



Section 508 Digital Accessibility

Preparing Research Documents for Online
Publication and Dissemination



- Assumes RTI's *University Handbook* is followed
- Not targeted at accessibility experts
- Focused on Word files converted to PDF
- Covers only a few severe issues that are the most time-consuming to fix in the final PDF
- Examples based on Windows, not Mac version of Word

1. Why Section 508 accessibility compliance is required
2. Why it is necessary to address accessibility during the writing phase
3. How to check and create navigation landmarks and structure with headings (Bonus: timesaving benefits)
4. How to create alternative text (alt-text) to describe images
5. How to create tables that flow across page breaks and can be read correctly by screen readers

Background

ADA

Americans with
Disabilities Act



An official website of the United States government [Here's how you know](#)

 THE UNITED STATES
DEPARTMENT OF JUSTICE

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JUSTICE NEWS

Department of Justice
Office of Public Affairs

FOR IMMEDIATE RELEASE Friday, March 18, 2022

Justice Department Issues Web Accessibility Guidance Under the Americans with Disabilities Act

The Department of Justice published guidance today on web accessibility and the Americans with Disabilities Act (ADA). It explains how state and local governments (entities covered by ADA Title II) and businesses open to the public (entities covered by ADA Title III) can make sure their websites are accessible to people with disabilities in line with the ADA's requirements.


The guidance discusses a range of topics, including the importance of web accessibility, barriers that inaccessible websites create for some people with disabilities, when the ADA requires web content to be accessible, tips on making web content accessible and other information and resources. The guidance offers plain language and user-friendly explanations to ensure that it can be followed by people without a legal or technical background.

"We have heard the calls from the public on the need for more guidance on web accessibility, particularly our agency's."

RELATED LINKS

- Speeches and Press Releases
- Videos
- Photos
- Blogs
- Podcasts

The latest general information on the Coronavirus Disease 2019 (COVID-19) is available on [Coronavirus.gov](#). For USDOT specific COVID-19 resources, please visit our page.

 U.S. Department of Transportation

ABOUT DOT PRIORITIES CONNECT

Home / DRIC

Section 508

Overview

Section 508 establishes requirements for electronic and information technology developed, maintained, procured, or used by the Federal government. Section 508 requires Federal electronic and information technology to be accessible to people with disabilities, including employees and members of the public.

About Section 508

An accessible information technology system is one that can be operated in a variety of ways and does not rely on a single sense or ability of the user. For example, a system that provides information only in visual format may not be accessible to people with visual impairments and a system that provides information only in audio format may not be accessible to people who are deaf or hard of hearing. Some individuals with disabilities may need accessibility-related software or peripheral devices in order to use systems. Section 508 requires systems to work with the accessibility-related solutions.

Section 508 applies to a broad variety of electronic and information technology (E&IT) including:

- web pages and internet or intranet based services and applications;
- software and applications (off-the-shelf and custom developed);

Related Links

- CSA Office of Government-wide

Disability Resource Center

- [Request an Interpreter](#)
- [Accommodation Requests](#)
- [Personal Assistance as a Reasonable Accommodation](#)
- [Employment of People with Disabilities](#)
- [About Us](#)
- [Handbook](#)
- [Document Library](#)
- [Success Stories](#)

- TGC 2054.451

- 1 TAC 206

- 1 TAC 213

The screenshot shows the DIR website with a blue header. The header includes the DIR logo, the text 'Texas Department of Information Resources', and navigation links for 'About DIR', 'Careers', 'News', 'Events', and a 'SIGN IN' button. Below the header is a dark blue navigation bar with links for 'IT Solutions and Services', 'Policy and Guidance', 'Resource Library', and a user selection dropdown. A search bar is also present. The main content area has a breadcrumb 'Home >' and a title 'Electronic Information Resources (EIR) Accessibility'. The text explains the goal of improving EIR accessibility for all Texans and provides contact information for the Statewide EIR Accessibility Program Administrator at statewideaccessibility@dir.texas.gov. It also mentions that persons with difficulty accessing state websites should contact the specific agency hosting the website. At the bottom, there is a section titled 'EIR Accessibility Quick Links' with three buttons: 'EIR Accessibility Roles and Responsibilities', 'EIR Accessibility Coordinator', and 'EIR Accessibility Tools, Training, and Tutorials', each with a right-pointing arrow.

RULE §206.70

- TGC 2054.451

“Effective April 18, 2020... all new or changed web pages must comply with...

- 1 TAC 206

(1) ...US Section 508 Appendix C Chapter 7 §702.10 (WCAG 2.0 Level AA excluding Guideline 1.2 Time Based Media)

- 1 TAC 213

(2) The standards and specifications described in this section; and

(3) the standards and specifications applicable to a state agency's accessibility policy described in §213.41 of this title.

University web accessibility policies



The University of Texas
Rio Grande Valley



TEXAS
STATE
UNIVERSITY



PRAIRIE VIEW
A&M UNIVERSITY

UNT
UNIVERSITY
OF NORTH TEXAS



TEXAS
The University of Texas at Austin



TEXAS SOUTHERN UNIVERSITY



TEXAS A&M
UNIVERSITY
KINGSVILLE

TEXAS A&M
NRI
NATURAL RESOURCES INSTITUTE

UTSA
The University of Texas
at San Antonio

Section 2 Principal Investigator Responsibilities

Project Work

The Principal Investigator has the primary responsibility to TxDOT for the conduct and completion of all project tasks and work. The Principal Investigator manages and oversees the entire research team, including all researchers on joint university projects, and all subcontractors, to ensure project work is consistent with the Work Plan in the Project Agreement.

Deliverables

The Principal Investigator is responsible for seeing that all required deliverables meet TxDOT's standards and are delivered in a timely manner. Deliverables shall be submitted electronically to RTIMAIN@txdot.gov, copying the RTI PM. RTI encourages the Principal Investigator to seek assistance from other University personnel, including professional editors, to help meet TxDOT's standards for quality and timeliness of deliverables. All outputs from projects shall conform to the Web Content Accessibility Guidelines ([WCAG](#)) requirements to meet [Section 508](#) compliance.

“All outputs from projects shall conform to the Web Content Accessibility Guidelines ([WCAG](#)) requirements to meet [Section 508](#) compliance.”

–*University Handbook*, Chapter 5-3



“Laws and programs designed to benefit vulnerable groups, such as the disabled or people of color, often end up benefiting all of society.”

--Angela Glover Blackwell, civil rights advocate and attorney.

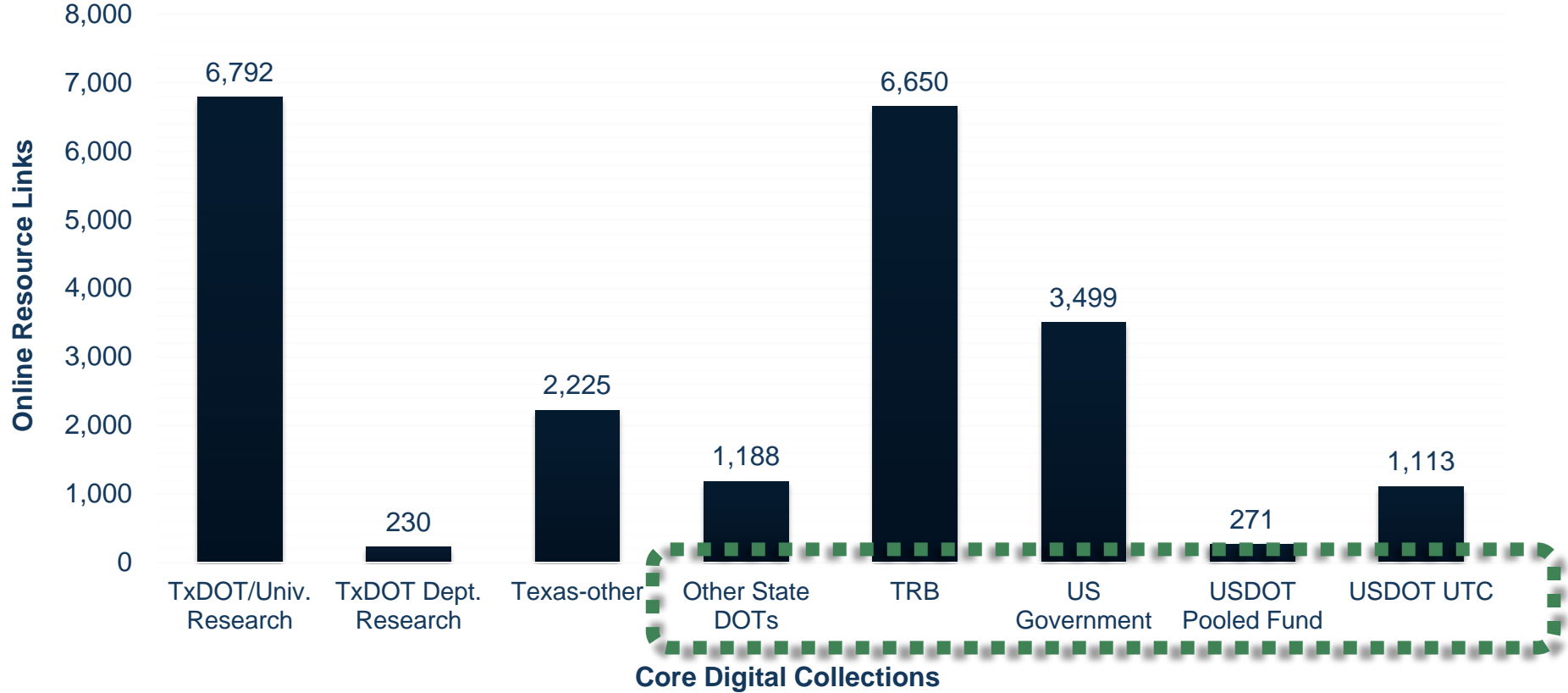
What, Who, & When? (Roles & Responsibilities)

Extract from Chapter 6 of the [University Handbook](#), PDF page 58:

Publication and Distribution Instructions

- ✓ [Send] The final accessible version of the approved deliverable (the electronic file or a web link to the electronic file) **to the TxDOT Research Library...**
- ✓ [Send] A web link to the electronic file of each deliverable be sent to the national registries below, by the Principal Investigator or request that the CTR Library perform this task to:
 - Federal Highway Administration (FHWA) Library...
 - TRID...
 - **National Transportation Library (NTL)...**

Library online resources





Primary accessibility factors

Recommended fonts

Document metadata, language, filename

Content structure

Image captions and alt-text

Color contrast

Color that conveys meaning

Data tables

Descriptive link names



Primary accessibility factors: PDF difficulty levels

Recommended fonts	✗
Document metadata, language, filename	✓
Content structure	⌚
Image captions and alt-text	⌚
Color contrast	✗
Color that conveys meaning	✗
Data tables	⌚
Descriptive link names	✗



- Easy: 2
- Moderate effort: 3
- Difficult: 4 (alt-text), 7 (some)

(Level of effort with Adobe Pro license only, without purchasing special accessibility software or employing expert accessibility remediation services)



Primary accessibility factors: MS Word difficulty levels

1	Recommended fonts	✓
2	Document metadata, language, filename	✓
3	Content structure	✓
4	Image captions and alt-text	⌚
5	Color contrast	⌚
6	Color that conveys meaning	✓
7	Data tables	✓
8	Descriptive link names	✓



- Easy: 1, 2, 3, 6, 7, 8
- Moderate effort: 4, 5

(Level of effort when addressed as the document is being written)

Content structure (3)

Visual cues; keyboard navigation

- Use heading styles to label the title, sections, and subsections.
- Use heading styles in proper nested order.
- Benefits: keyboard navigation; auto-generated Table of Contents; one-click re-styling throughout report, possible improved SEO.

Image alt-text (4)

Hover info; screen readers/AI

- Add to all captioned and other non-decorative images, including equations.
- Mark background images as decorative/no alt-text.
- Benefits: read by screen readers and web crawlers, improved SEO, can be used as a QA/QC checkpoint before submittal.

Data tables (7)

Visual cues; screen readers/AI

- Ensure each data cell has a corresponding table header cell (column and row).
- Use the “repeat headers across pages” feature in Word.
- Include data in each cell even if that is “0” or “N/A.”
- Avoid merged cells.
- Benefits: future data extraction?

Non-compliance easily flagged by automated checkers

These are compliance issues that are most likely to be flagged if they fail accessibility. They are most easily dealt with at the point of creation, prior to review for publication approval.

Content Navigation: Heading Styles

High impact category: Content structure

Content structure

Visual cues; keyboard navigation

- Use heading styles to label the title, sections, and subsections.
- Use heading styles in proper nested order.
- Benefits: keyboard navigation; auto-generated Table of Contents; one-click re-styling throughout report, possible improved SEO.

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- Add to all captioned and other non-decorative images, including equations.
- Mark background images as decorative/no alt-text.
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Data tables

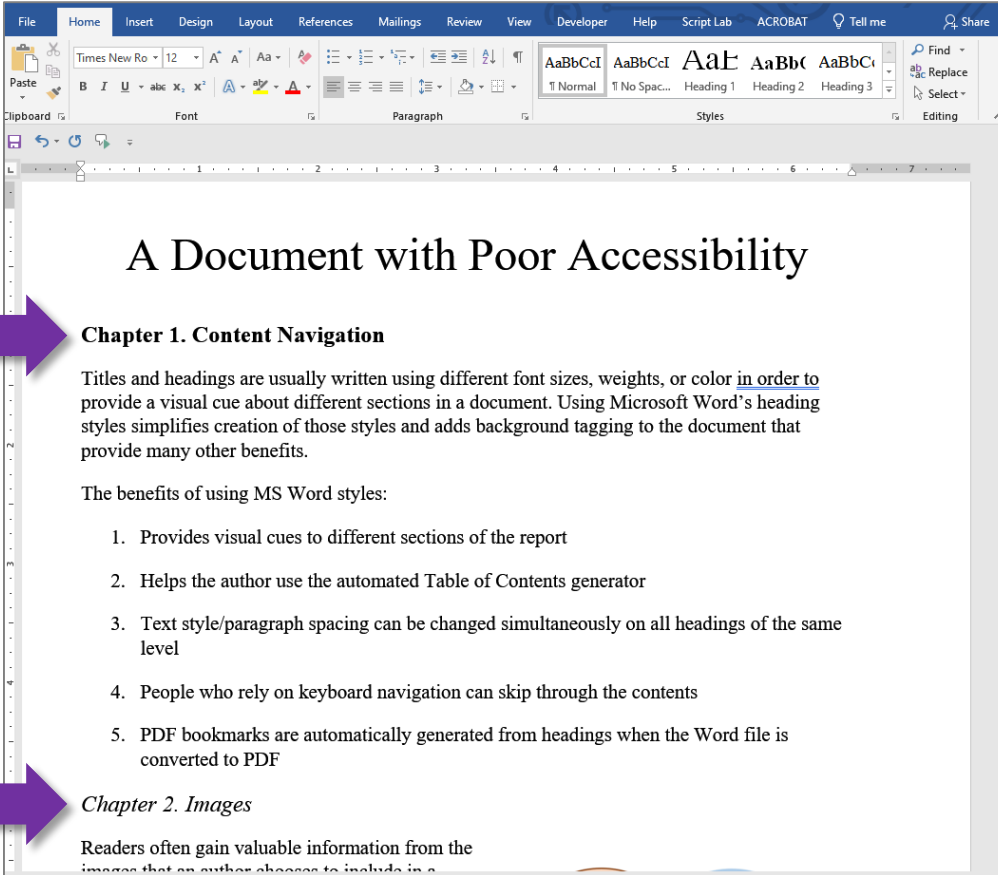
Visual cues; screen readers/AI

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- Use the “repeat headers across pages” feature in Word.
- Include data in each cell even if that is “0” or “N/A.”
- Avoid merged cells.
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Non-compliance easily flagged by automated checkers

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Heading styles: Inaccessible example



A Document with Poor Accessibility

Chapter 1. Content Navigation

Titles and headings are usually written using different font sizes, weights, or color in order to provide a visual cue about different sections in a document. Using Microsoft Word's heading styles simplifies creation of those styles and adds background tagging to the document that provide many other benefits.

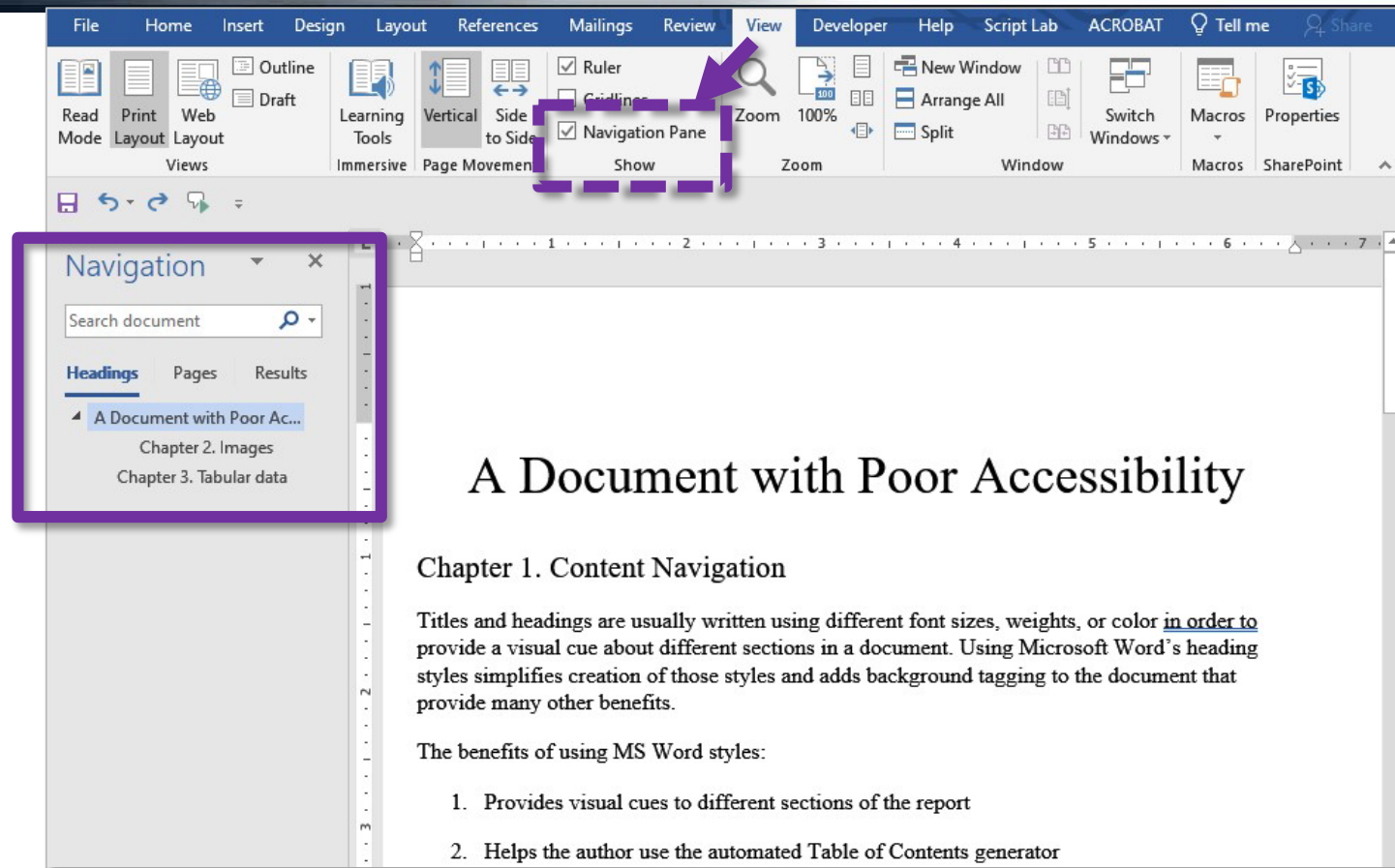
The benefits of using MS Word styles:

1. Provides visual cues to different sections of the report
2. Helps the author use the automated Table of Contents generator
3. Text style/paragraph spacing can be changed simultaneously on all headings of the same level
4. People who rely on keyboard navigation can skip through the contents
5. PDF bookmarks are automatically generated from headings when the Word file is converted to PDF

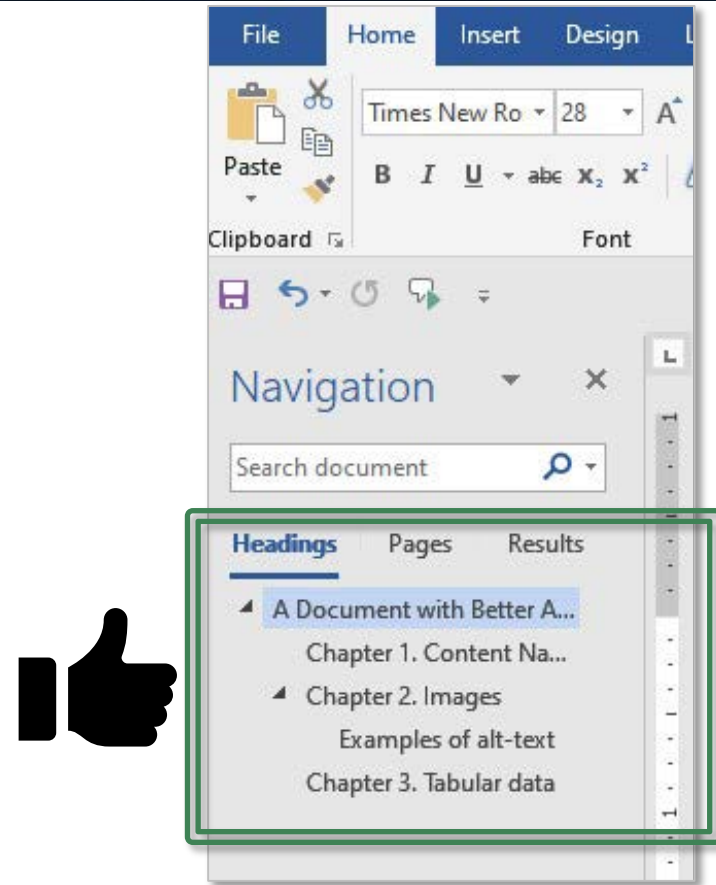
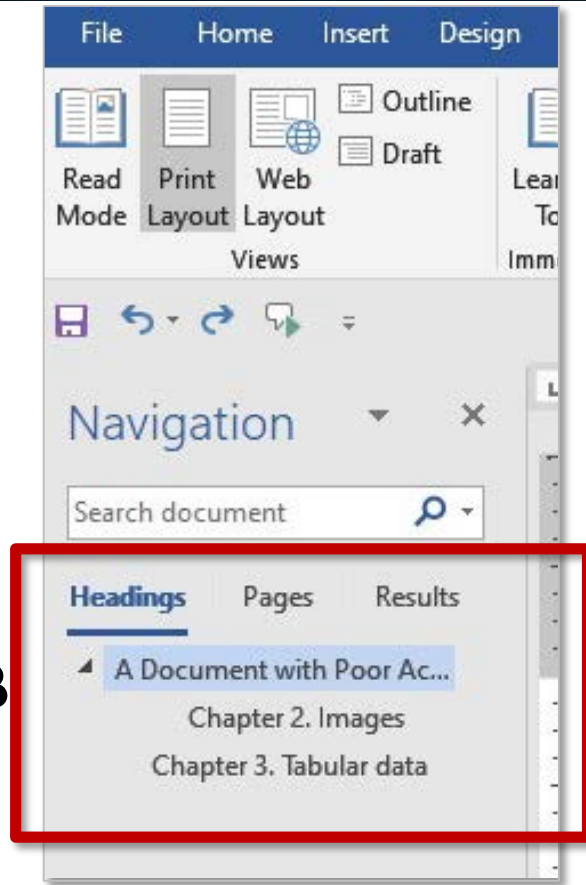
Chapter 2. Images

Readers often gain valuable information from the images that an author chooses to include in a

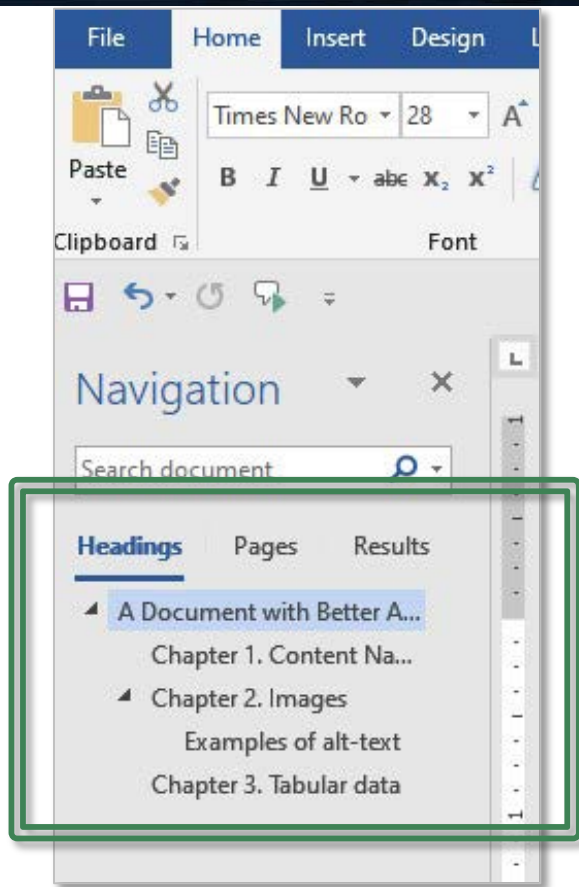
Tip: Check navigation



Comparison: Inaccessible vs. accessible

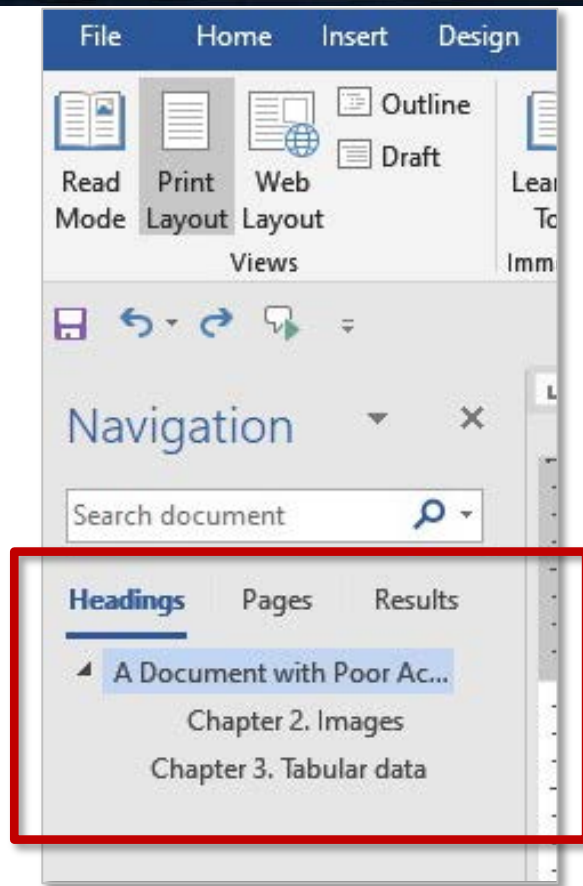


Benefits of correct navigation structure

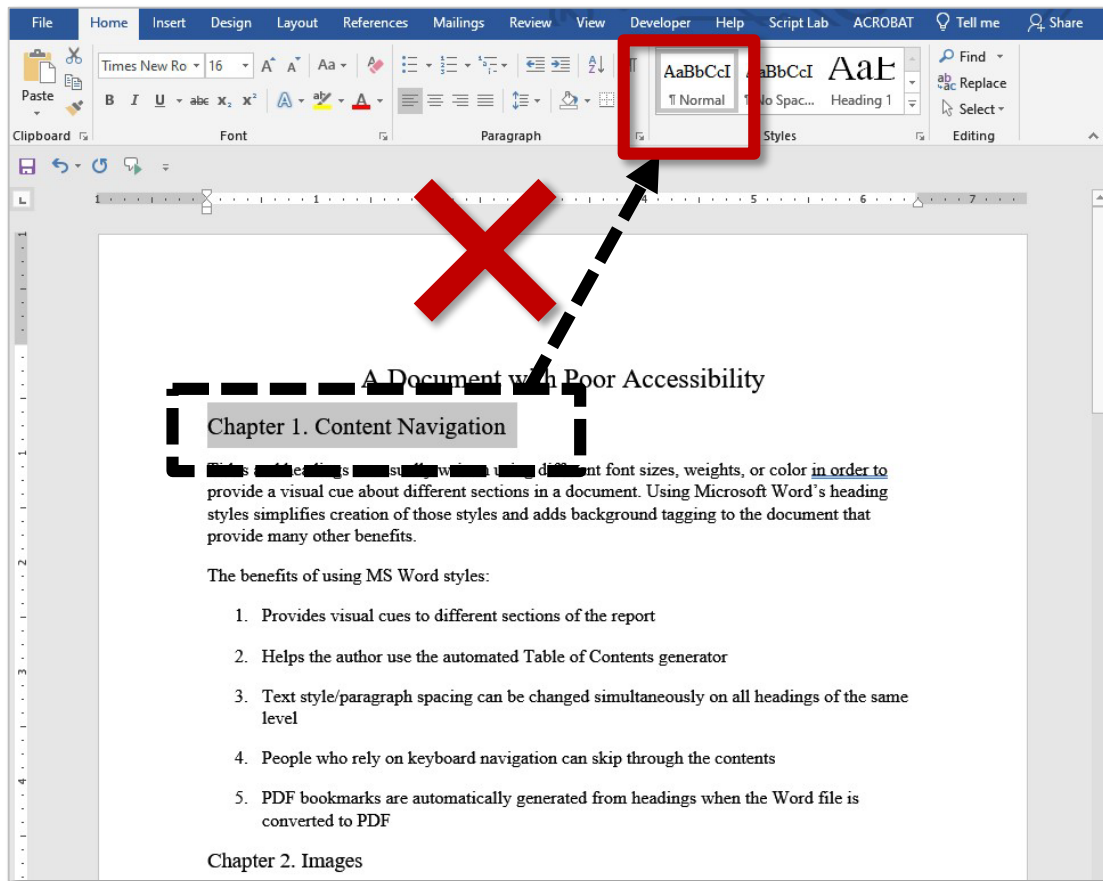


- ✓ Passes accessibility checks
- ✓ Correct tab order for keyboard navigation
- ✓ Screen readers can announce new section
- ✓ MS Word can correctly auto-generate a Table of Contents
- ✓ Author/editor can change the style of all chapter headings with single click
- ✓ Bookmarks automatically created when saved as a PDF

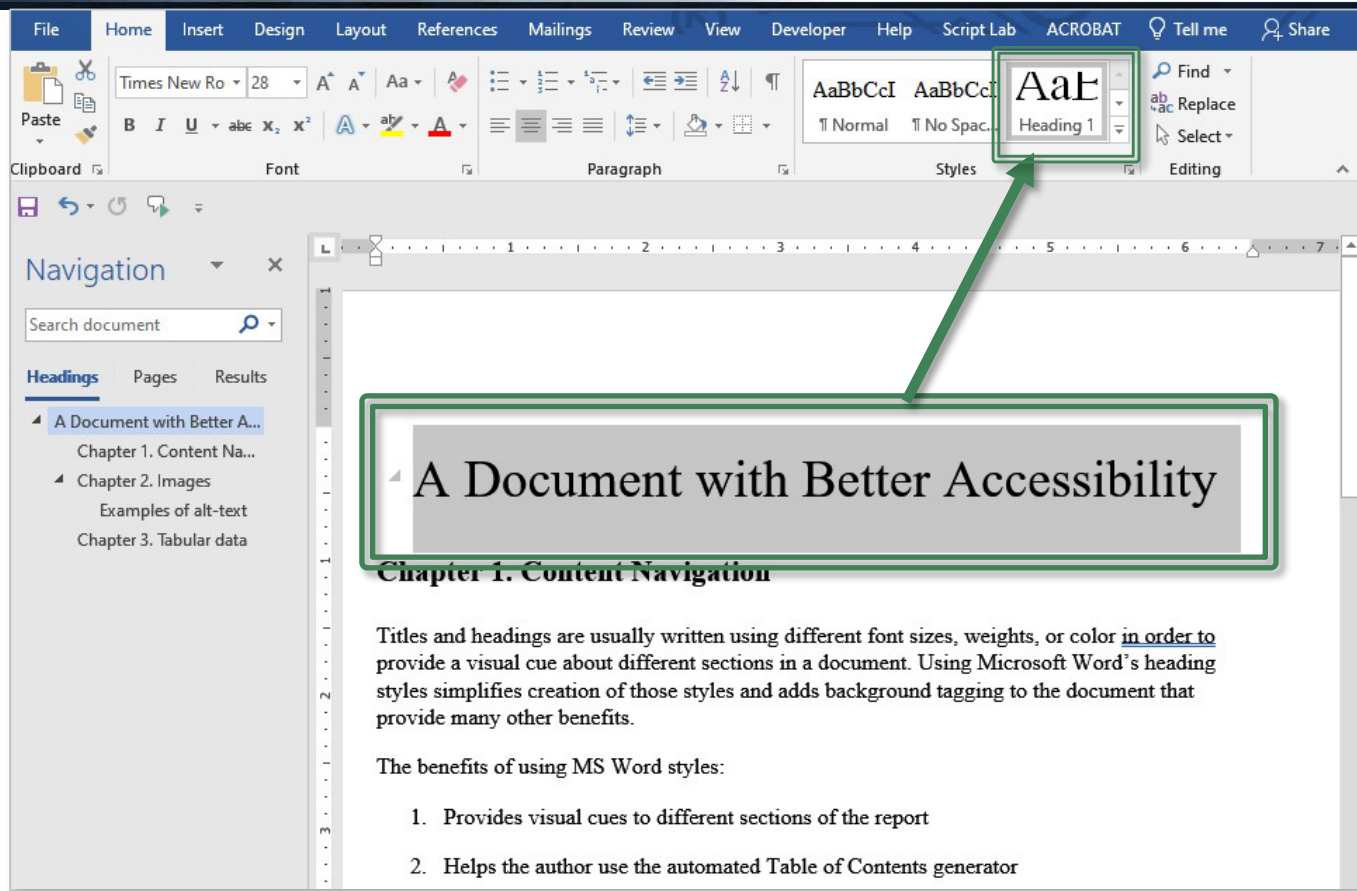
Fixing incorrect use of heading styles



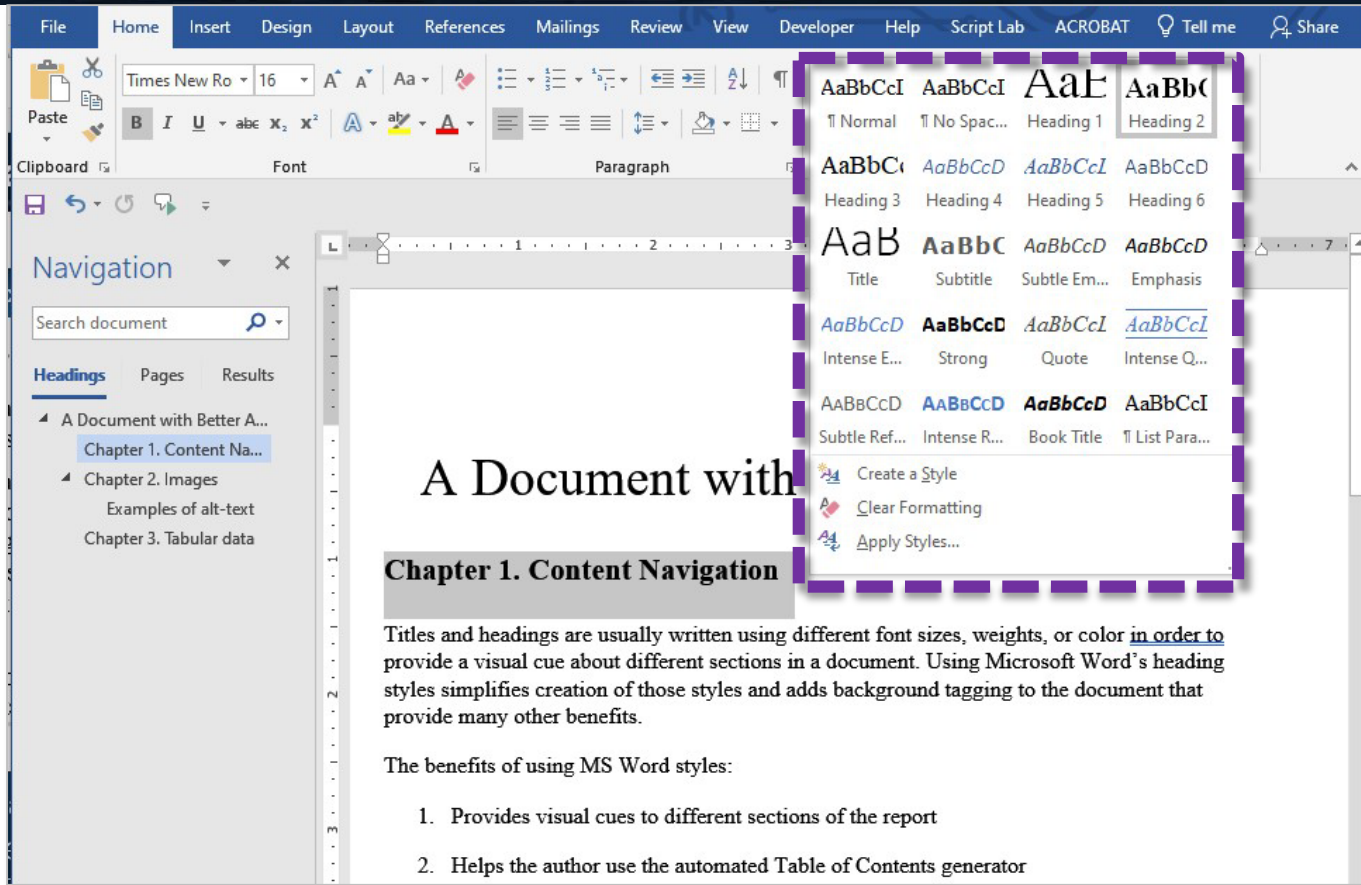
Problem: No heading tag



Correcting header styles



Choosing header styles



The screenshot shows the Microsoft Word interface with the 'Styles' task pane open on the right. The document content includes a main title 'A Document with', a section heading 'Chapter 1. Content Navigation', and a paragraph of text. The 'Styles' pane displays a list of styles, including 'Normal', 'No Spacing', 'Heading 1', 'Heading 2', 'Heading 3', 'Heading 4', 'Heading 5', 'Heading 6', 'Title', 'Subtitle', 'Subtle Emphasis', 'Emphasis', 'Intense Emphasis', 'Strong', 'Quote', 'Intense Quote', 'Subtle Reference', 'Intense Reference', 'Book Title', and 'List Paragraph'. The 'Heading 1' style is applied to the main title, and the 'Heading 2' style is applied to the section heading. The paragraph text is in the 'Normal' style.

File Home Insert Design Layout References Mailings Review View Developer Help Script Lab ACROBAT Tell me Share

Paste Font Paragraph

Clipboard Font Paragraph

Navigation

Search document

Headings Pages Results

- A Document with Better A...
- Chapter 1. Content Na...
- Chapter 2. Images
 - Examples of alt-text
- Chapter 3. Tabular data

A Document with

Chapter 1. Content Navigation

Titles and headings are usually written using different font sizes, weights, or color in order to provide a visual cue about different sections in a document. Using Microsoft Word's heading styles simplifies creation of those styles and adds background tagging to the document that provide many other benefits.

The benefits of using MS Word styles:

1. Provides visual cues to different sections of the report
2. Helps the author use the automated Table of Contents generator

Nesting heading styles

- Heading 1 style = Title of document *
 - Heading 2 style = Main sections
 - *Heading 3 style = Top subsections*
- Don't skip heading levels
- Normal style = Paragraphs



Pro-tip: Modifying heading styles

The screenshot displays the Microsoft Word interface. The ribbon at the top includes tabs for File, Home, Insert, Design, Layout, References, Mailings, Review, View, Developer, Help, Script Lab, ACROBAT, Tell me, and Share. The 'Home' tab is active, showing the Font and Paragraph groups. The Font group includes options for font face (Times New Roman), size (16), bold (B), italic (I), underline (U), and color. The Paragraph group includes options for bullet points, numbering, indentation, and alignment. On the left, the 'Navigation' pane is open, showing a search bar and a list of document sections: 'A Document with Better A...', 'Chapter 1. Content Na...', 'Chapter 2. Images', and 'Chapter 3. Tabular data'. The main document area shows a large heading 'A Document with' and a subheading 'Chapter 1. Content Navigation'. A right-click context menu is open over the 'Chapter 1. Content Navigation' heading. The menu options are: 'Update Heading 2 to Match Selection', 'Modify...' (highlighted), 'Select All: (no data)', 'Rename...', 'Remove from Style Gallery', and 'Add Gallery to Quick Access Toolbar'. Below these options are links to 'Create a Style', 'Clear Formatting', and 'Apply Styles...'. A yellow box highlights the text '(Right click)' next to the 'Modify...' option.

File Home Insert Design Layout References Mailings Review View Developer Help Script Lab ACROBAT Tell me Share

Paste Clipboard Font Paragraph

Navigation

Search document

Headings Pages Results

- A Document with Better A...
- Chapter 1. Content Na...
- Chapter 2. Images
 - Examples of alt-text
- Chapter 3. Tabular data

A Document with

Chapter 1. Content Navigation

Titles and headings are usually written using different font sizes, weights, or color in order to

(Right click)

Update Heading 2 to Match Selection

Modify...

Select All: (no data)

Rename...

Remove from Style Gallery

Add Gallery to Quick Access Toolbar

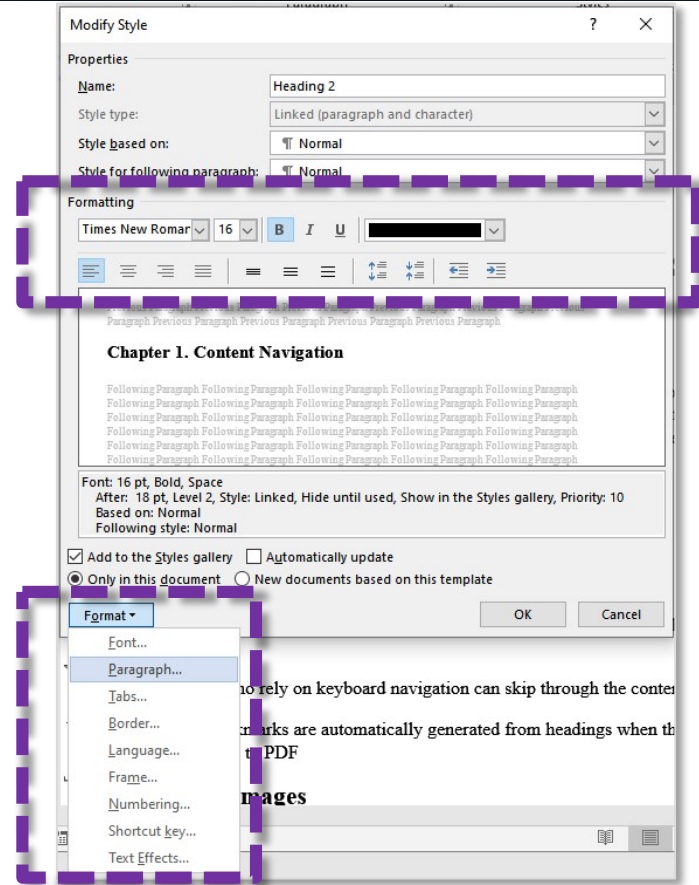
Create a Style

Clear Formatting

Apply Styles...

Modifying heading styles

- Font type, size, style
- Text color
- Paragraph spacing
- Page breaks before / after
- “Keep with next”
- Background shading





Pro-tip 2: Generate Table of Contents

A Document with Better Accessibility.docx - Word Barnes-Sanchez, Kevyn A

File Home Insert Design Layout References Mailings Review View Developer Help Script Lab ACROBAT Tell me what you want to do

Table of Contents Add Text Update Table Insert Endnote Next Footnote Smart Lookup Insert Footnote Show Notes

Table of Contents

Built-In

Automatic Table 1

Contents

Heading 11

Heading 21

Heading 31

Automatic Table 2

Table of Contents

Heading 11

Heading 21

Heading 31

Manual Table

Table of Contents

Type chapter title (level 1)1

Type chapter title (level 2)2

Type chapter title (level 3)3

More Tables of Contents from Office.com

Custom Table of Contents...

Remove Table of Contents

Save Selection to Table of Contents Gallery...

document with Better Accessibility

Content Navigation

ings are usually written using different font sizes, weights, or color in order to cue about different sections in a document. Using Microsoft Word's heading creation of those styles and adds background tagging to the document that other benefits.

using MS Word styles:

1. Provides visual cues to different sections of the report
2. Helps the author use the automated Table of Contents generator
3. Text style/paragraph spacing can be changed simultaneously on all headings of the same level

Page 1 of 7 923 words

Table of Contents based on heading styles

The screenshot shows the Microsoft Word interface with a document titled "A Document with Better Accessibility.docx". The document contains a Table of Contents and a paragraph under the heading "Chapter 1. Content Navigation". An "Update Table of Contents" dialog box is open, prompting the user to select an update option.

Table of Contents

Chapter 1. Content Navigation.....	
Chapter 2. Images.....	2
Examples of alt-text	2
Chapter 3. Tabular data.....	2

Chapter 1. Content Navigation

Titles and headings are usually written using different font sizes, weights, or color in order to provide a visual cue about different sections in a document. Using Microsoft Word's heading

Update Table of Contents

Word is updating the table of contents. Select one of the following options:

- ☒ Update page numbers only
- ☐ Update entire table

OK Cancel

Additional resources about heading styles

- [How to Create Accessible Headings in Microsoft Word](#) (TAMU Engineering Studio for Advanced Instruction & Learning)
- [How to Make an Accessible Document in Microsoft Word, Module 2: Use Styles to Create Headings](#) (GSA Section 508 Training Video)
- [Heading off confusion: When do headings fail WCAG?](#) (TPGi)

High impact categories: Image alt-text

Content structure

Visual cues; keyboard navigation

- Use heading styles to label the title, sections, and subsections.
- Use heading styles in proper nested order.
- Benefits: keyboard navigation; auto-generated Table of Contents; one-click re-styling throughout report, possible improved SEO..

Image alt-text

Hover info; screen readers/AI

- Add to all captioned and other non-decorative images, including equations.
- Mark background images as decorative/no alt-text.
- Benefits: read by screen readers and web crawlers, improved SEO, can be used as a QA/QC checkpoint before submittal.

Data tables

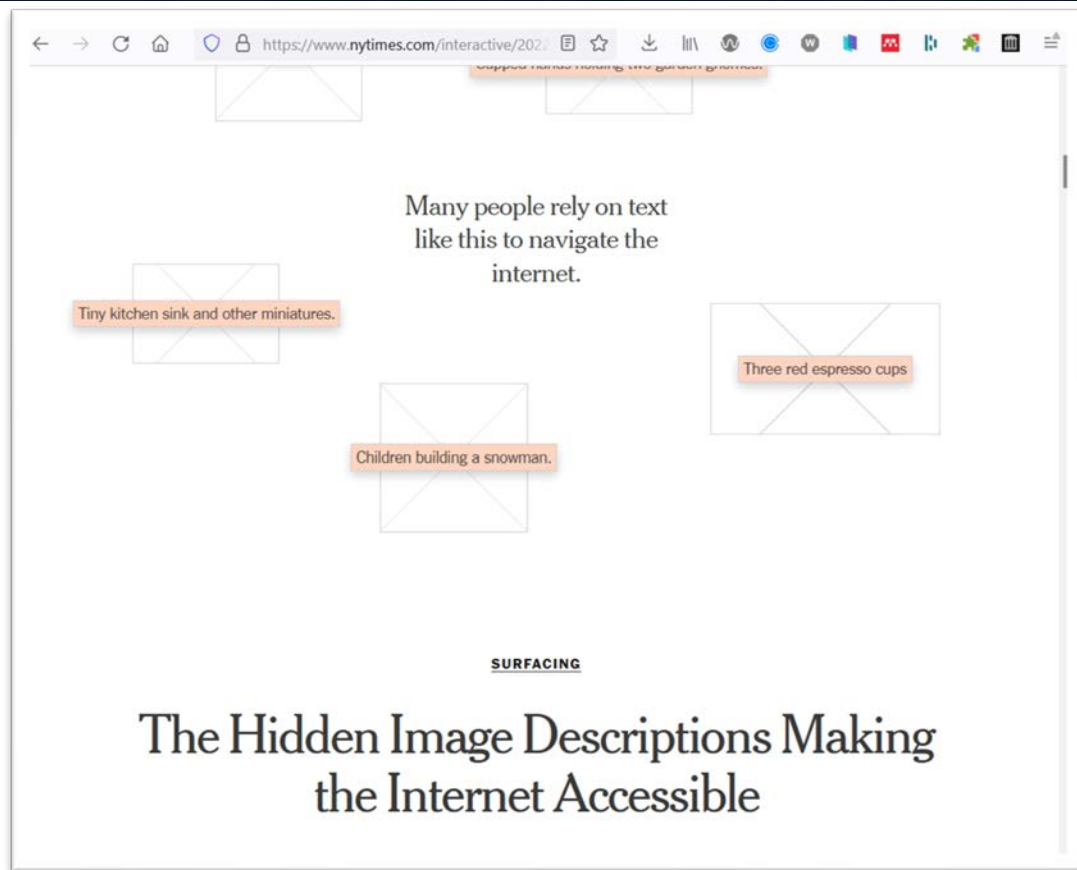
Visual cues; screen readers/AI

- Ensure each data cell has a corresponding table header cell (column and row).
- Use the “repeat headers across pages” feature in Word.
- Include data in each cell even if that is “0” or “N/A.”
- Avoid merged cells.
- Benefits: Future data extraction.

Non-compliance easily flagged by automated checkers

These are compliance issues that are most likely to be flagged if they fail accessibility. They are most easily dealt with at the point of creation, prior to review for publication approval.

Importance of alt-text



“Though opinions about what details should be included for those using screen readers diverge, most people agree on one point: that the presence of alt text is an important step toward making the internet more accessible.”

—Miller, M., & Parogni, I. (2022). *The Hidden Image Descriptions Making the Internet Accessible*. New York Times.

Where is alt-text?

3. Text style/paragraph spacing can be changed simultaneously on all headings of the same level

4. People who rely on keyboard navigation can skip through the contents

5. PDF bookmarks are automatically generated from headings when the Word file is converted to PDF

Chapter 2. Images

Readers often gain valuable information from the images that an author chooses to include in a report. RTI's University Handbook requires that all figures/illustrations include a title or caption and that title or caption must be distinguishable from the body of the report (positioning and font difference).

People who use screen readers for any reason (blind, low vision, attention disorder, commuting purposes) and machines (Google web crawlers, certain AI applications), rely on alternative text, "alt-text," to know the content of the image and the context within the surrounding text.

Alt-text may refer to the figure caption or surrounding text if that provides the information that the author wants readers to glean from the image. Decorative images can be marked decorative.




Figure 1. Both Section 508 and ADA require alt-text to be added to images.

Page 1 of 2 324 words 110%

MS Word accessibility check

File Home Insert Design Layout References Mailings Review View Developer Help Script Lab ACROBAT Tell me Share


ABC Spelling & Grammar Thesaurus Word Count Proofing Read Aloud Check Accessibility Accessibility Language New Comment Delete Next Previous Tracking Accept Changes Compare Protect Ink Linked Notes OneNote

4. People who rely on keyboard navigation can skip through the contents

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Section 508 ADA

Figure 1. Both Section 508 and ADA require alt-text to be added to images.

People who use screen readers for any reason (blind, low vision, attention disorder, commuting purposes) and machines (Google web crawlers, certain AI applications), rely on alternative text, "alt-text," to know the content of the image and the context within the surrounding text.

Alt-text may refer to the figure caption or surrounding text if that provides the information that the author wants readers to glean from the image. Decorative images can be marked decorative.

Accessibility Ch...

Inspection Results

Errors

- Missing alternative text (2)
- Repeating blank characters (1)

Warnings

Repeated blank characters (1)

Additional Information

Why Fix?

Alternative text for images and other objects is very important for people who can't see the screen. Screen readers read alternate text aloud, so it's the only information many have about the image. Good alternate text helps them understand the image.

Steps To Fix:

To add alternative text to a picture or object:

1. Select the item for the error. This means clicking on the item that

[Read more about making documents accessible](#)

Page 1 of 2 324 words 110%

MS Word accessibility checker panel

3. Text style/paragraph spacing can be changed simultaneously on all headings of the same level

4. People who rely on keyboard navigation can skip through the contents

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Alt-text may refer to the figure caption or surrounding text if that provides the information that the author wants readers to glean from the image. Decorative images can be marked decorative.

Figure 1. Both Section 508 and ADA require alt-text to be added to images.

Accessibility Checker Panel:

- Inspection Results
 - Missing alternative text
 - Picture 4
 - Rectangle 1
 - Text Box 5
 - Picture 4
 - Rectangle 1
- Warnings
 - Repeated blank characters
 - 6 Characters
- Additional Information
 - Why Fix?

Alternative text for images and other objects is very important for people who can't see the screen. Screen readers read alternate text aloud, so it's the only information many have about the image. Good alternate text helps them understand the image.
 - Steps To Fix:

To add alternative text to a picture or object:

 1. Select the item for the error. This means clicking on the item that
 - [Read more about making documents accessible](#)

Page 1 of 2 324 words 110%



Add an image description

3. Text style/paragraph spacing can be changed simultaneously on all headings of the same level

4. People who rely on keyboard navigation can skip through the contents

5. PDF bookmarks are automatically generated from headings when the Word file is converted to PDF

Chapter 2. Images

Readers often gain valuable information from the images that an author chooses to include in a report. RTI's University Handbook requires that all figures/illustrations include a title or caption and that title or caption must be distinguishable from the body of the report (positioning and font difference).

People who use screen readers for any reason (blind, low vision, attention disorder, commuting purposes) and machines (Google web crawlers,

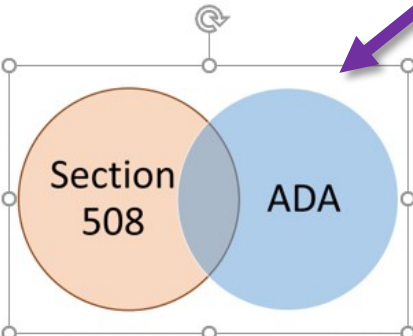


Figure 1. Both Section 508 and ADA require alt-text to be added to images.

Accessibility Checker

Inspection Results

Errors

- Missing alternative text
 - Picture 4
 - Rectangle 1
- Image or object not inline.
 - Text Box 5
 - Picture 4
 - Rectangle 1

Warnings

- Repeated blank characters
 - 6 Characters

Recommended Actions

- Add a description
- Mark as decorative

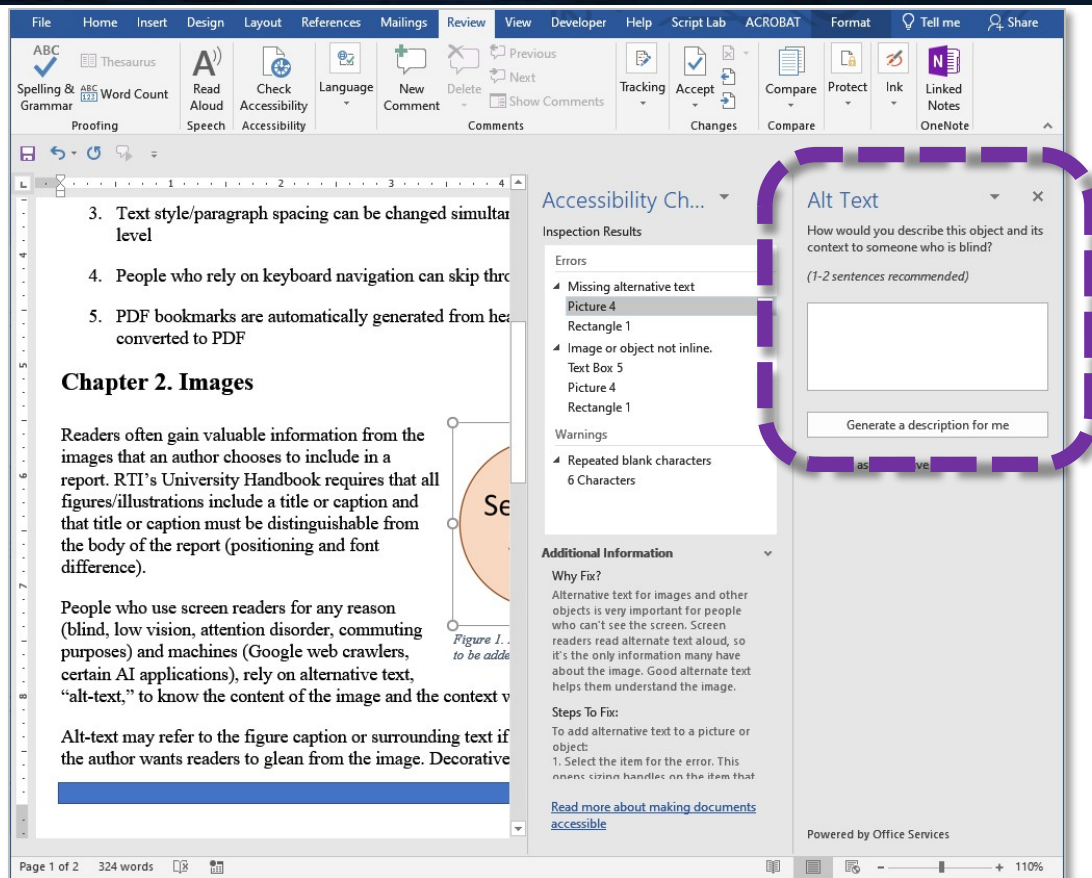
Other Suggestions

- Suggest a description for me
- Learn more

Additional Information

Why Fix?

Alternative text for images and other objects is very important for people who can't see the screen. Screen readers read alternate text aloud, so it's the only information many have



Alt-text added

The screenshot shows the Microsoft Word interface with the Accessibility Checker pane on the right. The document content includes a list of points, a chapter heading, and a paragraph about alternative text. The Accessibility Checker pane shows a list of errors, including 'Missing alternative text' for a rectangle and 'Image or object not inline' for a text box and picture. The 'Alt Text' task pane is open, showing a Venn diagram and a button to generate a description.

3. Text style/paragraph spacing can be changed simultaneously

4. People who rely on keyboard navigation can skip through sections

5. PDF bookmarks are automatically generated from headers and footers when converted to PDF

Chapter 2. Images

Readers often gain valuable information from the images that an author chooses to include in a report. RTI's University Handbook requires that all figures/illustrations include a title or caption and that title or caption must be distinguishable from the body of the report (positioning and font difference).

People who use screen readers for any reason (blind, low vision, attention disorder, commuting purposes) and machines (Google web crawlers, certain AI applications), rely on alternative text, "alt-text," to know the content of the image and the context of the image.

Alt-text may refer to the figure caption or surrounding text if the author wants readers to glean from the image. Decorative images are not required to have alt-text.

Accessibility Checker

Inspection Results

Errors

- Missing alternative text
 - Rectangle 1
- Image or object not inline.
 - Text Box 5
 - Picture 4
 - Rectangle 1

Warnings

- Repeated blank characters
 - 6 Characters

Additional Information

Why Fix?

Alternative text for images and other objects is very important for people who can't see the screen. Screen readers read alternate text aloud, so it's the only information many have about the image. Good alternate text helps them understand the image.

Steps To Fix:

To add alternative text to a picture or object:

- Select the item for the error. This pane shows the location of the item that needs to be fixed.

[Read more about making documents accessible](#)

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Alt Text

How would you describe this object and its context to someone who is blind?

(1-2 sentences recommended)

Venn diagram showing the overlap in Section 508 and ADA requirements, described in below caption

Generate a description for me

☐ Mark as decorative

Checker results updated

3. Text style/paragraph spacing can be changed simultaneously

4. People who rely on keyboard navigation can skip through sections

5. PDF bookmarks are automatically generated from headers

converted to PDF

Chapter 2. Images

Readers often gain valuable information from the images that an author chooses to include in a report. RTI's University Handbook requires that all figures/illustrations include a title or caption and that title or caption must be distinguishable from the body of the report (positioning and font difference).

People who use screen readers for any reason (blind, low vision, attention disorder, commuting purposes) and machines (Google web crawlers, certain AI applications), rely on alternative text, "alt-text," to know the content of the image and the context of the image.

Alt-text may refer to the figure caption or surrounding text if the author wants readers to glean from the image. Decorative

Accessibility Checker

Errors

- Missing alternative text
Rectangle 1
- Image or object not inline
Text Box 5
Picture 4
Rectangle 1

Warnings

- Repeated blank characters
6 Characters

Additional Information

Why Fix?
Alternative text for images and other objects is very important for people who can't see the screen. Screen readers read alternate text aloud, so it's the only information many have about the image. Good alternate text helps them understand the image.

Steps To Fix:
To add alternative text to a picture or object:
1. Select the item for the error. This pane is only visible on the item that

[Read more about making documents accessible](#)

Alt Text

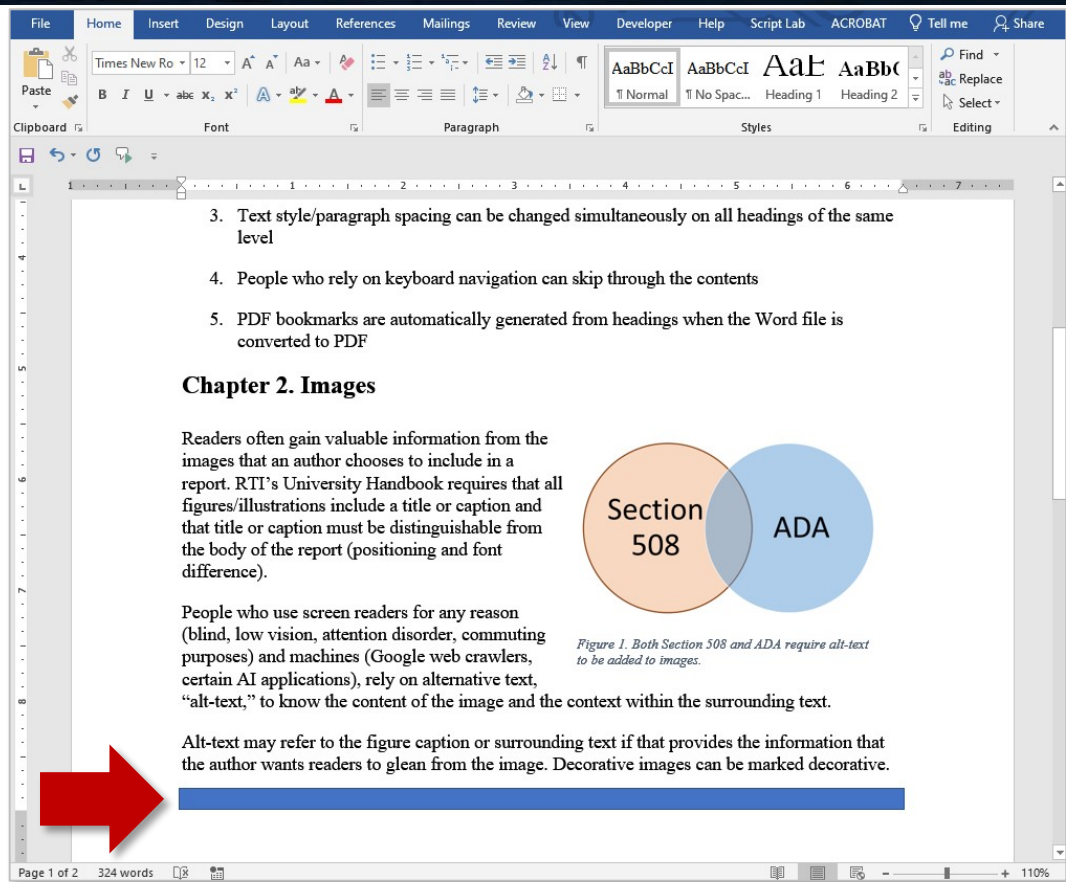
How would you describe this object and its context to someone who is blind?
(1-2 sentences recommended)

Venn diagram showing the overlap in Section 508 and ADA requirements, described in below caption

☐ Mark as decorative

Powered by Office Services

Page 1 of 2 324 words



Right-click image

File Home Insert Design Layout References Mailings Review View Developer Help Script Lab ACROBAT Format Tell me Share

Spelling & Grammar Thesaurus Word Count Read Aloud Check Accessibility Language New Comment Delete Previous Next Show Comments Tracking Accept Changes Compare Protect Ink Linked Notes OneNote

Readers often gain valuable information from images that an author chooses to include in a report. RTT's University Handbook requires that figures/illustrations include a title or caption that title or caption must be distinguishable from the body of the report (positioning and font difference).

People who use screen readers for any reason (blind, low vision, attention disorder, communication purposes) and machines (Google web crawlers, certain AI applications), rely on alternative text, "alt-text," to know the content of the image.

Alt-text may refer to the figure caption or the text that the author wants readers to glean from the image.

ADA

on 508 and ADA require alt-text.

the surrounding text.

provides the information that the image can be marked decorative.

Alt Text

How would you describe this object and its context to someone who is blind?

(1-2 sentences recommended)

☐ Mark as decorative

(Right click)

Style Fill Outline

Alt-text not needed

File Home Insert Design Layout References Mailings Review View Developer Help Script Lab ACROBAT Format Tell me what you want to do Share

Cover Page Blank Page Page Break Pages Tables Pictures Online Pictures Shapes Illustrations Icons 3D Models SmartArt Chart Screenshot Get Add-ins My Add-ins Add-ins Wikipedia Online Video Media Link Bookmark Cross-reference Links Comment Comments Header Footer Page Number Header & Footer Text Text Box Text Symbols Equation Symbol Embed Flash

Readers often gain valuable information from the images that an author chooses to include in a report. RTI's University Handbook requires that all figures/illustrations include a title or caption and that title or caption must be distinguishable from the body of the report (positioning and font difference).

People who use screen readers for any reason (blind, low vision, attention disorder, commuting purposes) and machines (Google web crawlers, certain AI applications), rely on alternative text, "alt-text," to know the content of the image and the context within the surrounding text.

Alt-text may refer to the figure caption or surrounding text if that provides the information that the author wants readers to glean from the image. Decorative images can be marked decorative.

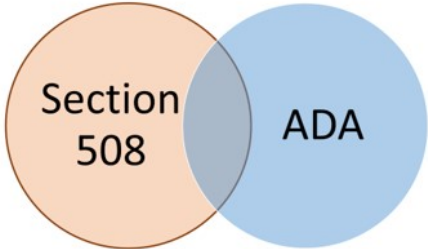


Figure 1. Both Section 508 and ADA require alt-text to be added to images.

Alt Text

How would you describe this object and its context to someone who is blind?

(1-2 sentences recommended)

Content marked as decorative will not expose a description to screen readers.

☒ Mark as decorative

- [DIAGRAM Center Image Description Guidelines](#)
- [Harvard: Write good Alt Text to describe images](#)
- [Social Security Administration Guide: Alternate text for images](#) (4.3 MB PDF)
 - Recommended: Section 2: Common Mistakes
- [UT Rio Grande Valley: A Guide to Alternative Text](#) (574 KB PDF)

High impact categories: Tables

Content structure

Visual cues; keyboard navigation

- Use heading styles to label the title, sections, and subsections.
- Use heading styles in proper nested order.
- Benefits: keyboard navigation; auto-generated Table of Contents; one-click re-styling throughout report, possible improved SEO..

Image alt-text

Hover info; screen readers/AI

- Add to all captioned and other non-decorative images, including equations.
- Mark background images as decorative/no alt-text.
- Benefits: read by screen readers and web crawlers, improved SEO, can be used as a QA/QC checkpoint before submittal.

Data tables

Visual cues; screen readers/AI

- Insert as a table, not images.
- Ensure each data cell has corresponding single header cell (avoid merged/split cells).
- Include data in each cell even if that is “0” or “N/A.”
- Use the “repeat headers across pages” feature in Word.
- Benefits: Future data extraction?

Non-compliance easily flagged by automated checkers

These are compliance issues that are most likely to be flagged if they fail accessibility. They are most easily dealt with at the point of creation, prior to review for publication approval.



Accessible options: Insert table using built-in tool

The screenshot shows the Microsoft Word ribbon with the 'Insert' tab selected. The 'Table' button in the 'Tables' group is highlighted with a purple dashed box. A context menu is open, showing options: 'Insert Table...', 'Draw Table', 'Convert Text to Table...', 'Excel Spreadsheet', and 'Quick Tables'. The 'Insert Table...' option is also highlighted with a purple dashed box. In the background, a table with 4 columns and 6 rows is visible, with the text 'An example of a table with no accessibility concerns.' inside it.

File Home Insert Design Layout References Mailings Review View Developer Help Script Lab ACROBAT Tell me Share

Page Layout

Table

Insert Table...
Draw Table
Convert Text to Table...
Excel Spreadsheet
Quick Tables

An example of a table with no accessibility concerns.



Define Header Row/First Column

A Document with Better Accessibility.docx - Word

File Home Insert Design Layout References Mailings Review View Developer Help Script Lab ACROBAT Design Layout Tell me what you want to do Share

☒ Header Row ☒ First Column
☐ Total Row ☐ Last Column
☐ Banded Rows ☐ Banded Columns

Table Style Options

Table Styles

Shading
Border Styles
Borders
Pen Color
Border Painter

Table 2. An example of a table with no accessibility concerns.

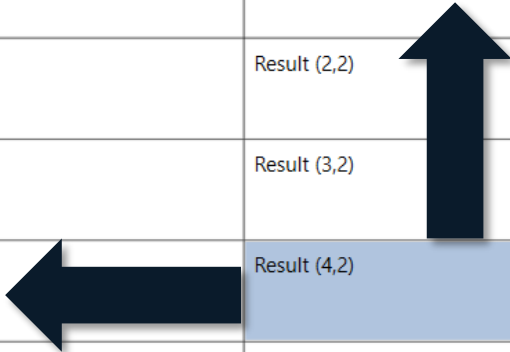
Test No.	Property 1	Property 2	Meets Criteria?
1	Result (1,1)	Result (1,2)	Yes
2	Result (2,1)	Result (2,2)	Partial
3	Result (3,1)	Result (3,2)	Yes
4	Result (4,1)	Result (4,2)	Yes
5	Result (5,1)	Result (5,2)	Partial
6	Result (6,1)	N/A	No
7	Result (7,1)	Result (7,2)	No



Simple table: Correct “machine view” in PDF backend

Data:

Test No.	Property 1	Property 2	Meets Criteria?
1	Result (1,1)	Result (1,2)	Yes
2	Result (2,1)	Result (2,2)	Partial
3	Result (3,1)	Result (3,2)	Yes
4	Result (4,1)	Result (4,2)	Yes
5	Result (5,1)	Result (5,2)	Partial
6	Result (6,1)	N/A	No
7	Result (7,1)	Result (7,2)	No





Simple table: Correct “machine view” in PDF backend

Data:

Test No.	Property 1	Property 2	Meets Criteria?
1	Result (1,1)	Result (1,2)	Yes
2	Result (2,1)	Result (2,2)	Partial
3	Result (3,1)	Result (3,2)	Yes
4	Result (4,1)	Result (4,2)	Yes
5	Result (5,1)	Result (5,2)	Partial
6	Result (6,1)	N/A	No
7	Result (7,1)	Result (7,2)	No



Inaccessible example: Image of a table

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File Home Insert Design Layout References Mailings Review View Developer Help Script Lab ACROBAT Format Tell me what you want to do

Clipboard Font Paragraph Styles Editing

Table 1. A table that is an inserted image.

FATALITY RATE PER 100 MILLION ANNUAL VMT - 2020 (1)
FUNCTIONAL SYSTEM

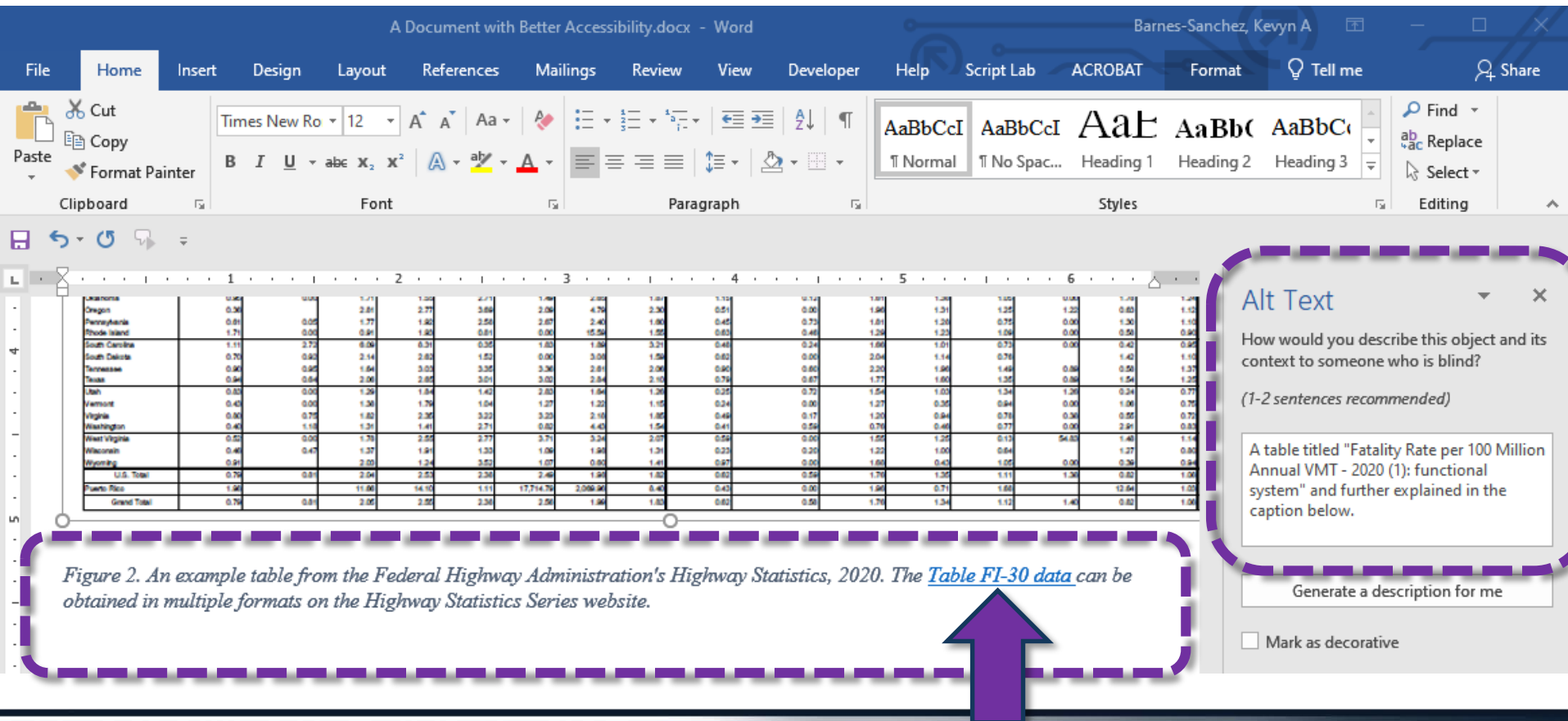
MARCH 2022

STATE	RURAL								URBAN								TOTAL
	INTERSTATE	OTHER FREEDWAYS AND EXPRESSWAYS	OTHER PRINCIPAL ARTERIAL	MINOR ARTERIAL	MAJOR COLLECTOR	MINOR COLLECTOR	LOCAL	TOTAL	INTERSTATE	OTHER FREEDWAYS AND EXPRESSWAYS	OTHER PRINCIPAL ARTERIAL	MINOR ARTERIAL	MAJOR COLLECTOR	MINOR COLLECTOR	LOCAL	TOTAL	
Alabama	0.72	3.25	0.35	0.35	3.73	1.27	0.65	1.98	0.91	0.72	1.52	1.34	1.55	3.07	0.32	1.02	1.38
Alaska	2.16	0.40	0.35	0.35	2.87	0.83	0.91	1.55	1.10	1.43	0.88	0.91	0.91	0.91	0.10	0.83	1.21
Arizona	1.15	1.00	2.48	0.33	4.81	3.98	0.67	3.98	0.47	0.54	0.32	0.32	0.47	0.47	0.31	1.25	1.86
Arkansas	1.45	1.83	0.53	1.28	0.35	0.15	3.78	1.28	0.82	0.47	0.54	0.32	0.50	0.38	2.38	0.94	1.98
California	0.94	1.01	2.73	3.35	2.41	5.96	2.78	2.12	0.54	0.82	1.25	1.54	1.51	43.72	1.10	1.54	1.28
Colorado	0.85	2.08	1.87	2.24	2.17	2.10	1.46	1.57	0.88	0.30	2.08	1.28	1.08	0.38	0.74	1.15	1.28
Connecticut	1.03	1.28	1.33	2.42	1.48	1.37	1.57	0.48	0.88	1.57	1.63	0.71	0.92	0.85	0.85	0.88	0.88
Delaware	0.87	1.75	2.81	4.27	2.98	1.36	2.35	1.51	1.00	1.84	0.96	1.28	1.38	1.38	0.30	1.58	1.34
Dist. of Columbia	0.74	0.60	0.74	0.60	0.74	0.60	0.74	0.60	0.74	0.60	0.74	0.60	0.74	0.60	0.74	0.60	0.74
Florida	1.10	0.91	2.85	3.27	1.87	2.81	3.17	2.10	0.82	0.84	3.35	2.24	1.81	1.15	0.88	0.48	1.23
Georgia	0.75	2.03	2.95	3.27	3.45	2.83	2.25	2.72	1.48	1.80	1.58	1.15	1.58	1.15	4.58	0.83	1.15
Hawaii	0.75	2.03	2.95	3.27	3.45	2.83	2.25	2.72	1.48	1.80	1.58	1.15	1.58	1.15	4.58	0.83	1.15
Idaho	0.84	3.82	2.49	2.51	2.54	4.52	0.30	1.15	0.31	0.55	0.82	0.82	0.82	0.48	0.82	0.82	1.25
Illinois	0.82	0.82	1.84	1.58	2.80	2.48	2.31	1.82	0.81	0.35	1.58	1.80	1.84	1.21	0.75	1.14	1.27
Indiana	0.84	0.72	2.40	3.33	2.72	1.25	1.82	1.88	0.48	0.34	1.57	1.22	0.78	0.75	0.28	0.78	1.17
Iowa	0.55	1.10	1.88	1.87	2.71	2.71	2.71	1.48	0.45	0.55	0.55	0.55	1.75	1.75	1.22	0.85	1.12
Kansas	0.75	0.74	2.03	3.37	2.72	0.95	0.95	0.87	0.88	0.87	0.88	1.28	1.28	1.28	1.14	1.14	1.55
Kentucky	0.84	0.14	2.78	3.72	3.15	2.80	2.31	1.88	0.88	1.12	2.11	1.73	0.88	2.52	1.48	1.38	1.88
Louisiana	0.84	0.84	2.47	3.07	3.03	1.87	2.81	2.81	0.85	1.03	2.28	1.35	0.83	0.58	4.48	1.58	1.75
Maine	0.45	0.00	1.25	1.75	1.87	2.51	1.85	1.48	0.45	0.00	0.00	0.58	1.58	0.83	0.83	0.83	1.25
Maryland	0.32	0.48	0.88	1.18	1.23	1.08	1.20	0.85	0.42	0.48	2.08	1.83	1.71	0.83	0.81	1.15	1.11
Massachusetts	0.44	0.00	2.52	1.00	1.01	2.71	0.82	1.04	0.82	0.48	0.87	0.91	0.73	0.38	0.81	0.81	0.83
Michigan	0.84	0.85	1.28	1.85	1.78	4.74	1.78	1.58	0.87	1.82	1.82	1.10	1.10	2.18	1.32	1.32	1.32
Minnesota	0.42	0.58	0.83	1.41	1.40	1.80	1.13	1.08	0.21	0.27	0.77	0.84	1.25	0.25	0.25	0.75	0.75
Mississippi	1.23	2.82	2.32	3.54	3.48	18.34	0.30	2.31	0.87	1.15	1.82	1.45	1.78	180.58	1.02	1.45	1.88
Missouri	0.84	0.70	2.82	3.08	2.83	3.94	0.78	1.52	0.88	0.75	2.08	1.78	0.88	0.75	0.75	1.25	1.38
Montana	1.47	2.35	2.35	3.34	4.10	1.82	2.81	2.38	0.48	0.84	0.17	0.51	0.88	0.87	0.88	1.78	1.78
Nebraska	0.82	0.55	2.03	2.12	1.87	1.44	1.82	1.82	0.82	0.82	1.12	0.82	0.81	2.88	0.82	0.78	1.25
Nevada	0.84	0.84	3.77	6.48	0.84	0.84	1.84	1.74	0.71	0.12	2.10	1.01	0.84	0.18	1.83	1.75	1.28
New Hampshire	0.84	0.00	1.87	1.51	1.42	1.87	1.87	1.87	0.84	0.84	1.02	1.12	1.12	1.12	0.87	0.87	0.87
New Jersey	0.84	1.58	0.84	1.97	1.43	1.88	1.34	1.73	0.87	1.43	1.12	1.14	1.14	0.82	0.25	0.82	0.84

Accessible example: Table as a sample figure

Figure 2. An example table from the Federal Highway Administration's Highway Statistics, 2020. The [Table FI-30 data](#) can be obtained in multiple formats on the Highway Statistics Series website.

Acceptable example: Table as a sample figure





Accessible options: Paste from Excel

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Table Style Options

Table Styles

Shading
Border Styles
Borders
Pen Color
Borders
Border Painter

1 2 3 4 5 6 7

Table 4. Fatality Rate Per 100 Million Annual VMT-2020, Functional System (Source: [Table FI-30, Highway Statistics 2020](#)).

STATE	RURAL TOTAL	URBAN TOTAL	TOTAL
Alabama	1.86	1.03	1.38
Alaska	1.53	0.92	1.21
Arizona	2.09	1.23	1.60
Arkansas	1.26	0.66	1.88
California	2.12	1.09	1.28
Colorado	1.57	1.15	1.28
Connecticut	1.57	0.92	0.99
Delaware	2.33	1.09	1.39
Dist. of Columbia	-	1.19	1.19
Florida	2.10	1.31	1.60
Georgia	2.23	1.17	1.43
Hawaii	0.61	1.04	0.97
Idaho	1.67	0.64	1.23
Illinois	1.52	1.14	1.27



Defining the header cells

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Table Tools

Table Style Options

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☒ Banded Rows ☐ Banded Columns

Table Styles

Shading

Border Styles

Pen Color

Borders

Border Painter

Table 4. Fatality Rate Per 100 Million Annual VMT-2020, Functional System (Source: [Table FI-30, Highway Statistics 2020](#))

STATE	RURAL TOTAL	URBAN TOTAL	TOTAL
Alabama	1.83	1.08	1.38
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Arkansas	1.26	0.66	1.88
California	2.12	1.09	1.28
Colorado	1.57	1.15	1.28
Connecticut	1.57	0.92	0.99
Delaware	2.33	1.09	1.39
Dist. of Columbia	-	1.19	1.19
Florida	2.10	1.31	1.60
Georgia	2.23	1.17	1.43
Hawaii	0.61	1.04	0.97
Idaho	1.67	0.64	1.23



Pasting a table from Excel

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Table Style Options

Plain Tables

Grid Tables

List Tables

Shading Styles Pen Color Borders Border Painter

Source: [Table FI-30, Highway Statistics 2020](#).

TOTAL	TOTAL
	1.38
	1.21
	1.60
	1.88
	1.28
	1.28
	0.99
	1.39
	1.19
	1.60
	1.43
	0.97
	1.22



Inaccessible table: Headers not repeated

North Carolina	2.22	1.03	1.45
North Dakota	1.29	0.83	1.14
Ohio	1.51	1.01	1.19
Oklahoma	1.87	1.24	1.55
Oregon	2.30	1.12	1.57
Pennsylvania	1.60	1.10	1.28
Rhode Island	1.55	0.90	0.98
South Carolina	3.21	0.95	1.97
South Dakota	1.59	1.10	1.45
Tennessee	2.06	1.37	1.59
Texas	2.10	1.25	1.49
Utah	1.26	0.77	0.91



Inaccessible table: Manually split across pages

New York	1.51	0.94	1.02
North Carolina	2.22	1.03	1.45
North Dakota	1.29	0.83	1.14
Ohio	1.51	1.01	1.19
Oklahoma	1.87	1.24	1.55



Table 4 CONTINUED. Fatality Rate Per 100 Million Annual VMT-2020, Functional System (Source: [Table FI-30, Highway Statistics 2020](#)).

STATE	RURAL TOTAL	URBAN TOTAL	TOTAL
Oregon	2.30	1.12	1.57
Pennsylvania	1.60	1.10	1.28
Rhode Island	1.55	0.90	0.98
South Carolina	3.21	0.95	1.97
South Dakota	1.59	1.10	1.45
Tennessee	2.06	1.37	1.59
...



Inaccessible table: Manually split across pages, pt.2



North Dakota	1.29	0.83	1.14
Ohio	1.51	1.01	1.19

Oklahoma	1.87	1.24	1.55
----------	------	------	------

Table 4 CONTINUED. Fatality Rate Per 100 Million Annual VMT-2020, Functional System (Source: [Table FI-30, Highway Statistics 2020](#)).

STATE	RURAL TOTAL	URBAN TOTAL	TOTAL
Oregon	2.30	1.12	1.57
Pennsylvania	1.60	1.10	1.28
Rhode Island	1.55	0.90	0.98
South Carolina	3.21	0.95	1.97
South Dakota	1.59	1.10	1.45
Tennessee	2.06	1.37	1.59
Texas	2.10	1.25	1.49
Utah	1.26	0.77	0.91



Fix for tables spanning multiple pages

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Design Layout

me what you want to do

Find Replace Select

Clipboard Font Paragraph Styles Editing

Table 4. Fatality Rate Per 100 Million Annual VMT-2020, Functional System (Source: [Table FI-30, Highway Statistics 2020](#)).

STATE	RURAL TOTAL	URBAN TOTAL	TOTAL
Alabama	1.86	1.03	1.38
Alaska	1.53	0.92	1.21
Arizona	2.09	1.23	1.60
Arkansas	1.26	0.66	1.88
California	2.12	1.09	1.28
Colorado	1.57	1.15	1.28
Connecticut	1.57	0.92	0.99
Delaware	2.33	1.09	1.39
Dist. of Columbia	-	1.19	1.19
Florida	2.10	1.31	1.60

Georgia	2.23	1.17	1.43
Hawaii	0.61	1.04	0.97
Idaho	1.67	0.64	1.23

Page 6 of 9 944 words 130%

Table tools: Layout ribbon

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File Home Insert Design Layout References Mailings Review View Developer Help Script Lab ACROBAT Table Tools Design Layout Tell me what you want to do Share

Select View Gridlines Properties Table Draw Eraser Delete Insert Above Insert Below Insert Left Insert Right Merge Cells Split Cells Split Table AutoFit Width: 1.58" Height: 0.21" Distribute Rows Distribute Columns Cell Size Repeat Header Rows Convert to Text Sort Formula

Table 4. Fatality Rate Per 100 Million Annual VMT-2020, Functional System (Source: [Table FI-30, Highway Statistics 2020](#)).

STATE	RURAL TOTAL	URBAN TOTAL	TOTAL
Alabama	1.86	1.03	1.38
Alaska	1.53	0.92	1.21
Arizona	2.09	1.23	1.60
Arkansas	1.26	0.66	1.88
California	2.12	1.09	1.28
Colorado	1.57	1.15	1.28
Connecticut	1.57	0.92	0.99
Delaware	2.33	1.09	1.39
Dist. of Columbia	-	1.19	1.19
Florida	2.10	1.31	1.60
Georgia	2.23	1.17	1.43
Hawaii	0.61	1.04	0.97
Idaho	1.67	0.64	1.23



Accessible table: Repeated header rows

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File Home Insert Design Layout References Mailings Review View Developer Help Script Lab ACROBAT Table Tools Barnes-Sanchez, Keyyn A Tell me what you want to do Share

Select View Gridlines Properties Table Draw Table Draw Delete Insert Above Insert Below Insert Left Insert Right Merge Cells Split Cells Split Table AutoFit Widths Height Cell Size Distribute Rows Distribute Columns Text Cell Direction Margins Repeat Header Rows Convert to Text Formula Data

Table 4. Fatality Rate Per 100 Million Annual VMT-2020, Functional System (Source: [Table FI-30, Highway Statistics 2020](#)).

STATE	RURAL TOTAL	URBAN TOTAL	TOTAL
Alabama	1.86	1.03	1.38
Alaska	1.53	0.92	1.21
Arizona	2.09	1.23	1.60
Arkansas	1.26	0.66	1.88
California	2.12	1.09	1.28
Colorado	1.57	1.15	1.28
Connecticut	1.57	0.92	0.99
Delaware	2.33	1.09	1.39
Dist. of Columbia	-	1.19	1.19
Florida	2.10	1.31	1.60

STATE	RURAL TOTAL	URBAN TOTAL	TOTAL
Georgia	2.23	1.17	1.43
Hawaii	0.61	1.04	0.97

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Accessible table: Repeated header rows after table move

A Document with Better Accessibility(1).docx - Word

File Home Insert Design Layout References Mailings Review View Developer Help Script Lab ACROBAT Design Layout Tell me what you want to do Share

Select - View Gridlines Properties Table Draw Table Draw Delete Rows & Columns Insert Above Insert Below Insert Left Insert Right Merge Cells Split Cells Split Table Merge AutoFit Widths Height Cell Size Distribute Rows Distribute Columns Alignment Text Direction Margins Cell Sort Repeat Header Rows Convert to Text Formula Data

Table 4. Fatality Rate Per 100 Million Annual VMT-2020, Functional System (Source: [Table FI-30, Highway Statistics 2020](#)).

STATE	RURAL TOTAL	URBAN TOTAL	TOTAL
Alabama	1.86	1.03	1.38
Alaska	1.53	0.92	1.21
Arizona	2.09	1.23	1.60
Arkansas	1.26	0.66	1.88
California	2.12	1.09	1.28

STATE	RURAL TOTAL	URBAN TOTAL	TOTAL
Colorado	1.57	1.15	1.28
Connecticut	1.57	0.92	0.99

Page 6 of 9 944 words 130%





Problem: Color as only means to convey information

Table 1. An example of a table with some accessibility issues.

Test No.	Property 1	Property 2	Meets Criteria?
1	Result (1,1)	Result (1,2)	
2	Result (2,1)	Result (2,2)	
3	Result (3,1)	Result (3,2)	
4	Result (4,1)	Result (4,2)	
5	Result (5,1)	Result (5,2)	
6	Result (6,1)	N/A	
7	Result (7,1)	Result (7,2)	



Problem: Color as seen with colorblindness

Deuteranopia (red-green colorblindness) is the most common colorblindness.

Parallel view

Normal

Table 1. An example of a table with some accessibility issues.

Test No.	Property 1	Property 2	Meets Criteria?
1	Result (1,1)	Result (1,2)	Green
2	Result (2,1)	Result (2,2)	Yellow
3	Result (3,1)	Result (3,2)	Green
4	Result (4,1)	Result (4,2)	Green
5	Result (5,1)	Result (5,2)	Yellow
6	Result (6,1)	N/A	Red
7	Result (7,1)	Result (7,2)	Red

Protanopia

Table 1. An example of a table with some accessibility issues.

Test No.	Property 1	Property 2	Meets Criteria?
1	Result (1,1)	Result (1,2)	Yellow
2	Result (2,1)	Result (2,2)	Yellow
3	Result (3,1)	Result (3,2)	Yellow
4	Result (4,1)	Result (4,2)	Yellow
5	Result (5,1)	Result (5,2)	Yellow
6	Result (6,1)	N/A	Dark Yellow
7	Result (7,1)	Result (7,2)	Dark Yellow

Deuteranopia

Table 1. An example of a table with some accessibility issues.

Test No.	Property 1	Property 2	Meets Criteria?
1	Result (1,1)	Result (1,2)	Yellow
2	Result (2,1)	Result (2,2)	Yellow
3	Result (3,1)	Result (3,2)	Yellow
4	Result (4,1)	Result (4,2)	Yellow
5	Result (5,1)	Result (5,2)	Yellow
6	Result (6,1)	N/A	Yellow
7	Result (7,1)	Result (7,2)	Yellow

Tritanopia

Table 1. An example of a table with some accessibility issues.

Test No.	Property 1	Property 2	Meets Criteria?
1	Result (1,1)	Result (1,2)	Blue
2	Result (2,1)	Result (2,2)	Pink
3	Result (3,1)	Result (3,2)	Blue
4	Result (4,1)	Result (4,2)	Blue
5	Result (5,1)	Result (5,2)	Pink
6	Result (6,1)	N/A	Magenta
7	Result (7,1)	Result (7,2)	Magenta

Cataracts

Table 1. An example of a table with some accessibility issues.

Test No.	Property 1	Property 2	Meets Criteria?
1	Result (1,1)	Result (1,2)	Green
2	Result (2,1)	Result (2,2)	Yellow
3	Result (3,1)	Result (3,2)	Green
4	Result (4,1)	Result (4,2)	Green
5	Result (5,1)	Result (5,2)	Yellow
6	Result (6,1)	N/A	Red
7	Result (7,1)	Result (7,2)	Red

Grayscale

Table 1. An example of a table with some accessibility issues.

Test No.	Property 1	Property 2	Meets Criteria?
1	Result (1,1)	Result (1,2)	Light Gray
2	Result (2,1)	Result (2,2)	Light Gray
3	Result (3,1)	Result (3,2)	Light Gray
4	Result (4,1)	Result (4,2)	Light Gray
5	Result (5,1)	Result (5,2)	Light Gray
6	Result (6,1)	N/A	Dark Gray
7	Result (7,1)	Result (7,2)	Dark Gray



Problem: Color to convey information: High contrast mode

Windows high contrast mode (**left Alt + left Shift + Print Screen**)

Table 1. An example of a table with some accessibility issues.

Test No.	Property 1	Property 2	Meets Criteria?
1	Result (1,1)	Result (1,2)	
2	Result (2,1)	Result (2,2)	
3	Result (3,1)	Result (3,2)	
4	Result (4,1)	Result (4,2)	
5	Result (5,1)	Result (5,2)	
6	Result (6,1)	N/A	
7	Result (7,1)	Result (7,2)	



Problem: Color to convey information: PDF backend

Data:

Test No.	Property 1	Property 2	Meets Criteria?
1	Result (1,1)	Result (1,2)	
2	Result (2,1)	Result (2,2)	
3	Result (3,1)	Result (3,2)	
4	Result (4,1)	Result (4,2)	
5	Result (5,1)	Result (5,2)	
6	Result (6,1)	N/A	
7	Result (7,1)	Result (7,2)	
















Fix: Color plus data in every cell

Table 1. An example of a table with some accessibility issues.

Test No.	Property 1	Property 2	Meets Criteria?
1	Result (1,1)	Result (1,2)	Yes
2	Result (2,1)	Result (2,2)	Partial
3	Result (3,1)	Result (3,2)	Yes
4	Result (4,1)	Result (4,2)	Yes
5	Result (5,1)	Result (5,2)	Partial
6	Result (6,1)	N/A	No
7	Result (7,1)	Result (7,2)	No



Alternative: Images with clear alt-text + in-line with text

Test No.	Property 1	Property 2	Meets Criteria?
1	Result (1,1)	Result (1,2)	
2	Result (2,1)	Result (2,2)	
3	Result (3,1)	Result (3,2)	
4	Result (4,1)	Result (4,2)	
5	Result (5,1)	Result (5,2)	        
6	Result (6,1)	N/A	
7	Result (7,1)	Result (7,2)	

Alt Text

How would you describe this object and its context to someone who is blind?

(1-2 sentences recommended)

Neutral

☐ Mark as decorative



PDF backend: Images with clear alt-text + in-line with text

Data:

Test No.	Property 1	Property 2	Meets Criteria?
1	Result (1,1)	Result (1,2)	yes
2	Result (2,1)	Result (2,2)	Neutral
3	Result (3,1)	Result (3,2)	yes
4	Result (4,1)	Result (4,2)	yes
5	Result (5,1)	Result (5,2)	Neutral
6	Result (6,1)	N/A	no
7	Result (7,1)	Result (7,2)	no

1. Create tables with MS Word's "Insert table" feature
2. Keep tables simple
 - Avoid split or merged header cells
 - Use a 1:1 relationship between each data cell and corresponding row header and column header
3. Repeat headers across pages
4. Include data in every cell
5. If cell color is meaningful, ensure that meaning is also conveyed through text

- [Accessible PDF screen reader demo](#) (YouTube video, Table example)
- [Accessible Tables](#) (Presentation by Michael Molina, Oklahoma DOT Library)
- [Word 2013 & 2016: How to Make Accessible Tables](#) (YouTube video by Texas Governor's Committee on People with Disabilities)



Built-in accessibility checker and tools

The screenshot displays the Microsoft Word interface. The 'Review' tab is active, and the 'Check Accessibility' button in the ribbon is highlighted. A dropdown menu is open, showing options: 'Check Accessibility', 'Alt Text', 'Navigation Pane', 'Focus', and 'Options: Accessibility'. The 'Navigation Pane' option is selected and highlighted in blue. The document content includes a heading 'Document with Poor Accessibility', a section titled 'Navigation', and a list of five points regarding accessibility improvements. At the bottom, there is a diagram with two overlapping circles labeled 'Section 508' and 'ADA'.

File Home Insert

Editor Thesaurus Word Count Proofing

Check Accessibility

Translate Language

Review View Help Script Lab Acrobat

Comments Share

Track Changes Accept Compare Protect Hide Ink

Document with Poor Accessibility

Navigation

ully written using different font sizes, weights, or color in order to
different sections in a document. Using Microsoft Word's heading
those styles and adds background tagging to the document that

ord styles:

to different sections of the report

2. Helps the author use the automated Table of Contents generator
3. Text style/paragraph spacing can be changed simultaneously on all headings of the same level
4. People who rely on keyboard navigation can skip through the contents
5. PDF bookmarks are automatically generated from headings when the Word file is converted to PDF

Chapter 2. Images

Readers often gain valuable information from the images that an author chooses to include in a report. RTI's University Handbook requires that all figures/illustrations include a title or caption and that title or caption must be

Section 508 ADA

Page 1 of 7 794 words Text Predictions: On Accessibility: Investigate Focus 100%



Built-in accessibility checker and tools

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Editor Thesaurus Word Count Proofing Read Aloud Speech Check Accessibility Accessibility Translate Language Language New Comment Delete Previous Next Show Comments Comments Track Changes Reviewing Pane Tracking Accept Change Compare Protect Hide Ink Ink

A Document with Poor Accessibility

Chapter 1. Content Navigation


Titles and headings are usually written using different font sizes, weights, or color in order to provide a visual cue about different sections in a document. Using Microsoft Word's heading styles simplifies creation of those styles and adds background tagging to the document that provide many other benefits.

The benefits of using MS Word styles:

1. Provides visual cues to different sections of the report
2. Helps the author use the automated Table of Contents generator
3. Text style/paragraph spacing can be changed simultaneously on all headings of the same level
4. People who rely on keyboard navigation can skip through the contents
5. PDF bookmarks are automatically generated from headings when the Word file is converted to PDF

Chapter 2. Images

Readers often gain valuable information from the images that an author chooses to include in a report. RTT's University Handbook requires that all figures/illustrations include a title or caption and that title or caption must be



Section 508 ADA

Accessibility

Inspection Results

Errors

- Missing alternative text
 - Picture 4
 - Rectangle 1
 - Chart 2
- Image or object not inline (4)

Warnings

- Merged or split cells in table
 - Table Cell
 - Table Cell
 - Table Cell

☒ Keep accessibility checker running while I work

Additional Information

[Read more about making documents accessible](#)

Page 1 of 7 794 words Text Predictions: On Accessibility: Investigate Focus 100%

Only use
“Save As...”

Save As

Save as Adobe
PDF



General accessibility resources

- Section 508 Resources (TxDOT Research Library)
https://library.ctr.utexas.edu/Presto/home/home.aspx?ssid=Section_508
- Section 508 Community of Practice (National Transportation Knowledge Network):
<https://transportation.libguides.com/c.php?g=1139116&p=8311627>

Questions?

TxDOT Research Library

<https://library.ctr.utexas.edu>

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