New York University Accessibility Guidelines for Library Gallery Spaces

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Project Members
Carmi Gonzales (cg3860@nyu.edu)
Xin Tian (xt2034@nyu.edu)

Mentors
Lauren S. Kehoe (lauren.kehoe@nyu.edu)
Elizabeth Verrelli (liz.wiest@nyu.edu)

Professors
Amy Hurst (amyhurst@nyu.edu)
Anita Perr (anita.perr@nyu.edu)

Overview of Guidelines

I. Content

Content in the gallery spaces must be accessible to all cognitive levels, and accessible in multiple sensory modalities.

II. Items that are Mounted

Small items that are mounted in the gallery spaces must meet average eye levels. Items that require high mounting must have an accompanying photograph. Items that protrude from the wall must not pose a risk to individuals with low vision or blindness.

III. QR Codes

QR codes in the gallery spaces must be at a viewable size and comfortable scanning distance. QR codes must be located consistently throughout the gallery. Suggestions for QR codes are outlined.

IV. Label Information and Design

Label information and design in the gallery spaces is encouraged to be in plain-language and available in alternative formats (i.e. audio). Label design must be formatted in ways that are easily readable for visitors. Guidelines for text typeface, text size, text color and background, and space between the baselines of text are outlined. Label placement must ensure a comfortable viewing experience. Location of labels must be consistent throughout the gallery space.

V. Audio-only, Audiovisuals, and Interactives

All audio-involved and interactive media in the gallery spaces must be accessed in alternative formats, such as through transcription and captions. Interactive media controls must be accessible for visitors using wheelchairs and assistive devices, and must have simple instructions in a step-by-step format.

VI. Accessible Circulation Route

The circulation route within the gallery spaces must be easy to follow and have an accessible emergency egress.

VII. Furniture Seating

Furniture seating in the gallery spaces must be provided to allow for rest breaks for visitors. Furniture seating must be arranged in a way that can be used by wheelchair users and their companions. Furniture seating must not be a tripping hazard or obstruct access to gallery items. Furniture seating dimensions and material are outlined.

VIII. Lighting

Lighting in the gallery spaces must be at least 100 lux on an item. Avoid flashing lights or strobe effects.

IX. Temperature Recommendations

Temperature recommendations in the gallery spaces are 70° and 50% humidity year round.

X. Events

Events in the gallery spaces must provide signage and/or notice that directs visitors to a designated person that would assist with accommodations. Events must designate areas for wheelchair users throughout the gallery space in an integrative manner. Entrance to the wheelchair area must be accessible. Dimensions of a wheelchair area for two wheelchair users are outlined. Visitors with service animals must be accommodated. Recording of events must be captioned or transcribed.

I. Content

Content in the gallery spaces must be available to all cognitive levels and accessible in multiple sensory modalities

Consider the following cognitive levels and sensory systems and how disabilities in any of these areas may impact a visitor's experience in your exhibition.

Cognitive Levels

Individuals with cognitive disabilities

May have difficulty comprehending and processing colloquial language and complex jargon. If your exhibition must have eloquent descriptions to convey a story, you must provide plain language interpretation in a nearby label text or alternative format. Individuals with cognitive disabilities also learn best in a structured presentation. Thus, consider creating a sequential order that your exhibition could be experienced, such as through an obvious story line, theme, and/or instructional path.

Sensory Systems

Individuals with visual disabilities

May have mild or moderate vision loss in one or both eyes, to substantial or complete loss of vision in both eyes (Yale University). They may also have color blindness. These individuals may need high contrast between the foreground and background, large print text, audio description of visual art, braille, and/or tactile interpretation.

Individuals with hearing disabilities

May have mild to moderate hearing impairment in at least one ear, or hearing impairment that is substantial or uncorrectable in both ears (Yale University).

These individuals may need captioning, computer-aided realtime reporting (CART), ASL interpretation, and transcription.

Individuals with perceptual disabilities
May have difficulty in sorting the foreground from the background, or difficulty in distinguishing relative distances between items. Items in your exhibition must be placed in front of simple backdrops to reduce the amount of visual clutter.

II. Items that are mounted

Space in between mounted items must be 30 inches

The minimum clear floor space for a wheelchair user is 30 inches wide and 48 inches long (Smithsonian, p. 37). Therefore, the edge of a mounted item must be at least 30 inches away from the edge of the next mounted item.

Small items that are mounted must meet average eye levels

The average eye level for an adult wheelchair user is between 43 to 51 inches above the finished floor (Smithsonian, p. 13). Thus, mount small items to the center line at a maximum of 40 inches above the floor. Items placed above 40 inches will be seen only from below by most seated and short viewers. See Figure 1 below for average viewing sightlines.

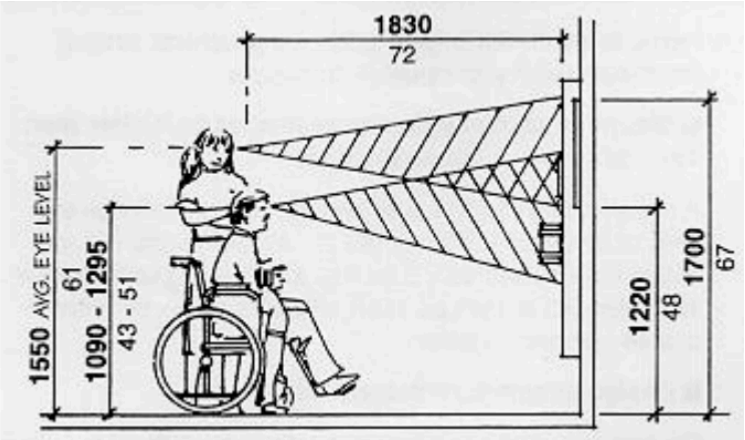


Figure 1. Average viewing sightlines

Items that require high mounting must have an accompanying photograph

Items that require high mounting, especially one that may need to be hung from the ceiling, must have an accompanying photograph (Smithsonian p. 16). The photograph may be accessed on an informational stand, mounted label, brochure, or QR code to a digital version. See Figure 2 below of an item in high mounting being available in an accompanying photograph.

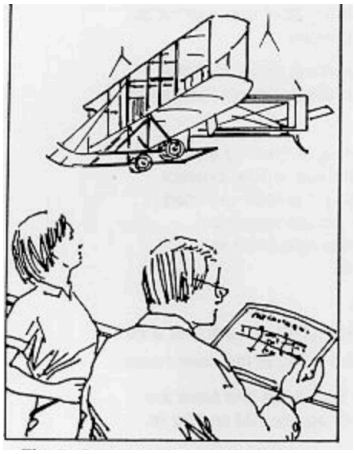


Figure 2. Providing alternate access using photographs of objects

Items that protrude from the wall must not exceed 4 inches

Items must not protrude more than 4 inches from the wall because the protrusion may pose a risk to a cane user with low vision or blindness by brushing against the art. If an item must protrude, provide a cane-detectable object warning such as a plant or furniture so that it is under the protruding item. If a mounted item must not have a cane-detectable object warning under the protruding item, mount the protruding item less than 27 inches above or 80 inches above the floor (National Endowment for the Arts, p. 69). See Figure 3 below that demonstrates a protruding object warning.

Protruding Object Warning

Figure 3. Protruding Object Warning

III. QR Codes

Scanning distance of QR codes must consider visitors using wheelchairs

Based on the average forward reach of a wheelchair user, QR codes must be no lower than 15 inches from the floor, and no higher than 48 inches from the floor (Smithsonian, p. 35). See Figure 4 below for the dimensions of the high forward reach of a wheelchair user.

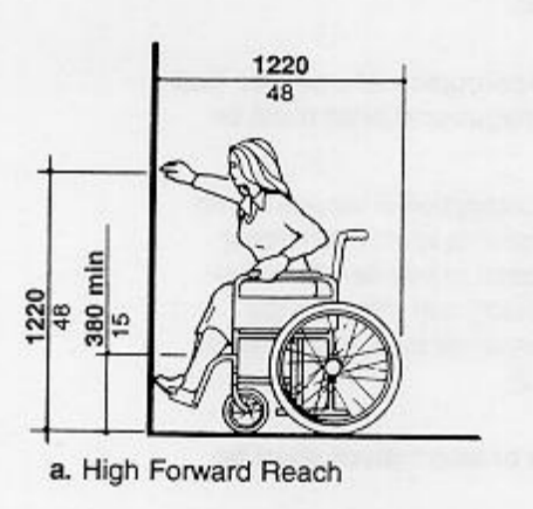


Figure 4. High Forward Reach

Size of QR Codes must meet the proportion of its scanning distance

Minimum size of QR codes for the use case of label texts, small items mounted on the wall, and product stands must be between 10 cm to 25 cm. Minimum size of QR codes for the use case of larger items that are mounted, such as billboards, are 75 cm to 150 cm (Aprith, 2022).

Location of QR Codes must be consistent throughout the exhibition

Consider that QR codes placed throughout different locations at each exhibition item may be difficult for people with low vision and cognitive disabilities to find. Thus, locate QR codes in consistent locations throughout an exhibition. For example, if you choose a QR code to be placed towards the left of an exhibition item, continue to place the rest of the QR codes in your exhibition on the left of exhibition items.

Suggestions for QR code use

The reasons for including a QR code to your exhibition items are endless! They have become a great tool that enhances the experience of visitors, whether it is through providing additional context to supplement your exhibition item, offering your exhibition item in an alternate sensory modality, or ensuring that your exhibition item is accessed in a contact-less manner. See below for a list of suggestions for QR code use that you may consider when installing them into your exhibition.

- Visitor accessing the transcript to an audio file.
- Visitor accessing a playlist of songs that you provide in your exhibition.
- Visitor accessing an audio description of the exhibition items, label text, and/or media that leads visitors to apps such as SoundCloud.
- Visitor accessing a digital version of an item that can be engaged with using assistive technology on a smart device.
- Visitor providing feedback from visitors when prompted.

IV. Label Information and Design

Label information in plain language is encouraged

Plain language is a style of writing that ensures that the reader understands as quickly and easily as possible, without withholding the depth of the message. This style of writing benefits everyone, not just individuals with cognitive disabilities. If your exhibition must have eloquent descriptions to convey a story, you must provide plain language interpretation in a nearby label text or alternative format. See below for a list of guidelines for writing in plain language, as well as an example of a plain language interpretation.

- Keep the text simple without withholding the depth of the message.
- Use active voice instead of passive voice (ex**:** “The boy plays soccer” instead of “Soccer is played by the boy”).
- Keep sentence length no more than 25 words (Smithsonian, p. 21).
- In a label text, use a maximum of 55 characters per line, and a maximum of 100 words (Smithsonian, p. 21).

Original	Plain language interpretation
“Last year there was a photograph that went viral—a young girl in a wheelchair, transfixed by a beauty ad featuring a woman in a similar chair. The two ultimately met in person, and their story made me wonder about my own childhood—how my worldview would have changed if I had seen someone like me as a glamorous, confident adult. As I grew older, discovering a community of disabled people and learning our stories gave me a sense of what is possible (Pulrang, 2020).”	“When I was a child, there were few disabled people in books, film, and television. Last year, a picture of a girl in a wheelchair went viral on social media. In the picture, the girl looks at an ad. The ad is of a woman in a wheelchair. The girl and the woman have similar wheelchairs. Later, the girl and the woman met each other in real life. Their story made me wonder about my childhood. How would I be different, if I had seen people like me? Finding and joining the disability community showed me many possibilities for disabled people (Pulrang 2020).”

Label design must must be formatted in ways that are easily readable for visitors

Text typeface

The text typefaces that are easiest for people who have low vision, language problems, and/or cognitive impairments are **non-italic Sans serif**. San serif is a category of typefaces that do not use serifs, or small lines at the ends of characters (Vangie, 2021). See below for a list of fonts in non-italic Sans serif.

Gotham

Arial

Montserrat

Open Sans

Roboto

Text size

The text size readability is determined by its proportion to the viewing distance. Minimum type size, at even the shortest viewing distance of 3 inches, must be at 24 point type size (Smithsonian, p. 27). See table below for minimum type size based on the viewing distance.

Viewing distance from the item	**Minimum type size**
3 inches	24 point
39 inches	48 point
78 inches	100 point
118 inches	148 point

This is 12 point Arial type

This is 16 point Arial type

This is 24 point Arial type

Text color and background

Consider that contrast is an essential element for people with low vision. High contrast, such as dark text on a light background, has been shown to work better than light text on a dark background (Smithsonian, p. 28). Thus, text color must have a high contrast between text and background. Moreover, consider that text on a busy background is not readable for individuals with low vision and/or perceptual impairments. Thus, print text on a solid background only. See below for the contrast criteria determined by the Americans with Disabilities Act (ADA).

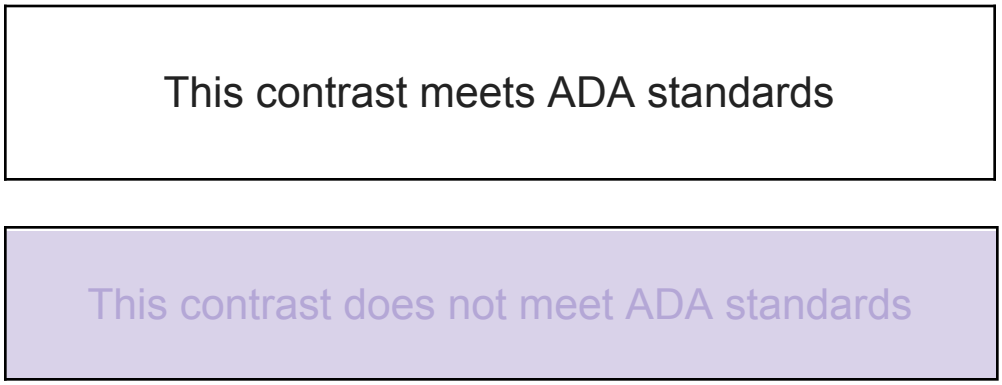
A 70% contrast between text and background is recommended. The following formula determines contrast percentage:

Contrast = [(B1-B2)/B1] x 100

where B1 = light reflectance value (LRV) of the lighter area

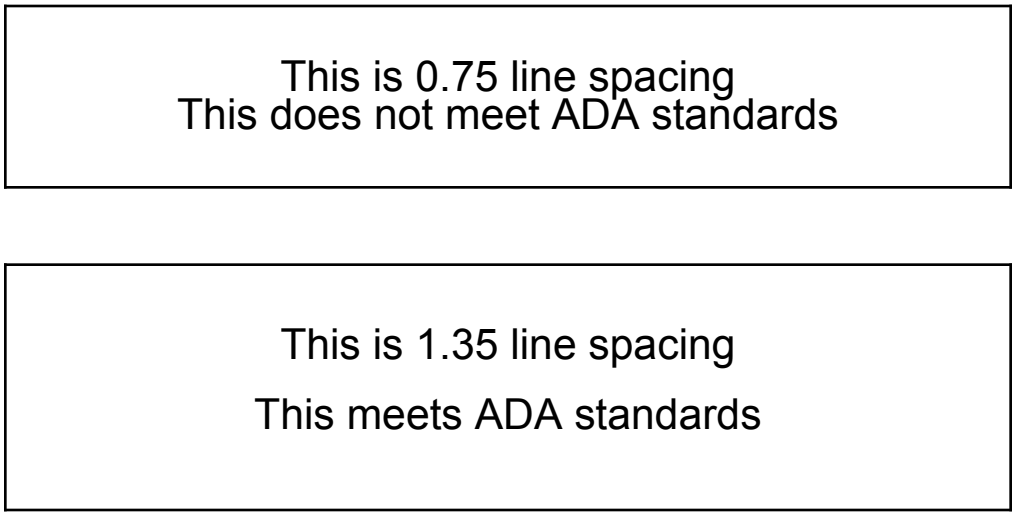
where B2 = light reflectance value (LRV) of the darker area

Note that in any application both white and black are never absolute. Thus, B1 never equals 100 and B2 is always greater than 0 (Americans with Disabilities Act, 2010).



Space between the baselines of text

Spacing between the baselines of text must be at least 135% and at most 170% of the text height. This translates to at least 1.35 and at most 1.7 line spacing (Americans with Disabilities Act, 2010).



Label placement must ensure a comfortable viewing experience

Consider that visitors with low vision must be within 3 inches of a label to read it (Smithsonian, p. 29). Thus, ensure that when a visitor approaches a label within 3 inches, that their own shadow does not impact their reading experience. Moreover, wall labels that are mounted between 48 inches and 67 inches above the floor are in a comfortable viewing location for both those seated and standing visitors. For optimal viewing, place wall labels that are 54 inches above the floor (Smithsonian, p. 30).

Location of labels must be consistent throughout the exhibition

Labels that appear in a different location at each exhibition item are difficult to find for people with low vision and people with cognitive disabilities. Thus, locate labels in consistent locations throughout an exhibition. For example, if you choose a label to be placed towards the left of an exhibition item, continue to place the rest of the labels in your exhibition towards the left. Co-placing labels and QR codes together are encouraged.

Labels should be provided in alternative formats in the gallery space

Labels should be provided in alternative forms in the gallery space, such as audio description.

V. Audio-only, Audiovisual, and Interactives

Audio-only media

Definition
Audio-only media is media that possess a sound component only, such as an audio recording, music with lyrics and ambient sounds.

Alternative formats
Audio-only media must be accessed in alternative formats, such as through transcription (which may be accessed through NYU's Course Reserves). For example, an audio recording that is included in your exhibition may be accompanied by its transcript mounted directly next to the display that is

producing the sound and/or online at Course Reserves. The same goes for music accompanied by its lyrics and ambient sounds accompanied by its descriptions (Smithsonian, p. 31).

Audiovisuals

Definition
Audiovisuals are media that possess a sound and visual component, such as a film.

Captioning
Audiovisuals must be accompanied by open captions on the screen.

Alternative formats
Audiovisuals must be accessed in alternative formats, such as through transcription and/or audio description. For example, a short film that is being looped may be accompanied by its transcript mounted directly next to the display that is producing the sound and/or online at Course Reserves.

Interactive media

Definition
Interactive media is media that responds to user input, such as apps, games, and interactive videos on iPads or other computer devices.

Instructions
Instructions for proper use and operation of interactive media must be displayed nearby in short sentences and in a step-by-step format (Smithsonian, p. 32). Providing instructions in this format makes your interactive user-friendly and assists people with cognitive disabilities, especially individuals who have short-term memory difficulties. Illustrations and demonstrations to support instructions are encouraged.

Accessibility
Interactive media controls must be accessible to people using wheelchairs or other assistive devices, such as canes and crutches. The forward approach that is required in a wheelchair can be no higher than 48 inches and no lower than 15 inches above the floor (Smithsonian, p. 34).

VI. Accessible Circulation Route

Provide an orderly presentation for your exhibition

Consider that visitors of the gallery spaces will come from a spectrum of cognitive levels. One way to ensure that your exhibition is accessible to a wide range of cognitive levels is to structure your exhibit in an orderly presentation. For example, label your items in a suggested chronological order to view them.

Accessible emergency egress

Provide as many accessible exits as the number of accessible fire exits are required by the National Fire Protection Association's Life Safety Code. Design the emergency exits so that they lead back to either the accessible entrance or to another accessible emergency exit. Provide signs at accessible exits and directions to emergency exits at inaccessible exits (Smithsonian, p. 61).

VII. Furniture seating

Furniture seating must be provided in the gallery spaces

Furniture seating must be provided in the gallery spaces to provide rest breaks for visitors. However, 50% of furniture seating in the gallery spaces must be accessible. Seating that is not considered inclusive to all body types

are benches because it does not have ample support. Seating that is considered accessible are firm chairs with arm and back support. Thus, if there are benches present in the gallery spaces, 50% of the seating that is also present must have armrests and back support. If there is no room for seating furniture within the gallery spaces, seating furniture must be located in a nearby corridor or adjacent gallery space (Smithsonian, p. 50).

Furniture seating must be arranged in a way that can be used by wheelchair users and their companions

Fixed seating, such as benches and couches, must have a minimum of 30 inches by 48 inches of space on one end to allow a wheelchair user to sit next to their companion on a fixed seating or to transfer onto that seat (Smithsonian, p. 51). See Figure 5. below to see how a space provided on one end of a fixed seating would allow a wheelchair user and their companion to sit with each other.

Figure 5. Seating (Fisher, 1985)

Furniture seating must not be a tripping hazard or obstruct access to gallery items

Do:

- Do ensure that the floor surface at and around accessible seating areas are level, stable, firm, and slip-resistant (Smithsonian, p. 46).
- Do place furniture seating that are made of material that contrasts in color and texture to the floor and surrounding walls (Smithsonian, p. 59)

Don't:

- Don't place furniture seating under text that is mounted on the walls. This presents a potential hazard to visitors who must get very close to text to read (Smithsonian, p. 29)
- Don't place furniture seating in a way that blocks the clear floor space needed to operate controls or use equipment. For example, the latch side of door openings or near interactive media. This presents a potential obstruction to visitors who use assistive mobile devices (Smithsonian, p. 51)

Furniture seating dimensions and material

For furniture seating to be accessible, the seat must be between 17 inches and 19 inches above the floor, the seat back should have an upper edge of no less than 18 inches above the seat, and the arm height should be proportionate to the back height. They must also be firm and have both arm and back support. This support ensures safety for visitors who need extra support when lowering into a seat and when rising from a seat (Smithsonian, p. 50). Moreover, furniture seating should not be covered by the same material that is on the floor. Thus, furniture seating should be made of a material that contrasts in color and texture to the floor and surrounding walls (Smithsonian, p. 59).

VI. Lighting

Provide at least 100 lux of light on an item

100 lux is the minimum light level at which someone with low vision can see an item (Smithsonian, p. 30). See Figure 6 below for accessible lighting levels for ambient lighting, text panels, controls, directional signage, specimens/items, ramps/stairs, and visitor pathways.

Ambient lighting	50-300 lx	5-30 fc
Text panels	100-300 lx	10-30 fc
Controls	100 lx	10 fc
Directional signage	200-300 lx	20-30 fc
Specimens, objects	100-300 lx	10-30 fc
Ramps, stairs	100-300 lx	10-30 fc
Visitor pathways	100-300 lx	10-30 fc

Figure 6. Accessible Lighting Levels

Avoid flashing lights or strobe effects

Avoid including content that flashes or contains strobe effects, as they may have the potential to trigger seizures in susceptible individuals (University of Washington).

IX. Temperature Recommendations

Temperature at 70° and 50% humidity year round is recommended in galleries and storage areas

Temperature recommendations are based on relative humidity (RH). Relative humidity is the amount of moisture in the air relative to the amount that the air is able to hold. For example, if the air at a particular temperature contains half the water vapor it can hold, the relative humidity (RH) is 50%. The recording hygrothermograph is one of the most common devices used by museums to measure temperature and RH. Temperature at 70 and 50% humidity year round is recommended in galleries and storage areas (Philadelphia Museum of Art). See table below for a diagram of general guidelines for temperature and humidity conditions in gallery spaces.

Type of Object	%RH	Degrees in Farenheit
Furniture	45 - 55%	68 - 72°
Paintings and Paper		
Textiles		
Objects		

Three different forms of deterioration caused by humidity (Source: Philadelphia Museum of Art)

X. Events in the Galleries

Provide signage that directs visitors to a designated person that would assist with accommodations

The designated person may assist visitors with accommodations such as CART captioning, ASL presentation, and transcript for spoken materials during the event. However, accommodations may be offered beforehand through RSVP invite.

Designate areas for wheelchair users throughout the gallery space in an integrative manner

Designate areas for wheelchair users in the front, middle, and back of the gallery space. This ensures that wheelchair users have multiple choices upon experiencing the event, and not just limited and isolated to the front or back (Smithsonian, p. 56). Moreover, designated areas for wheelchair users can be filled temporarily by removable chairs, such as portable, folding chairs, when unused. However, those removable seats must be easily removable, preferably by the person using a wheelchair (Smithsonian, p. 57). See Figure 7 for an example on how to integrate designated areas for wheelchair users in an integrative manner. Provide signage that informs visitors indicating that there is designated seating and spaces for wheelchair users.

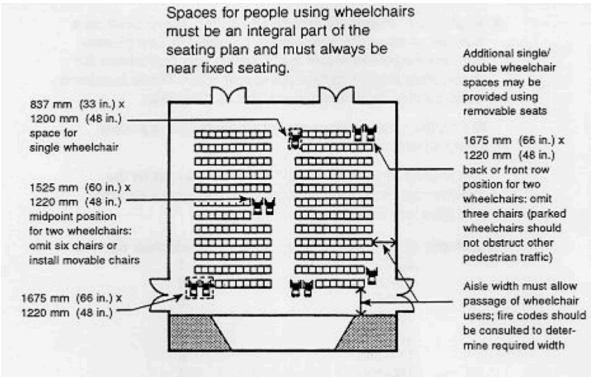


Figure 7. Wheelchair seating dispersed throughout seating area

Entrance to the wheelchair area must be accessible

Entrance to the wheelchair area must be at least 48 inches long if a wheelchair user is entering the area from the front or back, and at least 60 inches long if the wheelchair user is entering the area from the side.

Dimensions of wheelchair area for two wheelchair users

It is encouraged, but not required, for a wheelchair area to be spacious enough for two wheelchair users. The width of a space for one wheelchair user is at least 30 inches wide and at least 66 inches for two wheelchair users (Smithsonian, p. 57). See Figure 8 below for space requirements for wheelchair seating spaces in series.

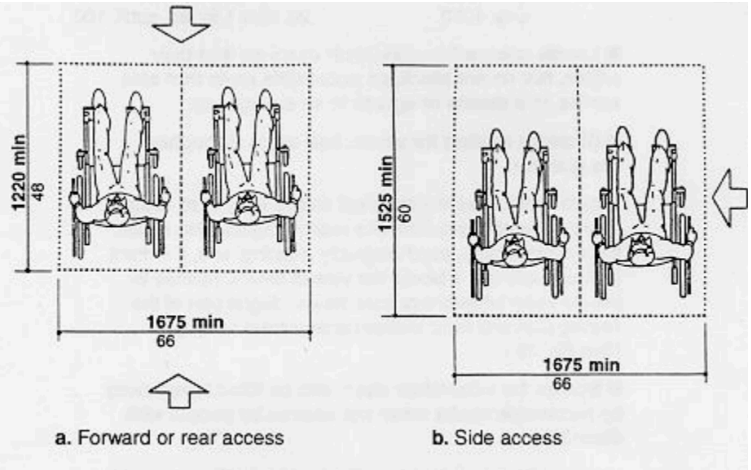


Figure 8. Space requirements for wheelchair seating spaces in series

Service Animals

Service animals must be permitted to accompany visitors with a disability to all areas of the gallery spaces where visitors are normally allowed to go. An individual with a service animal may not be segregated from other visitors. Thus, visitors and their service animals may sit in the wheelchair area even if they do not require a wheelchair as this area provides enough room for the service dog to lay comfortably by their side. Provide signage that informs visitors indicating that there is designated seating and spaces for service animals.

Recording of events

All virtual events and most in-person events in the galleries are recorded due to the close partnership with NYU TV.

Examples (on Vimeo):

- virtual event recording
- in-person event recording

All recordings must be captioned and transcribed.

Glossary

American Sign Language (ASL) interpretation

American sign language is an interpretation method that is provided for visitors who have audio disabilities.

Audio descriptions

Audio descriptions are audible descriptions of tangible objects or audiovisuals that present information in an alternative format for individuals with visual impairments. Audio descriptions could fit into pauses in soundtracks or be provided in a QR code adjacent to a gallery item (Smithsonian, p. 32). Consider describing colors of an exhibition item for visitors who have visual impairments, such as color blindness, low vision, and complete blindness.

Captioning

Captioning is a textual representation of the audio component of an audio-visual media.

Computer-aided realtime reporting (CART)

CART is real-time captioning.

High contrast

High contrast is a design element where the foreground text has a high contrast from the background. A 70% contrast between text and background is recommended. See below for the contrast criteria determined by the Americans with Disabilities Act (ADA) Standards for Accessible Design.

$$\text{Contrast} = [(B1-B2)/B1] \times 100$$

where B1 = light reflectance value (LRV) of the lighter area

where B2 = light reflectance value (LRV) of the darker area

Note that in any application both white and black are never absolute. Thus, B1 never equals 100 and B2 is always greater than 0 (Americans with Disabilities Act, 2010).

Large print

Large print is text material printed in 24 point or larger that may indicate large-print versions of label texts and/or brochures.

Plain language

Plain language is a style of writing that ensures that the reader understands as quickly and easily as possible, without withholding the depth of the message (Pulrang, 2020).

Tactile interpretation

Tactile interpretations are tangible representations of an exhibition item, such as a 3D printing of a large sculpture, that allow visitors to access the gallery item in an alternative format. Tactile interpretations are valuable in enhancing the experience for visitors with low vision or blindness.

Transcription

Transcription is a textual representation of both the verbal and non-verbal audio information needed to understand the content of an audio visual media.

Figures

Figure 6. *Accessible Lighting Levels* (Parks Canada, Figure 8)

Figure 7. *Wheelchair seating dispersed throughout seating area* (Uniform Federal Accessibility Standards, Figure 32)

Figure 8. *Space requirements for wheelchair seating spaces in series* (Americans with Disabilities Act, Figure 33)

Resources

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