

# Accessible Presentation Reference Guide

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## Accessible Presentation

# Welcome to making an accessible presentation

### Digital Accessibility

Section 508 of the Rehabilitation Act requires Federal agencies to make electronic and information technology accessible to people with disabilities. Roughly 20% of the U.S. population has a disability that impacts computer and Internet use.

This means more than 25 million people rely on presentations being accessible. Individuals involved in the design, development, distribution, and use of presentations are responsible for ensuring that each presentation comply with Section 508.



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## Section 01

# Users with Disabilities

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## Types of Disabilities

Digital presentations can often create barriers for people with disabilities. Many of these barriers are easy to remove with education around how people with disabilities use technology. People with disabilities are impacted by inaccessible digital presentations in different ways.

Disabilities can vary person-to-person but, with digital presentations, we look into four main categories: visual, auditory, motor, and cognitive and learning disabilities.

## Section 01

### **People with visual disabilities**

- Visual disabilities can include users that are blind, have low vision, and/or have color-blindness.
- In most cases, users who are blind use a screen reader to access electronic presentations. A screen reader uses the structure of a presentation to present the text to the user. Images use alternative text to convey their meaning to the user.
- Users with low vision may enlarge presentation content so that it is more legible to them.

### **People with auditory disabilities**

- Auditory disabilities can be a mild or moderate hearing loss in one or both ears, known as hard-of-hearing.
- Auditory disabilities can also be substantial and uncorrectable hearing loss in both ears, known as Deaf.
- Occasionally, a person with an auditory disability can hear sounds but sometimes not sufficiently enough to understand all speech, especially in the presence of excessive background noise. This includes those who use hearing aids.
- Provide captions and transcripts to all audio or multimedia content to ensure accessibility to users who are Deaf or hard-of-hearing.

## Section 01

### **People with motor disabilities**

- Motor disabilities are also known as physical disabilities.
- These can include weakness and/or limitations of muscular control such as involuntary movements including tremors, lack of coordination, or paralysis and limitations of sensations, joint disorders, pain that impedes movements, and missing limbs.
- Some users with physical disabilities can have difficulty using a mouse. Therefore, a document should be structured to be navigable with just a keyboard.
- Some users will use a mouth stick, eye-tracking device, or a sip and puff device in place of a traditional keyboard.

### **People with cognitive and learning disabilities**

- Users with cognitive and learning disabilities are one of the largest disability groups.
- Cognitive, learning, and neurological disabilities involve neurodiversity and neurological disorders, as well as behavioral and mental health disorders.
- These can impact how well people hear, move, see, speak, and understand information.

## Section 01

- Because users with cognitive and learning disabilities can vary widely, designing content and structure to be easy to use and understandable will help address accessibility.

### **Assistive Technology**

- Many users' accessibility needs are met with the use of assistive technology, which includes screen readers, screen magnification, and high-contrast settings.
- Assistive technology products include a wide variety of both software and hardware.
- Assistive technology works through a standard keyboard interface and accessibility frameworks which report information about the content and structure of a presentation to screen readers and other assistive technologies.

### **Examples:**

Some of the most common forms of assistive technology include:

- On-screen keyboards: these enable people to use a pointer in place of a keyboard to type text.
- Voice-recognition software: converts spoken word into typed text.
- Screen readers: converts text into spoken word or other forms of communication such as Braille.

## Section 01

- The Narrator screen reader: part of Windows that has a touch mode that can perform screen reading tasks by processing touch gestures.
- Screen adjustment programs: these can adjust the display or areas of it such as high contrast themes, dots per inch screen settings, and a magnifier tool.

### **Screen Readers**

- Screen readers provide access to text within a presentation by rendering it into spoken language or a Braille output.
- The most important information that a screen reader needs in order to help users understand or navigate a presentation is proper structure.
- In addition to a screen reader vocalizing what is appearing on the screen, a screen reader offers a wide range of keyboard shortcuts to navigate through the document with a greater ease.
- Screen readers can be used both on a mobile device as well as a desktop.

### **Braille Displays**

- Users who are blind or have low vision can use Braille displays.
- Braille displays complement the standard keyboard and screen reader.
- The content of the presentation is transcribed into Braille.

## Section 01

### **Ensuring Proper Presentation Structure**

- There are several types of structural elements built into a presentation that aid in navigation and organization of a digital document.
- Having structure ensures all users understand the content of the presentation.
- Assistive technology uses structure to allow the user to navigate using specific commands to jump to or skip through headings, lists, and bookmarks content.
- An assistive technology user relies on the keyboard to activate objects and navigate within a presentation. Therefore, it is important the document has both accessibility and meaningful text.
- Linked text should clearly describe the content to be found or action to be performed.
- People who use screen readers sometime scan a list of links.
- To preserve tab order and to make it easier for screen readers to read presentation, use a logical heading order and built-in formatting tools.

### **Accessible Text**

- Some users have sight limitations that make it difficult for them to read text unless it has adequate contrast against the background.
- Some users have difficulty reading text that is simply too small.

## Section 02

# Web Content Accessibility Guidelines (WCAG)

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## WCAG 2.1

The Web Content Accessibility Guidelines (WCAG) are a set of guidelines that help explain how to make web content and electronic documents accessible to people with disabilities.

The overall goal of WCAG is to provide a single shared standard for web content accessibility that meets the needs of individuals, organizations, and governments. WCAG has 12 guidelines grouped under 4 principles: perceivable, operable, understandable, and robust. Together, these create a solid framework for accessibility.

## Section 02

### **Perceivable**

- Perceivable makes it so all users can receive and recognize content regardless of their disability.
- Provide text alternatives for any non-text content so that it can be changed into other forms people may need. This can be large print, Braille, speech, symbols or simpler language.
- Provide alternatives for time-based media.
- Create content that can be presented in different ways without losing information or structure.
- Make it easier for users to see and hear content including separating foreground from background.

### **Operable**

- Operable makes it so all users can navigate and interact with document content and functionality.
- Make all functionality available from a keyboard.
- Provide users enough time to read and use content.
- Do not design content in a way that is known to cause seizures.
- Provide ways to help users navigate, find content, and determine where they are in the presentation.
- User interface components and navigation should be operable.

## Section 02

### **Understandable**

- Understandable makes it so all users can interpret and process the content.
- It should be readable, legible, comprehensible, and consistent.
- Make document pages appear and operate in predictable ways.
- Help users avoid and correct mistakes.

### **Robust**

- Robust makes it so all users can utilize content and functionality using an assistive technology device.
- Maximize compatibility with current and future assistive technologies.

### **Guidelines and Success Criteria**

- To maximize accessibility for people with disabilities, WCAG contains 12 guidelines.
- Guidelines include: text alternatives, time-based media, adaptable, distinguishable, keyboard accessible, enough time, seizures and physical reactions, navigable, input modalities, readable, predictable, input assistance, and compatible.
- Success Criteria are used as a tool for testing to measure conformance with the guidelines.

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## Section 02

- There are three levels of conformance defined for Success Criteria: Level A, Level AA, and Level AAA.
- Level A is the minimum level for accessibility. If the document does not reach a Level A Success Criteria rating, a user with disabilities is most likely being excluded from the document.
- To reach Level AA, your document must meet all the Level A requirements first.
- Level A/AA is typically used by the Department of Justice as a standard for document accessibility.

## Section 03

# Creating an Accessible Presentation

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## PowerPoint Presentation

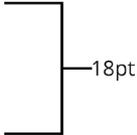
The following instructions outline how to make PowerPoint presentations accessible to people with disabilities. Many presentations tend to be a visual representation of the information, and people who are blind or have low vision can understand them more easily if each slide is created with accessibility in mind.

Microsoft PowerPoint is one of the most popular tools for creating slide show presentations. Presentation slides include thoughts for a meeting or lesson, key points for a live presentation, and handouts.

## Section 03

### Text

- Have a descriptive and informative page title.
- Use a San-serif font when possible for readability.

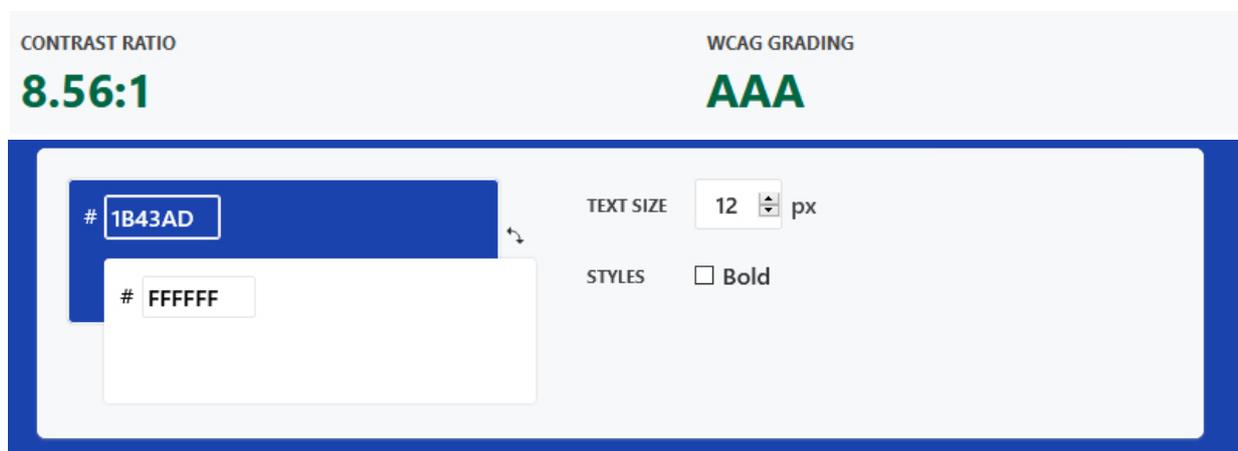
Aa   
San-Serif

- Large text - at least 18 point (24px) or 14 point (18.66px) and bold.
- Contrast ratio of at least 4.5:1 for normal text and 3:1 for large text.
  - (Use [Contrast Checker](#))
- Images of text - if the same visual presentation can be made using text alone, an image is not used to present that text. Images of text used for only decoration.
- Blocks of text - over one sentence in length.
  - no more than 80 characters
  - not fully justified
  - line spacing = 1/2 the height of text paragraph spacing  
= 1.5 times the line spacing
  - have a specified foreground and background color
- A more understandable alternative is provided for content that is more advanced than can be reasonably read by a person with roughly 9 years of primary education.
- Be careful using all CAPS, all CAPS can be difficult to read and can be read incorrectly by screen readers.

## Section 03

## Colors and Contrast

- Do not use color as the only way to convey meaning.
- Provide good contrast being especially careful with light shades of gray, orange, and yellow.
- A contrast ratio of at least 3:1 is present for differentiating graphical objects such as icons and components of charts or graphs.
- (Use [Contrast Checker](#))



## Media - Images/Video

- If you have embedded video, ensure it is captioned.
- If you have embedded audio, include a transcript.
- If your slides contain animations, ensure they are brief and do not distract from the most important content on the page.
- All images have equivalent alternative text.
- Strongly recommend a text transcript for all multimedia content.

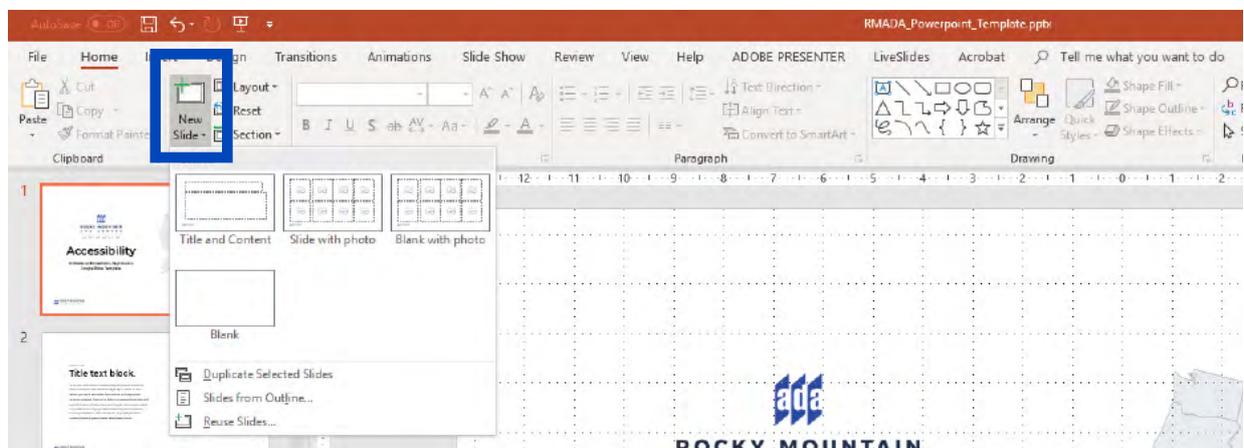
## Section 03

### Slide Layouts

PowerPoint contains built-in slide layouts that you can apply to any slide. When you use slide layouts with a new slide, these layouts automatically make sure that the correct heading structure and reading order works for everyone.

1. Select **Home** > **New Slide**, then choose a layout from the **drop-down**.
2. To change a slide layout, select **Home** > **Layout**, then choose a layout from the **drop-down**.

\*Use simple slide transitions and avoid automatic slide transitions



- If you apply a layout to a slide that wasn't structured correctly (e.g., pictures and text boxes added to a blank slide), there may be extra cutting, pasting, and deleting unnecessary boxes to apply the correct layout.
- Using the Slide Master under the View tab helps create accessible layouts that meet the needs of the presentation while maintaining a proper heading structure and reading order.

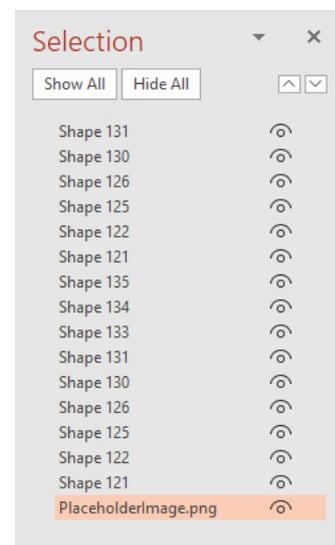
## Section 03

## Slide Reading Order

- Inserting other content to a slide e.g., a text box) will be read by a screen reader in the order it is added to the page.

To check or fix reading order:

1. Select **Home > Arrange > Selection Pane**.  
Reading order is shown in reverse, bottom to top.
2. Click and drag or use the arrow buttons to change reading order.

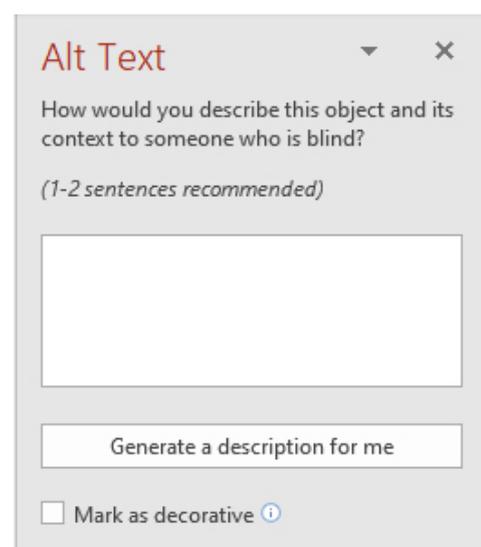


## Alternative Text

Images should be given appropriate alternative text in PowerPoint. This alt text is read by a screen reader in a PowerPoint file and should remain intact when exporting to HTML or PDF.

1. Select the image > **Picture Format tab > Alt Text**.
2. Type in meaningful alt text for the image or mark the image as decorative.

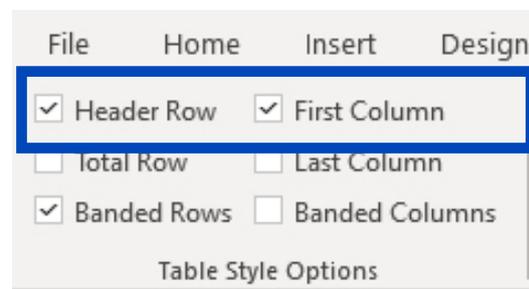
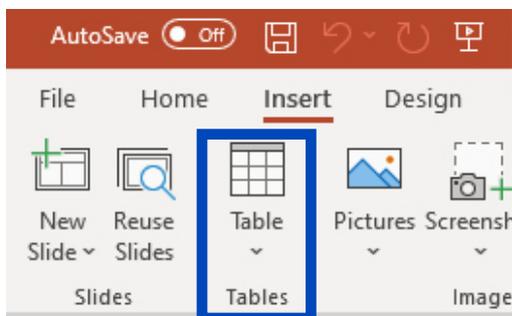
\*The Mark as decorative check-box when checked will null the image from a screen reader.



## Section 03

### Data Tables

- Accessible tables need a clear table structure and table headers to help guide a screen reader user.
- Select the **Insert tab** on the ribbon, then select **Table > Insert Table**.
- Most screen readers will not identify table headers in PowerPoint. These headers will be identified when saving to PDF in the most up-to-date versions of PowerPoint.



To identify the headers in a table:

1. Click inside the table. The Table Tools options should become visible, and the **Table Design** tab should be open.
2. If the top row of the table contains headers for each column, make sure the **Header Row check-box** is checked in the **Table Style Options**.
3. If the first column of the table contains headers for each row, make sure the **First Column check-box** is checked in the **Table Style Options**.

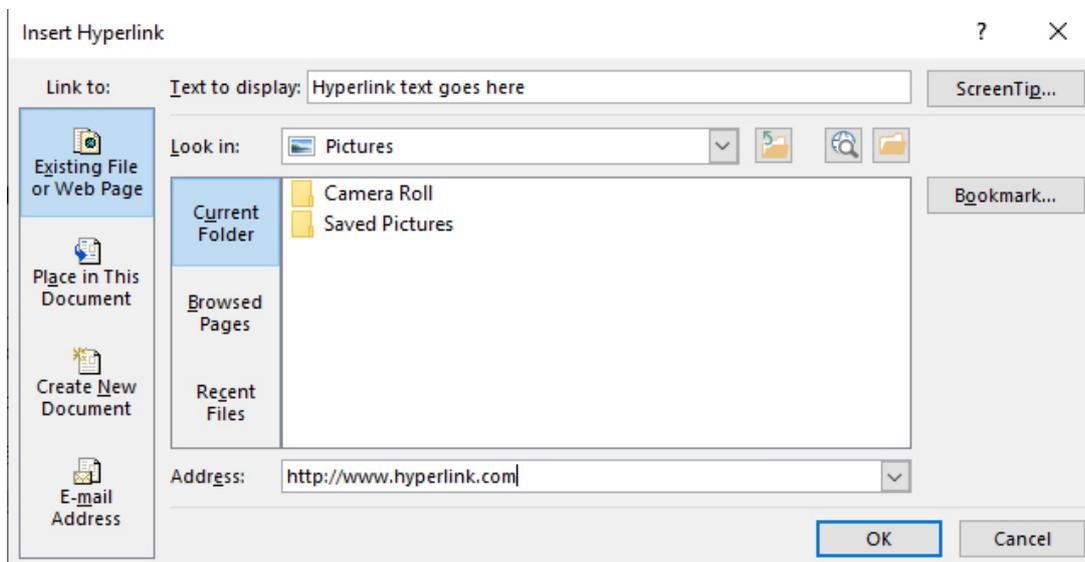
\*Ensure the Table has a style that provides enough contrast.

## Section 03

## Hyperlinks

PowerPoint automatically creates a hyperlink when a user pastes a full URL onto a slide and presses Enter or Space. These may not make sense to screen reader users or others, so make the link text descriptive.

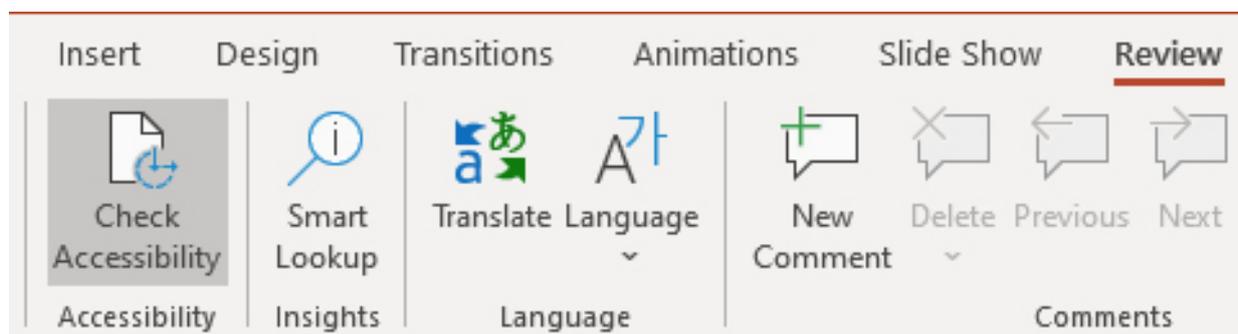
1. Select **Insert > Link > Type** link Address and Text to display.
2. Change the text in the Text to Display field to a more meaningful description than just the URL.



## Section 03

### Accessibility Checker

- Select **Review** > **Check Accessibility**.
- The Accessibility Checker verifies your file against a set of rules that identify possible issues for people who have disabilities. Depending on how severe the issue is, the Accessibility Checker classifies each issue as an error, warning, or tip.
- **Error.** Content that makes the document difficult or impossible to read and understand for people with disabilities.
- **Warning.** Content that in most (but not all) cases makes the document difficult to understand for people with disabilities.
- **Tip.** Content that people with disabilities can understand but that could be presented in a different way to improve the user's experience.
- There are some issues PowerPoint Accessibility Checker is not able to detect. It is important to always review manually using the Web Content Accessibility Guidelines as a guide.



## Section 04

# Accessible Webinars

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## Virtual Online Presentation

Whether hosting a meeting, teaching a class, or presenting a training on an Online platform, there are several issues to keep in mind in order to ensure the Online presentation is accessible to all participants.

Zoom has become widely used for its accessibility features. Even just the task of joining the Online presentation can be a large roadblock if the meeting or training has not been developed with accessibility in mind. Here we will outline a few tips and tricks to ensure everyone is able to access the information.

## Section 04

### **Know Your Audience**

- If the webinar will be open to the public, it is recommended to have a sign language interpreting service on-call in case of necessity.
- Require a registration ahead of the webinar to be aware of any accommodations that may be needed.
- Having a person registered with an email address is helpful to send materials about the webinar ahead of time.
- If there is not a registration it is important to know that 1 in 4 people has a disability, build the webinar with accessibility in mind and prepare for people to attend with any kind of disability including but not limited to blind or low vision, deaf or hard of hearing, and cognitive disabilities.
- When hosting a webinar for a specific organization, ask ahead of time if anyone will need accommodations and ensure those accommodation are in place ahead of time.
- Promote the webinar. This not only brings a larger audience, but allows people to learn about the accommodations offered and if they need to request any ahead of time.

### **Captioning**

- It's important to know where to go for captioning. People may need it for a variety of reasons: they have some kind of hearing loss or are Deaf, if their audio isn't working, or if the speaker is hard to follow because they talk fast or have a strong accent.

## Section 04

### **Captioning (continued)**

- Google Hangouts provides free captioning, whereas Zoom is third party.
- Ensure captions are available ahead of time whether it is via AI or an interpreter and be prepared for a cost.
- Some webinar hosting sites allow you to assign a person to manually add captions during the presentation.
- When hiring a sign language interpreter, send the material to them ahead of time to make sure any technical wording is easy to understand.
- Consider having a presentation script or transcript prepared ahead of time and make it available for any who need it.
- If the webinar is recorded it should be captioned accurately before sending out.

### **Webinar Materials**

- Consider sending your slide deck ahead of time for anyone calling in or who may benefit from getting the material prior to hearing it presented.
- Ensure all handouts given to attendees are accessible. This includes anything from PowerPoint, Word, and Adobe PDF.
- Include a large print version of all materials.

## Section 04

### Extra Tips

- Consider having someone else on hand to monitor the chat. That way the speaker can focus on the content and will not ignore a timely question or comment.
- For anyone calling in, read the words off every slide and take care to describe important images. If you're encouraging use of the chat, read each message out loud along with your response. It'll be helpful for callers to follow along as you read it out and respond since they can't see the questions themselves.
- Hot keys will depend on the platform you use (zoom Teams, GoToMeeting, etc.), so it's suggested your first slide is a review of all the hot keys as a reminder to anyone who needs them.
- Mute participants upon entry so the speaker doesn't have to do both the presenting and the muting.
- Explain how webinar materials will be distributed.
- Explain how attendees can access the captioning.
- Let the audience know how to ask questions, whether a hand raise, in the chat, a private chat or if it's okay to simply interject.

