Creating Accessible PDF Files from Microsoft Word in 5 Easy Steps

Using Microsoft Word to facilitate the creation of Accessible PDFs

Chad Chelius, ACI, ADS

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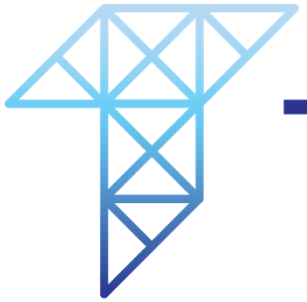

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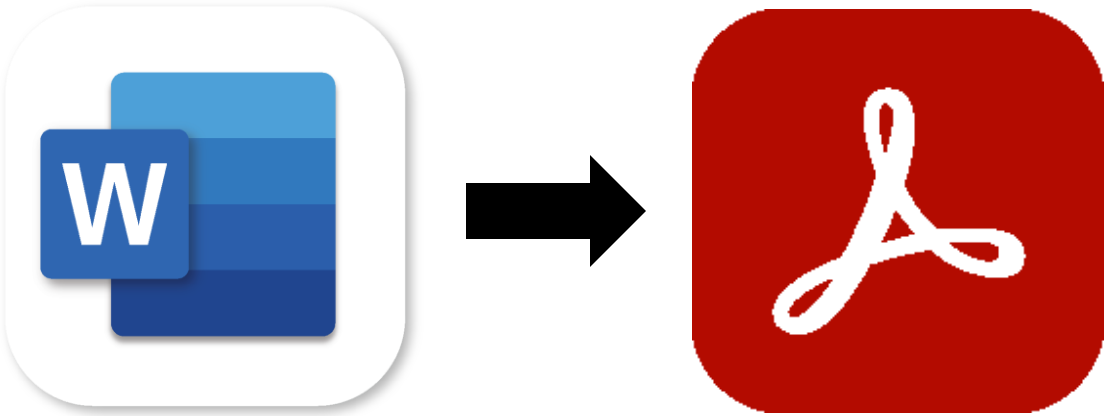

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Podcast: Chaxchat.com

FB Group: PDF Accessibility

#accessibility**Matters**

Why Microsoft Word?

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- Most common tool for document creation
- Logical tool for document creation
- Available on most computers
- Built-in accessibility capabilities (both for Word and PDF)
- Ability to add accessibility features

Advantages of Microsoft Word

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- Natural choice for document creation. Familiar, easy, intuitive
- Natural top-to-bottom flow which makes defining tag and reading order easy
- Accessible features built-in to Word which facilitates creating accessible documents

Does Word Have Accessibility Features?

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- It does!
- The Microsoft Word document itself can be made accessible
- PDFs exported from Microsoft Word can be made accessible

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Some Accessibility is Better than No Accessibility

Barrier Free vs. Compliant

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- Accessibility is not an all-or-nothing proposition
- Removing the significant accessibility barriers in a file without the file being compliant is still an accessible file
- Some Accessibility is Better than No Accessibility!
- Compliance can be challenging and requires advanced knowledge to achieve it!
- Several compliance requirements don’t impact the user experience at all!

Step 1: Color

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- Accessible PDF files are required to have a document title that describes what the document is about
- Relying on the filename is not a good method of conveying the purpose of a document

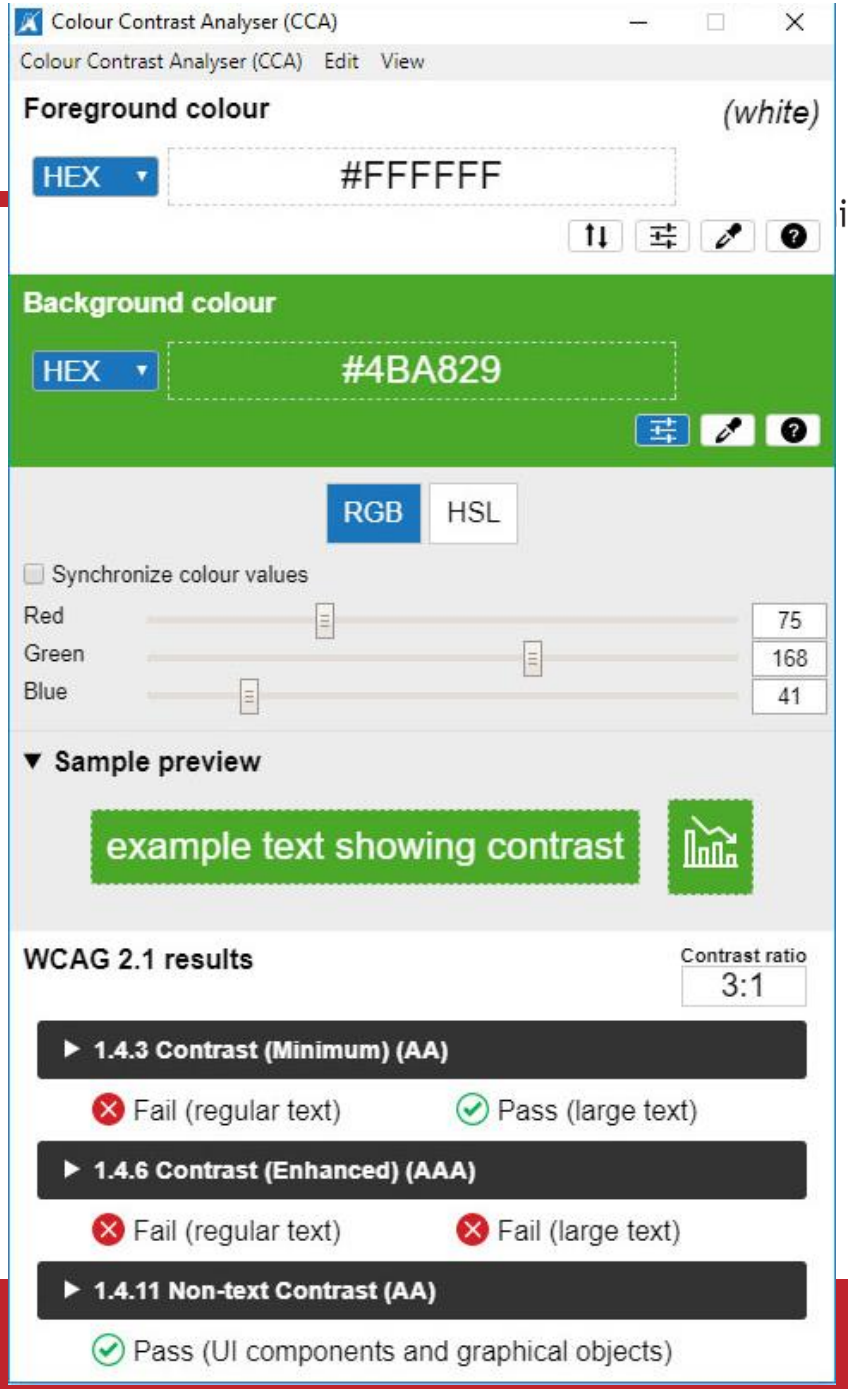
Color Contrast

4.5 to 1

Text below 14pt

3 to 1

Text 14pt bold



Color Contrast

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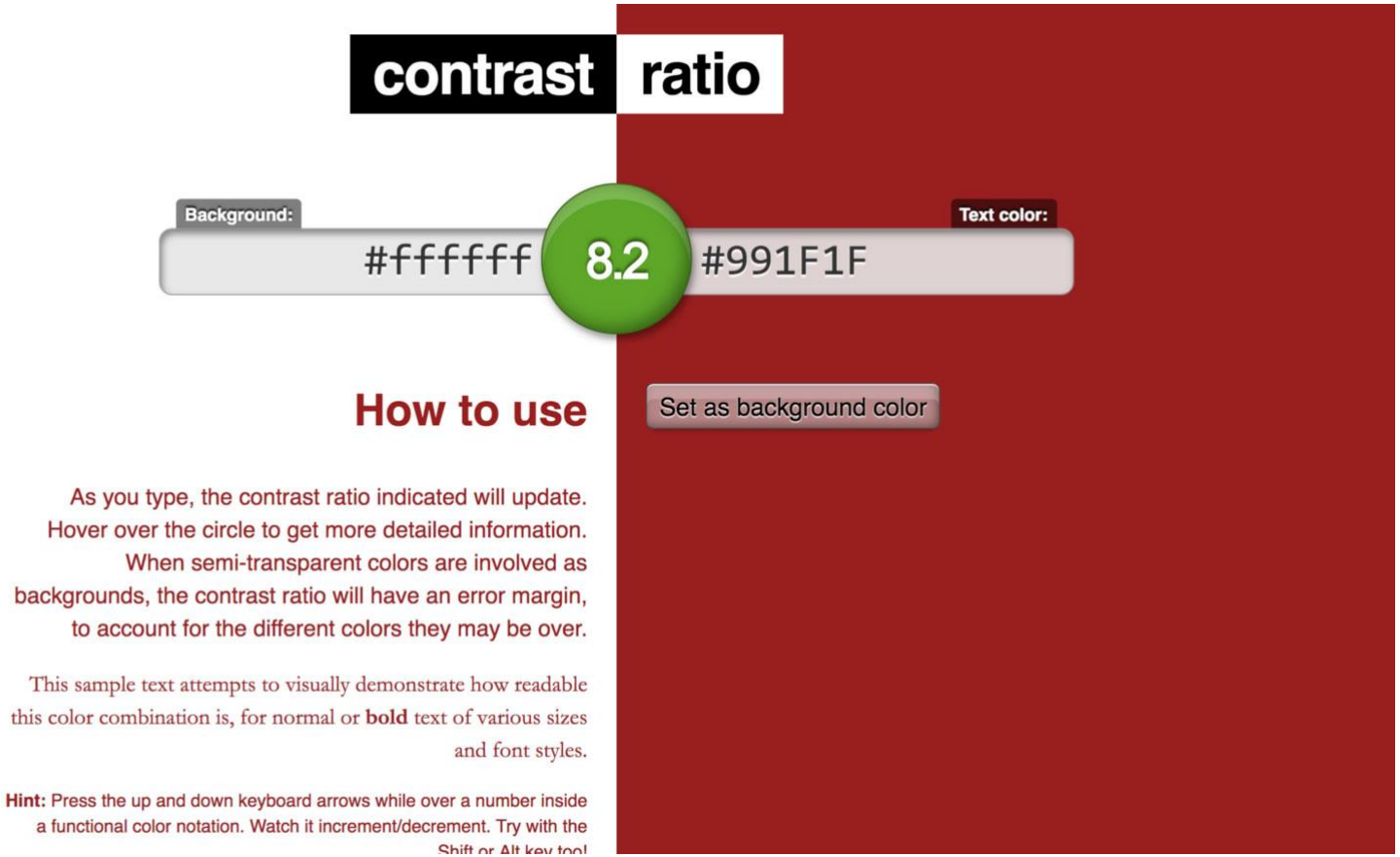

Accessible Color Choices

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Colorblind

Step 2: Document Title

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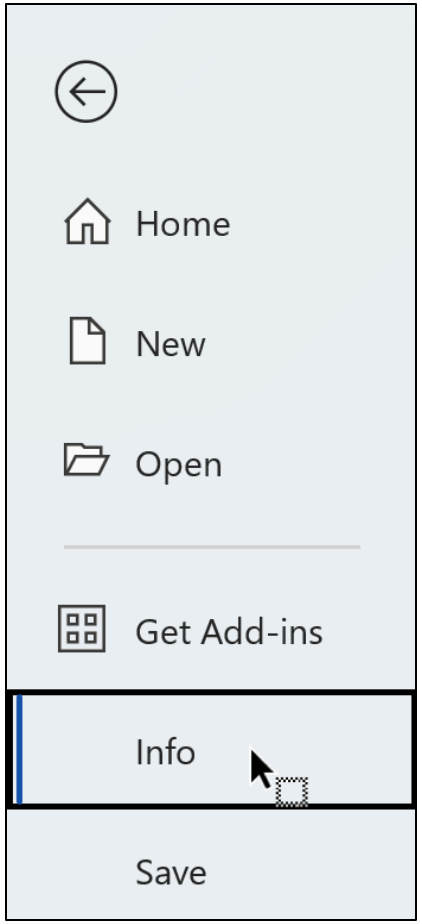
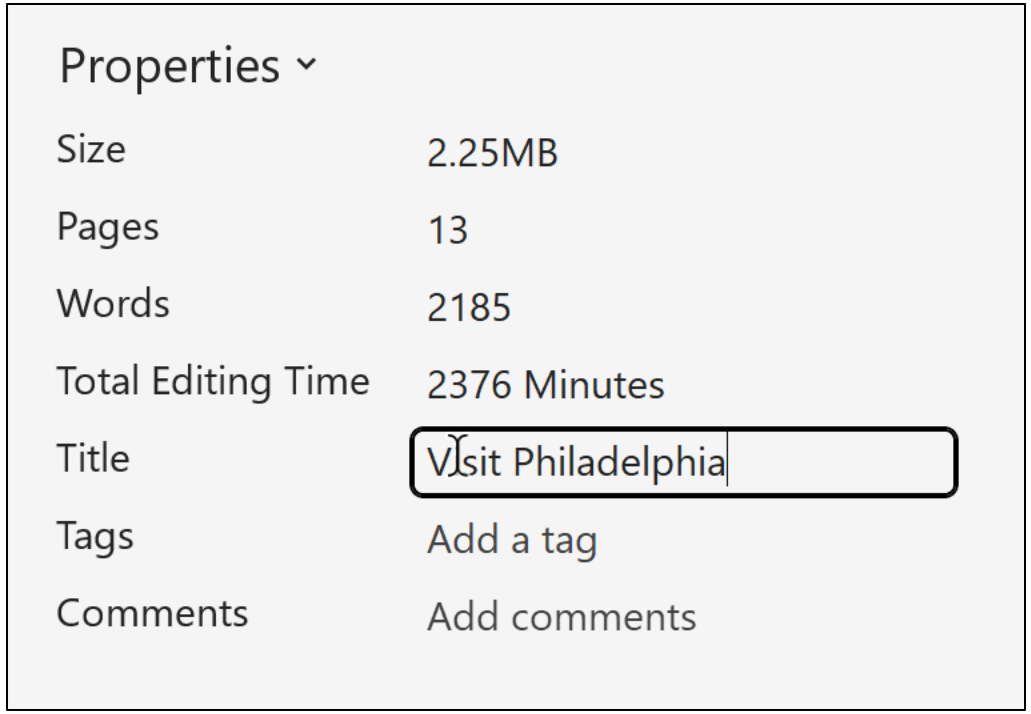
- Accessible PDF files are required to have a document title that describes what the document is about
- Relying on the filename is not a good method of conveying the purpose of a document
- WCAG Success Criteria 2.4.2 (Page Titled) – Intended to help users find content and orient themselves by ensuring that each document or web page has a descriptive title

Adding a Document Title in Word





Step 3: Add Headings

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- Headings provide structure to documents and describe each section so the user understands how the content is organized
- Headings provide landmarks to aid a user in navigating a document
- WCAG Success Criteria 2.4.6 (Headings and Labels) – Intended to help users understand what information is contained in a document and how that information is organized

Document Structure

Today's web bonus. Sign up for breaking news alerts. Readingeagle.com. Follow us on twitter. To find breaking news and other information from the Reading Eagle on twitter simply type "Reading Eagle" inside the twitter search bar. Twitter.com/readingeagle. READING EAGLE. Today's weather high: 51 low: 32. >>Page A8. Friday February 23, 2024. $3.00. Facebook.com/readingeagle. Twitter.com/readingeagle. PA. Program. EMT Investment. Tuition to be reimbursed for paramedics and EMTs under new effort. Figure. A state program will reimburse EMT workers and EMS agencies in an effort to boost EMT participation. By Anya Sostek. Pittsburgh Post-Gazette. A new state program will provide $1 million per year for the next three years to reimburse Emergency Medical Service workers for their training expenses and EMS agencies for recruiting and retention programs. "We are excited," said Chriss Dell, chief of the McCandless/Franklin Park ambulance authority and former chair of Allegheny County EMS Council, noting that one of the paramedics at McCandless/Franklin Park has already applied for reimbursement. "There are folks that are currently in EMT programs throughout the region that will hopefully be able to tap into it, and we are also excited that if we have folks considering it, this would be an incentive for them to attend." Funded with money from the Fireworks Tax Act. Pennsylvania residents who got certified as emergency medical responders, emergency medical technicians, advanced emergency medical technicians or paramedics after July 1, 2023, are eligible.

Document Structure

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READING
Pair convicted of 2 murders in drug deal
Berks » A3

ECONOMY
Home sales moved higher in January
Money » A6

MUSIC
Pearl Jam throws listening party
Living » B5

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READING EAGLE

TODAY'S WEATHER
High: 51
Low: 32
» PAGE A8

Friday, February 23, 2024 $3.00 FACEBOOK.COM/READINGEAGLE TWITTER.COM/READINGEAGLE readingeagle.com

PA. PROGRAM

EMT INVESTMENT

Tuition to be reimbursed for paramedics and EMTs under new effort

AMBULANCE

BILL UHRICH – READING EAGLE, FILE

A state program will reimburse EMT workers and EMS agencies in an effort to boost EMS participation.

By Anya Sostek
Pittsburgh Post-Gazette

A new state program will provide $1 million per year for the next three years to reimburse Emergency Medical Service workers for their training expenses and EMS agencies for recruiting and

PALMER EXPLOSION

Feds post records in probe of blast

Investigatory documents related to West Reading chocolate plant explosion available to public

By David Mekeel
dmekeel@readingeagle.com

For nearly a year, the National Transportation Safety Board has been investigating a March explosion at a West Reading chocolate factory that killed seven workers.

On Thursday, the agency shared with the public what it has found out so far about the deadly blast at the R.M. Palmer Co. plant.

The NTSB made public its docket of investigatory material, sharing it on the agency's website. The docket includes 151 entries, ranging from interviews with public and Palmer officials to lists of chemicals that were in the building to fire drill records to maintenance reports.

The cache includes hundreds of pages of documents and dozens of photographs. A social me-

Document Structure

- <Heading 1> Reading Eagle
- <Paragraph> Sign up for breaking news alerts.
- <Paragraph> To find breaking news and other information from the Reading Eagle on twitter simply type “Reading Eagle” inside the twitter search bar
- <Paragraph> Friday February 23, 2024.
- <Paragraph> Page A8.
- <Heading 2> EMT Investment
- <Figure> The back of an ambulance showing emergency response stickers on the windows and diagonal warning lines to alert oncoming vehicles.
- <Heading 2> Feds post records in probe of blast
- <Paragraph> A new state program will provide $1 million per year for the next three years to reimburse Emergency Medical Service workers for their training expenses and EMS agencies for recruiting and retention programs.

What Gives a Document Structure?

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- Headings
- Images
- Captions
- Lists
- Tables
- Hyperlinks

What Gives a Document Structure?

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- Structure gives value to sighted users as it helps them to process information efficiently
- Structure gives value to users of assistive technology as it helps them to process information efficeiently

WCAG 1.3.1 Info and Relationships

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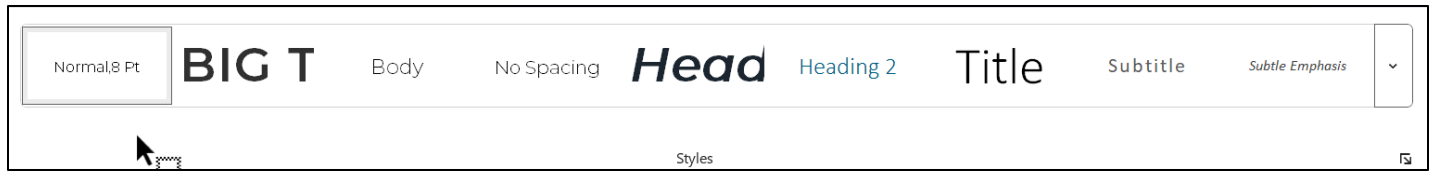
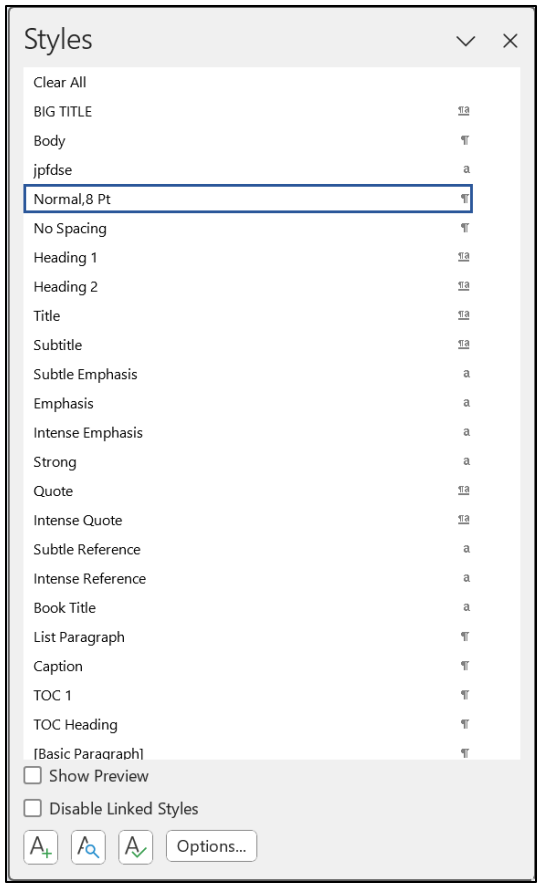
Information, structure, and relationships conveyed through presentation can be programmatically determined or are available in text.

Adding Structure in Word



- Styles add structure
- Default Headings map to appropriate tags
- You can assign a tag level to a custom style



Step 4: Describe Images

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- WCAG Success Criteria 1.1 (Text Alternatives) requires us to provide text alternatives for any non-text content (i.e. images, charts, graphs)
- Alt-text can be added directly in Microsoft Word to describe graphical non-text content.
- Alt-text added in Microsoft Word will get passed on to the PDF file when it is generated

Alternative Text

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- Graphical elements by default have no informational value to convey to users of assistive technology
- To provide information about graphics to users of assistive technology, we need to add alternative text to graphics
- Graphics include photographs, charts, graphs, infographics, heat maps, and images of text

WCAG 1.1 Text Alternatives

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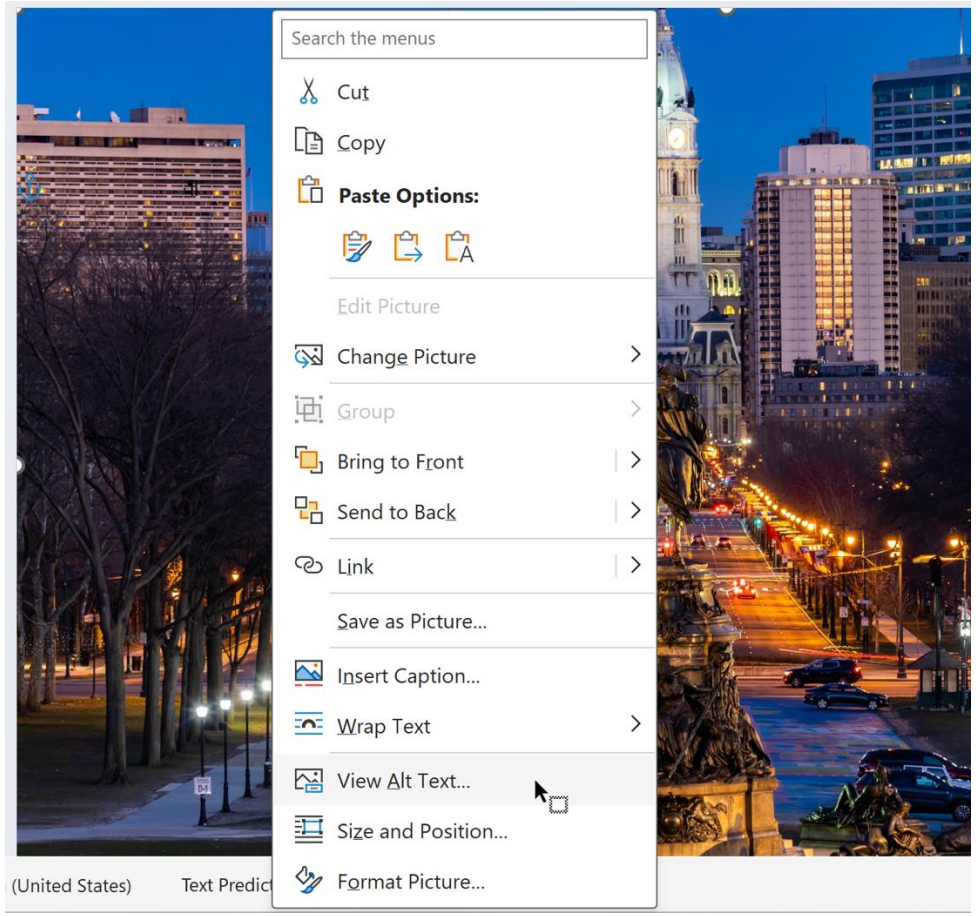
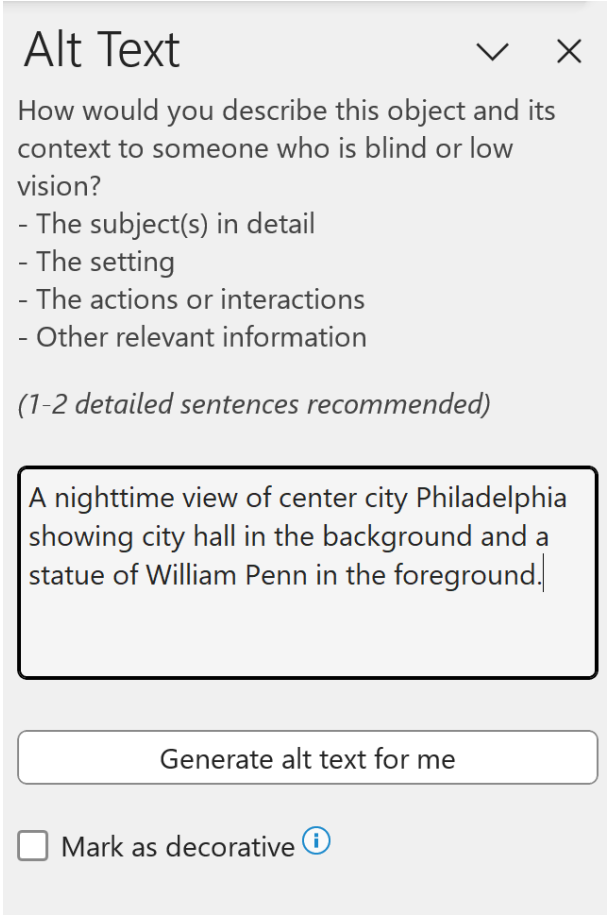
Provide text alternatives for any non-text content so that it can be changed into other forms people need, such as large print, braille, speech, symbols or simpler language.

Adding Alt Text in Word





Does Everything Have Value?

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- Sometimes we use imagery in our documents for aesthetic purposes only.
- When trying to decide if something should be read or not in a document, ask “Does this add value to the document”
- If the answer is yes, write alternative text for the element
- If the answer is no, artifact the element so that it is not read by assistive technology

Charts and Graphs

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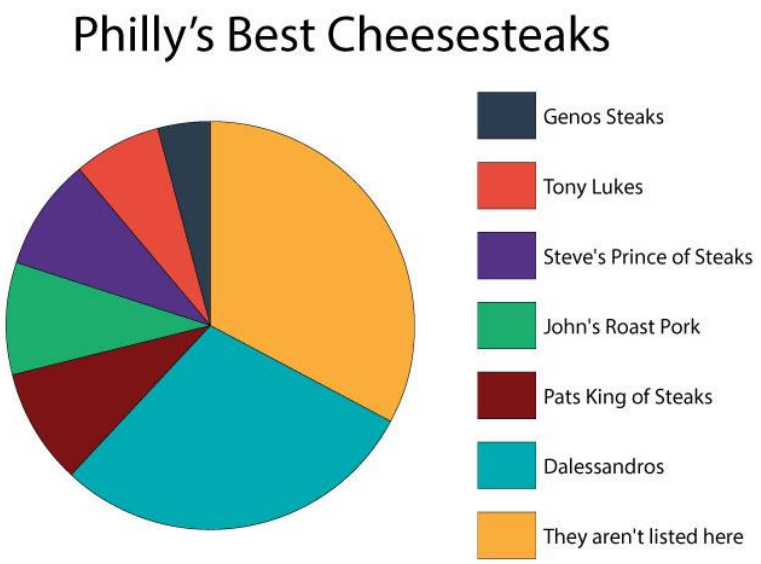
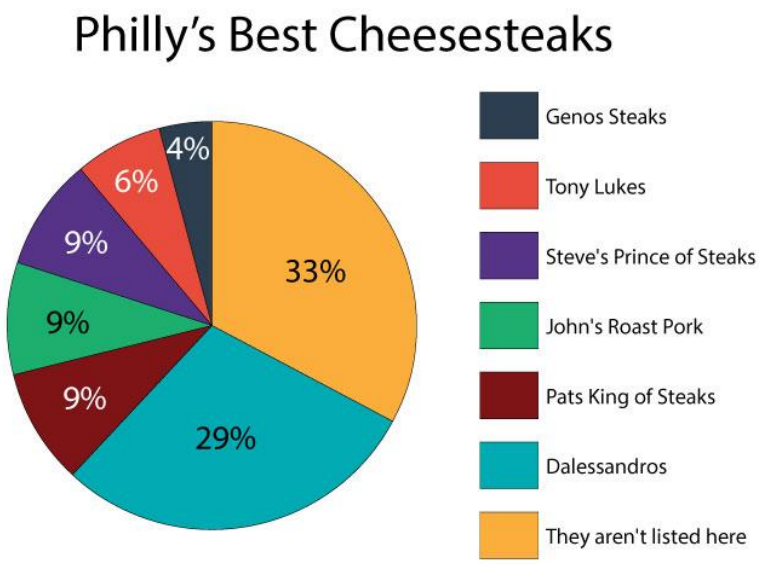
- Charts and Graphs provide important meaning via visual elements
- To convey the meaning of charts and graphs for all users, we need to take special care to ensure that information is conveyed
- Do not use color alone as the only means of conveying meaning

Add Labels for Clarity





Shapes to Distinguish Values

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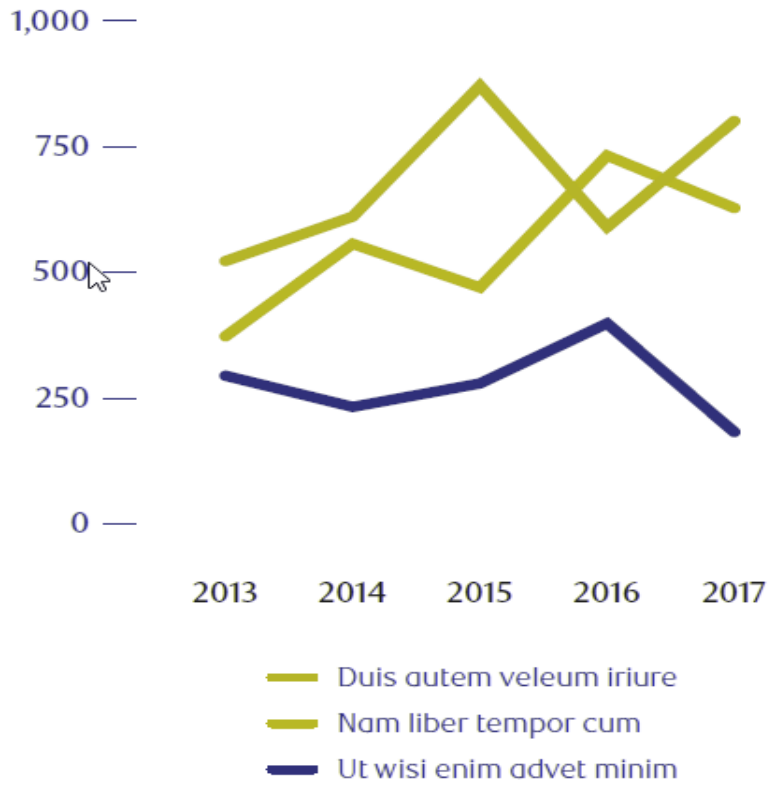

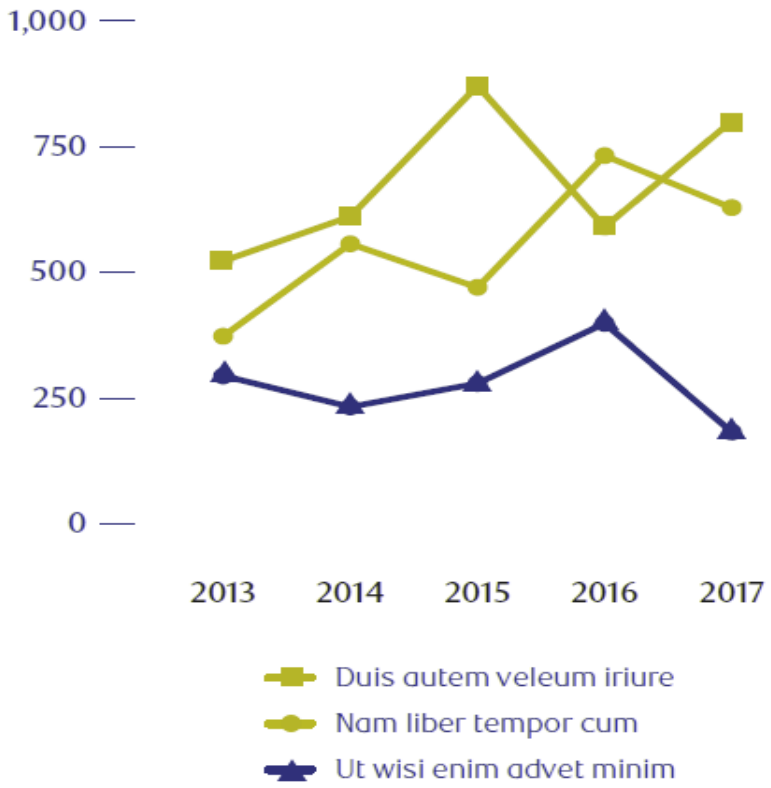

Step 5: Tables

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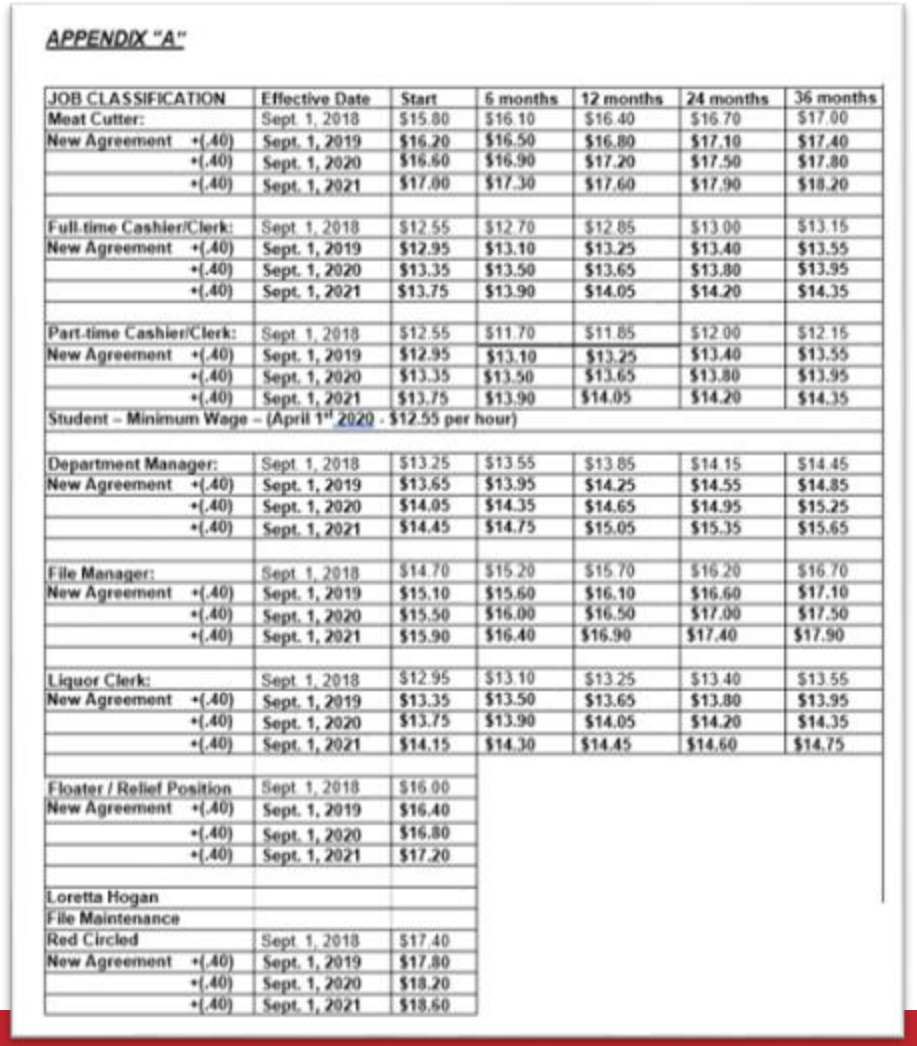
- Avoid using layout tables
- Tables are for comparing data
- Keep tables simple!
- Merging cells will cause problems

Table 1: Living Wage calculations across regions in British Columbia.

REGION	LIVING WAGE	GAP BETWEEN $15 MINIMUM WAGE AND LIVING WAGE
Comox Valley	$15.96	$0.96
Port Alberni	$17.22	$2.22
Clayoquot Sound	$20.11	$5.11
Cowichan Region	$18.81	$3.81
District 69, Parksville-Qualicum	$16.44	$1.44
Nanaimo	$17.55	$2.55
Victoria	$20.01	$5.01
Vancouver	$20.62	$5.62
Fraser Valley	$15.90	$0.90
Powell River	$16.75	$1.75
Lower Columbia Region	$18.15	$3.15
Kamloops	$16.90	$1.90
Revelstoke	$18.77	$3.77
100 Mile House	$17.45	$2.45
North Central Region	$16.39	$1.39
North East Region	$18.29	$3.29

Tables

- Keep your tables simple
- Avoid merging cells
- Always use Column Headers
- When in doubt, add column headers instead of row headers



APPENDIX "A"

JOB CLASSIFICATION	Effective Date	Start	6 months	12 months	24 months	36 months
Meat Cutter:	Sept. 1, 2018	$15.80	$16.10	$16.40	$16.70	$17.00
New Agreement +(.40)	Sept. 1, 2019	$16.20	$16.50	$16.80	$17.10	$17.40
+(.40)	Sept. 1, 2020	$16.60	$16.90	$17.20	$17.50	$17.80
+(.40)	Sept. 1, 2021	$17.00	$17.30	$17.60	$17.90	$18.20
Full-time Cashier/Clerk:	Sept. 1, 2018	$12.55	$12.70	$12.85	$13.00	$13.15
New Agreement +(.40)	Sept. 1, 2019	$12.95	$13.10	$13.25	$13.40	$13.55
+(.40)	Sept. 1, 2020	$13.35	$13.50	$13.65	$13.80	$13.95
+(.40)	Sept. 1, 2021	$13.75	$13.90	$14.05	$14.20	$14.35
Part-time Cashier/Clerk:	Sept. 1, 2018	$12.55	$11.70	$11.85	$12.00	$12.15
New Agreement +(.40)	Sept. 1, 2019	$12.95	$13.10	$13.25	$13.40	$13.55
+(.40)	Sept. 1, 2020	$13.35	$13.50	$13.65	$13.80	$13.95
+(.40)	Sept. 1, 2021	$13.75	$13.90	$14.05	$14.20	$14.35
Student – Minimum Wage – (April 1st 2020 - $12.55 per hour)						
Department Manager:	Sept. 1, 2018	$13.25	$13.55	$13.85	$14.15	$14.45
New Agreement +(.40)	Sept. 1, 2019	$13.65	$13.95	$14.25	$14.55	$14.85
+(.40)	Sept. 1, 2020	$14.05	$14.35	$14.65	$14.95	$15.25
+(.40)	Sept. 1, 2021	$14.45	$14.75	$15.05	$15.35	$15.65
File Manager:	Sept. 1, 2018	$14.70	$15.20	$15.70	$16.20	$16.70
New Agreement +(.40)	Sept. 1, 2019	$15.10	$15.60	$16.10	$16.60	$17.10
+(.40)	Sept. 1, 2020	$15.50	$16.00	$16.50	$17.00	$17.50
+(.40)	Sept. 1, 2021	$15.90	$16.40	$16.90	$17.40	$17.90
Liquor Clerk:	Sept. 1, 2018	$12.95	$13.10	$13.25	$13.40	$13.55
New Agreement +(.40)	Sept. 1, 2019	$13.35	$13.50	$13.65	$13.80	$13.95
+(.40)	Sept. 1, 2020	$13.75	$13.90	$14.05	$14.20	$14.35
+(.40)	Sept. 1, 2021	$14.15	$14.30	$14.45	$14.60	$14.75
Floater / Relief Position	Sept. 1, 2018	$16.00				
New Agreement +(.40)	Sept. 1, 2019	$16.40				
+(.40)	Sept. 1, 2020	$16.80				
+(.40)	Sept. 1, 2021	$17.20				
Loretta Hogan						
File Maintenance						
Red Circled	Sept. 1, 2018	$17.40				
New Agreement +(.40)	Sept. 1, 2019	$17.80				
+(.40)	Sept. 1, 2020	$18.20				
+(.40)	Sept. 1, 2021	$18.60				

Tables

- Do not include table title in table structure
- Always have headers
- Avoid checkmarks, X's, dashes, and other icons in tables

TABLE 5.4 UNDERSTANDING WCAG	TABLES	TEXT	GRAPHICS
SUCCESS CRITERIA 1.3.1	X	X	X
SUCCESS CRITERIA 1.4.1	--	✓	-
SUCCESS CRITERIA 1.5.1	✓		✓

TABLE 5.4 UNDERSTANDING WCAG

SUCCESS CRITERIA	TABLES	TEXT	GRAPHICS
SUCCESS CRITERIA 1.3.1	SELECTED	YES	NO
SUCCESS CRITERIA 1.4.1	NO	YES	NO
SUCCESS CRITERIA 1.5.1	APPLICABLE	N/A	YES

Hyperlinks

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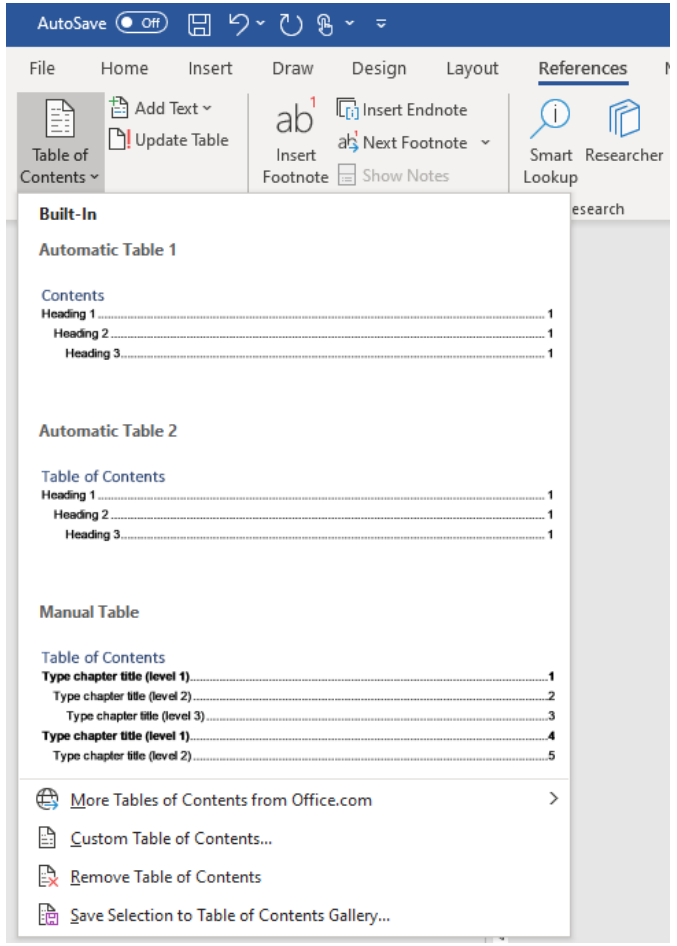
- Click here
- More info
- Download
- Get PDF

Be Descriptive

Table of Contents

- Reference > Table of Contents
- Requires the use of styles in the document
- Use meaningful headings
- Avoid lengthy headings that span multiple lines
- Avoid ALL CAPS for readability



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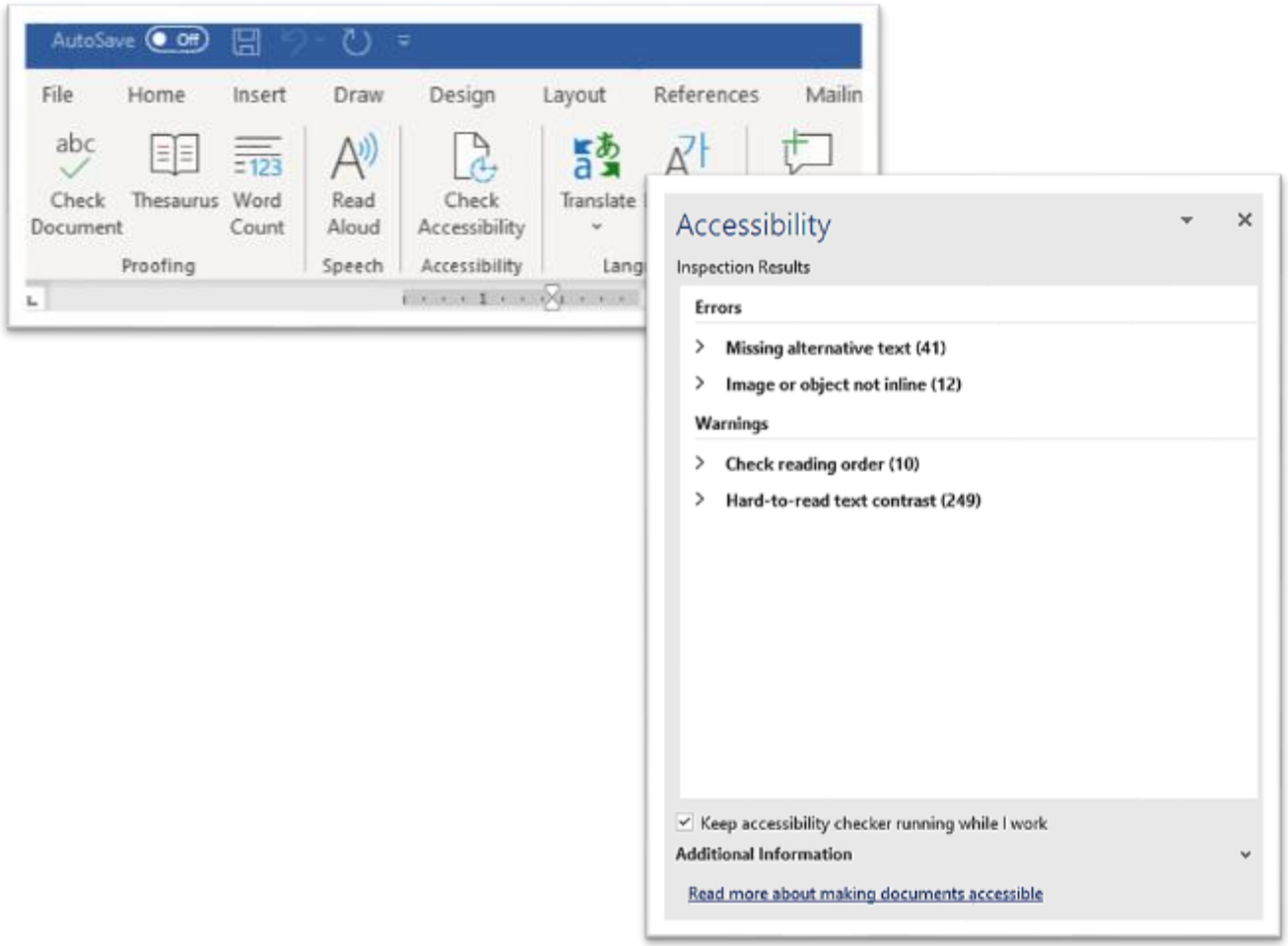
- This is the first step to accessibility
- Does not ensure compliance
- Avoids significant barriers
- Walks you through potential issues
- Warnings require human evaluation



Creating a PDF

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- Never “Print” to a PDF. This yields no accessibility at all
- “Save As” PDF – Microsoft method
- Acrobat Tab – Adobe method

PDF Accessibility Workflow

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- Generate PDF from Word
- Walk the Tags tree in Acrobat
- Run the Checker
- Fix any errors
- Test with a screen reader

Common Issues

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- Tag Order
- Heading Structure incorrect
- Missing Alt-text on images
- Non relevant items not artifacted
- Scope missing for table headers
- Missing Document Title
- Document Language not set

Demo

Thank you!

It’s unmistakable that the world has a greater reliance on digital content. This increased demand means that **equal access for all** is more critical than ever before.

Wherever you are on your digital accessibility journey, **Tamman** and **Chax** are here to help!

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