Slide 1

The ADA & Effective Communication

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Slide 2

Population

- 1 in 5 Americans have a functional impairment that affects daily life
- 1 in 7 families are affected by disability
- Functional impairments
  - Auditory/hearing
  - Cognitive/learning & neurological
  - Physical/mobility
  - Visual

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Slide 3

Physical Disabilities

- 17 million (7.1%) of U.S. adults find it difficult or are unable to walk a quarter mile.
- Functional limitations
  - Ambulation
  - Stamina
  - Balance
  - Reach
  - Manual dexterity / fine motor skills
- May be caused by conditions like arthritis, cerebral palsy, spinal cord injury, head injury, stroke, loss of limb/digits, Parkinson's Disease, Muscular Dystrophy, ALS, repetitive stress injury.

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Barriers for People with Physical/Mobility Impairments

- Lack of accessible route to the program space or activity
- Lack of clear floor space to approach & read information
- Controls outside of the reach range
- Controls that require tight twisting, pinching or grasping
- Operations that require mouse-over, finger point, swipe or pinch

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Cognitive, learning, & neurological disabilities

Examples of diagnosis

- Attention deficit hyperactivity disorder (ADHD) - difficulty focusing on tasks, focusing for longer periods, or being easily distracted.
- Autism spectrum disorder (ASD) impairments of social communication and interaction abilities, and sometimes restricted habits and interests.
- Intellectual disabilities or learning disabilities - learning more slowly, or difficulty understanding complex concepts.
- Mental health disabilities such as anxiety, delirium, depression, paranoia, may cause difficulty focusing on information or processing.
- Memory impairments - limited short-term memory, missing long-term memory, or limited ability to recall language.
- Seizure disorders can include different types of epilepsy and migraines, which may be in reaction to visual flickering or audio signals at certain frequencies or patterns.

Source: Diverse Abilities and Barriers in How People with Disabilities Use the Web . W3C Web Accessibility Initiative (WAI).

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Barriers for People with Cognitive, Learning & Neurological Impairments

- Complex instructions
- Abstract ideas
- Multiple steps, unclear sequence
- Sensory overload
- Inability to pause or repeat information

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Slide 8 — Auditory Disabilities

Auditory Disabilities

- Hard of hearing: mild to moderate hearing loss in one or both ears. 48 million Americans (20%) have some degree of hearing loss.
- Deafness: substantial to uncorrected hearing loss in both ears. 3.6% (11 million) people in the U.S. consider themselves deaf.

Related Health Conditions

- Five out of six children experience **ear infection** by the time they are three years old.
- Mild to moderate untreated hearing loss leads to cognitive decline and may be an early indicator for **Alzheimer's disease**.
- Individuals with untreated hearing loss are twice as likely to **experience depression** than those who have normal hearing or those who wear hearing devices.
- Studies suggest those with **hypertension** have a greater incidence of hearing loss than those without.
- Hearing loss is twice as common in individuals who have **diabetes** than in those without.

Source: *National Institute on Deafness and Other Communication Disorders.*

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Slide 9 — Hearing Loss

Hearing Loss

- 28 million U.S. adults could benefit from using hearing aids
- Adult men (age 20-69) are twice as likely to have hearing loss than women of the same age.
- As women age, they have more difficulty hearing at lower frequencies than do men.
- Approx. 2-3 of every 1,000 children in the U.S are born with a detectable hearing loss in one or both ears.
- More than 90 percent of deaf children are born to hearing parents
- Fifteen percent of school-age children (6-19) have some degree of hearing loss.
- 30 million Americans age 12 and older has hearing loss in both ears.
- 3.65 million hearing aid units were dispensed in the United States during 2016.
- The average age of first-time hearing aid wearers is 70 years of age.
- A large number of people wait 15 years from the time they know they have hearing loss until they purchase their first hearing aids (Better Hearing Institute)
- Hearing aid prices range from $1,000 to $4,000 per device depending upon the level of technology they contain.

Source: *National Institute on Deafness and Other Communication Disorders.*

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Slide 10 — Deafness

Deafness

- 1 million Americans use sign language as their primary language
- 30 Million Americans hear at 40 decibels (dB) or higher. "Normal" hearing ranges from 0 to 20 dB.
- 72% of families do not sign with their Deaf children.
- 70% of Deaf people don't work or are underemployed.
- 1 in 4 Deaf people have quit a job due to discrimination.

Source: *CDC, Bureau of Labor & Statistics, Disability Statistics, World Federation for the Deaf, Communication Services for the Deaf.*

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Slide 11 — Barriers for People with Auditory Disabilities

Barriers for People with Auditory Disabilities

- Inability to amplify audio information.
- Lack of captions or for audio information.
- Lack of sign language for audio information.

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Slide 12 — Visual Disabilities

Visual Disabilities

- 26.9 million (10%) adult Americans reported they either "have trouble" seeing, even when wearing glasses or contact lenses, or that they are blind or unable to see at all.
- Range from mild or moderate vision loss in one or both eyes ("low vision")
- Substantial and uncorrectable vision loss in both eyes ("blindness").
- "Legal blindness" is considered 20/200 in the better eye.
- Photo/light sensitivity
- Color sensitivity or lack of color sensitivity (color blindness)
- May be caused by uncorrected refractive errors, cataract, age-related macular degeneration, glaucoma, diabetic retinopathy, corneal opacity, trachoma.

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Visual Impairments

- 3.2 million are estimated to have a visual impairment.
- 8 million are estimated to be nearsighted/far sighted ➲ expected to double to 16 million by 2050.
- An estimated 1 million Americans are legally blind (20/200 vision or worse). Expected to double to 2 million by 2050.
- Medical expenditures are more than $2,000/year for people with blindness compared to people without vision loss.
- Of U.S. school age children receiving support for visual impairments:
  - 7.8% are Braille readers
  - 32.3% are print readers
  - 10.8% are auditory readers
  - 32.7% are non-readers/symbolic readers
  - 16.4% are pre-readers
- Cost of assistive technology presents a barrier for people with low vision to complete education and gain employment.

Source: *National Federation of the Blind.*

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Barriers for People with Visual Impairments

- Publications presented in small print and serif font.
- Cues/instructions that are color-based.
- Lack of contrast between foreground and background.
- Electronic information that is not compatible with adaptive technology used to read it.
- Live visual events that lack description.
- Recorded video without description.
- Orientation and wayfinding.

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Is technology affecting our hearing and vision?

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So what does the ADA have to say about effective communication?

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ADA Definition of Disability

A physical or mental impairment that substantially limits one or more major life activities;

A record of such an impairment; or

Regarded as having such an impairment.

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ADA Title II Review

Program Access

§35.150

- A public entity shall operate each service, program, or activity so that the service, program, or activity, when viewed in its entirety, is readily accessible to and usable by individuals with disabilities.

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Effective Communication

§ 35.160
A public entity shall take appropriate steps to ensure that communications with applicants, participants, members of the public, and companions with disabilities are as effective as communications with others.

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Auxiliary Aids & Services

A public entity shall furnish appropriate auxiliary aids and services where necessary to afford qualified individuals with disabilities, including applicants, participants, companions, and members of the public, an equal opportunity to participate in, and enjoy the benefits of, a service, program, or activity of a public entity.

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Auxiliary Aids & Services

- (1) Qualified interpreters on-site or through video remote interpreting (VRI) services; notetakers; real-time computer-aided transcription services; written materials; exchange of written notes; telephone handset amplifiers; assistive listening devices; assistive listening systems; telephones compatible with hearing aids; closed caption decoders; open and closed captioning, including real-time captioning; voice, text, and video-based telecommunications products and systems, including text telephones (TTYs), videophones, and captioned telephones, or equally effective telecommunications devices; videotext displays; accessible electronic and information technology; or other effective methods of making aurally delivered information available to individuals who are deaf or hard of hearing;

- (2) Qualified readers; taped texts; audio recordings; Brailled materials and displays; screen reader software; magnification software; optical readers; secondary auditory programs (SAP); large print materials; accessible electronic and information technology; or other effective methods of making visually delivered materials available to individuals who are blind or have low vision;

- (3) Acquisition or modification of equipment or devices; and

- (4) Other similar services and actions.

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Method

- Type of auxiliary aid will vary based on method of communication used by the individual.
- Nature of the event/exchange/interaction;
- Length of event/exchange/interact;
- Complexity of the communication involved; and
- Context in which the communication is taking place.

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Other Considerations

- Primary consideration must be given to the individual with the disability.
- Auxiliary aids must be provided in a timely manner.
- Protect the privacy and independence of the person with the disability.
- No surcharge can be passed onto the person with a disability.

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Defenses

- **Direct threat** to the health or safety of others
  - Individualized assessment; nature; duration; severity of the risk; probability that the potential injury will actually occur; can the reasonable modifications, auxiliary aids or services mitigate the risk?

- **Fundamental alteration** to the nature of the service, program, or activity

- **Undue financial and administrative burden**
  - Public entity has burden of proof
  - Decision made by CEO

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Alternate Formats

- Large print
- Electronic files (txt, doc, rtf)
- Braille
- Audio files

"This document available in alternate formats upon request."
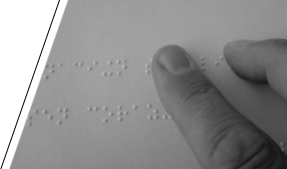
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Large Print

- 18 to 20 point font
- San serif, bold
- Verdana, Helvetica, Tahoma, Arial
- Line space 1.5
- Read American Council of the Blind *"Best Practices and Guidelines for Large Print Documents"* (https://www.acb.org/large-print-guidelines)

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Braille

- Grade 2 Braille
- 26 standard letters of the alphabet, punctuation and contractions
- Should be professionally proofed
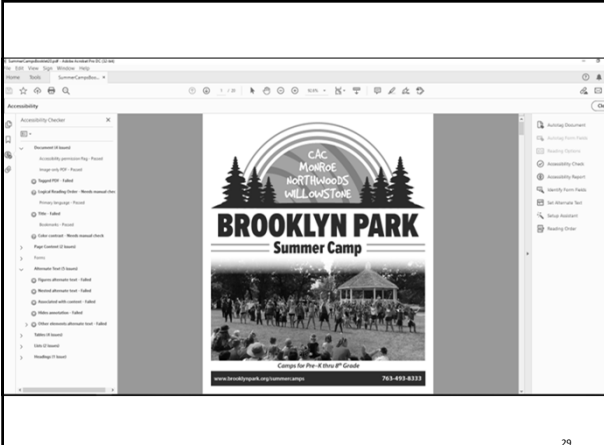- Braille transcription service provider

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PDF's & Electronic Files

- PDFs must be formatted for compatibility with adaptive technology
- Tab order must be designated
- Photos and images should have alt text descriptions
- Adobe https://helpx.adobe.com/acrobat/using/create-verify-pdf-accessibility.html

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Auxiliary Aids & Services

- Assistive listening system
- Sign language interpreters
- Captioning / Real-time captioning
- Readers
- Descriptive services / audio description

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Text Telephones (TTYs)

Required where public pay phones are provided:
- Buildings / Floors / Exteriors with public pay phones
  - Public Building 1:1
  - Private Building 4:1
- Phone banks: 4 or more public pay phones are provided
- Public rest stop, emergency roadside stop, or service plaza
- Hospital emergency room, hospital recovery room, or hospital waiting room
- Transportation facilities including bus, rail and airport
- Detention and corrections facilities

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Assistive Listening System/Devices

- Hardwired for assembly areas in new construction & alterations
- Portable systems
- FM & Digital
- Maintained in good working condition

Capacity of Seating in Assembly Area	Minimum Number of Required Receivers	Minimum Number of Required Receivers Required to be Hearing-aid Compatible
1. Or fraction thereof.		
50 or less	2	2
51 to 200	2, plus 1 per 25 seats over 50 seats [1]	2
201 to 500	2, plus 1 per 25 seats over 50 seats [1]	1 per 4 receivers [1]
501 to 1000	20, plus 1 per 33 seats over 500 seats [1]	1 per 4 receivers [1]
1001 to 2000	35, plus 1 per 50 seats over 1000 seats [1]	1 per 4 receivers [1]
2001 and over	55 plus 1 per 100 seats over 2000 seats [1]	1 per 4 receivers [1]

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Sign Language Interpreters

- More than 135 types of sign language worldwide
- In the U.S.
  - American Sign (ASL)
  - Pidgin Signed English (PSE)
  - Signed Exact English (SEE)
- ADA requires "qualified interpreter"
- State of Indiana requires state certification for those interpreters used in public or private primary or secondary school setting.

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What the ADA regs say

No-No's on Interpreters

- The public entity can not require the individual to bring their own interpreter.
- A public entity shall not rely on an adult accompanying an individual with a disability to interpret or facilitate communication except—
  - In an emergency involving an imminent threat to the safety or welfare of an individual or the public where there is no interpreter available; or
  - Where the individual with a disability specifically requests that the accompanying adult interpret or facilitate communication, the accompanying adult agrees to provide such assistance, and reliance on that adult for such assistance is appropriate under the circumstances.
- A public entity shall not rely on a minor child to interpret or facilitate communication, except in an emergency involving an imminent threat to the safety or welfare of an individual or the public where there is no interpreter available.
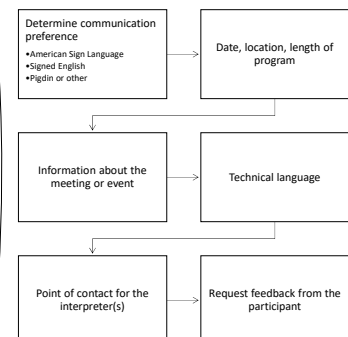
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Requesting a Sign Language Interpreter

- What events will automatically be programmed with sign language interpreters?
- What programs or activities should sign language interpreter be requested in advance?
- How far in advance?
- Who receives the request(s)?
- Who schedules interpreter?
- Who pays for interpreter?
- How is the quality of the interpreter service evaluated?

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Intake Request for Sign Language

Determine communication preference
- American Sign Language
- Signed English
- Pigdin or other
→ Date, location, length of program

Information about the meeting or event → Technical language

Point of contact for the interpreter(s) → Request feedback from the participant
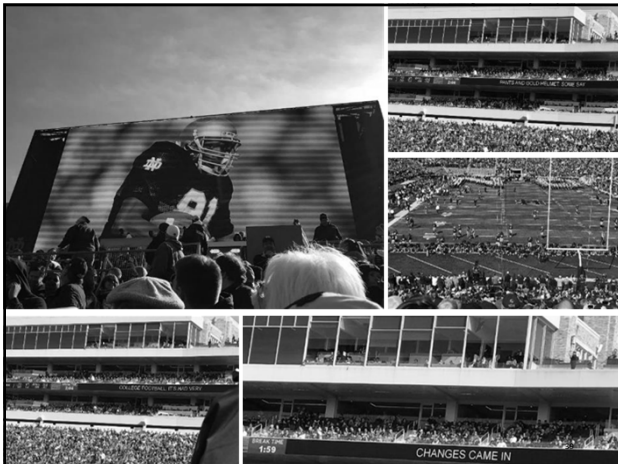
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Captions

- Open captions
- Closed captions
- Real-time captioning at events
- Auto-generated captioning
- Captions for streaming video programs/events
- Service providers
- Style guidelines for captions

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December 9, 2015 Minneapolis City Council (part 5)

December 9, 2015
Minneapolis City Council Adjourned Meeting
Public Testimony

disrespectful and can I just say mister
honey only had signed up amid the only

79
minneapolis

https://youtu.be/TjAophAJH6w?t=2m6s
Actual audio: "can I just say Mr Ali had signed up…."

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Intake Request for Real Time Captioning

Transcription service in real time (live)

Captioner may be present in the room

- Confirm what equipment will be used? Will the captioner bring an LED display? Or will captions be projected to screen or monitor?

Relayed via internet

- Confirm how to access web site? Is login required? Is captioner available to test run?

Date, location, length of program

Provide list of names of speakers and frequently used terms to pre-load caption dictionary

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Audio Description / Descriptive Services

- The art of talking pictorially
- Audio description for recorded video programs used in SAP
- Live description for theater performances and museum tours
- Description is integrated in script
- Trained professionals

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Sample: Frozen Trailer https://youtu.be/O7j4_aP8dWA
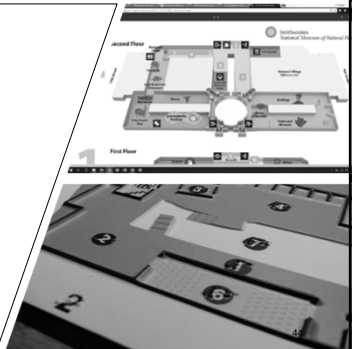
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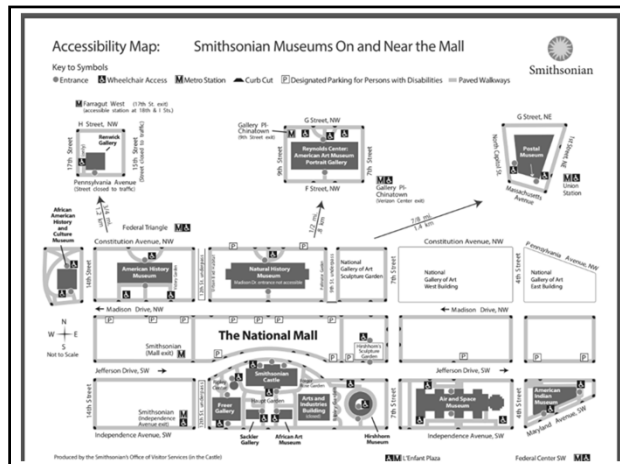- Sample: Hunger Games https://youtu.be/B8BD9txkGL4

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Orientation & Wayfinding

- Signs
  - Informational & directional signs
  - Room identification signs
    - Raised characters
    - Braille
    - Pictograms
    - Specified mounting locations
- Maps
- Tactile
- Colors & Pictograms

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Accessibility Map: Smithsonian Museums On and Near the Mall

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But what does the ADA have to say about web sites and mobile apps?

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ADA	Section 508	W3C

- Case law
  - Over 2,258 lawsuits filed in federal court in 2018
  - Beyonce & Rhinna
  - Dominoes
  - H & R Block
  - National Museum of Crime and Punishment
  - Winn-Dixie
- Project Civic Access
- DOJ suspended rulemaking
	- Applicable to federal agencies
	- Can be used as a guidance for state & local government
	
	- www.section508.gov
		- International voluntary standard
		- Web Accessibility Initiative (WAI)
		- Web Content Accessibility Guidelines (WCAG 2)
		
		- www.w3c.org

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BREAKING NEWS

DOJ Issues NPRM

Web Access Under Title II

- NPRM comment period closed October 3, 2023
- DOJ seeks to issue regulations for entities covered by Title II specific to web and mobile apps.
- Proposes to adopt Web Content Accessibility Guidelines ("WCAG") 2.1 (June 2018) as the technical standard and Level AA as the success criteria and conformance requirements.
- Effective date from final rule 2-3 years for Title II entity to comply depending on population served. (50,000 +/-)

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How People with Disabilities Use the Web

https://youtu.be/3f31oufqFSM

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What is WCAG?

WCAG stands for Web Content Accessibility Guidelines, developed by W3C with a goal of "providing a single shared standard for web content accessibility that meets the needs of individuals, organizations and governments internationally." WCAG follows four guidelines:

Perceivable
- Provide **text alternatives** for non-text content
- Provide **alternatives** for time-based media
- Create content that can be presented in **different ways** without losing information
- Make it easier to **see and hear content**

Operable
- Make all functionality available from a **keyboard**
- Give users **enough time** to read and use content
- Do not use content that causes **seizures**
- Help users **navigate and find content**

Understandable
- Make text **readable and understandable**
- Make content operate in **predictable ways**
- Help users avoid and correct mistakes

Robust
- Maximize **compatibility** with current and future user tools

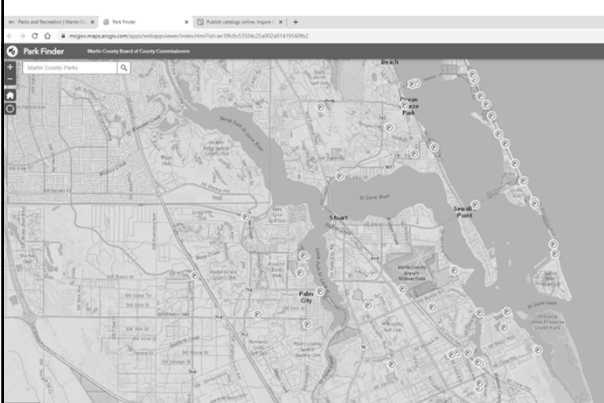For more information, visit www.w3.org/WAI/WCAG20

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Usability Testing & Validation Tools

- Turn images off
- Read Aloud / Voiceover
- Turn sound off
- DEMO
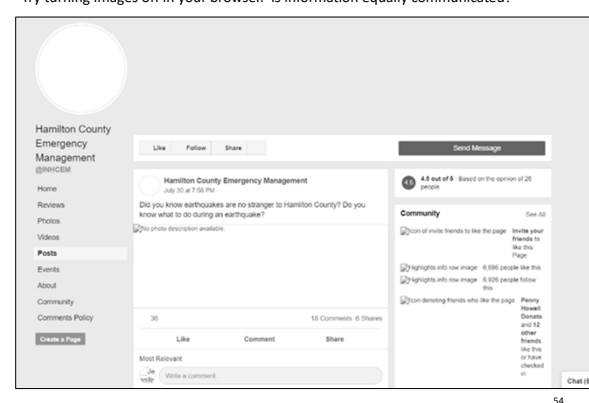 - PDF – Read Aloud
  - WAVE – Web Accessibility Evaluation Tool http://wave.webaim.org/

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https://mcgov.maps.arcgis.com/apps/webappviewer/index.html?id=ae18fc8c53504c25a002d01419560fb2

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Try turning images off in your browser. Is information equally communicated?
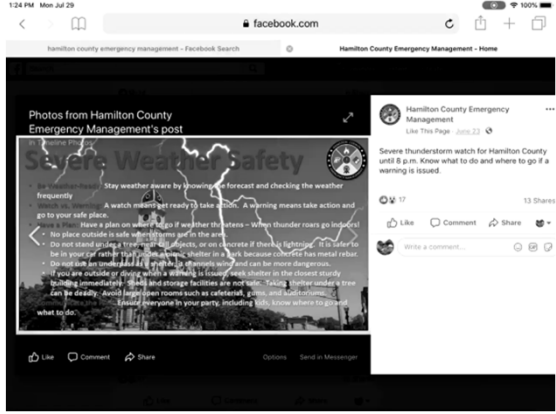

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The same post with images turned on in the browser. What information was lost with the images turned off?
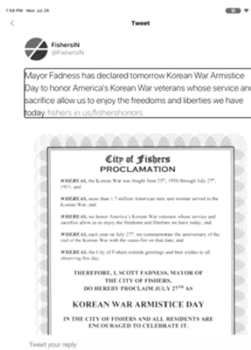

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Play video to hear how a screen reader presents the information. What is missing?

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Play video to hear how a screen reader presents the information. What is missing?

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Assistive Tech Use

- 75.6% exclusively rely on screen reader audio
- 11.1% primarily rely on screen reader audio, but also use visual content
- 8.4% primarily rely on visual content, but also use screen reader audio
- 4.9% exclusively rely on visual content

Most commonly used screen readers:
- JAWS, NVDA, and VoiceOver

Most commonly used browser: Firefox

Most commonly used mobile platform and mobile screen reader: Apple and VoiceOver

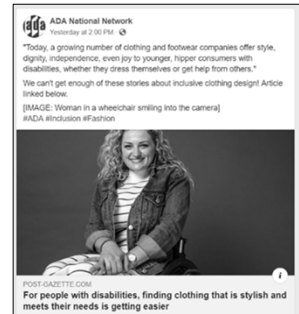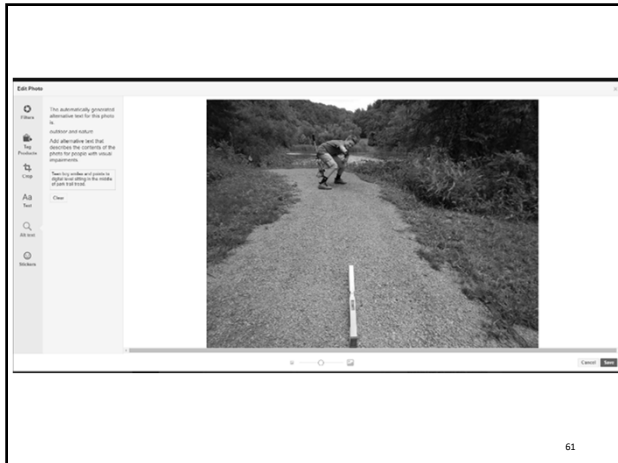Source: *Screen Reader User Survey #7 Results*, (2017). WebAIM.

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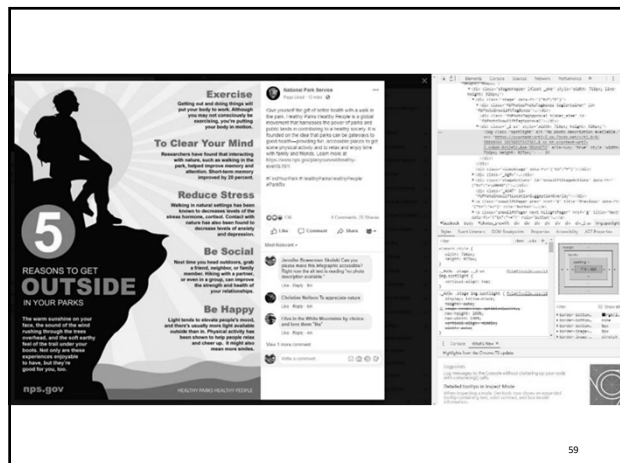
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Images & Infographics

- Lack of properly labeled content is still the biggest barrier to accessing web sites and visually rich documents
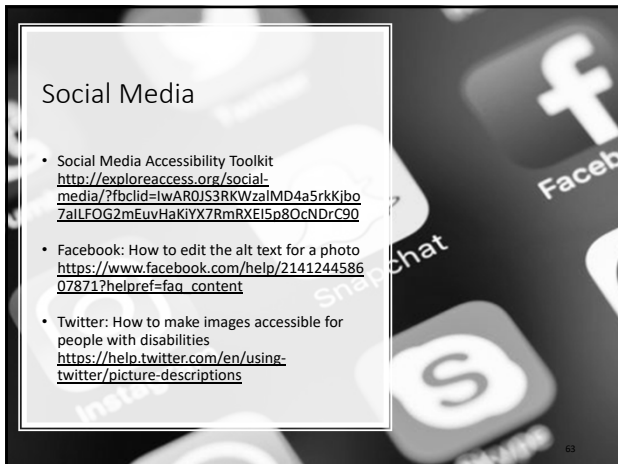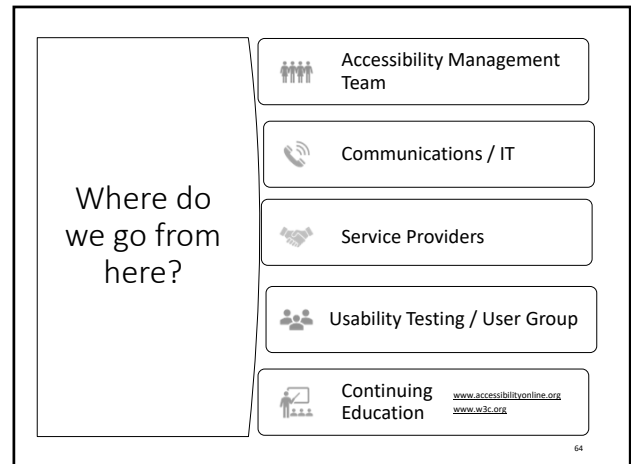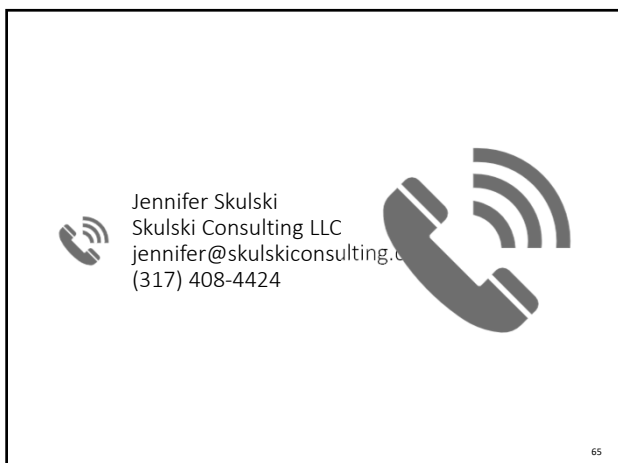- Alt text

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