

Seven Steps to Creating an Accessible Excel Worksheet



Disability Access Services

About Disability Access Services

Centralized Resource and Information on Disability Access

Disability Access Services provides technical assistance and informational guidance to promote the civil rights and equality for persons with disabilities in the following areas:

Employment
Reasonable Accommodation
Physical Access of built environments
Access to private sector goods and services
Digital Access of electronic and information technology
Access to government programs, services, and activities

[Disability Access Services Website](http://www.dor.ca.gov/disabilityaccessinfo)

www.dor.ca.gov/disabilityaccessinfo

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Promoting an Accessible Future through Education and Information

Seven Steps to Creating an Accessible Excel Document

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Alternative Formats

In accordance with ADA requirements, this document can be made available in Braille or large print as a reasonable accommodation for an individual with a disability. To request a copy of alternative formats, please contact Disability Access Services.

Equal Opportunity Employer/Program

A Note About Hyperlinks in This Document

All links in this document have been created with meaningful text. The Uniform Resource Locator (URL) is also published to be available as a resource for those persons who print the document. The URL addresses that are spelled out in the document are not active links to avoid the confusion of presenting duplicate links.

Introduction

It is estimated that up to 4% of the population relies on some sort of Assistive Technology to access electronic documents and Web pages. Assistive Technology includes; Screen Reading software, Refreshable Braille displays, and Screen Magnifiers. In the United States alone that equals 12.5 million people. If electronic documents are not created with accessibility issues in mind, they become very difficult if not impossible to read or navigate for this large number of people.

Accessibility to electronic documents is a right that is protected by both Federal and State law. Creating accessible electronic documents is important to ensure access to persons with disabilities and the company or agency is protected against legal action. Additionally, it is just good business, when a very large segment of the population can equally participate and take advantage of the products or services that the company or agency provides.

Disability Access Services of California Department of Rehabilitation has put together this list of seven easy steps to follow when creating Excel documents. Take a few moments to be acquainted with these seven simple steps to ensure that Excel documents are fully accessible to everyone. These steps are explained utilizing Microsoft Excel 2007 and 2010. The Menu map of other versions of Microsoft Excel may be different.

A Note About Excel and Section 508

Excel files must be Section 508 compliant or the content contained made accessible through accommodation. The application of the Excel standard will be dependent upon the purpose of the Excel file.

If the purpose of the Excel worksheet is to present a data set, the Excel file should be presented on the internet as a Comma Separated Value (CSV) file and not as an xls file. The link must clearly state that the CSV is a raw data set. A separate data definition document must accompany all CSV files. An Excel data set that would be presented as a CSV has the following characteristics:

- A single row of headings in the first row.
- The data set contains no formulas.

Rationale

Excel is a widely used/distributed application used by both the general public and business. While most site visitors have the full Microsoft Excel program, which is 508 compliant, the free Microsoft Excel downloadable reader is not compliant.

Exemptions

Excel files may be granted an accommodations waiver when files contain program modules and macros developed to perform automated analysis or to draw in data sets from external or legacy databases.

Sources

[Section 508 Website](http://www.section508.gov)

www.section508.gov

[Access Board Website](http://www.access-board.gov/508.htm)

www.access-board.gov/508.htm

Step One: Add Alternative Text to Images and Objects

Images, Charts and Graphics included in a worksheet need to have alternative text. Otherwise these items will not be perceived, nor properly understood by persons who have visual disabilities.

Alternative text is read by screen readers allowing the content and function of these images, charts or graphics to be accessible to those with visual or certain cognitive disabilities.

To add alternative text (Alt text) to an image, chart or graphic – **Right Click** (Shift+F10) on the image, click **Format**, choose **Alt Text**.

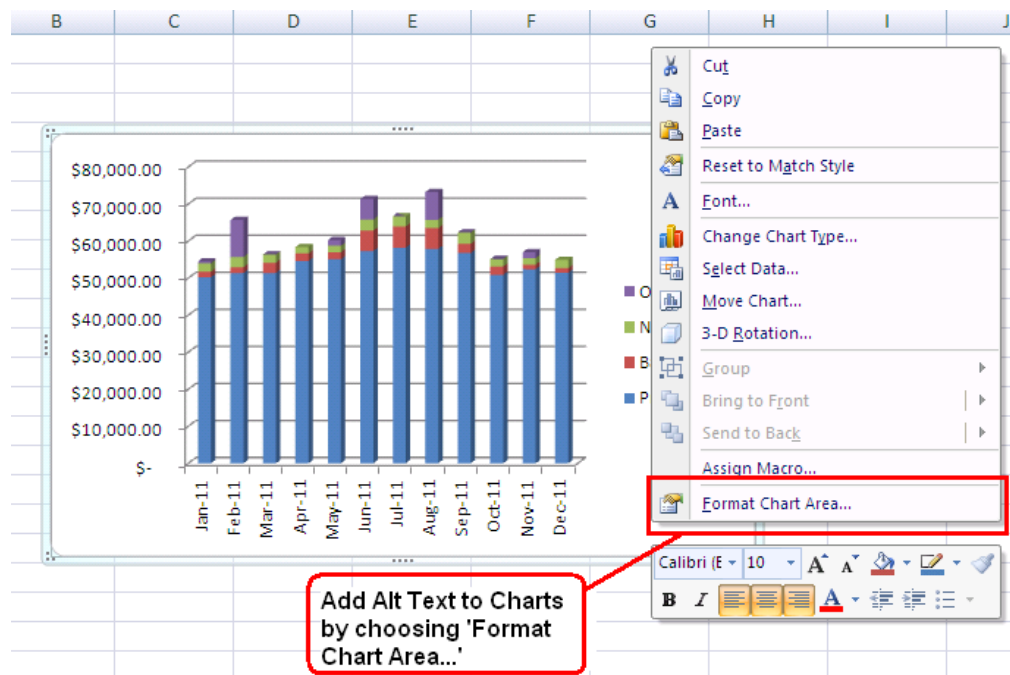


Figure 1: Graphic showing the Alt Text tab of the Size menu.

Type a description into the **Title** and **Description** boxes. When finished, click **Close**.

Add Alternative Text to a Table

Beginning with Microsoft Office 2010 alternative text can be added to Tables in Excel.

First **Right Click** (Shift+F10) anywhere within the table. Select **Table**, then **Alternative Text**.

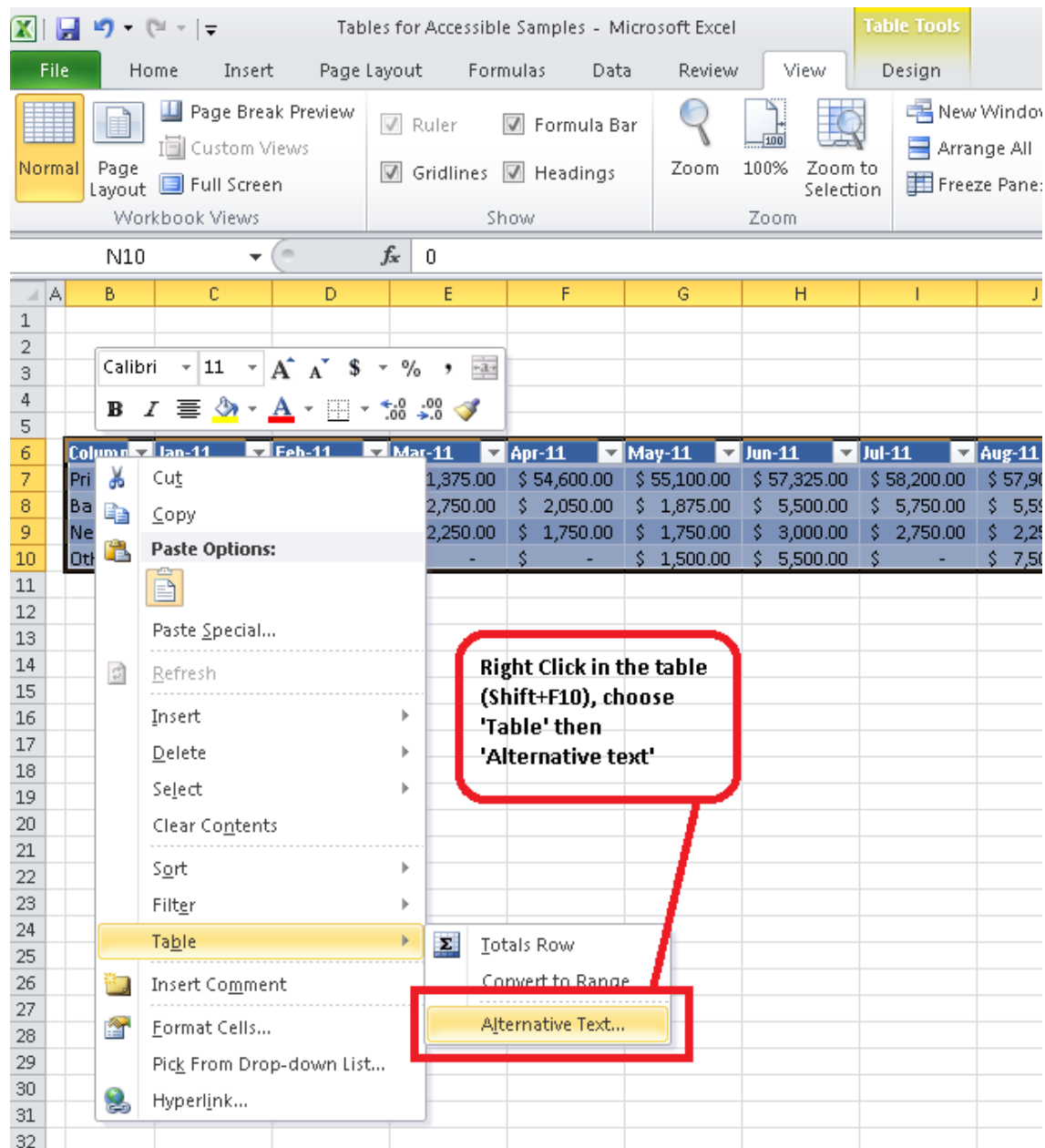


Figure 2: Drop down menu after right clicking on Table.

When the Alternative Text dialog box appears, fill in both the **Title** and **Description** boxes. Then click **OK**.

The screenshot shows an Excel spreadsheet with the following data:

	J	K	L	M	N	O	P	Q
1								
2								
3								
4								
5								
6	Aug-11	Sep-11	Oct-11					
7	\$ 57,900.00	\$ 56,780.00	\$ 50,850.00					
8	\$ 5,590.00	\$ 2,525.00	\$ 2,250.00					
9	\$ 2,250.00	\$ 3,000.00	\$ 2,050.00					
10	\$ 7,500.00	\$ -	\$ -					
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								

The 'Alternative Text' dialog box is open, showing the following text:

Alternative Text

Title
Actual advertising sales numbers for all products, 2011

Description
Table showing sales totals by month in 2011 for Print, Banners, Newsletters and all Other products.

Titles and descriptions provide alternative, text-based representations of the information contained in tables. This information is useful for people with vision or cognitive impairments who may not be able to see or understand the table.

A title can be read to a person with a disability and is used to determine whether they wish to hear the description of the content.

OK Cancel

Add Title and Description text for the table.

Figure 3: Alternative Text dialog box.

Step Two: Specify Column Header Info in Tables

Having clear column headings can help provide context and assist navigation of the table's contents.

To specify a header row in a new block of cells:

1. Highlight the cells to be included in the table.
2. On the **Insert** tab, in the **Tables** group, click **Table**.
3. Select the **My table has headers** check box.
4. Click **OK**.

The screenshot shows the Microsoft Excel interface. The 'Insert' tab is selected, and the 'Table' button in the 'Tables' group is highlighted. A data range is selected, and the 'Create Table' dialog box is open. The dialog box shows the data range '\$B\$90:\$N\$94' and the 'My table has headers' checkbox is checked. The data table is shown below the dialog box.

	Jan-11	Feb-11	Mar-11	Apr-11	May-11	Jun-11	Jul-11	Aug-11	Sep-11	Oct-11	Nov-11	Dec-11
Print	\$ 50,250.00	\$ 51,375.00	\$ 51,375.00	\$ 54,600.00	\$ 55,100.00	\$ 57,325.00	\$ 58,200.00	\$ 57,900.00	\$ 56,780.00	\$ 50,850.00	\$ 52,375.00	\$ 51,400.00
Banners	\$ 1,500.00	\$ 1,550.00	\$ 2,750.00	\$ 2,050.00	\$ 1,875.00	\$ 5,500.00	\$ 5,750.00	\$ 5,590.00	\$ 2,525.00	\$ 2,250.00	\$ 1,275.00	\$ 1,275.00
Newslett	\$ 2,250.00	\$ 2,750.00	\$ 2,250.00	\$ 1,750.00	\$ 1,750.00	\$ 3,000.00	\$ 2,750.00	\$ 2,250.00	\$ 3,000.00	\$ 2,050.00	\$ 1,775.00	\$ 2,250.00
Other	\$ 500.00	\$ 10,000.00	\$ -	\$ -	\$ 1,500.00	\$ 5,500.00	\$ -	\$ 7,500.00	\$ -	\$ -	\$ 1,550.00	\$ -

Figure 4: Image showing steps to adding a Header row in a Table.

Because Excel knows that all Tables have to have a Header row, it will automatically add one. If you don't check the **My table has headers** check box the row immediately above your table will be assigned as the Header row.

Step Three: Create Meaningful Hyperlink Text

Hyperlink text provides a clear description of the link destination, rather than providing either the Uniform Resource Locator (URL) or simply words such as, Click Here. People who utilize screen reading software can navigate by going from link to link. Meaningful text enables them to know what each link is for, and where it will take them.

To add a hyperlink to a table:

1. Place the cursor in the cell where the hyperlink is to be added.
2. In the **Insert** tab, in the **Links** group, click on **Hyperlink** and a dialog box will open.
3. In the **Text to Display** box, type in the name or phrase that briefly describes the link destination. (If the content is numeric, the Text to Display box will remain blank. See the next section on Screen Tips).
4. In the **Address box**, type the URL. Click **OK**

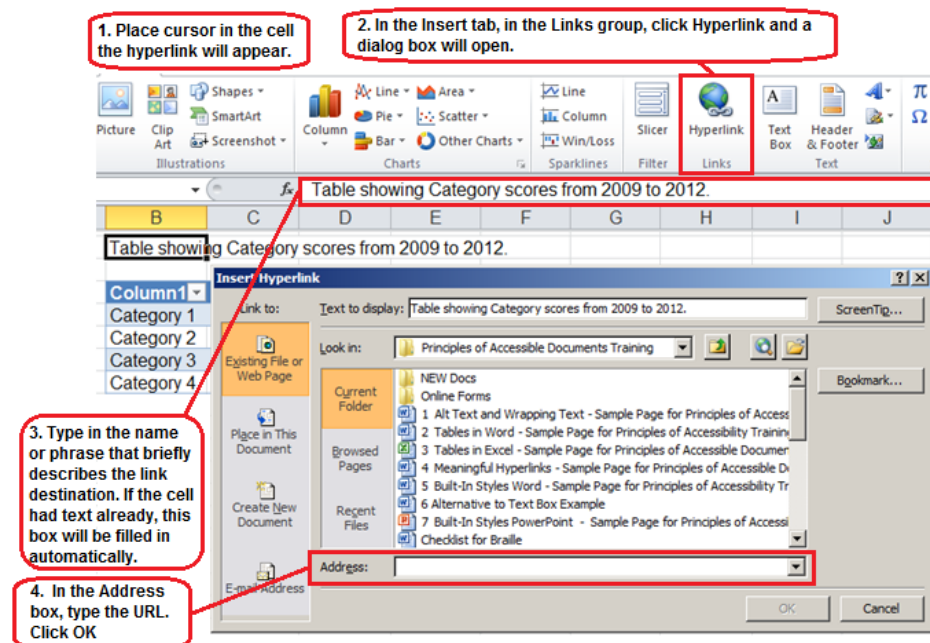


Figure 5: Image showing the steps to create more meaningful hyperlink text.

To change the text of a hyperlink:

1. Select the link, and then, on the **Insert** tab, in the **Links** group, click **Hyperlink** to open the **Insert hyperlink** dialog box.
2. In the **Text to display** box, make any necessary changes to the text. If cell data is numeric, this box will remain blank (See next section on Screen Tips).
3. Click **OK**.

ScreenTips

Another option in Excel is to add a ScreenTip to a hyperlink. When focusing on a cell that includes a hyperlink, a Screen Reader will read the ScreenTip in a similar way it reads Alt Text. This is a helpful way to make hyperlinks more meaningful, especially when dealing with numbers in an Excel Worksheet and not text.

To add a ScreenTip:

1. Place focus in the cell with the hyperlink
2. On the **Insert** tab, in the **Links** group, click **Hyperlink** to open the **Hyperlink** dialog box
3. Click **ScreenTip**
4. Type text in the **ScreenTip text** box
5. Click **OK**

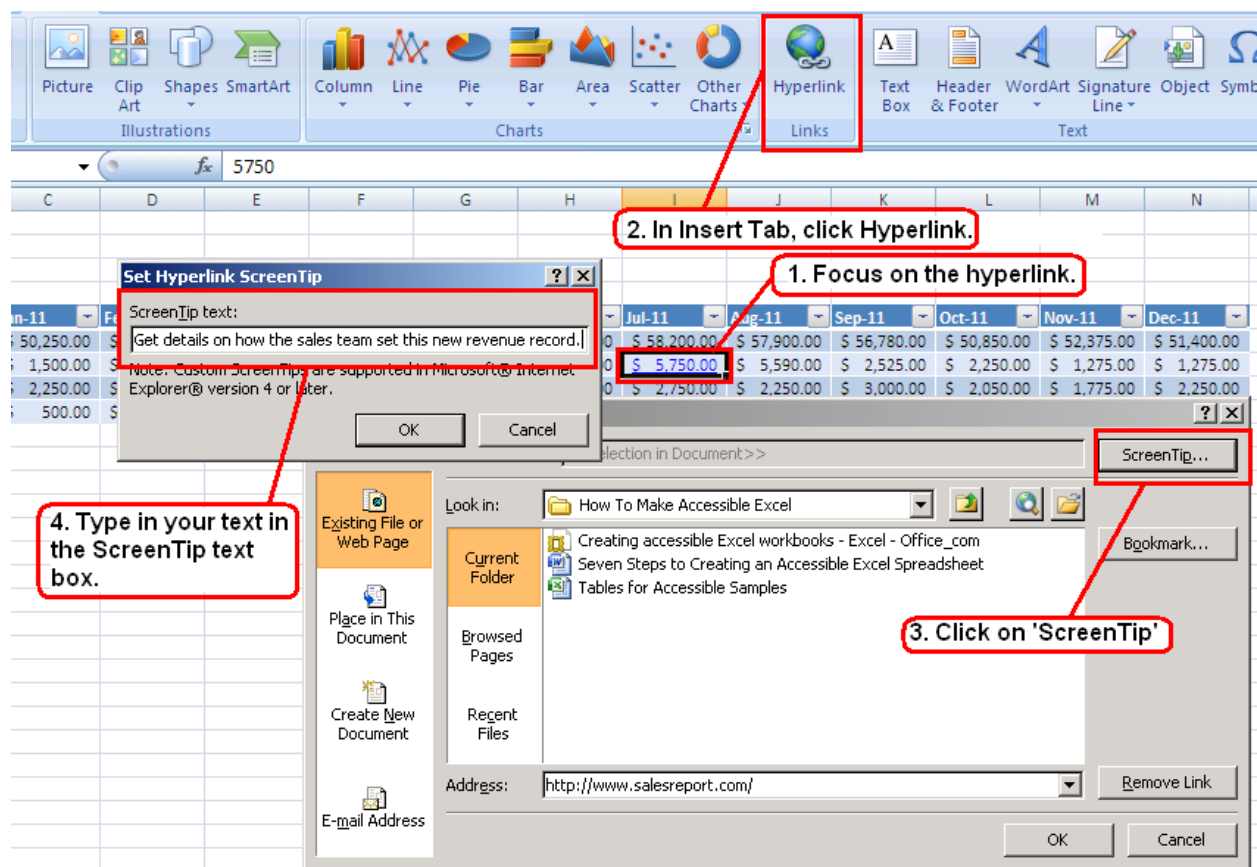


Figure 6: Image showing the steps to creating ScreenTips.

Step Four: Other Construction Considerations

Avoid Blank Cells, Rows and Columns

When navigating by keyboard a blank row, column or cell within an Excel worksheet might lead someone to believe there is nothing more in the table. If any blank rows and columns are not necessary, consider deleting them. If they are not on the edges of the table, or they will be filled in later with data, enter text explaining that they are blank. Some examples of appropriate filler are; N/A, or Intentionally Blank.

HINT: Since Screen Readers do not announce the color or the size of text, you can make your fillers the same color as the table background. Doing this will essentially make them invisible to people who have the ability to see the table, but will still provide helpful context for those who are using screen reading software.

Do Not Merge or Split Cells

Merging or Splitting cells can make navigating Excel tables with Assistive Technologies very difficult if not impossible. Always keep your tables straightforward and simple and avoid this practice.

Step Five: Give All Sheet Tabs Unique Names

Sheet names in an Excel file should be unique and provide information about what can be found on the worksheet. Unique sheet names make it easier to navigate through a workbook.

To rename a sheet:

1. **Right Click** (Shift+F10) the sheet tab, and then click **Rename**.
2. Type a brief, unique name that is descriptive of the sheet contents.

Any blank sheets in a workbook should be deleted.

To delete a sheet:

1. **Right Click** (Shift+F10) the sheet tab, and then click **Delete**.

Step Six: Include Alternate Formats for Multimedia

If any audio or video components are included in the worksheet, ensure that the content is available in alternative formats for users with disabilities, such as captions, audio descriptions and transcripts.

Step Seven: Check Accessibility

Perform a test of the document's accessibility prior to distributing it either via email or by posting it to the internet. Use a screen reader such as JAWS, NVDA, Window-Eyes, etc. Preferably, develop an Accessibility Testing team of persons experienced at using Assistive Technologies.

Microsoft Excel 2010 also has a built-in accessibility feature. However, do not rely on machine testing alone to test for accessibility.

To access the Accessibility Checker in Microsoft Excel 2010: In the File tab, click on Info, Check for Issues, and then Check Accessibility.

If navigating by Keyboard - Alt, F, I, I

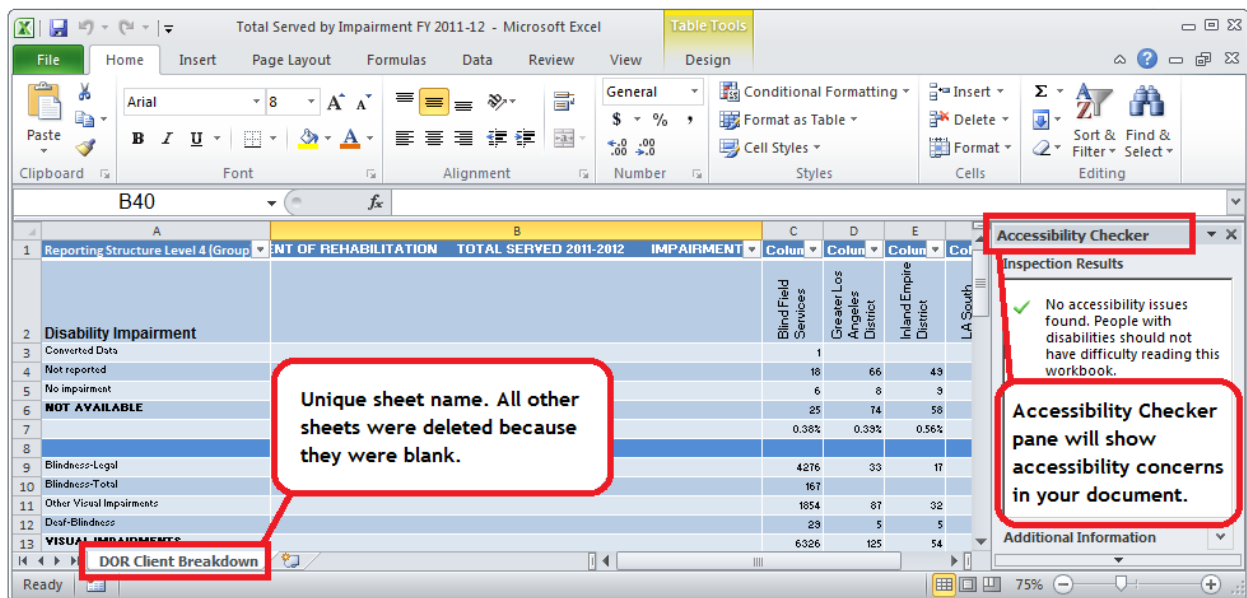


Figure 7: Excel 2010 Accessibility Checker screen display.

References/More Resources

[Creating Accessible Excel Workbooks](http://office.microsoft.com/en-us/excel-help/creating-accessible-excel-workbooks-HA102013545.aspx)

<http://office.microsoft.com/en-us/excel-help/creating-accessible-excel-workbooks-HA102013545.aspx>

[Accessibility Features in Excel](https://support.office.com/en-us/article/Accessibility-Features-in-Microsoft-Office-2010-324104a6-4736-4dc0-b930-197aa4ec76c6)

<https://support.office.com/en-us/article/Accessibility-Features-in-Microsoft-Office-2010-324104a6-4736-4dc0-b930-197aa4ec76c6>

[Accessible \(508\) Excel Presentations](http://webstandards.hhs.gov/standards/3)

<http://webstandards.hhs.gov/standards/3>

[The California State University: Microsoft Excel Accessibility Resources](http://teachingcommons.cdl.edu/access/docs_multi/Excel_Resources.shtml)

http://teachingcommons.cdl.edu/access/docs_multi/Excel_Resources.shtml

[Office of the Governor, State of Texas](http://gov.texas.gov/disabilities/accessibledocs)

<http://gov.texas.gov/disabilities/accessibledocs>

[Add Alt Text to an Image, Object or Table.](http://office.microsoft.com/en-us/excel-help/add-alternative-text-to-a-shape-picture-chart-table-smartart-graphic-or-other-object-HA010354748.aspx)

<http://office.microsoft.com/en-us/excel-help/add-alternative-text-to-a-shape-picture-chart-table-smartart-graphic-or-other-object-HA010354748.aspx>

[Adding Column Header Information](http://office.microsoft.com/en-us/excel-help/turn-excel-table-headers-on-or-off-HA010062136.aspx)

<http://office.microsoft.com/en-us/excel-help/turn-excel-table-headers-on-or-off-HA010062136.aspx>

For more information and technical assistance
contact the [Disability Access Services](#)

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