different sections through a consistent set of topics .
Trends (over time)	4 – Best	The website succeeds in providing trends data throughout the website – via the presence of trends charts accompanying most key statistics , a separate short term trends page linked from the homepage, and the readily available historical data in StatBank .
Website Functionality		
Is there a way to search for data sources on the website?	2 – Poor	The website search is inferior to Google search for finding information on the website.
Is there a way to compose a query to retrieve a specific answer on the website?	4 – Best	Statbank does a good job of allowing users to query information through the ability to select and customize tables.
How do you download microdata & metadata from the website?	1 – Not Present	It is not possible to download microdata from the website. Users must apply and pay a fee to view microdata.
What visualization tools are offered and to what extent (e.g., graphics, maps, trends)?	4 – Best	Visualization is strongly emphasized throughout the website: most pages include charts, and all tables in Statbank can be viewed in graphs.
Does website employ consistent formatting throughout?	3 – Adequate	For the most part formatting is consistent throughout website. Sometimes charts are not presented consistently.
Does the website provide mobile access to some of its features?	1 – Not Present	Website does not offer mobile access.
Can users subscribe for updates about new data releases, etc?	4 – Best	The website offers a service that emails subscribers when new datasets are available. It is unclear whether this service requires a fee.
User Support		
Does the website provide text indicating the breadth of information available on the site?	3 – Adequate	The website provides a single, comprehensive list of topics of information available, but it is not available directly on the homepage.

Question	Evaluation	Comment (Compared to U.S. Census) (Are features paid access only?)
Does the website provide a site map that organizes the content by topic without overwhelming the user with too much information?	3 – Adequate	The site map does a decent job of organizing the content of the website by theme and section.
Does the website provide information about relevance and appropriate use and/or contextual information for similar data sets (e.g., which is the right data source for the information you are searching)?	2 – Poor	Although additional information is available when selecting data sets in StatBank, this feature does not help users to select the appropriate data set.
Noteworthy Features (list)		
<ul style="list-style-type: none"> • Tables in StatBank can be viewed as charts • Charts appear with most data throughout website • Website has a subscription service to alert users when new data are released. • Website has a jokes and anecdotes page. • Users can sign up for accounts in StatBank to save tables. 		

Bureau of Labor Statistics <http://www.bls.gov/>

Question	Evaluation	Comment (Compared to U.S. Census) (Are features paid access only?)
Information Availability		
Is it possible to easily locate answers to common questions on the website (e.g., What is the population of the country?)?	3 – Adequate	The latest indicators are presented on the homepage, and each survey page also presents the latest numbers.
Are the homepage and introductory pages organized to provide access to the following types of data for different user groups (e.g., casual, sophisticated, expert)?	3 – Adequate	There is a resource for section successfully guides different user types to relevant sections of the website. However, this section is buried on the homepage, requiring scrolling to find the link.
Geographic (national/local)	4 – Best	The website successfully features geography topics by featuring regional data on the homepage and devoting a separate section of the website to geographic topics.
Topics (economic/demographic)	4 – Best	The website is organized by a set of topics that are the primary organizing principle and are used consistently throughout the website.
Trends (over time)	3 – Adequate	While trends are not stressed, most tables present historical data and the latest indicators provide links to show charts of historical data.
Website Functionality		
Is there a way to search for data sources on the website?	3 – Adequate	The search tool does a decent job of guiding users to data sources. There is also an enhanced search in beta.
Is there a way to compose a query to retrieve a specific answer on the website?	4 – Best	Each survey has a specialized search tool that can be used to create custom tables.
How do you download microdata & metadata from the website?	3 – Adequate	Some surveys allow users to download microdata and metadata directly from the website; others require users to order data.
What visualization tools are offered and to what extent (e.g., graphics, maps, trends)?	2 – Poor	Overall visualization is not stressed on the website. There are some visualizations – charts showing historical data for the latest indicators and ability to map data in beta.
Does website employ consistent formatting throughout?	3 – Adequate	For the most part formatting is consistent throughout the website. Tables produced using data retrieval tools are formatted differently from readily available tables on the site.
Does the website provide mobile access to some of its features?	1 – Not Present	Website does not provide a mobile access option.
Can users subscribe for updates about new data releases, etc?	4 – Best	The website does an excellent job of allowing users to subscribe for data releases, and includes options for selecting which surveys to receive updates about.
User Support		

Question	Evaluation	Comment (Compared to U.S. Census) (Are features paid access only?)
Does the website provide text indicating the breadth of information available on the site?	4 – Best	The website succeeds in providing a single, comprehensive list of subjects available from the homepage and used to organize content throughout the site.
Does the website provide a site map that organizes the content by topic without overwhelming the user with too much information?	4 – Best	Site map successfully guides readers to content through an organization based on subject area.
Does the website provide information about relevance and appropriate use and/or contextual information for similar data sets (e.g., which is the right data source for the information you are searching)?	2 – Poor	Within each subject area there is text distinguishing between surveys, but there is no contextual information on the global data retrieval page or within search options.
Noteworthy Features (list)		
<ul style="list-style-type: none"> • Website provides introductory pages for business leaders, economists, the media, students and teachers, etc. • The geographic guide which indicates which data are available for different types of geographies. • There are charts showing historical data for the latest indicators. • The ability to map data in beta. 		

Bureau of Justice Statistics <http://bjs.ojp.usdoj.gov/>

Question	Evaluation	Comment (Compared to U.S. Census) (Are features paid access only?)
Information Availability		
Is it possible to easily locate answers to common questions on the website (e.g., What is the population of the country?)?	4 – Best	Key facts are their own section in the navigation. Each key fact is accompanied by a chart with a sentence providing context.
Are the homepage and introductory pages organized to provide access to the following types of data for different user groups (e.g., casual, sophisticated, expert)?	1 – Not Present	Website does not provide entry pages for different user groups
Geographic (national/local)	2 – Poor	Website does not emphasize geographic data. A limited number of data sets provide geographic information, but are difficult to locate.
Topics (economic/demographic)	4 – Best	The website is organized by a set of topics that are prominently located on the homepage and used to organize the sub-sections of the website.
Trends (over time)	4 – Best	The website successfully integrates trends data throughout its content, including emphasizing trends in the key facts section and including historical data for most data sets.
Website Functionality		
Is there a way to search for data sources on the website?	4 – Best	The BJS search function is especially useful because users can limit search results by information type or topic, search results are organized by information type, and it incorporates Google search results as a separate option within the search function.
Is there a way to compose a query to retrieve a specific answer on the website?	2 – Poor	Although the BJS provides a tool to search for data, the tool is buried within the site and limited in the scope of data coverage.
How do you download microdata & metadata from the website?	1 – Not Present	Website fails to provide access to microdata.
What visualization tools are offered and to what extent (e.g., graphics, maps, trends)?	2 – Poor	Website fails to integrate visualization and graphics throughout website, and does not offer visualization tools. However, most PDF publications include charts, as does the key facts page.
Does website employ consistent formatting throughout?	2 – Poor	The website fails to standardize table formats across different sections of the site.
Does the website provide mobile access to some of its features?	1 – Not Present	Website does not have a mobile access option.
Can users subscribe for updates about new data releases, etc?	3 – Adequate	Website provides a simple service allowing users to subscribe to receive updates when new information is available.
User Support		
Does the website provide text indicating the breadth of	4 – Best	The website indicates the breadth of

Question	Evaluation	Comment (Compared to U.S. Census) (Are features paid access only?)
information available on the site?		information available through the consistently implemented topics list, which are available directly from the main page.
Does the website provide a site map that organizes the content by topic without overwhelming the user with too much information?	4 – Best	The site map successfully orients the user without providing an overwhelming amount of information, and is organized by area and topic.
Does the website provide information about relevance and appropriate use and/or contextual information for similar data sets (e.g., which is the right data source for the information you are searching)?	2 – Poor	Although the website provides brief context in search results, this is insufficient for allowing users to discern the most appropriate data set to use.
Noteworthy Features (list)		
<ul style="list-style-type: none"> • Key facts are accompanied by charts and short blurbs discussing the trend. • The search allows users to limit search results by information type or topic, search results are organized by information type, and it incorporates Google search results as a separate option within the search function. • There is a separate publications and products search. 		

National Center for Education Statistics <http://nces.ed.gov/>

Question	Evaluation	Comment (Compared to U.S. Census) (Are features paid access only?)
Information Availability		
Is it possible to easily locate answers to common questions on the website (e.g., What is the population of the country?)?	1 – Not Present	The website fails to provide access to common questions on the homepage, and the Fast Facts section requires navigation and reading through large pieces of text to find answers.
Are the homepage and introductory pages organized to provide access to the following types of data for different user groups (e.g., casual, sophisticated, expert)?	2 – Poor	Website does not provide entry pages for different user groups; however it does feature a separate Kids’ Zone section. The NAEP sub-program provides information for different user groups.
Geographic (national/local)	3 – Adequate	Though not emphasized as an organizing principle, geographic data is readily available in different areas of the site, for example through the state/district profile data tools and build a table .
Topics (economic/demographic)	2 – Poor	The website provides a set of topics that are used in isolated areas of the website. Topics are not consistently used as the organizing principle for viewing data on the website.
Trends (over time)	2 – Poor	Website does not emphasize trends as an organizing principle, but does provide historical data in some areas.
Website Functionality		
Is there a way to search for data sources on the website?	4 – Best	Website provides a versatile tool that allows users to search entire website, products, and tables. Table search results include information about topic area, source, and year. Publication search results are sortable by date and include abstracts.
Is there a way to compose a query to retrieve a specific answer on the website?	3 – Adequate	The website provides many data tools for locating customized data (see noteworthy features), but fails to provide a central data query tool for retrieving information other than the search (see previous question)
How do you download microdata & metadata from the website?	3 – Adequate	The website provides access to some microdata sets directly from the website, whereas other microdata sets require a data license to access.
What visualization tools are offered and to what extent (e.g., graphics, maps, trends)?	3 – Adequate	The website provides a number of interesting interactive tools in the data tools (see noteworthy features below), but visualization is not prominent in the other sections of the website.
Does website employ consistent formatting throughout?	2 – Poor	The website fails to standardize table formats across different sections of the site.

Question	Evaluation	Comment (Compared to U.S. Census) (Are features paid access only?)
Does the website provide mobile access to some of its features?	1 – Not Present	Website does not provide mobile access.
Can users subscribe for updates about new data releases, etc?	4 – Best	Newsflash succeeds in allowing users to sign up for updates specific to their particular area of interest.
User Support		
Does the website provide text indicating the breadth of information available on the site?	1 – Not Present	The website fails to provide text indicating the breadth of information available from the website.
Does the website provide a site map that organizes the content by topic without overwhelming the user with too much information?	2 – Poor	Sitemap provides an overwhelming amount of information and organization is not by topic or area of website, making it confusing to use.
Does the website provide information about relevance and appropriate use and/or contextual information for similar data sets (e.g., which is the right data source for the information you are searching)?	1 – Not Present	Search results do not indicate the most appropriate data source to answer a question.
Noteworthy Features (list)		
<ul style="list-style-type: none"> • Website includes a separate Kids' Zone section. • Newsflash allows users to sign up for updates specific to their particular area of interest. • Website allows users to search entire website, products, and tables. Table search results include information about topic area, source, and year. Publication search results are sortable by date and include abstracts. • Geographic data are readily available through the state/district profile data tools and build a table. • State comparisons tool features an interactive map option in the results. • State education data profiles include an option to chart results of state compared to national. • The School District Demographics System Map Viewer provides an interactive map that shows U.S. Census and ACS data by school district and is customizable by theme. • Quickstats allows users to build custom tables through an interactive interface. • The NAEP sub-program provides information for different user groups. 		

Bureau of Economic Analysis <http://www.bea.gov/index.htm>

Question	Evaluation	Comment (Compared to U.S. Census) (Are features paid access only?)
Information Availability		
Is it possible to easily locate answers to common questions on the website (e.g., What is the population of the country?)?	1 – Not Present	Website does not present key statistics on the homepage, and there is no way to find common statistics other than by accessing the main data pages of the website.
Are the homepage and introductory pages organized to provide access to the following types of data for different user groups (e.g., casual, sophisticated, expert)?	1 – Not Present	Website does not provide entry pages for different user groups.
Geographic (national/local)	4 – Best	The website organizes itself around geography - the major topics are international, national, and regional data, which are featured directly on the homepage.
Topics (economic/demographic)	1 – Not Present	Topics are generally not used to organize the content of the website.
Trends (over time)	2 – Poor	Trends are not emphasized as an organizing principle and historical data are not easy to find throughout the website.
Website Functionality		
Is there a way to search for data sources on the website?	3 – Adequate	The search engine does a decent job of guiding users to data. Search results can be limited by clusters.
Is there a way to compose a query to retrieve a specific answer on the website?	1 – Not Present	Website does not offer a data query tool.
How do you download microdata & metadata from the website?	1 – Not Present	Microdata are not available on the website, but must be conducted on-site .
What visualization tools are offered and to what extent (e.g., graphics, maps, trends)?	2 – Poor	Website offers a limited number of interactive maps . Charts are sometimes presented with data.
Does website employ consistent formatting throughout?	2 – Poor	The website fails to standardize table formats across different sections of the site.
Does the website provide mobile access to some of its features?	1 – Not Present	Website does not provide mobile access.
Can users subscribe for updates about new data releases, etc?	4 – Best	Websites succeeds in allowing users to sign up for updates specific to different indicators or other areas.
User Support		
Does the website provide text indicating the breadth of information available on the site?	1 – Not Present	Website does not provide text indicating the breadth of information available on the website.
Does the website provide a site map that organizes the content by topic without overwhelming the user with too much information?	1 – Not Present	Website does not have a site map. However, there is an A to Z index of topics.
Does the website provide information about relevance and appropriate use and/or contextual information for similar data sets (e.g., which is the right data source for the information you are searching)?	1 – Not Present	Search results do not indicate the most appropriate data source to answer a question.

Question

Evaluation

Comment
(Compared to U.S. Census)
(Are features paid access only?)

Noteworthy Features (list)

- Website includes a site-wide [glossary](#).
- Interactive tables and charts are relatively widespread on the website. However, functionality of interactive tables is limited.
- [Interactive maps](#) are used in the regional section.
- Search results can be limited by clusters.

Stats Indiana <http://www.stats.indiana.edu/index.asp>

Question	Evaluation	Comment (Compared to U.S. Census) (Are features paid access only?)
Information Availability		
Is it possible to easily locate answers to common questions on the website (e.g., What is the population of the country)?	3 – Adequate	The website provides decent access to common statistics by geography through the area profile links on the homepage.
Are the homepage and introductory pages organized to provide access to the following types of data for different user groups (e.g., casual, sophisticated, expert)?	1 – Not Present	Website does not provide entry pages for different user groups.
Geographic (national/local)	4 – Best	The website succeeds in providing geographic data directly from the home page and various areas of the website provide local data.
Topics (economic/demographic)	4 – Best	Website is well-organized by topics that are presented prominently on the home page and in the navigation.
Trends (over time)	2 – Poor	Website does not stress trends as an organizing principle, and historical data are only available in some topic areas.
Website Functionality		
Is there a way to search for data sources on the website?	3 – Adequate	The website uses a site-specific Google search that does a good job of locating data sources.
Is there a way to compose a query to retrieve a specific answer on the website?	1 – Not Present	There is no data query tool on the website.
How do you download microdata & metadata from the website?	1 – Not Present	Website does not provide microdata; however as website provides data from national surveys specific to the state this may not be applicable.
What visualization tools are offered and to what extent (e.g., graphics, maps, trends)?	3 – Adequate	Website succeeds in providing interactive features in the maps & tools section and in some areas of the topics section.
Does website employ consistent formatting throughout?	2 – Poor	The website fails to standardize table formats across different sections of the site.
Does the website provide mobile access to some of its features?	1 – Not Present	Website does not provide mobile access.
Can users subscribe for updates about new data releases, etc?	3 – Adequate	Website allows users to subscribe for a new data newsletter, and other publications.
User Support		
Does the website provide text indicating the breadth of information available on the site?	4 – Best	The website succeeds in providing a single, comprehensive list of subjects available directly on the homepage
Does the website provide a site map that organizes the content by topic without overwhelming the user with too much information?	4 – Best	Site map successfully orients user by presenting topic areas and other areas of website without presenting an overwhelming amount of links.
Does the website provide information about relevance and appropriate use and/or contextual information for similar data sets (e.g., which is the right data source for the information you are searching)?	1 – Not Present	Search results do not indicate the most appropriate data source to answer a question.

Question

Evaluation

Comment
(Compared to U.S. Census)
(Are features paid access only?)

Noteworthy Features (list)

- Website includes an [acronyms guide](#)
- Website provides several [profiles](#) tools that provide local data and are prominently linked from the homepage.
- The [leading index](#) page features an interactive chart.
- The website provides thematic and interactive [maps](#).

KIDS COUNT Data Center <http://datacenter.kidscount.org/>

Question	Evaluation	Comment (Compared to U.S. Census) (Are features paid access only?)
Information Availability		
Is it possible to easily locate answers to common questions on the website (e.g., What is the population of the country?)	3 – Adequate	Some common statistics are featured in the “Now you Know” section of the homepage. State profile pages also include featured indicators.
Are the homepage and introductory pages organized to provide access to the following types of data for different user groups (e.g., casual, sophisticated, expert)?	1 – Not Present	Website does not provide entry pages for different user groups.
Geographic (national/local)	4 – Best	Website successfully organizes content by geography through access to state profiles and data across states directly from the homepage.
Topics (economic/demographic)	2 – Poor	Although state profiles and comparison data are organized by the same set of topics, these topics are not emphasized and are not readily available from the homepage.
Trends (over time)	1 – Not Present	Trends and historical data do not appear to be available from the website.
Website Functionality		
Is there a way to search for data sources on the website?	1 – Not Present	Website does not have a search engine.
Is there a way to compose a query to retrieve a specific answer on the website?	1 – Not Present	Website does not have a data query tool.
How do you download microdata & metadata from the website?	1 – Not Present	Website does not offer microdata.
What visualization tools are offered and to what extent (e.g., graphics, maps, trends)?	4 – Best	Website successfully features visualizations throughout the site. (See noteworthy features).
Does website employ consistent formatting throughout?	3 – Adequate	Table formats are mostly standardized throughout the website.
Does the website provide mobile access to some of its features?	4 – Best	Website provides data on a mobile access site .
Can users subscribe for updates about new data releases, etc?	3 – Adequate	The website offers a mailing list, but it is not specific to data updates.
User Support		
Does the website provide text indicating the breadth of information available on the site?	3 – Adequate	The short blurb and topic descriptions on the main page adequately address this.
Does the website provide a site map that organizes the content by topic without overwhelming the user with too much information?	1 – Not Present	There is no site map.
Does the website provide information about relevance and appropriate use and/or contextual information for similar data sets (e.g., which is the right data source for the information you are searching)?	1 – Not Present	Search results do not indicate the most appropriate data source to answer a question.
Noteworthy Features (list)		
<ul style="list-style-type: none"> • Homepage features graphs comparing key statistics by state. • Each state page includes an interactive map • All topics in the data across states section include options to map, graph, and rank data. 		

Appendix G: Roadmaps

Resources for Implementing Dissemination Solutions

Invest in an Enterprise-level Content Management Platform	HowTo.gov general overview of CMS systems	http://www.usa.gov/webcontent/technology/cms.shtml
	List of CMS systems used by Government agencies	http://www.usa.gov/webcontent/technology/products/cms.shtml
	Issues to consider while choosing a CMS system	http://www.smashingmagazine.com/2009/03/05/10-things-to-consider-when-choosing-the-perfect-cms/
	List of caveats to consider while selecting a CMS system	http://www.idealware.org/articles/top-ten-mistakes-when-selecting-cms
	Guidelines for Selecting a CMS System	http://www.noupe.com/php/choosing-cms-tips.html
Expand Standout Social Media Sharing Tools used at Census	Requirments toolkit with commonly used requirements for CMS system RFPs (Australian)	http://www.steptwo.com.au/products/toolkit
	HowTo.gov social media portal	http://www.howto.gov/social-media
	Archived webinar slides and recording on meeting Federal web requirements.	http://www.usa.gov/webcontent/wmu/spring2011/federal-web-requirements.shtml
	Archived webinar slides and recording on social media guidelines for government employees	http://www.usa.gov/webcontent/wmu/newmedia/spring2010/socialmediaguidelines.shtml
	HowTo.gov best practices for Blogging	http://www.usa.gov/webcontent/wmu/newmedia/blogger.shtml
	Best practices for Twitter	http://www.usa.gov/webcontent/technology/microblogging/twitter.shtml
	Recorded webinar with slides and recording on best practices for Facebook	http://www.usa.gov/webcontent/wmu/newmedia/spring2010/facebook.shtml
Tools to Help People Find a Resource	Description of Podcasting and suggested use.	http://www.usa.gov/webcontent/technology/podcasting.shtml
	Best Practices for search engines	http://www.usa.gov/webcontent/technology/search/bestpractices.shtml
	Archived webinar on best practices for search	http://www.usa.gov/webcontent/wmu/fall2009/bestpracticesofsearch.shtml
Manage Search Engine Optimization	Search Engine basics	http://www.usa.gov/webcontent/technology/search/guidance.shtml
	Search Engine Optimization through keywords	http://www.usa.gov/webcontent/technology/search/optimization/keyword.shtml
Tools to Help People Connect with Mobile Strategies	Search Engine Optimization basics	http://www.usa.gov/webcontent/technology/search/optimization.shtml
	HowTo.Gov mobile portal	http://www.howto.gov/tech-solutions/mobile
	Best Practices learned from CDC Text Messaging Pilot	http://www.usa.gov/webcontent/wmu/spring2011/cdc-text-messaging.shtml
	Inventory of Government Mobile Apps	http://www.usa.gov/webcontent/documents/Inventory_of_Government_Mobile_Apps_March_2010.xls
	W3C.org Mobile Web Best Practices	http://www.w3.org/TR/mobile-bp/

**Appendix H:
Summary of Content Interviews
with Census Bureau Staff**

Summary of Interviews with Census Bureau Staff

Over the course of two months (November 2010-January 2011), Abt Associates conducted seventeen interviews with 22 Census staff from across seven Directorates. These interviews were intended to represent the range of Census Bureau programs and program activities associated with dissemination. Selection of interviewees was made by the Workgroup and NMCP staff.

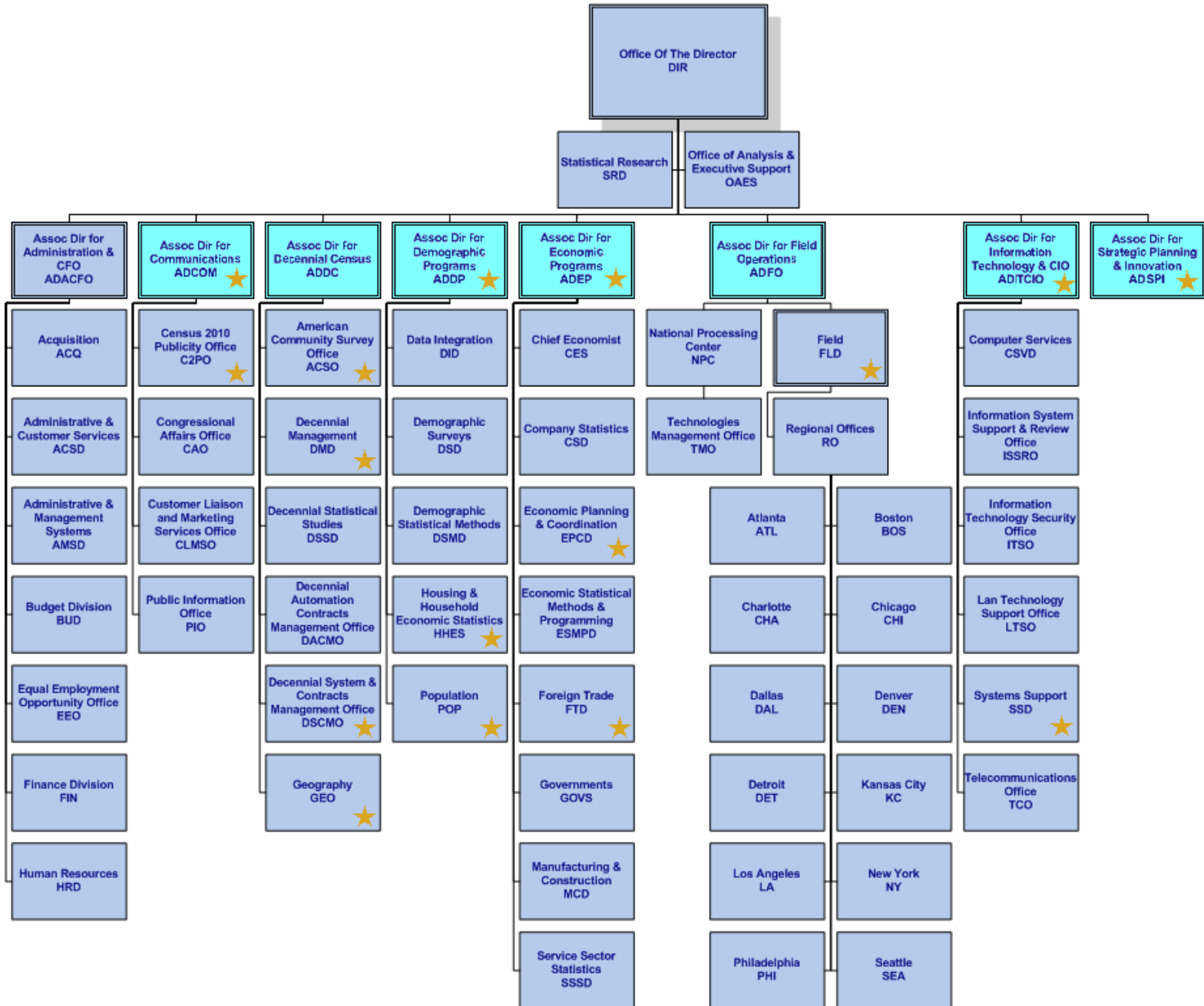
Though framed by an interview protocol, the interviews were largely open-ended discussions addressing each of the following topics:

- Program mission and activities
- Audience
- Capabilities
- Needs and vision of future changes
- Impediments to change
- Expectations for the project summary report

Interviewees were promised anonymity; this summary does not attribute views or statements to individuals or organizational groups.

List of Interviews with Census Bureau Staff	
Staff	Organizational Affiliation(s)
Marian E. Brady; Jeff Sisson	American Fact Finder, Data Access and Dissemination
Robert Marske	Office of Economic Planning and Innovation
Carolynn Hammersmith	Systems Support Division
Blake Sanders	System Design and Support Branch, Foreign Trade
Marc Perry	Population Division
Web Team	American Community Survey Office
James Whitehorne, Cathy McCully	Redistricting
Joe Kafchinski	Data Dissemination Branch, Foreign Trade
Avi Bender	IT- Enterprise Architecture and Innovations
Jane Ingold	Decennial Management Division
Shawna Orzechowski, Matt Olsen	2007 Economic Census, Economic Planning & Coordination
Michael Ratcliffe, Jennifer Holland, Courtney Hannon	Geographic Division
Joanne Dickinson	Center for New Media, Census 2010 Publicity Office
Robert Kominski	Housing & Household Economic Statistics
Vicki Burke	Partnership Web, Data Staff, Field
Burton Reist	Associate Director for Communications
Nancy Gordon	Strategic Planning and Innovation

In the following graphic, Directorates with staff interviews are noted in aqua blue. The immediate organizational units with staff are noted by a star.



Summary of Staff Interviews

To a person, interviewees were proud of the work of their group as well as the mission and work of the Census Bureau. That said, they frequently stated that there was significant potential for improvement, particularly regarding dissemination and increasing external use and recognition of the Census Bureau's information products. The following summary is organized by topics where staff felt that change was needed. It is not a performance assessment, where current activities and information products are compared to goals and plans. Instead, this summary is a variant of a gap analysis, where each of the contributors defined a future potential state of the Census Bureau and described the current capabilities and impediments to change.

Views on Dissemination and Serving the Full Range of Customers

Only a few staff could cite existing incentives or expectations for improving public access. There are groups and individuals that have taken on the job of improving users' understanding and use of Census Bureau information products and developing new innovations. Often this appears to be because of personal or professional commitment of one or a few individuals rather than a mission-oriented assignment from management. Two staff mentioned that their personal performance plan would include dissemination success beyond primary assignment, which is publishing information products accurately and on time.

There was a significant hesitation in about one-half of the staff to changing the status quo of information product publication, especially without direction. They reported that there was an actual or implied directive to be a neutral provider of information, and not to interpret the information. Others described a range of thoughtfully developed analytical products, visual renderings, or compilations of information that added value for users. A few staff were comfortable interpreting information when responding to informal requests.

Staff interacting with end-users wanted to see improvements that would improve user's ability to find the appropriate Census Bureau information.

Audiences/Customers

The following list of audiences and number of times staff mentioned each were reported across the range of Directorates. Staff were not limited in how many types of end-users they could report:

- Staff at other federal, state and local government agencies (5)
- Business community power users/Those undertaking market research (4)
- Everyone (3)
- Public (3)
- Internal (3)
- Content area interest groups, public and commercial (2)
- Academics/Researchers (2)
- Journalists (1)
- Librarians (1)

Several staff did not think their information products had a specific audience and had little interaction with users.

Governance

The most strongly voiced and most frequently reported need for change was governance of dissemination activities, particularly for web-based efforts. The lack of an articulated

web/dissemination strategy and operational governance structures was seen as impeding a number of downstream initiatives, such as:

- IT investments small and large; revising Census.gov home page to improve user experience;
- Compliance with web and other standards; and
- Increasing the staff and technological capability needed to provide visualization solutions.

Tables are the worst information format known to man." An interviewed Census Bureau staff member

Making the point that a variety of IT-related standards need to be disseminated, one IT staff stated that there should be no accidental enterprise architecture solutions at the Census Bureau. Approximately one-third of interviewees mentioned an immediate need for a mobile (device) strategy to direct the level of investment and types of projects undertaken across all Directorates.

Most staff mentioned that stronger and clear central planning from the senior-most management will standardize and help set the proper investment levels for dissemination solutions across and within Directorates, increase the value of the Census Bureau's web presence and brand, and, most importantly, better serve the range of Census Bureau customers. Several staff thought that defining the scope and goals of dissemination would help organizational units and staff "focus on what the Bureau does best."

Most staff reported that their current responsibilities do not include significant dissemination tasks or goals. They have been told that Census Bureau is "too busy getting reports out for next month." Solutions are developed at the local level, creating the "1,000 flower" problem (an oft-cited characterization). Related to this point, there are few incentives associated with service to the public users – this was mentioned for both the individual staff and organizational unit levels.

In a related vein, several staff mentioned that the job categories in their organization does not fit the professional skill sets needed for 1) web dissemination, 2) visualization and 3) dealing with the public.

Visualization and Interpretive Information Products

Most of the staff wanted to see more description and interpretive products (see related comment in *Other* category below). Less than one-third felt that would be difficult or inappropriate. Among the suggestions for improving visualization were:

- More options for database-driven applications and web-displays;
- On-the-fly mapping and charting (line, bar, scatter) for users;
- Expand APIs for external storytellers;
- Query tools with embedded features and business rules that help casual users answer most frequent questions (e.g., the ZIP code search); and
- About one-half of the staff mentioned that delivery to mobile users was of interest or important. Some had started to investigate this new means of delivery – especially for high-value information products with frequent updates. One staff said, "We're not iPhone/iPad We're clunky."

Content Management System

CMS - In general, respondents viewed introduction of a content management system (CMS) as a positive change or were neutral; no negative opinions were voiced about introduction of CMS. The

benefits of a CMS cited by staff were that it would fix many of the content and compliance site management issues, a view that was strongly stated by several staff. In addition to document and web-page management, it was suggested that videos, interviews, and graphics be included in the CMS solution.

Other Needs, Good Ideas and Impediments

The following is a compilation of wide ranging ideas expressed during the interviews. Most of these suggestions and ideas appeared to emanate from the staff's direct experiences. That is, staff cited current capabilities within their Directorate or within the Census Bureau that they wished could be improved or delivered more widely or efficiently.

Staff suggested it might be more effective to provide some dissemination and outreach software, hardware, staffing, and training solutions centrally or at least improve collaboration and sharing of services across the Directorates. Collaboration needed for "world-class web and IT solutions."

Approximately one half of the staff called for changes in data capture and processing associated with published information products. For example, develop interoperable data so integrated data products can be built that display trends and could integrate, for example, economic data with demographics. Imagine being able to provide a small business (e.g., day-care center) with a digested report of demographics and current levels of service/competition within a selected area. It was recognized that this type of solution would require greater standardization (of business rules) across data flows. It was mentioned that differences in methods is cited as a reason not to integrate but those differences may not be an impediment for many end-uses/information products that could be generated. It was mentioned that many users are probably interested in seeing trends and changes over time displayed in graphs and tables, but that for some programs the statistical staff are an impediment to releasing such information. Develop information products similar to "Hot Reports," which were mentioned as good examples of packaged data that provided more texture but did not take the interpretation as far as storytelling.

To assist with cultural shifts associated with dissemination, create "a day in the life of a data file" and publish internally, digests of user feedback to educate staff about end users. Another idea mentioned to change the stovepiped organization is to foster more staff mobility across area and support for joint hiring.

Staff directly involved in web dissemination would like to see/have:

- More consistent look, feel, and navigation across all of Census.gov web pages. ("Pay attention to what fits on a typical screen")
- "Census.gov" is not usable. When asked to find something on their own, new users are like a deer in headlights." Redesign to meet most common requests. Make it: attention-grabbing, interactive, and easy-to-use for all types of users.
- More user help (live and other means of support)
- Social media connections to explain that "Census is busy measuring[the economy/America]"
- Better mapping for public facing products

Increased servicing of and collaboration (e.g., on-line tools at Census Bureau and publishing efficiency – e.g., data formats) with interpreters of Census Bureau information has been done and new initiatives are underway in several Directorates. The range of partners includes news media, commercial ventures (including Google and geographic service providers), other federal, state and

local governments.

Several staff mentioned that they would like to see more/better branding of Census Bureau information, such as : 1) allowing vetted interpreters to use a Census Bureau or “Census Bureau Approved” logo in their secondary publishing; and 2) incorporating Census Bureau attribution expectations into distributed/downloadable files.

Aside from changing web and dissemination governance, staff mentioned a few ways to promote innovative dissemination and change:

- Altering Innovation awards to take into account dissemination goals.
- Improving the Operational Efficiency program so that it is aligned with strategic plan – add criteria to incentivize cross-silo solutions.
- Create a laboratory or service center to create and test the value of “cool web products and displays.”
- Inventory and advertise or highlight to the public (possibly on the home page) some of the innovative visualization and information products that already exist.

**Appendix I:
Vivek Kundra Report**



25 POINT IMPLEMENTATION
PLAN TO REFORM FEDERAL
INFORMATION TECHNOLOGY
MANAGEMENT

Vivek Kundra
U.S. Chief Information Officer

DECEMBER 9, 2010





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Introduction

Information technology should enable government to better serve the American people. But despite spending more than \$600 billion on information technology over the past decade, the Federal Government has achieved little of the productivity improvements that private industry has realized from IT. Too often, Federal IT projects run over budget, behind schedule, or fail to deliver promised functionality. Many projects use “grand design” approaches that aim to deliver functionality every few years, rather than breaking projects into more manageable chunks and demanding new functionality every few quarters. In addition, the Federal Government too often relies on large, custom, proprietary systems when “light technologies” or shared services exist.

Government officials have been trying to adopt best practices for years – from the Raines Rules of the 1990s through the Clinger Cohen Act and the acquisition regulations that followed. But obstacles have always gotten in the way. This plan attempts to clear these obstacles, allowing agencies to leverage information technology to create a more efficient and effective government.

Over the last 18 months, we have engaged the Federal IT, acquisition, and program management communities; industry experts; and academics. We have conducted listening sessions with Congress, Agency CIOs, and Senior Procurement Executives. We have received detailed input and recommendations from many industry groups such as TechAmerica. This engagement process has led to recommendations for IT reform in the areas of operational efficiency and large-scale IT program management.

A 25 point action plan is detailed below to deliver more value to the American taxpayer. These actions have been planned over the next 18 months and place ownership with OMB and agency operational centers, as appropriate. While the 25 points may not solve all Federal IT challenges, they will address many of the most pressing, persistent challenges. This plan requires a focus on execution and is designed to establish some early wins to garner momentum for our continued efforts. Active involvement from agency leadership is critical to the success of these reforms. As such, the Federal CIO will work with the President’s Management Council to successfully implement this plan.

Some highlights of the implementation plan include:

- Turnaround or terminate at least one-third of underperforming projects in IT portfolio within the next 18 months
- Shift to “Cloud First” policy. Each agency will identify three “must move” services within three months, and move one of those services to the cloud within 12 month and the remaining two within 18 months.
- Reduce number of Federal data centers by at least 800 by 2015
- Only approve funding of major IT programs that:
 - Have a dedicated program manager and a fully staffed integrated program team
 - Use a modular approach with usable functionality delivered every six months
 - Use specialized IT acquisition professionals

- Work with Congress to:
 - Consolidate commodity IT funding under the Agency CIOs and
 - Develop flexible budget models that align with modular development
- Launch an interactive platform for pre-RFP agency-industry collaboration

This plan is divided into two sections: Achieving Operational Efficiency and Managing Large-Scale IT Programs Effectively. The first section outlines the steps being taken to adopt cloud solutions and leverage shared services. The second section covers the structural areas that impact the success rates of large IT programs across government. The 25 action items listed throughout the plan are summarized in the chart at the end of the document.



PART I: ACHIEVING OPERATIONAL EFFICIENCY

As part of a broader IT transformation, the Federal Government needs to fundamentally shift its mindset from building custom systems to adopting light technologies and shared solutions. Too often, agencies build large standalone systems from scratch, segregated from other systems. These systems often duplicate others already within the Federal Government, wasting taxpayer dollars. The growth in data centers from 432 in 1998 to 2,094 in 2010 highlights this problem.

Leading private sector companies have taken great strides to improve their operating efficiencies. Cloud technologies and Infrastructure-as-a-Service enable IT services to efficiently share demand across infrastructure assets, reducing the overall reserve capacity across the enterprise. Additionally, leveraging shared services of “commodity” applications such as e-mail across functional organizations allows organizations to redirect management attention and resources towards value-added activities. The massive scale of the Federal Government allows for great potential to leverage these efficiencies.

The following section outlines actionable, achievable steps to improve the government’s operational efficiency.



A. Apply “Light Technology” and Shared Solutions

The shift to “light technologies,” that is, cloud services, which can be deployed rapidly, and shared solutions will result in substantial cost savings, allowing agencies to optimize spending, and allowing agencies to reinvest in their most critical mission needs. For example, GSA recently entered into a contract to shift email services to the cloud, resulting in a 50% cost reduction over five years – a savings of about \$15 million. Agencies must focus on consolidating existing data centers, reducing the need for infrastructure growth by implementing a “Cloud First” policy for services, and increasing their use of available cloud and shared services.

1. Complete detailed implementation plans to consolidate at least 800 data centers by 2015

In February 2010, the Administration launched the Federal Data Center Consolidation Initiative (FDCCI) and issued guidance for Federal CIO Council agencies. The guidance called for agencies to inventory their data center assets, develop consolidation plans throughout fiscal year 2010, and integrate those plans into agency fiscal year 2012 budget submissions.

The FDCCI is aimed at assisting agencies in identifying their existing data center assets and formulating detailed consolidation plans that include a technical roadmap and clear consolidation targets. The FDCCI will cut down the number of data centers across the government and assist agencies in applying best practices from the public and private sector, with goals to:

- Promote the use of Green IT by reducing the overall energy and real estate footprint of government data centers
- Reduce the cost of data center hardware, software, and operations
- Increase the overall IT security posture of the government, and
- Shift IT investments to more efficient computing platforms and technologies.

After an 8 month peer review process, we now know that the government is operating and maintaining almost 2,100 data centers. Through the FDCCI, a minimum of 800 data centers will be closed by 2015.

To meet this reduction target, OMB and Agency CIOs will take the following steps:

1.1 *Identify agency data center program managers to lead consolidation efforts*

Large IT projects often fail to meet goals because of distributed accountability for success. Large, complex, and critical infrastructure programs, such as data center consolidation, require a single person to lead the coordinated effort.

Within the next six months, each agency will designate a senior, dedicated data center consolidation program manager with project management experience and technical competence in IT infrastructure. Because data center consolidation requires interactions with many stakeholder groups, the data center

program manager must also have strong communication skills. The data center program manager at each agency will be responsible for developing a plan with interim, verifiable milestones to reach the agency's data center reduction target and monitor progress toward those goals.

1.2 Launch a Data Center Consolidation Task Force to ensure successful execution

Within the next three months, the Federal CIO Council will launch a government-wide Data Center Consolidation Task Force comprised of the data center program managers, facilities managers, and sustainability officers. The Data Center Consolidation Task Force will be responsible for working together to share progress toward individual agency goals and the overall Federal target of a minimum of 800 data center closures by 2015. The Data Center Consolidation Task Force will meet monthly to review progress of each consolidation project and ensure government-wide alignment between agency efforts where appropriate. The Task Force will serve as a "community of practice" for Agency CIOs and data center program managers to share best practices from this effort and enhance consolidation effectiveness.

1.3 Launch a publicly available dashboard to track data center consolidation progress

OMB will launch a publicly available dashboard to serve as a window into progress of the data center consolidation program. The dashboard will ensure transparency and accountability, and keep the overall program in plain view of the public.

2. Create a government-wide marketplace for data center availability

Within the next 18 months, OMB and GSA will create a government-wide marketplace that better utilizes spare capacity within operational data centers.

This online marketplace will match agencies with extra capacity to agencies with increasing demand, thereby improving the utilization of existing facilities. The marketplace will help agencies with available capacity promote their available data center space. Once agencies have a clear sense of the existing capacity landscape, they can make more informed consolidation decisions.

3. Shift to a "Cloud First" policy

In the private sector, a web-based multimedia production company used the cloud to allow anyone with access to an Internet connection the ability to create their own fully customized, professional-quality, TV-like videos. Consumers can then share the resulting videos with friends and family across the world. The cloud allowed for a rapid response when demand jumped from 25,000 users to more than 250,000 users in three days, eventually reaching a peak rate of 20,000 new customers every hour. Because of the cloud, the company was able to scale from 50 to 4,000 virtual machines in three days to support increased demand on a real-time basis.

In contrast, the Federal Government's Car Allowance and Rebate System (CARS, more commonly known as "Cash-For-Clunkers") failed when faced with peak loads. To process the anticipated 250,000 transactions, the National Highway Traffic Safety Administration (NHTSA) deployed a customized commercial application hosted in a traditional data center environment on June 19, 2009. When dealer registrations

A. APPLY “LIGHT TECHNOLOGY” AND SHARED SOLUTIONS

began on July 24, 2009, demand far exceeded initial projections, and within three days, the system was overwhelmed, leading to numerous unplanned outages and service disruptions. Ultimately, approximately 690,000 CARS transactions were processed. However, lacking the ability to scale rapidly, system stability was not achieved until August 28, 2009, over a month after registrations started coming in.

The Federal Government must be better prepared in the future. Beginning immediately, the Federal Government will shift to a “Cloud First” policy.

The three-part strategy on cloud technology will revolve around using commercial cloud technologies where feasible, launching private government clouds, and utilizing regional clouds with state and local governments where appropriate.

Cloud computing brings a wide range of benefits:

- *Economical:* Cloud computing is a pay-as-you-go approach to IT, in which a low initial investment is required to begin, and additional investment is needed only as system use increases.
- *Flexible:* IT departments that anticipate fluctuations in user demand no longer need to scramble for additional hardware and software. With cloud computing, they can add or subtract capacity quickly and easily.
- *Fast:* Cloud computing eliminates long procurement and certification processes, while providing a near-limitless selection of services.

When evaluating options for new IT deployments, OMB will require that agencies default to cloud-based solutions whenever a secure, reliable, cost-effective cloud option exists. To facilitate this shift, we will be standing up secure government-wide cloud computing platforms.

3.1 *Publish cloud strategy*

Within the next six months, the Federal CIO will publish a strategy to accelerate the safe and secure adoption of cloud computing across the government.

The National Institute of Standards and Technology (NIST) will facilitate and lead the development of standards for security, interoperability, and portability. NIST is working with other agencies, industry, academia, standards development organizations, and others to use existing standards as appropriate and develop cloud computing standards where gaps exist. While cloud computing services are currently being used, experts cite security, interoperability, and portability as major barriers to further adoption. The expectation is that standards will shorten the adoption cycle, enabling cost savings and an increased ability to quickly create and deploy enterprise applications.

3.2 *Jump-start the migration to cloud technologies*

Each Agency CIO will be required to identify three “must move” services and create a project plan for migrating each of them to cloud solutions and retiring the associated legacy systems. Of the three, at least one of the services must fully migrate to a cloud solution within 12 months and the remaining two within 18 months.

Each migration plan will include major milestones, execution risks, adoption targets, and required resources, as well as a retirement plan for legacy services once cloud services are online. These new cloud implementations should be compatible with the secure, certified platforms currently provided in the private sector. Migrating these services will build capabilities and momentum in the Federal Government, encourage industry to more rapidly develop appropriate cloud solutions for government, and reduce operating costs.

4. Stand-up contract vehicles for secure IaaS solutions

Federal, state, and local governments will soon have access to cloud-based Infrastructure-as-a-Service (IaaS) offerings. GSA's IaaS contract award allows 12 vendors to provide government entities with cloud storage, virtual machines, and web hosting services to support a continued expansion of governments' IT capabilities into cloud computing environments.

Within the next six months, after completing security certification, GSA will make a common set of contract vehicles for cloud-based Infrastructure-as-a-Service solutions available government-wide.

A government-wide risk and authorization program for cloud computing will allow agencies to rely on the authorization completed by another agency or to use an existing authorization, so that only additional, agency-specific requirements need to be separately certified. Our aim is to drive to a set of common services across the government supported by a community, rather than an agency-specific risk model. This will allow the Federal Government to "approve once and use often."

5. Stand-up contract vehicles for commodity services

The Software-as-a-Service (SaaS) E-mail Working Group, formed in June 2010, has begun to identify and develop the set of baseline functional and technical requirements for government-wide cloud email solutions and is working towards developing business case templates for agencies who are considering transitioning to SaaS e-mail.

Within 12 months, GSA will utilize these requirements to stand up government-wide contract vehicles for cloud-based email solutions. GSA will also begin a similar process specifically designed for other back-end, cloud-based solutions.

6. Develop a strategy for shared services

Within the next 12 months, the Federal CIO will develop a strategy for shared services. That strategy will build on earlier Federal Government successes in shared services and include benchmarks on current usage and uptake rates, as well as service level agreements (SLAs), customer satisfaction levels, costs, and overall economic effectiveness.

Managing partners of shared services will assess the current state of shared services and each release a roadmap to improve quality and uptake. Ultimately, the managing partners will be responsible for executing these roadmaps and will be held accountable for improvements on SLAs and reductions in cost. These efforts will enable the current shared services to be accessible government-wide at higher quality levels.

A. APPLY “LIGHT TECHNOLOGY”AND SHARED SOLUTIONS

Action item owner and deadlines

Action Item		Owner(s)	Within 6 mos.	6-12 mos.	12-18 mos.
1	Complete detailed implementation plans to consolidate 800 data centers by 2015	OMB, Agencies	●		
2	Create a government-wide marketplace for data center availability	OMB, GSA			●
3	Shift to a “Cloud First” policy	OMB, Agencies	●		
4	Stand-up contract vehicles for secure IaaS solutions	GSA	●		
5	Stand-up contract vehicles for “commodity” services	GSA		●	
6	Develop a strategy for shared services	Federal CIO		●	



PART II: EFFECTIVELY MANAGING LARGE-SCALE IT PROGRAMS

IT has transformed how the private sector operates and has revolutionized the way in which it serves its customers. The Federal Government has largely missed out on these transformations, due in part to its poor management of large technology investments.

To address these execution problems, we launched the IT Dashboard in June 2009, allowing the American people to monitor IT investments across the Federal Government and shining a light onto government operations. While this unprecedented transparency was an important first step, it was not enough to simply shine a light on problems and hope that solutions would follow.

Building on the foundation of the IT Dashboard, we launched TechStat Accountability Sessions (“TechStats”) in January 2010. A TechStat is a face-to-face, evidence-based review of an IT program with OMB and agency leadership. TechStat sessions enable the government to turnaround, halt, or terminate IT investments that do not produce dividends for the American people.

As a result of more than 50 TechStat reviews, OMB now has a sharper picture of the persistent problems facing Federal IT. One of the most consistent problems lies in project scope and timeline. In TechStat sessions, OMB found that many current IT projects are scheduled to produce the first deliverables years after work begins, in some cases up to six years later. In six years, technology will change, project sponsors will change, and, most importantly, program needs will change. Programs designed to deliver initial functionality after several years of planning are inevitably doomed.

Modular development delivers functionality in shorter timeframes and has long been considered best practice in the private sector and in some areas of government; in fact, both Raines Rules and the Federal Acquisition Regulation (FAR) advise agencies to plan programs in this way. Successful organizations using modular development base releases on requirements they define at a high level and then refine through an iterative process, with extensive engagement and feedback from stakeholders. To maintain the discipline of on-time and on-budget, organizations push out additional functionality and new requirements for major changes into future releases and prioritize critical needs and end-user functionality.

Evidence shows that modular development leads to increased success and reduced risk. However, because this is a new way of thinking about IT programs for some groups within government, it requires additional training, templates, and tools. Many existing government processes – from planning to budgeting to procurement – naturally favor larger, more comprehensive projects. As such, far too many Federal IT programs have multi-year timeframes well beyond the now accepted 18- to 24-month best practice. The activities outlined in this plan attempt to address the structural barriers to implementing modular development consistently across government.

Moving forward, Federal IT programs must be structured to deploy working business functionality in release cycles no longer than 12 months, and, ideally, less than six months, with initial deployment to end users no later than 18 months after the program begins.

Program managers need to define each phase of the IT development lifecycle and rigorously manage scope. These timelines should encompass the entire process – from concept through requirement analysis, development, test, and delivery. Today, a number of agencies have implemented these modular practices successfully. The Department of Veterans Affairs now requires that large IT programs deliver working functionality every six months.

The following practices will help achieve the promises of modular development:

- Ensuring each module aligns with overall program and business objectives and has clear quantitative and qualitative outcome measures for success
- Awarding contracts that incorporate clear business objectives and performance outcomes, a vision for future state architecture, and parameters for iterative design and development
- Delivering new working functionality to users at least every 12 months, with no more than 3 months dedicated to creating detailed system specifications
- Regularly capturing and incorporating user feedback through an iterative process that assesses user satisfaction with each release, continuously refining design to ensure alignment with business needs
- Preventing scope creep by defining high-level requirements upfront, locking down the current release, and pushing additional non-critical functionality to future releases
- Moving resources from one release phase to the next as soon as they complete their work (e.g., the requirements team builds requirements for the next release, while developers build current release)



B. Strengthen Program Management

Effectively managing modular IT programs requires a corps of program and project management professionals with extensive experience and robust training. Strong program management professionals are essential to effectively steward IT programs from beginning to end, align disparate stakeholders, manage the tension between on-time delivery and additional functionality, and escalate issues for rapid resolution before they become roadblocks. The size and criticality of large Federal Government IT programs are considerable. The people managing these programs must represent the best of the best.

Challenges with program management are pervasive across the Federal Government due to a general shortage of qualified personnel. However, pockets of excellence exist in the government. For example, the Social Security Administration (SSA) has developed a multi-tier career track for program managers that requires both training and experience for advancement. Program managers advance by gaining experience on small projects before moving to larger, more complex programs. SSA feels so strongly about the critical role of program managers that it will not begin a new program unless the right manager is in place and dedicated to lead it.

High-performing IT organizations have a well-developed program management talent strategy. The Office of Personnel Management (OPM), working with the Chief Human Capital Officers Council, will need to take steps to significantly enhance the supply of IT program management talent in the Federal Government. Steps include creating a career path to attract and reward top performers, establishing integrated, multi-disciplinary program teams with key skills before beginning major IT programs, requiring program managers to share best practices at the close of each program, launching a technology fellows program, and encouraging mobility of program managers across the government.

7. Design a formal IT program management career path

In the next six months, OPM, with input from agencies and OMB, will create a specialized career path for IT program managers (PMs). This will likely require creating a separate Occupational Series specific to IT program management within the current IT family with career advancement paths that are more competitive with the private sector. The path should require expertise and experience for advancement. It will also require the development of a competency model for IT program management consistent with the IT project manager model.

Finding, recruiting, and hiring top IT program management talent is challenging. In the next six months, OPM will work with OMB to provide agencies with direct hiring authority for IT PMs as necessary.

Further, agencies will identify specific IT program management competency gaps in the next Human Capital Management Report and develop specific plans to close the IT PM gap. To ensure that agencies are executing these plans, senior agency executives will review their progress and provide an interim report to OMB, 12 months after the next Human Capital Management Report is published.

OPM will work with the Department of the Treasury and the Department of Agriculture (USDA) to pilot the IT program management career track.

8. Scale IT program management career path government-wide

After piloting IT program management career paths at Treasury and USDA, OPM will work to expand the IT program management career paths more broadly across the Federal Government.

9. Require integrated program teams

A primary challenge impacting the successful delivery of IT programs is the need to manage a broad set of stakeholder communities, including agency leaders, business process owners, IT, acquisition, financial management, and legal. The typically siloed nature of government stakeholder communities is ill-suited for the multi-disciplinary and rapidly evolving needs of major IT program management processes.

High-performing private sector firms quickly bring together small multi-disciplinary, integrated program teams (IPTs) consisting of the following functions: business process owners who have a clear vision of the problem they are solving, IT professionals who understand the full range of technical solutions, acquisition professionals who plan and procure needed labor and materials, and finance staff to secure required funding. In addition, other functions such as HR and legal are included on the program team as needed. At the hub of these IPTs is a strong and effective program manager who stewards the process from beginning to end.

Examples of high-functioning IPTs exist in pockets of the Federal Government in which a complete IPT is required for major programs prior to beginning the investment review process. However, the practice is still only unevenly applied. The healthcare.gov initiative at the Department of Health and Human Services provides a good example of what a fully integrated multi-disciplinary team can do in the Federal Government. The healthcare.gov team successfully launched a citizen-facing website within 90 days of program initiation to rave reviews.

Over the next six months, OMB will issue guidance requiring an IPT, led by a dedicated, full-time program manager and supported by an IT acquisition specialist, be in place for all major IT programs before OMB will approve program budgets.

9.1 *Dedicate resources throughout the program lifecycle and co-locate when possible*

For each large IT program, critical members of the IPT will serve as full-time resources dedicated to the program. This must include a 100% dedicated IT program manager, but other roles will vary by program. Key members of the IPT will also be co-located during the most critical junctures of the program. This is especially important during the requirements-writing phase, when business, IT and acquisition must define and modify requirements in short iterative cycles, and when “translation issues” have historically caused problems.

The core of the IPT, including all IT program leadership roles, will be in place throughout the program lifecycle, from the initial concept development phase through the delivery of the last increment under the contract. For major IT investments, agency leadership will approve the composition of the integrated program team and the dedicated program manager.

9.2 Agencies will hold integrated program team members accountable for both individual functional goals and overall program success

A pervasive issue in government programs is that individual stakeholders focus primarily on performance metrics within their functions, and not on the holistic outcomes of the program. For example, IT or program staff may push to award work to a particular vendor, or to add “bells and whistles” that fail to take into account time pressures and budgetary constraints. Similarly, contracting staff may focus so much on competition requirements and small-business participation goals that they fail to look for solutions that meet these important requirements while also satisfying program needs. We need to replace these “stovepiped” efforts, which too often push in inconsistent directions, with an approach that brings together the stakeholders and integrates their efforts.

Agency executives will work with their senior procurement executives (SPEs), CIOs, and program leaders to take action and drive towards a more balanced set of individual and program success metrics based on the following two recommendations:

- First, agencies should set up individual performance goals that cover individual and program objectives. Performance goals for acquisition, IT, and business personnel need to include a combination of individual and program objectives.
- Second, agencies must also ensure that the individual and program metrics balance speed, quality, effectiveness, and compliance with Federal Acquisition Regulations. Supervisors must utilize a balanced set of performance metrics to evaluate individual performance. Individuals who provide exemplary contributions to the team will be recognized for their success (e.g., acquisition recognition through the Federal Acquisition Institute Awards & Recognition Program for individuals who effectively meet program needs without sacrificing compliance).

10. Launch a best practices collaboration platform

Within six months, the Federal CIO Council will develop a collaboration portal to exchange best practices, case studies, and allow for real-time problem solving. To institutionalize this best practice sharing, agency PMs will submit post-implementation reviews of their major program deliveries to the portal. These reviews will populate a searchable database of synthesized and codified program management best practices that all PMs can access.

11. Launch technology fellows program

Within 12 months, the office of the Federal CIO will create a technology fellows program and the accompanying recruiting infrastructure. By partnering directly with universities with well-recognized technology programs, the Federal Government will tap into the emerging talent pool and begin to build a sustainable pipeline of talent. The technology fellows programs should specifically target competency gaps that are identified in the Human Capital Management Reports submitted by agencies.

The program will aim to cut bureaucratic barriers to entering public service and provide access to unique career opportunities in government agencies. At the same time, these roles will provide new fellows with relevant training in large IT program management.

12. Enable IT program manager mobility across government and industry

The Federal CIO Council, OMB, and OPM, over the next 12 – 18 months, will be responsible for developing a process that will support and encourage movement of program managers across government and industry. Rotational opportunities allow the Federal Government to leverage its size to share knowledge and expertise across agencies. IT program managers with experience on specific types of programs or with specific types of systems should have opportunities to apply this experience on similar programs across government. Similarly, program managers should be given opportunities to learn from leading private companies. The Federal CIO Council, OMB, and OPM will work to design opportunities for industry rotation to allow Federal program managers to remain up-to-date with the latest skills while managing conflict of interest issues.

To support PM mobility, the Federal CIO Council will build a repository of information on all Federal Government IT PMs, including relevant background, specific expertise, implementation experience, and performance as part of its best practices collaboration platform.

Action item owner and deadlines

Action Item		Owner(s)	Within 6 mos.	6-12 mos.	12-18 mos.
7	Design a formal IT program management career path	OPM, OMB	●		
8	Scale IT program management career path	OPM, Agencies			●
9	Require Integrated Program Teams	OMB	●		
10	Launch a best practices collaboration platform	Federal CIO Council	●		
11	Launch technology fellows program	Federal CIO		●	
12	Enable IT program manager mobility across government and industry	OMB, CIO Council, OPM			●



C1. Align the Acquisition Process with the Technology Cycle

The acquisition process can require program managers to specify the government's requirements up front, which can be years in advance of program initiation. Given the pace of technology change, the lag between when the government defines its requirements and when the contractor begins to deliver is enough time for the technology to fundamentally change, which means that the program may be outdated on the day it starts.

The procurement reforms enacted in the 1990s provided tools to speed up the acquisition process, but the government has failed to take full advantage of those tools, so we continue to see programs delayed longer than the life of the technology. In particular, the use of multiple-award indefinite-delivery, indefinite-quantity (ID/IQ) contracts, called for in the 1994 Federal Acquisition Streamlining Act (FASA), was intended to allow quicker issuance of task orders, to be competed through streamlined "fair opportunity" mini-competitions among the multiple contract holders. The creation of government-wide acquisition contracts (GWACs) for purchasing IT goods and services was also intended to provide a limited number of specialized vehicles open to the entire government that could quickly respond to individual agency needs.

While the innovations in FASA have produced benefits, too often those tools are not used or not used effectively. IT acquisition, particularly for large projects, continues to move intolerably slowly. We need to make real change happen, by developing a cadre of specialized acquisition professionals and by educating the entire team managing IT projects about the tools available to streamline the acquisition process.

In addition, requirements are often developed without adequate input from industry, and without enough communication between an agency's IT staff and the program employees who will actually be using the hardware and software. Moreover, agencies often believe that they need to develop a cost estimate that is low in order to have the project approved. As a result, requirements are too often unrealistic (as to performance, schedule, and cost estimates), or the requirements that the IT professionals develop may not provide what the program staff expect – or both. Speeding up the acquisition timeline and awarding more successful contracts for IT requires a multifaceted set of solutions including increased communication with industry, high functioning, "cross-trained" program teams, and appropriate project scoping.

13. Design and develop a cadre of specialized IT acquisition professionals

Effective IT acquisition requires a combination of thorough knowledge of the Federal acquisition system, including the tools available, a deep understanding of the dynamic commercial IT marketplace, and the unique challenges inherent to successfully delivering large IT programs in a modular time-boxed manner. Agency CIOs and SPEs advised that acquisition professionals who were specialized in IT were more effective. This specialization is also consistent with private sector best practice. To bring these

increased capabilities online, we will be creating standardized training and development opportunities to develop a cadre of acquisition professionals with the specialized knowledge and experience required to expedite complex IT acquisitions across the Federal Government.

Over the next six months, the Office of Federal Procurement Policy (OFPP) and the Federal CIO, with input from agencies, will design a specialized IT acquisition cadre. In doing so, they will need to answer the following questions:

- What is the process for acquisition professionals to become specialized in IT?
- How do professionals progress within the community (i.e., transition from entry-level through to senior contributor)?
- How do you ensure that community members can focus on participating in IT acquisition?
- What training, experience, and certification are needed?
- What will be the impact on the remaining acquisition workforce and non-IT acquisitions if some of the staff are dedicated to IT acquisition?

A number of agencies have already developed IT acquisition specialists who can serve as a means to expedite IT programs. Useful lessons can be learned from drawing on the experience of the GWACs and the staff that support them at GSA, NASA, and the National Institutes of Health (NIH).

In the case of smaller agencies, where IT-only acquisition groups may be impractical, leveraging GWACs or using specialized cadres at larger agencies through Economy Act transactions may be the best solution (e.g., the Department of Veterans Affairs' Technology Acquisition Center and Treasury Department's BPD Acquisition Resource Center). In addition, both the GWACs and these other agencies can potentially provide cross-functional support through experienced IT program management and technical staff. Access to these resources will, of course, not be limited to smaller agencies, as they can often provide an efficient alternative to in-house IT acquisition even for larger agencies. Particularly within the current budgetary constraints, agencies may have only a limited capability to hire new staff as candidates for the IT cadre, so drawing on other agencies' resources may be vital to success.

13.1 Strengthen IT acquisition skills and capabilities

Within six months, OFPP, with input from agencies, will develop guidance on requirements for IT acquisition specialists. In addition, OFPP will develop guidance on curriculum standards to cross-train program managers and IT acquisition professionals.

In particular, the guidance will focus on increasing cross-functional knowledge of the IT marketplace, IT program management, and IT acquisition. OFPP will build upon its current Federal Acquisition Certification in Contracting (FAC-C) to develop a path for IT expertise. OFPP will leverage existing curriculum that may exist within agencies that already host specialized IT acquisition professionals. Skills development will include:

- *Classroom training:* OFPP will leverage and strengthen, where necessary, existing classes at the Federal Acquisition Institute (FAI) and the Defense Acquisition University (DAU), and engage these and other training providers to develop additional offerings as necessary.

C1. ALIGN THE ACQUISITION PROCESS WITH THE TECHNOLOGY CYCLE

- *On-the-job experience:* As is true with acquisition in general, the skills needed to successfully handle large IT acquisitions call for a blend of classroom training and on-the-job experience. For example, contracting professionals with hands-on IT experience are better equipped to help IT and program staff translate business and technical requirements into a statement of work that can help ensure a smooth procurement.
- *Mentorship:* Building a strong culture of mentorship enables IT acquisition professionals to more quickly learn “the art of the possible” to deliver effective IT acquisition solutions. OFPP can encourage this by building on FAI’s ongoing efforts to foster mentorship and networking opportunities, within and between agencies.

As an immediate action to implement these recommendations, OFPP will consider these initiatives as part of its review of the Federal Acquisition Certifications for Program/Project Managers (P/PMs), Contracting Officer Technical Representatives (COTR), and contracting professionals in the next six months.

14. Identify IT acquisition best practices and adopt government-wide

OFPP will lead an effort over the next six months to study the experience of those agencies that have already created specialized IT acquisition teams, in order to develop a model to scale more broadly. Among the key questions to be considered will be the length of time individuals need to spend devoted solely to IT acquisition in order to add value to IT program teams, the kind of training and experiences that are most valuable, appropriate organizational structures, and successful acquisition strategies and practices.

Drawing on that experience, OFPP should work closely with senior agency leadership at the Department of Homeland Security (DHS) and Department of Energy (DOE) as they rollout their IT acquisition cadres in the next year. The next step, over the following 18 months, is to scale the specialized IT acquisition cadre government-wide.

15. Issue contracting guidance and templates to support modular development

Over the next year, OFPP will work with the acquisition and IT communities to develop guidance on contracting for modular development. As part of this effort, OFPP will hold an open meeting with industry leaders to solicit ideas/feedback on contracting for modular development. OFPP will develop templates and samples, and will create communities of practice to facilitate adoption of modular contracting practices.

This guidance will address a variety of factors that IT program managers as well as contracting officers will need to consider as they plan for modular development efforts, such as whether to award to a single vendor or multiple vendors; how to ensure that there is appropriate competition at various stages in the process; how broad or specific the statements of work should be; when to use fixed-price contracts or rely on other pricing arrangements; and how to promote opportunities for small business. As noted above, the Federal Acquisition Streamlining Act of 1994 provides a variety of flexibilities for acquiring

commercial items and for streamlining competition that will be reflected in the guidance to ensure IT program managers and others are aware of existing authorities that can further support modular IT development.

When evaluating acquisition strategies, agencies will need to prioritize those solutions that promote short deadlines for deliverables (generally less than three months), allow for responsiveness to rapidly evolving program and technical requirements, and facilitate a streamlined award process. One innovative example is at the Department of Transportation (DOT), which has recently formed IT “Agility Platforms” with contract vehicles in place that simplify how business owners can quickly access technology.

16. Reduce barriers to entry for small innovative technology companies

Small businesses in the technology space drive enormous innovation throughout the economy. However, the Federal Government does not fully tap into the new ideas created by small businesses. Unlike larger, more established firms, new entrants have little at stake in current technological systems ranging from software standards, to operating system and file standards, to business processes. While large firms drive many incremental improvements to the status quo, smaller firms are more likely to produce the most disruptive and creative innovations. In addition, with closer ties to cutting edge, ground-breaking research, smaller firms often have the best answers for the Federal Government.

However, small businesses too rarely approach the Federal Government as a customer because of the real and perceived barriers to contracting. The sales process is perceived as lengthy and complex, and, therefore, not seen as worthwhile unless done at scale. Without existing knowledge or access to specialized lawyers and lobbyists, small firms default to more traditional channels. And given their limited size, small businesses often find it difficult to bid on the large chunks of government work that require a substantial workforce across many functional capabilities. Ultimately, the government contracting process is easier to navigate by large, existing players, who in turn dominate the volume of contracts and therefore create a track record making them “less risky” and more likely to win future contracts.

To address the barriers that small businesses face generally (both in IT and more broadly), in April 2010, the President established an interagency task force to make recommendations for improving the participation of small companies in Federal contracts. The task force made 13 recommendations in its August 2010 report, which are currently in various stages of implementation. Of the 13 recommendations, six were also included, in whole or in part, in provisions of the recently-enacted Small Business Jobs Act of 2010.

As part of this effort, and to enable small IT companies to work with the Federal Government, SBA, GSA, and OFPP will take concrete steps over the next 18 months to develop clearer and more comprehensive small business contracting policies.

C1. ALIGN THE ACQUISITION PROCESS WITH THE TECHNOLOGY CYCLE

Action item owner and deadlines

Action Item		Owner(s)	Within 6 mos.	6-12 mos.	12-18 mos.
13	Design and develop cadre of specialized IT acquisition professionals	OMB, Agencies	●		
14	Identify IT acquisition best practices and adopt government-wide	OFPP	●		
15	Issue contracting guidance and templates to support modular development	OFPP		●	
16	Reduce barriers to entry for small innovative technology companies	SBA, GSA, OFPP			●



C2. Align the Budget Process with the Technology Cycle

The rapid pace of technological change does not match well with the Federal government's budget formulation and execution processes. In addition, modular development means that lessons learned from an early cycle in an IT program will likely inform the detailed plans for the next cycle. As such, agencies need more flexibility to manage IT programs responsibly. To compensate for this misalignment between the realities of IT program management and the need for detailed budgets several years in advance, several agencies have worked with Congress to achieve greater IT budget flexibility through multi-year and/or agency-wide portfolio appropriations.

To deploy IT successfully, agencies need the ability to make final decisions on technology solutions at the point of execution, not years in advance. Agencies need the flexibility to move funding between investments or projects within their portfolio to respond to changes in needs and available solutions. But at the same time, Congress has a legitimate and important need for oversight; and given the history of project failures and wasted investments, it is understandable that Congress requires compliance with a rigid system for managing IT investments.

The Department of Veterans Affairs (VA) presents an interesting model. Greater budget flexibility has allowed the VA CIO to freeze projects that are off track and either restructure them for success or cancel them. VA established an accountability system so projects that are missing milestones are flagged early. Greater budget flexibility paired with real-time visibility is leading to success at VA – and minimizing the risk of “big bang” failures.

17. Work with Congress to develop IT budget models that align with modular development

Working with Congress to design ways to better align funding to the technology cycle will reduce waste and improve the timeliness and effectiveness of provided solutions. Creating and leveraging flexible IT budget models requires work by OMB, Congress, and agency leadership.

17.1 Analyze working capital funds and transfer authorities to identify current IT budget flexibilities

Over the next six months, OMB will work with Congress to analyze existing working capital funds (WCFs) and other vehicles for pooling funds and extending availability of funding. Working capital funds (WCFs) are agency revolving funds for managing common administrative services that add budgeting flexibility within the agency. In addition to WCFs, franchise funds and other accounts can potentially provide added IT funding flexibility. These accounts add flexibility by pooling bureau-level funds to serve agency-wide purposes.

This analysis will address limits on the amount of funding that could flow through such accounts under current law across all appropriations and agencies, any limits on the types of activities that may be

funded, and any other limitations on the use of transfer authorities to feed such accounts from contributing accounts. This analysis would also include a comprehensive review of the legislative language for accounts receiving funds such as WCF accounts, General Provisions, or other legislative limits on transfer authorities, and the legal limits on use of general transfer authorities such as the Economy Act or the E-Government Act of 2002. The analysis will also identify examples of the use of the existing funding flexibility vehicles for IT projects and develop best practices guidance on applicability and implementation across the government, as well as identify where skill gaps exist in developing costing models and managing funds.

17.2 Identify programs for which to pilot flexible budget models

Within six months, Agency CIOs and CFOs will identify programs at several agencies for which added budget flexibility could save money and improve outcomes. OMB and agencies will work with Congress to develop proposed budget models to complement the modular development approach. In addition, OMB and agencies will evaluate mechanisms for increased transparency for these programs.

18. Develop supporting materials and guidance for flexible IT budget models

In order to support agencies and appropriations staff in leveraging budget flexibility, the Federal CFO Council, in collaboration with the Federal CIO Council, will develop a set of best practices and materials that explain the need for these types of funding, and prescribe a path to achieving more flexible models.

As a first step, the Federal CIO Council will create a segmentation of common IT program types and the associated funding requirements. The Federal CFO Council will then work with the Federal CIO Council to create detailed “playbooks” mapping each IT program type to specific budget vehicles based on examples of past investments and IT needs (e.g., multi-year funding for programs with several discrete deliverables). The playbooks will also explain in detail how the recommended budget flexibility improves delivery of the corresponding IT program results. Agencies will utilize these templates and training to clearly outline their financial needs to successfully deliver IT programs.

Program leaders and CIOs with increased budget flexibility will face higher expectations around successful delivery from agency leaders and Congress. Achieving greater flexibility in funding also requires greater transparency into spending effectiveness. Agencies will need to engage in more frequent dialogues with appropriations staff and to clearly demonstrate the performance of IT investments in achieving mission goals.

The Federal CFO and CIO Councils will create a set of guidelines for increasing transparency in the utilization of IT funds. Agencies will follow these guidelines and institute additional review processes for multi-year funds and portfolio funding to prevent mismanagement of increased funding flexibility (e.g., masking program delays or overruns).

19. Work with Congress to scale flexible IT budget models more broadly

Within 12 months, OMB will engage several agencies to work with Congress to launch flexible IT budget models where appropriate. As pilot agencies demonstrate success with flexible IT budget models on selected programs, OMB will continue to work with Congress to scale flexible budget models across major IT programs government-wide.

20. Work with Congress to consolidate commodity IT spending under Agency CIO

Agencies, departments, bureaus, and, at times, even programs currently design, build, and operate independent systems for “commodity” IT services (e.g., e-mail, data centers, content management systems, web infrastructure). Their functionality and the infrastructure that supports them are often duplicative and sub-scale. These independent systems currently draw resources away from IT programs that deliver value to the American taxpayer. With few exceptions, the minor differences between agency-specific systems and their associated operational processes do not drive value for the agencies.

Consolidating these systems and their associated infrastructure (e.g., data centers) will be difficult and complex if the current funding models are maintained. Within the next six months, OMB will work with Congress to develop a workable funding model for “commodity” IT services. These funding models will be applicable to both inter-agency IT services and intra-agency IT services. On an annual basis, the Agency CIOs and the Federal CIO Council will identify “commodity” services to be included in this funding model as they are migrated towards shared services.

A benefit of consolidated commodity IT spending is the ability to move more rapidly to adopt strategic sourcing solutions. Once agencies with common business needs can effectively coordinate or consolidate the procurement of IT-related goods and services and demand is aggregated within agencies, it will be easier for the government to more effectively negotiate for volume discounts and improved service levels.

Action item owner and deadlines

	Action Item	Owner(s)	Within 6 mos.	6-12 mos.	12-18 mos.
17	Work with Congress to create IT budget models that align with modular development	OMB, Agencies	●		
18	Develop supporting materials and guidance for flexible IT budget models	OMB, CFO Council, CIO Council		●	
19	Work with Congress to scale flexible IT budget models more broadly	OMB, Agencies			●
20	Work with Congress to consolidate Commodity IT spending under Agency CIO	OMB, Agencies	●		



D. Streamline Governance and Improve Accountability

To strengthen IT governance, we need to improve line-of-sight between project teams and senior executives, increase the precision of ongoing measurement of IT program health, and boost the quality and timing of interventions to keep projects on track. These improvements will both boost the efficiency of project oversight and better manage programs in distress.

Our strategy for strengthening IT governance centers on driving agency adoption of the “TechStat” model currently used at the Federal level. TechStat Accountability Sessions are face-to-face, evidence-based reviews of agency IT programs with OMB and agency leadership. Using data from the Federal IT Dashboard, investments are carefully analyzed with a focus on problem-solving that leads to concrete action to improve performance.

TechStats have led to accelerated deliverables, budget reductions, and project terminations. Results include:

- \$3 billion reduction in lifecycle costs
- Average acceleration of deliverables from over 24 months to 8 months

Our goal is to scale this capability across the Federal Government, increasing the number of programs that can be reviewed and hastening the speed at which interventions occur. Through this strategy, we aim to enable agencies to grow their own performance management standards and focus OMB direct involvement on a limited number of highest-priority cases.

21. Reform and strengthen Investment Review Boards

Investment Review Boards (IRBs) were created to control and evaluate the results of all major IT investments. In practice, these review boards have frequently failed to adequately manage the IT program portfolio by establishing successful projects or taking corrective action. Today, typical IRB meeting agendas currently set aside two hours to review the entire IT portfolio, far too little time to adequately review dozens of technical projects. These IRBs will be restructured according to the “TechStat” model.

21.1. Revamp IT Budget Submissions

OMB Exhibits 53 and 300 have come to support stand-alone processes to request and justify funding rather than serving as management tools for monitoring program health. In many cases, these documents are prepared in large part by third-party contractors and there is minimal involvement by agency executives and program managers.

These exhibits will be revamped to better align them to agency budgeting and management processes, make them more relevant and useful, and ensure they promote the use of modular development principles. The improved exhibits will also alleviate reporting burden, increase data accuracy, and serve as the authoritative management tool.

By May of 2011, OMB will reconstruct the 300s and 53s around distinct data elements that drive value for agencies and provide the information necessary for meaningful oversight. The timing of these elements will be separated into distinct streams to clarify objectives, give agencies adequate time to assemble strong responses, and improve data quality. These streams will include:

- *Budget justification* for new major Development, Modernization and Enhancement (DME) investments, significant re-engineering of existing DME investments, and annual re-justification of DME investments.
- *Health monitoring* of existing DME investments and Operations and Maintenance (O&M)
- *Portfolio governance* to ensure the IT portfolio and individual projects are consistent with the agency mission and Federal policy objectives

Importantly, OMB and agencies must evaluate the way in which IT programs are reviewed so that budget approval for large IT programs is tied to key implementation steps rather than seemingly upfront, wholesale approval of massive programs. OMB will evaluate ways to ensure agencies can demonstrate strong performance in earlier modules in order to receive approval for funding of subsequent modules.

21.2 Rollout “TechStat” model department-wide

By March 2011, OMB will work with Agency CIOs and other agency leaders to stand up the “TechStat” model at the departmental level. Steps include:

- OMB will assist agencies in designing tools and enforcing their use, to provide the transparency required for the “TechStat” model to be effective
- OMB analysts will provide in-person training to Agency CIOs in “TechStat” methodology including accountability guidelines, engagement cadence, evaluation processes, and reporting processes.
- Agency leaders will lead, sponsor, and manage the process within their departments

22. Redefine role of Agency CIOs and Federal CIO Council

Currently, Agency CIOs and the Federal CIO Council spend a majority of their mindshare on policymaking and maintaining IT infrastructure. As we move forward with the IT reforms, CIO focus must shift towards portfolio management. This shift will be encouraged by activities such as the restructuring of the Investment Review Boards. Similarly, agencies will be increasingly freed from low-value activities (e.g., building redundant infrastructure) as they adopt technologies such as cloud computing.

- Agency CIOs will be responsible for managing the portfolio of large IT projects within their agencies. This portfolio management role will include continuously identifying unmet needs to be addressed by new projects, terminating or turning around poorly performing projects, and retiring IT investments which no longer meet the needs of the organization. Steps will include:
- As described above, Agency CIOs will take on responsibility for the “TechStat” governance process within their agencies as of March 2011.

D. STREAMLINE GOVERNANCE AND IMPROVE ACCOUNTABILITY

- Agencies will turnaround or terminate at least one-third of poorly performing projects in their portfolio within the next 18 months. The Federal CIO Council will play a similar portfolio management role, but at a cross-agency level. Within six months, the Federal CIO Council will periodically review the highest priority “TechStat” findings assembled by the Agency CIOs. These reviews will enable CIOs to share best practices and common sources of failure to improve success rates over time.

23. Rollout “TechStat” model at bureau-level

Once cemented at the agency level, the “TechStat” model will be deployed at the bureau-level to ensure the effective management of large programs. Within 18 months, Agency CIOs, in collaboration with other agency leaders, will be responsible for deploying the tools and training necessary to ensure rollout has been completed.

Action item owner and deadlines

Action Item		Owner(s)	Within 6 mos.	6-12 mos.	12-18 mos.
21	Reform and strengthen Investment Review Boards	OMB, Agencies	•		
22	Redefine role of Agency CIOs and Federal CIO Council	Federal CIO, Agency CIOs	•		
23	Rollout “TechStat” model at bureau-level	Agency CIOs			•



E. Increase Engagement with Industry

The Federal Government does not consistently leverage the most effective and efficient available technologies. Federal IT contracts have been difficult to manage because they were not well-defined or well-written. These contractual challenges produce waste, delay program delivery, and erode the value of IT investments.

In many cases, agencies have been hindered by inadequate communication with industry, which is often driven by myths about what level of vendor engagement is permitted. The result has been barriers between industry and government buyers, whose efforts are often frustrated by a lack of awareness of the most efficient and effective technologies available in the private sector. These barriers negatively affect the full breadth of the acquisition process including needs identification, requirements definition, strategy formulation, the proposal process, and contract execution. Educating the community on the myths of vendor engagement will increase constructive and responsible engagement with the private sector IT community and improve the quality and cost effectiveness of the IT services provided.

24. Launch “myth-busters” education campaign

Commonly-held misunderstandings about how industry and government can engage with one another during the acquisition process place an artificial barrier between Federal agencies and their industry partners. These myths reduce the government’s access to necessary market information as government officials, both program managers and contracting officers, are often unsure how to responsibly engage with their industry counterparts. They may have inaccurate information about the rules, may be overly cautious in their interactions, or may be unaware of communication strategies that can help the government define its requirements and establish sound acquisition strategies. The fact is that the statutory and regulatory framework for communications between industry and government allows significantly greater engagement than current practice. The government therefore needs to raise awareness of these flexibilities to its workforce.

OFPP will identify the major myths that most significantly hinder requirements definition and the development of effective acquisition planning and execution. In January 2011, OFPP will issue a memorandum identifying these myths and the related facts and strategies to improve constructive engagement. This effort will be supported through discussions and other outreach efforts with key stakeholders in early 2011 including, but not limited to:

- Professional associations and other industry representatives
- Federal stakeholders including program managers, contracting professionals, agency attorneys, and ethics officials

Throughout 2011, the Federal Acquisition Institute (FAI) and OFPP will conduct a “myth-buster” awareness campaign to eliminate artificial private sector engagement barriers. Steps will include at least the following:

- Launch an online community of practice within the next six months using technologies such as video channels to provide a Q&A forum, celebrate successes, and share “myths” and potential “myth-busters”
- Conduct FAI webinar for the acquisition workforce hosted by OFPP by late January 2011
- Create mandatory, continuous learning program through the FAI website
- Present at conferences such as the GSA Expo, the National Contract Management Association (NCMA) World Conference, and NCMA Government Contract Management Conference throughout 2011

25. Launch interactive platform for pre-RFP agency-industry collaboration

The government benefits when there is broad engagement with industry before beginning an IT project. Recently, the government used an online wiki tool to rapidly and effectively explore solutions for a planned Federal IT investment. Tens of thousands of visitors participated from all 50 states and workers at Fortune 500 companies interacted with the owners of a 10-person business to discuss the best solutions for the government. The dialogue allowed participants to tag and vote on the best ideas, providing the agency with a list of top priorities and key themes that made the feedback both more comprehensive and more actionable than what could have been obtained through traditional methods. Technological opportunities were discussed, weighed, and judged by the community that were not immediately obvious at the onset of the effort.

Inexpensive, efficient solutions such as these should be made available to all agencies to effectively tap the understanding of industry partners, especially in the period prior to issuing a Request for Proposal (RFP). Within the next six months, GSA will launch a government-wide, online, interactive platform for this purpose. Action item owner and deadlines

Action item owner and deadlines

Action Item		Owner(s)	Within 6 mos.	6-12 mos.	12-18 mos.
24	Launch “myth-busters” education campaign	OFPP	•		
25	Launch an interactive platform for pre-RFP agency-industry collaboration	GSA	•		



Summary

From delivering benefits to our veterans to advancing biomedical discovery, Federal Government IT investments are designed to serve the American people. By focusing on execution, oversight, and transparency, this plan will deliver tangible results to stakeholders across the Federal Government and the American taxpayers.

Individually and together, the 25 actions detailed above will move the government towards the future – more nimble, more cost effective, and more citizen-focused. These IT reforms require collaboration with Congress; engagement with industry; and commitment and energy from government leadership and IT, acquisition, and financial management professionals. They require relentless focus on near-term execution, recognition of past lessons, and a long-term vision for the future. But these efforts are worth the hard work. By shifting focus away from policy and towards execution and oversight, these IT reforms will succeed in delivering results for the American people.

The future picture for Federal Government IT is exciting. IT enables better service delivery, enhanced collaboration with citizens, and dramatically lower costs. We must get rid of the waste and inefficiencies in our systems. Outdated technologies and information systems undermine our efficiency and threaten our security.

Federal IT projects will no longer last multiple years without delivering meaningful functionality. Poorly performing projects will be identified early and put under a spotlight for turnaround – those that continue to flounder will be terminated. No longer will large IT contracts be negotiated by individuals without IT expertise. No longer will one agency build expensive new data centers when other agencies have excess capacity. And no longer will rigid budgeting constraints prevent executives from making smart decisions with taxpayer dollars; flexible models will allow agency leaders to shift funds where and when they are needed, ensuring that results matter more than plans.

A government powered by modern information technology is a faster, smarter, and more efficient government. While IT projects throughout the government will always have risks, there are no excuses for spectacular failures. And while not all projects can be perfect, major errors must and will be caught early and addressed appropriately. Projects should never be so far behind schedule that the primary activity of program managers shifts to waging a constant public relations battle to ensure continued funding. Instead, with streamlined governance and experienced program managers, issues can be caught early and course corrections can be made without wasting time and money.

The Federal Government will be able to provision services like nimble start-up companies, harness available cloud solutions instead of building systems from scratch, and leverage smarter technologies that require lower capital outlays. Citizens will be able to interact with government for services via simpler, more intuitive interfaces. IT will open government, providing deep visibility into all operations. With this 25 point plan, the Federal Government will turn the corner on implementing the most critical reforms, ensuring that large IT programs perform as expected and can be delivered on time and on budget in order to deliver for the American people.

Action item owner and deadlines

	Action Item	Owner(s)	Within 6 mos.	6-12 mos.	12-18 mos.
1	Complete detailed implementation plans to consolidate 800 data centers by 2015	OMB, Agencies	●		
2	Create a government-wide marketplace for data center availability	OMB, GSA			●
3	Shift to a "Cloud First" policy	OMB, Agencies	●		
4	Stand-up contract vehicles for secure IaaS solutions	GSA	●		
5	Stand-up contract vehicles for "commodity" services	GSA		●	
6	Develop a strategy for shared services	Federal CIO		●	
7	Design a formal IT program management career path	OPM, OMB	●		
8	Scale IT program management career path	OPM, Agencies			●
9	Require Integrated Program Teams	OMB	●		
10	Launch a best practices collaboration platform	Federal CIO Council	●		
11	Launch technology fellows program	Federal CIO		●	
12	Enable IT program manager mobility across government and industry	OMB, CIO Council, OPM			●
13	Design and develop cadre of specialized IT acquisition professionals	OMB, Agencies	●		
14	Identify IT acquisition best practices and adopt government-wide	OFPP	●		
15	Issue contracting guidance and templates to support modular development	OFPP		●	
16	Reduce barriers to entry for small innovative technology companies	SBA, GSA, OFPP			●

SUMMARY

Action Item		Owner(s)	Within 6 mos.	6-12 mos.	12-18 mos.
17	Work with Congress to create IT budget models that align with modular development	OMB, Agencies	●		
18	Develop supporting materials and guidance for flexible IT budget models	OMB, CFO Council, CIO Council		●	
19	Work with Congress to scale flexible IT budget models more broadly	OMB, Agencies			●
20	Work with Congress to consolidate Commodity IT spending under Agency CIO	OMB, Agencies	●		
21	Reform and strengthen Investment Review Boards	OMB, Agencies	●		
22	Redefine role of Agency CIOs and Federal CIO Council	Federal CIO, Agency CIOs	●		
23	Rollout “TechStat” model at bureau-level	Agency CIOs			●
24	Launch “myth-busters” education campaign	OFPP	●		
25	Launch an interactive platform for pre-RFP agency-industry collaboration	GSA	●		

Expert Review of Component Websites within Census.gov

The U.S. Census Bureau

Contract No. YA132309CQ0045, Task Order (TO) 001:

Web Discovery: Data Visualization and the Future of
Census.gov

Abt Associates, April 1, 2011

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I. Introduction

U.S. Census Bureau leaders have committed themselves and the Census Bureau to modernize the Census.gov website according to best practices in order to better serve the Census Bureau's mission and the American Public. To further this goal, a review of Census.gov was conducted which evaluated individual component websites. The review was designed to determine to what extent component websites are findable using typical search queries, how well these websites serve their audiences, and to what degree the top usability issues found on Census.gov are problematic on high use or high profile component websites. This report presents the findings of these reviews and provides recommendations to address the major issues identified.

From December 7, 2010 through February 1, 2011, three types of reviews were undertaken on 52 component websites under the domain of Census.gov. The reviewed sites were primarily nominated by Census Bureau staff as representative of the range of sites developed and maintained for the dissemination of information flows generated by the Census Bureau. These sites were also considered to receive a significant number of visitors and/or be important information portals for their respective information flows. The list of nominated sites includes the Census.gov homepage, and spans the websites maintained by the various Directorates. The full list of websites reviewed can be found in Section VI of this report.

Each component website was subject to three types of assessments:

- **Findability:** This assessment evaluated the ease with which users were able to locate particular Census.gov websites using both external (Google Search) and internal (the Census.gov homepage) search engines.
- **User experience based on persona testing:** The persona testing evaluation assessed whether typical audiences are able to effectively use Census.gov websites to obtain desired information. Three personas were challenged with finding answers to questions relevant to each of the nominated websites:
 - Casual User:** The casual user is interested in obtaining information about a specific topic and is typically seeking the answer to a single question (e.g., general public, k-12 teacher, k-12 student). For example, a casual user may be a student trying to find information for a school assignment.
 - Sophisticated User:** The sophisticated user is interested in obtaining detailed information on one or more related topics in the form of tabular and other types of estimates in order to assist in business or policy decisions (e.g., business/industry official, local/state/federal government official, journalist, NGO, librarian). For example, a sophisticated user may be a small business owner attempting to locate information about their industry.
 - Expert User:** The expert user is interested in downloading microdata sets for detailed analysis purposes (e.g., professional researcher, academic, consultant).
- **Assessment of sites using ForeSee's top Census.gov usability issues:** The usability evaluation builds on existing usability reviews of Census.gov to determine the extent to which the top issues found on Census.gov are problematic on high use or high profile component websites. This assessment compared Census.gov component websites against a set of known issues from Usability Audit Reviews of Census Bureau websites conducted by ForeSee Results.^{1,2}

¹ Bergstrom, Jennifer Romano and Jennifer M. Chen. *Top Ten Usability Issues at the Census Bureau: A Review of 12 Years of Usability Test Reports*. Center for Survey and Measurement (CSM), Human Factors and Usability Research Group, U.S. Census Bureau. November 8, 2010

² Foresee Results specializes in customer satisfaction analytics, and has provided Usability Audit Reviews of Census.gov.

Although these three evaluations were conducted independently of one another, the results are interdependent. For example, the persona testing was conducted for individual component websites within Census.gov, where evaluators were given the website URL as a starting point. However, in reality users would most likely not begin on the component website home page, but will start searching using a plain English question or keywords using an internet search engine (not knowing that Census Bureau is an authoritative source of the information they seek) or from Census.gov. (not knowing there may be multiple sources within census.gov with possibly relevant information). The findability results shed light on the ability of users to locate Census.gov websites using typical search methods.

1. Organization of this Report

This report is organized as follows:

Section II: Summary of Results presents a summary of the notable results from the three assessments conducted in this review: findability, persona testing, and usability testing based on ForeSee callouts.

Section III: Findability addresses whether users are able to find Census.gov component websites using typical search queries. This section includes the results of the findability assessment and provides recommendations to address the identified issues.

Section IV: Persona Testing describes the experience of casual, sophisticated, and expert users on component websites within Census.gov; identifies key problems in the user experience; diagnoses the causes of the problems; and provides recommendations to address these causes and improve the user experience on Census.gov. These persona reviews establish the extent to which Census.gov component websites meet their audiences' needs.

Section V: Usability Testing based on ForeSee Callouts compares the 52 nominated component websites to a set of known issues on Census.gov to evaluate the extent to which these issues are problematic on high use or high profile component websites. This section discusses the findings for each issue, and describes the related best practices and notable issues identified.

Section VI: List of Websites Reviewed provides a list of the 52 Census.gov component websites evaluated in this review.

Section VII: Glossary defines a list of terms used in this report.

Appendix A: Persona Testing Assessment includes the detailed persona testing evaluations for each of the 52 component websites reviewed.

Appendix B: Findability and ForeSee Usability Assessment includes the detailed findability and usability testing based on ForeSee Callouts evaluations for each of the 52 component websites reviewed.

II.

For this analysis, 52 component or web pages of the Census.gov website were reviewed.³ Each webpage was evaluated using three separate assessments – website findability, persona testing, and usability – for a total of 156 completed evaluations. The results of these evaluations provide granular data about each of the webpages reviewed, the full results of which are presented in the appendices to this document. This section summarizes the notable issues identified across the 52 webpages by these three assessments; more detailed findings and recommendations follow.

1. Overarching Challenges Facing Census Bureau Customers

Although each of the evaluations was conducted independently of the others, the results are interconnected. For example, the problems affecting the user experience detected during the persona testing may have their root causes in findability or usability issues. Additionally, the issues discussed in this report are only those identified based on the three reviews conducted; there may be other issues not covered by this portion of the investigation. Based on aggregating the results across the three assessments, the following overarching challenges facing Census Bureau customers were identified:

- The most significant challenge users face is finding their way to and through Census.gov to a single, appropriate data source;
- Lack of consistency among the component websites needlessly complicates the user experience; and
- While redundant data flows are unavoidable, the lack of detailed mission and scope descriptions for each survey/website makes selecting the right data source difficult.

2. Findability Results

The Findability assessment evaluated whether users are able to find Census.gov component websites using typical search queries. This evaluation compares the listed order in which a Census.gov component website appears when searching using Google search and the Census Bureau homepage, with website title, text on the page, and keywords relating to the content as the search terms. Based on this approach, the findability assessment found that:

- It is difficult for users to determine the most appropriate component website to answer a question.
- Google-based search produces routinely good returns for Census.gov pages.
- Census.gov search is inadequate.

For more detail on the results of the findability evaluation, see Section III.

3. Persona Testing Results

The persona testing assessment evaluated the extent to which Census.gov component websites meet their audiences' needs. Three users (casual, sophisticated, and expert) recorded their experience locating the answer to a typical question that user group might ask on a component website. The following seven related problems were encountered by the persona testers on Census.gov component websites (presented here collapsed across the three user types):

³ The full list of websites reviewed is presented in Section 6.

- **Problem #1:** User experiences disorientation or difficulty browsing content on website, resulting in confusion and wasted time.
- **Problem #2:** User spends time searching for content that is not available from website.
- **Problem #3:** User navigates website or conducts queries based on trial and error, expending more time than necessary to find data.
- **Problem #4:** User does not understand the website content, potentially limiting ability to find the desired content.
- **Problem #5:** The user spends additional time formatting data tables, searching for alternate data sources, or searching for data in alternate formats.
- **Problem #6:** The user spends additional time searching for definitions of terminology used in search queries or data tables.
- **Problem #7:** The user's interest is not captured and the user does not find the experience browsing the website engaging.

For more detail on the results of the persona testing evaluation, see Section IV.

4. Usability Review Based on ForeSee Callouts Results

The usability review based on ForeSee callouts assessment builds on existing usability reviews of Census.gov to evaluate the extent to which the top issues found on Census.gov are problematic on high use or high profile component websites. The results for each criterion are as follows:

- **Navigation:** While many sites utilize a useful and transparent site design and provide adequate navigation tools, there are significant issues and the lack of consistent navigation tools across component websites is problematic.
- **Text & Terminology:** Most component websites do an adequate job of avoiding terminology and jargon.
- **Expectations:** The lack of informative text on component websites is a widespread problem throughout Census.gov. However, many pages provide overviews on linked pages which could be better linked or excerpted to address the problem.
- **Organization:** The failure to feature content on the main page is a widespread issue across the component websites. Graphics and visualizations could be better utilized to address this problem. While organization within a single component website is generally not an issue, the organization of information across all Census.gov websites is problematic.
- **Page Layout:** Although page layout is generally adequate and consistent within component websites, the lack of a uniform template across Census.gov is problematic, especially with some component websites utilizing older layout designs. Census.gov should implement a consistent, user tested template across all component websites.
- **Graphics, Tables & Icons:** Graphics and icons are generally underused on the component websites of Census.gov. However, several examples of best practices provide templates that could be more widely used throughout the component websites.
- **Search:** As mentioned in the Findability section, the Census Bureau search engine is generally insufficient for locating component websites. The presence of multiple websites providing similar data makes it difficult for users to locate the most appropriate data source.
- **Help:** The inconsistent use of the Census-wide Question & Answers website versus site-specific Frequently Asked Questions (FAQ) pages is a major issue on Census.gov. There is a need to either better organize the central Q&A site so it is easier to use or to provide site-specific FAQ pages for every individual website, where applicable.

For more detail on the results of the usability testing based on ForeSee Callouts evaluation, see Section V.

III. Findability

The findability evaluation assessed whether Census.gov component websites are optimized to be found by search engines in order to evaluate whether users are able to find Census.gov component websites using typical search queries. The results compare the listed order in which a component website appears when using Google search and the Census.gov homepage search. The search terms included the title of the website, text from the website, and keywords relating to the website content.

The title used in search queries was the title of the webpage appearing in the website header – for example, “2007 Economic Census” or “Educational Attainment”. The search for text on the page was conducted by selecting the first few lines of text appearing on the website main page and entering this text into the search engine. Keywords were identified based on the content of the website and terms appearing within the website. Therefore, each of the 52 websites was reviewed three times by the findability assessment – once for title, once for text, and once for keywords.

Section 1 presents the findings of the findability evaluation. Recommendations to address these issues are discussed in Section 2. The full findability evaluations for individual component websites can be found in Appendix B.

1. Findings

This section presents a summary of the findings from the findability evaluations. The tables below indicate the percent of the 52 websites which appeared as the first listed search result, second to fifth listed search result, and greater than fifth listed search result (or did not appear in search result listings), for each of the three query types using Google and Census Bureau search engines.

Search by Title			Search by Text on Page			Search by Keyword		
Listed order in Search Results	Google Search	Census Bureau Search	Listed order in Search Results	Google Search	Census Bureau Search	Listed order in Search Results	Google Search	Census Bureau Search
1	71%	48%	1	75%	48%	1	37%	8%
2-5	12%	0%	2-5	19%	6%	2-5	10%	6%
>5 or 0	17%	52%	>5 or 0	6%	46%	>5 or 0	54%	87%

Note: 0 indicates that the website did not appear within the first three pages of search result listings.

These results highlight several issues relating to the findability of Census.gov component websites:

- The Census.gov search engine is inadequate. Many component website main pages do not appear in search results when querying using page titles (52%) or text from the page (46%).
 - The low success rate in returning websites based on title does not appear to be related to the specificity of the title, as a generic website title like “Poverty” returned the relevant component website main page as the first search result, while a query for the more specific “2007 Survey of Business Owners” returns several related websites but does not return the website main page within the first few pages of search results.
 - In many cases, a page within the component website may appear high within the search results, but the component website main page either does not appear or is farther down in the listed order. For example, a search for “Statistical Abstract” returns the “State & Local Gov’t Finances & Employment” page within the website as the first search result, but does not return the Statistical Abstract main page within the first few pages of search results.
- Google-based search produces routinely good returns for Census.gov pages – 71% of

component website main pages appear as the first listed result when searching on title, 75% when searching on text on page.

- The use of KeyMatches in the Census.gov search engine, though not directly addressed by this assessment, increases site visibility when the query search results are not useful. The scope of this feature is currently limited on Census.gov.
 - For example, a search for “Economic Census” returns a KeyMatch to the 2007 Economic Census homepage above the regular search results. This page does not otherwise appear within the first ten pages of search results.
- Though not addressed by this assessment, a major issue affecting the usefulness of search returns for Census.gov component websites is the presence of multiple websites or information flows with similar information appear in keyword search results. The presence of multiple potential results without context directing users to the most appropriate data source makes it difficult for users to determine which website will most appropriately provide the answer to their question.

2. Recommendations

In order to allow users to more easily locate information within Census.gov, the Census.gov search engine needs to be improved. The following recommendations will allow users to more easily locate Census.gov component websites using search and select the most appropriate website to answer their question:

- Census Bureau should configure the internal Google Search Appliance and pages to drive users using common search terms to the pages that orient them most efficiently to the answers they are likely to want.
- Web masters should tag pages and provide weights to indicate relevance on the site. By varying these settings and tags, Census Bureau can drive all simple terms searches to thematic pages like “poverty” or “housing”, while allowing users to find lesser weighted pages with more specific key words.
- For external search engines (such as Google search), Census Bureau should focus on search engine optimization efforts that promote Census.gov in general and drive the optimum order within Census Bureau page returns.

IV. Persona Testing

The persona testing evaluation assessed the ease with which users of Census.gov websites are able to locate desired information on a component website within Census.gov. The results from this evaluation indicate whether Census Bureau websites are optimized for their audiences.

A persona is a profile of a type of user likely to visit a given website. The following three personas were developed for the Census.gov website:

- **Casual User:** The casual user is interested in obtaining information about a specific topic and is typically seeking the answer to a single question (e.g., general public, k-12 teacher, k-12 student). For example, a casual user may be a student trying to find information for a school assignment.
- **Sophisticated User:** The sophisticated user is interested in obtaining detailed information on one or more related topics in the form of tabular and other types of estimates in order to assist in business or policy decisions (e.g., business/industry official, local/state/federal government official, journalist, NGO, librarian). For example, a sophisticated user may be a small business owner attempting to locate information about their industry.
- **Expert User:** The expert user is interested in downloading microdata sets for detailed analysis purposes (e.g., professional researcher, academic, consultant).

This testing was used to answer three questions that underlie the user experience:

- Will users find the relevant site(s) and information?
- Will users understand Census Bureau information and its appropriate use?
- Will they find the answers to their content questions?

One evaluator was assigned to each persona, and visited each of the 52 selected component websites to assess how well the website serves that user group. The evaluators were selected based on familiarity with the types of questions their assigned user group might ask. For example, the expert evaluator was a data analyst selected based on familiarity with microdata. Each evaluator (casual, sophisticated, and expert) was given the task to seek an answer to a question specific to a component website within Census.gov which a typical user in that audience group might be seeking. For the casual user, this meant seeking a single data point to answer a simple question (e.g., What is the population of my town?). The sophisticated user needed to locate tabular data or detailed information to answer complex questions (e.g., I need information about the change over time in value of retail sales in order to report the impact of the recession.). The expert user was tasked with finding the latest years microdata on each component website. The casual and sophisticated user questions were developed based on readily available information about the website content. Evaluators were given the website URL as a starting point, and were not tasked with finding the most appropriate information within Census.gov.

Section 1 presents a summary of the user experience for the casual, sophisticated, and expert user. Section 2 identifies the specific problems experienced, along with the causes of the problem, potential solutions, examples, and best practices within Census.gov. Recommendations, aggregated across the personas, are presented in Section 3. The full persona evaluations for individual component websites can be found in Appendix A.

1. Summary of Results

This section summarizes the ability of the casual, sophisticated, and expert personas to locate information on component websites within Census.gov, as well as the major issues detracting from the experience of each user group.

Casual User

- While not always easy, the casual user was able to locate the exact information to answer their question 69% of the time. However, information was moderately or very difficult to locate 75% of the time.
- Difficulty finding data can primarily be attributed to the lack of background information geared towards the casual user (81% of cases), which had a negative impact on the casual user experience.
- The casual user spent a median of 3 minutes per website searching for information to answer a simple question. The median number of mouse clicks (23) required to locate the data was larger than the amount of time a casual user would typically spend on the site.
- The casual user experience was also negatively impacted when data were not available in familiar formats, but had to be downloaded and viewed as an Excel or PDF file. The easiest data format for casual users to access would be an html or text page.

Casual User Experience Statistics					Quality of Casual User Experience			
	Q1	Q2	Q3	Max		Yes (Exact Information)	Yes (Similar Information)	No
Time on task (min)	1.6	2.6	4.2	18.8	Did User Locate Desired Information?	69%	29%	2%
# Left Mouse Clicks	12	23	40	298	Difficulty of Locating Desired Information	Easy	Moderate	Difficult
# Webpage Changes	5	8	18	54		25%	38%	37%
Time spent in excel (min)	Null	Null	0.05	1.0	Was the Website Geared Towards the Persona?	Yes	Somewhat	No
Q1 = 1st Quartile; Q2 = 2nd Quartile; Q3 = 3rd Quartile; Max = Maximum						19%	46%	35%
					Did User Understand How to Find & Interpret Data?	Yes	Somewhat	No
						67%	17%	15%
					Depth of Information Available from Website	Shallow	Moderate	Complex
						54%	23%	23%

Sophisticated User

- While not always easy, the sophisticated user was able to locate the exact data to answer their question 73% of the time. In an additional 27% of cases, the sophisticated user was able to locate information that partially answered the question.
- The sophisticated user spent a median of 3 minutes per website searching for data to answer a question. The number of mouse clicks required to locate the data was high (median 27 clicks).
- For the sophisticated user, the lack of consistency in navigation options, page layout, and organization among component websites across Census.gov made locating data difficult.
- On a component website scale, the lack of descriptive text providing detail about the information source/survey and their scope made it difficult to know what data would be contained within each component website.

Sophisticated User Experience Statistics				
	Q1	Q2	Q3	Max
Time on task (min)	1.6	3.1	4.8	58.8
# Left Mouse Clicks	14	27	51	1134
# Webpage Changes	- ^a	- ^a	- ^a	- ^a
Time spent in excel (min)	Null	Null	0.4	3.2
Q1 = 1st Quartile; Q2 = 2nd Quartile; Q3 = 3rd Quartile; Max = Maximum				
^a Data not captured for 60% of sophisticated user evaluations.				

Quality of Sophisticated User Experience			
	Yes (Exact Information)	Yes (Similar Information)	No
Did User Locate Desired Information?	73%	27%	0%
Difficulty of Locating Desired Information	Easy	Moderate	Difficult
Was the Website Geared Towards the Persona?	Yes	Somewhat	No
Did User Understand How to Find & Interpret Data?	Yes	Somewhat	No
Depth of Information Available from Website	Shallow	Moderate	Complex

Expert User

- The expert user was able to find the exact information or similar information 41% of the time. However, the 60% of cases for which information could not be found includes:
 - Websites with restricted use microdata which require authorization;
 - Websites providing summary level data requiring the use of other component websites reviewed elsewhere; and,
 - Websites with general information not of interest to the expert user.
- In some cases the failure to locate information was due to the lack of information geared towards expert users (73%). Of the 52 websites evaluated, not all were designed to provide microdata for expert users. In other cases, microdata were not directly available from the component website. However, since it was easy to locate information in 73% of cases, many websites were successful at indicating this information to expert users.
- The expert user spent a median of 4 minutes per website searching for microdata downloads. The number of mouse clicks required to locate the data was high (median 23 clicks).
- The lack of adequate direction indicating where to locate microdata files was the biggest problem the expert user experienced.

Expert User Experience Statistics				
	Q1	Q2	Q3	Max
Time on task (min)	2.2	3.7	4.7	18.3
# Left Mouse Clicks	15	23	37	113
# Webpage Changes	6	10	16	40
Time spent in excel (min)	- ^a	- ^a	- ^a	- ^a
Q1 = 1st Quartile; Q2 = 2nd Quartile; Q3 = 3rd Quartile; Max = Maximum				
^a Not applicable				

Quality of Expert User Experience			
	Yes (Exact Information)	Yes (Similar Information)	No
Did User Locate Desired Information?	29%	12%	60%
Difficulty of Locating Desired Information	Easy	Moderate	Difficult
Was the Website Geared Towards the Persona?	Yes	Somewhat	No
Did User Understand How to Find & Interpret Data?	Yes	Somewhat	No
Depth of Information Available from Website	Shallow	Moderate	Complex

2. Findings

This section identifies the problems in the user experience documented by the three persona evaluators. The following problems, described in more detail in the pages that follow, were encountered and documented by persona testing:

- **Problem #1:** User experiences disorientation or difficulty browsing content on website, resulting in confusion and wasted time.
- **Problem #2:** User spends time searching for content that is not available from website.
- **Problem #3:** User navigates website or conducts queries based on trial and error, expending more time than necessary to find data.
- **Problem #4:** User does not understand the website content, potentially limiting ability to find the desired content.
- **Problem #5:** The user spends additional time formatting data tables, searching for alternate data sources, or searching for data in alternate formats.
- **Problem #6:** The user spends additional time searching for definitions of terminology used in search queries or data tables.
- **Problem #7:** The user's interest is not captured and the user does not find the experience browsing the website engaging.

For each of the above problems, the following pages include more detailed information about the causes, personas affected, potential solutions, examples of the problem, and best practices. Note that where examples are presented, hyperlinks to the relevant webpages are provided and the number of the component website in the list of websites reviewed (see Section VI) is also listed for convenience.

The problems identified in the user experience may have one or more causes. For example, the time spent searching for content not available from the website was caused by both content (a lack of adequate text indicating the scope of information available from the website) and data access (microdata downloads not readily available from the website). It is important to note that in many cases these problems, causes, and solutions are interconnected, and implementing one solution may address several problems.

2.1 Problem #1: User is disorientated

On some component websites, the user experiences disorientation or difficulty while browsing content on website, resulting in confusion and wasted time. This was the most significant issue the sophisticated user encountered because the lack of consistency between websites made locating data difficult. The expert user experienced difficulty locating datasets when navigation or data access options were unclear. The casual user was also negatively impacted by these issues.

- **Content:** Some Census.gov component websites include duplicate websites presenting the same or similar content. In other cases, a component website may fail to connect related sections of internal or external (within Census.gov) pages. Both instances result in confusion for the user and additional time spent navigating the website.

Persona(s) Affected: Casual, Sophisticated, Expert

Solution(s): Remove redundant, duplicated, or out of date pages as newer pages become available, both across Census.gov and within individual component websites. Always provide prominent links between datasets and documentation. Ensure that related pages are well linked, both within the same component website and across the component websites of Census.gov. For example, interconnectivity could be increased by including a list or page of intra-Census.gov links to component websites and surveys providing related information.

Example(s) of Problem

- The [Monthly and Annual Retail Trade website](#) (#18-20) fails to cross-link related information in different sub-sections for the different surveys.
- The [Survey Participation website](#) (#30) does not provide links to the related household survey websites.
- There are [two separate](#) Census in Schools (#48) websites.
- The Poverty website (#43) contains two pages covering similar topics - "[Poverty Data Sources](#)" and "[Description of Income and Poverty Sources](#)".

Best Practices

- Some websites, such as the [Health Insurance website](#) (#44) or the [Poverty website](#) (#43), do a good job of linking to the appropriate surveys with relevant data.
- The [Income website](#) (#42) provides a great explanation of the income data available across the major Census Bureau surveys, including details about which data source to use or which purpose.

- **Data Access:** Several issues result in difficulty accessing data and necessitated additional time to locate datasets and/or documentation. Most often, data relating to the topic of a component website are not directly accessible within the pages of the component website. Another Census.gov component website (such as American FactFinder or DataFerrett) or external website (such as the Bureau of Labor Statistics) must be accessed in order to view and/or download data. On many websites, external locations to find data are not clearly indicated or adequately described. In a related issue, sometimes documentation is not closely linked to downloadable datasets and must be located separately. Some of the data search tools on Census.gov do not allow users to easily access data by limiting the size of downloads. Finally, it is sometimes unclear where to find the most recent dataset. Revised or more detailed data may not be reflected in the most recent or most comprehensive download.

Persona(s) Affected: Sophisticated, Expert

Solution(s): Designate data access pages clearly on all relevant component websites, and provide links to documentation with all datasets. If data cannot be accessed directly from within the component website, indicate this and provide prominent well-labeled links to access data. Ensure that download size limits reflect the volumes required by users. Include text indicating the most recent source of data for different needs and when the next set of data will be released.

Example(s) of Problem

- Some data on the [Survey of Income and Program Participation website](#) (#17) is only accessible [via DataFerrett](#) (#14).
- [DataFerrett](#) (#14) limits downloads to 50 variables at a time.
- On the [Census of Governments website](#) (#6), it is not clear that the 2007 dataset is more detailed than 2008 or 2009 data.
- For the recently released 2005-2009 ACS (#2) PUMS there is no SAS data set to download for the entire United States but there are SAS data sets available for each individual state.

Best Practices

- The [2007 Economic Census website](#) (#9) provides access to the most recent releases on the main page and provides an additional page detailing the release schedule.
- The [American Community Survey website](#) (#2) is up to date and provides good instruction on types of data available and how various datasets should be used.
- The [Survey of Business Owners](#) website (#25) includes a “Notify Me” feature that sends users notifications of upcoming data releases.

➤ **Link Labeling:** Link destinations are sometimes unexpected. For example, a link may not go to the most recent or most appropriate page within a website. Often a link to another component website within Census.gov will fail to provide the desired information, and users will be unable to return to the initial component website without relying on the browser’s back button. Links to external websites are not consistently labeled. Links may also result in unexpected file downloads. Sometimes links unexpectedly open in new browser windows.

Persona(s) Affected: Casual, Sophisticated

Solution(s): Standardize linking practices, and provide more descriptive text detailing the content of links to other component websites within Census.gov. Label external links explicitly, and standardize the practice across Census Bureau websites. For example, one way to allow for easier navigation could be to open links to other component websites or external websites in new browser windows. Always indicate file types for downloads, and the size of files where possible. To some degree this has already been implemented with the use of the external, excel, and PDF icons; however this practice is not widely and consistently used across component websites.

Example(s) of Problem

- The link to American FactFinder from the [Population Estimates website](#) (#4) goes to the [main page](#) rather than a page to search for the desired data.
- Links to data tables on the [map page](#) of the [American Community Survey website](#) (#2) lead to unexpected downloads.

Best Practices

- The [Statistical Abstract website](#) (#39) does an excellent job indicating file types and sizes.
- The [Random Samplings blog](#) (#35) opens links to other websites in new windows, so the user can easily return to the blog.

- **Navigation Tools:** Some websites do not provide a consistently implemented internal navigation system. The website may lack a navigation system entirely, or provide inconsistent navigation options on different pages within the component website. Some websites may also lack the Census.gov global navigation options that should appear on every page of Census.gov. The lack of a consistent format for internal component website navigation systems across the component websites on Census.gov causes additional disorientation. The presence of self-referencing links in navigation tools is confusing for users, as the link for the current page is active in the navigation bar and may be clicked, even though the user is already on the page.
Persona(s) Affected: Casual, Sophisticated, Expert

Solution(s): Apply a standardized navigation template with common navigation functions across all component websites on Census.gov, and ensure that navigation options are consistent across the pages of a component website. Many websites in the economic section and other parts of Census.gov are already utilizing a common navigation template that could be applied to all component websites. Eliminate self-referencing links in navigation bars. Ensure that the Census.gov global navigation options appear on every component website.

Example(s) of Problem

- The [Current Population Survey website](#) (#3) lacks a consistently deployed navigation system.
- The [Longitudinal Employer-Household Dynamics website](#) (#27) lacks the Census.gov global navigation bar.
- The [New Residential Construction Index website](#) (#26) is very difficult to navigate, and navigation menus were difficult to use.
- The [Foreign Trade website](#) (#37) is difficult to navigate, as links appear and disappear in left hand panel.

Best Practices

- The following websites feature very straightforward navigation systems: [Survey Participation](#) (#30), [About](#) (#31), [Regional Offices](#) (#32), [Statistical Abstract](#) (#39).
- The [American Community Survey website](#) (#2) is easy to navigate, offering several options for navigation that successfully lead user to desired information.
- Some economic pages share a similar navigation structure, making it easy to navigate for those familiar with Census Bureau websites. For example, [Annual Survey of Manufactures](#) (#21), [Survey of Business Owners](#) (#25), etc.

- **Page Layout:** The page layout on a component website is internally inconsistent or feels out of date. Many websites employ clunky page layout designs that are difficult to use. The lack of a consistent format for page layout across the component websites on Census.gov causes confusion for users.
Persona(s) Affected: Casual, Sophisticated, Expert

Solution(s): Apply one clean and user tested page layout format across all component websites within Census.gov. Many websites in the economic section and other parts of Census.gov are already utilizing a shared, uncluttered template that could be applied to all component websites. Pages should also be formatted to optimally use visual space and reduce scrolling.

Example(s) of Problem

- The [Publications website](#) (#29) employs a clunky, old site design.
- The [Business Help website](#) (#38) shifts between two different page layouts.
- The [Foreign Trade website](#) (#37) shifts between two [page layout](#) templates.

Best Practices

- Some economic pages share a page layout template, making it easy to use for those familiar with Census Bureau websites. For example, [Annual Survey of Manufactures](#) (#21), [Survey of Business Owners](#) (#25), etc.

- **Search:** The search function within Census Bureau website does not allow users to easily locate the most appropriate data source to answer their question. *See the Findability section.*
Persona(s) Affected: Casual, Sophisticated

Solution(s): Re-index the Census.gov search engine and expand the use of KeyMatches within the search engine. Add keywords to main pages to improve findability. Ensure that component website-specific searches return results in the same format as the Census.gov search engine.

Example(s) of Problem

- The central Census.gov-wide [search engine](#) (#1) does not do a good job of locating relevant component websites.

Best Practices

- Google search is very successful at locating the component websites of Census.gov.

- **Vertical Structure:** The website does not consistently maintain the same hierarchy of content within its pages, making navigation disjointed and confusing. Many component websites lack breadcrumb trails indicating the vertical structure and current location within the website.
Persona(s) Affected: Sophisticated

Solution(s): Build sites with a well-defined vertical structure and implement breadcrumb trails on all websites. Better articulate the vertical structure of websites through consistent targets and navigation options. For example, ensure that the hierarchy of information and organization of pages is consistent throughout the website and accurately reflected in navigation tools.

Example(s) of Problem

- The vertical structure is inconsistent on the [Census of Governments website](#) (#6), which switches between “Census of Governments” and “[Federal, State, and Local Governments](#)”.

Best Practices

- The [American Community Survey website](#) (#2) is one example of a website with a well-designed vertical structure and successful use of breadcrumb trails.

2.2 Problem #2: User searches for content not available from website

In some cases the user spends time searching for content that is not available from the website. This was a significant issue experienced by all three personas. The confusion experienced by casual and sophisticated users can be attributed primarily to the lack of adequate text indicating the scope of data available on component websites, and resulted in wasted time for users. Expert users experienced difficulty when microdata downloads were not readily available from component websites.

- **Content:** Text on the website fails to effectively convey the scope of content available. In many cases, this confusion is due to absent or insufficient explanatory text indicating the content of the website. The explanatory text on the website may describe data that are not available from tables or query tools, or fail to indicate the appropriate level of detail for which data are available.

Persona(s) Affected: Casual, Sophisticated

Solution(s): Component websites need to do a better job of indicating the scope of and location of data. Component websites should provide a prominently located inventory of the data available, including the type of data, level of detail which is available, and data source. This issue could also be addressed through better introductory text conveying the scope and location of data.

Example(s) of Problem

- The [Population Estimates website](#) (#4) fails to indicate that certain data are only available for some geography types.
- Text on the [American Community Survey website](#) (#2) refers to data that cannot be accessed in American FactFinder.

Best Practices

- The [Health Insurance website](#) (#44) provides a [guidance page](#) describing the scope of the surveys and the most appropriate uses for each survey.

- **Data Access:** The website does not provide readily available downloads of microdata. In some cases, microdata cannot be downloaded directly but are available after registration or for purchase. Note that on economic websites, only Census Bureau employees can access microdata. On some websites there is no indication of the availability of microdata files, although sometimes staff contact information is provided.

Persona(s) Affected: Expert

Solution(s): All relevant component websites should indicate whether microdata files are available and how to access them if applicable. This information should be presented clearly and prominently on the website. On economic websites, it would be useful to have easy to find links to the Center for Economic Studies and the Research Data Centers so that individuals looking for microdata can learn about the issues related to accessing restricted use microdata.

Example(s) of Problem

- Several Surveys do not mention microdata on the website.

Best Practices

- Microdata are easy to find on [DataFerrett](#) (#14) as there is a filter for microdata-only datasets.
- On the [Income website](#) (#42), an "[Income Microdata Access](#)" page provides a great summary of all the microdata source options.

2.3 Problem #3: User navigates or conducts queries based on trial and error

The user is sometimes forced to navigate the website or conduct queries based on trial and error, expending more time than necessary to find data. This problem is exacerbated on Census.gov by the combination of inadequate provision of contextual clues and a large number of options for users. This was the most significant issue experienced by casual users, who are unfamiliar with website content and rely on contextual clues to locate data. The absence of these clues, in combination with large amounts of text and links, added time and confusion to the user experience. Sophisticated and expert users also experienced difficulty accessing information due to these issues.

- **Content:** The overview text on the main page fails to provide sufficient orientation to the organization of the website. The main page may lack text or links pointing users to data. Some component website main pages provide little or no introductory text to guide users.
Persona(s) Affected: Casual, Sophisticated

Solution(s): Provide concise, informative introductions and overviews on the main page of every component website. Website main pages should also include prominent links to appropriate data sources.

Example(s) of Problem

- The [Monthly and Annual Retail Trade website](#) (#18-20) main page does not provide introductory text to orient users.
- The [Population and Household Economic Topics website](#) (#5) main page does not include any explanatory text anywhere on the website.

Best Practices

- The [Economic Census website](#) (#9) main page does an excellent job of providing concise informative text with readily apparent links.
- The [Census of Governments website](#) (#6) main page also does a good job of orienting users with introductory text.

- **Data Access:** The data access page or data query tool provides too many search options or tables that the user must scroll through and evaluate. The data query tool provides a number of search options that the user does not understand. Often, there is a lack of or insufficient explanatory text helping users to evaluate and select search options or data tables.
Persona(s) Affected: Casual

Solution(s): Better organize data access pages and data query tools so that users can more easily navigate and select search options. Include explanatory text allowing users to select the most appropriate search option or table and provide data dictionaries and help pages for all search tools.

Example(s) of Problem

- Users are able to search 1-, 3-, and 5-year data from the [American Community Survey](#) (#2) in American FactFinder, with little indication of the most appropriate option.

Best Practices

- [QuickFacts](#) (#34) provides a very straightforward data query tool for its purpose of providing quick access to basic data points for geographic areas.

- **Link Labeling:** The website provides links to multiple data sources, pages, or tables with insufficient or no accompanying background information. The user therefore has no contextual clues guiding him or her to the most appropriate data source, and is forced to click through links one by one or randomly until the desired data are found.
Persona(s) Affected: Casual, Sophisticated

Solution(s): Better organize long lists of links or tables to better guide the user to appropriate resources. For example, long lists of tables could be better organized through a table of contents and headings. Component websites also need to incorporate better background text distinguishing similar data sources, pages, and tables from each other so that users can more efficiently navigate to data.

Examples of Problem

- The [Educational Attainment website](#) (#41) [provides links](#) to several different data sources without providing sufficient text indicating the most appropriate source.

Best Practices

- The [Poverty website](#) (#43) does a good job of [describing the different data sources available](#), allowing the user to differentiate and select the most appropriate link.

- **Page Layout:** Useful information and links are not prominently located on the page. The most direct link to access data may be overlooked because it is located in the corner or bottom of the page. Related and potentially compounding this issue is the presence of too much information on the page, limiting the ability of the user to find the most relevant link. The user therefore does not find the most direct way to access data and spends additional time navigating the website.
Persona(s) Affected: Casual, Sophisticated, Expert

Solutions: Optimize the page layout to emphasize search tools and useful data links, especially on component website main pages. Better organize the content so that the user is not overwhelmed by too much text or too many options and can easily locate the desired information.

Examples of Problem

- The [Publications website](#) (#29) has long lists of links intermixing destination html pages and PDFs.
- The large amount of content on the Longitudinal Employer-Household Dynamics website (#27) [main page](#) makes it difficult to locate navigation options.
- The [Annual and Quarterly Services website](#) (#22-23) does not provide a prominently located link to technical documentation.

Best Practices

- The [County Business Patterns website](#) (#10) locates details on how the data are collected on an easy to find tab across the top of the page, and clearly states the latest available data on the main page. Data access links are located prominently on the main page.
- The [Survey of Income and Program Participation website](#) (#17) highlights “Access SIPP Data” and “Data Product Schedules” on the main page as easy-to-find red tabs.

2.4 Problem #4: User does not understand the website content

Sometimes, the user does not understand the website content, potentially limiting his or her ability to find the desired information on the website. This confusion may be related to the actual content of the website or the format in which the content is presented. The casual user experience is often negatively impacted by the lack of a user appropriate overview, while both casual and sophisticated users experience difficulty accessing data in unfamiliar formats.

- **Content:** The website does not provide a sufficient overview of the content, and/or specifically does not provide context for casual users. Websites may not include any readily available explanatory text, employ vague or obscure terminology widely, or fail to provide information of interest to a casual user. This limits the ability of the casual user to understand and access the content available from the website.

Persona(s) Affected: Casual

Solutions: Provide an overview on the main page of every component website. Include a concise, informative introduction that is at an appropriate level for all expected users. Make sure the overview is comprehensible to uninitiated viewers while still providing the information necessary to locate data and other important information on the website. In some cases this information is available on linked pages that could be emphasized on the main page. Elsewhere no content orienting users is available on the component website and new content must be generated.

Examples of Problem

- The [Survey of Income and Program Participation website](#) (#17) uses terminology unfamiliar to casual users.
- The [Geo website](#) (#12) does not appear to provide information of interest to casual users.

Best Practices

- The [Random Samplings blog](#) (#35) is an excellent entry point for the casual user, as it features interesting content geared towards casual users.

- **Data Access:** The file format for accessing data is unfamiliar. Many websites only provide data in some combination of XLS, CSV, or PDF files, which the casual user may have difficulty opening. Other websites link to DataFerrett for data access, which is unfamiliar to both casual and sophisticated users.

Persona(s) Affected: Casual, Sophisticated

Solutions: Provide multiple modes for accessing data. For example, make all data available in both TXT/HTML format so that casual users can access data without necessitating downloads of unfamiliar or inconvenient file types and in XLS/CSV format so that sophisticated users can download and analyze the data. Place less emphasis on links to DataFerrett if other file formats are also available.

Examples of Problem

- The [Population Estimates website](#) (#4) provides data only in XLS and CSV format.
- The [Survey of Income and Program Participation website](#) links to DataFerrett to access data.

Best Practices

- The [Foreign Trade website](#) (#37) provides data in TXT, PDF, XLS, and DOC formats.

2.5 Problem #5: User must format tables or search for alternate sources

The user spends additional time formatting data tables, searching for alternate data sources, or searching for data in alternate formats. The casual user experienced difficulty when data were not tabulated by the desired variable or at the desired level of detail, requiring that additional time be spent formatting data (which is not always straightforward) or searching for alternative data sources. The sophisticated user experience was negatively impacted when data were not made available in a spreadsheet compatible format for further processing.

- **Content:** The presentation of the data does not easily adapt to different types of questions. Data may not be broken down at the desired level of detail, aggregated at a higher level, or searchable by multiple variables. In other cases, tables may contain too many rows or columns, forcing the user to spend time filtering data – a process which is not always straightforward.
Persona(s) Affected: Casual

Solutions: Allow for customized data tables and provide intuitive filtering in automatically generated tables. Clearly indicate the level of detail for which data may be viewed, and provide data at different levels of detail where possible (i.e., subject to disclosure rules and policies) to more adequately accommodate user needs.

Examples of Problem

- Some tables in [American FactFinder](#)⁴ contain too many rows or columns, forcing the user to spend additional time filtering the data.
- In [American FactFinder](#), it is difficult to search [Economic Census](#) (#9) or [County Business Patterns](#) (#10) data by multiple variables (geography and industry).

Best Practices

- Data tables within the [County Business Patterns website](#) (#10) allow users to view data at the 2-, 3-, 4-, 5- and 6-digit NAICS level.
- The [Population Estimates website](#) (#4) provides data for the nation, states, counties, incorporated places and minor civil divisions, metropolitan and micropolitan statistical areas, etc.

Data Access: The data cannot be downloaded in a spreadsheet compatible format. Sophisticated users frequently require data that be downloaded and manipulated for further analysis. When data are not readily available in this format, users must spend additional time searching for data in the desired file type.

Persona(s) Affected: Sophisticated

Solutions: Provide different modes of accessing data and make the different formats readily available to users. For example, ensure that all tabular data are available in XLS (or CSV). In some cases this will simply require more thorough linking practices to data files already available on Census.gov, while in other cases the content is not currently available and must be generated.

⁴ Though not one of the 52 websites reviewed (see full list in Section 6), many of the reviewed websites link to American FactFinder for data access.

Examples of Problem

- The [City and County Data Book](#) website (#11) provides data only in PDFs on some pages, and in PDF and Excel on other pages.

Best Practices

- Data tables in [American FactFinder](#)⁵ can be downloaded as CSV files.

⁵ Though not one of the 52 websites reviewed (see full list in Section 6), many of the reviewed websites link to American FactFinder for data access.

2.6 Problem #6: User must search for definitions of terms in queries/tables

The user spends additional time searching for definitions of terminology used in search queries or data tables, in many cases after the user has already located the desired data. This problem primarily affects casual users, who are more likely to be unfamiliar with terminology used on the website.

- **Text & Terminology:** Many search queries and data tables do not provide data dictionaries or links to definitions pages for terminology in column headings or search options. The user must then spend additional time on the website searching for the definitions of unfamiliar terms.

Persona(s) Affected: Casual

Solutions: The presence of linked data dictionaries or definitions pages on search query and data table pages should be implemented for all relevant component websites within Census.gov. In many cases, this information already exists elsewhere on the component website on definitions pages or other documentation and need only be reformatted and linked appropriately.

Examples of Problem

- Data tables on the [County Business Patterns website](#) (#10) label NAICS codes as “Industry Codes” and do not provide definitions of these codes or links to the NAICS component.
- The [American FactFinder search for the American Community Survey](#) (#2) does provide an easy way to access definitions of geographic types. Definitions in the glossary do not indicate which geography type may be most appropriate for a search.

Best Practices

- The query results in [American FactFinder](#) for the [Economic Census](#) (#9) links column headings to their entries in a data dictionary.
- Other tables provide icons with links to definitions, such as the tables on the [QuickFacts](#) website (#34) and the [LEHD website](#) (#27) Quarterly Workforce Indicators (QWI) tables.
- The [Information and Communication Technology Survey](#) (#24) website presents industry data without utilizing NAICS codes, eliminating the need to look up definitions.

2.7 Problem #7: User's interest not captured and user not engaged by website

The user's interest is not captured and the user does not find the experience browsing the website engaging. This is especially relevant to casual users who are likely seeking simple answers to common questions and become overwhelmed by the technical nature of many component websites within Census.gov. This issue could be mitigated by better use of graphics, data visualization, and featured content. Although sophisticated and expert users are often seeking more thorough data, graphics and features would also help these users to better interact with the data and improve the user experience.

- **Graphics & Features:** Few component websites on Census.gov make good use of graphics and visualization tools to capture and retain the interest of the user. Most component website main pages also fail to highlight pertinent statistics or interesting factoids to garner interest. Without these features users are not engaged by the website content, negatively impacting the user experience.

Persona(s) Affected: Casual, Sophisticated

Solutions: The component websites on Census.gov need to do a better job of capturing the user's attention through more widely implemented graphics, featured content, and visualization tools. For example, the Random Samplings blog currently does an excellent job of highlighting interesting content and visualizations throughout Census.gov; this format could be better leveraged in the short term to highlight the best practices that already exist, while features and visualization tools are developed and more widely implemented in the long term.

Examples of Problem

- Few component websites make good use of graphics and features. For example, the [Annual Survey of Manufactures website](#) (#21) fails to highlight interesting content and provides no graphics or visualizations.

Best Practices

- The [Random Samplings blog](#) (#35) does an excellent job of highlighting features and visualizations throughout Census.gov.
- The [Survey of Business Owners website](#) (#25) provides [findings pages](#) summarizing pertinent statistics.

3. Recommendations

This section summarizes recommended changes to Census.gov that would improve the user experience of typical visitors. The recommendations are presented here collapsed across the three personas; for information specific to the individual personas see Sections 1 and 2. The problems identified in the user experience may have one or more causes, which are often interconnected. In many cases, implementing one solution may address several problems experienced by users. The following recommendations will improve the user experience on Census.gov component websites:

- **Provide Explanatory Content:** Provide a concise, informative overview on the main page of every component website, and ensure that this overview is comprehensible to uninitiated users. Include an inventory of available data and prominent links to view data. Clearly indicate the level of detail for which data may be viewed. Remove redundant, duplicated, or out of date pages as newer pages become available, both across Census.gov and within individual component websites. Ensure that related pages are well linked, both within the same component website and across the component websites of Census.gov. Always provide prominent links between datasets and documentation.
- **Clearly Indicate Data Access:** Designate data access pages clearly on all relevant component websites, and provide links to documentation with all datasets. If data cannot be accessed directly from within the component website, indicate this and provide prominent well-labeled links to access data. Ensure that download size limits reflect the volumes required by users. Include text indicating the most recent source of data for different needs and when the next set of data will be released. All relevant component websites should indicate whether microdata files are available and how to access them if applicable. This information should be presented clearly and prominently on the website. Another option to improve access to data is to provide data in RSS or Web Service for developers so that sites that reference Census Bureau data can stay up-to-date and are not required to download and locally store and maintain data.
- **Include More Graphics and Features:** Where applicable, Census.gov should more widely implement graphics, visualization tools, and features of interesting content on its component websites.
- **Standardize Link Labeling:** Standardize linking practices, and provide more descriptive text detailing the content of links to other component websites within Census.gov. Better organize long lists of links and tables. Always indicate file types for downloads. Label external links explicitly, and standardize practice across Census Bureau websites. Open links to other component websites or external websites in new browser windows.
- **Improve Navigation Tools:** Apply a standardized navigation template with common navigation functions across all component websites on Census.gov. Eliminate self-referencing links in navigation bars. Ensure that the Census.gov global navigation options appear on every component website.
- **Apply a Consistent Page Layout:** Apply one, user tested page layout format across all component websites within Census.gov. Optimize the page layout to emphasize important information, reduce information-heavy pages, make good use of visual space, and reduce scrolling.
- **Optimize Search Functionality:** Improve the functionality of the Census.gov search engine by re-indexing the search and expanding the use of KeyMatches. Add keywords to component website main pages to increase findability. Ensure that site-specific searches return results in the same format as the Census-wide search engine.
- **Define Text & Terminology:** Provide linked data dictionaries or definitions pages in search queries and data tables for all relevant component websites. Include a thorough definitions page on relevant component websites and for all of Census.gov.
- **Implement and Articulate Vertical Structure:** Build sites with a well-defined vertical

structure and better articulate vertical structure through consistent targets and navigation options and use of breadcrumb trails.

V. Usability Testing Based on ForeSee Callouts

The usability testing was developed based on existing Usability Audit Reviews of Census Bureau websites conducted by ForeSee Results.⁶ This evaluation aimed to evaluate the extent to which the top issues found on Census.gov are problematic on high use or high profile component websites. The same categories of issues identified by existing usability reviews were used in this evaluation to allow for easy comparison.

The Usability Audit Reviews prepared by ForeSee Results used specific elements or tasks diagnosed as “areas of focus” during satisfaction analyses as a starting point to provide prescriptions for how to specifically address the most important usability concerns affecting visitors to Census.gov. A recent review these studies identified the following top ten usability issues at the Census Bureau⁷:

- Navigation
- Text & Terminology
- Expectations
- Organization
- Page Layout
- Graphs, Tables, and Icons
- Search
- Dealing with Data
- Data Entry
- Help

These ten issues served as the basis for the development of usability criteria with which to evaluate Census Bureau websites. Results from Usability Audit Reviews of Census Bureau websites completed by ForeSee Results were used to flesh out these criteria, with a focus on identifying overarching issues that pertain to all Census Bureau websites.⁸ By consolidating the results of these reviews, a final list of criteria for evaluation was developed. Note that in the final list, the “Dealing with Data” and “Data Entry” categories were omitted, as they are better addressed by the persona testing evaluation. The following categories of usability issues were finalized based on this method:

- **Navigation:** Evaluates whether the website navigational system allows users to effectively access information.
- **Text & Terminology:** Evaluates whether the website uses unfamiliar terminology that will confuse users.
- **Expectations:** Evaluates whether the website adequately introduces users to its material and appropriately sets user expectations.
- **Organization:** Evaluates whether organization of pages in the website is helpful and straightforward to allow users to easily access content.
- **Page Layout:** Evaluates whether the website layout is consistent and optimized for users.

⁶ Foresee Results specializes in customer satisfaction analytics, and has provided Usability Audit Reviews of Census.gov.

⁷ Bergstrom, Jennifer Romano and Jennifer M. Chen. *Top Ten Usability Issues at the Census Bureau: A Review of 12 Years of Usability Test Reports*. Center for Survey and Measurement (CSM), Human Factors and Usability Research Group, U.S. Census Bureau. November 8, 2010

⁸ ForeSee Results. *Usability Audit Review: U.S. Census Bureau*. July, 2010.

ForeSee Results. *Usability Audit Review: FactFinder Primary Page*. January, 2010.

ForeSee Results. *Usability Audit Review: U.S. Census Bureau: Navigation*. December, 2008.

- **Graphs, Tables, and Icons:** Evaluates whether the website graphics, tables, and icons effectively convey information and increase user engagement.
- **Search:** Evaluates whether the website search functionality is efficient and straightforward.
- **Help:** Evaluates whether the website help section provides sufficient support for users.

For each of these categories, a corresponding list of one or more questions was developed based on digesting the results of the various usability studies discussed above. For each question, the person assessing the website gave an evaluation of “No deficiencies observed,” “1 or more deficiencies,” or “Serious deficiencies;” or “Adequate” or “Needs Improvement;” depending on the nature of the question. Examples of website shortfalls were documented wherever a website does not achieve an evaluation of “No deficiencies observed” or “Adequate.” The full list of questions is presented in the results table on page 33.

Section 1 presents the findings of the usability testing based on ForeSee callouts evaluation. Recommendations to address these issues are discussed in Section 2. The full evaluations for individual component websites can be found in Appendix B.

1. Findings

Usability evaluations were conducted for individual component websites, rather than Census.gov as a whole. However, the lack of consistency across the component websites of Census.gov, though for the most part not considered in the usability testing, is also a major issue that greatly detracts from the user experience.

The sections that follow present a summary of the results for each category; these results are also summarized in the results table on page 33. Note that where examples are presented, hyperlinks to the relevant webpages are provided and the number of the component website in the list of websites reviewed (see Section VI) is also listed for convenience. The full usability evaluations for individual component websites can be found in Appendix B.

1.1 Navigation

Major takeaway: While many sites utilize a useful and transparent site design and provide adequate navigation tools, there are significant issues and the lack of consistent navigation tools across component websites is problematic.

Best Practices:

- Some websites utilize a site design with comprehensive and consistent navigation tools, similar (but not universal) usage. When used well, the navigation tools are adequate.
- The website designs on some websites make good use of bread crumb trails, indicating vertical structure.
- Links on 75% of websites are well labeled and match destination title pages.
- Within the economic and demographic sections of the Census Bureau website, component websites tend to utilize similar navigation tools.
- Presence of site maps is a best practice, although the feature is not widely implemented.
 - The Economic Census website (#9) provides a comprehensive [sitemap](#) that includes links to all content within the site.

Noteworthy Issues:

- Despite overall use of helpful navigation tools and bread crumb trails, it is significant that 21% of evaluated websites do have a poor or nonexistent navigation system, and only 33% of evaluated

- websites implement breadcrumbs or indicate location in website hierarchy.
- There is no standardized format for navigation across Census Bureau websites. A consistently implemented system would help users to navigate across sites.
 - Some pages lack the Census.gov global navigation options, or do not present consistent global navigation options.
 - Self-referential clickability on navigation pages is problematic because it is confusing for users.

1.2 Text & Terminology

Major takeaway: Most component websites do an adequate job of avoiding terminology and jargon.

Best Practices:

- With a few exceptions (17% of websites), component websites are generally well written and avoid confusing terminology or jargon.
- Many sites make good use of definitions pages.
 - The Foreign Trade website's [definitions](#) (#37) page is comprehensive and well-organized, including an alphabetical table of contents and "Return to top" links at the end of each sub-section.

Noteworthy Issues:

- Inclusion of a definitions page or data dictionary should be more widespread across component websites.
- A prominent page providing definitions for the entire Census.gov site would be of help to some users.

1.3 Expectations

Major takeaway: The lack of informative text on component websites is a widespread problem throughout Census.gov. However, many pages provide overviews on linked pages which could be better linked or excerpted to address the problem.

Best Practices:

- Many sites have introductory text on the main page, "About the Survey" pages, or other introduction or background pages.
 - The [2007 Economic Census main page](#) (#9) is an excellent example of best practices. The main page utilizes brief but clear sentences with well-placed links to guide users to documentation and data.
- The majority of component websites do an adequate job of indicating external websites (96% of websites).
- There is reasonable labeling of downloadable file types in link labels throughout websites.

Noteworthy Issues:

- The main page on 60% of component websites does not do a good job of introducing users to content. This constitutes more than half of websites and is problematic.
 - The [Survey of Income and Program Participation website](#) (#17) does not provide text to set user expectations of the content they will encounter on the site.
- Some main pages do not include any descriptive text, and some component websites do not have any text anywhere on the website.
 - The [Population and Household Economic Topics website](#) (#5) is an example where the website provides no explanatory text on any page.
- Nearly all sites fail to indicate links to other component sites within Census.gov. A limited number of sites (4%) also fail to indicate external links. There is also inconsistent usage as some

interpret external as outside of Census Bureau while others interpret the concept to mean outside of U.S. Government.

- Some websites do not label links to downloads, resulting in unexpected file types. Where downloads are labeled, the file type is not always indicated.

1.4 Organization

Major takeaway: The failure to feature content on the main page is a widespread issue across the component websites. Graphics and visualizations could be better utilized to address this problem. While organization within a single component website is generally not an issue, the organization of information across all Census.gov websites is problematic.

Best Practices:

- Individual component websites are generally well organized (67% of websites).
- Within the economic section of Census.gov, component websites tend to utilize a similar organization.
- Access to data is reasonable on most (65%) component websites. Websites frequently include links to most recent data that are easily accessible from the main page.
- There are a few examples of best practices for featuring content on the main page:
 - The QuickFacts website (#34) clearly indicates its content, provides access to data, and utilizes graphics on its [main page](#).
 - The American Community Survey website (#2) does a good job of highlighting the different types of content available on the [main page](#) and including prominent links to find data.

Noteworthy Issues:

- Most sites (57% of websites) fail to showcase content on the main page, and rarely feature graphs, maps, statistics, etc.
- A significant number (34%) of component websites do not clearly indicate how and where to access data, making it extremely difficult to locate data.
 - The [Current Population Survey](#) (#3) website is one of the worst offenders. Links are not well labeled and the website overview text does not guide users to data.

1.5 Page Layout

Major takeaway: Although page layout is generally adequate and consistent within component websites, the lack of a uniform template across Census.gov is problematic, especially with some component websites utilizing older layout designs. Census.gov should implement a consistent, uncluttered template across all component websites.

Best Practices:

- Some websites utilize a consistently implemented uncluttered page layout design.
- Pages are well organized on 91% of component websites. Information is presented in a logical order, is well laid out, and consistent within sites.
- Within the economic and demographic sections of Census.gov, component websites tend to use a similar page layout scheme.

Noteworthy Issues:

- Many websites employ older site designs that are clunky and difficult to use. The pages do not have consistent use or balanced presentation, make poor use of screen space, and require extensive scrolling (e.g., [Geo](#) (#12), [New Residential Construction Index](#) (#26)).
- Some component websites (8%) switch between two or more separate layout designs.

- The [Foreign Trade Website](#) (#37) utilizes two very different [page layouts](#) throughout its pages.

1.6 Graphics, Tables & Icons

Major takeaway: Graphics and icons are generally underused on the component websites of Census.gov. However, several examples of best practices provide templates that could be more widely used throughout the component websites.

Best Practices:

- Some sites do an excellent job of incorporating visual elements:
 - Though not one of the 52 websites evaluated (see the full list in Section VI), the [Census 2010 website](#) does an excellent job of incorporating graphics on its pages and featuring interactive maps and charts.
 - The Longitudinal Employer-Household Dynamics (LEHD) website (#27) provides interesting visualization tools, such as [OnTheMap](#), and utilizes graphics well on the [main page](#).
 - The [Census in Schools](#) (#48) website features interactive content geared towards kids and teens, and makes good use of graphics on almost every page.
 - The American Community Survey website (#2) [includes pictures of handbooks and publications](#) when linking to PDFs.
- There are a few cases of well-implemented icons (21% of websites).
 - [New FactFinder](#) (#16) consistently employs icons to help users navigate search results and access data dictionaries.

Noteworthy Issues:

- Graphics are underutilized on most (79%) component websites. Despite the visual nature of the data (maps, graphs, tables, etc.), there is a lack of graphics on these pages.
- Icons are rarely and inconsistently used. In particular, the PDF/XLS icons are often substituted for [pdf]/[xls].

1.7 Search

Major takeaway: As mentioned in the Findability section, the Census.gov search engine is generally insufficient for locating component websites. The presence of multiple websites providing similar data makes it difficult for users to locate the most appropriate data source.

Note: See Findability results for information on the ability of search engines to locate Census Bureau component websites.

Best Practices:

- Functionality of intra-site searches tends to be good.
 - The industry search on the [Business and Industry](#) (#7) website is well labeled and specific to one area of the website (the Industry Statistics Sampler).
 - The “Search Blog” function on the [Random Samplings blog](#) (#35) limits search results to pages within the website.

Noteworthy Issues:

- Intra-site search engines are rare.
- There are some cases where it is unclear whether search is for the entire Census Bureau website or limited to the current section. In some places this is mislabeled (10% of websites)
 - The [Statistical Abstract main page](#) includes an option to “Search the Abstract.” However,

- search results include websites from all areas of Census.gov.
- It appears some pages use a less functional search routine. The search function on some pages returns results without the URLs or KeyMatch results (e.g., [Statistical Abstract](#) (#39), [Population Pyramids](#) (#52)).

1.8 Help

Major takeaway: The inconsistent use of the Census.gov-wide Question & Answers (Q&A) website versus site-specific Frequently Asked Questions (FAQ) pages is a major issue on Census.gov. There is a need to either better organize the central Q&A site so it is easier to use or to provide site-specific FAQ pages for every individual website, where applicable.

Best Practices:

- When present, individual component websites tend to have good FAQ pages.
 - The [NAICS website FAQ page](#) (#47) is an excellent example, with a table of contents of questions hyperlinked to their answers on the same page. The questions are pertinent and helpful.
 - While the [Economic Census FAQ pages](#) (#9) link individual questions to their answers in the Census-wide Q&A site, the questions are well organized and informative.
- The other informational help sites within Census Bureau are typically high quality, such as [About](#) (#31), [Survey Participation](#) (#30), and [Regional Pages](#) (#32).

Noteworthy Issues:

- The Census.gov-wide Q&A website is clunky and difficult to sort through. Some sites are well represented by the questions in the Q&A website, while others have few if any mentions.
- Some websites (23%) do not include site-specific FAQ pages or links to the census-wide Q&A website.

2. Recommendations

As was previously discussed, the usability testing was developed based on existing Usability Audit Reviews of Census Bureau websites conducted by ForeSee Results.⁹ This evaluation aimed to evaluate the extent to which the top issues found on Census.gov are problematic on high use or high profile component websites. The same categories of issues identified by existing usability reviews were used in this evaluation to allow for easy comparison. The Usability Audit Reviews¹⁰ compiled by ForeSee present clear recommendations and actionable suggestions for improvements to address these issues. The recommendations in ForeSee Results' Usability Audit Reviews will allow Census.gov to address the top issues experienced across Census.gov.

⁹ Foresee Results specializes in customer satisfaction analytics, and has provided Usability Audit Reviews of Census.gov.

¹⁰ ForeSee Results. *Usability Audit Review: U.S. Census Bureau*. July, 2010.

ForeSee Results. *Usability Audit Review: FactFinder Primary Page*. January, 2010.

ForeSee Results. *Usability Audit Review: U.S. Census Bureau: Navigation*. December, 2008.

Census Bureau Website Review Using ForeSee Callouts						Grade Color Key		
Question	Type	% of Websites (of 52)				Grade	Question Type 1	Question Type 2
Navigation		✓	✓-	×	×	✓	No deficiencies observed	Adequate
Does website provide a single comprehensive navigational system that enables users to access information across topics quickly and efficiently? Do global navigation options appear consistently on all pages of website?	Question Type 1	23%	27%	29%	21%	✓-	1 or more deficiencies	N/A
Does navigation convey the hierarchy of information and facilitate lateral and vertical movement? Does website adequately indicate current location and where current page resides in overall site hierarchy?	Question Type 2	33%	-	35%	33%	×	Serious deficiencies, limited	Needs improvement, limited
Do links and target page headings match? Are link labels unique and descriptive? Are links labeled consistently throughout website?	Question Type 1	40%	35%	15%	10%	×	Serious deficiencies, extensive	Needs improvement, extensive
Text & Terminology		✓	✓-	×	×			
Does website avoid using unfamiliar terminology, unclear wording and labeling, or jargon?	Question Type 1	37%	46%	13%	4%			
Expectations		✓	✓-	×	×			
Does the website provide sufficient introduction to the content and functionality of the site?	Question Type 2	40%	-	35%	25%			
Does consistent navigation and layout allow users to seamlessly navigate different sections of website? Are links differentiated with specific labels to allow users to efficiently navigate through site?	Question Type 2	40%	-	33%	27%			
Does the website clearly indicate when linking to an outside URL?	Question Type 1	63%	33%	4%	0%			
Organization		✓	✓-	×	×			
Does homepage showcase content to build interest and guide users? Is important information featured prominently?	Question Type 2	42%	-	40%	17%			
Is website organized in such a way as to highlight and provide easy access to the most recent or most relevant data?	Question Type 2	65%	-	13%	21%			
Is information throughout the different pages of the website organized in a readily apparent and straightforward way?	Question Type 2	67%	-	19%	13%			
Page Layout		✓	✓-	×	×			
Is information organized clearly? Does information appear in order user expects (e.g., alphabetical, numeric)?	Question Type 1	62%	29%	8%	2%			
Is page layout (color scheme, navigation options, etc.) consistent throughout website?	Question Type 1	63%	15%	13%	8%			
Is page visually optimized? Is text legible? Are there any awkward formatting issues? Does website maximize screen real estate?	Question Type 1	58%	27%	8%	8%			
Graphics, Tables, & Icons		✓	✓-	×	×			
Does website use visual elements to increase user engagement?	Question Type 2	21%	-	21%	58%			
Is information in tables and graphics presented clearly?	Question Type 1	65%	29%	4%	2%			
Are icons consistent throughout website? Is functionality clear?	Question Type 1	21%	73%	6%	0%			
Search		✓	✓-	×	×			
Does search functionality work?	Question Type 2	13%	-	81%	6%			
Is it clear whether search function applies to entire website or single domain?	Question Type 2	77%	-	13%	10%			
Help		✓	✓-	×	×			
Is online FAQ/help useful?	Question Type 2	42%	-	42%	15%			
Is access to FAQ/help section provided consistently throughout website?	Question Type 1	37%	2%	38%	23%			

VI. List of Websites Reviewed

1. Census Bureau Home Page <http://www.census.gov/>
2. American Community Survey <http://www.census.gov/acs/www/>
3. Current Population Survey (CPS) Main Page <http://www.census.gov/cps/>
4. Population Estimates <http://www.census.gov/popest/estimates.html>
5. Population and Household Economic Topics <http://www.census.gov/population/www/>
6. 2007 Census of Governments <http://www.census.gov/govs/cog/>
7. "Business and Industry" Page <http://www.census.gov/econ/>
8. Economic Indicators <http://www.census.gov/cgi-bin/briefroom/BriefRm>
9. 2007 Economic Census <http://www.census.gov/econ/census07/index.html>
10. County Business Patterns <http://www.census.gov/econ/cbp/>
11. County and City Data Book 2007 <http://www.census.gov/statab/www/ccdb.html>
12. Geo <http://www.census.gov/geo/www/>
13. Data tools <http://www.census.gov/main/www/access.html>
14. DataFerrett <http://dataferrett.census.gov/>
15. Listing by subject <http://www.census.gov/main/www/a2z/>
16. New FactFinder <http://factfinder2.census.gov/main.html>
17. Survey of Income & Program Participation <http://www.census.gov/sipp/index.html>
18. Annual Retail Trade Survey <http://www.census.gov/retail/index.html#arts>
19. Advance Monthly Retail Trade Report <http://www.census.gov/retail/>
20. Quarterly E-Commerce Report <http://www.census.gov/retail/index.html#ecommerce>
21. Annual Survey of Manufactures (ASM) <http://www.census.gov/manufacturing/asm/>
22. Service Annual Survey <http://www.census.gov/services/index.html>
23. Quarterly Services Survey <http://www.census.gov/services/index.html>
24. Information and Communication Technology Survey <http://www.census.gov/econ/ict/>
25. 2007 Survey of Business Owners (SBO) <http://www.census.gov/econ/sbo/>
26. New Residential Construction Index <http://www.census.gov/const/www/newresconstindex.html>
27. Longitudinal Employer-Household Dynamics <http://lehd.did.census.gov/led/>
28. Newsroom/Multimedia <http://www.census.gov/newsroom/>
29. Publications <http://www.census.gov/prod/www/titles.html>
30. Survey Participation http://www.census.gov/survey_participants/
31. About <http://www.census.gov/aboutus/>
32. Regional Pages <http://www.census.gov/regions/>
33. FAQs http://ask.census.gov/cgi-bin/askcensus.cfg/php/enduser/std_alp.php?p_sid=vlXuh3dk
34. QuickFacts <http://quickfacts.census.gov/qfd/index.html>
35. Corporate blog <http://blogs.census.gov/>
36. Calendar [http://www.calendarwiz.com/calendars/calendar.php?crd=cens1sam
ple&PHPSESSID=d04dc1126031ed860330dc34101d54b5&&jsenable
d=1&winH=591](http://www.calendarwiz.com/calendars/calendar.php?crd=cens1sample&PHPSESSID=d04dc1126031ed860330dc34101d54b5&&jsenable d=1&winH=591)
37. Foreign Trade Division <http://www.census.gov/foreign-trade/index.html>
38. Business Help Site <http://bhs.econ.census.gov/BHS/index.html>
39. Statistical Abstract <http://www.census.gov/compendia/statab/>
40. Families and Living Arrangement <http://www.census.gov/population/www/socdemo/hh-fam.html>
41. Educational Attainment <http://www.census.gov/hhes/socdemo/education/>
42. Income <http://www.census.gov/hhes/www/income/income.html>
43. Poverty <http://www.census.gov/hhes/www/poverty/poverty.html>
44. Health Insurance <http://www.census.gov/hhes/www/hlthins/hlthins.html>
45. Population Projections <http://www.census.gov/population/www/projections/index.html>
46. EStats <http://www.census.gov/econ/estats/>
47. NAICS <http://www.census.gov/eos/www/naics/>
48. Census in Schools <http://www.census.gov/schools>
49. Genealogy <http://www.census.gov/history/www/reference/genealogy/>
50. International Data Base <http://www.census.gov/ipc/www/idb/>
51. U.S. and World Population Clocks <http://www.census.gov/main/www/popclock.html>
52. U.S. Population Pyramids <http://www.census.gov/population/www/projections/natchart.html>

VII. Glossary

Breadcrumb Trails: Navigation tool that allows users to keep track of their current location by displaying the current page's location within the website hierarchy.

Casual User: The casual user is interested in obtaining information about a specific topic and is typically seeking the answer to a single question (e.g., general public, k-12 teacher, k-12 student). For example, a casual user may be a student trying to find information for a school assignment.

Component Website: An individual website within Census.gov; e.g., the American Community Survey website.

Expert User: The expert user is interested in downloading microdata sets for detailed analysis purposes (e.g., professional researcher, academic, consultant).

FAQ: Frequently Asked Questions

Findability: The ease with which information on a website can be located by search engines.

ForeSee Results: A company that provides Customer Satisfaction Analytics for Census.gov

Index: Refers to storing information in a way that can easily be located by search engines.

KeyMatch: A search feature that highlights desired websites when users enter designated keywords into search queries.

Page Layout: The arrangement of elements on a webpage.

Persona: A profile of a type of user likely to visit a given website.

Q&A: Questions and Answers

SAS: Statistical Analysis Software

Self-referential/Self-referencing: A link in a navigation tool that can be clicked even when the user is already on its target page.

Sophisticated User: The sophisticated user is interested in obtaining detailed information on one or more related topics in the form of tabular and other types of estimates in order to assist in business or policy decisions (e.g., business/industry official, local/state/federal government official, journalist, NGO, librarian). For example, a sophisticated user may be a small business owner attempting to locate information about their industry.

Target: The destination page of a link.

Template: A design (e.g., page layout) that is applied to all the pages within a domain.

Vertical Structure: The information hierarchy used to organize pages in different levels within a website.

Website Hierarchy: The organization of pages within a website.

Appendix A: Persona Testing Assessment

The U.S. Census Bureau

Contract No. YA132309CQ0045, Task Order (TO) 001:
Web Discovery: Data Visualization and the Future of
Census.gov

Abt Associates, April 1, 2011

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1. Census Homepage

Website URL: <http://www.census.gov>

Casual User

Question 1/Challenge 1:

I want to know [the population] in [my city (Boston, MA)].

Overview of site's usefulness in helping answer Question 1/Challenge 1:

There are a lot of links on the census homepage with no context/explanation, so it was hard to figure out which link to click to get population information. The term "estimates" was probably the most related but I didn't realize that it referred to population so it took a minute to choose a link. I ended up choosing where to click more based on the lack of any link corresponding to my query than out of knowing where to go on the website. It seems like population is something a lot of people would come to the census website for so it's surprising that it is not emphasized on the main page.

The population finder link on the right side of the Population and Household Economic Topics page is very useful but it's not emphasized – it was buried on the right hand side of the page where I wouldn't immediately think to look - so I didn't see it at first. Once I found that link, it took me to exactly what I wanted.

Sophisticated User

Question 1/Challenge 1:

I need information about [the demographics] in [the 5th house district in MA] in order to [predict voting by constituents].

Overview of site's usefulness in helping answer Question 1/Challenge 1:

I was able to locate the information, but I had to use the search function to do so. I wasn't able to sort my way through the data tables effectively enough to grab the data that I was seeking. However, once I did a search for 'Congressional Districts,' the proper tables were found.

Question 2/Challenge 2:

I need information about [the projected population in 2015] in [Parker, CO/suburban Denver] in order to [decide on developing a subdivision].

Overview of site's usefulness in helping answer Question 2/Challenge 2:

I was able to rapidly find state level predictions through the Census page. I was looking for data at the city/metro/county level, so I kept searching. I found a link to the Colorado State Demography Office, which provided me with projection data at both the metro and county level.

Expert User

Challenge: Locate the latest census microdata.

File: 1-percent PUMS files from Census 2000

- Available by state
- Zip file contains text file and .dat file
- One state ~ 3 MB

Download source: FTP site

Documentation: PUMS Technical Documentation PDF (published October 2008) is available on the PUMS download pages/FTP site.

This is an in-depth file that covers how to use the data, data dictionary info, accuracy, etc.

What's changed: I did find a reference to some changes between the 1990 and 2000 census in a "Notes and Errata" PDF. This pdf covered all census datasets, and one section on PUMS described variables that were not valid comparisons across census years. I had to go looking for this document in the Publications Library and it was not linked to the data download/documentation area.

Comments on website: The Census 2000 link was available from the main page, so I quickly got to the area I needed. On the Census 2000 page, the information for downloading census data at different levels of aggregation are all available on the front page, though the page did not have a clear structure to it. The header called Microdata made that section easy enough to find.

If you go to a particular state on the FTP directory, I see a revised PUMS posted in 2010. The full state zip file does not include this revised data. There is no header information in this revised file, so it is not clear why it was revised or how you should use it.

2. American Community Survey

Website URL: <http://www.census.gov/acs/www/>

Casual User

Question 1/Challenge 1:

I want to know [the median income] in [my town (Cambridge, MA)].

Overview of site's usefulness in helping answer Question 1/Challenge 1:

There was a lot of information on the ACS main page, yet nothing describing what the survey actually is or what information it provides. There are a lot of different modules on the main page, so I chose what to click based on where my eyes fell on the site – if the geographic search had been more prominent it would have saved me time and taken me to my desired information more quickly. Instead, I spent some time browsing the website until I found the right page. Once I found the right search tool it was relatively easy to find the information I wanted.

Other comments:

- In one section (data tables on the map page), Excel files started downloading unexpectedly when I clicked a link (I wasn't aware the link was to a download).
- It is odd that I was asked to choose my town from a list of "Cambridge's" in the nation, since I typed Cambridge, MA into the search box.
- It would be useful to have some sort of data dictionary linked to the different metrics in the AFF results, since I wasn't sure which row corresponded to my question. There is also a lot of information that requires scrolling without knowing whether what you want is on the page you're looking at.

Question 2/Challenge 2:

I want to know [how much people pay for utilities] in [my town (Shoals, IN)].

Overview of site's usefulness in helping answer Question 2/Challenge 2:

Same general comments as above.

Other comments:

- I had trouble finding my way back to the ACS homepage from AFF once I realized that AFF did not have what I wanted.
- It was difficult to find my desired table in the list of detailed tables in the geographic/detailed search because there are so many options and there are no categories to break them up.
- Selecting my desired geography in AFF was confusing, especially when certain geographies are omitted in earlier years.
- It was hard to figure out whether the information I wanted was actually available online – it is listed as being something collected by the survey, but it is not available in AFF which I only found out after

searching for a while on the ACS website.

Question 3/Challenge 3:

I want to know [the percent of households in which English is not the primary language spoken] in [the nation].

Overview of site's usefulness in helping answer Question 3/Challenge 3:

The links to the new release of ACS data on the homepage are helpful because they take me straight to the data, however it's hard to figure out which option I should use in AFF (data profiles vs comparison profiles, etc). It's also hard to determine whether 5-year, 3-year, or 1-year data is most appropriate for my search.

Once I get to the data profiles, it's not immediately apparent where to find the information I want – it appears on the social page but I have to scroll down to get to it and it's not immediately apparent why it appears on this page rather than the demographic etc.

Sophisticated User

Question 1/Challenge 1:

I need information about [people with health insurance] in [those who have disabilities] in order to [market my wheelchair company].

Overview of site's usefulness in helping answer Question 1/Challenge 1:

From my first use of the website, I was unable to locate the data tables for some time. The "Data & Documentation" link took me to release information rather than the actual data. I returned to the page, but I didn't find the lookup. I located the ACS/Census Table Comparison link under Latest Updates, which took me to the FactFinder page where I could do my lookup. After the fact, I finally noticed the search function on the ACS main page, which is obscured on the lower right side.

In the end, I couldn't find the answer to my question from the data provided here. I believe that my question was too specific to be directly answered by this survey.

Question 2/Challenge 2:

I need information about [average commuting time] in [Massachusetts] in order to [promote public transportation].

Overview of site's usefulness in helping answer Question 2/Challenge 2:

Information was fairly easy to find once I knew to look on the right panel for the links to the subjects. I was able to get graphical or tabular data for commute times broken into numerous statistical quantities. The microcommuting data was very detailed, and though I didn't record my use of it in the Boston area, it was quite informative.

Expert User

Challenge: Locate the latest year's microdata.

File: 2009 ACS 1-year PUMS

- available for entire US or by state
- download is zip file containing csv and a readme file
- ~ 0.5 GB

Download source: ACS PUMS data available on American FactFinder, DataFerrett, or FTP.

I used American FactFinder, and a direct link to my dataset on that website was provided on the ACS website.

Documentation: Data dictionary, codes, subjects covered, and accuracy data are available in PDF format and updated for each year's dataset. You can also filter the documentation by year.

There is also a Handbook for Microdata Users (published Feb 2009) and training presentations.

What's changed: The "New and Notable" section includes a link to "2009 Data Product Changes" which list new, modified and deleted tables for that particular data release.

Comments on website: This website was easy to use. They provided several ways to navigate the site from the homepage, all of which got you to the information you needed. It is clearly kept up-to-date and it's very instructive on the types of data available and how each set should be used.

Several download sources were available, which gives users options to pull the data from the source they are most comfortable using. Note that the page on DataFerrett said "To access the ACS Public Use Microdata you must download the DataFerrett application or applet." This may have been previously true but I was able to get the latest year on American FactFinder and I found that download source easier to use (less clicks to get what I needed).

3. Current Population Survey

Website URL: <http://www.census.gov/cps>

Casual User

Question 1/Challenge 1:

I want to know [the number of working women with children] in [the nation].

Overview of site's usefulness in helping answer Question 1/Challenge 1:

There are no instructions for where to download data on the homepage, and the links are not clearly enough labeled to instruct the user where to find the data. I spent a while clicking through links and even after that it wasn't clear where to find the data I wanted. The link to DataFerrett was confusing because I ended up back at the CPS homepage. The link to data at the BLS is also confusing because it's unclear whether that data is the same data as on the Census website or something different.

I did not initially look at the tables on the homepage because they refer to income when I wanted a different type of metric (women working with children), but this was where I ultimately found my data. It's also not clear whether the links on the right-hand side of the page are still CPS data since they are referred to as the "Annual Social and Economic Supplement".

It's difficult to decipher exactly what is being displayed in the different tables on the CPS website. Even when I found my answer, it wasn't clear that this was what I wanted because the table descriptions were unclear and there were no readily available links for data dictionaries.

Question 2/Challenge 2:

I want to know [the median earnings] in [my occupation].

Overview of site's usefulness in helping answer Question 2/Challenge 2:

I don't think the information I wanted was available on the Census website but it was available on the BLS website. I spent a while clicking through the various links on the CPS website until I found my way to the BLS website. The tables on the BLS website are easier to understand than the ones on the Census website.

Sophisticated User

Question 1/Challenge 1:

I need information about [hours of work] in [software design] in order to [determine if overtime pay is appropriate].

Overview of site's usefulness in helping answer Question 1/Challenge 1:

I couldn't find the answer to my question. First, my demographic limiter was not applicable for this survey. Secondly, I could not find any information regarding hours of work, despite the main page stating that 'hours of work' were one of the available estimates.

Question 2/Challenge 2:

I need information about [median wages] in [mining industry] in order to [justify pay cuts].

Overview of site's usefulness in helping answer Question 2/Challenge 2:

Second question I couldn't answer. Despite stating that I should be able to find data sorted by industry, I wasn't able to do so.

I tried to go in and download the dataset with a .dat extension, but it didn't tell me what program to open it with.

Question 3/Challenge 3:

I need information about [unemployment] in [Michigan] in order to [understand the effects of the auto industry decline].

Overview of site's usefulness in helping answer Question 1/Challenge 1:

Finally, I broke through. The link to the data on the BLS site was next to impossible to find, but once I did I was able to find the data.

Question 4/Challenge 4:

Repeat: I need information about [hours of work] in [software design] in order to [determine if overtime pay is appropriate].

Overview of site's usefulness in helping answer Question 4/Challenge 4:

I found about 3 different tables that provided me with close information.

Question 5/Challenge 5:

Repeat: I need information about [median wages] in [mining industry] in order to [justify pay cuts].

Overview of site's usefulness in helping answer Question 5/Challenge 5:

I quickly found a difficult to use Java Applet that gave me some of the information that I was looking for.

Expert User

Challenge: Locate the latest month's microdata.

File: Basic Monthly CPS – November 2010

- Zip file containing a .DAT file
- ~ 13 MB

Download source: FTP, DataFerrett

Documentation: Data dictionary available on FTP download page.

Technical paper on CPS Design and Methodology (published October 2006) available on Technical Documentation page. Covers data quality, data processing, errors, etc. Mentions microdata are available for the supplemental surveys by purchasing CD-ROMs.

What's changed: A summary of major changes in the CPS survey over the years is listed in the CPS Design

and Methodology manual.

Comments on website: Dataset download and technical documentation should be more closely linked. Perhaps the relationship between Census and Bureau of Labor Statistics could be better coordinated; it's hard to know if you'll find more detailed info on one site or the other. Bookmarking long PDFs (e.g. the Technical Paper) would be helpful. The link to CPS-related FAQs does not seem very helpful or organized.

4. Population Estimates

Website URL: <http://www.census.gov/popest/estimates.html>

Casual User

Question 1/Challenge 1:

I want to know [the population] in [my town (Somerville, MA)].

Overview of site's usefulness in helping answer Question 1/Challenge 1:

It would be useful if the overview information was on the main page because there is no description as to where I am when I first reach the webpage. Overall it was pretty straightforward to find the data I wanted, except the link to AFF on the overview page is misleading because it took me to the AFF homepage rather than a place where I can find the data I'm looking for.

Next, I came back to the population estimates website and looked around in the estimates data section. It would have been useful to have definitions of the different types of geographies here page because it isn't completely clear which to click when looking for the population of a town ("Incorporated places and civil divisions" is not a commonly used term). I ended up having to download an Excel file to find my answer – it was not available as an HTML website.

Other comments:

- The page layout makes the website appear out of date compared to some other Census websites.

Question 2/Challenge 2:

I want to know [the number of people of Hispanic ethnicity] in [my county (Middlesex County, MA)]

Overview of site's usefulness in helping answer Question 2/Challenge 2:

This information can be found in the county characteristic data files. These files are clearly not intended for the Casual User. They download as CSV files and you need to reference the file layout document to find data – something a Casual User would likely not be familiar with. If there is a more user-friendly way to access the data it is not easy to find on the website.

Question 3/Challenge 3:

I want to know [the number of births and deaths] in [my city (Cambridge MA) over the past year].

Overview of site's usefulness in helping answer Question 3/Challenge 3:

It was hard to find the information I wanted because change and components of change are two separate parts of the website, which is not straightforward. It was also not immediately apparent what the difference between the cumulative and estimate files for change is. The information I wanted was only available at the state level, not at the city level – but the website home page does not mention this. However, other than the confusion about the data not being available at the town level, the data was relatively easy to access.

Sophisticated User

Question 1/Challenge 1:

I need information about [number of people under 18] in [greater Boston area] in order to [decide if building a mega-mall is appropriate].

Overview of site's usefulness in helping answer Question 1/Challenge 1:

I picked a question that wasn't directly answered. I looked into the metropolitan datasets, which only gave me population counts and not age categorization. After looking through a few items, I found the data I need which included age categories broken down by state-county.

Question 2/Challenge 2:

I need information about [number of deaths] in [Texas] in order to [plan a funeral home].

Overview of site's usefulness in helping answer Question 1/Challenge 1:

Data was easy to find. No real difficulty here.

Overall the site was easy to navigate and straight forward. The option of HTML tables would have been nice for browsing since CSV or XLS files require downloading and a spreadsheet program. Also, when loading one CSV file, it loaded as text, rather than prompting a download. This required me to manually select downloading.

Expert User

Challenge: Locate the latest year's population estimates at the most disaggregated level.

File: County population, pop change and estimates to July 1, 2009 (CO-EST2009-alldata)

- Available for US (csv file) or by state (csv or Excel)
- US file ~ 3 MB

Download source: HTML page containing list of links; American FactFinder

Documentation: Data dictionary provided next to each dataset download.

Methodology and Terms & Definitions provided on the "Estimates Data" page.

What's changed: Found a reference to "revised estimates" for certain subcounty areas for the 2009 data. It is not clear where/when/if these revisions were merged into the data.

Comments on website: "Schedule of New Estimates" has a useful data release schedule.

Under "Estimates Data" the difference between Totals and Characteristics is not that clear. For the most part they are the same page with a different layout.

The only mention that these data are also available on FactFinder is on the "Overview" page. Direct links to that section of FactFinder on the Data page would help people more easily find the download option they prefer.

5. Population and Household Economic Topics

Website URL: <http://www.census.gov/population/www>

Casual User

Question 1/Challenge 1:

I want to know [the number of people of Russian descent] in [the U.S.].

Overview of site's usefulness in helping answer Question 1/Challenge 1:

It's odd that there is no introduction to the population and household economic topics website saying what information is available or giving background. I kept clicking the main page link thinking it would take me to an introduction but it didn't. Then I clicked on the data topics link and found a link to the ancestry page. Note that it doesn't seem possible to get back to the population and household economic topics homepage once you click on one of the sub-topics, which makes navigation difficult.

On the ancestry page, it's hard to figure out that the ACS data are the most recent because it only appears in the list and not as an option in the header like the older Census data. I looked at the census data before realizing that ACS data were a better bet. Once I clicked the link to American FactFinder, 2006 ACS data were selected even though more recent data are available. Once in AFF, it was straightforward to find the answer to my question.

Sophisticated User

Question 1/Challenge 1:

I need information about [fertility] in [California] in order to [determine an optimal location for a parenting clinic].

Overview of site's usefulness in helping answer Question 1/Challenge 1:

I was able to get right to the fertility data by state, though I was hoping for by county or possibly metropolitan area. Further search didn't locate my target data, though I was bounced around to some different website within and outside of the US Census. This was a straight forward table that directed me to relevant studies, though I ultimately wasn't able to find the right data.

Question 2/Challenge 2:

I need information about [living arrangements of singles/couples/non-family cohabitation] in [New York] in order to [plan the floor layout for my new apartment buildings].

Overview of site's usefulness in helping answer Question 2/Challenge 2:

I found the appropriate data after looking through about three spreadsheets on relevant information, though at the national level and not state level. It appears that my search was again too detailed for the data presented here. However the functionality of the site gave me confidence that I would have found the data were it available.

Expert User

Challenge: Locate the latest year's household data at the most disaggregated level.

File: America's Families and Living Arrangements: 2010 (~20 tables)

- *summary level only*
- Available in Excel or CSV
- File sizes less than 100 Kb

Download source: HTML page containing list of links

Documentation: "Definitions and Explanations" provided at top of CPS reports listing. Link to CPS technical documentation provided in the Excel files downloaded.

What's changed: Differences between the 2009 and 2010 files are noted in the CPS ASEC supplement technical documentation.

Comments on website: For microdata related to CPS and its supplements, the user would need to use the CPS website. This site should direct users to the CPS site for more advanced uses.

The summary data I found on this site were derived from the CPS reports, but there was little tie-in on the page to the actual CPS website. I did find a link to it under "data availability" near the bottom of the page. It also mentioned that you can purchase the data on CD-ROM through the CenStore (that link did not load).

6. 2007 Census of Governments

Website URL: <http://www.census.gov/govs/cog>

Casual User

Question 1/Challenge 1:

I want to know [the number of municipal employees] in [my town (Cambridge, MA)].

Overview of site's usefulness in helping answer Question 1/Challenge 1:

It was hard to find my answer because the only way to get data for a specific municipality is by accessing Excel files, which is not easy for the Casual User. It at first seemed like the Excel files on the employment and payroll page were too high-level for my purposes so I tried the build a table option, which didn't provide data at the level I wanted (data for a specific municipality rather than aggregated data across all municipalities in a state). The build a table also timed out with an error at one point when I was trying to use it.

When using the build-a-table option failed, I went back to the page with the list of data downloads. It was not immediately clear which file will provide these data in the easiest format to digest and the relevant files are actually at the bottom of the list and hard to find, buried under data files that the Casual User would not know how to open.

Other comments:

- It's weird that the "Governments Main" link takes the user to a completely different website (Federal, State and Local Governments) than the COG website. Also, the links to back-track to the COG main page don't work from within other parts of the website. Note: I think this is because the COG website is a part of the Federal, State, and Local Governments website, but this isn't clear.

Question 2/Challenge 2:

I want to know [the number of counties] in [my state (OR)].

Overview of site's usefulness in helping answer Question 2/Challenge 2:

There was a link to this information I wanted right from the website main page which made it very easy to access. It was also available in HTML format which made it easier to access than an Excel file. I just clicked one link from the homepage and found my answer.

Sophisticated User

Question 1/Challenge 1:

I need information about [mean city employee salary] in [Chicago, IL vs. Effingham IL] in order to [look at trends in metropolitan vs. rural local government wages].

Overview of site's usefulness in helping answer Question 1/Challenge 1:

I was able to navigate fairly easily within the website, though I was never really sure what would be on each page. After a period of searching, I was under the impression that the data I was looking for weren't

in the COG website, and so I stopped recording.

Shortly thereafter, I found basically what I needed, and recorded an additional segment retracing my steps to get the data, and the additional steps in isolating the specific data. It was located seemingly a level down in the "<http://www.census.gov/govs/> - Federal, State, & Local Governments" and "<http://www.census.gov/govs/apes/> - Government Employment & Payroll" page. I'm not sure if this was included within the COG page, so I'm going to repeat another question.

Question 2/Challenge 2:

I need information about [structure of city government] in [Brookline, MA vs. Boston, MA] in order to [see how townships vs. cities are structured at the government level].

Overview of site's usefulness in helping answer Question 1/Challenge 1:

Similar search results, I found a lot of data regarding expenditures and employees, but again the best information was within "<http://www.census.gov/govs/apes/> - Government Employment & Payroll." It's difficult to predict what I'll find when I'm going between pages. I'm not sure if everything that I'm finding is within COG, or if I'm missing a section within the COG pages. What I was hoping to find was a more detailed description of the local government workings rather than just expenditures and employee counts.

Expert User

Challenge: Locate the latest data for all local governments.

File: Individual Government Data File

- Zip file containing .dat file
- ~ 6 MB

Download source: HTML page containing list of links; Build-a-Table option

Documentation: File layout and data descriptions are available in a link next to the individual file downloads.

Methodology, data collection and data quality reports are all accessible within one click via the left column or the top tabs.

What's changed: Survey methodology for historical years is available to download as a PDF along with the dataset for that year. Some changes from previous years are noted in these documents.

Comments on website: Tabs across the top provide easy access to the latest data, data collection info, etc. It is a little confusing that the first tab "Governments Main" puts you on to a different set of tabs.

There is a consistent HTML interface for downloading data across years (latest and historical).

The frequency of data collection is listed on the "about the data" page, indicating that a full census is done every 5 years and samples are taken in the years in between. This should be made clearer on the data pages because the interface looks the same for each year's download and presumably 2007 is a more detailed dataset than 2008 and 2009. When I first followed the link to "latest data", I was approaching it from the Census of Governments 2007 page, so the "latest data" listed were 2007 data. Later I was on a

“latest data” tab and it was giving me 2009 data. They looked the same and I did not notice at first that I had jumped from the full census to the yearly files.

The release schedule listed in the right column on the Latest Data page is useful.

7. “Business and Industry” Page

Website URL: <http://www.census.gov/econ/>

Casual User

Question 1/Challenge 1:

I want to know [the number of businesses] in [my town (Cambridge, MA)].

Overview of site’s usefulness in helping answer Question 1/Challenge 1:

I first selected economic census since it was the first listed and seemed like it would have the information I wanted. I was taken to American FactFinder. Selecting my desired geography was confusing because the different types of geographies are not well defined. It’s also off-putting that the geographies here differ from other Census surveys (e.g., ACS). The economic census data did not provide aggregated data across all industries, even though the data are simple to calculate – to get what I wanted I would have had to sum across industries and most likely would have had to download the data. Instead, I went back to the Business and Industry page and found the Survey of Business Owners, which did provide my desired statistics aggregated across all industries in American FactFinder.

Question 2/Challenge 2:

I want to know [the location with the highest number of hospitals] in [the nation].

Overview of site’s usefulness in helping answer Question 2/Challenge 2:

It was extremely difficult to find the information I wanted, and even when I found it the format was not easily digestible. I started by clicking the concentration link on the home page because I figured I wanted the highest concentration of hospitals, but the resulting page was not at all what I wanted - the link from the homepage was too vaguely worded. I then ended up on the industry statistics sampler website, but it was hard to tell which survey is most appropriate without knowing anything about the surveys. It is also difficult to navigate the data if you don’t know anything about NAICS codes. I basically went through a couple of the different economic surveys until I found my answer using American FactFinder to search county business patterns, and even then I couldn’t limit the results by type of geography so it was difficult to process the results of the query.

Question 3/Challenge 3:

I want to know [the number of people employed in] in [finance].

Overview of site’s usefulness in helping answer Question 3/Challenge 3:

It was a lot more straightforward to find the answer to this question. I clicked the links for the economic census on the business and industry page since it was the most prominently displayed, and relatively easily found my answer using American FactFinder. However, American FactFinder timed out in the quick search so I had to choose a more complicated search option. Otherwise American FactFinder would have been very useful for this task.

Sophisticated User

Question 1/Challenge 1:

I need information about [the change in capital spending projects] in [refining sector] in order to [determine if our business refinery expansion is in line with the industry].

Overview of site's usefulness in helping answer Question 1/Challenge 1:

I was able to locate the information fairly rapidly.

Question 2/Challenge 2:

I need information about [the change over time in total value] in [of retail clothing and apparel sales] in order to [report on the impact of the recession on retail sales].

Overview of site's usefulness in helping answer Question 2/Challenge 2:

I was able to find the 2002 and 2007 data in multiple forms without much difficulty.

I've got two minor issues with the website. The transition to the American Factfinder website, isn't clear at any point from the Census pages. The transition to the AFF pages is a bit abrupt and can be unexpected. More documentation in how to use the AFF may help or a more clear explanation on the top pages that the data are held elsewhere.

Secondly, within the American Factfinder pages (not sure if this is even under the Census control), is that one cannot jump across multiple pages at one time. Example is a table lookup presents the first 100 results, and you cannot skip to results 400-500, or, more importantly to results 3000-3100 directly. There is a workaround by entering the skip value within the URL, but that not an approach the typical casual or even sophisticated user could be counted on to use.

Expert User

N/A – This page is a link to many datasets. These datasets are already being covered elsewhere by our list of sites.

8. Economic Indicators

Website URL: <http://www.census.gov/cgi-bin/briefroom/BriefRm>

Casual User

Question 1/Challenge 1:

I want to know [information about new home sales] in [my county (Middlesex, MA)].

Overview of site's usefulness in helping answer Question 1/Challenge 1:

It was easy to locate the economic indicator I wanted on the economic indicators homepage, however the information I wanted was only available for Census regions and not at a more specific level. I had to dig into the website before I could find in which region my state is classified. Also, the format of the New home sales webpage is very different from the economic indicators page, which is a little off-putting. I also had to open an Excel file to find the information I wanted – an HTML page would have been easier to use.

Sophisticated User

Question 1/Challenge 1:

I need information about [change in home vacancies] in [Jackson Hole, WY] in order to [look at if this would be a good place to develop a subdivision].

Overview of site's usefulness in helping answer Question 1/Challenge 1:

I found information by region immediately. On this front, the page was well laid out and direct. However, I had no idea from the webpage how detailed the information would be, and I was very disappointed to only find info by region.

Question 2/Challenge 2:

I need information about [change in retail sales over time] in [the US/by region] in order to [examine the effects of the recession].

Overview of site's usefulness in helping answer Question 1/Challenge 1:

The data come up quickly. The CSV downloaded and I was able to work with it easily.

There was no FAQ, or other general information page to give an overview of what data may be available. Lastly, the URL (briefroom/BriefRm) does not give any explanation what this page may include. I would suggest revising it to include some reference of Economic Indicators.

Expert User

Challenge: Are microdata available for the data that go into the monthly economic indicator reports?

File: Only summary level (monthly totals) are available.

Download source: Not available for microdata. Likely would require contacting each of the divisions that produces the monthly indicators to see what is available upon request. Contact info is provided for each division on their individual websites.

Documentation: Varies by indicator.

What's changed: This site provides an indicator-by-indicator summary of the % change in the past month.

Comments on website: Overall, a nicely organized site for delivering a summary of monthly indicators, especially given that each indicator is produced by a different group (with differing websites and formatting of the data).

The economic indicator list includes summaries of the percent change between last month's rate and this month's – this is a nice, quick view of the monthly change.

The Release Schedules that can be sorted by both Indicator and by Date is useful.

9. 2007 Economic Census

Website URL: <http://www.census.gov/econ/census07/index.html>

Casual User

Question 1/Challenge 1:

I want to know [the top industry in terms of employment] in [my county (Middlesex MA)].

Overview of site's usefulness in helping answer Question 1/Challenge 1:

The overview, which contains a link to "learn more" was helpful because it provides background information about the survey right on the main page. I was quickly directed to American FactFinder, where it was easy to find the information I desired. The links in American FactFinder were straightforward and it was easy to figure out which one I wanted. It was also nice that the column headings are hyperlinked to a data dictionary in the results – this is not the case for other AFF or Census data tables.

Question 2/Challenge 2:

I want to know [the number of nuclear power plants] in [the U.S.].

Overview of site's usefulness in helping answer Question 2/Challenge 2:

I first clicked on the webpage about releases by industry since I wanted information about a specific industry, but this webpage was too high-level for the Casual User, who wouldn't understand the different types of releases and is unlikely to be familiar with NAICS codes. Once I found my way to American FactFinder, it was very straightforward to find the data I wanted, except that American FactFinder kept timing out (not sure if this is just a one-time thing from when I was doing the search or a bug in the search engine).

Sophisticated User

Question 1/Challenge 1:

I need information about [the industries with the highest payrolls or highest total expenditures] in [the state of Vermont] in order to [find industry's contribution to the state's economy].

Overview of site's usefulness in helping answer Question 1/Challenge 1:

As mentioned for the <http://www.census.gov/econ/> evaluation, the transition from the Census pages to the American Factfinder can be a little rough. If you began a search in the Census pages, you're not always confident where you'll end up on the Factfinder.

I had an unexpected switch from 2007 data to 2002 data, which even by going backwards through my steps, I couldn't identify the point where I jumped back. However, on the second go, I managed to find the 2007 data and the right data set. The combined sectors data set was particularly useful.

Question 2/Challenge 2:

I need information about [portion of supplemental costs relative to payroll] in [automotive sectors] in order to [understand the labor issue].

Overview of site's usefulness in helping answer Question 1/Challenge 1:

Information came up quickly.

Expert User

Challenge: Are microdata for the 2007 Economic Census available?

File: The smallest geography level the data can be selected is at zip code.

- Available in csv, tab or via FTP for large datasets.
- Once filtered by area, tables are available by subject
- Would have to download many tables to get the full data for one zip code

Download source: American FactFinder

Documentation: A full user guide is provided, and is easily accessible from the top tabs of the website.

What's changed: A "What's new for 2007" page summarized the changes from the previous 2002 economic census.

Comments on website: The site states that it is not legal to release the firm-level information that was collected in this survey. There is no indication that effort has been made to reprocess the data in a way that protects the privacy of the firm to produce a public use microdata set.

Nicely presented data release schedule.

10. County Business Patterns

Website URL: <http://www.census.gov/econ/cbp>

Casual User

Question 1/Challenge 1:

I want to know [the number of persons employed] in [my sector (Colleges & universities) and City (Cambridge, MA)].

Overview of site's usefulness in helping answer Question 1/Challenge 1:

The introductory blurb on this page was short but useful because it gave a short introduction and provided a link for more information. The convenient search links on the website homepage were initially useful but only provided establishment counts, which is not intuitive from the home page, which says "View data in tables". I had clicked the links thinking it would provide all CBP data – including # employees, but this was not the case.

Next I tried the quick reports in American FactFinder, but they do not combine geography and industry in an easy way. Instead I had to use the more complicated CBP: 2008 option in AFF. Even then, data were not available for my town, I had to use county and MSA to approximate my geography.

Using the filters was not straightforward and it was difficult to manipulate the dataset in American FactFinder without filtering (which is not immediately apparent as an option) because of the large number of rows. The website doesn't say anywhere that data about number of employees are not available at the zip code level, so I'm still not convinced that my data don't exist, but I could not locate it on the website or using AFF.

Question 2/Challenge 2:

I want to know [the number of dry cleaners] in [my town (Somerville, MA)].

Overview of site's usefulness in helping answer Question 2/Challenge 2:

It was relatively straightforward to find this information because I could plug my zip code into the search on the CBP main page. However, the tables on the CBP website refer to "Industry codes" but do not provide a reference or hyperlink to NAICS codes, so if you do not know what industry you are looking for (or that "Industry code" = "NAICS code", and how to look up NAICS codes) it can be very difficult to figure it out. Otherwise, accessing my desired information was straightforward.

Sophisticated User

Question 1/Challenge 1:

I need information about [change in employment from 2004 to 2006] in [Orleans Parish] in order to [see the effects of Hurricane Katrina in New Orleans, LA].

Overview of site's usefulness in helping answer Question 1/Challenge 1:

This was probably my most straight-forward search yet. I was able to find the information I wanted easily, and locating by county was nearly effortless.

Question 2/Challenge 2:

I need information about [the sectors with the greatest value of shipments] in [the Pittsburgh, PA metro area] in order to [see the effects of the new economy in the metro region].

Overview of site's usefulness in helping answer Question 1/Challenge 1:

Didn't have value of shipments so I looked up number of employees. I was going to recommend having an export option, but I now see that at the bottom of the page.

One complaint: when switching the year while doing a search by metropolitan areas, the metro area resets. I captured this under the recording file titled "CBP-EdgarSwitchError"

Expert User

Challenge: Locate the latest year's microdata.

File: Complete County File- 2008

- Zip file containing .csv
- 16 Mb

Download source: HTML page containing list of links; American FactFinder

The FAQ section indicates that you can also request special tabulations of the CBP data from the Company Statistics Division.

The microdata for this topic would likely come from the Business Register database (which is not available for privacy reasons).

Documentation: File layout and data descriptions are available in links on the same page as the individual file downloads.

Details on how the data are collected are available on an easy to find tab across the top. This section includes details on the noise infusion used for data privacy.

What's changed: A press release on the home page highlights key changes with the latest year's data set and includes some data tables that show the data between 2007 and 2008.

The Historical Data and Introduction sections detail comparability issues across years (e.g. geographic changes and survey changes).

Comments on website: Latest version of the data is clearly stated on the main page. Future release schedule on main page is useful.

The Introduction page had very good information, but it was quite downplayed on the main page and I did not find it until after I'd been through site. Would benefit from having its own tab across the top.

11. County and City Data Book 2007

Website URL: <http://www.census.gov/statab/www/ccdb.html>

Casual User

Question 1/Challenge 1:

I want to know [the number of crimes] in [my city (Boston, MA)].

Overview of site's usefulness in helping answer Question 1/Challenge 1:

I like the city and data book website because the main page provides a good description of what is available on the website and once I clicked into the site it was straightforward to find the table I wanted. It may have been easier if the website told me up front that data are presented separately for states, counties, cities, and other places. It also would have been easier if the data were available in HTML rather than PDF format.

Question 2/Challenge 2:

I want to know [the typical climate for January] in [my city (Chicago, IL)].

Overview of site's usefulness in helping answer Question 2/Challenge 2:

Same comments as for crime, except a table of contents for the different tables would help to more quickly find what I was looking for since climate is only listed for smaller geographies so at first I was confused about whether the data were actually available.

Sophisticated User

Question 1/Challenge 1:

I need information about [the number of restaurants] in [New York City] order to [write an article about the culinary culture of the city].

Overview of site's usefulness in helping answer Question 1/Challenge 1:

I was able to find the information right away, except that I was hoping for a further breakdown by type since restaurants and accommodations were grouped together. I wasn't able to find anything else that further separated the two, but I'm otherwise content with the results and ease of the search.

Question 2/Challenge 2:

I need information about [the water use] in [Las Vegas, NV] in order to [write an article about water demand on the Colorado River].

Overview of site's usefulness in helping answer Question 2/Challenge 2:

I was again able to find the information right away, although it was at the county level and not at the city level.

Expert User

Challenge: Are the microdata that went into the production of this data book available?

File: Only summary level tables are available from this data book. All can be viewed in PDF and some are available in Excel.

Download source: Varies

Documentation: All sources (with web links) are documented where data are presented.

What's changed: A previous edition of the data book is available from the homepage, making it possible (though not easy) to compare specific tables in PDF format to see what changed between the two editions.

Comments on website: This data book is a compilation of data from many different census and government programs. References to the source are provided under each table and a list of contacts for different programs are listed at the end of the data book publication.

For microdata on specific topics in this book, the user would have to contact the individual agencies to see what are available.

12. Geo

Website URL: <http://www.census.gov/geo/www/>

Casual User

Question 1/Challenge 1:

I want to know [whether my town (Lexington, MA) is classified as urban or rural] in [U.S. Census].

Overview of site's usefulness in helping answer Question 1/Challenge 1:

There is no explanation on the Geo site as to what it is and what is available so I spent a while clicking the various links. The PDF explaining geography types was useful and I liked that the table of contents was hyperlinked within the document. After searching a while I found my way to American FactFinder where I was able to look up my town, but only when I looked at the reference map (which was not useful for my purposes as I couldn't zoom to my town and it was hard to read) could I determine that my town is an urban area. In general, the geo website does not seem geared towards Casual Users since it is heavily focused on downloading files for mapping.

Question 2/Challenge 2:

I want to know [where the highest concentration of Hispanic populations are] in [the U.S.].

Overview of site's usefulness in helping answer Question 2/Challenge 2:

Again, there is not much to guide the user on where to find information in the geo website or a description of what information is available. I found my answer more quickly this time, and I thought that the maps that were available in the thematic maps/special purpose section were very interesting once I found them.

Sophisticated User

Note: It's unclear to me what a sophisticated user might be searching for with the data available here.

Question 1/Challenge 1:

I need information about [zip codes] in [New York City] in order to see [if their spatial layout are defined by geographic or demographic constraints].

Overview of site's usefulness in helping answer Question 1/Challenge 1:

I did a search and came up with a decent list of zip codes with corresponding population, housing units, land and water areas, and lat/long. This would be a decent step towards the above question. However, that didn't seem to be the intent of the question.

Question 2/Challenge 2:

I need information about [Census tracts] in [Cambridge, MA] in order to [know within which Census tract my business resides].

Overview of site's usefulness in helping answer Question 2/Challenge 2:

I was able to find the two txt files with the Census tract information. However, neither

http://www.census.gov/geo/www/al_mt_tracts.txt nor http://www.census.gov/geo/www/ne_wy_tracts.txt contained MA. Were I searching for any other state, I believe that my search would be over at this point.

I did some further searching and found some other maps and resources, but I wouldn't say that I was able to complete the question satisfactorily.

Expert User

Challenge: Locate the newest PUMS (microdata area) boundary files

File: tl_2009_06_puma500.zip

- Available at the state level
- Download is a zip file containing 1 shapefile
- ~ 5MB (1 state)

Download source: Web interface; FTP

Documentation: A technical documentation PDF is produced for each year's TIGER files. This covers every type of geographic file you can download. The appendices include data layout and data dictionary information.

Description of organizational structure (which files are available at which geographies) is very useful for understanding where to look for your download.

What's changed: Products such as the Block Relationship Files help users relate Census 2010 blocks to previous census blocks. Maintaining archives of past years' TIGER/Line files allows users to overlay the boundaries geographically to see what's changed.

Comments on website: Which data area available at which geographies is critical to understanding the big picture of the data. It is currently a long list. Creating a visualization tool that diagrams this could improve users' understanding.

TIGER/Line data are released on a rolling basis but are filed in yearly sets. The Release Schedule for 2010 was helpful to understand that the PUMS data I was looking for are not yet available for 2010 (so I had to then look for 2009). Breaking out of the year-by-year thinking to create a master list of all census geographic files available and what year the current latest version is for each file would provide an alternate view that would quickly point users in the right direction for their particular file.

13. Data tools

Website URL: <http://www.census.gov/main/www/access.html>

Casual User

Question 1/Challenge 1:

I want to know [if there's a way to look at the median income across states] in [the U.S. census website].

Overview of site's usefulness in helping answer Question 1/Challenge 1:

I selected mapping tools because I want to know information across states and a map seems like the quickest way to do so. However, it was hard to get to the screen to select the map you want from the landing page in AFF where the data tools website directs you – I basically had to click around until I could find a page that lets me select the metric I want mapped. There could also be more context about the information available for mapping from the different surveys before you are forced to pick which one you want to map. It's also hard to navigate the lists of surveys/topics for mapping because there are so many options.

Other comments:

Not sure if it was a browser issue, but I got a lot of error messages in AFF. If I had been able to see maps instead of getting the error messages I may have been able to locate the information I wanted more quickly.

Question 2/Challenge 2:

I want to know [if it's possible to look at general demographic information for my town (Somerville, MA)] in [the U.S. census website].

Overview of site's usefulness in helping answer Question 2/Challenge 2:

The data tools page does not do a good job of explaining the data available from each survey. For example, the 2nd link to the Census 2000 EEO Data tool seems like it should provide all kinds of census data (assuming the user knows what EEO means), but only when I clicked on the link did I discover that it is limited to equal employment opportunity. On the other hand, the American FactFinder (first link) could have given me the information I wanted but its description was too vague so I skipped it. After working through the list in order, I found my answer on the quick facts page, which was easy to use.

Other comments:

I liked that the Quickfacts compared information for my city to the state as a whole.

Related note: it seems like there are a lot of census tools that do similar things – e.g., American FactFinder, Quickfacts, Censtats all provide demographic data for different geographic areas – but no comprehensive listing of which tools do the same things or what the difference between them is. Maybe better organization/description on the data tools page could address this, or elsewhere on the census website.

Sophisticated User

Question 1/Challenge 1:

I am going to investigate links to data sites. I can't formulate a reasonable question.

Overview of site's usefulness in helping answer Question 1/Challenge 1:

Everything seemed to work with regards to finding tools, software, applications etc. I only found one dead link: [Public file send utility - http://www2.census.gov/cgi-bin/sendfile](http://www2.census.gov/cgi-bin/sendfile)

Expert User

Challenge: Locate microdata via the Data Access Tools page

File: Puerto Rico Community Survey 2009

Download source: iPUMS at University of Minnesota – followed a link directly from the Data Access tools main page.

Documentation: The MN website produces a user guide that explains the microdata samples on their website and how they were derived from the census files.

Nice summary tables exist showing variables across years and flagging which ones are available for which years.

What's changed: Errata and Revisions pages on the MN site summarizes all Census data changes/announcements and explains how it impacts the datasets available on the MN website.

Comments on website: This is not an official US government website.

Registration is required for iPUMS users to be able to download datasets.

14. DataFerrett

Website URL: <http://dataferrett.census.gov/>

Casual User

Question 1/Challenge 1:

I want to know [whether it is possible to use DataFerrett to retrieve information about demographics] in [my city (St. Louis, MO)].

Overview of site's usefulness in helping answer Question 1/Challenge 1:

Note: DataFerrett is a complicated tool and it is unlikely that a Casual User would need to use this tool to access Census data.

The introduction on the DataFerrett page was useful in informing me of what the tool is capable of. In browsing the data available page, I discovered that the American Community Survey has the data I want and it is available through DataFerrett. I then launched DataFerrett to try to obtain the data.

It was very helpful that the tutorial popped up as DataFerrett was launching because this allowed me to easily get an idea of the functionality of DataFerrett. However, I imagine that the tutorial automatically popping up may become annoying to repeat users. It would also be improved by some sort of table of contents to make it easier to get through the tutorial.

After completing the tutorial, I clicked the get data now link, although this link was very hard to see in my browser (the colors were hard to see). I found the variables I wanted in the American Community Survey, but it was unclear how to select the geography I wanted. There also appeared to be some difference between the data available for 3-years versus 1-year. I finally was able to select my geography, but I was unable to find documentation in DataFerrett explaining the "PUMA" area definitions so I could not select my city as the geography. In the course of trying to figure this out, DataFerrett opened several new windows and somehow closed out of the application without my meaning to and without saving my searches. I ended up giving up on finding the data after I could not find a key to the PUMA codes.

Sophisticated User

Note: This application appears to be beyond the needs of a sophisticated user. I am recording my steps in learning to use the website in order to gain information regarding the question. The question is somewhat vague since I'm trying to plow through relevant housing data available. My questions evolved as I understand what the data and reporting capabilities are within Ferrett.

Question 1/Challenge 1:

I need information about [housing density/housing types/general housing information] in [Laramie, WY] in order to [study the impact of a university on the surrounding residential housing].

Overview of site's usefulness in helping answer Question 1/Challenge 1:

The recording showed my first steps in learning the DataFerrett application, until Java crashed.

This recording showed my second steps in learning the DataFerrett application, until Java crashed again.

Question 2/Challenge 2:

I need information about [rent costs relative to education level] in [the USA] in order to [study the impact of education on housing].

Overview of site's usefulness in helping answer Question 2/Challenge 2:

I was able to find the pivot data to make the tables for these graphs, but didn't quite find the right data and the applet crashed.

Question 3/Challenge 3:

I need information about [mortgage costs in gated communities] in [Texas] in order to [report on the recent housing development trends].

Overview of site's usefulness in helping answer Question 3/Challenge 3:

I was able to acquire the data, and was on track until the applet crashed. I waited a couple minutes to see if the system would recover, but it didn't – this resulted in a three minute delay between inputs.

I was able to retrieve data to answer my question.

Expert User

Challenge: What microdata are available on DataFerrett?

File: Extract of 50 variables at microdata level from the National Survey of Fishing, Hunting, and Wildlife Associated Recreation.

- Limit of 50 variables at a time can be downloaded
- SAS, SPSS, STATA, tab, csv, space-delimited download options

Download source: DataFerrett Beta

Documentation: Tutorials in the use of DataFerrett are provided, though I did not use any of them.

This website is designed to give you download options for many different census programs. You can download a "Selected Variable Codebook" containing variable descriptions and value labels for your selected data set through DataFerrett.

The way to get full data documentation for your dataset is to follow the links from "Datasets Available" to the different program websites and see what is available for your dataset. The FHWAR survey that I picked linked to a page that had a pdf of documentation for my survey year.

What's changed: N/A

Comments on website: Microdata were easy to find as one of the first options was to filter for microdata-only datasets.

The DataFerrett (beta) tool still looks a bit clunky – it opens many windows. When you extract data, it puts your data download file on one of the previous windows without any notification, so you have to click around looking for it.

The limit of 50 variables at a time could make it tedious to download a full survey data set (if large). Also if you exceed your limit, you have to go back and clear your basket to start over, which wasn't evident the first time I tried. (I went back and tried to select less variables, and I believe it was adding to my original set of 56 so I was still over my limit when I went to download.)

It wasn't entirely evident when you were ready to proceed from the Step 1 tab to the Step 2 tab.

15. Listing by subject

Website URL: <http://www.census.gov/main/www/a2z/>

Casual User

Question 1/Challenge 1:

I want to know [the population] in [my town (Chicago, IL)].

Overview of site's usefulness in helping answer Question 1/Challenge 1:

I got to the listing by subject page and selected "P" because I wanted population data, which was straightforward. However, there were too many sub-topics under population with no explanation of what's what. I had to click through each one to figure out if it contained the information I wanted. The sub-topics could also be prioritized by most relevant or most recent to allow me to more easily find the most relevant and most appropriate source of population data. There's also no link to search in American FactFinder which seems like it would be the most straightforward way to find this information.

Sophisticated User

Question 1/Challenge 1:

I need information about [Immigration] in [the United States] in order to [allocate funding for ESL programs].

Overview of site's usefulness in helping answer Question 1/Challenge 1:

I was able to find multiple source of information regarding immigration and foreign born populations. Perhaps more broad sections could include more cross references to pages with similar topics.

Expert User

Challenge: Locate microdata available via the Listing by Subject page.

File: Links were provided to ACS PUMS and CES's restricted use microdata.

Download source: Differs based on site.

Documentation: Varies

What's changed: N/A

Comments on website: The link to CES should be updated to the new CES site location.

I followed the link to CES to search for microdata. This website indexed what microdata were available by request from the Research Data Centers, but you could not download directly.

16. New American FactFinder

Website URL: <http://factfinder2.census.gov/main.html>

Casual User

Question 1/Challenge 1:

I want to know [the number of educational establishments] in [my city (Boston, MA)].

Overview of site's usefulness in helping answer Question 1/Challenge 1:

At first glance the search seemed very straightforward – I typed in education in Boston MA into the quick search. However, no results came up for my search. I spent a while playing around with the different geography/industry/topic searches but the tool was finicky. I think part of the issue might be that it seems like at this point only information from Census 2000 is available in the new FactFinder, even though it says that information from the other surveys is available. There were also a few data sets available from Census 2000 and it wasn't clear what the difference was between them – finding the information I wanted involved deciphering a long list of datasets and it wasn't clear what the difference is between them. In end I gave up; however, I think the major obstacle was the fact that it doesn't seem like FactFinder yet has all of the surveys searchable.

Other comments:

- FactFinder also froze a couple of times in my browser.

Question 2/Challenge 2:

I want to know [about race and ethnicity] in [my city (Atlanta, GA)].

Overview of site's usefulness in helping answer Question 2/Challenge 2:

There is very little text on the main page for the user indicating how to use the search engine. However, the button for help on the quick start module allowed me to compose a basic query. This query did not yield any results, even though "race and ethnicity" is one of the topics. The tool automatically selected the zip code for my city, for which there was no data, rather than the place or metropolitan area for which there is data.

I cleared my search and I next tried to select my topic (race and ethnicity) from the topic module. However, the options under race and ethnicity are very specific and there was no option to just select for the overarching topic. Because I was unsuccessful in searching by topic, I decided to search by geography instead. I wasn't sure which of the place/city/metro area geography types would provide data, so I ended up picking the Atlanta city place randomly. Once I had the correct location selected, it was hard to find the correct table because many tables did not have data for my geography (even though I thought the search was limited by my selected geography) and even tables with "demographic" information did not necessarily have data on race and ethnicity. This was also made difficult by the fact that there are many tables that appear very similar, and the additional information link does not necessarily provide information distinguishing tables from each other. Also, at one point I tried to use the back button in my browser and AFF erased my entire search, forcing me to start over. Eventually I found the exact information I was looking for.

Sophisticated User

Question 1/Challenge 1:

I need information about [population density] in [Portland, OR] in order to [evaluate impact of urban growth boundaries].

Overview of site's usefulness in helping answer Question 1/Challenge 1:

The AFF site was unable to generate the population density tables for me in any browser tested (IE, Chrome or Firefox). This clip shows me struggling with trying to load the population density tables in IE, though it does show me loading a basic population table.

Question 2/Challenge 2:

I need information about [the change in population] in [Detroit, MI] in order to [investigate the change in population resulting from the decline in the automotive industry].

Overview of site's usefulness in helping answer Question 2/Challenge 2:

I was not able to find City Data using the geography tool, but I was able to locate the city data within the tables.

Expert User

Challenge: Locate the latest year's microdata.

File: No microdata were found.

Download source: Downloads from FactFinder are available in .csv, .xls, and .pdf. Some searches also link to existing FTP download sites.

Documentation: "View Table Notes" provides the link to documentation for the table that is being downloaded.

What's changed: N/A

Comments on website: I tried searching for "PUMS" data and it said my search term was corrected to "pumps" and that no data were found.

Not all datasets have been migrated to the New American FactFinder, but it did say that Census 2000 and 2010 data had been moved over. Therefore, I hoped to find the Census 2000 1-percent PUMS file that I had downloaded from the census site in a previous search, but did not have any luck.

FactFinder is organized by topics and geographies and is aimed at the general public. A researcher wishing to start with a particular survey will have more trouble using this site as a starting point.

17. Survey of Income and Program Participation

Website URL: <http://www.census.gov/sipp/index.html>

Casual User

Question 1/Challenge 1:

I want to know [information about income] in [the nation].

Overview of site's usefulness in helping answer Question 1/Challenge 1:

The SIPP website is not at all targeted for the Casual User and it is unlikely that a Casual User would seek to obtain information from this website. I started by reading the background material to try to get an idea of what the survey covers, but the background page was full of terminology I did not understand (for example, references to "longitudinal" reports, etc.). From the background section, I understood that the SIPP does collect income information, however the anticipated uses of the data seemed very different than the question I was asking. I found my answer in the Publications>Tables section of the website, however a lot of the information in that section seemed dated so I kept looking around. Note that the data tables downloaded as Excel files without any warning that this was the case. In the section about accessing SIPP data, the only option is to use DataFerrett, which as a Casual User I had never heard of and seemed too intensive for my purposes, so I returned to the publications section to look for data. In the end, I found quarterly data for 2009 that best answered my question.

Sophisticated User

Question 1/Challenge 1:

I need information about [the number of people participating in economic assistance programs] in [Mississippi] in order to [report Welfare issues].

Overview of site's usefulness in helping answer Question 1/Challenge 1:

I was a little disappointed to see that I would have to use Ferrett to retrieve my data. I would have rather been retrieving data in spreadsheets. However, I proceeded to load Ferrett and sign in. I was able to find the SIPP information, but I had no idea what the Waves were. I selected a few categories and viewed their variables. I selected variables for the data basket and made a table. Shortly into the generation of the table, the applet crashed, so I had to restart. After repeating the steps, I was able to generate some data. I wasn't able to separate by state, though I expect the option may have been available somewhere. I wouldn't say that I found the exact answer to my question, but it was close, and with continued work I probably could have achieved a reasonable answer.

Expert User

Challenge: Locate the latest year's microdata.

File: 2008 Panel Wave 1 Core Data File

Download source: SIPP FTP site; DataFerrett

Documentation: Data dictionary and replicate weight files are available with the file download.

A SIPP User's Guide is available under "Technical Documentation" and there are also several short HTML pages that describe a concept and then point users to the chapter in the User Guide that explains it in more detail. Having short introductory HTML pages for the content is a good idea so people don't have to immediately reference a long PDF.

What's changed: Various pages addressed changes to the survey over time, but it takes a while to get the full picture.

Comments on website: "Access SIPP Data" and "Data Product Schedules" were both highlighted on the main page as easy-to-find red tabs.

This was the first census survey I encountered where the frequency and pattern of the survey years was not immediately evident. The "Evolution of SIPP" page explains this to some degree.

There are a number of links across the top that link to information about the survey and about how to use the files and each of those pages contains more links. I think you would find all the info you need to eventually, but it could be better organized so that you know where you are and where you're going in the site.

18. Annual Retail Trade Survey

Website URL: <http://www.census.gov/retail/index.html#arts>

Casual User

Question 1/Challenge 1:

I want to know [the total annual sales for bars and restaurants] in [2007].

Overview of site's usefulness in helping answer Question 1/Challenge 1:

There is no explanation of the survey on the main page – all the text that appears is a correction note, which seems out of place since there isn't any explanatory text but there is a random note about the data on the front page of the website. It's not straightforward where to find background information about the survey since there are no links to "about the survey" on the main page – I had to scroll up and look around for it. In general, the information about the survey was in different parts of the website (most recent data, about the survey, historical data), with no links to easily get from one to another. However, the placement of the links to data files on the homepage was useful once I understood what the survey was because it was very easy to find the data I wanted once I knew what I was looking for.

Sophisticated User

Question 1/Challenge 1:

I need information about [Retail Indices] in [the Northeast] in order to [report on the holiday season for retail].

Overview of site's usefulness in helping answer Question 1/Challenge 1:

I had two problems with my investigation. First, I had hoped for more up to the date information, which wouldn't be available from an Annual survey in the first place. Secondly, I tried to look elsewhere for data, which I did find in the Monthly Retail Trade Report. I didn't find information broken by region, but I did find the indicators I was looking for.

Question 2/Challenge 2:

I need information about [the change of revenue over time] in [restaurants and service establishments] in order to [investigate their performance versus other retail sectors].

Overview of site's usefulness in helping answer Question 2/Challenge 2:

Given the limited number of products within the ARTS bracket, finding data was simple and straight forward. The Excel sheets were well formatted and easy to interpret.

Expert User

Challenge: Locate the latest year's microdata.

File: 2008 Survey Results (15 tables)

- Excel or PDF
- *National-level summary data only*

Download source: HTML page with list of links.

I did not see any indication of the availability of microdata files, but an email and phone number for the Annual Retail Survey program was easy to find on the main page.

Documentation: The tables are brief and easy to understand without extensive documentation. A few pages exist on the site describing the survey and how the data are collected.

What's changed: A "Summary of Changes" link and a correction notice are the first items on the main page's section for Annual Retail Survey.

Comments on website: The data released under this survey are short and simple so the website does its job, without making it more complex than it needs to be.

19. Advance Monthly Retail Trade Report

Website URL: <http://www.census.gov/retail>

Casual User

Question 1/Challenge 1:

I want to know [the total sales of toy stores] in [in the month of December].

Overview of site's usefulness in helping answer Question 1/Challenge 1:

There is no explanation of the various surveys on the main page – just links to the most recent data - and It was difficult to find the information explaining the survey because pages related to the survey are not linked to the pages providing the data or the main page. Information was not yet available for December, but I found November data. It was confusing to figure out what category “toy stores” fell into, and when I did figure it out (by going to the NAICS code website) the relevant NAICS code was not broken down into sub-industries so I could only find the total for hobby stores etc. None of the other tables from the most recent release broke this category down into sub-NAICS, and I could not easily locate links to any more detailed data.

Sophisticated User

Question 1/Challenge 1:

I need information about [gas station profits] in [2009] in order to [investigate if the Deepwater Horizon spill had impact on sales].

Overview of site's usefulness in helping answer Question 1/Challenge 1:

These data are constrained to a narrow time window that does not include the period desired.

Question 2/Challenge 2:

I need information about [Food Store Sales] in [November, 2009] in order to [investigate this will be a good Thanksgiving for grocery stores].

Overview of site's usefulness in helping answer Question 2/Challenge 2:

These data were easily found as there is only a single publication from AMRTR.

Expert User

Challenge: Locate the latest month's microdata.

File: December 2010 Survey Results (3 tables)

- Excel or Text format
- *National-level summary data only*

Download source: HTML page with list of links.

I did not see any indication of the availability of microdata files, but an email and phone number for the

Advance Monthly Retail Survey program was easy to find on the main page.

Documentation: The tables are brief and easy to understand without extensive documentation. A few pages exist on the site describing the survey and how the data are collected.

What's changed: The data tables compare the current month's results with the previous two months and previous year. Did not see any description of recent changes to the methodology of the advance monthly reports.

Comments on website: The data released under this survey are short and simple so the website does its job, without making it more complex than it needs to be.

20. Quarterly E-Commerce Report

Website URL: <http://www.census.gov/retail/index.html#ecommerce>

Casual User

Question 1/Challenge 1:

I want to know [the volume of internet sales] in [the holiday season].

Overview of site's usefulness in helping answer Question 1/Challenge 1:

As with the other retail surveys, there is no background information on the survey provided on the main page – just a link to the most recent data, so it is not straightforward to find out what information the survey provides. Additionally, the background information for the e-commerce survey is confusing (as well as organized differently from the other retail surveys in this section) and does not do a good job of telling me what information I can actually get from the e-commerce survey. After reading the background information, I went back to the main page and clicked the first link for a PDF of the most recent release, where I was able to find the volume of internet sales in the holiday season (Q4) of 2009. I thought the PDF was very helpful in providing background and basic data, especially compared to the information available from the other retail surveys.

Sophisticated User

Question 1/Challenge 1:

I need information about [the performance of online retailers] in [the past year and ideally with a future prediction] in order to [analyze purchasing stock of web based companies].

Overview of site's usefulness in helping answer Question 1/Challenge 1:

Since there is only one product, it was simply a case of loading the document. I found the recent information, but nothing to predict future performance.

Expert User

Challenge: Locate the latest quarter's microdata.

File: 3rd Quarter 2010 Survey Results (2 tables)

- Excel or Text format
- *National-level summary data only*

Download source: HTML page with list of links.

I did not see any indication of the availability of microdata files, but an email and phone number for the Quarterly E-commerce program was easy to find on the main page.

Documentation: The tables are brief and easy to understand without extensive documentation. A few pages exist on the site describing the report and how the quarterly e-commerce estimates are based on the same sample as the Monthly Retail Trade Survey.

What's changed: The data tables compare the current quarter with the previous quarter and previous

year. I did not see any mention of changes to the underlying survey methodology.

Comments on website: The data released under this survey are short and simple so the website does its job, without making it more complex than it needs to be.

21. Annual Survey of Manufactures (ASM)

Website URL: <http://www.census.gov/manufacturing/asm>

Casual User

Question 1/Challenge 1:

I want to know [about the energy consumption] in [electronics manufacturing plants].

Overview of site's usefulness in helping answer Question 1/Challenge 1:

The survey's main page provided a good level of introductory information so it was not necessary to dig deeper into the website to determine what it was about. All of the information and links I needed were right on the main page so there was no confusion about what to click. The ASM industry groupings page/Excel file was a little confusing but this wasn't actually necessary to get to my desired data. I clicked the link to get 2008 and 2009 data which took me to a massive table in American FactFinder. This table has a lot of columns and is not ideal for viewing on a webpage – it took me a minute to determine whether the column I needed (electricity consumption) was actually in the table. Then, when I tried to find the NAICS code that corresponded to my industry (which I had determined based on the ASM groupings file), I discovered that the table consisted of thousands of rows which would have been very time consuming to browse. I eventually found the link to filter the rows and filtered it to the industries I wanted. I was then confused for a moment to find both 2008 and 2009 data in the table, but I filtered the table again for 2009 data only and found my answer. Overall, using the ASM website to find information was very straightforward, except for the size of the data table in AFF.

Sophisticated User

Question 1/Challenge 1:

I need information about [the amount of tungsten used] in [light bulb manufacturing] in order to [predict if the tungsten market is growing].

Overview of site's usefulness in helping answer Question 1/Challenge 1:

I wasn't able to find specific information about the amount of tungsten used, but I did find information about material costs and other categories, which would be enough to give me an answer.

Expert User

Challenge: Locate the latest year's microdata.

File: 2009 Survey Results (3 tables)

- .csv or tab-delimited format
- *National-level summary data only*

Download source: HTML page with list of links.

I did not see any specific indication of the availability of microdata files (though a quick Google search revealed that they exist via Census Research Data Centers), but the About the Survey page mentioned that "most data are available on the internet". It also mentions that the ASM is an input to the Longitudinal

Research Database, which academic researchers can use for microdata analysis.

An email and phone number are provided for questions.

Documentation: The tables are easy to understand without extensive documentation. Industry groupings and product class codes are made available next to the data tables they relate to.

The standard tabs describing the survey and how the data are collected also exist.

What's changed: N/A

Comments on website: The website is organized like other census pages, with a familiar tab structure across the top which makes it easy to navigate if you are familiar with Census sites.

The ASM site should highlight their data sets more clearly. The three data sections on the main page look like the Overview section and might not be recognized as the main data on first glance. It is also odd that "Historical Data" jumps to 2006 - if you don't already know that the same sample is used for 5 years (we are in year 4 of the current sample). This influences how they group the data and what they view as historical; in some ways 2007/2008/2009 are considered the current data set even though it's an annual survey.

22. Service Annual Survey

Casual User

Website URL: <http://www.census.gov/services/index.html>

Question 1/Challenge 1:

I want to know [about revenues] in [the trucking industry].

Overview of site's usefulness in helping answer Question 1/Challenge 1:

As with the retail surveys, it was hard to initially get started since there is no background information provided on the main page. Once I found the background information and confirmed that it contained the answer to my question, I clicked the link for the trucking industry and was taken to a page specific to the trucking industry. The PDF file under latest data had exactly what I wanted. It would have been easier if the latest data were available on an HTML page in addition to PDF/Excel. I also thought it was strange that 2009 data are not yet available, since it is already 2011.

Sophisticated User

Question 1/Challenge 1:

I need information about [recreational services revenue] in [annual reports] in order to [report on the status of the industry].

Overview of site's usefulness in helping answer Question 1/Challenge 1:

I found data immediately. It was fairly simple since there is only one product.

Expert User

Challenge: Locate the latest year's microdata.

File: 2008 Survey results (9 tables)

- PDF and Excel
- *National-level summary data only*

Download source: HTML page with list of links.

There is no mention of microdata, though Annual Services staff contact info is provided.

Documentation: Technical Documentation is linked from the "How the Data are Collected" page and covers design, estimation and reliability.

What's changed: Changes to tables from the 2007 version are detailed in the Technical Documentation. The Historical Data section details changes to the survey over time and explains which years are comparable.

Comments on website: The website is organized like other census pages, with a familiar tab structure across the top which makes it easy to navigate if you are familiar with Census sites.

The site could provide an easier to locate link to the technical documentation – perhaps on the main page with the data downloads.

23. Quarterly Services Survey

Website URL: <http://www.census.gov/services/index.html>

Casual User

Question 1/Challenge 1:

I want to know [about how the entertainment industry is doing] in [the past few months].

Overview of site's usefulness in helping answer Question 1/Challenge 1:

There is very little background information on the homepage letting me know where I am and what the survey is. It is difficult to go back and forth between background information and data for the same survey since they are in separate sub-sections of the website and are not linked to each other. The lack of background information on the main page made it difficult for me to determine which link had the data I was looking for, however the first link I clicked provided my desired information, so at least the most relevant/recent data are presented first, which is helpful.

Sophisticated User

Question 1/Challenge 1:

I need information about [truck transportation rates] in [3rd Quarter, 2010] in order to [see if our company's rates were comparable to the competition].

Overview of site's usefulness in helping answer Question 1/Challenge 1:

I was able to find the data regarding revenue but not rates.

Expert User

Challenge: Locate the latest year's microdata.

File: 3rd Quarter 2010 results (10 tables)

- PDF and Excel
- *National-level summary data only*

Download source: HTML page with list of links.

There is no mention of microdata, though Quarterly Services staff contact info is provided.

Documentation: Technical Documentation is linked from the "How the Data are Collected" page and covers design, estimation and reliability.

What's changed: The "About the Survey" page mentions a new industry that was added to the survey in 2009. Technical Documentation mentions other changes in the survey design in past years. The data tables show percent change across the past 6 quarters.

Comments on website: The website is organized like other census pages, with a familiar tab structure across the top which makes it easy to navigate if you are familiar with Census sites.

The site could provide an easier to locate link to the technical documentation – perhaps on the main page with the data downloads.

24. Information and Communication Technology Survey

Website URL: <http://www.census.gov/econ/ict>

Casual User

Question 1/Challenge 1:

I want to know [about spending on computers and technology] in [the education industry].

Overview of site's usefulness in helping answer Question 1/Challenge 1:

The ICT main page is very good – it provides information about what the survey is and where to find data all on the first page so I did not have to browse the website to find this information. I just read down on the homepage and learned about the survey and then clicked the link to find 2008 data. The first figure in the list had the information I wanted, was presented as an html page so I did not have to download an Excel or PDF, and presented data by industry without using NAICS codes so it was very easy for me to find the data point I was looking for.

Sophisticated User

Question 1/Challenge 1:

I need information about [the amount of money spent on antivirus software] in [financial industry] in order to [report on the impact about viruses on business computing].

Overview of site's usefulness in helping answer Question 1/Challenge 1:

I wasn't able to find any information on antivirus software specifically, but the total expenditure on software for the financial/insurance industries was readily apparent.

Expert User

Challenge: Locate the latest year's microdata.

File: 2008 results (12 tables)

- Excel
- *National-level summary data only*

Download source: HTML page with list of links.

There is no mention of microdata, though ICT staff contact info is provided.

Documentation: Sampling and estimation methodology provided on same page as table downloads. Standard tabs "About the Survey" and "How the Data are Collected" exist.

What's changed: "Summary of Findings" page summarizes data changes between years. No mention of methodology changes between years on the site.

Comments on website: The website is organized like other census pages, with a familiar tab structure across the top which makes it easy to navigate if you are familiar with Census sites.

25. 2007 Survey of Business Owners (SBO)

Website URL: <http://www.census.gov/econ/sbo/>

Casual User

Question 1/Challenge 1:

I want to know [the number of female business owners] in [the nation].

Overview of site's usefulness in helping answer Question 1/Challenge 1:

There was not a lot of background information on the main page of the SBO website but there was enough for me to know that the information I wanted was available. The data release schedule page indicated that information about female business owners from the 2007 SBO had been released in December 2010 so I knew I should be able to find the information I wanted on the website. The links to all the data were located right on the main page which was nice, except it was a little confusing that both estimates and preliminary estimates were presented – I assumed that estimates were what I wanted. I liked the summary of findings page because it had the exact information I wanted and provided a useful summary of the stats without me having to look at them myself in AFF.

Sophisticated User

Question 1/Challenge 1:

I need information about [number of women owned small businesses] in [the Los Angeles area] in order to [report on women's issues in the business world].

Overview of site's usefulness in helping answer Question 1/Challenge 1:

I was able to go right to general women owned small business information in AFF. From there, I was able to select geography-LA Metro area, and was given the results. Only complaint was how long it took AFF to respond to requests.

Expert User

Challenge: Locate the latest year's microdata.

File: 2007 data (partially available – more to be released through June 2011)

- xls format
- *available at state and national-level only*

Download source: American FactFinder; HTML page with links

No indication that microdata are available. There is an information page on requesting special tabulations of the data.

Documentation: Standard tabs "About the Survey" and "How the Data are Collected" exist. Methodology and reliability of data are also described on the American FactFinder website.

What's changed: The Historical Data tab has a note at the top saying that data are not necessarily comparable between periods; users should read the methodology for each publication for more info.

Comments on website: The website is organized like other census pages, with a familiar tab structure across the top which makes it easy to navigate if you are familiar with Census sites.

This is the first website I've seen that promotes the "NotifyMe" feature that sends you a notification of upcoming data releases.

26. New Residential Construction Index

Website URL: <http://www.census.gov/const/www/newresconstindex.html>

Casual User

Question 1/Challenge 1:

I want to know [the number of housing starts] in [the past three years].

Overview of site's usefulness in helping answer Question 1/Challenge 1:

The formatting of the website makes it seem very out of date. There is no real explanation on the website about what the survey is and what's available, but the links to data made it easy to find the information I was looking for. It was strange that the Excel file with the relevant information had single-family and multi-unit separated but no totals.

Sophisticated User

Question 1/Challenge 1:

I need information about [the number of new building permits] in [Fort Collins, CO area] in order to [report housing growth in the area].

Overview of site's usefulness in helping answer Question 1/Challenge 1:

Data were easy to locate.

A small note: the newresconstindex.html is not a good home page file name.

Expert User

Challenge: Locate the latest year's microdata.

File: 2009 SOC Microdata file

- Available for purchase: \$50
- SAS or .xls files
- Delivery: email or CD

Download source: They will email files or mail a CD after you purchase.

Documentation: PDF of the SOC Microdata documentation is available for download. It includes a list of variables with data description. There is no indication that more documentation is included with the purchased microdata files.

What's changed: SOC Microdata file contains 14 new data items. These are noted in the SOC Microdata documentation, under "Remarks" for each variable.

Comments on website: Difficult to find things (went in circles) – probably the hardest to use Census site I've reviewed so far.

The front page overuses red text to highlight announcements at the top of the page. It also does not

provide many links to what the announcements are promoting.

The menus at the top are difficult to work with (at least in Firefox) and it was hard to get the menu to activate the links I was trying to click on.

27. Longitudinal Employer-Household Dynamics

Website URL: <http://lehd.did.census.gov/led/>

Casual User

Question 1/Challenge 1:

I want to know [about the economy] in [my town (Chicago, IL)].

Overview of site's usefulness in helping answer Question 1/Challenge 1:

There is a lot of information on the LEHD homepage but nothing that really defines what kind of information is available or the different options for accessing it. If I had randomly come onto this site I would have no idea what it was or what it offered. The "What is LEHD" and "What is LED" links on the right hand bar of the homepage were helpful for answering this but still left me wondering exactly what I could find on the website.

Once I got to the data tools page it seemed like there were a lot of similar and confusing tools available, but it was not clear which would be easiest for me to use and which would best answer my question. I basically went down the list in order. The Hotreports seem like they're only available for certain places, but this isn't clearly mentioned on initial background page.

The QWI tool ultimately gave me my answer and was simple and straightforward. I liked that the information buttons were next to the data so you can easily look up the meaning of a metric.

Sophisticated User

Question 1/Challenge 1:

I need information about [unemployment rates] in [Rhode Island] in order to [see if employment programs are responding].

Overview of site's usefulness in helping answer Question 1/Challenge 1:

I found resources regarding unemployment and multiple resources regarding employment.

Question 2/Challenge 2:

I need information about [top hiring industries] in [Missouri] in order to [help my job center locate perspective employers for applicants].

Overview of site's usefulness in helping answer Question 2/Challenge 2:

The industry focus webpage gave me a form to enter data, which yielded fairly detailed tables.

Expert User

Challenge: Locate the latest year's microdata.

File: Located LEHD Restricted-use microdata sets:

- Business Register Bridge (BRB)

- Employer Characteristics Files (ECF)
- Employment History Files (EHF)
- Geocoded Address List (GAL)
- Individual Characteristics Files (ICF)
- Quarterly Workforce Indicators (QWI)
- Unit-to-Worker (U2W)

Download source: Must be registered with a Research Data Center to get access.

Documentation: N/A

What's changed: N/A

Comments on website: There was so much content on the main page that I did not notice the navigation tabs at the top of the site initially.

Under "Data Download" on the main page and on the Research tab they have a link to the Research Data Centers. However, I did not find the list of the actual microdata sets on the LEHD website. That was located via a search of the census site - <http://www.census.gov/ces/dataproducts/lehddata.html>

28. News Room/Multimedia

Website URL: <http://www.census.gov/newsroom>

Casual User

Question 1/Challenge 1:

I want to know [when information from the 2010 Census will be available] in [U.S. Census publications].

Overview of site's usefulness in helping answer Question 1/Challenge 1:

It was hard to figure out which link to click from the newsroom main page to find when 2010 census data are available – it was basically a case of trial and error. However, once I found my way on to the 2010 Census website it was clear because it is the first text presented on the page stated that 2010 census data have already been released.

Question 2/Challenge 2:

I want to know [where I can find recently released information about my town] in [the census website].

Overview of site's usefulness in helping answer Question 2/Challenge 2:

The first link in the data center took me exactly where I wanted to go; however I clicked on this link more because it was the first one listed than because I was confident it was the correct link.

Question 3/Challenge 3:

I want to know [if there are any images related to the Census that I can use] in [my presentation for a class].

Overview of site's usefulness in helping answer Question 3/Challenge 3:

I was able to find the answer to this question quickly since the photo link is available on the newsroom homepage and takes me directly to the census photos pages.

Sophisticated User

Question 1/Challenge 1:

I need information about [the release date of the 2010 Census data] in [the state level] in order to [document how our consumer base is changing].

Overview of site's usefulness in helping answer Question 1/Challenge 1:

My question was intended to inquire about the entire release timeline than any specific product. I was able to find a release timeline of the 2010 Census through the main 2010 Census portal. I found the appropriate link to the 2010 Census News page through the Newsroom.

Question 2/Challenge 2:

I need information about [the upcoming release dates] in [Education indicators] in order to [help steer the school districts curriculum].

Overview of site's usefulness in helping answer Question 2/Challenge 2:

I was able to find recent releases but no information regarding upcoming release dates.

Expert User

Challenge: Locate the latest year's microdata.

File: This site did not provide data.

Download source: Data Center link on main page has a link to American FactFinder.

Documentation: N/A

What's changed: N/A

Comments on website: Some news provides links to the major census programs where microdata can then be found, but this would not be an ideal starting point for a researcher.

The Data Center section on the main page is helpful, but it is not comprehensive.

29. Publications

Website URL: <http://census.gov/prod/www/titles.html>

Casual User

Question 1/Challenge 1:

I want to know [what kind of information about governments I can find] in [the U.S. Census website].

Overview of site's usefulness in helping answer Question 1/Challenge 1:

The links on the main page were straightforward and I was able to easily find my answer. Note, however, that the publications website feels out of date compared to other Census websites, and it would be helpful if the different topic pages also included links to relevant parts of the Census website that might have additional or more recent information.

Sophisticated User

Question 1/Challenge 1:

I need information about [the programs that will give me local demographic data] in [my metropolitan area] in order to [have all available statistics on hand for setting policy in our municipality].

Overview of site's usefulness in helping answer Question 1/Challenge 1:

I was able to find quick links to many of the Census products. I especially liked that these links would take me directly to tables and bypass sorting through the main pages of the programs.

Expert User

Challenge: Locate the latest year's microdata.

File: This site did not provide data.

Download source: Links provided to the major census programs, where microdata can then be found.

Documentation: N/A

What's changed: N/A

Comments on website: In each of the sections, I found the list of links confusing – some of them (e.g. General and Reference) had a mixture of links and PDFs with no headings and in no particular order. Needs more organization.

30. Survey Participation

Website URL: http://www.census.gov/survey_participants/

Casual User

Question 1/Challenge 1:

I want to know [if I am required to complete the American Community Survey I received].

Overview of site's usefulness in helping answer Question 1/Challenge 1:

The introduction to the website is straightforward and it is easy to navigate, however once I delved into the household section I found that I could not find the answer to my specific question. The page on "am I required to submit this survey" simply said that the survey should indicate whether or not it was required, but it did not provide further instruction on how I could find this information. Additionally, there are no links to the different types of surveys from the survey participation page so it was not possible to learn more about the survey I received from this part of the census website. The website is very general and does not provide specific information for the different surveys. It seems like the site should at least provide links to the relevant surveys webpages.

Other comments:

- The drop down menus for the top header do not work in IE – I had to click the link to the section and then find the page I wanted from there.

Sophisticated User

Question 1/Challenge 1:

I need information about [the legitimacy of my request for Census data] in [my business] in order to [evaluate if I'm being scammed].

Overview of site's usefulness in helping answer Question 1/Challenge 1:

I skimmed through the business pages which functionally provided the information that I needed. Everything looked fine.

Expert User

Challenge: Locate the latest year's microdata.

File: This site did not provide data.

Download source: N/A

Documentation: N/A

What's changed: N/A

Comments on website: Under "Business Surveys – List of Forms and Surveys", you could find links to the survey programs and American FactFinder data. They did not provide the same info/links for Household Surveys.

This site is not a good starting point for microdata/academic researchers.

31. About

Website URL: <http://www.census.gov/aboutus/>

Casual User

Question 1/Challenge 1:

I want to know [what information I can find] in [the Census website].

Overview of site's usefulness in helping answer Question 1/Challenge 1:

I sort of found the answer to my question in the "what data we collect and when" section of the about us webpage. The webpage was straightforward to navigate, it just didn't directly answer the question I asked.

Question 2/Challenge 2:

I want to know [a phone number I can use to talk to someone about the U.S. Census].

Overview of site's usefulness in helping answer Question 2/Challenge 2:

It was very easy to find a phone number to contact Census in the about us section. The sub-sections are clearly labeled and easy to navigate.

Sophisticated User

Question 1/Challenge 1:

I need information about [the budget and staff] in [the Census Bureau] in order to [report on the expenses in maintaining the US Census Bureau].

Overview of site's usefulness in helping answer Question 1/Challenge 1:

In a fairly quick search, I was able to find fairly specific information on the Census staff and budget.

Expert User

Challenge: Locate the latest year's microdata.

File: This site did not provide data.

Download source: Links provided to the major census programs, where microdata can then be found.

Documentation: N/A

What's changed: N/A

Comments on website: Overall, a good summary of what census does, with links to the various programs. It would serve as a suitable starting point if you want to know the full range of census programs. The "what we do" section was the most relevant for this type of information.

There was a link promoting research opportunities at the census, which might appeal to researchers who use microdata.

32. Regional Offices

Website URL: <http://www.census.gov/regions/>

Casual User

Question 1/Challenge 1:

I want to know [how to contact my Census regional office (for Houston, TX)] in [order to ask questions about the survey I received].

Overview of site's usefulness in helping answer Question 1/Challenge 1:

I was able to quickly locate the phone number and email address of my regional office by clicking my state on the main page. I assume that the office's main phone number is the one I should use to ask questions about surveys (there is no information on the website indicating otherwise).

Sophisticated User

Question 1/Challenge 1:

I need information about [my regional Census office] in [my region (MA)] in order to [arrange a Census Bureau tour for my elementary school].

Overview of site's usefulness in helping answer Question 1/Challenge 1:

No problem in locating my regional office. We'll see if Regional Director Kathleen Ludgate will welcome our students for a visit.

Expert User

Challenge: Locate the latest year's microdata.

File: This site did not provide data.

Download source: American FactFinder; Regional Reference Center available to research and download data to CD

Documentation: N/A

What's changed: N/A

Comments on website: This website gives regional office information. As all Census programs are run nationally, these sites do not provide specific data sets for the region. However, they serve as a good starting point for someone who contacts their regional office and needs more information about census programs in their area.

For microdata searches, the State Data Center (a link is provided under Resources) is probably a better resource.

33. FAQs

Website URL: http://ask.census.gov/cgi-bin/askcensus.cfg/php/enduser/std_alp.php?p_sid=vIXuh3dk

Casual User

Question 1/Challenge 1:

I want to know [where I can find data on the Census website about businesses] in [my area].

Overview of site's usefulness in helping answer Question 1/Challenge 1:

At first the FAQ page is hard to navigate because it is not broken up by topics or areas of the website, it is just a list of all questions that you can limit by keyword, which makes it hard to view. Once I limited the questions by my keywords I found an answer addressing my question exactly, however the answer just directed me to the business and industry page, where I had to search around on my own until I found what I was looking for. The FAQ page would have been a lot more helpful if it was better organized for browsing/searching and if the answer to the question I referenced gave additional information other than just a link to a relevant page on the Census website.

Sophisticated User

Question 1/Challenge 1:

I need information about [the data sources for the economic indicators] in [the FAQs] in order to [understand how the indicators are prepared].

Overview of site's usefulness in helping answer Question 1/Challenge 1:

I wasn't able to locate much information on the Economic Indicators in the FAQ section, as almost anything economic was related to the Economic Census. After browsing through 5 pages related to 'economic indicators' I believe I found about 3 FAQs related to the Economic Indicators products. My question, which possibly wasn't the best to evaluate FAQs, was definitely unanswered within the FAQ section. I was able to use one of the FAQs to get to the Economic Indicators page.

Question 2/Challenge 2:

I need information about [upcoming release dates of products] in [the Census] in order to [be keeping our business alert to key industry indicators].

Overview of site's usefulness in helping answer Question 2/Challenge 2:

After searching for 'release dates,' I was able to find multiple options for various Census products. I would say that it was a successful search.

The secure page warnings that appear upon each page load are obnoxious and probably shouldn't be appearing. Their presence discredits the results and impedes the user from searching in the site.

Expert User

Challenge: Locate the latest year's microdata.

File: Microdata downloads available on DataFerrett

Download source: DataFerrett

Documentation: N/A

What's changed: N/A

Comments on website: Doing an FAQ search on “microdata” gave me an answer right away. The first response provided a list of key microdata sets available on DataFerrett and pointed me to the website. This is a useful starting point if you had no idea where to look for microdata.

Having accessed this same FAQ site from various other census programs, I find that it is very useful in some cases, and not at all in others. If there are too many FAQs that have your search term, I find it hard to read through the list and figure out whether there's an answer that would help with my question. In this case, though, the answer was very relevant and came up right on top.

34. Quick Facts

Website URL: <http://quickfacts.census.gov/qfd/index.html>

Casual User

Website Introduction:

QuickFacts includes data for all states and counties, and for cities and towns with more than 25,000 people

Question 1/Challenge 1:

I want to know [the average household size] in [my town (Cambridge, MA)].

Overview of site's usefulness in helping answer Question 1/Challenge 1:

I liked the layout of this webpage because it's very easy to find information by geography and the instructions are easy to follow. I first selected my state on the main page. It was a little confusing that demographic information for my state showed up after I selected my state – it seemed like the search was over and it wasn't immediately clear how to get data for a more specific area (my town). Once I saw the additional search boxes on the top of the page it was easy to locate information for my town. However, average household size appeared further down in the list than I would have expected – it's not quite clear what the organizing method is for the stats.

Question 2/Challenge 2:

I want to know [the median household income] in [the nation].

Overview of site's usefulness in helping answer Question 2/Challenge 2:

Again, it was easy to get the search started, but it was weird that USA appeared on the bottom of the drop down list – I would expect it to be at the top. Once I found USA the information I wanted was on the results page. I liked that the information button appears next to each metric so I can immediately see what the metric means, but it's annoying that they automatically pop up when I roll over, but then I have to click the "x" to close it.

Sophisticated User

Question 1/Challenge 1:

I need information about [Bend, OR] in [whatever form delivered by Quick Facts] in order to [see if there is information about home vacancies in this former boom town].

Overview of site's usefulness in helping answer Question 1/Challenge 1:

Search couldn't have been much simpler or quicker. Within a couple of clicks I had both the city and county level data available. I found some general housing statistics, and then noted the link 'Browse Data Sets for....' which will take me to other programs based on my geographic preference. This tool makes Quickfacts a more useful utility for sophisticated user.

Question 2/Challenge 2:

I need information about [Santa Rosa, CA and California] in [whatever form delivered by Quick Facts] in

order to [to compare trends between the city and the state].

Overview of site's usefulness in helping answer Question 2/Challenge 2:

I found Santa Rosa, CA and the California comparison was already side by side. No complaints here.

Expert User

Challenge: Locate the latest year's microdata.

File: Summary data available from many census programs

- xls format
- Nation/State/County/City level

Download source: HTML page with download links

There are no microdata on this site, but it does list a lot of the census programs that do have microdata (if you link to those sites and find the data there). It also provides links to State Data Centers that may have microdata sets for academic researchers.

Documentation: The "Download the Database" page describes how to work with the data available on Quick Facts.

What's changed: N/A

Comments on website: This website is not designed as a starting point for microdata searches. It does its job, making state level data easy to access.

35. Corporate Blog

Website URL: <http://blogs.census.gov>

Casual User

Question 1/Challenge 1:

I want to [understand what the U.S. Census Bureau does and find interesting factoids] in [Census data].

Overview of site's usefulness in helping answer Question 1/Challenge 1:

This website does a very good job of providing information in a digestible form for the Casual User. The text is straightforward and the features are very pertinent and contain interesting information. The blog is successful at highlighting interesting features on the Census website and would be a good entry point to Census for the Casual User, as it links to the actual surveys for more information. For example, the interactive table displaying 2010 Census data and the video explaining apportionment were very interesting features. I also found it easy to browse through the blog and its links.

Other comments:

- It was helpful that the links to other census websites opened in new windows so it was easy for me to return to the blog after viewing a map, etc.
- It was a little off-putting when I would click on a link that took me to a website that looked like it had out-of-date formatting (the Current Population Survey site).

Sophisticated User

Question 1/Challenge 1:

I can't formulate a proper sophisticated user question for the blog, so I'm evaluating the site for functionality and useful information.

Overview of site's usefulness in helping answer Question 1/Challenge 1:

From what I see, this is a functional and informative blog. All the links, pictures, and embedded video appear to be working. It looks like the comments are well moderated. I noticed that the posts have been consistently spaced out, with about 4-6 per month since the September inception.

Expert User

Challenge: Locate microdata from a blog.

File: A search for blog topics related to microdata or PUMS did not retrieve any results.

Download source: N/A

Documentation: N/A

What's changed: N/A

Comments on website: The blog articles promote interesting facts and tools available within census. This site would not be a good starting point for survey data downloads, but it definitely serves its purpose to

promote census activities to the general public. Overall a nice recent addition to the Census site.

36. Calendar

Website URL:

<http://www.calendarwiz.com/calendars/calendar.php?crd=cens1sample&PHPSESSID=be839c239f19d38e7ef5b77caa4e3a98&jsenabled=1&winH=827>

Casual User

Question 1/Challenge 1:

I want to [know if there are any upcoming Census events] in [my area (New York City)].

Overview of site's usefulness in helping answer Question 1/Challenge 1:

The calendar was straightforward to use, but it was hard to tell if there were events in my area since the event names do not always indicate a city and it was hard to tell if the search function actually worked. It would also be useful if I could have clicked on one of the categories on the bottom and seen all the events for that category – there are so many categories/colors that it's hard to distinguish them on the map.

Sophisticated User

Question 1/Challenge 1:

I can't formulate a proper sophisticated user question for the calendar, so I'm evaluating the site for functionality and useful information. I will have an eye open for upcoming release dates.

Overview of site's usefulness in helping answer Question 1/Challenge 1:

The calendar in itself is fine, if out of date. All the links are functional, and while the load time is a bit slow, it is reasonable. However, the calendar doesn't seem to be universally used by external Census Bureau programs. I was a bit shocked to find basically no events scheduled in February or March, which would make me want to seek different methods to find the Census events. I searched for release dates, and only saw one release which was a year old.

Expert User

Challenge: Locate microdata from the calendar.

File: N/A

Download source: N/A

Documentation: N/A

What's changed: N/A

Comments on website: My initial thought was that this calendar could summarize all the data release schedules that are listed on the various survey websites. That would be a really helpful overview for data-oriented users.

However, this site seems to be mostly used to promote expos and conferences. I tried filtering the categories to only the data-oriented categories and there were hardly any entries on the calendar. The entries that were there still just promoted outside expos and conferences.

The calendar is not hosted at a census.gov address, which makes it look less official. It also has links to facebook and youtube that seemed out of place.

37. Foreign Trade Division

Website URL: <http://www.census.gov/foreign-trade/index.html>

Casual User

Question 1/Challenge 1:

I want to know [value of US exports to China] in [the last year].

Overview of site's usefulness in helping answer Question 1/Challenge 1:

The blurb describing the website on the main page was helpful because it let me know that the information I wanted is available on the website. It was confusing to select which table to view because I wasn't clear on the differences in types of data (seasonally adjusted, not seasonally adjusted) and which corresponded most to my question. I liked the option to view the data as TXT rather than having to download the PDF/Excel files, however I did not expect the text pages to open in a new browser window. I was also only able to find monthly and year-to-date data rather than historical data for a full year, although it is possible that further browsing on the website could have led to this information.

Sophisticated User

Question 1/Challenge 1:

I need information about [solar panels] in [US exports] in order to [report on green exports].

Overview of site's usefulness in helping answer Question 1/Challenge 1:

I wasn't able to find data regarding solar panels specifically, but I was able to find plenty of information on other industrial and commercial exports. Were I searching for a more general category, I would have had quick results.

Question 2/Challenge 2:

I need information about [petroleum] in [US imports/exports] in order to [report on our sources of crude oil].

Overview of site's usefulness in helping answer Question 1/Challenge 1:

I was able to find the right data for total imports/exports right away. It took a couple more minutes to find the data separated by country.

Expert User

Challenge: Locate latest year's microdata..

File: Port Data

- Available for purchase: \$400/month
- txt files
- Delivery method unclear

Download source: N/A

Documentation: Record layout, codes and concordance files are available. The “Reference” tab summarizes documentation and includes a link to a detailed “Guide to Foreign Trade Statistics”.

What’s changed: Found page on “2009 Foreign Trade Data Product Changes”

Comments on website: One of the more difficult to navigate census sites.

The website seems to have a lot of links that appear and disappear on the left side, depending on what page you're on. It's hard to know that you've found everything.

I also seemed to be jumping back and forth between a new and an old version of the website.

It took a while to find out that data products are available for purchase. Then I found descriptions of it in several places, almost as if a new site had been started but the old site was still there too.

I'm not clear on the distinction between the pages “More DATA – Data Products” and “Important Links – Foreign Trade Products”.

38. Business Help Site

Website URL: <http://bhs.econ.census.gov/bhs/index.html>

Casual User

Question 1/Challenge 1:

I want to know [what kind of information is available to help users fill out census surveys] in [the Census website].

Overview of site's usefulness in helping answer Question 1/Challenge 1:

Note: It is very unlikely that a Casual User would use this website.

The introductory text on the main page provided a good summary of the information available on the website. The select a survey box is formatted oddly and was a little confusing since there is no way to get information applicable to all surveys. The site was easy to navigate but the page layout changed in different sections which was a little jarring. It was also frustrating that the FAQs were formatted across different pages rather than being able to go back and forth between the question list and the answers on the same page. I also found it odd that there is no link to the pages within census where you can find data from the survey from this website.

Sophisticated User

Question 1/Challenge 1:

I need information about [what economic data are available] in [chemical processing sectors] in order to [monitor the trends in the industry].

Overview of site's usefulness in helping answer Question 1/Challenge 1:

After starting to search through the site, I realized my question was not suited for this website.

Question 2/Challenge 2:

I need information about [what Census forms are online] in [which my manufacturing business may be required to fill] in order to [complete our reporting requirements for the Census].

Overview of site's usefulness in helping answer Question 2/Challenge 2:

I was able to get connected to around 10 different surveys that may apply to my business. No problems noted during navigation.

Expert User

Challenge: Locate microdata on the Business Help site.

File: N/A

Download source: N/A

Documentation: N/A

What's changed: N/A

Comments on website: This site is designed to provide support to business that have been sent surveys.

There is an area on the interior pages called "Data Products" that links to the 2007 Economic Census website. This is the only data related info I see on the site.

I like how the surveys are grouped by their frequency on the main page and the Surveys Schedule page is quite helpful.

The search button on this site brings up a broken link.

39. Statistical Abstract

Website URL: <http://www.census.gov/compendia/statab/>

Casual User

Question 1/Challenge 1:

I want to know [the most recent demographic information about different ethnic groups] in [the nation].

Overview of site's usefulness in helping answer Question 1/Challenge 1:

The introduction on the main page was useful, and it was straightforward to look for my desired topic in the left-hand list. There were a lot of tables listed in the section I selected and they all seemed like they were showing the same information, so it took me a moment to select the one I thought would best answer my question. I found my answer on that page but kept looking for a more easily digestible version and that the summary statistics (linked in the right hand bar of the website) had what I wanted in an easier to view HTML format, but this table had not been linked to from the population page.

Sophisticated User

Question 1/Challenge 1:

I need information about [the number of college graduates at different levels (associate, bachelor, master, PhD, professional)] in [the US] in order to [report about post secondary education trends].

Overview of site's usefulness in helping answer Question 1/Challenge 1:

I was easily able to find this with the Educational tab. I'm pretty impressed by the amount of information and ease of use of this page. From the point of view of a sophisticated user, this website is a goldmine. It is well categorized, contains a great deal of information, well formatted and functional. This was something of a repeat search I performed earlier and was unable to find the state level information – this provided the data almost instantly.

Question 2/Challenge 2:

I need information about [the number law enforcement personal] in [Montana] in order to [evaluate if we have the resources to monitor our northern border].

Overview of site's usefulness in helping answer Question 2/Challenge 2:

I wasn't able to find the exact answer to this question. I was able to find statewide data on total protective service employees, and national data on the break down of protective service employees, but not the right data.

Expert User

Challenge: Locate microdata from the Statistical Abstract.

File: Only national-level tables are available from this reference. All tables can be viewed in PDF and Excel.

Download source: HTML page containing links

Documentation: All sources (with web links) are documented where data are presented.

What's changed: Earlier editions of the Statistical Abstract are available from a tab on the site, making it possible (though not easy) to compare specific tables in PDF format to see what changed between the two editions.

Comments on website: This Abstract is a compilation of data from many different census and government programs. References to the source are provided under each table and a list of sources is provided in the Guide to Sources.

For microdata on specific topics in this Abstract, the user would have to contact the individual programs that these statistics are based on to see what is available.

40. Families and Living Arrangements

Website URL: <http://www.census.gov/population/www/socdemo/hh-fam.html>

Casual User

Question 1/Challenge 1:

I want to know [the number of single parent families] in [the nation].

Overview of site's usefulness in helping answer Question 1/Challenge 1:

The introduction doesn't give me a very good idea of what is available on the website and it seems like the site is a long list of links with very little explanation. I chose to view the 2010 CPS data because it was listed first and it seems recent. I thought the definitions and explanations page might tell me what it is but it was mostly just a data dictionary. When I got to the tables, it was frustrating that I could only view them in EXCEL or CSV. I didn't know what table I wanted so as I clicked through each time I had to open a new Excel file. A lot of the tables are hard to understand so I wasn't sure if they presented the information I wanted, until I found a table that corresponded to exactly what I wanted to know. Overall, this site seems out of date and is difficult to understand and browse.

Sophisticated User

Question 1/Challenge 1:

I need information about [the number divorced men] in [Reno, NV] in order to [report on the effects of the divorce capital].

Overview of site's usefulness in helping answer Question 1/Challenge 1:

I was able to find the statewide/Nevada data after locating the link to the relevant 2000 Census table. I had been hoping to find data by county/metropolitan area, but I don't think it is readily available.

Expert User

Challenge: Locate the latest year's microdata.

File: 2010 CPS March Supplement

- Zip file containing a .DAT file
- ~ 30 MB

Download source: on CPS website: FTP, DataFerrett

Documentation: Data dictionary available on FTP download page. Technical paper on 2010 ASEC supplement available on the CPS Technical Documentation page.

What's changed: A description of revisions to the CPS over the years is covered in the Technical Documentation.

Comments on website: The Families and Living Arrangements page only provides national-level summaries of data collected in the March Current Population Survey. To get microdata on this topic, the full March CPS file had to be downloaded from the CPS website.

Since these data are derived from the full CPS March Supplement, it seems odd that the only link I see to the actual CPS website is under Data Availability, which refers to ordering CD-ROMs. I knew what I was looking for because I had already reviewed the CPS website.

41. Educational Attainment

Website URL: <http://www.census.gov/hhes/socdemo/education/>

Casual User

Question 1/Challenge 1:

I want to know [the average education level of people] in [my industry].

Overview of site's usefulness in helping answer Question 1/Challenge 1:

The educational attainment page does not do a good job of explaining the information available from each of the surveys. It also does not do a good job of linking to the different survey homepages and sources of data (e.g., AFF). At several points, I was unsure whether the information I wanted was even available from the surveys (although in the end I did find the information I wanted – although the link did not really indicate that it contained the information). It took me a while to find my answer, going through the different surveys and lists of data tables.

Other comments:

- The headings in the educational attainment page do not show you where you currently are in the website.
- It is hard to search the tables in this section of the website since they have long titles and are similar to each other. It also seems odd that educational attainment by industry is not a highlighted data type, since it seems like this is something people might want to know.

Sophisticated User

Question 1/Challenge 1:

I need information about [the proportion of people with PhDs] in [the greater Washington DC area] in order to [report on the effects of federal jobs on demographics].

Overview of site's usefulness in helping answer Question 1/Challenge 1:

I was able to find information about the number of bachelor and above degrees with reasonable ease for the metro DC area using ACS. I wasn't able to find numbers regarding the number of people with PhDs.

Expert User

Challenge: Locate the latest year's microdata.

File: Educational Attainment data are collected in: ACS, CPS, SIPP and Census.

All of these sources (reviewed elsewhere) have microdata available. It would be a matter of extracting the education-related data from each of these data sets.

The level of data presented on the Educational Attainment website is national-level only.

Download source:

ACS, CPS, SIPP and Census websites; American FactFinder; DataFerrett

Documentation: Available on individual websites

What's changed: Available on individual websites

Comments on website: This is a nice, easy to use website for a topic (education). It is very clear what surveys the different educational statistics are derived from and the site gives you link and information about the source surveys.

42. Income

Website URL: <http://www.census.gov/hhes/www/income/income.html>

Casual User

Question 1/Challenge 1:

I want to know [the median income] in [my city (Cambridge, MA)]

Overview of site's usefulness in helping answer Question 1/Challenge 1:

I liked that there was a short overview on the main page of the income site. However, the income website does not do a good job of explaining the different sources of income data so it is hard for the user to determine which data source is most appropriate. It would be helpful if there were brief explanations on the income data by source page instead of just links. I basically went through the list using trial and error until I found my way to the ACS data. It would have been helpful if there was a direct link to search ACS income data in AFF, but the links are confusing and lead you to the ACS homepage instead, from which you can get to AFF to get data.

Sophisticated User

Question 1/Challenge 1:

I need information about [the mean income] [for males ages 18-25 in Alaska] in order to [report about the unique work environment in Alaska].

Overview of site's usefulness in helping answer Question 1/Challenge 1:

I wasn't able to find the information from the Income webpage. However, once I did a deep search through ACS, I was able to find the data of income by age for the state of Alaska.

Expert User

Challenge: Locate the latest year's microdata.

File: Income data are available from: CPS ASEC, ACS, SIPP, Census, SAIPE

An "Income Microdata Access" page provides a great summary of all the microdata source options.

Download source: CPS ASEC, ACS, SIPP, Census, SAIPE websites; DataFerrett.

Documentation: Available on individual websites – shortcuts are provided on the Income Methodology page on this website.

What's changed: Available on individual websites

Comments on website: This topical website is not just a group of income-related links; it provides great additional explanation of the income data available from the major census surveys. "Guidance About Income Sources" details which data to use for which purpose. This makes it a topical website with a purpose (not just a list of links).

It also had a Microdata-specific page, which seems to be a rare find.

ACS link at the top of Income Data Collection page – page not found.

43. Poverty

Website URL: <http://www.census.gov/population/www/projections/index.html>

Casual User

Question 1/Challenge 1:

I want to know [where the poverty rate is the highest] in [the nation].

Overview of site's usefulness in helping answer Question 1/Challenge 1:

The introduction allowed me to understand what is available from the site. From the data sources description page I quickly understood that the official CPS national estimates would not have the information that I wanted, but that the American Community Survey should have local data. I then followed the link to the ACS homepage where I clicked the poverty search link to go to AFF. However, the tables on the AFF poverty landing page did not contain data at the level of detail I was looking for, so I returned to the ACS homepage and tried some of the other ACS search types in AFF. Eventually I found a table that listed cities and towns in the US with their poverty rates, however this table was alphabetical by state and not possible to sort, so it was not possible to identify the place with the highest poverty rate without downloading and manipulating a large amount of data.

I returned back to the original poverty page and tried to use the CPS data, but it did not seem like what I wanted and the table creator tool was very complicated to use. I ended up finding the state with the highest poverty rate in an ACS report; I gave up on finding the information at a more local level.

Sophisticated User

Question 1/Challenge 1:

I need information about [poverty rates] in [US States] in order to [allocate funds for charities].

Overview of site's usefulness in helping answer Question 1/Challenge 1:

I was able to find poverty rates by region immediately, but finding information by state took a little more digging. However, I quickly found two resources.

Question 2/Challenge 2:

I need information about [poverty rates] in [relation to health insurance] in order to [report about healthcare issues].

Overview of site's usefulness in helping answer Question 1/Challenge 1:

I was immediately directed to the links to a section including Health Insurance, though I didn't find the direct connections to poverty and health insurance in the tables. Once I loaded the full report, I was able to find the information. It seemed that many of the figures had been omitted from the lists of tables.

Expert User

Challenge: Locate the latest year's microdata.

File: Income data are available from: CPS ASEC, ACS, SIPP, Census, SAIPE

A Microdata section is provided on the Poverty Data page, which gives links to the microdata source options at the various survey sites.

Download source: CPS ASEC, ACS, SIPP, Census, SAIPE websites; DataFerrett.

Documentation: Available on individual websites

What's changed: Available on individual websites

Comments on website: Like the Income topic page, the Poverty topic does a good job of tying together information from the various surveys with some enhanced explanation of the topic.

Regarding microdata, I first found a microdata section on the Poverty Data page and later found a Microdata Access page from the Quick Links section of the main page. It is not clear why these two separate pages would both exist.

The Poverty Data Sources page seems like it should have the information contained on the Description of Income and Poverty Sources page – a bit confusing.

Given that there are several cases where two pages exist on this site that appear to cover similar topics, the site could perhaps be simplified by taking a fresh look at the purpose of each page and finding a way to better link the content together.

44. Health Insurance

Website URL: <http://www.census.gov/hhes/www/hlthins/hlthins.html>

Casual User

Question 1/Challenge 1:

I want to know [the number of people without health insurance] in [my state (Massachusetts)].

Overview of site's usefulness in helping answer Question 1/Challenge 1:

The introduction was helpful and the link to the about page provided the information I needed to select which survey had the appropriate data to answer my question. The link to the ASEC page was out of date and had broken links, but I found exactly what I wanted in the health insurance section of the Current Population Survey website. Overall, it was mostly straightforward to find the answer to my question using this website.

Sophisticated User

Question 1/Challenge 1:

I need information about [health insurance coverage rates] in [people below 18 years in Oklahoma] in order to [report on the number of uninsured youth].

Overview of site's usefulness in helping answer Question 1/Challenge 1:

I found the data I was looking for on my first click.

Expert User

Challenge: Locate the latest year's microdata.

File: Health Insurance data are available from: CPS, ACS, SIPP

There is no specific mention of microdata on this website, though microdata are available from these surveys.

Download source: CPS, ACS, SIPP websites; American FactFinder. (This site does not mention DataFerrett though these data should be available on there as well.)

Documentation: Available on individual websites

What's changed: Mainly available on individual websites. There is a Quick Link on this site to information about the "revised CPS ASEC Health Insurance Data for 2005/06".

Comments on website: Another topical website that follows the poverty and income topic formats. The site feels a little less organized – perhaps the longer list of links needs more headers/groupings.

45. Population Projections

Website URL: <http://www.census.gov/population/www/projections/index.html>

Casual User

Question 1/Challenge 1:

I want to know [the projected population of Texas] in [2050].

Overview of site's usefulness in helping answer Question 1/Challenge 1:

It was easy to find the state information from the main page. However, information by state was only available through 2030, which seems like a very short window. I found the projected population in 2030, and then looked at the national projections through 2050. It was a little confusing that the 2009 estimate are the most recent but the 2008 are recommended for users – I assumed that I should use the 2008 projections. This site doesn't seem like it is entirely geared for the Casual User since a lot of the explanations are high-level and you have to download Excel or csv files to access the data.

Sophisticated User

Question 1/Challenge 1:

I need information about [the Hispanic population] in [California in 2025] order to [report on the potential changes in the state's culinary culture].

Overview of site's usefulness in helping answer Question 1/Challenge 1:

I found the data I was looking for after a little while. I searched first through the 2005 interim projections before finding the data by race in the 1996 projections.

Expert User

Challenge: Locate the latest year's microdata.

File: 2008/09 National Projections; 2005 State Projections

- both based on Census 2000 data.
- .xls, .csv formats

Download source: HTML page with links

Documentation: Methodology and assumptions used to create these projections are available on the website. File layouts are available next to the downloads.

What's changed: Differences between the 2008 and 2009 national projections, with advice on how those different datasets should be used is detailed on the 2009 population projections page.

Comments on website: This website does its job of presenting state and national level projections and educating users on the key concepts of population projections. It also has some publications that would be of interest to more advanced level users.

For researchers that want to do their own population projections with different future scenarios, the base data for this work would come from the Census 2000 (or 2010) files that are available elsewhere on the Census site.

46. EStats

Website URL: <http://www.census.gov/econ/estats/>

Casual User

Question 1/Challenge 1:

I want to know [about electronic retail sales] in [the last year].

Overview of site's usefulness in helping answer Question 1/Challenge 1:

I started by viewing the PDF report that was linked on the main page. The report had the information I wanted but was dated in 2008, when I was hoping for more recent data. I tried to find more information on the EStats website but there wasn't anything indicating where I could find more recent data. I saw the link to 3Q of 2010 information on the right side of the page so I clicked it and found myself on the monthly and annual trade page. It at first was hard to find the relevant survey on this page (the quarterly e-commerce survey), but once I did I found the information I wanted in the historical data section. It seems strange that this survey would not be more directly linked from the EStats page.

Sophisticated User

Question 1/Challenge 1:

I need information about [the most rapidly growing sectors] in [e-commerce] in order to [report on the growing internet economy].

Overview of site's usefulness in helping answer Question 1/Challenge 1:

I found a fair bit of information in the report and more useful information within the Excel tables.

Expert User

Challenge: What microdata go into e-commerce stats?

File: Retail, 3Q 2010 E-Commerce Sales

- .xls, .txt format
- *national-level summary only*

Download source: HTML page with links

Annual E-Stats reports are based on data in the following surveys: Annual Survey of Manufactures (ASM); EconomicCensus – Manufacturing; Annual Wholesale Trade Survey (AWTS); Service Annual Survey (SAS); Annual Retail Trade Survey (ARTS).

There is no mention of microdata available for these surveys.

Documentation: Some documentation provided in the PDF reports that contain the data tables.

What's changed: N/A

Comments on website: The actual E-Stats web site appears to be a single page with three links. Most of

the time spent looking for advanced user data related to e-commerce was actually on the broader Business & Industry pages.

47. NAICS

Website URL: <http://www.census.gov/eos/www/naics/>

Casual User

Question 1/Challenge 1:

I want to know [the NAICS code for nuclear power plants so I can find information] in [the economic census].

Overview of site's usefulness in helping answer Question 1/Challenge 1:

There is really no reason a Casual User would be interested in NAICS codes other than to understand data tables in other parts of the Census website. As a Casual User, the introduction on the main page describing what the NAICS is was very useful, but it was hard to figure out where to go to get a listing of NAICS codes. I wouldn't think to use the search boxes on the left-hand side and it was necessary to dig in further into the website to find a listing of all NAICS codes, to do which it was necessary to look at a PDF file. It would be useful if the introductory text contained information on how to look up a NAICS code, even if it just suggested using the search boxes on the left side of the website or provided a link to the PDF of all NAICS codes and their definitions.

Sophisticated User

Question 1/Challenge 1:

I need information about [the NAICS product codes] in [the organic chemicals manufacturing sector] in order to [compare my plants products to the remainder of the industry].

Overview of site's usefulness in helping answer Question 1/Challenge 1:

I was able to find appropriate product codes, though they were listed separately from the general 6 number NAICS classifications.

Question 2/Challenge 2:

I need information about [what SIC code 5521, used car dealers, corresponds to] in [the 2007 NAICS code system] in order to [compare old and new data].

Overview of site's usefulness in helping answer Question 2/Challenge 2:

I tried to lookup SIC code 5521 in both ISIC 4.0 and ISIC3.1 in two separate spreadsheets, but didn't find an exact match. However, searching by text used car provided the NAICS code I was looking for in both spreadsheets.

Expert User

Challenge: Locate the latest year's microdata.

File: 2007 NAICS index file

- xls format
- 8 MB

Download source: HTML page with links

Documentation: NAICS definitions are available on same page as index file; a History page provides reports and concept development documents.

What's changed: 2002 to 2007 NAICS comparison file available on same page as index file.

Comments on website: NAICS code are simply a classification list of industries; researchers may need the full list of these codes from time to time. This list is easy enough to find on the site. It appears that the site does a good job catering to all types of users – you can look up a single code, get a list by industry type, and get the full list.

48. Census in Schools

Website URL: <http://www.census.gov/schools/>

Casual User

Question 1/Challenge 1:

I want to know [the population] in [my state (Florida)].

Overview of site's usefulness in helping answer Question 1/Challenge 1:

The homepage seems more geared towards teachers than students – it would be helpful if the background information contained instructions for students to get to the relevant parts of the website. However, once I entered the “census for teens” section it was easy to navigate and find the information I desired.

Sophisticated User

Question 1/Challenge 1:

I need information about [the Census Bureau] in [a format appropriate for my 1st graders] in order to [provide a lesson about the 2010 Census].

Overview of site's usefulness in helping answer Question 1/Challenge 1:

I located materials appropriate for K-2.

Expert User

Challenge: Are data relevant to researchers available from this site?

File: N/A

Download source: N/A

Documentation: N/A

What's changed: N/A

Comments on website: This site is targeted at K-12 level educators and does not provide data.

49. Genealogy

Website URL: <http://www.census.gov/history/www/reference/genealogy/>

Casual User

Question 1/Challenge 1:

I want to know [if Census provides resources I can use to trace my family history].

Overview of site's usefulness in helping answer Question 1/Challenge 1:

The links from the main page were very clear as to how I could access census records. The links were self explanatory and I quickly understood how to use census data to trace my family history.

Sophisticated User

Question 1/Challenge 1:

I need information about [if my client's family is listed] in [the Census Genealogy archive] in order to [locate heirs for estate distribution].

Overview of site's usefulness in helping answer Question 1/Challenge 1:

I was hoping to have some connection to the full database of the decennial Census. I realized in short order that this website was specifically geared towards directing to the tools for searching, rather than providing the tools themselves. I was referred to the National Archives website, but each link was broken due to a change in the National Archives web redesign. While I wasn't able to locate the Census records directly, I was given a plethora of information of locations where I might be able to do so for free, and one of the National Archives locations was within 5 miles of my workplace.

Expert User

Challenge: Are data available for genealogy researchers?

File: Individual records from > 72 years ago are available upon request

- microfilm format

Download source: Must go to Archives

Documentation: An informational sheet on how to get access to these records is available

What's changed: N/A

Comments on website: It appears that a researcher would have no more access than a member of the general public. Closed records/recent files are only available to named persons, heirs and legal representatives.

This brochure provided all the info: <http://www.census.gov/prod/2000pubs/cff-2.pdf>

Perhaps it can be reproduced as an HTML page for easier access.

50. International Data Base

Website URL: <http://www.census.gov/ipc/www/idb/>

Casual User

Question 1/Challenge 1:

I want to know [what country will be the most populous] in [2050].

Overview of site's usefulness in helping answer Question 1/Challenge 1:

It was easy to find what I wanted from the main page, since the country rankings link is the first one listed. The search tool was very straightforward to use and I found my answer quickly. I thought that the search tool presented very interesting information.

Other notes:

The page title "International Data Base" is vague and there's no explanation on the main page as to what the website contains, so if I had not come onto the website with a specific question in mind it would have been difficult to understand what information is available from the site other than what is highlighted on the main page.

Sophisticated User

Question 1/Challenge 1:

I need information about [what are the fastest growing nations] in [the world] in order to [predict where new markets will be emerging].

Overview of site's usefulness in helping answer Question 1/Challenge 1:

I was able to find the information on the populations of countries for previous years and estimation for future years.

Question 2/Challenge 2:

I need information about [the population] in [Somaliland or some similar region in northern Somalia] in order to [report about the people affected by the nation's instability].

Overview of site's usefulness in helping answer Question 1/Challenge 1:

I found data about Somalia right away, but I had hope for regional information within the country. The database has continental regions rather than regions within countries.

Expert User

Challenge: Are microdata available?

File: Country by country downloads available

- xls or csv
- *could not find a single download for all countries*

Download source: HTML page

Documentation: Source information for each country's data is provided. There is also a Methodology section

What's changed: The release notes for the December 2010 data release provided a nice summary of changes. There is also an errata sheet on the homepage.

Comments on website: This site provides population estimates and projections for countries around the world, compiled from different sources. It provides easy access to general world population data and includes some visuals, such as population pyramids.

For experts looking for census info in other countries, it does provide a list of sources for non-US census information that could serve as a starting point for research.

For educational purposes, this site could include a short FAQ describing the difference between estimates and projections, like the Population Projection website does (<http://www.census.gov/population/www/projections/aboutproj.html>).

51. U.S. and World Population Clocks

Website URL: <http://www.census.gov/main/www/popclock.html>

Casual User

Question 1/Challenge 1:

I want to know [the number of people in the world] in [this instant].

Overview of site's usefulness in helping answer Question 1/Challenge 1:

The information I wanted was available right on the main page so it was easy to find what I wanted quickly. I was, however, very confused by the presentation of time initially. It took a minute for me to realize that 16:25 UTC was indeed the same as 1:25 EST. It would be useful if the time was presented in UTC and EST or at least something familiar because it's not likely that the Casual User would be quickly and easily able to translate between the two formats.

Sophisticated User

Question 1/Challenge 1:

I need information about [the number of people] in [the world] in order to [report on global population growth].

Overview of site's usefulness in helping answer Question 1/Challenge 1:

I found these data immediately. I would like to have a few more statistics available for the world clock, even simple statistics like the U.S. clock had regarding birth/death/migration rates.

Expert User

Challenge: Are relevant data available on this site?

File: N/A

Download source: N/A

Documentation: There is a link to a population estimation methodology paper that could be of use to a researcher.

What's changed: A link to "Historical National Population Estimates" is available.

Comments on website: Simple site, not aimed at researchers. However, a useful site for the Census Bureau to maintain.

52. U.S. Population Pyramids

Website URL: <http://www.census.gov/population/www/projections/natchart.html>

Casual User

Question 1/Challenge 1:

I want to know [what the mode age in the US will be in] in [2050].

Overview of site's usefulness in helping answer Question 1/Challenge 1:

The homepage was very empty – all it consists of is a table with links to population pyramids with no context or explanation and no links to other relevant parts of the website that might offer this information. Since I knew what I was looking for it was easy to select the relevant GIF file and open it to find my answer, but if I had otherwise happened on this website I would not know what it consisted of or why.

Other Notes:

It's also strange that the pictures are listed as GIF sites when they open as regular HTML pages in the browser – I almost thought I had to download the image to see it but when I clicked the link it just opened in the page.

Sophisticated User

Question 1/Challenge 1:

I need information about [the ratio of males to females] in [the 80+ age category] in order to [plan restroom layout for my nursing home].

Overview of site's usefulness in helping answer Question 1/Challenge 1:

I found these data very quickly. Since these are the only options available, it would be impossible to not find. As a sophisticated user, it would have been nice to have a tabular format immediately available instead of just bar graphs.

Expert User

Challenge: Locate the latest year's microdata.

File: GIF or PDF population pyramids

Download source: HTML page

Documentation: N/A

What's changed: N/A

Comments on website: This page provides access to some interesting time series visuals, but it should be updated from static images to a more interactive viewer that would allow users to explore the data better.

Appendix B: Findability and ForeSee Usability Assessment

The U.S. Census Bureau

Contract No. YA132309CQ0045, Task Order (TO) 001: Web Discovery: Data
Visualization and the Future of Census.gov

Abt Associates, April 1, 2011

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1. Census Bureau Homepage

Test URL: <http://www.census.gov>

I. Findability:

Search by Title or Text	Search Terms	Listed Order using Google	Listed Order using Website Search Engine
Title	Census Bureau Home Page	1	0 ¹
Text	People & Households · American Community Survey · Estimates · Projections · Housing · Income State Median Income · Poverty · Health Insurance · International · Genealogy · Census 2000 · More	1	0 ¹
Keywords	U.S. Census	1	0 ¹
¹ Website does not come up within first few pages of search results			

II. Website Evaluation Criteria Adapted From Top Ten Usability Issues at the Census Bureau

Criteria	Evaluation	Notes
Navigation		
Does website provide a single comprehensive navigational system that enables users to access information across topics quickly and efficiently? Do global navigation options appear consistently on all pages of website?	<ul style="list-style-type: none"> • Serious deficiencies, limited 	Homepage does not utilize the same overarching navigational system that is used on the majority of pages within the website. The left-hand navigation options do not appear in any other navigation structure on the site.
Does navigation convey the hierarchy of information and facilitate lateral and vertical movement? Does website adequately indicate current location and where current page resides in overall site hierarchy?	<ul style="list-style-type: none"> • Needs Improvement, limited 	Although the links in the center of the page do convey an information hierarchy, the list is not comprehensive which makes navigation options limiting, and the links on the left-hand side go to different and seemingly random locations within the Census Bureau website.
Do links and target page headings match? Are link labels unique and descriptive? Are links labeled consistently throughout website?	<ul style="list-style-type: none"> • 1 or more deficiencies 	Some links do not match target page heading, for example: Doing Business with Us -> Acquisition Management Related Sites -> Other Contacts
Text & Terminology		
Does website avoid using unfamiliar terminology, unclear wording and labeling, or jargon?	<ul style="list-style-type: none"> • 1 or more deficiencies 	There is some jargon. For example, "NAICS", "E-Stats", "TIGER", etc
Expectations		
Does the website provide sufficient introduction to the content and functionality of the site?	<ul style="list-style-type: none"> • Needs Improvement, extensive 	There is no introductory text to guide users on the Census Bureau homepage. This makes navigation difficult.
Does consistent navigation and layout allow users to seamlessly navigate different sections of website? Are links differentiated with specific labels to allow users to efficiently navigate through site?	<ul style="list-style-type: none"> • Needs improvement, extensive 	Some links are a little vague (e.g. "Estimates" -> Population Estimates) Homepage does not set up consistent navigation system that users can follow throughout the Census.gov website
Does the website clearly indicate when linking to an outside URL?	<ul style="list-style-type: none"> • 1 or more deficiencies 	FedStats leaves Census.gov. Events Calendar is also a separate site.

Criteria	Evaluation	Notes
Organization		
Does homepage showcase content to build interest and guide users? Is important information featured prominently?	• Adequate	
Is website organized in such a way as to highlight and provide easy access to the most recent or most relevant data?	• Needs improvement, extensive	There are a lot of links on the homepage and it is not always clear which is the most applicable for a certain question. For example, it seems like American Fact Finder should be better highlighted as it is the most widespread search engine on the website.
Is information throughout the different pages of the website organized in a readily apparent and straightforward way?	• Adequate	
Page Layout		
Is information organized clearly? Does information appear in order user expects (e.g., alphabetical, numeric)?	• Serious deficiencies, limited	The order of the links in the left-hand sidebar is not intuitive. This is also true for the order of links in the middle section of the page.
Is page layout (color scheme, navigation options, etc.) consistent throughout website?	• 1 or more deficiencies	The use of “.” versus “ ” to separate links in the middle section is not consistent.
Is page visually optimized? Is text legible? Are there any awkward formatting issues? Does website maximize screen real estate?	• No deficiencies observed	
Graphics, Tables, & Icons		
Does website use visual elements to increase user engagement?	• Adequate	
Is information in tables and graphics presented clearly?	• No deficiencies observed	
Are icons consistent throughout website? Is functionality clear?	• No deficiencies observed	
Search		
Does search functionality work?	• Adequate	
Is it clear whether search function applies to entire website or single domain?	• Adequate	
Help		
Is online help useful?	• Adequate	
Is FAQ section organized consistently throughout website?	• No deficiencies observed	

III. Identify Best Practices and Features on Website

- Homepage makes good use of images.
- Homepage highlights some of the interesting features/popular data on the Census Bureau website (e.g., current population, search links for local data)
- Search is a text box rather than a link to search page
- If you hover over the links to facebook, twitter, etc., a disclaimer pops up that you are leaving Census.gov

2. American Community Survey (ACS)

Test URL: <http://www.census.gov/acs/www/>

I. Findability:

Search by Title or Text	Search Terms	Listed Order using Google	Listed Order using Website Search Engine
Title	American Community Survey	1	9 ¹
Text	The American Community Survey (ACS) is an ongoing survey that provides data every year -- giving communities the current information they need to plan investments and services.	3	2
Keywords	U.S. demographic social housing data	2 ²	0 ³

¹The 9th listed result is for the sitemap of the ACS. The ACS main page does not come up in the search results.
²Result goes to ACS search page within American FactFinder. The actual ACS homepage does not come up within the first few pages of search results.
³Website does not come up within first few pages of search results.

II. Website Evaluation Criteria Adapted From Top Ten Usability Issues at the Census Bureau

Criteria	Evaluation	Notes
Navigation		
Does website provide a single comprehensive navigational system that enables users to access information across topics quickly and efficiently? Do global navigation options appear consistently on all pages of website?	<ul style="list-style-type: none"> • 1 or more deficiencies 	The drop down menus in the top navigation bar disappear when you're within the section so you can only view navigation options for the sections you are not currently browsing, making navigation difficult. The left-hand Sidebar disappears on 2008 Crosswalk Table page.
Does navigation convey the hierarchy of information and facilitate lateral and vertical movement? Does website adequately indicate current location and where current page resides in overall site hierarchy?	<ul style="list-style-type: none"> • Adequate 	Minor issue: In the "About the survey" section, the left hand bar does not highlight to show the current location for the "resources" pages.
Do links and target page headings match? Are link labels unique and descriptive? Are links labeled consistently throughout website?	<ul style="list-style-type: none"> • 1 or more deficiencies 	Sometimes there are small discrepancies between link names and page headings, for example: "Frequently Asked Questions" brings the user to a page called " American Community Survey Question & Answer Center " The 2010 census form link does not work.
Text & Terminology		
Does website avoid using unfamiliar terminology, unclear wording and labeling, or jargon?	<ul style="list-style-type: none"> • 1 or more deficiencies 	On the geography page, different types of geographic areas (e.g., census designated places") are listed with no links to definitions.

Criteria	Evaluation	Notes
Expectations		
Does the website provide sufficient introduction to the content and functionality of the site?	<ul style="list-style-type: none"> Needs Improvement, limited 	<u>Main page</u> does not provide explanation of what the survey is – user must go into “About the Survey” to learn more.
Does consistent navigation and layout allow users to seamlessly navigate different sections of website? Are links differentiated with specific labels to allow users to efficiently navigate through site?	<ul style="list-style-type: none"> Adequate 	
Does the website clearly indicate when linking to an outside URL?	<ul style="list-style-type: none"> No deficiencies observed 	
Organization		
Does homepage showcase content to build interest and guide users? Is important information featured prominently?	<ul style="list-style-type: none"> Adequate 	
Is website organized in such a way as to highlight and provide easy access to the most recent or most relevant data?	<ul style="list-style-type: none"> Adequate 	
Is information throughout the different pages of the website organized in a readily apparent and straightforward way?	<ul style="list-style-type: none"> Adequate 	
Page Layout		
Is information organized clearly? Does information appear in order user expects (e.g., alphabetical, numeric)?	<ul style="list-style-type: none"> 1 or more deficiencies 	On <u>main page</u> , in the search by topic box, the options for housing are not listed alphabetically. Similar problem with list of topics on “ <u>About the American Community Survey</u> ”
Is page layout (color scheme, navigation options, etc.) consistent throughout website?	<ul style="list-style-type: none"> 1 or more deficiencies 	<u>Some pages</u> have right-hand sidebar and <u>some do not</u> . The right-hand sidebar also is not consistent throughout the site. <u>FAQ page</u> is formatted a little differently.
Is page visually optimized? Is text legible? Are there any awkward formatting issues? Does website maximize screen real estate?	<ul style="list-style-type: none"> No deficiencies observed 	
Graphics, Tables, & Icons		
Does website use visual elements to increase user engagement?	<ul style="list-style-type: none"> Adequate 	
Is information in tables and graphics presented clearly?	<ul style="list-style-type: none"> 1 or more deficiencies 	The <u>tables</u> in <u>Comparing ACS data</u> section have confusing table headings.
Are icons consistent throughout website? Is functionality clear?	<ul style="list-style-type: none"> 1 or more deficiencies 	There are no icons on the website. PDF icon is not used.
Search		
Does search functionality work?	<ul style="list-style-type: none"> Needs improvement, limited 	Search appears on almost every page of website, but is missing <u>on some pages</u> .
Is it clear whether search function applies to entire website or single domain?	<ul style="list-style-type: none"> Needs Improvement, extensive 	It is not clear whether search is for entire Census Bureau website or only ACS survey section
Help		
Is online help useful?	<ul style="list-style-type: none"> Needs improvement, limited 	FAQ are excerpted questions from Q&A website pertinent to ACS, but are not easy to search.
Is FAQ section organized consistently throughout website?	<ul style="list-style-type: none"> Serious deficiencies, limited 	FAQ link is not available on every page of site

III. Identify Best Practices and Features on Website

- The search links in the right-hand sidebar are very useful, but they are hard to find initially and there is not a lot of explanation.
- It's a nice feature that pictures of the ACS forms, hand books, and misc pages are used as the links to find more information and go to the file.
- I like the drop down topics on the [geography page](#) (you click the topic and it slides down to show more information).
- It's helpful that the FAQ page is within the ACS site (This doesn't seem to be the case for other Census webpages).
- There is a button to sign up for email updates. Also, the contact us, FAQ, and site map are prominently placed in the right-hand side bar on most pages within the site.
- The navigation system is straightforward and easy to use.

3. Current Population Survey

Test URL: <http://www.census.gov/cps/>

I. Findability:

Search by Title or Text	Search Terms	Listed Order using Google	Listed Order using Website Search Engine
Title	Current Population Survey	1	0 ¹
Text	The Current Population Survey (CPS) is a monthly survey of about 50,000 households conducted by the Bureau of the Census for the Bureau of Labor Statistics.	1	0 ¹
Keywords	Labor force employment earnings statistics	11	0 ¹

¹CPS main page does not come up within first 3 pages of search results. However, BLS CPS site is 3rd search result.

II. Website Evaluation Criteria Adapted From Top Ten Usability Issues at the Census Bureau

Criteria	Evaluation	Notes
Navigation		
Does website provide a single comprehensive navigational system that enables users to access information across topics quickly and efficiently? Do global navigation options appear consistently on all pages of website?	<ul style="list-style-type: none"> • Serious deficiencies, extensive 	There is no standard navigational structure for this website. There are no links back to the main page or other parts of the site if you leave the main page. Click for example .
Does navigation convey the hierarchy of information and facilitate lateral and vertical movement? Does website adequately indicate current location and where current page resides in overall site hierarchy?	<ul style="list-style-type: none"> • Needs Improvement, extensive 	There is no navigational structure for this website (see comments for previous question).
Do links and target page headings match? Are link labels unique and descriptive? Are links labeled consistently throughout website?	<ul style="list-style-type: none"> • Serious deficiencies, extensive 	Very few links match the target page headings. For example, the link called "Census internet" goes to the Census.gov homepage.
Text & Terminology		
Does website avoid using unfamiliar terminology, unclear wording and labeling, or jargon?	<ul style="list-style-type: none"> • Serious deficiencies, limited 	Data tables do not have data dictionary, and sometimes keys to tables or table names are unclear. For example .
Expectations		
Does the website provide sufficient introduction to the content and functionality of the site?	<ul style="list-style-type: none"> • Needs Improvement, limited 	There is a good introduction to the survey on the main page , but the website does not clearly explain how to obtain data.
Does consistent navigation and layout allow users to seamlessly navigate different sections of website? Are links differentiated with specific labels to allow users to efficiently navigate through site?	<ul style="list-style-type: none"> • Needs Improvement, extensive 	See comments in navigation section. In general, it is very difficult to navigate the website because no context is provided for any of the links.
Does the website clearly indicate when linking to an outside URL?	<ul style="list-style-type: none"> • No deficiencies observed 	

Criteria	Evaluation	Notes
Organization		
Does homepage showcase content to build interest and guide users? Is important information featured prominently?	• Needs Improvement, extensive	The <u>main page</u> explains the survey but does not provide information on what can be found in website or where to obtain data (it is unclear where the links on the left and right hand bars will take you).
Is website organized in such a way as to highlight and provide easy access to the most recent or most relevant data?	• Needs Improvement, extensive	Website <u>main page</u> does not indicate where to find data and does not explain other content on site. The data links are not immediately evident.
Is information throughout the different pages of the website organized in a readily apparent and straightforward way?	• Needs Improvement, extensive	Link listing in left-hand side bar of <u>main page</u> is not intuitive. It is unclear where best to obtain data. All pages other than main page do not link to other pages of website.
Page Layout		
Is information organized clearly? Does information appear in order user expects (e.g., alphabetical, numeric)?	• 1 or more deficiencies	Links in left hand sidebar on the <u>main page</u> are not clearly organized – sources of data are linked in the “Helpful Links” section when it seems like they should be listed as “CPS Tips and Tools”
Is page layout (color scheme, navigation options, etc.) consistent throughout website?	• Serious deficiencies, limited	The <u>layout</u> changes on <u>several pages</u> of the website.
Is page visually optimized? Is text legible? Are there any awkward formatting issues? Does website maximize screen real estate?	• Serious deficiencies, extensive	Font and font size change on <u>different pages</u> of site and within the <u>same page</u> . <u>Tables</u> and <u>links to tables</u> are not visually appealing.
Graphics, Tables, & Icons		
Does website use visual elements to increase user engagement?	• Needs Improvement, extensive	Very few visual aids on website. The one image on the <u>Technical Documentation</u> page seems unrelated to the content.
Is information in tables and graphics presented clearly?	• Serious Deficiencies, extensive	The <u>data tables</u> are very confusing, both in terms of selecting the appropriate table and interpreting the data within the table.
Are icons consistent throughout website? Is functionality clear?	• No deficiencies observed	Website uses PDF icon effectively.
Search		
Does search functionality work?	• Needs Improvement, limited	There is no search function for this website. You have to click the search@census link in the top right corner to be taken to a search page.
Is it clear whether search function applies to entire website or single domain?	• Adequate	
Help		
Is online help useful?	• Needs Improvement, limited	The CPS FAQs link takes the user to <u>US. Census 2010 Q&A Center</u> .
Is FAQ section organized consistently throughout website?	• Serious deficiencies, extensive	FAQ link only appears on main page.

III. Identify Best Practices and Features on Website

- The paragraph giving an overview of the survey right on the homepage is helpful.

4. Population Estimates

Test URL: <http://www.census.gov/popest/estimates.html>

I. Findability:

Search by Title or Text	Search Terms	Listed Order using Google	Listed Order using Website Search Engine
Title	Population Estimates	1	1
Text	Overview Estimates Data Estimates Topics Geographic Topics Recent Releases The U.S. POPClock has been updated! The U.S. population clock is now consistent with Census 2010 data and the most recent national population estimates.	1	1
Keywords	demographics resident historical national state county metropolitan births deaths migration change	0 ¹	0 ²
¹ The main page was not returned in the first 100 results. The Population Estimates: Archives [1990] was the second return. ² The main page was not returned in 21 results.			

II. Website Evaluation Criteria Adapted From Top Ten Usability Issues at the Census Bureau

Criteria	Evaluation	Notes
Navigation		
Does website provide a single comprehensive navigational system that enables users to access information across topics quickly and efficiently? Do global navigation options appear consistently on all pages of website?	<ul style="list-style-type: none"> • 1 or more deficiencies 	There is a single global navigational tool for the site. It is consistent on all pages. However, the number of links is limited. Additional links on the horizontal bar or sidebars would help navigation.
Does navigation convey the hierarchy of information and facilitate lateral and vertical movement? Does website adequately indicate current location and where current page resides in overall site hierarchy?	<ul style="list-style-type: none"> • Needs Improvement, Extensive 	There are not location tools such as bread crumb trails. The site architecture makes understanding hierarchy difficult.
Do links and target page headings match? Are link labels unique and descriptive? Are links labeled consistently throughout website?	<ul style="list-style-type: none"> • No deficiencies observed 	Links are well labeled and match targets. Links to files are typically designated by file type and occasionally have file size.
Text & Terminology		
Does website avoid using unfamiliar terminology, unclear wording and labeling, or jargon?	<ul style="list-style-type: none"> • Serious deficiencies, extensive 	Terminology is complex. An example: There is not a distinct dichotomy between population estimates and population projections, but there are some differences in time reference and derivation. Five different terms pages are available (General , Geographical , National , State , Housing Unit). None of these pages are found on the main pages or the navigation bar.

Criteria	Evaluation	Notes
Expectations		
Does the website provide sufficient introduction to the content and functionality of the site?	<ul style="list-style-type: none"> Needs Improvement, Limited 	The overview provides some information, but there is not sufficient information on the main page.
Does consistent navigation and layout allow users to seamlessly navigate different sections of website? Are links differentiated with specific labels to allow users to efficiently navigate through site?	<ul style="list-style-type: none"> Needs Improvement, Limited 	See navigation comments above.
Does the website clearly indicate when linking to an outside URL?	<ul style="list-style-type: none"> No deficiencies observed 	
Organization		
Does homepage showcase content to build interest and guide users? Is important information featured prominently?	<ul style="list-style-type: none"> Needs Improvement, Limited 	The main page is primarily links. There is some highlighting of the prominent data, but no graphics or showcasing.
Is website organized in such a way as to highlight and provide easy access to the most recent or most relevant data?	<ul style="list-style-type: none"> Adequate 	
Is information throughout the different pages of the website organized in a readily apparent and straightforward way?	<ul style="list-style-type: none"> Adequate 	
Page Layout		
Is information organized clearly? Does information appear in order user expects (e.g., alphabetical, numeric)?	<ul style="list-style-type: none"> No deficiencies observed 	
Is page layout (color scheme, navigation options, etc.) consistent throughout website?	<ul style="list-style-type: none"> No deficiencies observed 	
Is page visually optimized? Is text legible? Are there any awkward formatting issues? Does website maximize screen real estate?	<ul style="list-style-type: none"> Serious deficiencies, limited 	The pages are not visually optimized. The pages have large areas of unused space. Pages are long in spaces between lines due to bullet or other formatting requiring vertical scrolling despite low content (e.g., Estimates Data). Pages resize well. Text is legible.
Graphics, Tables, & Icons		
Does website use visual elements to increase user engagement?	<ul style="list-style-type: none"> Needs Improvement, Limited 	There is a lack of visual elements
Is information in tables and graphics presented clearly?	<ul style="list-style-type: none"> No deficiencies observed 	
Are icons consistent throughout website? Is functionality clear?	<ul style="list-style-type: none"> 1 or more deficiencies 	Icons are rarely used.
Search		
Does search functionality work?	<ul style="list-style-type: none"> Needs Improvement, Extensive 	There are two search options. The more prominent "Search this Site" text box search provides results lacking the URL, which makes the search significantly less useful. The link to Search@Census provides the standard Census.gov search.
Is it clear whether search function applies to entire website or single domain?	<ul style="list-style-type: none"> Needs Improvement, Extensive 	While the Search@Census is apparent that it is Census Bureau wide, the "Search this Site" is not clear.

Criteria	Evaluation	Notes
Help		
Is online help useful?	• Needs Improvement, Limited	No online help links are available
Is FAQ section organized consistently throughout website?	• Serious deficiencies, limited	A link to the Census wide FAQ is only available from the main page. This FAQ has little information on Population Estimates.

III. Identify Best Practices and Features on Website

- No best practices identified

5. Population and Household Economic Topics

Test URL: <http://www.census.gov/population/www/index.html>

I. Findability:

Search by Title or Text	Search Terms	Listed Order using Google	Listed Order using Website Search Engine
Title	Population and Household Economic Topics	1	2
Text	Data by Subject Sources of Information Census 2010 Coverage Measurement Other Products Population Clocks Population Finder Survey Information	1	1
Keywords	Families Age Births Deaths Marital Status Migration Projections Health Insurance Poverty	0 ¹	0 ¹
¹ Website does not appear within first few pages of search results.			

II. Website Evaluation Criteria Adapted From Top Ten Usability Issues at the Census Bureau

Criteria	Evaluation	Notes
Navigation		
Does website provide a single comprehensive navigational system that enables users to access information across topics quickly and efficiently? Do global navigation options appear consistently on all pages of website?	<ul style="list-style-type: none"> • 1 or more deficiencies 	The top horizontal bar has general links which is universal within the PHET pages. However, the links in the content area of the main page are redundant with the links provided on the horizontal toolbar. All the pages have self-referential clickability.
Does navigation convey the hierarchy of information and facilitate lateral and vertical movement? Does website adequately indicate current location and where current page resides in overall site hierarchy?	<ul style="list-style-type: none"> • Needs Improvement, extensive 	There is a lack of indicating location or hierarchal organization structure. There are no location clues, or bread crumb trails. Vertical navigation is hampered.
Do links and target page headings match? Are link labels unique and descriptive? Are links labeled consistently throughout website?	<ul style="list-style-type: none"> • 1 or more deficiencies 	Census 2010 leads to an unexpected page. Population Clocks leads to 'U.S. and World Population Clocks.' Survey Information doesn't goes to About Us > Survey, which is somewhat unexpected.
Text & Terminology		
Does website avoid using unfamiliar terminology, unclear wording and labeling, or jargon?	<ul style="list-style-type: none"> • No deficiencies observed 	

Criteria	Evaluation	Notes
Expectations		
Does the website provide sufficient introduction to the content and functionality of the site?	<ul style="list-style-type: none"> Needs Improvement, extensive 	There is no introductory text or any description to the products that can be found on the main page. No description is given at any point within the pages. The lack of text within the PHET pages is disconcerting.
Does consistent navigation and layout allow users to seamlessly navigate different sections of website? Are links differentiated with specific labels to allow users to efficiently navigate through site?	<ul style="list-style-type: none"> Needs Improvement, Limited 	Within the PHET pages, there is a consistent navigation theme that enables lateral movement. While the links are not very descriptive or well labeled, they are uniquely named.
Does the website clearly indicate when linking to an outside URL?	<ul style="list-style-type: none"> No deficiencies observed 	
Organization		
Does homepage showcase content to build interest and guide users? Is important information featured prominently?	<ul style="list-style-type: none"> Needs Improvement, Limited 	No prominent information is displayed other than a few news headlines. Since there is no descriptive information or example statistics, it is difficult to build interest and no guidance is given besides links.
Is website organized in such a way as to highlight and provide easy access to the most recent or most relevant data?	<ul style="list-style-type: none"> Needs Improvement, Limited 	Data by Subject provides numerous links to the myriad of data, but there are no dates, categories or further organization besides listing the names on the links.
Is information throughout the different pages of the website organized in a readily apparent and straightforward way?	<ul style="list-style-type: none"> Adequate 	
Page Layout		
Is information organized clearly? Does information appear in order user expects (e.g., alphabetical, numeric)?	<ul style="list-style-type: none"> 1 or more deficiencies 	The Data by Subject page is well organized alphabetically. Other Products and Sources of Information pages are less well sorted.
Is page layout (color scheme, navigation options, etc.) consistent throughout website?	<ul style="list-style-type: none"> No deficiencies observed 	The page layout is consistent throughout the pages directly within the PHET pages.
Is page visually optimized? Is text legible? Are there any awkward formatting issues? Does website maximize screen real estate?	<ul style="list-style-type: none"> 1 or more deficiencies 	There is abundant white space on the pages. The pages resize well. Text is legible.
Graphics, Tables, & Icons		
Does website use visual elements to increase user engagement?	<ul style="list-style-type: none"> Needs Improvement, Limited 	There are no visual elements.
Is information in tables and graphics presented clearly?	<ul style="list-style-type: none"> No deficiencies observed 	
Are icons consistent throughout website? Is functionality clear?	<ul style="list-style-type: none"> No deficiencies observed 	

Criteria	Evaluation	Notes
Search		
Does search functionality work?	• Needs Improvement, Limited	A text box is available in addition to a link to the search function on the top bar. The search is not restricted to the COG pages.
Is it clear whether search function applies to entire website or single domain?	• Needs Improvement, Limited	It is not apparent if the text search box is Census Bureau wide or restricted to PHET pages.
Help		
Is online help useful?	• Needs Improvement, Extensive	There no help section
Is FAQ section organized consistently throughout website?	Serious deficiencies, Extensive	There is no FAQ section

III. Identify Best Practices and Features on Website

- Use of table listing recent release dates
- Common navigation tools for the PHET pages

6. 2007 Census of Governments (COG)

Test URL: <http://www.census.gov/govs/cog/>

I. Findability:

Search by Title or Text	Search Terms	Listed Order using Google	Listed Order using Website Search Engine
Title	Census of Governments	2 ¹	0 ²
Text	The Census of Governments identifies the scope and nature of the nation's state and local government sector; provides authoritative benchmark figures of public finance and public employment; classifies local government organizations, powers, and activities; and measures federal, state, and local fiscal relationships.	2 ³	0 ^{3,4}
Keywords	Federal State Local Municipal Payroll Taxes Spending Quarterly Annual Finance Survey	0 ¹	0 ⁵

¹The first result was the [Governments page](#) which is the root page for the COG.
²The COG main page was not returned in the 107 results.
³The first link is to an outdated [Census of Governments Page](#).
⁴The second link (of two total returned results) is to the [About the Data](#) page.
⁵The COG main page was not returned in the 41 results.

II. Website Evaluation Criteria Adapted From Top Ten Usability Issues at the Census Bureau

Criteria	Evaluation	Notes
Navigation Does website provide a single comprehensive navigational system that enables users to access information across topics quickly and efficiently? Do global navigation options appear consistently on all pages of website?	<ul style="list-style-type: none"> • Serious deficiencies, extensive 	There are numerous pages that have an older style of presentation (e.g., Tax Statistics , Government Finance Statistics , Summary Reports) which don't include the best practices. There is a site map . However, it isn't accessible from the main page and is no longer complete. The top horizontal bar sometimes unexpectedly changes. E.g., Get Forms -> Government Employment & Payroll . In the horizontal navigation bar, the Latest Data link to the COG main page is unintuitive.
Does navigation convey the hierarchy of information and facilitate lateral and vertical movement? Does website adequately indicate current location and where current page resides in overall site hierarchy?	<ul style="list-style-type: none"> • Needs Improvement, Limited 	It is very difficult to get to the COG main page from the Federal, State & Local Governments page one level down.
Do links and target page headings match? Are link labels unique and descriptive? Are links labeled consistently throughout website?	<ul style="list-style-type: none"> • Serious deficiencies, Limited 	On the Definitions page, the Get Forms link is referring to an outdated page. Within the Get Forms pages, numerous broken links exist. The 'Survey Form by Number' pulldown is not locating the documents. Quarterly Summary of State & Local Taxes has broken links. Not all the page headings match.

Criteria	Evaluation	Notes
Text & Terminology		
Does website avoid using unfamiliar terminology, unclear wording and labeling, or jargon?	<ul style="list-style-type: none"> • No deficiencies observed 	Universal language is used throughout the pages. There is an extensive Definitions page.
Expectations		
Does the website provide sufficient introduction to the content and functionality of the site?	<ul style="list-style-type: none"> • Adequate 	The main page provides a brief introduction and the About the Data page provides a better and more thorough introduction.
Does consistent navigation and layout allow users to seamlessly navigate different sections of website? Are links differentiated with specific labels to allow users to efficiently navigate through site?	<ul style="list-style-type: none"> • Needs improvement, extensive 	As discussed in navigation, there are major problems.
Does the website clearly indicate when linking to an outside URL?	<ul style="list-style-type: none"> • 1 or more deficiencies 	From Historical Data , the Federal Depository Library outside link is not indicated.
Organization		
Does homepage showcase content to build interest and guide users? Is important information featured prominently?	<ul style="list-style-type: none"> • Needs Improvement, Limited 	There is nothing to feature content in an enticing manner. No visuals or highlighted statistics. However, links to data on the main page are convenient.
Is website organized in such a way as to highlight and provide easy access to the most recent or most relevant data?	<ul style="list-style-type: none"> • Adequate 	
Is information throughout the different pages of the website organized in a readily apparent and straightforward way?	<ul style="list-style-type: none"> • Adequate 	While there are navigation issues, the organization is good.
Page Layout		
Is information organized clearly? Does information appear in order user expects (e.g., alphabetical, numeric)?	<ul style="list-style-type: none"> • No deficiencies observed 	Organization is well laid out. Pages have good sorting and placement.
Is page layout (color scheme, navigation options, etc.) consistent throughout website?	<ul style="list-style-type: none"> • No deficiencies observed 	Layout is consistently good throughout the site.
Is page visually optimized? Is text legible? Are there any awkward formatting issues? Does website maximize screen real estate?	<ul style="list-style-type: none"> • No deficiencies observed 	The pages read well. The text is easily visible. No formatting issues. The layout makes good use of space. The page resizes well down to the minimum width (782 pixels?).
Graphics, Tables, & Icons		
Does website use visual elements to increase user engagement?	<ul style="list-style-type: none"> • Needs Improvement, Extensive 	There is a lack of visuals in the COG pages.
Is information in tables and graphics presented clearly?	<ul style="list-style-type: none"> • No deficiencies observed 	PDF and Excel tables seem to be very well formatted. The 'Build-a-Table' is a very useful and well formatted tool.
Are icons consistent throughout website? Is functionality clear?	<ul style="list-style-type: none"> • 1 or more deficiencies 	Icons are not used. They would be helpful to assist in navigation.
Search		
Does search functionality work?	<ul style="list-style-type: none"> • Needs Improvement, Limited 	A text box is not available, requiring the search to be performed on a separate page. The search is not restricted to the COG pages.
Is it clear whether search function applies to entire website or single domain?	<ul style="list-style-type: none"> • Adequate 	It is apparent from the link that the search includes the entire Census.gov website.

Criteria	Evaluation	Notes
Help		
Is online help useful?	• Needs Improvement, Limited	The FAQ is not well oriented to the COG.
Is FAQ section organized consistently throughout website?	• No deficiencies observed	The FAQ is easily available

III. Identify Best Practices and Features on Website

The navigational system is modern with respect to having

- Bread crumb trail
- Preventing self-referential clickability
- Within [Definitions](#), alphabetical sorting with intrapage references (e.g, [G](#)) and back to top links (e.g., [Back to Top](#))
- Resizing windows
- [Press Releases](#) and [What's New](#) with dates on links
- Categorizing content using sidebars / central information
- Boxes with headings categorizing different tops. Well shown on the top page.
- Producing custom graphs with the 'Build-a-Table' tool.

7. “Business and Industry” Page

Test URL: <http://www.census.gov/econ/>

I. Findability:

Search by Title or Text	Search Terms	Listed Order using Google	Listed Order using Website Search Engine
Title	Business & Industry	1	1 ¹
Text	Economic Census Economic Indicators Other economic programs	1	0 ²
Keywords	U.S. economic program data	5	2 ³
¹ First link is to the about the surveys page on the Business & Industry page. Main page does not come up within first few pages of search results ² Website does not appear within first few pages of search results. ³ 2 nd Link is to overview page. Main page does not appear within first few pages of search results			

II. Website Evaluation Criteria Adapted From Top Ten Usability Issues at the Census Bureau

Criteria	Evaluation	Notes
Navigation		
Does website provide a single comprehensive navigational system that enables users to access information across topics quickly and efficiently? Do global navigation options appear consistently on all pages of website?	<ul style="list-style-type: none"> • 1 or more deficiencies 	There are some instances of inconsistent navigation options, but overall they are consistent and easy to use. Examples of inconsistencies: The sidebar with links disappears on the About the Surveys page. The “ About the surveys ” link is sometimes labeled “Program Overview” in the navigation bar.
Does navigation convey the hierarchy of information and facilitate lateral and vertical movement? Does website adequately indicate current location and where current page resides in overall site hierarchy?	<ul style="list-style-type: none"> • Needs improvement, limited 	Sometimes the current location is indicated in the navigation options, sometimes it is not . There are several instances of inaccurate breadcrumbs, for example here , here , and here .
Do links and target page headings match? Are link labels unique and descriptive? Are links labeled consistently throughout website?	<ul style="list-style-type: none"> • Serious deficiencies, limited 	Examples of inaccurately worded links: About the surveys -> Overview of Economic and Statistical Programs Women/Minorites -> Survey of Business Owners (SBO) The “ About the surveys ” link is sometimes labeled “Program Overview” in the navigation bar.
Text & Terminology		
Does website avoid using unfamiliar terminology, unclear wording and labeling, or jargon?	<ul style="list-style-type: none"> • 1 or more deficiencies 	It is unclear what the difference is between “metro areas” and “cities” in the geography section.

Criteria	Evaluation	Notes
Expectations		
Does the website provide sufficient introduction to the content and functionality of the site?	<ul style="list-style-type: none"> Needs Improvement, extensive 	There is no introductory text on the main page so the user has a hard time figuring out what is available from the website. It is also not clear the best place to obtain actual data.
Does consistent navigation and layout allow users to seamlessly navigate different sections of website? Are links differentiated with specific labels to allow users to efficiently navigate through site?	<ul style="list-style-type: none"> Adequate 	
Does the website clearly indicate when linking to an outside URL?	<ul style="list-style-type: none"> No deficiencies observed 	
Organization		
Does homepage showcase content to build interest and guide users? Is important information featured prominently?	<ul style="list-style-type: none"> Needs Improvement, limited 	Main page showcases most important surveys and most recent economic indicator, but lack of background text precludes usability.
Is website organized in such a way as to highlight and provide easy access to the most recent or most relevant data?	<ul style="list-style-type: none"> Adequate 	
Is information throughout the different pages of the website organized in a readily apparent and straightforward way?	<ul style="list-style-type: none"> Needs improvement, limited 	The about the surveys page does not actually explain the surveys but rather provides a listing of which surveys apply to which sectors – it would almost more accurately be referred to as “Data by sector”. Also, it’s not clear why “states” is the tab selected when you first enter the data by geography page and why “title” is the tab selected on the data by survey page, when neither occurs first in the list.
Page Layout		
Is information organized clearly? Does information appear in order user expects (e.g., alphabetical, numeric)?	<ul style="list-style-type: none"> No deficiencies observed 	
Is page layout (color scheme, navigation options, etc.) consistent throughout website?	<ul style="list-style-type: none"> 1 or more deficiencies 	About the surveys is missing the left-hand links. Data by survey is missing the industry search box. Also there are small differences in formatting between the data by survey and data by geography pages, even though they are nearly identical.
Is page visually optimized? Is text legible? Are there any awkward formatting issues? Does website maximize screen real estate?	<ul style="list-style-type: none"> No deficiencies observed 	
Graphics, Tables, & Icons		
Does website use visual elements to increase user engagement?	<ul style="list-style-type: none"> Needs improvement, extensive 	There are no images on the website
Is information in tables and graphics presented clearly?	<ul style="list-style-type: none"> No deficiencies observed 	
Are icons consistent throughout website? Is functionality clear?	<ul style="list-style-type: none"> 1 or more deficiencies 	There are no icons on the website.

Criteria	Evaluation	Notes
Search		
Does search functionality work?	• Needs improvement, limited	Search@census is a link in the header. Industry search box is useful.
Is it clear whether search function applies to entire website or single domain?	• Adequate	The industry search box searches only industries and is functional.
Help		
Is online help useful?	• Needs improvement, limited	The initial FAQ page is the Census FAQ page with the search limited to "business"
Is FAQ section organized consistently throughout website?	• No deficiencies observed	

III. Identify Best Practices and Features on Website

- The tables in the [data by geography](#) and [data by survey](#) sections are a very helpful way to distinguish between the surveys.
- The latest economic indicator box on the homepage is a good way to highlight the most recent information.
- The industry search is useful for users looking for information specific to an industry.

8. Economic Indicators

Test URL: <http://www.census.gov/cgi-bin/briefroom/BriefRm>

I. Findability:

Search by Title or Text	Search Terms	Listed Order using Google	Listed Order using Website Search Engine
Title	Economic Indicators	2 ¹	0 ²
Text	Monthly Wholesale Trade: Sales and Inventories Manufacturers' Shipments, Inventories, and Orders Construction Spending New Home Sales Advance Report on Durable Goods Manufacturers' Shipments, Inventories, and Orders Quarterly Financial Report - Retail Trade	0 ³	0 ⁴
Keywords	Release Monthly Quarterly Orders Shipments Inventories Manufacturers Construction Housing Retail Wholesalers Trade	0 ³	0 ⁵
<p>¹First result was an out of date website linking to the indicators, www.economicindicators.gov</p> <p>²Note returned within first few pages of search results.</p> <p>³First result was the 2010 Economic Indicator Release Schedule: by Date. Main page was not returned in the first 200 results.</p> <p>⁴First result was 2010 Economic Indicator Release Schedule: by Date. Main page was not returned in any of the 16 results.</p> <p>⁵First result was 2010 Economic Indicator Release Schedule: by Date. Main page was not returned in any of the 90 results.</p>			

II. Website Evaluation Criteria Adapted From Top Ten Usability Issues at the Census Bureau

Criteria	Evaluation	Notes
Navigation Does website provide a single comprehensive navigational system that enables users to access information across topics quickly and efficiently? Do global navigation options appear consistently on all pages of website?	<ul style="list-style-type: none"> • Serious deficiencies, Extensive 	<p>The navigational system is mostly contained by the top horizontal bar, which is present in only a few pages. There is not self-referential clickability prevention.</p> <p>Most pages have a different layout, which may be connected to another program (e.g., from top page Monthly Wholesale Trade: Sales and Inventories, Program Overview) or just as a stand alone page (e.g, from top page, Construction Spending, Archived Releases – 2003 - Present). Since each page changes layout, navigation is difficult.</p>
Does navigation convey the hierarchy of information and facilitate lateral and vertical movement? Does website adequately indicate current location and where current page resides in overall site hierarchy?	<ul style="list-style-type: none"> • Needs Improvement, Extensive 	<p>There are no bread crumbs or other indicators of location. There is no consistent hierarchy throughout the pages.</p> <p>The lack of navigation tools prevents lateral movement. Any page changes basically require returning to the top page. Frequently, there are not the proper tools to return to the top page without using the back function.</p>

Criteria	Evaluation	Notes
Do links and target page headings match? Are link labels unique and descriptive? Are links labeled consistently throughout website?	<ul style="list-style-type: none"> • Serious deficiencies, Extensive 	There is no consistency between link labels and page headings. Links are generically labeled, which masks what the page behind them may be. In some cases, labels are not used aside from 'PDF', 'XLS', or 'CHART' (see top page). Links are not labeled consistently. In some cases, it is indicated what page/file type will be behind a link. Frequently, the type of file/page loading will be unexpected.
Text & Terminology		
Does website avoid using unfamiliar terminology, unclear wording and labeling, or jargon?	<ul style="list-style-type: none"> • 1 or more deficiencies 	While the vocabulary is more advanced than a general audience would be comfortable with, the expected audience would tend to be more sophisticated. That said, there are undefined words, abbreviations which would make the use of this information difficult to a lay user.
Expectations		
Does the website provide sufficient introduction to the content and functionality of the site?	<ul style="list-style-type: none"> • Needs Improvement, Extensive 	There is no introductory text or any information that describes the products on the page.
Does consistent navigation and layout allow users to seamlessly navigate different sections of website? Are links differentiated with specific labels to allow users to efficiently navigate through site?	<ul style="list-style-type: none"> • Needs Improvement, Extensive 	As addressed in navigation, there is a lack of consistency (when present) in navigation tools.
Does the website clearly indicate when linking to an outside URL?	<ul style="list-style-type: none"> • No deficiencies observed 	There is no indication where the links will travel. Fortunately, nearly all links land within Census.gov, but most links land within different types of pages.
Organization		
Does homepage showcase content to build interest and guide users? Is important information featured prominently?	<ul style="list-style-type: none"> • Needs Improvement, Limited 	No text or graphics are presented to showcase data. The current and previous indicator releases provide a glimpse of information, but they are poorly presented.
Is website organized in such a way as to highlight and provide easy access to the most recent or most relevant data?	<ul style="list-style-type: none"> • Adequate 	The pages function with regards to locating recent data.
Is information throughout the different pages of the website organized in a readily apparent and straightforward way?	<ul style="list-style-type: none"> • Needs Improvement, Extensive 	The pages are in different formats. The lack of continuity is very difficult to scroll through.
Page Layout		
Is information organized clearly? Does information appear in order user expects (e.g., alphabetical, numeric)?	<ul style="list-style-type: none"> • 1 or more deficiencies 	The main page is well organized, but there is no order to the listing of the indicators. Other pages tend to list releases by date.
Is page layout (color scheme, navigation options, etc.) consistent throughout website?	<ul style="list-style-type: none"> • Serious deficiencies, Extensive 	Few pages share common layouts.
Is page visually optimized? Is text legible? Are there any awkward formatting issues? Does website maximize screen real estate?	<ul style="list-style-type: none"> • 1 or more deficiencies 	The top page is well spaced out. The layout is consistent if not intuitive. However, the top page has a horizontal scroll bar for all screen sizes which scrolls into white space.

Criteria	Evaluation	Notes
Graphics, Tables, & Icons		
Does website use visual elements to increase user engagement?	<ul style="list-style-type: none"> Needs Improvement, Extensive 	The example charts that are shown are all formatted differently, and most are not up to date (e.g., CHART [1] , CHART [2] , CHART [3]). Since they are hard to find and then of varying quality, they do not positively contribute to the site. Given the graphical nature of indicators, it would seem very reasonable to have graphs or other visual features to highlight this information.
Is information in tables and graphics presented clearly?	<ul style="list-style-type: none"> 1 or more deficiencies 	See above comment. Each release is well formatted, but there is no consistency between releases.
Are icons consistent throughout website? Is functionality clear?	<ul style="list-style-type: none"> Serious deficiencies, limited. 	Some icons are used to indicate PDF, XLS, HTML, TXT tables. However many do not and the use of icons suffers for a lack of consistency.
Search		
Does search functionality work?	<ul style="list-style-type: none"> Needs Improvement, Extensive 	Not Available.
Is it clear whether search function applies to entire website or single domain?	<ul style="list-style-type: none"> Needs Improvement, Extensive 	Not Available.
Help		
Is online help useful?	<ul style="list-style-type: none"> Needs Improvement, Extensive 	Not Available.
Is FAQ section organized consistently throughout website?	<ul style="list-style-type: none"> Serious deficiencies, Extensive 	Not Available.

III. Identify Best Practices and Features on Website

- The organizational scheme used for each indicator makes locating similar data between indicators easy.
- Some users will appreciate:
 - The RSS Feed
 - Providing the press releases in multiple formats with icons
 - Stating the release dates for each indicator

9. 2007 Economic Census

Test URL: <http://www.census.gov/econ/census07/index.html>

I. Findability:

Search by Title or Text	Search Terms	Listed Order using Google	Listed Order using Website Search Engine
Title	2007 Economic Census	1	1
Text	The economic census profiles U.S. national and local economies every 5 years.	1	1
Keywords	U.S. national economic information industry business	10	6 ¹

¹Link is to definitions page of website. Main page does not come up within first few pages of search results.

II. Website Evaluation Criteria Adapted From Top Ten Usability Issues at the Census Bureau

Criteria	Evaluation	Notes
Navigation		
Does website provide a single comprehensive navigational system that enables users to access information across topics quickly and efficiently? Do global navigation options appear consistently on all pages of website?	<ul style="list-style-type: none"> • Serious deficiencies, limited 	The navigation bar doesn't convey the true depth of the website – there are some topics that are available but do not appear in the navigation bar - for example. Another example . As a result, some parts of the website are very difficult to find.
Does navigation convey the hierarchy of information and facilitate lateral and vertical movement? Does website adequately indicate current location and where current page resides in overall site hierarchy?	<ul style="list-style-type: none"> • Needs improvement, limited 	Pages within the user guide do not highlight the relevant website section in the navigation bar. The business data you can use page does not use breadcrumbs. The information hierarchy is confusing because several topics within the user guide are presented as separate topics in the site map .
Do links and target page headings match? Are link labels unique and descriptive? Are links labeled consistently throughout website?	<ul style="list-style-type: none"> • No deficiencies observed 	
Text & Terminology		
Does website avoid using unfamiliar terminology, unclear wording and labeling, or jargon?	<ul style="list-style-type: none"> • No deficiencies observed 	
Expectations		
Does the website provide sufficient introduction to the content and functionality of the site?	<ul style="list-style-type: none"> • Adequate 	There is enough text on the homepage that the user can easily navigate to learn more information or get data as desired.
Does consistent navigation and layout allow users to seamlessly navigate different sections of website? Are links differentiated with specific labels to allow users to efficiently navigate through site?	<ul style="list-style-type: none"> • Adequate 	
Does the website clearly indicate when linking to an outside URL?	<ul style="list-style-type: none"> • No deficiencies observed 	

Criteria	Evaluation	Notes
Organization		
Does homepage showcase content to build interest and guide users? Is important information featured prominently?	• Adequate	
Is website organized in such a way as to highlight and provide easy access to the most recent or most relevant data?	• Adequate	
Is information throughout the different pages of the website organized in a readily apparent and straightforward way?	• Needs improvement, limited	Again, for the most part this is good, but there are issues with the omission of certain topics from the navigation bar as discussed above.
Page Layout		
Is information organized clearly? Does information appear in order user expects (e.g., alphabetical, numeric)?	• 1 or more deficiencies	An alphabetical table of contents on the definitions page would be helpful. The site map is also a little overwhelming because there are a lot of topics (some of which are not featured in the navigation bar) and the 3-column set up with scrolling makes it difficult to view all at once.
Is page layout (color scheme, navigation options, etc.) consistent throughout website?	• 1 or more deficiencies	Some pages have a left-hand link bar and some do not . It would be useful if this was deployed throughout the website. The business data you can use page departs significantly from the page layout. Otherwise the layout is very consistent throughout the site.
Is page visually optimized? Is text legible? Are there any awkward formatting issues? Does website maximize screen real estate?	• 1 or more deficiencies	The site map could be easier to view visually.
Graphics, Tables, & Icons		
Does website use visual elements to increase user engagement?	• Adequate	The homepage makes good use of images and the use of tables throughout the website to organize links is helpful.
Is information in tables and graphics presented clearly?	• 1 or more deficiencies	The “check out industry snapshots” graphic on the main page doesn’t describe very well the content on the linked page .
Are icons consistent throughout website? Is functionality clear?	• No deficiencies observed	
Search		
Does search functionality work?	• Needs improvement, limited	Search is an option in the navigation bar – you have to go to a separate page to search. The industry search option is only available on the main page .
Is it clear whether search function applies to entire website or single domain?	• Adequate	
Help		
Is online help useful?	• Adequate	It is very helpful that the FAQ pages are contained within the economic census website.
Is FAQ section organized consistently throughout website?	• No deficiencies observed	

III. Identify Best Practices and Features on Website

- The homepage does a good job of featuring the content on the website without overwhelming the user and makes good use of images.
- The inclusion of a site map is helpful.
- Users can sign up for email notifications when new data are released.
- There are [video](#) tutorials for using FactFinder.
- Most pages take advantage of page layout to make information easier to view.
- The FAQs are partially included within the website rather than just linking to the Census FAQ site.
- The user guide is helpful for understanding how to obtain information.

10. County Business Patterns

Test URL: <http://www.census.gov/econ/cbp/>

I. Findability:

Search by Title or Text	Search Terms	Listed Order using Google	Listed Order using Website Search Engine
Title	County Business Patterns	1	0 ¹
Text	These three programs cover most of the country's economic activity, as described in an introduction. The series excludes data on self-employed individuals, employees of private households, railroad employees, agricultural production employees, and most government employees. For information on businesses with no paid employees, see Nonemployer Statistics.	2 ²	0 ³
Keywords	economic activity industry local market annual NAICS employment establishments	0 ⁴	0 ⁵

¹First result was for an outdated CBP page, www.census.gov/epcd/cbp/view/cbpview.html. The current [CBP](#) main page was not returned in 112 results.

²First result was the [CBP Introduction](#) page.

³The CBP main page was not returned in 13 results.

⁴The CBP main page was not returned in first 100 results.

⁵The CBP main page was not returned in 75 results.

II. Website Evaluation Criteria Adapted From Top Ten Usability Issues at the Census Bureau

Criteria	Evaluation	Notes
Navigation		
Does website provide a single comprehensive navigational system that enables users to access information across topics quickly and efficiently? Do global navigation options appear consistently on all pages of website?	<ul style="list-style-type: none"> • Serious deficiencies, limited 	The site has good integration of a modern navigation system. With limited exception, all the CBP pages have modern navigation tools. Self-referential clickability has been prevented. Navigation tabs are consistent between pages.
Does navigation convey the hierarchy of information and facilitate lateral and vertical movement? Does website adequately indicate current location and where current page resides in overall site hierarchy?	<ul style="list-style-type: none"> • Needs improvement, limited 	A breadcrumb trail is provided, and the URL architecture is intuitive to give extra location feedback.
Do links and target page headings match? Are link labels unique and descriptive? Are links labeled consistently throughout website?	<ul style="list-style-type: none"> • 1 or more deficiencies 	Generally, links labels match target page headings, though not always (e.g., How the Data are Collected -> Coverage and Methodology). Links are well labeled and descriptive.
Text & Terminology		
Does website avoid using unfamiliar terminology, unclear wording and labeling, or jargon?	<ul style="list-style-type: none"> • 1 or more deficiencies 	The terminology can be overly complex (e.g., Coverage and Methodology), and only a limited Definitions page is provided.

Criteria	Evaluation	Notes
Expectations		
Does the website provide sufficient introduction to the content and functionality of the site?	• Adequate	The brief introduction on the front page is too short, but the detailed introduction page provides a good overview.
Does consistent navigation and layout allow users to seamlessly navigate different sections of website? Are links differentiated with specific labels to allow users to efficiently navigate through site?	• Adequate	Horizontal movement is accessible through the horizontal navigation bar. The bread crumbs help with vertical navigation. Links are well labeled to indicate their content.
Does the website clearly indicate when linking to an outside URL?	• No deficiencies observed	All outside links appear to be indicated in some fashion.
Organization		
Does homepage showcase content to build interest and guide users? Is important information featured prominently?	• Needs Improvement, Limited	The top page does not have any interest building information, only the scope of reporting is provided.
Is website organized in such a way as to highlight and provide easy access to the most recent or most relevant data?	• Adequate	The most recent data are able to be accessed in multiple ways from the main page. This is a good feature of the site.
Is information throughout the different pages of the website organized in a readily apparent and straightforward way?	• Adequate	The information is presented consistently and in an intuitive manner.
Page Layout		
Is information organized clearly? Does information appear in order user expects (e.g., alphabetical, numeric)?	• No deficiencies observed	Information is logically presented.
Is page layout (color scheme, navigation options, etc.) consistent throughout website?	• Serious deficiencies, extensive	The there are different formats for many of the pages.
Is page visually optimized? Is text legible? Are there any awkward formatting issues? Does website maximize screen real estate?	• 1 or more deficiencies	<p>The pages are visually optimized across many monitor sizes. The page layout is liquid and will resize well down to minimum size.</p> <p>Visual real estate is well used. White spaces are avoided.</p> <p>A few formatting problems are present:</p> <p>On the top page, the metropolitan and micropolitan statistical areas drop down is aligned right when the other drop downs are in line with other text. The release schedule on the top page underlines when the mouse is over the text. This erroneously appears to be a hyperlink, and is very misleading.</p> <p>On the Definitions and Historical Data pages, some definitions are underlined, which erroneously appear to be hyperlinks.</p> <p>On the Coverage and Methodology page, the PDF download/policy blurb is in the text when it should be at the page bottom.</p> <p>Headings alternate between First Cap and ALL CAPS (e.g., Definitions vs. About the Data).</p>

Criteria	Evaluation	Notes
Graphics, Tables, & Icons		
Does website use visual elements to increase user engagement?	• Needs improvement, limited	Maps are produced for each data query. Otherwise the site is lacking graphics.
Is information in tables and graphics presented clearly?	• No deficiencies observed	While the html tables are not visually optimized, they are functional and readable. The options to export to text or csv are excellent tools.
Are icons consistent throughout website? Is functionality clear?	• 1 or more deficiencies	Icons are rarely used, but are used in some cases to indicate outside links and PDF files.
Search		
Does search functionality work?	• Needs Improvement, Limited	A text box is not available, requiring the search to be performed on a separate page. The search is not restricted to the CBP pages.
Is it clear whether search function applies to entire website or single domain?	• Adequate	It is apparent from the link that the search includes the entire Census website.
Help		
Is online help useful?	• Adequate	
Is FAQ section organized consistently throughout website?	• Serious deficiencies, limited	The FAQ link takes you to the A Census FAQ page which directs back to an FAQ within the CBP site. It would be much simpler to just link to the FAQ within the CBP site.

III. Identify Best Practices and Features on Website

- CBP specific landing page in the FAQ
- Consistent use of page formatting and navigational tools
- Option to export html tables to .csv or .txt files.
- Consolidated and organized references to historical tables

11. County and City Data Book

Test URL: <http://www.census.gov/statab/www/ccdb.html>

I. Findability:

Search by Title or Text	Search Terms	Listed Order using Google	Listed Order using Website Search Engine
Title	County and City Data Book	1	1
Text	The County and City Data Book is the most comprehensive source of information about the individual counties and cities in the United States.	1	1
Keywords	U.S. business age earnings establishments climate race water topical areas	1	1

II. Website Evaluation Criteria Adapted From Top Ten Usability Issues at the Census Bureau

Criteria	Evaluation	Notes
Navigation		
Does website provide a single comprehensive navigational system that enables users to access information across topics quickly and efficiently? Do global navigation options appear consistently on all pages of website?	<ul style="list-style-type: none"> • Serious Deficiencies, extensive 	There is no navigational system on this website. For example.
Does navigation convey the hierarchy of information and facilitate lateral and vertical movement? Does website adequately indicate current location and where current page resides in overall site hierarchy?	<ul style="list-style-type: none"> • Needs Improvement, extensive 	There is no navigational system or breadcrumbs structure on the website.
Do links and target page headings match? Are link labels unique and descriptive? Are links labeled consistently throughout website?	<ul style="list-style-type: none"> • 1 or more deficiencies 	Statistical Abstract of the United States → The 2011 Statistical Abstract
Text & Terminology		
Does website avoid using unfamiliar terminology, unclear wording and labeling, or jargon?	<ul style="list-style-type: none"> • Serious deficiencies, limited 	In general the terminology used on the website is straightforward, but the site does lack a data dictionary explaining the meaning of different metrics in the tables (e.g., what is an “establishment”)
Expectations		
Does the website provide sufficient introduction to the content and functionality of the site?	<ul style="list-style-type: none"> • Adequate 	
Does consistent navigation and layout allow users to seamlessly navigate different sections of website? Are links differentiated with specific labels to allow users to efficiently navigate through site?	<ul style="list-style-type: none"> • Needs Improvement, extensive 	There is no navigation system. Additionally, the figures and tables of the data book are difficult to navigate as duplicate information is available for states, counties, etc., and there is no table of contents.
Does the website clearly indicate when linking to an outside URL?	<ul style="list-style-type: none"> • No deficiencies observed 	

Criteria	Evaluation	Notes
Organization		
Does homepage showcase content to build interest and guide users? Is important information featured prominently?	• Adequate	
Is website organized in such a way as to highlight and provide easy access to the most recent or most relevant data?	• Adequate	
Is information throughout the different pages of the website organized in a readily apparent and straightforward way?	• Needs improvement, limited	It's not clear what the difference is between the tables in the online publication and the selected features , if any. The selected features are presented as an after thought even though they provide both excel and PDF copies of data whereas the online publication is PDFs only.
Page Layout		
Is information organized clearly? Does information appear in order user expects (e.g., alphabetical, numeric)?	• 1 or more deficiencies	There are a lot of tables on the publication page which is initially hard to navigate.
Is page layout (color scheme, navigation options, etc.) consistent throughout website?	• 1 or more deficiencies	Fonts differ on some pages . The font size of the Census navigation bar also changes on different pages .
Is page visually optimized? Is text legible? Are there any awkward formatting issues? Does website maximize screen real estate?	• No deficiencies observed	
Graphics, Tables, & Icons		
Does website use visual elements to increase user engagement?	• Needs improvement, limited	Only the main page employs graphics, there could be more graphics or better layout on other pages to break up text.
Is information in tables and graphics presented clearly?	• 1 or more deficiencies	Table are only available in PDF or XLS format, there is no option to view as a HTML page.
Are icons consistent throughout website? Is functionality clear?	• 1 or more deficiencies	There are no icons. PDF icon is not used.
Search		
Does search functionality work?	• Needs improvement, limited	It is presented as a link to the Census search tool rather than as a text box.
Is it clear whether search function applies to entire website or single domain?	• Adequate	
Help		
Is online help useful?	• Needs improvement, extensive	There is no help for this section of the website.
Is FAQ section organized consistently throughout website?	• Serious deficiencies, extensive	There is no access to help on this page.

III. Identify Best Practices and Features on Website

- The use of the image of the publication helps make the main page visually appealing. The introduction on the main page is also very good.
- The links to other Census Bureau websites with relevant information are also helpful.

12. Geography

Test URL: <http://www.census.gov/geo/www/>

I. Findability:

Search by Title or Text	Search Terms	Listed Order using Google	Listed Order using Website Search Engine
Title	Geography	24	0 ¹
Text	Geographic Programs TIGER® Page 2010 Census Geographic Products LandView® 6 Maps and Mapping Resources Census Tract Resources Understanding Census Geography - Reference Resources Census 2000 Geographic Products	1	0 ²
Keywords	Maps Tract TIGER LandView LUCA Boundary District PUMA	1	0 ³
Keywords	Maps Tract TIGER LandView LUCA	6	0 ⁴
<p>¹The Geography webpage was not returned in the 135 results. ²The first, second and third results were for help files for LandView [pdf] (1, 2, 3). The Geography webpage was not returned in four results. ³No pages were returned using these keywords. ⁴The first, second and third were for various files in Geography subdirectories (1, 2, 3). The Geography webpage was not returned in five results.</p>			

II. Website Evaluation Criteria Adapted From Top Ten Usability Issues at the Census Bureau

Criteria	Evaluation	Notes
Navigation Does website provide a single comprehensive navigational system that enables users to access information across topics quickly and efficiently? Do global navigation options appear consistently on all pages of website?	<ul style="list-style-type: none"> • Serious deficiencies, extensive 	No tools are provided to aid navigation throughout the site. Within the TIGER pages, a left table provides a decent navigation tool on some pages. However, this isn't present on all pages and doesn't have self-referencing prevention.
Does navigation convey the hierarchy of information and facilitate lateral and vertical movement? Does website adequately indicate current location and where current page resides in overall site hierarchy?	<ul style="list-style-type: none"> • Needs Improvement, extensive 	No navigation tools are provided within the Geo site to allow for horizontal navigation. Any horizontal location requires going back a page. No bread crumbs are available to help with vertical navigation. However, the site architecture is well structured vertically. The URL is able to give good indication of vertical location.
Do links and target page headings match? Are link labels unique and descriptive? Are links labeled consistently throughout website?	<ul style="list-style-type: none"> • 1 or more deficiencies 	Most links are well labeled. Link labels match the target page titles very closely or exactly nearly all the time. One exception would be on the Geographic Programs page, the target of the Cooperative Research and Development Agreements (CRADA) link is a page named Cooperative Programs with Commercial Partners, though CRADA is prominent subject in the text.

Criteria	Evaluation	Notes
Text & Terminology		
Does website avoid using unfamiliar terminology, unclear wording and labeling, or jargon?	• 1 or more deficiencies	Jargon is used frequently on these pages. Since the typical user of the site will be more advanced, this is more acceptable.
Expectations		
Does the website provide sufficient introduction to the content and functionality of the site?	• Needs Improvement, Extensive	Essentially no introductory information is given. Most pages consist only of links and single line descriptions.
Does consistent navigation and layout allow users to seamlessly navigate different sections of website? Are links differentiated with specific labels to allow users to efficiently navigate through site?	• Needs Improvement, Extensive	Navigation tools as mentioned above are nearly non-existent so back stepping is frequently required for browsing. Links to PDF and other files types are very well marked.
Does the website clearly indicate when linking to an outside URL?	• 1 or more deficiencies	Very few links go to external sites. I did catch numerous unlabeled external links on the LandView pages (e.g., CAMEQ on the LandView main page).
Organization		
Does homepage showcase content to build interest and guide users? Is important information featured prominently?	• Needs Improvement, Limited	No interest generating content is featured on the home page. The most important products are listed on the home page.
Is website organized in such a way as to highlight and provide easy access to the most recent or most relevant data?	• Needs Improvement, Limited	Prominent programs and products are listed on the home page, but any of their information or features are buried in sub pages. Each page tends to highlight the most recent information (e.g., TIGER).
Is information throughout the different pages of the website organized in a readily apparent and straightforward way?	• Needs Improvement, Limited	Within each group, pages tend to be similarly and intuitively organized, but each different group may have separate layout schemes.
Page Layout		
Is information organized clearly? Does information appear in order user expects (e.g., alphabetical, numeric)?	• 1 or more deficiencies	The pages are not presented in an intuitive manner.
Is page layout (color scheme, navigation options, etc.) consistent throughout website?	• Serious deficiencies, Extensive	The layout is very inconsistent between pages. It is evident that the pages are from numerous generations and sub-programs. (e.g., 1 , 2 , 3)
Is page visually optimized? Is text legible? Are there any awkward formatting issues? Does website maximize screen real estate?	• Serious deficiencies, Extensive	The pages are not visually appealing. The use of headers and bullet points gives an amateurish and outdated quality to the page. The windows do resize and do not require horizontal scrolling for 768 pixel and above monitor widths, though horizontal scrolling is require for 600 pixel widths. Large patches of unused space are present, requiring vertical scrolling despite a lack of content. Any attempt at organization could place significant information above the screen fold.

Criteria	Evaluation	Notes
Graphics, Tables, & Icons		
Does website use visual elements to increase user engagement?	• Needs Improvement, Extensive	There are limited visual elements. The few images are very outdated (e.g., LandView , TIGER). Considering the graphical nature of Geography, this seems particularly egregious.
Is information in tables and graphics presented clearly?	• 1 or more deficiencies	Table format is generally very rough, (e.g., 1 , 2).
Are icons consistent throughout website? Is functionality clear?	• 1 or more deficiencies	Icons are not used.
Search		
Does search functionality work?	• Needs Improvement, Limited	A text box is not available, requiring the search to be performed on a separate page. The search is not restricted to the Geo pages.
Is it clear whether search function applies to entire website or single domain?	• Adequate	It is apparent from the link that the search includes the entire Census.gov website.
Help		
Is online help useful?	• Adequate	
Is FAQ section organized consistently throughout website?	• Serious deficiencies, Limited	There are two separate FAQs on the TIGER page, TIGER Frequently Asked Questions and Answers to Frequently Asked Questions . The latter is a general Geo FAQ, which belongs on the Geo main page . It is difficult to find the FAQs

III. Identify Best Practices and Features on Website

- Well defined URL architecture
- Good descriptions on hyperlinks

13. Data Tools

Test URL: <http://www.census.gov/main/www/access.html>

I. Findability:

Search by Title or Text	Search Terms	Listed Order using Google	Listed Order using Website Search Engine
Title	Data Access Tools	1	1
Text	The American FactFinder - This interactive application supports the Economic Census, the American Community Survey, the 1990 Census, Census 2000 and the latest Population Estimates	2	1
Keywords	applications to obtain census information	1	0 ¹

¹Does not appear within first few pages of search results

II. Website Evaluation Criteria Adapted From Top Ten Usability Issues at the Census Bureau

Criteria	Evaluation	Notes
Navigation		
Does website provide a single comprehensive navigational system that enables users to access information across topics quickly and efficiently? Do global navigation options appear consistently on all pages of website?	<ul style="list-style-type: none"> No deficiencies observed 	N/A - This website is a single page
Does navigation convey the hierarchy of information and facilitate lateral and vertical movement? Does website adequately indicate current location and where current page resides in overall site hierarchy?	<ul style="list-style-type: none"> Adequate 	
Do links and target page headings match? Are link labels unique and descriptive? Are links labeled consistently throughout website?	<ul style="list-style-type: none"> Serious deficiencies, extensive 	In many cases the target page does not match the link text, however in the following cases it is unclear what the destination page is, for example: Census 2000 EEO Data Tool → Equal Employment Opportunity (EEO) Online mapping tools → Maps in American FactFinder
Text & Terminology		
Does website avoid using unfamiliar terminology, unclear wording and labeling, or jargon?	<ul style="list-style-type: none"> Serious deficiencies, limited 	In many cases, the descriptions for data tools are vague and uninformative, for example: Online Mapping Tools - using TIGER and the American FactFinder (What is TIGER?)
Expectations		
Does the website provide sufficient introduction to the content and functionality of the site?	<ul style="list-style-type: none"> Needs improvement, extensive 	There is no introduction to the website - it is just a bulleted list of links.
Does consistent navigation and layout allow users to seamlessly navigate different sections of website? Are links differentiated with specific labels to allow users to efficiently navigate through site?	<ul style="list-style-type: none"> Needs Improvement, extensive 	Some link names are vague or misleading (e.g., "Online mapping tools"). With no introduction, it is hard to grasp the breadth of the site other than perusing the links one by one.
Does the website clearly indicate when linking to an outside URL?	<ul style="list-style-type: none"> No deficiencies observed 	

Criteria	Evaluation	Notes
Organization		
Does homepage showcase content to build interest and guide users? Is important information featured prominently?	• Needs improvement, extensive	There is no introduction showcasing the content on the page. It is unclear which links are more pertinent or useful than others.
Is website organized in such a way as to highlight and provide easy access to the most recent or most relevant data?	• Needs improvement, extensive	The bulleted list of links does not indicate which might be most pertinent or relevant (they do not appear to be listed in any particular order). The top two links have no introduction so it is unclear what type of sites they link to.
Is information throughout the different pages of the website organized in a readily apparent and straightforward way?	• Needs improvement, extensive	Website is only one page, but the links are not organized in a manner which is easy to comprehend.
Page Layout		
Is information organized clearly? Does information appear in order user expects (e.g., alphabetical, numeric)?	• Serious deficiencies, limited	It doesn't seem like there is a rationale for the ordering of the links. The top two links have no explanation differentiating them.
Is page layout (color scheme, navigation options, etc.) consistent throughout website?	• No deficiencies observed	Website is only one page.
Is page visually optimized? Is text legible? Are there any awkward formatting issues? Does website maximize screen real estate?	• No deficiencies observed	
Graphics, Tables, & Icons		
Does website use visual elements to increase user engagement?	• Needs improvement, extensive	There are few visual elements on the page – just a list of links. Screenshots of the search tools might help guide users. The images at the top of the page seem irrelevant.
Is information in tables and graphics presented clearly?	• No deficiencies observed	There are no tables or graphics
Are icons consistent throughout website? Is functionality clear?	• 1 or more deficiencies	There are no icons
Search		
Does search functionality work?	• Needs improvement, limited	Yes, although it is presented as a link to the Census search tool rather than as a text box.
Is it clear whether search function applies to entire website or single domain?	• Adequate	
Help		
Is online help useful?	• Adequate	This is a help site
Is FAQ section organized consistently throughout website?	• Serious deficiencies, limited	There is no access to help on this page.

III. Identify Best Practices and Features on Website

- No best practices identified

14. DataFerrett

Test URL: <http://dataferrett.census.gov/>

This review excludes the DataFerrett application and focuses only on the web pages.

I. Findability:

Search by Title or Text	Search Terms	Listed Order using Google	Listed Order using Website Search Engine
Title	DataFerrett	1	0 ¹
Text	Welcome to the DataFerrett for TheDataWeb DataFerrett is a unique data analysis and extraction tool—with recoding capabilities—to customize federal, state, and local data to suit your requirements. (FERRETT stands for Federated Electronic Research, Review, Extraction, and Tabulation Tool.)	1	0 ²
Keywords	analysis extraction mining federal state local query tables beta	1	0 ²

¹The main page was not returned in the 60 search results.
²No search results were returned.

II. Website Evaluation Criteria Adapted From Top Ten Usability Issues at the Census Bureau

Criteria	Evaluation	Notes
Navigation Does website provide a single comprehensive navigational system that enables users to access information across topics quickly and efficiently? Do global navigation options appear consistently on all pages of website?	<ul style="list-style-type: none"> • 1 or more deficiencies 	<p>There is a navigation system, but it isn't present on all pages nor is it consistent on all the pages where it is present.</p> <p>The left sidebar is present on a significant number of pages, but the right sidebar is frequently not present. On some pages, self referencing links are eliminated (e.g., the DataFerrett Home link in the left tool bar is absent on the top page). However, this isn't the case for all pages, and some do have self referencing links (e.g., Datasets Available).</p>
Does navigation convey the hierarchy of information and facilitate lateral and vertical movement? Does website adequately indicate current location and where current page resides in overall site hierarchy?	<ul style="list-style-type: none"> • Needs Improvement, Extensive 	<p>No bread crumbs or other tools are provided for identifying location within the site.</p> <p>Clicking some links brings up a separate tab or window. This is reasonable for opening the DataFerrett applet, but is not acceptable for pages within the DataFerrett website.</p> <p>The website architecture does not aid in vertically navigating.</p>
Do links and target page headings match? Are link labels unique and descriptive? Are links labeled consistently throughout website?	<ul style="list-style-type: none"> • Serious deficiencies, Extensive 	<p>Very few of the links match the target page headings. Most will be close, but nearly all are incorrect.</p> <p>There is a serious problem with downloadable files not being</p>

Criteria	Evaluation	Notes
		<p>indicated. Movie downloads from the top page should be labeled as file type with file size (e.g., DataFerrettVideo should include a label like [.mov, 31.4 MB]). Also, clicking the ferret image in the upper left corner unexpectedly downloads the video. Word documents are not indicated (e.g., Children Under 18 below Poverty from the Use Examples page). Word documents should be html or PDF formatted. The more egregious problem are unlabeled executable file downloads (e.g., Production DataFerrett Application – hyperlink not included). These should be very well labeled, as browsers do not like unexpected .exe downloads – they appear like a security threat. From the FAQs page, nearly all the links on the left sidebar are broken.</p>
Text & Terminology		
<p>Does website avoid using unfamiliar terminology, unclear wording and labeling, or jargon?</p>	<ul style="list-style-type: none"> • 1 or more deficiencies 	<p>The use of statistical and Census language is very frequent throughout the DataFerrett pages. Some definitions are provided, but they are scattered about the website. A definitions page within a combined help section would be useful. However, this page is probably only going to be used by the most advanced users, so explaining all terminologies here is less needed.</p>
Expectations		
<p>Does the website provide sufficient introduction to the content and functionality of the site?</p>	<ul style="list-style-type: none"> • Adequate 	<p>There is a sufficient introduction and enough support and tutorials to help new users become familiar with the functionality.</p>
<p>Does consistent navigation and layout allow users to seamlessly navigate different sections of website? Are links differentiated with specific labels to allow users to efficiently navigate through site?</p>	<ul style="list-style-type: none"> • Needs Improvement, Extensive 	<p>See comments through navigation. There is a lack of consistency in the layout regarding the lack of consistent global navigation tools that makes browsing difficult. Further there is often minor variation between pages with the global navigation tools that makes some links disappear and formatting to change. This is very disorienting. Unexpected file downloads and page pop-ups further tangle browsing.</p>
<p>Does the website clearly indicate when linking to an outside URL?</p>	<ul style="list-style-type: none"> • 1 or more deficiencies 	<p>With the exception of the unlabeled external links on the Datasets page, there seem to be few outside links.</p>

Criteria	Evaluation	Notes
Organization		
Does homepage showcase content to build interest and guide users? Is important information featured prominently?	• Adequate	There is plenty of content and information available to showcase the DataFerrett application.
Is website organized in such a way as to highlight and provide easy access to the most recent or most relevant data?	• Adequate	Since the data are retrieved with the DataFerrett application, this question is outside the scope of this website evaluation.
Is information throughout the different pages of the website organized in a readily apparent and straightforward way?	• Needs Improvement, Extensive	Organization is scattered. There is plenty of information available, but it may be buried in pages or difficult to find.
Page Layout		
Is information organized clearly? Does information appear in order user expects (e.g., alphabetical, numeric)?	• No deficiencies observed	Content is well organized (e.g., Datasets Available).
Is page layout (color scheme, navigation options, etc.) consistent throughout website?	• Serious deficiencies, Extensive	Page layout is mostly consistent, but layout problems are present throughout the site. Inconstant layout (e.g., Example Queries vs. main page) occurs even when all the common navigation tools are present. Otherwise, the pages vary in formatting. Tutorial become basic and raw html (e.g., QuickTour) when they could be integrated into the center frame. Expected links on the (e.g., DataFerrett HelpDesk and DataFerrettTeam Email on the sidebar appear to be links but are static text.)
Is page visually optimized? Is text legible? Are there any awkward formatting issues? Does website maximize screen real estate?	• Serious deficiencies, Limited	There are some very unusual problems with the display. On some cases, good efforts are made to present a visually appealing page, however the deficiencies overwhelm the positives. The text is mostly legible, though reading brown text on a blue background or blue text on a yellow-tan background is mildly difficult due to lack of contrast. On the main page, there is no content on the bottom half of the page, yet vertical scrolling is required to get to the footer. Ironically, the two side bars and center content are well balanced so that scrolling should not be required. A similar problem occurs on the FAQs, where there is over a page worth of blank space at the page bottom. Aside from blank sections at page bottoms, the pages use screen real estate well. The main pages also resize effectively, and even 600 pixel width monitors do not require horizontal scrolling.

Criteria	Evaluation	Notes
Graphics, Tables, & Icons		
Does website use visual elements to increase user engagement?	<ul style="list-style-type: none"> Needs Improvement, Limited 	The graphics present may increase user engagement. However, the images present have a cutesy or archaic presentation – not professional by current standards. The DataFerrettVideo is a decent presentation, but few users will want to download the file to view it. It would be much better served as an in page flash video [i.e., YouTube style video].
Is information in tables and graphics presented clearly?	<ul style="list-style-type: none"> 1 or more deficiencies 	Tables are avoided for this page. There are about 5 different ferret images, none of which are consistent.
Are icons consistent throughout website? Is functionality clear?	<ul style="list-style-type: none"> 1 or more deficiencies 	Icons are sparsely used throughout the site. The Mac Icon in the right tool bar would be very helpful in labeling file types or assisting in navigation.
Search		
Does search functionality work?	<ul style="list-style-type: none"> Needs Improvement, Limited 	A text box is not available, requiring the search to be performed on a separate page. The search is not restricted to the DataFerrett pages.
Is it clear whether search function applies to entire website or single domain?	<ul style="list-style-type: none"> Adequate 	It is apparent from the link that the search includes the entire Census.gov website.
Help		
Is online help useful?	<ul style="list-style-type: none"> Adequate 	The help resources are placed in multiple areas. The FAQs , are located in the left side bar. Troubleshooting is in the right side bar, and isn't present on some pages. The Need more information? page is buried on the Beta page, and not accessible from the top page . There are also ample user guides and examples. The tutorials, which are numerous, are of varying quality. The issue isn't the presence of help resources, rather it is that their integration into the site is poor so they are scattered throughout the pages.
Is FAQ section organized consistently throughout website?	<ul style="list-style-type: none"> Serious deficiencies, limited 	There are numerous FAQ/help/tutorials, but locating them is difficult.

III. Identify Best Practices and Features on Website

- Numerous tutorials and instruction

15. Listing by Subject

Test URL: <http://www.census.gov/main/www/a2z/>

I. Findability:

Search by Title or Text	Search Terms	Listed Order using Google	Listed Order using Website Search Engine
Title	Subjects A to Z	1	1
Text	Access Data Tools Accommodation and Food Services	3	4
Keywords	Alphabetical listing of topics on census website	1	0 ¹

¹Does not appear in search results

II. Website Evaluation Criteria Adapted From Top Ten Usability Issues at the Census Bureau

Criteria	Evaluation	Notes
Navigation		
Does website provide a single comprehensive navigational system that enables users to access information across topics quickly and efficiently? Do global navigation options appear consistently on all pages of website?	<ul style="list-style-type: none"> No deficiencies observed 	
Does navigation convey the hierarchy of information and facilitate lateral and vertical movement? Does website adequately indicate current location and where current page resides in overall site hierarchy?	<ul style="list-style-type: none"> Adequate 	There are no breadcrumbs on the website, but the navigation highlights the current location and breadcrumbs do not seem necessary.
Do links and target page headings match? Are link labels unique and descriptive? Are links labeled consistently throughout website?	<ul style="list-style-type: none"> Serious deficiencies, limited 	There are some inconsistent/confusing links, or places where it is unclear how destination relates to the topic in the listing: Access data tools; Data access, tools, & processing -> Data Access Tools Dynamics of Economic well being -> Well being Mining -> Manufacturing & Construction Statistics
Text & Terminology		
Does website avoid using unfamiliar terminology, unclear wording and labeling, or jargon?	<ul style="list-style-type: none"> No deficiencies observed 	There is some unfamiliar terminology, but since it is an index of topics it is not an issue.
Expectations		
Does the website provide sufficient introduction to the content and functionality of the site?	<ul style="list-style-type: none"> Adequate 	There is no introduction, but as the website is an A-to-Z listing of all Census Bureau topics, an introduction does not seem necessary.
Does consistent navigation and layout allow users to seamlessly navigate different sections of website? Are links differentiated with specific labels to allow users to efficiently navigate through site?	<ul style="list-style-type: none"> Needs Improvement, limited 	Sometimes when multiple sub-links are listed under a topic, it is difficult to select which link is most appropriate (e.g., Links under "Age" or "Population").
Does the website clearly indicate when linking to an outside URL?	<ul style="list-style-type: none"> No deficiencies observed 	

Criteria	Evaluation	Notes
Organization		
Does homepage showcase content to build interest and guide users? Is important information featured prominently?	• Adequate	
Is website organized in such a way as to highlight and provide easy access to the most recent or most relevant data?	• Needs improvement, limited	“New on site” on the right side of the page is not up to date (If you click the link the newest information added to the site is not what is featured in the sidebar).
Is information throughout the different pages of the website organized in a readily apparent and straightforward way?	• Adequate	
Page Layout		
Is information organized clearly? Does information appear in order user expects (e.g., alphabetical, numeric)?	• No deficiencies observed	
Is page layout (color scheme, navigation options, etc.) consistent throughout website?	• No deficiencies observed	
Is page visually optimized? Is text legible? Are there any awkward formatting issues? Does website maximize screen real estate?	• No deficiencies observed	
Graphics, Tables, & Icons		
Does website use visual elements to increase user engagement?	• Adequate	
Is information in tables and graphics presented clearly?	• No deficiencies observed	
Are icons consistent throughout website? Is functionality clear?	• No deficiencies observed	
Search		
Does search functionality work?	• Needs improvement, limited	Search is a link that you have to click to get to the search page.
Is it clear whether search function applies to entire website or single domain?	• Adequate	
Help		
Is online help useful?	• Adequate	This is a help site
Is FAQ section organized consistently throughout website?	• Serious deficiencies, limited	There is no access to help on this page.

III. Identify Best Practices and Features on Website

- The page layout and navigation is consistent and easy to use
- The PDF icon is used consistently to indicate PDF files in the listing.

16. New FactFinder

Test URL: <http://factfinder2.census.gov/main.html>

I. Findability:

Search by Title or Text	Search Terms	Listed Order using Google	Listed Order using Website Search Engine
Title	American FactFinder	0 ¹	0 ²
Text	Your source for population, housing, economic, and geographic data	0 ³	0 ²
Keywords	search for census 2010 data	0 ⁴	0 ²
<p>¹Old version of AFF is first link in search results; however, a link to the new AFF appears as an ad in the Google search results.</p> <p>²Website does not appear within first few pages of search results</p> <p>³Old version of AFF is first link in search results</p> <p>⁴Old version of AFF is 3rd link in search results</p>			

II. Website Evaluation Criteria Adapted From Top Ten Usability Issues at the Census Bureau

Criteria	Evaluation	Notes
Navigation		
Does website provide a single comprehensive navigational system that enables users to access information across topics quickly and efficiently? Do global navigation options appear consistently on all pages of website?	<ul style="list-style-type: none"> • 1 or more deficiencies 	Page lacks Census website global navigation options.
Does navigation convey the hierarchy of information and facilitate lateral and vertical movement? Does website adequately indicate current location and where current page resides in overall site hierarchy?	<ul style="list-style-type: none"> • Needs improvement, limited 	There are no breadcrumbs, but navigation bar highlights do an adequate job of indicating location in hierarchy.
Do links and target page headings match? Are link labels unique and descriptive? Are links labeled consistently throughout website?	<ul style="list-style-type: none"> • No deficiencies observed 	
Text & Terminology		
Does website avoid using unfamiliar terminology, unclear wording and labeling, or jargon?	<ul style="list-style-type: none"> • Serious deficiencies, extensive 	There is some terminology, e.g. "Race Permutation", the "Allocation/imputation" data type; the meaning of the different "product types" and "datasets" are not immediately clear. Table names and other search results often are unclearly worded or difficult to understand – for example, the different kinds of geographies in the geography search.
Expectations		
Does the website provide sufficient introduction to the content and functionality of the site?	<ul style="list-style-type: none"> • Needs improvement, extensive 	There is very little text on the main page explaining what is available and how to use the site.
Does consistent navigation and layout allow users to seamlessly navigate different sections of website? Are links differentiated with specific labels to allow users to efficiently navigate through site?	<ul style="list-style-type: none"> • Needs Improvement, limited 	Overall this is good; however both "FAQs" and "Help" are present in the navigation bar. FAQs is listed first and goes to the Census Q&A page; Help is specific to AFF.
Does the website clearly indicate when linking to an outside URL?	<ul style="list-style-type: none"> • No deficiencies observed 	

Criteria	Evaluation	Notes
Organization		
Does homepage showcase content to build interest and guide users? Is important information featured prominently?	• Adequate	
Is website organized in such a way as to highlight and provide easy access to the most recent or most relevant data?	• Needs improvement, extensive	Search results usually feature a long list of tables, many of which appear similar, which are not sorted by relevance, making it difficult to identify the most relevant data source.
Is information throughout the different pages of the website organized in a readily apparent and straightforward way?	• Adequate	
Page Layout		
Is information organized clearly? Does information appear in order user expects (e.g., alphabetical, numeric)?	• No deficiencies observed	
Is page layout (color scheme, navigation options, etc.) consistent throughout website?	• 1 or more deficiencies	Navigation options are formatted differently on main page .
Is page visually optimized? Is text legible? Are there any awkward formatting issues? Does website maximize screen real estate?	• 1 or more deficiencies	Problem with horizontal scrolling on main page.
Graphics, Tables, & Icons		
Does website use visual elements to increase user engagement?	• Needs improvement, limited	Main page makes good use of images, but remainder of website does not use visual elements.
Is information in tables and graphics presented clearly?	• No deficiencies observed	
Are icons consistent throughout website? Is functionality clear?	• No deficiencies observed	
Search		
Does search functionality work?	• Needs improvement, extensive	The “quick start” search seems to rely on very specific phrases, especially for geography, which makes it difficult to use. There is also no way to search other than using the quick search or search tools, and no way to search the entire Census.gov website.
Is it clear whether search function applies to entire website or single domain?	• Adequate	
Help		
Is online help useful?	• Adequate	
Is FAQ section organized consistently throughout website?	• No deficiencies observed	

III. Identify Best Practices and Features on Website

- The help page opens in a new window so you can continue to search.
- The feedback link is a popup box on the page.
- You can view maps of data
- You can transpose rows and columns in a table
- Website makes good use of icons
- You can save queries for later retrieval
- “Did you know” feature provides interesting data

17. Survey of Income and Program Participation

Test URL: <http://www.census.gov/sipp/>

I. Findability:

Search by Title or Text	Search Terms	Listed Order using Google	Listed Order using Website Search Engine
Title	Survey of Income and Program Participation	1	0 ¹
Text ²	The main objective of SIPP is to provide accurate and comprehensive information about the income and program participation of individuals and households in the United States, and about the principal determinants of income and program participation. SIPP offers detailed information on cash and noncash income on a subannual basis.	1	1
Keywords	income individual household taxes labor eligibility coverage economic government transfer aid	0 ³	0 ⁴
<p>¹The SIPP main page was not returned in the 213 results. The second result the SIPP Working Papers page.</p> <p>²Since the SIPP main page is graphical, text from the Introduction to SIPP page was used in the query. The returned position of the query reflects the Introduction to SIPP page.</p> <p>³The SIPP main page was not returned in the first 100 results.</p> <p>⁴The SIPP main page was not returned in the 73 results.</p>			

II. Website Evaluation Criteria Adapted From Top Ten Usability Issues at the Census Bureau

Criteria	Evaluation	Notes
Navigation Does website provide a single comprehensive navigational system that enables users to access information across topics quickly and efficiently? Do global navigation options appear consistently on all pages of website?	<ul style="list-style-type: none"> • Serious deficiencies, limited 	<p>There is a global navigation tool in the form of a graphical link at the top of the page. This is (redundantly) duplicated in text form at the base of the page. This tool is included on many pages (excluding the tutorial) within the SIPP site.</p> <p>The main page has a very different layout and navigation tools than the remainder of the pages. This makes for a disorienting transition from the main page to the remainder of the site. There are many pages that are only accessible from the main page and cannot be found through the global navigation tools. (e.g., Access SIPP Synthetic Data, SIPP Small Grants)</p> <p>There is no self-referential clickability prevention.</p>
Does navigation convey the hierarchy of information and facilitate lateral and vertical movement? Does website adequately indicate current location and where current page resides in overall site hierarchy?	<ul style="list-style-type: none"> • Adequate 	<p>There is a bread crumbs trail prominently displayed on most pages which gives vertical order and encourages vertical movement. The global navigation tools allow easy horizontal movement.</p>
Do links and target page headings match? Are link labels unique and descriptive? Are links labeled consistently throughout website?	<ul style="list-style-type: none"> • 1 or more deficiencies 	<p>For the most part, links and page headings match. Limited examples of non matches would include Access</p>

Criteria	Evaluation	Notes
		SIPP Synthetic Data -> SIPP Synthetic Beta Data Product, Access SIPP Data -> SIPP Access Tools
Text & Terminology		
Does website avoid using unfamiliar terminology, unclear wording and labeling, or jargon?	• 1 or more deficiencies observed	Many unfamiliar terms are present.
Expectations		
Does the website provide sufficient introduction to the content and functionality of the site?	• Adequate	
Does consistent navigation and layout allow users to seamlessly navigate different sections of website? Are links differentiated with specific labels to allow users to efficiently navigate through site?	• Adequate	
Does the website clearly indicate when linking to an outside URL?	• 1 or more deficiencies	Some outside links are not indicated. One example is the SIPP List Serve , which also pops up an unexpected new window.
Organization		
Does homepage showcase content to build interest and guide users? Is important information featured prominently?	• Needs Improvement, Extensive	There is no information on the main page, just a collection of links and images.
Is website organized in such a way as to highlight and provide easy access to the most recent or most relevant data?	• Needs Improvement, Limited	The publications and technical documents are readily accessible, but finding line item data is difficult. Since the primary tool is DataFerrett, the data are not easily accessible from the SIPP sites.
Is information throughout the different pages of the website organized in a readily apparent and straightforward way?	• Adequate	
Page Layout		
Is information organized clearly? Does information appear in order user expects (e.g., alphabetical, numeric)?	• No deficiencies observed	
Is page layout (color scheme, navigation options, etc.) consistent throughout website?	• Serious deficiencies, limited	There is a mostly universal format to the pages. However, some other layouts are present. One page that does not follow the format is technical documents .
Is page visually optimized? Is text legible? Are there any awkward formatting issues? Does website maximize screen real estate?	• 1 or more deficiencies	The pages are visually optimized. Even though the pages automatically resize for window width, horizontal scrolling is required on all pages.
Graphics, Tables, & Icons		
Does website use visual elements to increase user engagement?	• Needs Improvement, Limited	The tutorial uses visuals, but visuals are otherwise absent from the site.
Is information in tables and graphics presented clearly?	• No deficiencies observed	
Are icons consistent throughout website? Is functionality clear?	• 1 or more deficiencies	Icons are rarely used. They are only used on one page

Criteria	Evaluation	Notes
Search		
Does search functionality work?	<ul style="list-style-type: none"> • Needs Improvement, Limited 	A search tool for the entire Census Bureau website is included via a link at the bottom of the page. This could be improved with a text search box in the upper right corner.
Is it clear whether search function applies to entire website or single domain?	<ul style="list-style-type: none"> • Needs Improvement, Limited 	It is not clear from the SIPP pages, but from the search page it is fairly clear that the search is for the entire Census.gov site.
Help		
Is online help useful?	<ul style="list-style-type: none"> • Needs Improvement, Extensive 	<p>The only indication of help is a link with an e-mail address. This link appears like a webpage link, but contains only an e-mail address.</p> <p>There are tutorials and user information available, but there are no help documents available.</p>
Is FAQ section organized consistently throughout website?	<ul style="list-style-type: none"> • Serious deficiencies, Extensive 	There is no link to the FAQ.

III. Identify Best Practices and Features on Website

- Bread crumbs trails
- Consistent layout with (mostly) global navigation
- Interactive tutorial

18-20. Monthly & Annual Retail Trade

Test URL: <http://www.census.gov/retail/index.html>

I. Findability:

Search by Title or Text	Search Terms	Listed Order using Google	Listed Order using Website Search Engine
Title	Monthly and Annual Retail Trade	1	1
Text	The November 2010 Advance Monthly Sales for Retail Trade and Food Services report was released on December 14, 2010 at 8:30 a.m., and available as:	1	1
Keywords	U.S. sales data trade	1	0 ¹

¹Does not appear within first few pages of search results

II. Website Evaluation Criteria Adapted From Top Ten Usability Issues at the Census Bureau

Criteria	Evaluation	Notes
Navigation		
Does website provide a single comprehensive navigational system that enables users to access information across topics quickly and efficiently? Do global navigation options appear consistently on all pages of website?	<ul style="list-style-type: none"> • 1 or more deficiencies 	One page lacks the navigation options.
Does navigation convey the hierarchy of information and facilitate lateral and vertical movement? Does website adequately indicate current location and where current page resides in overall site hierarchy?	<ul style="list-style-type: none"> • Needs improvement, limited 	There are a couple of pages where it is unclear where within the site hierarchy they lie. On one page, the navigation panel and breadcrumbs do not reflect the same location .
Do links and target page headings match? Are link labels unique and descriptive? Are links labeled consistently throughout website?	<ul style="list-style-type: none"> • No deficiencies observed 	
Text & Terminology		
Does website avoid using unfamiliar terminology, unclear wording and labeling, or jargon?	<ul style="list-style-type: none"> • 1 or more deficiencies 	Links to data on main page talk about "adjustment factors", however this term is defined on the definitions page.
Expectations		
Does the website provide sufficient introduction to the content and functionality of the site?	<ul style="list-style-type: none"> • Adequate 	
Does consistent navigation and layout allow users to seamlessly navigate different sections of website? Are links differentiated with specific labels to allow users to efficiently navigate through site?	<ul style="list-style-type: none"> • Needs Improvement, limited 	It would be easier to navigate if the parts of the site pertaining to the specific surveys were linked to each other. The most recent data are only available on the main page and are not included in the navigational structure.
Does the website clearly indicate when linking to an outside URL?	<ul style="list-style-type: none"> • No deficiencies observed 	

Criteria	Evaluation	Notes
Organization		
Does homepage showcase content to build interest and guide users? Is important information featured prominently?	<ul style="list-style-type: none"> Needs improvement, limited 	The homepage features the most recent data, but it could benefit from more background information. There are few links to other relevant information on the website from the main page.
Is website organized in such a way as to highlight and provide easy access to the most recent or most relevant data?	<ul style="list-style-type: none"> Adequate 	
Is information throughout the different pages of the website organized in a readily apparent and straightforward way?	<ul style="list-style-type: none"> Adequate 	Minor issue: It seems like “How the data are collected” is related to “About the surveys” but the two topics are in no way connected on the website.
Page Layout		
Is information organized clearly? Does information appear in order user expects (e.g., alphabetical, numeric)?	<ul style="list-style-type: none"> No deficiencies observed 	
Is page layout (color scheme, navigation options, etc.) consistent throughout website?	<ul style="list-style-type: none"> No deficiencies observed 	
Is page visually optimized? Is text legible? Are there any awkward formatting issues? Does website maximize screen real estate?	<ul style="list-style-type: none"> No deficiencies observed 	
Graphics, Tables, & Icons		
Does website use visual elements to increase user engagement?	<ul style="list-style-type: none"> Needs improvement, extensive 	There are no graphics on the site, other than in the header.
Is information in tables and graphics presented clearly?	<ul style="list-style-type: none"> No deficiencies observed 	
Are icons consistent throughout website? Is functionality clear?	<ul style="list-style-type: none"> 1 or more deficiencies 	There are no icons used on the website.
Search		
Does search functionality work?	<ul style="list-style-type: none"> Needs improvement, extensive 	You have to click the link to be taken to the search page.
Is it clear whether search function applies to entire website or single domain?	<ul style="list-style-type: none"> Adequate 	
Help		
Is online help useful?	<ul style="list-style-type: none"> Needs Improvement, Limited 	There are several options for FAQ categories that take you to the central Census Q&A page with a specific keyword search selected.
Is FAQ section organized consistently throughout website?	<ul style="list-style-type: none"> No deficiencies observed 	

III. Identify Best Practices and Features on Website

- The most recent data are featured on the main page.
- The images in the header seem suited to the subject material.
- There is an actual FAQ page within the website before you are taken to the central Census Q&A site with the links.
- There is a listing of relevant definitions.

21. Annual Survey of Manufacturers (ASM)

Test URL: <http://www.census.gov/manufacturing/asm/>

I. Findability:

Search by Title or Text	Search Terms	Listed Order using Google	Listed Order using Website Search Engine
Title	Annual Survey of Manufacturers	1	0 ¹
Text	The Annual Survey of Manufactures (ASM) provides sample estimates of statistics for all manufacturing establishments with one or more paid employee. Conducted annually, except for years ending in 2 and 7, at which time ASM statistics are included in the manufacturing sector of the Economic Census.	1	0 ²
Keywords	economic employment payroll labor materials expenses costs value shipments capital inventories industry geographic	1	0 ³
<p>¹The first result was for an outdated ASM page. The current ASM main page was not returned in the 171 results.</p> <p>²The ASM main page was not returned in the 29 results.</p> <p>³The nineteenth result was for an outdated ASM page. The current ASM main page was not returned in the 91 results.</p>			

II. Website Evaluation Criteria Adapted From Top Ten Usability Issues at the Census Bureau

Criteria	Evaluation	Notes
Navigation		
Does website provide a single comprehensive navigational system that enables users to access information across topics quickly and efficiently? Do global navigation options appear consistently on all pages of website?	<ul style="list-style-type: none"> No deficiencies observed 	The navigational system and common layout is present on all ASM pages. The horizontal navigation bar prevents self-referencing, though an ASM link on the related sites sidebar is always present. The ASM pages look identical in color and layout to some other Econ products (e.g., Current Industrial Reports), which can make navigation confusing.
Does navigation convey the hierarchy of information and facilitate lateral and vertical movement? Does website adequately indicate current location and where current page resides in overall site hierarchy?	<ul style="list-style-type: none"> Adequate 	There is a bread crumb trail assisting in vertical navigation. The horizontal navigation bar helps lateral movement within the site.
Do links and target page headings match? Are link labels unique and descriptive? Are links labeled consistently throughout website?	<ul style="list-style-type: none"> 1 or more deficiencies 	There are outdated or broken links on some pages (e.g., 3 links on About the Surveys).
Text & Terminology		
Does website avoid using unfamiliar terminology, unclear wording and labeling, or jargon?	<ul style="list-style-type: none"> 1 or more deficiencies 	Industry jargon is used throughout the site.

Criteria	Evaluation	Notes
Expectations		
Does the website provide sufficient introduction to the content and functionality of the site?	<ul style="list-style-type: none"> Needs Improvement, Limited 	The About the Surveys and main page provide some introduction, but not enough to well describe the scope of the program.
Does consistent navigation and layout allow users to seamlessly navigate different sections of website? Are links differentiated with specific labels to allow users to efficiently navigate through site?	<ul style="list-style-type: none"> Adequate 	
Does the website clearly indicate when linking to an outside URL?	<ul style="list-style-type: none"> 1 or more deficiencies 	The limited external links are labeled. However, few if any sites within the Census.gov but outside the ASM pages are labeled (e.g., Get Forms and any link to Factfinder pages). This causes some abrupt and unexpected page changes. The similarity to the other pages makes it easy to unknowingly be on other Census.gov sites.
Organization		
Does homepage showcase content to build interest and guide users? Is important information featured prominently?	<ul style="list-style-type: none"> Adequate 	The main page presents the links to the content.
Is website organized in such a way as to highlight and provide easy access to the most recent or most relevant data?	<ul style="list-style-type: none"> Adequate 	The links to the main data in Factfinder are easily found on the main page.
Is information throughout the different pages of the website organized in a readily apparent and straightforward way?	<ul style="list-style-type: none"> Adequate 	
Page Layout		
Is information organized clearly? Does information appear in order user expects (e.g., alphabetical, numeric)?	<ul style="list-style-type: none"> No deficiencies observed 	
Is page layout (color scheme, navigation options, etc.) consistent throughout website?	<ul style="list-style-type: none"> No deficiencies observed 	
Is page visually optimized? Is text legible? Are there any awkward formatting issues? Does website maximize screen real estate?	<ul style="list-style-type: none"> No deficiencies observed 	Pages are well formatted and resize well. Text is legible and well spaced. There is some unused space below the left and right side bars.
Graphics, Tables, & Icons		
Does website use visual elements to increase user engagement?	<ul style="list-style-type: none"> Needs Improvement, extensive 	Aside from images on the top horizontal bar, there are no graphics.
Is information in tables and graphics presented clearly?	<ul style="list-style-type: none"> No deficiencies observed 	N/A since information is presented in Factfinder.
Are icons consistent throughout website? Is functionality clear?	<ul style="list-style-type: none"> 1 or more deficiencies 	Icons are not used in the site.
Search		
Does search functionality work?	<ul style="list-style-type: none"> Needs Improvement, Limited 	A text box is not available, requiring the search to be performed on a separate page. The search is not restricted to the ASM pages.
Is it clear whether search function applies to entire website or single domain?	<ul style="list-style-type: none"> Adequate 	
Help		
Is online help useful?	<ul style="list-style-type: none"> Needs Improvement, Limited 	There is very limited online help in the ASM pages.
Is FAQ section organized consistently throughout website?	<ul style="list-style-type: none"> No deficiencies observed 	

III. Identify Best Practices and Features on Website

- No best practices identified

22-23. Annual & Quarterly Services

Test URL: <http://www.census.gov/services/index.html>

I. Findability:

Search by Title or Text	Search Terms	Listed Order using Google	Listed Order using Website Search Engine
Title	Annual & Quarterly Services	1	1
Text	The 2008 Annual Services report was released between December 2009 and January 2010.	4	1
Keywords	data information transportation arts health care sector	1	1 ¹

¹Third result is the data page of the website. Website main page appears as 8th search result.

II. Website Evaluation Criteria Adapted From Top Ten Usability Issues at the Census Bureau

Criteria	Evaluation	Notes
Navigation		
Does website provide a single comprehensive navigational system that enables users to access information across topics quickly and efficiently? Do global navigation options appear consistently on all pages of website?	<ul style="list-style-type: none"> • Serious deficiencies, limited 	Some pages (mainly those linked from the main page) are not included in the navigational system, which makes them difficult to find.
Does navigation convey the hierarchy of information and facilitate lateral and vertical movement? Does website adequately indicate current location and where current page resides in overall site hierarchy?	<ul style="list-style-type: none"> • Needs improvement, limited 	The breadcrumbs only incorporate sites at the top two levels – after that the current location does not appear in the breadcrumbs, for example . Some pages also do not highlight the current section in the navigation bar.
Do links and target page headings match? Are link labels unique and descriptive? Are links labeled consistently throughout website?	<ul style="list-style-type: none"> • No deficiencies observed 	
Text & Terminology		
Does website avoid using unfamiliar terminology, unclear wording and labeling, or jargon?	<ul style="list-style-type: none"> • 1 or more deficiencies 	Links to data on main page talk about “seasonal adjustment factors”
Expectations		
Does the website provide sufficient introduction to the content and functionality of the site?	<ul style="list-style-type: none"> • Adequate 	
Does consistent navigation and layout allow users to seamlessly navigate different sections of website? Are links differentiated with specific labels to allow users to efficiently navigate through site?	<ul style="list-style-type: none"> • Needs Improvement, limited 	It would be easier to navigate if the parts of the site pertaining to the specific surveys were linked to each other. The most recent data are only available on the main page and are not included in the navigational structure.
Does the website clearly indicate when linking to an outside URL?	<ul style="list-style-type: none"> • No deficiencies observed 	

Criteria	Evaluation	Notes
Organization		
Does homepage showcase content to build interest and guide users? Is important information featured prominently?	<ul style="list-style-type: none"> Needs improvement, limited 	The homepage features the most recent data, but it could benefit from more background information. There are few links to other relevant information on the website from the main page.
Is website organized in such a way as to highlight and provide easy access to the most recent or most relevant data?	<ul style="list-style-type: none"> Adequate 	
Is information throughout the different pages of the website organized in a readily apparent and straightforward way?	<ul style="list-style-type: none"> Adequate 	Minor issue: It seems like “How the data are collected” is related to “About the surveys” but the two topics are in no way connected on the website.
Page Layout		
Is information organized clearly? Does information appear in order user expects (e.g., alphabetical, numeric)?	<ul style="list-style-type: none"> No deficiencies observed 	
Is page layout (color scheme, navigation options, etc.) consistent throughout website?	<ul style="list-style-type: none"> No deficiencies observed 	
Is page visually optimized? Is text legible? Are there any awkward formatting issues? Does website maximize screen real estate?	<ul style="list-style-type: none"> No deficiencies observed 	
Graphics, Tables, & Icons		
Does website use visual elements to increase user engagement?	<ul style="list-style-type: none"> Needs improvement, extensive 	There are no graphics on the site, other than in the header.
Is information in tables and graphics presented clearly?	<ul style="list-style-type: none"> No deficiencies observed 	
Are icons consistent throughout website? Is functionality clear?	<ul style="list-style-type: none"> 1 or more deficiencies 	There are no icons used on the website.
Search		
Does search functionality work?	<ul style="list-style-type: none"> Needs improvement, limited 	You have to click the link to be taken to the search page.
Is it clear whether search function applies to entire website or single domain?	<ul style="list-style-type: none"> Adequate 	
Help		
Is online help useful?	<ul style="list-style-type: none"> Needs improvement, limited 	The online help just goes to the Census central Q&A page
Is FAQ section organized consistently throughout website?	<ul style="list-style-type: none"> No deficiencies observed 	

III. Identify Best Practices and Features on Website

- The most recent data are featured on the main page.
- There is a listing of relevant definitions.

24. Information and Communication Technology Survey

Test URL: <http://www.census.gov/econ/ict/>

I. Findability:

Search by Title or Text	Search Terms	Listed Order using Google	Listed Order using Website Search Engine
Title	Information and Communication Technology Survey	1	0 ¹
Text	The Information and Communication Technology (ICT) Survey provides data on both noncapitalized and capitalized spending for information and communication technology equipment and computer software by U.S. nonfarm businesses with employees.	1	0 ²
Keywords	expenditure purchase payroll capital computer peripheral hardware software equipment industry	0 ³	0 ⁴
<p>¹The first result was for an outdated ICT page. The current About the Survey page was the fifth result. The current ICT main page did not return in the 221 results.</p> <p>²The ICT main page did not return in the 3 results.</p> <p>³The third result was for ICT Definitions page. The ICT main page did not return in the 221 results.</p> <p>⁴The ICT main page did not return in the 3 results.</p>			

II. Website Evaluation Criteria Adapted From Top Ten Usability Issues at the Census Bureau

Criteria	Evaluation	Notes
Navigation		
Does website provide a single comprehensive navigational system that enables users to access information across topics quickly and efficiently? Do global navigation options appear consistently on all pages of website?	<ul style="list-style-type: none"> No deficiencies observed 	There is a good and universal navigation system. The tools appear uniformly on all pages. Self-referencing clickability has been prevented on all pages.
Does navigation convey the hierarchy of information and facilitate lateral and vertical movement? Does website adequately indicate current location and where current page resides in overall site hierarchy?	<ul style="list-style-type: none"> Adequate 	The site had bread crumb trails which aid in vertical navigation. Lateral movement is facilitated by the navigation tools. Understanding structure and location is intuitive.
Do links and target page headings match? Are link labels unique and descriptive? Are links labeled consistently throughout website?	<ul style="list-style-type: none"> No deficiencies observed 	Links are well labeled and match targets.
Text & Terminology		
Does website avoid using unfamiliar terminology, unclear wording and labeling, or jargon?	<ul style="list-style-type: none"> 1 or more deficiencies 	The terminologies and jargon may be confusing for readers. The definitions page could be expanded to address more terms.
Expectations		
Does the website provide sufficient introduction to the content and functionality of the site?	<ul style="list-style-type: none"> Adequate 	
Does consistent navigation and layout allow users to seamlessly navigate different sections of website? Are links differentiated with specific labels to allow users to efficiently navigate through site?	<ul style="list-style-type: none"> Adequate 	
Does the website clearly indicate when linking to an outside URL?	<ul style="list-style-type: none"> No deficiencies observed 	

Criteria	Evaluation	Notes
Organization		
Does homepage showcase content to build interest and guide users? Is important information featured prominently?	• Adequate	
Is website organized in such a way as to highlight and provide easy access to the most recent or most relevant data?	• Adequate	
Is information throughout the different pages of the website organized in a readily apparent and straightforward way?	• Adequate	
Page Layout		
Is information organized clearly? Does information appear in order user expects (e.g., alphabetical, numeric)?	• No deficiencies observed	
Is page layout (color scheme, navigation options, etc.) consistent throughout website?	• No deficiencies observed	The formatting is very consistent throughout the site.
Is page visually optimized? Is text legible? Are there any awkward formatting issues? Does website maximize screen real estate?	• No deficiencies observed	The page is well optimized. The pages resize well. Sidebars appear only on relevant pages. Text is legible.
Graphics, Tables, & Icons		
Does website use visual elements to increase user engagement?	• Needs Improvement, extensive	There are no visual elements.
Is information in tables and graphics presented clearly?	• Serious deficiencies, limited	Navigation through the data releases is a bit difficult since each section is in a different file. The tables are not optimally formatted. An easy solution would be to offer the release as a single PDF.
Are icons consistent throughout website? Is functionality clear?	• 1 or more deficiencies	Icons are rare on the site.
Search		
Does search functionality work?	• Needs Improvement, Limited	A text box is not available, requiring the search to be performed on a separate page. The search is not restricted to the ICT pages.
Is it clear whether search function applies to entire website or single domain?	• Adequate	
Help		
Is online help useful?	• Adequate	The FAQ is well built and organized. There are links available to resources for filling out the forms.
Is FAQ section organized consistently throughout website?	• No deficiencies observed	The FAQ is accessible from every ICT page.

III. Identify Best Practices and Features on Website

- Integrated and functional FAQ.
- Consistent page layout and navigation tools
- Well defined vertical structure

25. 2007 Survey of Business Owners

Test URL: <http://www.census.gov/econ/sbo/>

I. Findability:

Search by Title or Text	Search Terms	Listed Order using Google	Listed Order using Website Search Engine
Title	Survey of Business Owners	1	5 ¹
Text	Approximately 2.3 million businesses received the 2007 SBO-1 questionnaire asking for information about characteristics of the businesses and their owners. Final estimates from the survey will be released on a flow basis through June 2011. See our data release schedule for details.	1	0 ²
Keywords	businesses age gender race data	2 ³	1 ⁴

¹Fifth result is the contact us page of the website. Main page does not show up within first few pages of search results.
²There were no results from the search.
³2nd search result is a link to results of the 2002 census, main page does not appear in first few pages of search results.
⁴1st link is to methodology page of website. Main page does not appear within first few pages of search results.

II. Website Evaluation Criteria Adapted From Top Ten Usability Issues at the Census Bureau

Criteria	Evaluation	Notes
Navigation		
Does website provide a single comprehensive navigational system that enables users to access information across topics quickly and efficiently? Do global navigation options appear consistently on all pages of website?	<ul style="list-style-type: none"> • Serious deficiencies, limited 	2007 Data Release Schedule seems to exist outside of the navigation options. There are other examples, including the “important links” links in the left-hand bar, such as special tabulations . Since these options are not included in the navigation bar, they can be difficult to locate if you are not starting from the main page.
Does navigation convey the hierarchy of information and facilitate lateral and vertical movement? Does website adequately indicate current location and where current page resides in overall site hierarchy?	<ul style="list-style-type: none"> • Needs improvement, limited 	The historical data breadcrumbs do not include a top level. As was stated above, some sections seem to exist outside of the navigation options, and in these cases the website does not indicate a current location in the navigation bar.
Do links and target page headings match? Are link labels unique and descriptive? Are links labeled consistently throughout website?	<ul style="list-style-type: none"> • 1 or more deficiencies 	Link on main page /page title/breadcrumb do not match for data release schedule page. “Why we cannot protect list of companies” link in left hand bar goes to “ About title 13 ”.
Text & Terminology		
Does website avoid using unfamiliar terminology, unclear wording and labeling, or jargon?	<ul style="list-style-type: none"> • 1 or more deficiencies 	There is some jargon on the about the survey page (e.g., “nonemployer firms”, “metropolitan and micropolitan areas”). Main page also uses some jargon, such as “receipts size” or “employment size”, the meaning of which may not be immediately apparent.

Criteria	Evaluation	Notes
Expectations		
Does the website provide sufficient introduction to the content and functionality of the site?	• Adequate	
Does consistent navigation and layout allow users to seamlessly navigate different sections of website? Are links differentiated with specific labels to allow users to efficiently navigate through site?	• Needs Improvement, limited	The “important links” are not part of the navigational structure. The most recent data are only available on the main page and are not included in the navigational structure.
Does the website clearly indicate when linking to an outside URL?	• 1 or more deficiencies	The website links lists mix pages within the site and outside of the site with no indication. For example, the links to data on the main page include links to the Census Bureau news page, as do the “important links” on the left-hand side-bar.
Organization		
Does homepage showcase content to build interest and guide users? Is important information featured prominently?	• Needs improvement, limited	The homepage features the most recent data, but it could benefit from more background information. There are few links to other relevant information on the website from the main page.
Is website organized in such a way as to highlight and provide easy access to the most recent or most relevant data?	• Adequate	.
Is information throughout the different pages of the website organized in a readily apparent and straightforward way?	• Adequate	Minor issue: It seems like “How the data are collected” is related to “About the surveys” but the two topics are in no way connected on the website.
Page Layout		
Is information organized clearly? Does information appear in order user expects (e.g., alphabetical, numeric)?	• 1 or more deficiencies	It’s not clear how the links to recent data on the main page are ordered. (It seems like Summary of Findings would be placed first). It is also confusing that estimates and preliminary estimates are both available on the main page.
Is page layout (color scheme, navigation options, etc.) consistent throughout website?	• No deficiencies observed	
Is page visually optimized? Is text legible? Are there any awkward formatting issues? Does website maximize screen real estate?	• No deficiencies observed	
Graphics, Tables, & Icons		
Does website use visual elements to increase user engagement?	• Needs improvement, extensive	There are no visual elements on the website, other than the images in the header.
Is information in tables and graphics presented clearly?	• 1 or more deficiencies	Some of the excel tables are difficult to read because of the large amount of explanatory text in the header. For example.
Are icons consistent throughout website? Is functionality clear?	• 1 or more deficiencies	There are no icons used on the website. The PDF icon is presented at the bottom of the page but is not actually used anywhere on the site.
Search		
Does search functionality work?	• Needs improvement, limited	You have to click the link to be taken to the search page.
Is it clear whether search function applies to entire website or single domain?	• Adequate	

Criteria	Evaluation	Notes
Help Is online help useful?	<ul style="list-style-type: none"> Needs improvement, limited 	It would be helpful if there was a link to the general Census Q&A website for additional questions. A table of contents for the questions would also be helpful, as it is necessary to scroll down to see all the questions.
Is FAQ section organized consistently throughout website?	<ul style="list-style-type: none"> No deficiencies observed 	

III. Identify Best Practices and Features on Website

- The FAQ page is contained within the website.
- The maps are a useful feature.
- The links of all the different places to find data are presented together. There are different options for obtaining data in different formats (HTML, excel, PDF).
- Important information and recent data are available from the main page.
- The table of contents for topics on the main page helps the user find the desired information on a long page.

26. Residential Construction Index

Test URL: <http://www.census.gov/const/www/newresconstindex.html>

I. Findability:

Search by Title or Text	Search Terms	Listed Order using Google	Listed Order using Website Search Engine
Title	New Residential Construction	1	1
Text	Current Press Release (PDF) Building Permits - Data, Documentation, Release Dates, Ordering Information and Other Topics Quarterly Starts and Completions by Purpose and Design - US and Regions (PDF) Quarterly Starts and Completions by Purpose and Design - US and Regions (Excel)	1 ¹	1 ¹
Keywords	permits starts completions housing units building	1 ¹	1 ¹
¹ The first result is http://www.census.gov/starts which automatically redirects to the NRC main page .			

II. Website Evaluation Criteria Adapted From Top Ten Usability Issues at the Census Bureau

Criteria	Evaluation	Notes
Navigation		
Does website provide a single comprehensive navigational system that enables users to access information across topics quickly and efficiently? Do global navigation options appear consistently on all pages of website?	<ul style="list-style-type: none"> • Serious deficiencies, extensive 	While there is a navigation tool to other products within the manufacturing, mining and construction statistics, there is no global navigation tool within the NRC pages.
Does navigation convey the hierarchy of information and facilitate lateral and vertical movement? Does website adequately indicate current location and where current page resides in overall site hierarchy?	<ul style="list-style-type: none"> • Needs Improvement, Extensive 	There are no tools to represent location or vertical structure within the site.
Do links and target page headings match? Are link labels unique and descriptive? Are links labeled consistently throughout website?	<ul style="list-style-type: none"> • 1 or more deficiencies 	Links are for the most part labeled well and uniquely. Most links match the page titles closely if not exactly.
Text & Terminology		
Does website avoid using unfamiliar terminology, unclear wording and labeling, or jargon?	<ul style="list-style-type: none"> • 1 or more deficiencies 	
Expectations		
Does the website provide sufficient introduction to the content and functionality of the site?	<ul style="list-style-type: none"> • Needs Improvement, Extensive 	The NRC pages lack introduction and background text on the main page nor are there pages dedicated to provide this information.
Does consistent navigation and layout allow users to seamlessly navigate different sections of website? Are links differentiated with specific labels to allow users to efficiently navigate through site?	<ul style="list-style-type: none"> • Needs Improvement, Extensive 	There are no global navigation tools to allow seamless navigation. Links to PDF or XLS files are not consistently labeled, so frequently unexpected file types download.
Does the website clearly indicate when linking to an outside URL?	<ul style="list-style-type: none"> • No deficiencies observed 	

Criteria	Evaluation	Notes
Organization		
Does homepage showcase content to build interest and guide users? Is important information featured prominently?	<ul style="list-style-type: none"> Needs Improvement, Limited 	<p>Most of the data are available from the main page, but the organization and lack of information buries the data behind the links.</p> <p>Some of the more prominent historical information is accessible from the main page.</p>
Is website organized in such a way as to highlight and provide easy access to the most recent or most relevant data?	<ul style="list-style-type: none"> Needs Improvement, Extensive 	<p>The organization is lacking which obscures the data behind somewhat blind links.</p>
Is information throughout the different pages of the website organized in a readily apparent and straightforward way?	<ul style="list-style-type: none"> Needs Improvement, Extensive 	<p>The volume of data on the site is immense, but there is not a strong unifying navigation or organization system. As such, a user may need to look through many pages and tables before finding the proper information.</p>
Page Layout		
Is information organized clearly? Does information appear in order user expects (e.g., alphabetical, numeric)?	<ul style="list-style-type: none"> Serious deficiencies, limited 	<p>Numerous lists of tables seem haphazard without alphabetical or numerical organization (e.g., Annual Characteristics of New Housing).</p> <p>A few seem well organized by date (e.g., Permits by Metropolitan Area).</p>
Is page layout (color scheme, navigation options, etc.) consistent throughout website?	<ul style="list-style-type: none"> Serious deficiencies, limited 	<p>There are two different page formats that are used commonly.</p>
Is page visually optimized? Is text legible? Are there any awkward formatting issues? Does website maximize screen real estate?	<ul style="list-style-type: none"> Serious deficiencies, limited 	<p>The pages are configured with only a single frame and no side bars or other columns. This makes for inefficient use of visual space and large blank areas. The outdated formatting does not optimize the pages.</p> <p>Text is legible. The pages resize well.</p>
Graphics, Tables, & Icons		
Does website use visual elements to increase user engagement?	<ul style="list-style-type: none"> Needs Improvement, extensive 	<p>There are some graphics, but most pages have no visuals.</p>
Is information in tables and graphics presented clearly?	<ul style="list-style-type: none"> 1 or more deficiencies 	<p>Most tables in PDF form are well formatted and presented (e.g., permucs.pdf)</p> <p>Some tables are not presented clearly (e.g., Relationship...).</p>
Are icons consistent throughout website? Is functionality clear?	<ul style="list-style-type: none"> 1 or more deficiencies 	<p>Icons are not used frequently</p>
Search		
Does search functionality work?	<ul style="list-style-type: none"> Needs Improvement, Limited 	<p>A text box is not available, requiring the search to be performed on a separate page.</p> <p>The search is not restricted to the NRC pages.</p>
Is it clear whether search function applies to entire website or single domain?	<ul style="list-style-type: none"> Adequate 	

Criteria	Evaluation	Notes
Help		
Is online help useful?	• Needs Improvement, Limited	There is a link to the Business Help Site , but there isn't much other help.
Is FAQ section organized consistently throughout website?	• Serious deficiencies, extensive	There is a FAQ page, but it is nearly inaccessible since the link to it is buried on the Building Permits page.

III. Identify Best Practices and Features on Website

- No best practices identified

27. Longitudinal Employer-Household Dynamics

Test URL: <http://lehd.did.census.gov/led/>

I. Findability:

Search by Title or Text	Search Terms	Listed Order using Google	Listed Order using Website Search Engine
Title	Longitudinal Employer-Household Dynamics	1	7 ¹
Text	New Data Visualization Tool: Many Eyes on Local Employment Dynamics	1	1
Keywords	U.S. local current workers employers jobs conditions change	0 ²	4 ³

¹The main page is the 7th link in the search results. Other pages within the website occur earlier in the search results.
²Page does not appear within first few pages of search results.
³Fourth link is to archives sub page. Main page does not appear within first few pages of search results.

II. Website Evaluation Criteria Adapted From Top Ten Usability Issues at the Census Bureau

Criteria	Evaluation	Notes
Navigation		
Does website provide a single comprehensive navigational system that enables users to access information across topics quickly and efficiently? Do global navigation options appear consistently on all pages of website?	<ul style="list-style-type: none"> • Serious deficiencies, limited 	Navigation options change within local employment dynamics section of the website. One page in the data tools section is missing a navigation option . One page in the site map can't be found using the navigation options. Other pages linked from the home page also do not appear in navigation options (or site map). Some pages are missing the navigation bar. The website is also missing the census header that most other Census.gov websites include.
Does navigation convey the hierarchy of information and facilitate lateral and vertical movement? Does website adequately indicate current location and where current page resides in overall site hierarchy?	<ul style="list-style-type: none"> • Needs improvement, limited 	There are no breadcrumbs. The navigation bar indicates the first layer of the website you are in but does not indicate the second layer (e.g., the site map is in home/site map. The navigation bar highlights home but does not highlight the site map, and you can click the site map link in the navigation bar even when you are on the page).
Do links and target page headings match? Are link labels unique and descriptive? Are links labeled consistently throughout website?	<ul style="list-style-type: none"> • 1 or more deficiencies 	Older worker profiles -> profiles Workshops -> Annual workshops "Working with QWI online" link from site map goes back to sitemap .
Text & Terminology		
Does website avoid using unfamiliar terminology, unclear wording and labeling, or jargon?	<ul style="list-style-type: none"> • Serious deficiencies, limited 	The term "longitudinal" is never really defined. Example . NAICS and SIC are used on the data tools page with no definition. For the QWI Online tool , "QWI" is never officially spelled out before the acronym is used.

Criteria	Evaluation	Notes
Expectations		
Does the website provide sufficient introduction to the content and functionality of the site?	<ul style="list-style-type: none"> Needs improvement, extensive 	There is no explanatory text on the website main page . The links to Q&As in the right-hand sidebar help to find general information but the overall functionality of the site is still unclear.
Does consistent navigation and layout allow users to seamlessly navigate different sections of website? Are links differentiated with specific labels to allow users to efficiently navigate through site?	<ul style="list-style-type: none"> Needs Improvement, limited 	Navigation options change in some sections, and some sites are not included in the navigation options.
Does the website clearly indicate when linking to an outside URL?	<ul style="list-style-type: none"> No deficiencies observed 	
Organization		
Does homepage showcase content to build interest and guide users? Is important information featured prominently?	<ul style="list-style-type: none"> Needs improvement, extensive 	The homepage does showcase content, but there is too much information with no explanation – a lot of the links are very specific such that someone unfamiliar with the site would not be able to differentiate between them. The “what’s new” and Q&A boxes on the main page are helpful for highlighting recent/background information.
Is website organized in such a way as to highlight and provide easy access to the most recent or most relevant data?	<ul style="list-style-type: none"> Needs improvement, extensive 	There is no real explanation of where to obtain data or what the most useful tool is.
Is information throughout the different pages of the website organized in a readily apparent and straightforward way?	<ul style="list-style-type: none"> Adequate 	
Page Layout		
Is information organized clearly? Does information appear in order user expects (e.g., alphabetical, numeric)?	<ul style="list-style-type: none"> 1 or more deficiencies 	The site map is difficult to read because the formatting doesn’t seem consistent throughout. It is not clear what the rationale behind the ordering of the list of data tools is. There are too many “quick links” on the main page with little explanation.
Is page layout (color scheme, navigation options, etc.) consistent throughout website?	<ul style="list-style-type: none"> 1 or more deficiencies 	Some pages are missing the PDF footnote.
Is page visually optimized? Is text legible? Are there any awkward formatting issues? Does website maximize screen real estate?	<ul style="list-style-type: none"> No deficiencies observed 	
Graphics, Tables, & Icons		
Does website use visual elements to increase user engagement?	<ul style="list-style-type: none"> Adequate 	
Is information in tables and graphics presented clearly?	<ul style="list-style-type: none"> 1 or more deficiencies 	Table formatting is not consistent throughout the website.
Are icons consistent throughout website? Is functionality clear?	<ul style="list-style-type: none"> Serious deficiencies, limited 	The PDF icon is not used consistently. The icons on the site map page are confusing and seem inconsistent.
Search		
Does search functionality work?	<ul style="list-style-type: none"> Adequate 	
Is it clear whether search function applies to entire website or single domain?	<ul style="list-style-type: none"> Needs improvement, limited 	It does not indicate whether the search function is specific to the LEHD website.

Criteria	Evaluation	Notes
Help Is online help useful?	<ul style="list-style-type: none"> Needs improvement, limited 	It seems like the online help answers a very limited selection of questions, with some very basic (What is LEHD) and some very specific (Does PUMS issue have an impact on LED data).
Is FAQ section organized consistently throughout website?	<ul style="list-style-type: none"> Serious deficiencies, limited 	Cannot access help other than from main page and about section.

III. Identify Best Practices and Features on Website

- Links to outside websites open in a new window, with some exceptions.
- Graphics are used well throughout the website.
- Help section contains table of contents, with links to return to top.
- The data tools provide interesting information but are sometimes difficult to use (e.g., on the map).

28. Newsroom

Test URL: <http://www.census.gov/newsroom/>

I. Findability:

Search by Title or Text	Search Terms	Listed Order using Google	Listed Order using Website Search Engine
Title	Newsroom	25	0 ¹
Title	Census Newsroom	1	0 ²
Text	News Subscription Request News Releases Newsworthy findings about our nation's people and economy Tip Sheets Information on upcoming releases and reports Economic Indicators Monthly and quarterly measures of economic change	1	0 ³
Keywords	releases reports multimedia indicators population economic features archives subscription	0 ⁴	0 ⁵
<p>¹The first result was for the Newsroom: Subscriptions Form. The Newsroom main page was not returned in 132 results. ²The first result was for the Newsroom: Subscriptions Form. The Newsroom main page was not returned in 130 results. ³No results were returned. ⁴The first result was for Newsroom: Tip Sheets: Tipsheet Number 26. The Newsroom main page was not returned in first 100 results. ⁵The first result was for Newsroom: Tip Sheets: Tipsheet Number 14. The Newsroom main page was not returned in 3 results.</p>			

II. Website Evaluation Criteria Adapted From *Top Ten Usability Issues at the Census Bureau*

Criteria	Evaluation	Notes
Navigation		
Does website provide a single comprehensive navigational system that enables users to access information across topics quickly and efficiently? Do global navigation options appear consistently on all pages of website?	• No deficiencies observed	Consistent and functional navigation scheme. Navigation options appear on all pages.
Does navigation convey the hierarchy of information and facilitate lateral and vertical movement? Does website adequately indicate current location and where current page resides in overall site hierarchy?	• Adequate	The bread crumbs trail defines location and aids in vertical movement. The navigation options aid in lateral movement.
Do links and target page headings match? Are link labels unique and descriptive? Are links labeled consistently throughout website?	• No deficiencies observed	Links match targets. Labels are descriptive and consistent.
Text & Terminology		
Does website avoid using unfamiliar terminology, unclear wording and labeling, or jargon?	• No deficiencies observed	
Expectations		
Does the website provide sufficient introduction to the content and functionality of the site?	• Needs Improvement, Limited	While the newsroom content is mostly able to speak for itself, there isn't any introduction or formal description of the content contained within the site.
Does consistent navigation and layout allow users to seamlessly navigate different sections of website? Are links differentiated with specific labels to allow users to efficiently navigate through site?	• Adequate	Links are well labeled so that file types are indicated.
Does the website clearly indicate when linking to an outside URL?	• 1 or more deficiencies	Some external links are not indicated. (e.g., More Federal Statistics).

Criteria	Evaluation	Notes
Organization		
Does homepage showcase content to build interest and guide users? Is important information featured prominently?	• Needs Improvement, Limited	The homepage is lacking in content. There significant blank space that could be used with visuals or highlights.
Is website organized in such a way as to highlight and provide easy access to the most recent or most relevant data?	• Adequate	
Is information throughout the different pages of the website organized in a readily apparent and straightforward way?	• Adequate	
Page Layout		
Is information organized clearly? Does information appear in order user expects (e.g., alphabetical, numeric)?	• No deficiencies observed	Information is well sorted alphabetically or by date
Is page layout (color scheme, navigation options, etc.) consistent throughout website?	• No deficiencies observed	
Is page visually optimized? Is text legible? Are there any awkward formatting issues? Does website maximize screen real estate?	• No deficiencies observed	Visual space is well used. Pages resize well. Text is legible.
Graphics, Tables, & Icons		
Does website use visual elements to increase user engagement?	• Needs Improvement, limited	The Multimedia section is well stocked with quality visual content. However the rest of the site is barren of visuals.
Is information in tables and graphics presented clearly?	• No deficiencies observed	
Are icons consistent throughout website? Is functionality clear?	• 1 or more deficiencies	Icons are rarely used.
Search		
Does search functionality work?	• Needs Improvement, Limited	A text box is not available, requiring the search to be performed on a separate page. The search is not restricted to the Newsroom.
Is it clear whether search function applies to entire website or single domain?	• Adequate	
Help		
Is online help useful?	• Adequate	This is a help site
Is FAQ section organized consistently throughout website?	• Serious deficiencies, limited	There is no Newsroom specific FAQ nor is there a link to the Census.gov FAQ. The Census.gov FAQ does have some Newsroom specific content.

III. Identify Best Practices and Features on Website

- Well labeled links with file type and size
- PDF and html versions available side by side
- Videos loading within frame
- Stock pictures with checkboxes for multiple downloads
- Consistent navigation options
- Well defined vertical page structure

29. Publications

Test URL: <http://www.census.gov/prod/www/titles.html>

I. Findability:

Search by Title or Text	Search Terms	Listed Order using Google	Listed Order using Website Search Engine
Title	Publications	9	1
Text	The publications in this area are a resource guide to the programs and services of the Census Bureau. Each area features an introduction that will provide key information about the censuses, surveys, and other programs that are the sources of data products.	1	1
Keywords	census data products agriculture business	1	0 ¹
¹ Does not appear within first few pages of search results			

II. Website Evaluation Criteria Adapted From Top Ten Usability Issues at the Census Bureau

Criteria	Evaluation	Notes
Navigation		
Does website provide a single comprehensive navigational system that enables users to access information across topics quickly and efficiently? Do global navigation options appear consistently on all pages of website?	<ul style="list-style-type: none"> • Serious deficiencies, extensive 	Website does not have a navigation system.
Does navigation convey the hierarchy of information and facilitate lateral and vertical movement? Does website adequately indicate current location and where current page resides in overall site hierarchy?	<ul style="list-style-type: none"> • Needs improvement, extensive 	Website does not have a navigation system. You cannot return to the main page from the sub-pages (some pages have a "return to publications" link buried in the text, others do not). There are no breadcrumbs. This is especially needed since sometimes links within pages jump sections (e.g., between Economic Census and Transportation).
Do links and target page headings match? Are link labels unique and descriptive? Are links labeled consistently throughout website?	<ul style="list-style-type: none"> • 1 or more deficiencies 	Agriculture -> Agriculture Reports Business - Trade and Services -> Business Other Publications -> Other Reports Income and Poverty -> Consumer Income Reports Manufacturing and Mining Reports -> Mining & Construction Statistics
Text & Terminology		
Does website avoid using unfamiliar terminology, unclear wording and labeling, or jargon?	<ul style="list-style-type: none"> • 1 or more deficiencies 	Some publication names include unfamiliar terminology, e.g. "metropolitan areas and remainder of state", "nonemployer", "subject series", on transportation page.

Criteria	Evaluation	Notes
Expectations		
Does the website provide sufficient introduction to the content and functionality of the site?	<ul style="list-style-type: none"> Needs improvement, limited 	There is a brief introduction on the main page , but it is not clear what is available for the different areas, and the listing of publications in specific sections also does not sufficiently introduce that material available from individual publications.
Does consistent navigation and layout allow users to seamlessly navigate different sections of website? Are links differentiated with specific labels to allow users to efficiently navigate through site?	<ul style="list-style-type: none"> Needs improvement, limited 	There is no navigation scheme. Links are vague. For example, on the main page it is not necessarily clear the difference between “Business – Trade and Services” and “Economic Census”.
Does the website clearly indicate when linking to an outside URL?	<ul style="list-style-type: none"> 1 or more deficiencies 	On the technical documentation page, all links are to outside sites without indicating so.
Organization		
Does homepage showcase content to build interest and guide users? Is important information featured prominently?	<ul style="list-style-type: none"> Needs improvement, extensive 	Content is not showcased – there is just a list of topics.
Is website organized in such a way as to highlight and provide easy access to the most recent or most relevant data?	<ul style="list-style-type: none"> Adequate 	
Is information throughout the different pages of the website organized in a readily apparent and straightforward way?	<ul style="list-style-type: none"> Adequate 	
Page Layout		
Is information organized clearly? Does information appear in order user expects (e.g., alphabetical, numeric)?	<ul style="list-style-type: none"> No deficiencies observed 	
Is page layout (color scheme, navigation options, etc.) consistent throughout website?	<ul style="list-style-type: none"> No deficiencies observed 	
Is page visually optimized? Is text legible? Are there any awkward formatting issues? Does website maximize screen real estate?	<ul style="list-style-type: none"> Serious deficiencies, limited 	Page layout does not feel up to date, especially compared to other Census.gov websites. Most pages are long lists of links that would be easier to read with a more appealing layout.
Graphics, Tables, & Icons		
Does website use visual elements to increase user engagement?	<ul style="list-style-type: none"> Adequate 	
Is information in tables and graphics presented clearly?	<ul style="list-style-type: none"> No deficiencies observed 	
Are icons consistent throughout website? Is functionality clear?	<ul style="list-style-type: none"> Serious deficiencies, limited 	The PDF icon is very useful since links on site are a mix of PDFs and HTML pages, but it is not used uniformly. For example, this page contains a list of PDFs but does not utilize the PDF icon.
Search		
Does search functionality work?	<ul style="list-style-type: none"> Needs improvement, limited 	There is a link to go to the Census.gov search engine that you have to click in order to search.
Is it clear whether search function applies to entire website or single domain?	<ul style="list-style-type: none"> Adequate 	
Help		
Is online help useful?	<ul style="list-style-type: none"> Adequate 	This is a help site
Is FAQ section organized consistently throughout website?	<ul style="list-style-type: none"> Serious deficiencies, limited 	There is no access to help on this page.

III. Identify Best Practices and Features on Website

- The use of the PDF icon is helpful, even though it is not consistently deployed.
- Back to top links on long pages of text are useful.

30. Survey Participation (Are You In a Survey?)

Test URL: http://www.census.gov/survey_participants/

I. Findability:

Search by Title or Text	Search Terms	Listed Order using Google	Listed Order using Website Search Engine
Title	Survey Participation	N/A ¹	0 ¹
Title	Are You In a Survey?	1	0 ²
Text	Information for Survey and Census Participants The Census Bureau conducts a variety of censuses and surveys, not just the once-a-decade census. Every month, quarter, and year we conduct surveys with households and businesses.	1	0 ³
Keywords	request survey fraud phishing scam legitimate employee identification confidential	0 ⁴	0 ⁵
¹ The Survey Participation main page was not returned in the first 200 results. ² The first result was for the Are You In a Survey?: Is this a legitimate business survey.... The Survey Participation main page was not returned in the first 200 results. ³ The main page was not returned in 2 results. ⁴ The main page was not returned in 200 results. ⁵ No results were returned.			

II. Website Evaluation Criteria Adapted From *Top Ten Usability Issues at the Census Bureau*

Criteria	Evaluation	Notes
Navigation		
Does website provide a single comprehensive navigational system that enables users to access information across topics quickly and efficiently? Do global navigation options appear consistently on all pages of website?	• No deficiencies observed	
Does navigation convey the hierarchy of information and facilitate lateral and vertical movement? Does website adequately indicate current location and where current page resides in overall site hierarchy?	• Adequate	
Do links and target page headings match? Are link labels unique and descriptive? Are links labeled consistently throughout website?	• No deficiencies observed	
Text & Terminology		
Does website avoid using unfamiliar terminology, unclear wording and labeling, or jargon?	• No deficiencies observed	
Expectations		
Does the website provide sufficient introduction to the content and functionality of the site?	• Adequate	
Does consistent navigation and layout allow users to seamlessly navigate different sections of website? Are links differentiated with specific labels to allow users to efficiently navigate through site?	• Adequate	
Does the website clearly indicate when linking to an outside URL?	• 1 or more deficiencies	One unlabeled external link to the Federal Trade Commission was found on the Fraudulent Activity and Scams page.

Criteria	Evaluation	Notes
Organization		
Does homepage showcase content to build interest and guide users? Is important information featured prominently?	• Adequate	
Is website organized in such a way as to highlight and provide easy access to the most recent or most relevant data?	• Adequate	
Is information throughout the different pages of the website organized in a readily apparent and straightforward way?	• Adequate	
Page Layout		
Is information organized clearly? Does information appear in order user expects (e.g., alphabetical, numeric)?	• No deficiencies observed	
Is page layout (color scheme, navigation options, etc.) consistent throughout website?	• No deficiencies observed	
Is page visually optimized? Is text legible? Are there any awkward formatting issues? Does website maximize screen real estate?	• No deficiencies observed	
Graphics, Tables, & Icons		
Does website use visual elements to increase user engagement?	• Needs Improvement, Extensive	No graphics are present.
Is information in tables and graphics presented clearly?	• No deficiencies observed	
Are icons consistent throughout website? Is functionality clear?	• No deficiencies observed	
Search		
Does search functionality work?	• Needs Improvement, Limited	A text box is not available, requiring the search to be performed on a separate page. The search is not restricted to the Survey Participation pages.
Is it clear whether search function applies to entire website or single domain?	• Adequate	
Help		
Is online help useful?	• Adequate	N/A – Since this page is more or less an online help page, one is not needed.
Is FAQ section organized consistently throughout website?	• Serious deficiencies, limited	There is no FAQ section, nor is there a link to the Census wide FAQ.

III. Identify Best Practices and Features on Website

- Consistent navigation system
- Self-referencing prevention
- Bread crumb trail

31. About

Test URL: <http://www.census.gov/aboutus/>

I. Findability:

Search by Title or Text	Search Terms	Listed Order using Google	Listed Order using Website Search Engine
Title	About Us	0 ¹	1 ²
Text	Our Mission - To serve as the leading source of quality data about the nation's people and economy.	1	0 ³
Keywords	census people mission	3	0 ³
¹ Does not appear within first few pages of search results (including modified search of "Census about us") ² First link is to the "contact us" section of the About Us site. ³ Does not appear within first few pages of search results.			

II. Website Evaluation Criteria Adapted From Top Ten Usability Issues at the Census Bureau

Criteria	Evaluation	Notes
Navigation		
Does website provide a single comprehensive navigational system that enables users to access information across topics quickly and efficiently? Do global navigation options appear consistently on all pages of website?	<ul style="list-style-type: none"> • Serious deficiencies, limited 	Navigation system only encompasses first layer of hierarchy – to get to the second layer of navigation you most often have to find the link within the text on the page (except in the contact us section).
Does navigation convey the hierarchy of information and facilitate lateral and vertical movement? Does website adequately indicate current location and where current page resides in overall site hierarchy?	<ul style="list-style-type: none"> • Adequate 	Minor issues: Not all pages highlight current location in navigation bar, for example . Breadcrumbs on "what we do page" show current location as "about us".
Do links and target page headings match? Are link labels unique and descriptive? Are links labeled consistently throughout website?	<ul style="list-style-type: none"> • Serious deficiencies, limited 	Most link text is semi-accurate, but often it does not match exactly and there are a couple of egregious inaccuracies: "Respond to requests" -> Question and Answer Center Population & Housing Census -> 2010 Census Our many surveys -> Surveys "Researching family history or a historical topic " -> National Archives
Text & Terminology		
Does website avoid using unfamiliar terminology, unclear wording and labeling, or jargon?	<ul style="list-style-type: none"> • No deficiencies observed 	

Criteria	Evaluation	Notes
Expectations		
Does the website provide sufficient introduction to the content and functionality of the site?	<ul style="list-style-type: none"> Needs improvement, limited 	There is no “main page” to the about us website – the first page loaded is “What we do”. As such, there is no introduction to the material available on the website. However, this does not necessarily impact the usability of the page, since it is “About us”
Does consistent navigation and layout allow users to seamlessly navigate different sections of website? Are links differentiated with specific labels to allow users to efficiently navigate through site?	<ul style="list-style-type: none"> Needs improvement, limited 	Overall this is good, but sometimes links do not seem to reflect what is actually on the destination site. For example, “ Website/Internet - Information on downtime, etc” goes to Internet Site Information , which has information about associations, new additions, suggested citations, FTP transfers, Q&A, in addition to downtime.
Does the website clearly indicate when linking to an outside URL?	<ul style="list-style-type: none"> Serious deficiencies, limited 	Links to CFR leave Census.gov website with out indicating. On the Policies & Notices page, some links are within About Us site, some are another section of the Census Bureau website, some are an outside website, with no indication of where you’re going. “Researching family history or a historical topic ” -> National Archives
Organization		
Does homepage showcase content to build interest and guide users? Is important information featured prominently?	<ul style="list-style-type: none"> Needs improvement, limited 	Again, there is no main page on this website, so it jumps right into the content.
Is website organized in such a way as to highlight and provide easy access to the most recent or most relevant data?	<ul style="list-style-type: none"> Adequate 	Doesn’t really apply to site.
Is information throughout the different pages of the website organized in a readily apparent and straightforward way?	<ul style="list-style-type: none"> Adequate 	
Page Layout		
Is information organized clearly? Does information appear in order user expects (e.g., alphabetical, numeric)?	<ul style="list-style-type: none"> Serious deficiencies, limited 	Ordering of lists of links appears random. E.g., list of surveys on “ what we do ” seems out of order – Our many surveys should come first since it is overarching and within the website. Similarly, links on policies and notices don’t seem to follow an order, & links to pages in same website do not appear together (e.g., various sections of the Data Protection and Privacy Policy). Social media seems misplaced in the contact us section.
Is page layout (color scheme, navigation options, etc.) consistent throughout website?	<ul style="list-style-type: none"> 1 or more deficiencies 	The left-hand navigation box in the contact us sub-section disappears on the social media page.
Is page visually optimized? Is text legible? Are there any awkward formatting issues? Does website maximize screen real estate?	<ul style="list-style-type: none"> No deficiencies observed 	

Criteria	Evaluation	Notes
Graphics, Tables, & Icons		
Does website use visual elements to increase user engagement?	• Needs improvement, limited	There could be more visual elements to enliven the long bulleted lists.
Is information in tables and graphics presented clearly?	• 1 or more deficiencies	Beltway map is too small to read and cannot be enlarged. On the same page, the visitors guide image is very pixel-y.
Are icons consistent throughout website? Is functionality clear?	• 1 or more deficiencies	There are no icons.
Search		
Does search functionality work?	• Needs improvement, limited	You have to click the search@census link to be taken to the search page.
Is it clear whether search function applies to entire website or single domain?	• Adequate	
Help		
Is online help useful?	• Adequate	This is a help site
Is FAQ section organized consistently throughout website?	• Serious deficiencies, limited	There is no access to help on this page.

III. Identify Best Practices and Features on Website

- [Social media page](#) makes good use of images.
- PDF files are clearly indicated

32. Regional Offices

Test URL: <http://www.census.gov/regions/>

I. Findability:

Search by Title or Text	Search Terms	Listed Order using Google	Listed Order using Website Search Engine
Title	Regional Offices	2	0 ¹
Text	List of States Served by each Regional Office Regional Office Areas Served Atlanta Alabama, Florida, Georgia Boston Connecticut, Massachusetts, New Hampshire, Rhode Island, Maine, Puerto Rico, Vermont, New York (all counties except those covered)	1	0 ²
Keywords	center local workers jobs service collection operations partner program survey	0 ³	0 ⁴
¹ The Regional Offices main page was not returned in 259 results. ² The Regional Offices main page was not returned in 4 results. ³ The Regional Offices main page was not returned in first 200 results. ⁴ The Regional Offices main page was not returned in 64 results.			

II. Website Evaluation Criteria Adapted From Top Ten Usability Issues at the Census Bureau

Criteria	Evaluation	Notes
Navigation		
Does website provide a single comprehensive navigational system that enables users to access information across topics quickly and efficiently? Do global navigation options appear consistently on all pages of website?	<ul style="list-style-type: none"> No deficiencies observed 	The navigation system is consistent throughout the site and is comprehensive.
Does navigation convey the hierarchy of information and facilitate lateral and vertical movement? Does website adequately indicate current location and where current page resides in overall site hierarchy?	<ul style="list-style-type: none"> Adequate 	Good use of bread crumb trails.
Do links and target page headings match? Are link labels unique and descriptive? Are links labeled consistently throughout website?	<ul style="list-style-type: none"> No deficiencies observed 	Links match target page names Links are well labeled and descriptive.
Text & Terminology		
Does website avoid using unfamiliar terminology, unclear wording and labeling, or jargon?	<ul style="list-style-type: none"> No deficiencies observed 	
Expectations		
Does the website provide sufficient introduction to the content and functionality of the site?	<ul style="list-style-type: none"> Needs Improvement, Limited 	There is a lack of information regarding the function and services provided by the regional offices.
Does consistent navigation and layout allow users to seamlessly navigate different sections of website? Are links differentiated with specific labels to allow users to efficiently navigate through site?	<ul style="list-style-type: none"> Adequate 	
Does the website clearly indicate when linking to an outside URL?	<ul style="list-style-type: none"> 1 or more deficiencies 	The links to the Federal Statistics site are not marked.

Criteria	Evaluation	Notes
Organization		
Does homepage showcase content to build interest and guide users? Is important information featured prominently?	• Needs Improvement , Limited	No information is provided regarding the function of the regional offices on the homepage.
Is website organized in such a way as to highlight and provide easy access to the most recent or most relevant data?	• Adequate	
Is information throughout the different pages of the website organized in a readily apparent and straightforward way?	• Adequate	
Page Layout		
Is information organized clearly? Does information appear in order user expects (e.g., alphabetical, numeric)?	• No deficiencies observed	
Is page layout (color scheme, navigation options, etc.) consistent throughout website?	• No deficiencies observed	
Is page visually optimized? Is text legible? Are there any awkward formatting issues? Does website maximize screen real estate?	• No deficiencies observed	
Graphics, Tables, & Icons		
Does website use visual elements to increase user engagement?	• Needs Improvement, Limited	There are some maps for the regions, but there is no other visual information used. Maps and pictures would be useful in showcasing the regional offices.
Is information in tables and graphics presented clearly?	• No deficiencies observed	
Are icons consistent throughout website? Is functionality clear?	• 1 or more deficiencies	
Search		
Does search functionality work?	• Needs Improvement, Limited	A text box is not available, requiring the search to be performed on a separate page. The search is not restricted to the Regional Offices pages.
Is it clear whether search function applies to entire website or single domain?	• Adequate	
Help		
Is online help useful?	• Adequate	Since this is an informational and help page, it does not require its own help page.
Is FAQ section organized consistently throughout website?	• Serious deficiencies, limited	There is no Regional Office FAQs section nor is there a link to the Census wide FAQ.

III. Identify Best Practices and Features on Website

- Using maps for regional divisions
- Consistent navigation system
- Bread crumbs trail

33. FAQs

Test URL: http://ask.census.gov/cgi-bin/askcensus.cfg/php/enduser/std_alp.php?p_sid=vlXuh3dk

I. Findability:

Search by Title or Text	Search Terms	Listed Order using Google	Listed Order using Website Search Engine
Title	Question & Answer Center	0 ¹	0 ²
Text	Question & Answer Center For any questions related to change of address, W2 requests, employment verifications, or any other employment related issues, please contact our Human Resources Division at 301-763-4748, or email recruiter@census.gov .	0 ³	0 ³
Keywords	Census frequently asked questions FAQs	0 ³	0 ²

¹Does not appear within first few pages of search results (including modified search of "Census question & answer center")
²Does not come up in actual search results, but links to FAQs are included in gray box above search results.
³Does not appear within first few pages of search results.

II. Website Evaluation Criteria Adapted From Top Ten Usability Issues at the Census Bureau

Criteria	Evaluation	Notes
Navigation		
Does website provide a single comprehensive navigational system that enables users to access information across topics quickly and efficiently? Do global navigation options appear consistently on all pages of website?	<ul style="list-style-type: none"> • 1 or more deficiencies 	"Help" disappears from navigation options on " Login " page. "Log in" disappears on " Ask a question " Site is missing the general census navigation bar that appears on most Census Bureau websites.
Does navigation convey the hierarchy of information and facilitate lateral and vertical movement? Does website adequately indicate current location and where current page resides in overall site hierarchy?	<ul style="list-style-type: none"> • Needs improvement, extensive 	There are no breadcrumbs. There also is no hierarchy of information – no organizational system for the FAQs, they are presented as a list of 900+ questions, which makes them difficult to navigate.
Do links and target page headings match? Are link labels unique and descriptive? Are links labeled consistently throughout website?	<ul style="list-style-type: none"> • No deficiencies observed 	
Text & Terminology		
Does website avoid using unfamiliar terminology, unclear wording and labeling, or jargon?	<ul style="list-style-type: none"> • 1 or more deficiencies 	In the "my stuff" section, there is a list of default categories in a menu which are not defined anywhere.
Expectations		
Does the website provide sufficient introduction to the content and functionality of the site?	<ul style="list-style-type: none"> • Needs improvement, extensive 	There is no introduction to the website or instructions for how to search FAQs.
Does consistent navigation and layout allow users to seamlessly navigate different sections of website? Are links differentiated with specific labels to allow users to efficiently navigate through site?	<ul style="list-style-type: none"> • Needs improvement, extensive 	It is difficult to find an answer unless you know specific keywords to use to search the FAQ. Having some sort of table of contents for the FAQ would make them easier to use.
Does the website clearly indicate when linking to an outside URL?	<ul style="list-style-type: none"> • 1 or more deficiencies 	A link to Title 13 leaves the Census.gov website.

Criteria	Evaluation	Notes
Organization		
Does homepage showcase content to build interest and guide users? Is important information featured prominently?	• Needs improvement, extensive	There is no main page on this website.
Is website organized in such a way as to highlight and provide easy access to the most recent or most relevant data?	• Needs improvement, extensive	The FAQ are presented as a long list with no clear order, it is difficult to determine if/where to locate a desired answer.
Is information throughout the different pages of the website organized in a readily apparent and straightforward way?	• Needs improvement, extensive	The list of FAQ questions is not organized in any way.
Page Layout		
Is information organized clearly? Does information appear in order user expects (e.g., alphabetical, numeric)?	• Serious deficiencies, extensive	The ordering of the FAQs does not appear to follow any logic – it is not numerical, alphabetical, etc.
Is page layout (color scheme, navigation options, etc.) consistent throughout website?	• No deficiencies observed	
Is page visually optimized? Is text legible? Are there any awkward formatting issues? Does website maximize screen real estate?	• No deficiencies observed	
Graphics, Tables, & Icons		
Does website use visual elements to increase user engagement?	• Needs improvement, extensive	There are no visual elements.
Is information in tables and graphics presented clearly?	• No deficiencies observed	
Are icons consistent throughout website? Is functionality clear?	• No deficiencies observed	
Search		
Does search functionality work?	• Adequate	
Is it clear whether search function applies to entire website or single domain?	• Adequate	
Help		
Is online help useful?	• Needs Improvement, extensive	The lack of organization of the questions within the site makes it difficult to use.
Is FAQ section organized consistently throughout website?	• No deficiencies observed	

III. Identify Best Practices and Features on Website

- Website makes good use of icons.
- Option to subscribe via RSS or sign up for NotifyMe for question updates.
- Useful feature allows you to rate answers.
- You can sign up for an account to track the status of answers.

34. Quickfacts

Test URL: <http://quickfacts.census.gov/qfd/index.html>

I. Findability:

Search by Title or Text	Search Terms	Listed Order using Google	Listed Order using Website Search Engine
Title	QuickFacts	1	0 ¹
Text	Quick, easy access to facts about people, business, and geography To begin, select a state from this list or use the map to the right.	1	0 ²
Keywords	demographics population geography households housing economic income business state counties cities	0 ³	0 ⁴

¹ The QuickFacts main page was not returned in the 13 results.

² The [USA QuickFacts](#) page was the first result. The QuickFacts main page was not returned in the 100 results.

³ The [New Jersey QuickFacts](#) page was the first result. The QuickFacts main page was not returned in the first 100 results.

⁴ The QuickFacts main page was not returned in the 36 results.

II. Website Evaluation Criteria Adapted From Top Ten Usability Issues at the Census Bureau

Criteria	Evaluation	Notes
Navigation		
Does website provide a single comprehensive navigational system that enables users to access information across topics quickly and efficiently? Do global navigation options appear consistently on all pages of website?	<ul style="list-style-type: none"> No deficiencies observed 	There is a global navigation tool for the Quickfacts site.
Does navigation convey the hierarchy of information and facilitate lateral and vertical movement? Does website adequately indicate current location and where current page resides in overall site hierarchy?	<ul style="list-style-type: none"> Needs Improvement, Limited 	Even though the nature and structure of the site helps define the vertical location, a bread crumb trail would be useful to give a firm sense of location and navigation.
Do links and target page headings match? Are link labels unique and descriptive? Are links labeled consistently throughout website?	<ul style="list-style-type: none"> No deficiencies observed 	
Text & Terminology		
Does website avoid using unfamiliar terminology, unclear wording and labeling, or jargon?	<ul style="list-style-type: none"> No deficiencies observed 	
Expectations		
Does the website provide sufficient introduction to the content and functionality of the site?	<ul style="list-style-type: none"> Needs Improvement, Limited 	There is no real introduction or background information on this site.
Does consistent navigation and layout allow users to seamlessly navigate different sections of website? Are links differentiated with specific labels to allow users to efficiently navigate through site?	<ul style="list-style-type: none"> Adequate 	
Does the website clearly indicate when linking to an outside URL?	<ul style="list-style-type: none"> 1 or more deficiencies 	

Criteria	Evaluation	Notes
Organization		
Does homepage showcase content to build interest and guide users? Is important information featured prominently?	• Adequate	
Is website organized in such a way as to highlight and provide easy access to the most recent or most relevant data?	• Adequate	
Is information throughout the different pages of the website organized in a readily apparent and straightforward way?	• Adequate	
Page Layout		
Is information organized clearly? Does information appear in order user expects (e.g., alphabetical, numeric)?	• No deficiencies observed	
Is page layout (color scheme, navigation options, etc.) consistent throughout website?	• No deficiencies observed	
Is page visually optimized? Is text legible? Are there any awkward formatting issues? Does website maximize screen real estate?	• No deficiencies observed	The pages are legible and resize well. The screen space is well utilized.
Graphics, Tables, & Icons		
Does website use visual elements to increase user engagement?	• Adequate	
Is information in tables and graphics presented clearly?	• No deficiencies observed	
Are icons consistent throughout website? Is functionality clear?	• No deficiencies observed	
Search		
Does search functionality work?	• Needs Improvement, Limited	A text box is not available, requiring the search to be performed on a separate page. The search is not restricted to Quickfacts.
Is it clear whether search function applies to entire website or single domain?	• Adequate	
Help		
Is online help useful?	• Adequate	
Is FAQ section organized consistently throughout website?	• No deficiencies observed	

III. Identify Best Practices and Features on Website

- The what's new page to inform of recent changes.
- Rapidly loading general information
- Comparison of information to the level up (e.g., compare state vs. national, compare city vs. state)
- Access to other links for more complete information
- Information icons with scroll-over pop-ups and click for detailed information.

35. Corporate Blog

Test URL: <http://blogs.census.gov/>

I. Findability:

Search by Title or Text	Search Terms	Listed Order using Google	Listed Order using Website Search Engine
Title	Random Samplings	3	0 ¹
Text	The official blog of the U.S. Census Bureau	3	0 ¹
Keywords	Census blog	5	0 ¹

¹Does not appear within first few pages of search results.

II. Website Evaluation Criteria Adapted From Top Ten Usability Issues at the Census Bureau

Criteria	Evaluation	Notes
Navigation		
Does website provide a single comprehensive navigational system that enables users to access information across topics quickly and efficiently? Do global navigation options appear consistently on all pages of website?	<ul style="list-style-type: none"> No deficiencies observed 	
Does navigation convey the hierarchy of information and facilitate lateral and vertical movement? Does website adequately indicate current location and where current page resides in overall site hierarchy?	<ul style="list-style-type: none"> Adequate 	Minor issues: There are no breadcrumbs, but since this is a blog that may not be an issue. It is difficult to return to the main blog page once you click one of the links to a sub-page.
Do links and target page headings match? Are link labels unique and descriptive? Are links labeled consistently throughout website?	<ul style="list-style-type: none"> Serious deficiencies, limited 	Sometimes link text can be really misleading as to actual destination, for example: View table 21 -> Section 1, population Current population survey -> Nation's Foreign-Born Population Nears 37 Million Some links open as PDFs without warning.
Text & Terminology		
Does website avoid using unfamiliar terminology, unclear wording and labeling, or jargon?	<ul style="list-style-type: none"> No deficiencies observed 	
Expectations		
Does the website provide sufficient introduction to the content and functionality of the site?	<ul style="list-style-type: none"> Adequate 	The " about random samplings " is a separate link from the main blog page. However, as the subject matter is a blog, the introduction is pretty straightforward.
Does consistent navigation and layout allow users to seamlessly navigate different sections of website? Are links differentiated with specific labels to allow users to efficiently navigate through site?	<ul style="list-style-type: none"> Adequate 	
Does the website clearly indicate when linking to an outside URL?	<ul style="list-style-type: none"> 1 or more deficiencies 	A link to watch a video goes to youtube .

Criteria	Evaluation	Notes
Organization		
Does homepage showcase content to build interest and guide users? Is important information featured prominently?	• Adequate	
Is website organized in such a way as to highlight and provide easy access to the most recent or most relevant data?	• Adequate	
Is information throughout the different pages of the website organized in a readily apparent and straightforward way?	• Adequate	
Page Layout		
Is information organized clearly? Does information appear in order user expects (e.g., alphabetical, numeric)?	• No deficiencies observed	
Is page layout (color scheme, navigation options, etc.) consistent throughout website?	• No deficiencies observed	
Is page visually optimized? Is text legible? Are there any awkward formatting issues? Does website maximize screen real estate?	• No deficiencies observed	
Graphics, Tables, & Icons		
Does website use visual elements to increase user engagement?	• Adequate	
Is information in tables and graphics presented clearly?	• No deficiencies observed	
Are icons consistent throughout website? Is functionality clear?	• No deficiencies observed	
Search		
Does search functionality work?	• Adequate	
Is it clear whether search function applies to entire website or single domain?	• Adequate	
Help		
Is online help useful?	• Adequate	This is a help site
Is FAQ section organized consistently throughout website?	• Serious deficiencies, limited	There is no access to help on this page.

III. Identify Best Practices and Features on Website

- Website makes very good use of icons and visual elements – this page is much more visually appealing compared to other census sites.
- You can click on graphics to enlarge in a new browser window.
- There are links to share, get email updates, or subscribe via RSS.

36. Calendar

Test URL:

<http://www.calendarwiz.com/calendars/calendar.php?crd=cens1sample&op=cal&month=5&year=2011&PHPSESSID=d04dc1126031ed860330dc34101d54b5>

I. Findability:

Search by Title or Text	Search Terms	Listed Order using Google	Listed Order using Website Search Engine
Title	U.S. Census Calendar	0 ¹	0 ²
Text	U.S. Census Bureau Events Calendar Click Here To Follow Us On YouTube Login Search Print Export Help Census Twitter	0 ¹	0 ²
Keywords	N/A ³	0 ³	0 ²
¹ The Calendar was not returned in the first 200 results. ² The calendar cannot be returned since the search is restricted to census.gov sites. ³ Since the site could not be returned with Title or Text, a Keyword search was considered unneeded.			

II. Website Evaluation Criteria Adapted From Top Ten Usability Issues at the Census Bureau

Criteria	Evaluation	Notes
Navigation		
Does website provide a single comprehensive navigational system that enables users to access information across topics quickly and efficiently? Do global navigation options appear consistently on all pages of website?	<ul style="list-style-type: none"> • Serious deficiencies, limited 	While the calendar is functional, there is connectivity to the Census.gov site. This makes using the calendar in conjunction with the Census.gov site nearly impossible.
Does navigation convey the hierarchy of information and facilitate lateral and vertical movement? Does website adequately indicate current location and where current page resides in overall site hierarchy?	<ul style="list-style-type: none"> • Adequate 	
Do links and target page headings match? Are link labels unique and descriptive? Are links labeled consistently throughout website?	<ul style="list-style-type: none"> • No deficiencies observed 	
Text & Terminology		
Does website avoid using unfamiliar terminology, unclear wording and labeling, or jargon?	<ul style="list-style-type: none"> • 1 or more deficiencies 	Abbreviations and text can be confusing
Expectations		
Does the website provide sufficient introduction to the content and functionality of the site?	<ul style="list-style-type: none"> • Needs Improvement, Limited 	It would be useful to have some introduction stating which programs where using this calendar and for what purposes.
Does consistent navigation and layout allow users to seamlessly navigate different sections of website? Are links differentiated with specific labels to allow users to efficiently navigate through site?	<ul style="list-style-type: none"> • Adequate 	
Does the website clearly indicate when linking to an outside URL?	<ul style="list-style-type: none"> • No deficiencies observed 	

Criteria	Evaluation	Notes
Organization		
Does homepage showcase content to build interest and guide users? Is important information featured prominently?	• Adequate	N/A – No homepage
Is website organized in such a way as to highlight and provide easy access to the most recent or most relevant data?	• Needs Improvement, Limited	There is only color coding by event. There is no grouping to identify a type of program or type event.
Is information throughout the different pages of the website organized in a readily apparent and straightforward way?	• Adequate	
Page Layout		
Is information organized clearly? Does information appear in order user expects (e.g., alphabetical, numeric)?	• 1 or more deficiencies	The coding of the events is alphabetical (and sorted left to right rather than vertically).
Is page layout (color scheme, navigation options, etc.) consistent throughout website?	• No deficiencies observed	
Is page visually optimized? Is text legible? Are there any awkward formatting issues? Does website maximize screen real estate?	• 1 or more deficiencies	Text can be difficult to read against the colored backgrounds.
Graphics, Tables, & Icons		
Does website use visual elements to increase user engagement?	• Needs Improvement, Limited	While a calendar does not need graphics to be functional, the page does appear very flat and non-engaging in part due to a lack of graphics.
Is information in tables and graphics presented clearly?	• No deficiencies observed	
Are icons consistent throughout website? Is functionality clear?	• No deficiencies observed	
Search		
Does search functionality work?	• Adequate	
Is it clear whether search function applies to entire website or single domain?	• Adequate	
Help		
Is online help useful?	• Adequate	
Is FAQ section organized consistently throughout website?	• Serious deficiencies, limited	No FAQ section or link to Census FAQ

III. Identify Best Practices and Features on Website

- No best practices identified

37. Foreign Trade Division

Test URL: <http://www.census.gov/foreign-trade/index.html>

I. Findability:

Search by Title or Text	Search Terms	Listed Order using Google	Listed Order using Website Search Engine
Title	Foreign Trade	1	0 ¹
Text	FOREIGN TRADE is the official source for U.S. export and import statistics and responsible for issuing regulations governing the reporting of all export shipments from the United States.	1	1
Keywords	U.S. imports exports	2	7 ²
¹ Does not appear within first few pages of search results. ² 7 th link goes to data page within foreign trade website. Main page does not come up within first few pages of search results.			

II. Website Evaluation Criteria Adapted From Top Ten Usability Issues at the Census Bureau

Criteria	Evaluation	Notes
Navigation		
Does website provide a single comprehensive navigational system that enables users to access information across topics quickly and efficiently? Do global navigation options appear consistently on all pages of website?	<ul style="list-style-type: none"> • Serious deficiencies, extensive 	Navigation options change on some pages . 2 nd level of navigation is not always presented the same way (box in left sidebar , box at top of page). Not all sections appear in navigation (e.g., “Schedule B Validation” on the Schedule B page.) Right-hand navigation bar moves to left side of page on some pages . Some navigation options are hidden (e.g., sitemap)
Does navigation convey the hierarchy of information and facilitate lateral and vertical movement? Does website adequately indicate current location and where current page resides in overall site hierarchy?	<ul style="list-style-type: none"> • Needs improvement, extensive 	Many pages lack breadcrumbs. “ Data ” page is not highlighted in navigation if click link from main page.
Do links and target page headings match? Are link labels unique and descriptive? Are links labeled consistently throughout website?	<ul style="list-style-type: none"> • Serious deficiencies, limited 	Many links do not match their target page headings, for example: “ Search database ” link is vague – not clear what page it goes to. Overview of the EEI -> Overview - Getting Started on AES
Text & Terminology		
Does website avoid using unfamiliar terminology, unclear wording and labeling, or jargon?	<ul style="list-style-type: none"> • Serious deficiencies, limited 	Abbreviations are widely used throughout the website before they are defined. Most notably, “ AES ” is one of the main navigation options. Another example is a reference to FTR Title 15, Part 30 with no explanation of what that is. Good definitions page.

Criteria	Evaluation	Notes
Expectations		
Does the website provide sufficient introduction to the content and functionality of the site?	• Adequate	
Does consistent navigation and layout allow users to seamlessly navigate different sections of website? Are links differentiated with specific labels to allow users to efficiently navigate through site?	• Needs improvement, extensive	The layout completely changes on many pages of the website, making navigation jarring and disconnected. Many links are vague or jargon-y (e.g., "AES", "Reference", "Schedule B").
Does the website clearly indicate when linking to an outside URL?	• 1 or more deficiencies	Some links go to outside website without warning, e.g. " Letter of Intent " goes to CBP.gov
Organization		
Does homepage showcase content to build interest and guide users? Is important information featured prominently?	• Adequate	
Is website organized in such a way as to highlight and provide easy access to the most recent or most relevant data?	• Needs improvement, limited	There are no links to the most recent data from the main page, but it is highlighted on the data page. FTD web news on some pages does not match news on the main page .
Is information throughout the different pages of the website organized in a readily apparent and straightforward way?	• Needs improvement, limited	The vague navigation link titles "AES", "Reference", etc., make the organization less straightforward.
Page Layout		
Is information organized clearly? Does information appear in order user expects (e.g., alphabetical, numeric)?	• 1 or more deficiencies	On about page, order of information is export statistics/import statistics/exporter database – seems like exporter database should be linked to export statistics.
Is page layout (color scheme, navigation options, etc.) consistent throughout website?	• Serious deficiencies, extensive	There are two different layouts used throughout the website.
Is page visually optimized? Is text legible? Are there any awkward formatting issues? Does website maximize screen real estate?	• Serious deficiencies, extensive	Second layout format is more difficult to use, especially the navigation panel. It's also very awkward that the website shifts between the two layout formats with no rationale.
Graphics, Tables, & Icons		
Does website use visual elements to increase user engagement?	• Needs improvement, extensive	There are very few visual elements throughout the website.
Is information in tables and graphics presented clearly?	• No deficiencies observed	
Are icons consistent throughout website? Is functionality clear?	• 1 or more deficiencies	There are no icons on the website.
Search		
Does search functionality work?	• Needs improvement, limited	There is a link to search@census, but there is also a search engine specific to the FTD site that is difficult to find. The search engine also timed out during several test searches.
Is it clear whether search function applies to entire website or single domain?	• Needs improvement, limited	It is unclear whether search engine is limited to FTD site or entire Census.gov website

Criteria	Evaluation	Notes
Help		
Is online help useful?	• Needs Improvement, limited	Online help is linked to Census Q&A site with “zftd” selected.
Is FAQ section organized consistently throughout website?	• 1 or more deficiencies	Some pages lack link to help.

III. Identify Best Practices and Features on Website

- The alphabetical index on the [definitions](#) page is helpful.
- The [right-hand navigation bar](#) provides useful, timely information.
- The November 2010 chart on the [data](#) page links to more detailed information.
- Contact us information is easily accessible

38. Business Help Site

Test URL: <http://bhs.econ.census.gov/bhs/index.html>

I. Findability:

Search by Title or Text	Search Terms	Listed Order using Google	Listed Order using Website Search Engine
Title	Business Help Site	1 ¹	1 ¹
Text	Welcome to the U.S. Census Bureau Business Help Site (BHS). This site is designed to assist all businesses and government agencies with their survey needs. Some of the services on the Business Help Site include: Aid in the completion of surveys Request online services Assist with general and technical questions	1 ¹	1 ¹
Keywords	online electronic reporting filing survey secure forms economic industry assistance instructions	15 ^{1,2}	0 ³

¹The result is to <http://www.census.gov/econhelp/>, which redirects to the Business Help Site.
²The ranking was when the search was confined to census.gov only sites. The unfiltered first return was to the [Annual Survey of Manufactures BHS](#) page.
³The first result was to the [Report of Organization \(COS\) BHS](#) page. The BHS main page was not returned in 4 results.

II. Website Evaluation Criteria Adapted From Top Ten Usability Issues at the Census Bureau

Criteria	Evaluation	Notes
Navigation		
Does website provide a single comprehensive navigational system that enables users to access information across topics quickly and efficiently? Do global navigation options appear consistently on all pages of website?	<ul style="list-style-type: none"> • Serious deficiencies, limited 	<p>There is a robust navigation system for the majority of the pages. However, when transitioning into the help page for some of the programs, the layout and navigation options change to an older page style (e.g., Annual Capital Expenditures Survey).</p> <p>Side note: It appears that the older style program pages are being updated to the newer format. (e.g., Quarterly Financial Report [Beta]). This evaluation is based only on active pages.</p>
Does navigation convey the hierarchy of information and facilitate lateral and vertical movement? Does website adequately indicate current location and where current page resides in overall site hierarchy?	<ul style="list-style-type: none"> • Adequate 	Bread crumb trails are available on all pages.
Do links and target page headings match? Are link labels unique and descriptive? Are links labeled consistently throughout website?	<ul style="list-style-type: none"> • No deficiencies observed 	
Text & Terminology		
Does website avoid using unfamiliar terminology, unclear wording and labeling, or jargon?	<ul style="list-style-type: none"> • No deficiencies observed 	Since this page is intended for business users, jargon is to be expected. The Glossary is helpful in offsetting complex language.

Criteria	Evaluation	Notes
Expectations		
Does the website provide sufficient introduction to the content and functionality of the site?	• Needs Improvement, Limited	There is a limited introduction on the main page.
Does consistent navigation and layout allow users to seamlessly navigate different sections of website? Are links differentiated with specific labels to allow users to efficiently navigate through site?	• Needs Improvement, extensive	Given the two styles of pages, there are some inconsistencies when navigating. The two page styles are somewhat incompatible with regards to navigation. Links are well labeled and descriptive.
Does the website clearly indicate when linking to an outside URL?	• No deficiencies observed	
Organization		
Does homepage showcase content to build interest and guide users? Is important information featured prominently?	• Adequate	The homepage provides a direct link to the help page for each program.
Is website organized in such a way as to highlight and provide easy access to the most recent or most relevant data?	• Adequate	
Is information throughout the different pages of the website organized in a readily apparent and straightforward way?	• Adequate	
Page Layout		
Is information organized clearly? Does information appear in order user expects (e.g., alphabetical, numeric)?	• No deficiencies observed	
Is page layout (color scheme, navigation options, etc.) consistent throughout website?	• Serious deficiencies, limited	The page layout is inconsistent because of the two styles of webpages.
Is page visually optimized? Is text legible? Are there any awkward formatting issues? Does website maximize screen real estate?	• No deficiencies observed	Pages use visual space well. The format of the two page types is adequate. Pages resize well.
Graphics, Tables, & Icons		
Does website use visual elements to increase user engagement?	• Needs Improvement, Extensive	There is a lack of graphics on the pages.
Is information in tables and graphics presented clearly?	• No deficiencies observed	
Are icons consistent throughout website? Is functionality clear?	• 1 or more deficiencies	
Search		
Does search functionality work?	• Needs Improvement, Limited	The search function does not work from the main page, but works from all other pages tested. The search function is contained within the BHS pages.
Is it clear whether search function applies to entire website or single domain?	• Needs Improvement, Limited	It is not labeled from the BHS pages. Once the search window pops up, the search button state "BHS Search."
Help		
Is online help useful?	• Adequate	This is a help site. There are additional help resources available through the main FAQ and other FAQs (e.g., ASM FAQ , Quarterly Survey of Plant Capacity Utilization FAQ).
Is FAQ section organized consistently throughout website?	• No deficiencies observed	

III. Identify Best Practices and Features on Website

- Site specific search
- Site map
- Online reporting

39. Statistical Abstract

Test URL: <http://www.census.gov/compendia/statab/>

I. Findability:

Search by Title or Text	Search Terms	Listed Order using Google	Listed Order using Website Search Engine
Title	The 2011 Statistical Abstract	1	1 ¹
Text	The Statistical Abstract of the United States, published since 1878, is the authoritative and comprehensive summary of statistics on the social, political, and economic organization of the United States.	1	0 ²
Keywords	U.S. social political economic data	1	0 ³
¹ First link is to state and local government finances section of website. Website main page does not appear within first few pages of search results. ² No links come up in search results ³ Website main page does not appear within first few pages of search results.			

II. Website Evaluation Criteria Adapted From Top Ten Usability Issues at the Census Bureau

Criteria	Evaluation	Notes
Navigation		
Does website provide a single comprehensive navigational system that enables users to access information across topics quickly and efficiently? Do global navigation options appear consistently on all pages of website?	<ul style="list-style-type: none"> Serious deficiencies, limited 	Some information can only be accessed from the main page: " Sources of data " section is not part of navigational structure. Right-hand navigation is only present on main page .
Does navigation convey the hierarchy of information and facilitate lateral and vertical movement? Does website adequately indicate current location and where current page resides in overall site hierarchy?	<ul style="list-style-type: none"> Needs improvement, limited 	It would be helpful if the current section were highlighted in the left-hand sidebar. It may be difficult to navigate to the sites that are not part of the navigational structure (see previous question)
Do links and target page headings match? Are link labels unique and descriptive? Are links labeled consistently throughout website?	<ul style="list-style-type: none"> No deficiencies observed 	
Text & Terminology		
Does website avoid using unfamiliar terminology, unclear wording and labeling, or jargon?	<ul style="list-style-type: none"> Serious deficiencies, limited 	In general the terminology used on the website is straightforward, but the site does lack a data dictionary explaining the meaning of different metrics/sections
Expectations		
Does the website provide sufficient introduction to the content and functionality of the site?	<ul style="list-style-type: none"> Adequate 	
Does consistent navigation and layout allow users to seamlessly navigate different sections of website? Are links differentiated with specific labels to allow users to efficiently navigate through site?	<ul style="list-style-type: none"> Adequate 	
Does the website clearly indicate when linking to an outside URL?	<ul style="list-style-type: none"> No deficiencies observed 	

Criteria	Evaluation	Notes
Organization		
Does homepage showcase content to build interest and guide users? Is important information featured prominently?	• Adequate	
Is website organized in such a way as to highlight and provide easy access to the most recent or most relevant data?	• Adequate	
Is information throughout the different pages of the website organized in a readily apparent and straightforward way?	• Adequate	
Page Layout		
Is information organized clearly? Does information appear in order user expects (e.g., alphabetical, numeric)?	• 1 or more deficiencies	It seems like the state rankings tables should list the states by rank in addition to or instead of alphabetically.
Is page layout (color scheme, navigation options, etc.) consistent throughout website?	• Serious deficiencies, limited	Color scheme changes when looking at abstracts for previous years , but navigation options remain the same even though some remain within the prior year section and some take you to the 2011 section, which is confusing. Excel tables are not uniformly formatted.
Is page visually optimized? Is text legible? Are there any awkward formatting issues? Does website maximize screen real estate?	• No deficiencies observed	
Graphics, Tables, & Icons		
Does website use visual elements to increase user engagement?	• Needs improvement, extensive	There are no graphics on the website
Is information in tables and graphics presented clearly?	• 1 or more deficiencies	Most tables can only be viewed as excel or PDF, there is no HTML version. Sometimes the PDF versions contain multiple tables (as they are excerpts from the larger PDF document), so it is disorienting at first to find the desired table. Other tables are available in HTML and excel only.
Are icons consistent throughout website? Is functionality clear?	• 1 or more deficiencies	There are no icons.
Search		
Does search functionality work?	• Needs improvement, limited	Search box only appears on main page, otherwise there is the search@census link in the navigation bar.
Is it clear whether search function applies to entire website or single domain?	• Needs improvement, extensive	Search function says "search the abstract", but search results are for entire Census.gov website and even non-Census Bureau websites.
Help		
Is online help useful?	• Needs Improvement, limited	The website directs the user to the Census Q&A website.
Is FAQ section organized consistently throughout website?	• Serious deficiencies, extensive	Access to help is only available on main page.

III. Identify Best Practices and Features on Website

- Website navigation is consistent and useful
- Tables of links highlight the row as you hover the mouse.
- Website provides a good amount of background information throughout the site.

40. Families and Living Arrangements

Test URL: <http://www.census.gov/population/www/socdemo/hh-fam.html>

I. Findability:

Search by Title or Text	Search Terms	Listed Order using Google	Listed Order using Website Search Engine
Title	Families and living arrangements	1	1
Text	Demographic characteristics of households and families are collected annually in the March Current Population Survey (CPS) for the Nation. Detailed information from recent surveys and historical trends in selected topics are listed below.	1	1
Keywords	demographics households children survey historical population income race marriage parents	1	2

II. Website Evaluation Criteria Adapted From Top Ten Usability Issues at the Census Bureau

Criteria	Evaluation	Notes
Navigation		
Does website provide a single comprehensive navigational system that enables users to access information across topics quickly and efficiently? Do global navigation options appear consistently on all pages of website?	<ul style="list-style-type: none"> • Serious deficiencies, extensive 	There are no navigational tools that are common to all pages in this FLA tree. Each page is stand alone with no connections.
Does navigation convey the hierarchy of information and facilitate lateral and vertical movement? Does website adequately indicate current location and where current page resides in overall site hierarchy?	<ul style="list-style-type: none"> • Needs Improvement, Extensive 	There are no location information tools available. Vertical and lateral movement is not possible using navigational tools.
Do links and target page headings match? Are link labels unique and descriptive? Are links labeled consistently throughout website?	<ul style="list-style-type: none"> • Serious deficiencies, extensive 	Link labels rarely match page targets (e.g., Detailed Tables (including household and family detailed tables) '-> 'America's Families and Living Arrangements: 2010')
Text & Terminology		
Does website avoid using unfamiliar terminology, unclear wording and labeling, or jargon?	<ul style="list-style-type: none"> • 1 or more deficiencies 	Complex language is used throughout. The CPS Definitions and Explanations page is available but hidden. One examples of obtuse text on the main page: NOTE: Due to several anomalies in the coding of parent pointers and relationship to householder, there are several cells in the tables which show minor inconsistencies, or where the totals will not agree with each other.

Criteria	Evaluation	Notes
Expectations		
Does the website provide sufficient introduction to the content and functionality of the site?	• Needs Improvement, Limited	A brief but broken introduction including two Fact Sheet links is on the top of the main page.
Does consistent navigation and layout allow users to seamlessly navigate different sections of website? Are links differentiated with specific labels to allow users to efficiently navigate through site?	• Needs Improvement, Extensive	As mentioned previously, the lack of navigation tools make moving through the site difficult. Most links are well labeled for file types (PDF, XLS, CSV) and size though some are not (e.g., XLS files under 'Same-Sex Couples').
Does the website clearly indicate when linking to an outside URL?	• No deficiencies observed	
Organization		
Does homepage showcase content to build interest and guide users? Is important information featured prominently?	• Needs Improvement, Limited	The in-page links at the top of the main page delivering the user to the different surveys data. However, nothing is truly showcased.
Is website organized in such a way as to highlight and provide easy access to the most recent or most relevant data?	• Needs Improvement, Extensive	The only links are to the programs and not the categories, so it is difficult to find the recent or relevant data without extensive scrolling.
Is information throughout the different pages of the website organized in a readily apparent and straightforward way?	• Adequate	The supporting pages are well organized with their respective content.
Page Layout		
Is information organized clearly? Does information appear in order user expects (e.g., alphabetical, numeric)?	• No deficiencies observed	
Is page layout (color scheme, navigation options, etc.) consistent throughout website?	• No deficiencies observed	
Is page visually optimized? Is text legible? Are there any awkward formatting issues? Does website maximize screen real estate?	• Serious deficiencies, extensive	The page is not optimally formatted. The single frame style generates large areas of blank space on the right side of the page alternating with long sentences sprawling across the screen. The page does resize well. The content headers have an unusual formatting issue. When the mouse scrolls over the header, the text and background change color which appears like a link.
Graphics, Tables, & Icons		
Does website use visual elements to increase user engagement?	• Needs Improvement, extensive	The page lacks visual elements.
Is information in tables and graphics presented clearly?	• No deficiencies observed	
Are icons consistent throughout website? Is functionality clear?	• 1 or more deficiencies	

Criteria	Evaluation	Notes
Search		
Does search functionality work?	<ul style="list-style-type: none"> Needs Improvement, Limited 	<p>A text box is not available, requiring the search to be performed on a separate page.</p> <p>The search is not restricted to the FLA pages.</p>
Is it clear whether search function applies to entire website or single domain?	<ul style="list-style-type: none"> Adequate 	
Help		
Is online help useful?	<ul style="list-style-type: none"> Needs Improvement, Extensive 	There is no online help or FAQ.
Is FAQ section organized consistently throughout website?	<ul style="list-style-type: none"> Serious deficiencies, extensive 	There is no access to help/FAQ.

III. Identify Best Practices and Features on Website

- No best practices identified

41. Educational Attainment

Test URL: <http://www.census.gov/hhes/socdemo/education/>

I. Findability:

Search by Title or Text	Search Terms	Listed Order using Google	Listed Order using Website Search Engine
Title	Educational attainment	1	9 ¹
Text	Educational attainment refers to the highest level of education that an individual has completed. This is distinct from the level of schooling that an individual is attending.	1	0 ²
Keywords	U.S. highest level of schooling completed statistics	1	1 ³
¹ Link is to guide to 2009 tables section of website. Website main page does not appear within first few pages of search results. ² First link is to educational attainment FAQ page, main page does not appear within first few pages of search results.			

II. Website Evaluation Criteria Adapted From Top Ten Usability Issues at the Census Bureau

Criteria	Evaluation	Notes
Navigation		
Does website provide a single comprehensive navigational system that enables users to access information across topics quickly and efficiently? Do global navigation options appear consistently on all pages of website?	<ul style="list-style-type: none"> • 1 or more deficiencies 	Left-hand navigation bar only appears on some pages within data section.
Does navigation convey the hierarchy of information and facilitate lateral and vertical movement? Does website adequately indicate current location and where current page resides in overall site hierarchy?	<ul style="list-style-type: none"> • Needs improvement, limited 	Current location is not highlighted in navigation bar on some pages .
Do links and target page headings match? Are link labels unique and descriptive? Are links labeled consistently throughout website?	<ul style="list-style-type: none"> • No deficiencies observed 	
Text & Terminology		
Does website avoid using unfamiliar terminology, unclear wording and labeling, or jargon?	<ul style="list-style-type: none"> • No deficiencies observed 	
Expectations		
Does the website provide sufficient introduction to the content and functionality of the site?	<ul style="list-style-type: none"> • Needs improvement, limited 	Lack of text on main page and about page.
Does consistent navigation and layout allow users to seamlessly navigate different sections of website? Are links differentiated with specific labels to allow users to efficiently navigate through site?	<ul style="list-style-type: none"> • Adequate 	
Does the website clearly indicate when linking to an outside URL?	<ul style="list-style-type: none"> • No deficiencies observed 	
Organization		
Does homepage showcase content to build interest and guide users? Is important information featured prominently?	<ul style="list-style-type: none"> • Adequate 	
Is website organized in such a way as to highlight and provide easy access to the most recent or most relevant data?	<ul style="list-style-type: none"> • Adequate 	
Is information throughout the different pages of the website organized in a readily apparent and straightforward way?	<ul style="list-style-type: none"> • Adequate 	

Criteria	Evaluation	Notes
Page Layout		
Is information organized clearly? Does information appear in order user expects (e.g., alphabetical, numeric)?	• No deficiencies observed	
Is page layout (color scheme, navigation options, etc.) consistent throughout website?	• No deficiencies observed	
Is page visually optimized? Is text legible? Are there any awkward formatting issues? Does website maximize screen real estate?	• 1 or more deficiencies	The color used to highlight the current location in the navigation bar is too similar to the regular color.
Graphics, Tables, & Icons		
Does website use visual elements to increase user engagement?	• Needs improvement, extensive	Very few graphics on website.
Is information in tables and graphics presented clearly?	• 1 or more deficiencies	Most tables are only available in CSV or XLS format. Tables are not formatted uniformly throughout website.
Are icons consistent throughout website? Is functionality clear?	• 1 or more deficiencies	Website does not use icons.
Search		
Does search functionality work?	• Needs improvement, limited	You need to click the search@census link in the navigation bar to conduct a search.
Is it clear whether search function applies to entire website or single domain?	• Adequate	
Help		
Is online help useful?	• Needs improvement, limited	Help is link to FAQ site from main page.
Is FAQ section organized consistently throughout website?	• Serious deficiencies, extensive	Can only access FAQ page from main page.

III. Identify Best Practices and Features on Website

- FAQ is contained within website.
- Latest releases are highlighted on main page.
- Background information is provided for each of the surveys, and survey background is linked to data.

42. Income

Test URL: <http://www.census.gov/hhes/www/income/>

I. Findability:

Search by Title or Text	Search Terms	Listed Order using Google	Listed Order using Website Search Engine
Title	Income	3	1 ¹
Text	The Census Bureau reports income from several major household surveys and programs. Each of these surveys differs from the others in some way, such as the length and detail of its questionnaire, the number of households included (sample size), and the methodology used to collect and process the data.	1	1
Keywords	earnings occupation education household survey inequality taxes transfers	0 ²	0 ³
¹ The page was returned using the KeyMatch ² The Income Statistics page was the fourth result. The main page was not returned in the first 100 results. ³ The main page was not returned in the 14 results.			

II. Website Evaluation Criteria Adapted From Top Ten Usability Issues at the Census Bureau

Criteria	Evaluation	Notes
Navigation		
Does website provide a single comprehensive navigational system that enables users to access information across topics quickly and efficiently? Do global navigation options appear consistently on all pages of website?	<ul style="list-style-type: none"> No deficiencies observed 	There is a global navigation system that allows for easy navigation. The system appears on all pages.
Does navigation convey the hierarchy of information and facilitate lateral and vertical movement? Does website adequately indicate current location and where current page resides in overall site hierarchy?	<ul style="list-style-type: none"> Adequate 	The bread crumbs trail displays location. Hierarchy is well formed/described by the navigation tools. Lateral movement enabled with global navigation options.
Do links and target page headings match? Are link labels unique and descriptive? Are links labeled consistently throughout website?	<ul style="list-style-type: none"> No deficiencies observed 	Links match target pages well. Labels are descriptive and consistent.
Text & Terminology		
Does website avoid using unfamiliar terminology, unclear wording and labeling, or jargon?	<ul style="list-style-type: none"> 1 or more deficiencies 	The terminology is complex (e.g., About Income). The Definitions page is less than fully functional since definitions are not provided on the page and some of the links do not go to definition pages (e.g., Census of Population > General).
Expectations		
Does the website provide sufficient introduction to the content and functionality of the site?	<ul style="list-style-type: none"> Adequate 	There is a thorough introduction & background on About Income .
Does consistent navigation and layout allow users to seamlessly navigate different sections of website? Are links differentiated with specific labels to allow users to efficiently navigate through site?	<ul style="list-style-type: none"> Adequate 	As described above, the navigation tools are useful and consistent. Links are well labeled. Links indicated file types and sizes if applicable.
Does the website clearly indicate when linking to an outside URL?	<ul style="list-style-type: none"> No deficiencies observed 	

Criteria	Evaluation	Notes
Organization		
Does homepage showcase content to build interest and guide users? Is important information featured prominently?	• Adequate	The main page provides the most recent releases
Is website organized in such a way as to highlight and provide easy access to the most recent or most relevant data?	• Adequate	See above.
Is information throughout the different pages of the website organized in a readily apparent and straightforward way?	• Adequate	
Page Layout		
Is information organized clearly? Does information appear in order user expects (e.g., alphabetical, numeric)?	• No deficiencies observed	
Is page layout (color scheme, navigation options, etc.) consistent throughout website?	• No deficiencies observed	
Is page visually optimized? Is text legible? Are there any awkward formatting issues? Does website maximize screen real estate?	• No deficiencies observed	Pages resize well. Text is legible.
Graphics, Tables, & Icons		
Does website use visual elements to increase user engagement?	• Needs Improvement, extensive	There is a lack of visual elements in these pages.
Is information in tables and graphics presented clearly?	• No deficiencies observed	
Are icons consistent throughout website? Is functionality clear?	• 1 or more deficiencies	
Search		
Does search functionality work?	• Needs Improvement, Limited	A text box is not available, requiring the search to be performed on a separate page. The search is not restricted to the Income pages.
Is it clear whether search function applies to entire website or single domain?	• Adequate	It is apparent from the link that the search includes the entire Census Bureau website.
Help		
Is online help useful?	• Adequate	
Is FAQ section organized consistently throughout website?	• Serious deficiencies, limited	The FAQ is buried in the About Income left sidebar. A better location for it would be on the horizontal navigation bar. There is a link for the Census.gov wide FAQ hidden in the Contact Us box on the right side.

III. Identify Best Practices and Features on Website

- Good navigation options
- Consistent page design
- 'Goodbye' pages for external links (e.g., [Luxemburg Income Study](#))

43. Poverty

Test URL: <http://www.census.gov/hhes/www/poverty/poverty.html>

I. Findability:

Search by Title or Text	Search Terms	Listed Order using Google	Listed Order using Website Search Engine
Title	Poverty	3	1
Text	The Census Bureau reports poverty data from several major household surveys and programs.	2	1
Keywords	U.S. poverty statistics	1	1

II. Website Evaluation Criteria Adapted From Top Ten Usability Issues at the Census Bureau

Criteria	Evaluation	Notes
Navigation		
Does website provide a single comprehensive navigational system that enables users to access information across topics quickly and efficiently? Do global navigation options appear consistently on all pages of website?	<ul style="list-style-type: none"> • Serious deficiencies, limited 	Use of the left-hand navigation box is inconsistent , even within the same section .
Does navigation convey the hierarchy of information and facilitate lateral and vertical movement? Does website adequately indicate current location and where current page resides in overall site hierarchy?	<ul style="list-style-type: none"> • Needs improvement, limited 	The current location is not highlighted in the navigation bar on the 2 nd level. On one version of the main page , the current location is not highlighted in the navigation bar and if you click the link for the main page the page reloads and the current location is highlighted.
Do links and target page headings match? Are link labels unique and descriptive? Are links labeled consistently throughout website?	<ul style="list-style-type: none"> • 1 or more deficiencies 	Some links to PDFs do not indicate that you are opening a PDF file.
Text & Terminology		
Does website avoid using unfamiliar terminology, unclear wording and labeling, or jargon?	<ul style="list-style-type: none"> • No deficiencies observed 	
Expectations		
Does the website provide sufficient introduction to the content and functionality of the site?	<ul style="list-style-type: none"> • Adequate 	
Does consistent navigation and layout allow users to seamlessly navigate different sections of website? Are links differentiated with specific labels to allow users to efficiently navigate through site?	<ul style="list-style-type: none"> • Needs improvement, limited 	The left-hand navigation box is not consistently used, which makes navigation feel disconnected.
Does the website clearly indicate when linking to an outside URL?	<ul style="list-style-type: none"> • No deficiencies observed 	

Criteria	Evaluation	Notes
Organization		
Does homepage showcase content to build interest and guide users? Is important information featured prominently?	<ul style="list-style-type: none"> • Adequate 	
Is website organized in such a way as to highlight and provide easy access to the most recent or most relevant data?	<ul style="list-style-type: none"> • Needs improvement, limited 	The data page is difficult to use since all of the data sources are presented on the data page and there are no links to background information.
Is information throughout the different pages of the website organized in a readily apparent and straightforward way?	<ul style="list-style-type: none"> • Needs improvement, limited 	The “Poverty Data Sources” and “How the Census Bureau Measures Poverty” pages appear both in the “ About Poverty ” and “ Methodology ” sections – each page is identical even though they have different URLs. It would also be helpful if the Description of Income and Poverty Data Sources page was linked to the data page to allow the user to more efficiently select the correct data source for their needs. A page is located in the data section, even though it is only linked from the methodology section.
Page Layout		
Is information organized clearly? Does information appear in order user expects (e.g., alphabetical, numeric)?	<ul style="list-style-type: none"> • 1 or more deficiencies 	The order of the publications is confusing because it does not follow the order in which the surveys are listed elsewhere on the site.
Is page layout (color scheme, navigation options, etc.) consistent throughout website?	<ul style="list-style-type: none"> • No deficiencies observed 	
Is page visually optimized? Is text legible? Are there any awkward formatting issues? Does website maximize screen real estate?	<ul style="list-style-type: none"> • 1 or more deficiencies 	The 2 nd link on the main page is formatted differently (only the year is hyperlinked rather than the entire text). It seems like some text is missing on the methodology page under the first link.
Graphics, Tables, & Icons		
Does website use visual elements to increase user engagement?	<ul style="list-style-type: none"> • Needs improvement, extensive 	There are no visual elements.
Is information in tables and graphics presented clearly?	<ul style="list-style-type: none"> • 1 or more deficiencies 	Some tables are only available in XLS while others are only available in PDF format.
Are icons consistent throughout website? Is functionality clear?	<ul style="list-style-type: none"> • 1 or more deficiencies 	Icons are not used on website.
Search		
Does search functionality work?	<ul style="list-style-type: none"> • Needs improvement, limited 	There is a search@census link in the top navigation bar.
Is it clear whether search function applies to entire website or single domain?	<ul style="list-style-type: none"> • Adequate 	
Help		
Is online help useful?	<ul style="list-style-type: none"> • Needs improvement, limited 	Help link goes to Census Q&A page.
Is FAQ section organized consistently throughout website?	<ul style="list-style-type: none"> • Serious deficiencies, extensive 	Help link only visible on main page.

III. Identify Best Practices and Features on Website

- Latest releases are highlighted on main page.

44. Health Insurance

Test URL: <http://www.census.gov/hhes/www/hlthins/hlthins.html>

I. Findability:

Search by Title or Text	Search Terms	Listed Order using Google	Listed Order using Website Search Engine
Title	Health Insurance	17	1
Text	The Census Bureau collects health insurance data using three national surveys: the Current Population Survey's Annual Social and Economic Supplement (CPS ASEC), the American Community Survey (ACS) and the Survey of Income and Program Participation (SIPP).	1	1
Keywords	CPS ASEC ACS SIPP survey premiums coverage	2	0 ¹
¹ The first result was for Health Insurance Survey Comparison (XLS) . The Health Insurance main page was not returned in 8 results.			

II. Website Evaluation Criteria Adapted From Top Ten Usability Issues at the Census Bureau

Criteria	Evaluation	Notes
Navigation		
Does website provide a single comprehensive navigational system that enables users to access information across topics quickly and efficiently? Do global navigation options appear consistently on all pages of website?	<ul style="list-style-type: none"> • 1 or more deficiencies 	<p>The navigation tools are robust and are nearly universal. However, some links unexpectedly link outside the Health Insurance Data site even as the vast majority of the links on the same page stay within the site. This makes navigation clunky and the pages seem incomplete.</p> <p>(e.g. CPS ASEC 2009: Detailed Tables on the from Data page)</p>
Does navigation convey the hierarchy of information and facilitate lateral and vertical movement? Does website adequately indicate current location and where current page resides in overall site hierarchy?	<ul style="list-style-type: none"> • Adequate 	<p>The bread crumb trail gives a good indication of location and assists in vertical navigation. The navigation tools assist in lateral navigation.</p>
Do links and target page headings match? Are link labels unique and descriptive? Are links labeled consistently throughout website?	<ul style="list-style-type: none"> • 1 or more deficiencies 	<p>Most links match targets, but some exceptions exist (from Related Sites: Statistical Research Division (SRD) -> Research Reports and Studies).</p> <p>Link labels are descriptive and links are consistently labeled.</p>
Text & Terminology		
Does website avoid using unfamiliar terminology, unclear wording and labeling, or jargon?	<ul style="list-style-type: none"> • 1 or more deficiencies 	<p>The writing is mostly clear, but a definitions or glossary page would be welcomed.</p>

Criteria	Evaluation	Notes
Expectations		
Does the website provide sufficient introduction to the content and functionality of the site?	<ul style="list-style-type: none"> Needs Improvement, Limited 	There is a short introduction on the main page. The About Health Insurance Page describes the programs rather than providing an introduction or background to health insurance issues.
Does consistent navigation and layout allow users to seamlessly navigate different sections of website? Are links differentiated with specific labels to allow users to efficiently navigate through site?	<ul style="list-style-type: none"> Adequate 	
Does the website clearly indicate when linking to an outside URL?	<ul style="list-style-type: none"> No deficiencies observed 	
Organization		
Does homepage showcase content to build interest and guide users? Is important information featured prominently?	<ul style="list-style-type: none"> Adequate 	
Is website organized in such a way as to highlight and provide easy access to the most recent or most relevant data?	<ul style="list-style-type: none"> Adequate 	
Is information throughout the different pages of the website organized in a readily apparent and straightforward way?	<ul style="list-style-type: none"> Needs Improvement, Limited 	The Data can be difficult to locate. Since data are presented by survey, locating a type of data requires knowing which survey it is in. Presenting data by data type in addition to survey type would help.
Page Layout		
Is information organized clearly? Does information appear in order user expects (e.g., alphabetical, numeric)?	<ul style="list-style-type: none"> No deficiencies observed 	
Is page layout (color scheme, navigation options, etc.) consistent throughout website?	<ul style="list-style-type: none"> No deficiencies observed 	
Is page visually optimized? Is text legible? Are there any awkward formatting issues? Does website maximize screen real estate?	<ul style="list-style-type: none"> No deficiencies observed 	The pages resize well. Text is legible. Visual space is well used.
Graphics, Tables, & Icons		
Does website use visual elements to increase user engagement?	<ul style="list-style-type: none"> Needs Improvement, Limited 	There is a lack of visual elements.
Is information in tables and graphics presented clearly?	<ul style="list-style-type: none"> No deficiencies observed 	
Are icons consistent throughout website? Is functionality clear?	<ul style="list-style-type: none"> 1 or more deficiencies 	
Search		
Does search functionality work?	<ul style="list-style-type: none"> Needs Improvement, Limited 	A text box is not available, requiring the search to be performed on a separate page. The search is not restricted to the COG pages.
Is it clear whether search function applies to entire website or single domain?	<ul style="list-style-type: none"> Adequate 	It is apparent from the link that the search includes the entire Census.gov website.

Criteria	Evaluation	Notes
Help		
Is online help useful?	<ul style="list-style-type: none"> Needs Improvement, Limited 	<p>There is a site FAQ, but it only has three Q/As. There are help sections for each of the different programs, but these are technical documentation rather than help. There is no unifying help section.</p>
Is FAQ section organized consistently throughout website?	<ul style="list-style-type: none"> Serious deficiencies, limited 	<p>The FAQ is buried in About Health Insurance, and is not available from the other pages of the site. The help pages are in the methodology branch. The Census.gov wide FAQ is hidden in the Contact Us box.</p>

III. Identify Best Practices and Features on Website

- Labeling of external (government and non-government) websites on the [Related Sites](#) pages
- Use of a 'good bye' page on the external links (e.g., [CDC](#))

45. Population Projections

Test URL: <http://www.census.gov/population/www/projections/index.html>

I. Findability:

Search by Title or Text	Search Terms	Listed Order using Google	Listed Order using Website Search Engine
Title	Population Projections	1	1
Text	Overview National Projections of the United States resident population by age, sex, race, and Hispanic origin.StateProjections of the resident population for each of the 50 states and the District of Columbia by age, sex, race, and Hispanic origin, consistent with the national population projections.	2	0 ¹
Keywords	expected united states residents growth	1 ²	1 ³
¹ No results to query ² 1st Result is national population projections page, main page does not show up within first few pages of search results. ³ 2nd result is population projections page, main page does not show up within first few pages of search results.			

II. Website Evaluation Criteria Adapted From Top Ten Usability Issues at the Census Bureau

Criteria	Evaluation	Notes
Navigation		
Does website provide a single comprehensive navigational system that enables users to access information across topics quickly and efficiently? Do global navigation options appear consistently on all pages of website?	<ul style="list-style-type: none"> • 1 or more deficiencies 	The related links section of the website is linked from the main page but does not appear in the navigation bar.
Does navigation convey the hierarchy of information and facilitate lateral and vertical movement? Does website adequately indicate current location and where current page resides in overall site hierarchy?	<ul style="list-style-type: none"> • Needs improvement, extensive 	The navigation bar does not highlight to show the current location. There are no breadcrumbs.
Do links and target page headings match? Are link labels unique and descriptive? Are links labeled consistently throughout website?	<ul style="list-style-type: none"> • Serious deficiencies, limited 	2008 National Populations Projections Methodology Summary Document -> Methodology: United States Population Projections by Age, Sex, Race, and Hispanic Origin: July 1, 2000-2050 Tables download as excel files without indicating. On the same page, "news release" takes the user to the Census Bureau newsroom.
Text & Terminology		
Does website avoid using unfamiliar terminology, unclear wording and labeling, or jargon?	<ul style="list-style-type: none"> • Serious deficiencies, limited 	" cohort-component method " Additional terminology in the methodology section, for example .

Criteria	Evaluation	Notes
Expectations		
Does the website provide sufficient introduction to the content and functionality of the site?	<ul style="list-style-type: none"> Needs improvement, extensive 	There is very little introductory language on the main page , and the website provides little context throughout.
Does consistent navigation and layout allow users to seamlessly navigate different sections of website? Are links differentiated with specific labels to allow users to efficiently navigate through site?	<ul style="list-style-type: none"> Serious deficiencies, limited 	The National projections links are not distinguishable until you visit the individual pages.
Does the website clearly indicate when linking to an outside URL?	<ul style="list-style-type: none"> No deficiencies observed 	
Organization		
Does homepage showcase content to build interest and guide users? Is important information featured prominently?	<ul style="list-style-type: none"> Needs improvement, extensive 	There is very little text on the main page explaining the content of the website.
Is website organized in such a way as to highlight and provide easy access to the most recent or most relevant data?	<ul style="list-style-type: none"> Needs improvement, extensive 	Even though 2009 data are presented on the main page as the latest data, the 2008 data are more appropriate for users which makes it hard to navigate and find the right data source.
Is information throughout the different pages of the website organized in a readily apparent and straightforward way?	<ul style="list-style-type: none"> Needs improvement, limited 	It would be helpful if the national/state projections and their respective methodologies were better linked to each other.
Page Layout		
Is information organized clearly? Does information appear in order user expects (e.g., alphabetical, numeric)?	<ul style="list-style-type: none"> 1 or more deficiencies 	On the National page, the organization, though chronological, makes it harder to locate the appropriate source of data.
Is page layout (color scheme, navigation options, etc.) consistent throughout website?	<ul style="list-style-type: none"> No deficiencies observed 	
Is page visually optimized? Is text legible? Are there any awkward formatting issues? Does website maximize screen real estate?	<ul style="list-style-type: none"> 1 or more deficiencies 	Main page does not make good use of the page.
Graphics, Tables, & Icons		
Does website use visual elements to increase user engagement?	<ul style="list-style-type: none"> Needs improvement, extensive 	There are no visual elements on the website.
Is information in tables and graphics presented clearly?	<ul style="list-style-type: none"> 1 or more deficiencies 	Some tables are available only as PDF/XLS/CSV, others only as XLS, others only as HTML – there is no standard.
Are icons consistent throughout website? Is functionality clear?	<ul style="list-style-type: none"> 1 or more deficiencies 	Website uses outside link icon but does not use PDF icon.
Search		
Does search functionality work?	<ul style="list-style-type: none"> Adequate 	
Is it clear whether search function applies to entire website or single domain?	<ul style="list-style-type: none"> Needs improvement, extensive 	It is not clear whether the search function applies only to the population projections site or to the entire website.
Help		
Is online help useful?	<ul style="list-style-type: none"> Needs improvement, limited 	It is hard to find the FAQs link – it is called “Questions” at the bottom of each page. The Questions link brings the user to the Census Q&A website
Is FAQ section organized consistently throughout website?	<ul style="list-style-type: none"> No deficiencies observed 	

III. Identify Best Practices and Features on Website

- Website uses the outside link icons.
- Search this site appears as a text field on every page

46. E-Stats

Test URL: <http://www.census.gov/econ/estats/>

I. Findability:

Search by Title or Text	Search Terms	Listed Order using Google	Listed Order using Website Search Engine
Title	E-Stats	1	1
Text	Measuring the Electronic Economy Welcome to E-Stats - the U.S. Census Bureau's Internet site devoted exclusively to "Measuring the Electronic Economy." This site features recent and upcoming releases, information on methodology, and background papers.	1	1
Keywords	internet online electronic economy trade retail manufacturing service wholesale survey shipment sales	0 ¹	0 ²

¹The E-Stats main page was not returned in the 144 results with search restricted to census.gov sites. The second result was the [Measuring the Digital Economy](#) paper. The [About E-Stats](#) page was the 14th result.

²The E-Stats main page was not returned in the 23 results.

II. Website Evaluation Criteria Adapted From Top Ten Usability Issues at the Census Bureau

Criteria	Evaluation	Notes
Navigation		
Does website provide a single comprehensive navigational system that enables users to access information across topics quickly and efficiently? Do global navigation options appear consistently on all pages of website?	<ul style="list-style-type: none"> No deficiencies observed 	The navigation system is robust and consistent throughout the E-Stats pages. Self Referencing Clickability is prevented.
Does navigation convey the hierarchy of information and facilitate lateral and vertical movement? Does website adequately indicate current location and where current page resides in overall site hierarchy?	<ul style="list-style-type: none"> Adequate 	There is a bread crumbs trail which provides location information. Vertical and lateral navigation is aided by the navigation tools.
Do links and target page headings match? Are link labels unique and descriptive? Are links labeled consistently throughout website?	<ul style="list-style-type: none"> 1 or more deficiencies 	Not all links match targets (e.g., Get Forms -> E-Stats Historical Data and Forms; FAQs -> Question and Answer Center). Links are otherwise well labeled.
Text & Terminology		
Does website avoid using unfamiliar terminology, unclear wording and labeling, or jargon?	<ul style="list-style-type: none"> 1 or more deficiencies 	The terminology is complex. The Definitions page would benefit by having the content in html format rather than pdf.

Criteria	Evaluation	Notes
Expectations		
Does the website provide sufficient introduction to the content and functionality of the site?	<ul style="list-style-type: none"> Needs Improvement, Limited 	While the site is simple, it is very limited on explanations regarding its content. Many links directs to other information pages regarding other surveys, without prominently addressing E-Stats.
Does consistent navigation and layout allow users to seamlessly navigate different sections of website? Are links differentiated with specific labels to allow users to efficiently navigate through site?	<ul style="list-style-type: none"> Adequate 	
Does the website clearly indicate when linking to an outside URL?	<ul style="list-style-type: none"> No deficiencies observed 	
Organization		
Does homepage showcase content to build interest and guide users? Is important information featured prominently?	<ul style="list-style-type: none"> Needs Improvement, Limited 	The main page provides the most recent data, but does not provide any content to build interest.
Is website organized in such a way as to highlight and provide easy access to the most recent or most relevant data?	<ul style="list-style-type: none"> Adequate 	The main page provides the most recent data. The other years are easy to locate in Historical Data .
Is information throughout the different pages of the website organized in a readily apparent and straightforward way?	<ul style="list-style-type: none"> Needs Improvement, Limited 	The Historical Data and Forms pages contain the same content and are essentially identical. Otherwise, organization is reasonable.
Page Layout		
Is information organized clearly? Does information appear in order user expects (e.g., alphabetical, numeric)?	<ul style="list-style-type: none"> No deficiencies observed 	
Is page layout (color scheme, navigation options, etc.) consistent throughout website?	<ul style="list-style-type: none"> No deficiencies observed 	Pages are consistent throughout the site.
Is page visually optimized? Is text legible? Are there any awkward formatting issues? Does website maximize screen real estate?	<ul style="list-style-type: none"> 1 or more deficiencies 	The page is visually optimized. The pages resize well. Text is legible. The pages are sparse on content so some areas seem empty.
Graphics, Tables, & Icons		
Does website use visual elements to increase user engagement?	<ul style="list-style-type: none"> Needs Improvement, extensive 	There is a lack of visual elements.
Is information in tables and graphics presented clearly?	<ul style="list-style-type: none"> No deficiencies observed 	
Are icons consistent throughout website? Is functionality clear?	<ul style="list-style-type: none"> 1 or more deficiencies 	
Search		
Does search functionality work?	<ul style="list-style-type: none"> Needs Improvement, Limited 	A text box is not available, requiring the search to be performed on a separate page. The search is not restricted to COG.
Is it clear whether search function applies to entire website or single domain?	<ul style="list-style-type: none"> Adequate 	It is apparent from the link that the search includes the entire Census.gov website.
Help		
Is online help useful?	<ul style="list-style-type: none"> Needs improvement, limited 	The FAQ is in the Census.gov wide FAQ, which has some information regarding E-Commerce.
Is FAQ section organized consistently throughout website?	<ul style="list-style-type: none"> No deficiencies observed 	The FAQs link is available throughout the site.

III. Identify Best Practices and Features on Website

- No best practices identified

47. NAICS

Test URL: <http://www.census.gov/eos/www/naics/>

I. Findability:

Search by Title or Text	Search Terms	Listed Order using Google	Listed Order using Website Search Engine
Title	North American Industry Classification System (NAICS)	1	1
Text	The North American Industry Classification System (NAICS) is the standard used by Federal statistical agencies in classifying business establishments for the purpose of collecting, analyzing, and publishing statistical data related to the U.S. business economy.	1	1
Keywords	U.S. business standard codes	9	3

II. Website Evaluation Criteria Adapted From Top Ten Usability Issues at the Census Bureau

Criteria	Evaluation	Notes
Navigation		
Does website provide a single comprehensive navigational system that enables users to access information across topics quickly and efficiently? Do global navigation options appear consistently on all pages of website?	<ul style="list-style-type: none"> • Serious deficiencies, limited 	The combination of the top and left-hand navigation options encompass the site and appear on every page; however, the left-hand sidebar appears less important even though it contains the actual data on the site. Also, not all component sites are included in navigation, for example .
Does navigation convey the hierarchy of information and facilitate lateral and vertical movement? Does website adequately indicate current location and where current page resides in overall site hierarchy?	<ul style="list-style-type: none"> • Needs improvement, extensive 	There are no breadcrumbs on the site. Current location is not highlighted in navigation bar. You can click navigation links even when you are on the page.
Do links and target page headings match? Are link labels unique and descriptive? Are links labeled consistently throughout website?	<ul style="list-style-type: none"> • Serious deficiencies, limited 	History-> Early Development Documents Some links are vaguely worded, e.g., "Concordances"
Text & Terminology		
Does website avoid using unfamiliar terminology, unclear wording and labeling, or jargon?	<ul style="list-style-type: none"> • No deficiencies observed 	
Expectations		
Does the website provide sufficient introduction to the content and functionality of the site?	<ul style="list-style-type: none"> • Needs improvement, limited 	The website introduces the NAICS system, but does not provide direction to the reader for finding content on the site.
Does consistent navigation and layout allow users to seamlessly navigate different sections of website? Are links differentiated with specific labels to allow users to efficiently navigate through site?	<ul style="list-style-type: none"> • Needs improvement, limited 	It doesn't feel like the links are necessarily organized in order of importance, which makes it harder to navigate the site.
Does the website clearly indicate when linking to an outside URL?	<ul style="list-style-type: none"> • 1 or more deficiencies 	SIC -> U.S. Department of labor

Criteria	Evaluation	Notes
Organization		
Does homepage showcase content to build interest and guide users? Is important information featured prominently?	• Needs improvement, extensive	Website does not showcase content. It is difficult to locate the actual NAICS codes from the main page .
Is website organized in such a way as to highlight and provide easy access to the most recent or most relevant data?	• Needs improvement, extensive	Website does not provide easy access to the data. (The links to 2007 NAICS are in the left-hand navigation bar in very small text rather than in the top navigation bar, and the link names are not self-explanatory).
Is information throughout the different pages of the website organized in a readily apparent and straightforward way?	• Needs improvement, limited	It is not clear why development partners and the Economic Classification Policy Committee are separate websites or at least not linked to each other when they contain similar information. Obtaining actual NAICS codes is not straightforward from the main page.
Page Layout		
Is information organized clearly? Does information appear in order user expects (e.g., alphabetical, numeric)?	• No deficiencies observed	
Is page layout (color scheme, navigation options, etc.) consistent throughout website?	• No deficiencies observed	
Is page visually optimized? Is text legible? Are there any awkward formatting issues? Does website maximize screen real estate?	• No deficiencies observed	
Graphics, Tables, & Icons		
Does website use visual elements to increase user engagement?	• Adequate	
Is information in tables and graphics presented clearly?	• 1 or more deficiencies	In NAICS navigation table , there are no column headings for users unfamiliar with the NAICS classifications. Concordance links table is formatted awkwardly.
Are icons consistent throughout website? Is functionality clear?	• 1 or more deficiencies	Outside website icon is used, but PDF icon is not used.
Search		
Does search functionality work?	• Needs improvement, limited	NAICS searches are useful, but to search entire Census.gov website it is necessary to use search@census link.
Is it clear whether search function applies to entire website or single domain?	• Adequate	
Help		
Is online help useful?	• Adequate	
Is FAQ section organized consistently throughout website?	• No deficiencies observed	

III. Identify Best Practices and Features on Website

- FAQ is contained within website
- NAICS keyword/code searches are useful
- Website effectively uses outside website icon

48. Census in Schools

Test URL: <http://www.census.gov/schools/>

I. Findability:

Search by Title or Text	Search Terms	Listed Order using Google	Listed Order using Website Search Engine
Title	Census in Schools	1	1 ¹
Text	Special thanks go to everyone who supported the efforts of Census in Schools during the past year. Without you as supporting partners we could not have reached 118,000 schools and informed about 56 million students about the importance of the 2010 Census.	1	2 ¹
Keywords	educational lesson teaching materials students activity worksheets maps data	73	0 ²
¹ Results returned through 'Key Match' ² A teaching guide was the first return. The main page was not returned in six results.			

II. Website Evaluation Criteria Adapted From Top Ten Usability Issues at the Census Bureau

Criteria	Evaluation	Notes
Navigation		
Does website provide a single comprehensive navigational system that enables users to access information across topics quickly and efficiently? Do global navigation options appear consistently on all pages of website?	<ul style="list-style-type: none"> No deficiencies observed 	The navigation system is consistent, global and covers the site well.
Does navigation convey the hierarchy of information and facilitate lateral and vertical movement? Does website adequately indicate current location and where current page resides in overall site hierarchy?	<ul style="list-style-type: none"> Adequate 	There are bread crumb trails on each page to indicate location and assist in vertical navigation.
Do links and target page headings match? Are link labels unique and descriptive? Are links labeled consistently throughout website?	<ul style="list-style-type: none"> 1 or more deficiencies 	Links are well labeled. One broken link was found on the For Teachers page: What High School Teachers Need to Know [PDF]
Text & Terminology		
Does website avoid using unfamiliar terminology, unclear wording and labeling, or jargon?	<ul style="list-style-type: none"> No deficiencies observed 	
Expectations		
Does the website provide sufficient introduction to the content and functionality of the site?	<ul style="list-style-type: none"> Adequate 	
Does consistent navigation and layout allow users to seamlessly navigate different sections of website? Are links differentiated with specific labels to allow users to efficiently navigate through site?	<ul style="list-style-type: none"> Adequate 	
Does the website clearly indicate when linking to an outside URL?	<ul style="list-style-type: none"> No deficiencies observed 	

Criteria	Evaluation	Notes
Organization		
Does homepage showcase content to build interest and guide users? Is important information featured prominently?	• Adequate	The main page is well organized, directs users, and describes content.
Is website organized in such a way as to highlight and provide easy access to the most recent or most relevant data?	• Adequate	
Is information throughout the different pages of the website organized in a readily apparent and straightforward way?	• Adequate	
Page Layout		
Is information organized clearly? Does information appear in order user expects (e.g., alphabetical, numeric)?	• No deficiencies observed	
Is page layout (color scheme, navigation options, etc.) consistent throughout website?	• No deficiencies observed	
Is page visually optimized? Is text legible? Are there any awkward formatting issues? Does website maximize screen real estate?	• No deficiencies observed	Pages are visually optimized. Content is focused to limit scrolling.
Graphics, Tables, & Icons		
Does website use visual elements to increase user engagement?	• Adequate	Great visuals throughout.
Is information in tables and graphics presented clearly?	• No deficiencies observed	
Are icons consistent throughout website? Is functionality clear?	• 1 or more deficiencies	
Search		
Does search functionality work?	• Needs Improvement, Limited	
Is it clear whether search function applies to entire website or single domain?	• Adequate	
Help		
Is online help useful?	• Adequate	While there is no online help, there are numerous information and resources within the site.
Is FAQ section organized consistently throughout website?	• Serious deficiencies, limited	There is no link to Census.gov wide FAQs or other help.

III. Identify Best Practices and Features on Website

- Email for updates
- Flash games for kids and teens
- Pages for different audiences (teacher, kids, teens)

49. Genealogy

Test URL: <http://www.census.gov/history/www/reference/genealogy/>
<http://www.census.gov/genealogy/www/index.html>

I. Findability:

Search by Title or Text	Search Terms	Listed Order using Google	Listed Order using Website Search Engine
Title	Genealogy	11 (2 nd page)	1 ¹
Text	Census information and records can be invaluable tools in genealogical research.	1	0 ²
Keywords	U.S. census family history records information	0 ³	3 ⁴
¹ First link goes to genealogy age search page. Main page does not come up within first few pages of search results. ² No results to search query. ³ Website does not come up within first few pages of search results. ⁴ Link is to other resources page. Main page does not come up within first few pages of search results.			

II. Website Evaluation Criteria Adapted From Top Ten Usability Issues at the Census Bureau

Criteria	Evaluation	Notes
Navigation		
Does website provide a single comprehensive navigational system that enables users to access information across topics quickly and efficiently? Do global navigation options appear consistently on all pages of website?	<ul style="list-style-type: none"> • Serious deficiencies, extensive 	There are two genealogy websites – one in the history section of Census.gov and one in the people and households section . The two websites are disconnected and it is difficult to navigate from one to the other.
Does navigation convey the hierarchy of information and facilitate lateral and vertical movement? Does website adequately indicate current location and where current page resides in overall site hierarchy?	<ul style="list-style-type: none"> • Needs improvement, extensive 	The website does not facilitate movement between the history-genealogy website and the people & households-genealogy website. In the history section of the Census Bureau website, it is difficult to return to the genealogy main page from one of the sub-pages .
Do links and target page headings match? Are link labels unique and descriptive? Are links labeled consistently throughout website?	<ul style="list-style-type: none"> • 1 or more deficiencies 	72 year rule -> Legislation 1974-1983
Text & Terminology		
Does website avoid using unfamiliar terminology, unclear wording and labeling, or jargon?	<ul style="list-style-type: none"> • No deficiencies observed 	
Expectations		
Does the website provide sufficient introduction to the content and functionality of the site?	<ul style="list-style-type: none"> • Needs improvement, limited 	The history genealogy page provides a good introduction to the site, but the people & households genealogy page does not do a good job of introducing the functionality of the site.
Does consistent navigation and layout allow users to seamlessly navigate different sections of website? Are links differentiated with specific labels to allow users to efficiently navigate through site?	<ul style="list-style-type: none"> • Needs improvement, extensive 	The two separate genealogy pages make navigation difficult. Navigation within each of the separate websites is straightforward.
Does the website clearly indicate when linking to an outside URL?	<ul style="list-style-type: none"> • Serious deficiencies, limited 	There are many external links on the Other Genealogical Sources page.

Criteria	Evaluation	Notes
Organization		
Does homepage showcase content to build interest and guide users? Is important information featured prominently?	• Needs improvement, extensive	The people and households page does not showcase content. The history page is slightly better but does not provide easy links to the content.
Is website organized in such a way as to highlight and provide easy access to the most recent or most relevant data?	• Needs improvement, extensive	This history page is not organized to provide easy access to data. The people and households page does a better job of providing access to data but does not provide much text to guide the user.
Is information throughout the different pages of the website organized in a readily apparent and straightforward way?	• Needs improvement, extensive	There are two separate genealogy websites, and it is difficult to move between the two.
Page Layout		
Is information organized clearly? Does information appear in order user expects (e.g., alphabetical, numeric)?	• 1 or more deficiencies	On the history page , “other genealogical sources” is listed above “census records” – it seems like it should be the other way around.
Is page layout (color scheme, navigation options, etc.) consistent throughout website?	• No deficiencies observed	Within each separate website, the page layout is consistent, but the two websites have different page layouts.
Is page visually optimized? Is text legible? Are there any awkward formatting issues? Does website maximize screen real estate?	• 1 or more deficiencies	Use of left-hand navigation box is inconsistent.
Graphics, Tables, & Icons		
Does website use visual elements to increase user engagement?	• Needs improvement, limited	History page uses images well, but people and households page does not.
Is information in tables and graphics presented clearly?	• No deficiencies observed	
Are icons consistent throughout website? Is functionality clear?	• 1 or more deficiencies	Website uses outside website icon but not PDF icon.
Search		
Does search functionality work?	• Needs improvement, limited	It is necessary to use the search@census link to conduct a search
Is it clear whether search function applies to entire website or single domain?	• Adequate	
Help		
Is online help useful?	• Needs improvement, limited	History page does not have a FAQ section. People and households page links to Census Q&A site .
Is FAQ section organized consistently throughout website?	• Serious deficiencies, limited	Link to help is not available on every page of the site.

III. Identify Best Practices and Features on Website

- History page makes good use of images.
- The [countdown](#) for the release of 1940 Census records is an interesting feature.

50. International Data Base

Test URL: <http://www.census.gov/ipc/www/idb/>

I. Findability:

Search by Title or Text	Search Terms	Listed Order using Google	Listed Order using Website Search Engine
Title	International Data Base	1	1
Text	Country Rankings Largest countries for any year, 1950 to 2050. World Population Information Global population trends, links to historical population estimates, population clocks, and estimates of population, births, and deaths occurring each year, day, hour, or second.	1	1
Keywords	world countries regions population demographic vital events births deaths migration projection estimation	0 ¹	0 ²
<p>¹The IDB main page was not returned in the first 100 results. The second result was the International Data Base Population Estimates and Projections Methodology [pdf].</p> <p>²The IDB main page was not returned in the 20 results. The second result was the International Data Base Population Estimates and Projections Methodology [pdf].</p>			

II. Website Evaluation Criteria Adapted From Top Ten Usability Issues at the Census Bureau

Criteria	Evaluation	Notes
Navigation		
Does website provide a single comprehensive navigational system that enables users to access information across topics quickly and efficiently? Do global navigation options appear consistently on all pages of website?	• 1 or more deficiencies	The navigation system consisting of the top horizontal bar is fairly useful.
Does navigation convey the hierarchy of information and facilitate lateral and vertical movement? Does website adequately indicate current location and where current page resides in overall site hierarchy?	• Needs Improvement, Limited	There are no bread crumb trails or other tools to designate location. Vertical navigation is impeded. Lateral movement is aided by the navigation tools mentioned above.
Do links and target page headings match? Are link labels unique and descriptive? Are links labeled consistently throughout website?	• No deficiencies observed	Links and target page headings match. Links are labeled
Text & Terminology		
Does website avoid using unfamiliar terminology, unclear wording and labeling, or jargon?	• No deficiencies observed	
Expectations		
Does the website provide sufficient introduction to the content and functionality of the site?	• Needs Improvement, Extensive	There is not any good introduction to the site's content.
Does consistent navigation and layout allow users to seamlessly navigate different sections of website? Are links differentiated with specific labels to allow users to efficiently navigate through site?	• Adequate	The navigation and labeling of links allow for easy navigation.
Does the website clearly indicate when linking to an outside URL?	• No deficiencies observed	

Criteria	Evaluation	Notes
Organization		
Does homepage showcase content to build interest and guide users? Is important information featured prominently?	• Needs Improvement , Limited	The main tools are featured prominently but not well showcased. More introduction/background/description would be useful.
Is website organized in such a way as to highlight and provide easy access to the most recent or most relevant data?	• Adequate	
Is information throughout the different pages of the website organized in a readily apparent and straightforward way?	• Adequate	
Page Layout		
Is information organized clearly? Does information appear in order user expects (e.g., alphabetical, numeric)?	• No deficiencies observed	
Is page layout (color scheme, navigation options, etc.) consistent throughout website?	• No deficiencies observed	
Is page visually optimized? Is text legible? Are there any awkward formatting issues? Does website maximize screen real estate?	• 1 or more deficiencies	There are often unused spaces in the pages due in part to a lack of content and lack of formatting. Text is legible. Pages resize well.
Graphics, Tables, & Icons		
Does website use visual elements to increase user engagement?	• Needs Improvement, extensive	While some graphs are generated using Data Access, there is otherwise a lack of images.
Is information in tables and graphics presented clearly?	• No deficiencies observed	
Are icons consistent throughout website? Is functionality clear?	• 1 or more deficiencies	
Search		
Does search functionality work?	• Adequate	There is a textbox available from all pages. The search is not restricted to the IDB site.
Is it clear whether search function applies to entire website or single domain?	• Needs Improvement, Limited	“Search this site” could be interpreted as just IDB or Census.gov.
Help		
Is online help useful?	• Adequate	
Is FAQ section organized consistently throughout website?	• Serious deficiencies, limited	The FAQ is available, but only from the main page.

III. Identify Best Practices and Features on Website

- Modern data access forms and tables

51. U.S. and World Population Clocks

Test URL: <http://www.census.gov/main/www/popclock.html>

I. Findability:

Search by Title or Text	Search Terms	Listed Order using Google	Listed Order using Website Search Engine
Title	U.S. & World Population Clocks	1	1
Text	Population clocks on the US Census Bureau's Web site will update continuously for one minute and then will update once per minute after the first minute a web page is displayed.	1	1
Keywords	current number people in nation	1	0 ¹

¹Website does not appear within first few pages of search results

II. Website Evaluation Criteria Adapted From Top Ten Usability Issues at the Census Bureau

Criteria	Evaluation	Notes
Navigation		
Does website provide a single comprehensive navigational system that enables users to access information across topics quickly and efficiently? Do global navigation options appear consistently on all pages of website?	<ul style="list-style-type: none"> • Serious deficiencies, extensive 	There is no navigation system.
Does navigation convey the hierarchy of information and facilitate lateral and vertical movement? Does website adequately indicate current location and where current page resides in overall site hierarchy?	<ul style="list-style-type: none"> • Needs improvement, limited 	One page does not have breadcrumbs and seems like it exists in a different hierarchy.
Do links and target page headings match? Are link labels unique and descriptive? Are links labeled consistently throughout website?	<ul style="list-style-type: none"> • No deficiencies observed 	
Text & Terminology		
Does website avoid using unfamiliar terminology, unclear wording and labeling, or jargon?	<ul style="list-style-type: none"> • No deficiencies observed 	
Expectations		
Does the website provide sufficient introduction to the content and functionality of the site?	<ul style="list-style-type: none"> • Needs improvement, extensive 	There is no introduction on the main page , and in general the website provides very little background information.
Does consistent navigation and layout allow users to seamlessly navigate different sections of website? Are links differentiated with specific labels to allow users to efficiently navigate through site?	<ul style="list-style-type: none"> • Needs improvement, limited 	The World Popclock page is in a different section of the Census.gov website, which is jarring since the U.S. Popclock is contained within the site.
Does the website clearly indicate when linking to an outside URL?	<ul style="list-style-type: none"> • 1 or more deficiencies 	World Popclock is in a different section of the Census.gov website.
Organization		
Does homepage showcase content to build interest and guide users? Is important information featured prominently?	<ul style="list-style-type: none"> • Adequate 	
Is website organized in such a way as to highlight and provide easy access to the most recent or most relevant data?	<ul style="list-style-type: none"> • Adequate 	
Is information throughout the different pages of the website organized in a readily apparent and straightforward way?	<ul style="list-style-type: none"> • Adequate 	

Criteria	Evaluation	Notes
Page Layout		
Is information organized clearly? Does information appear in order user expects (e.g., alphabetical, numeric)?	• No deficiencies observed	
Is page layout (color scheme, navigation options, etc.) consistent throughout website?	• Serious deficiencies, limited	World Popclock page has a different layout because it is located in a different section of the Census website.
Is page visually optimized? Is text legible? Are there any awkward formatting issues? Does website maximize screen real estate?	• 1 or more deficiencies	The text below the popclock could be formatted to better emphasize/deemphasize important/unimportant text.
Graphics, Tables, & Icons		
Does website use visual elements to increase user engagement?	• Needs improvement, extensive	There are few visual elements on the website.
Is information in tables and graphics presented clearly?	• No deficiencies observed	
Are icons consistent throughout website? Is functionality clear?	• 1 or more deficiencies	Website does not use icons.
Search		
Does search functionality work?	• Needs improvement, limited	It is necessary to use the search@census link, except on the world popclock page.
Is it clear whether search function applies to entire website or single domain?	• Adequate	
Help		
Is online help useful?	• Needs improvement, extensive	There are no links to help on the website.
Is FAQ section organized consistently throughout website?	• Serious deficiencies, extensive	There is no access to help on the website.

III. Identify Best Practices and Features on Website

- The relevant information (population) is easy to locate and is emphasized on the website.
- It is useful that the page automatically updates.

52. Population Projections - Population Pyramids

(alt: U.S. Population Pyramids; National Population Pyramids)

Test URL: <http://www.census.gov/population/www/projections/natchart.html>

I. Findability:

Search by Title or Text	Search Terms	Listed Order using Google	Listed Order using Website Search Engine
Title	Population Projections – Population Pyramids	1	1
Text	Population Pyramids Total Resident Population of the United States by Sex, Middle Series: July 1, 1990 GIF (34k) PDF (4k) July 1, 2000	1	1
Keywords	united states national resident sex age	0 ¹	0 ¹

¹The [natchart.html](http://www.census.gov/population/www/projections/natchart.html) page was not returned in the first 100 results.

II. Website Evaluation Criteria Adapted From Top Ten Usability Issues at the Census Bureau

Criteria	Evaluation	Notes
Navigation		
Does website provide a single comprehensive navigational system that enables users to access information across topics quickly and efficiently? Do global navigation options appear consistently on all pages of website?	<ul style="list-style-type: none"> • Serious deficiencies, limited 	The navigation tools belong to the root site: U.S. Population Projections . Since there are only pdf and gif files attached to this page, these have no navigation options. However, I cannot find a way to access the natchart.html page from the root pages.
Does navigation convey the hierarchy of information and facilitate lateral and vertical movement? Does website adequately indicate current location and where current page resides in overall site hierarchy?	<ul style="list-style-type: none"> • Needs Improvement, extensive 	There are no bread crumbs trails.
Do links and target page headings match? Are link labels unique and descriptive? Are links labeled consistently throughout website?	<ul style="list-style-type: none"> • 1 or more deficiencies 	The natchart.html page has a page title of Population Pyramids – Population Projection, but the page header states National Population Pyramids.
Text & Terminology		
Does website avoid using unfamiliar terminology, unclear wording and labeling, or jargon?	<ul style="list-style-type: none"> • No deficiencies observed 	
Expectations		
Does the website provide sufficient introduction to the content and functionality of the site?	<ul style="list-style-type: none"> • Needs Improvement, Limited 	There is no introduction or background
Does consistent navigation and layout allow users to seamlessly navigate different sections of website? Are links differentiated with specific labels to allow users to efficiently navigate through site?	<ul style="list-style-type: none"> • Adequate 	
Does the website clearly indicate when linking to an outside URL?	<ul style="list-style-type: none"> • No deficiencies observed 	

Criteria	Evaluation	Notes
Organization		
Does homepage showcase content to build interest and guide users? Is important information featured prominently?	• Needs Improvement , Limited	There is no showcasing of content. The links to the data are simply presented.
Is website organized in such a way as to highlight and provide easy access to the most recent or most relevant data?	• Adequate	The page does provide clear links to the data.
Is information throughout the different pages of the website organized in a readily apparent and straightforward way?	• Adequate	
Page Layout		
Is information organized clearly? Does information appear in order user expects (e.g., alphabetical, numeric)?	• No deficiencies observed	
Is page layout (color scheme, navigation options, etc.) consistent throughout website?	• No deficiencies observed	
Is page visually optimized? Is text legible? Are there any awkward formatting issues? Does website maximize screen real estate?	• No deficiencies observed	For the single webpage, there are no issues. Regarding the graphs, see below.
Graphics, Tables, & Icons		
Does website use visual elements to increase user engagement?	• Adequate	
Is information in tables and graphics presented clearly?	• Serious deficiencies, limited	The gif files are too small. For both the gif and pdf, the headings are too small to read.
Are icons consistent throughout website? Is functionality clear?	• 1 or more deficiencies	
Search		
Does search functionality work?	• Needs Improvement, Limited	There are two search options. The more prominent "Search this Site" text box search provides results lacking the URL, which makes the search significantly less useful. The link to Search@Census provides the standard Census.gov search.
Is it clear whether search function applies to entire website or single domain?	• Needs Improvement, Limited	While the Search@Census is apparent that it is Census Bureau wide, the "Search this Site" erroneously appears to be just for the Population site.
Help		
Is online help useful?	• Needs Improvement, Extensive	No online help links are available
Is FAQ section organized consistently throughout website?	• Serious deficiencies, extensive	No FAQ links are available

III. Identify Best Practices and Features on Website

Continuously updating clock