



Best Practices for Event Accessibility

(Persons with Disabilities)

FIRST® is a global robotics community that prepares young people for the future.



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Introduction

FIRST® is committed to [STEM for Everyone](#)™ and as such, *FIRST* strives to make reasonable accommodations for persons with disabilities that request accommodation. If a participant needs an accommodation for an event, we ask that they talk to a volunteer at the event or contact their [local leadership](#) before the event so they can ensure the request is addressed. Accommodations are considered reasonable if they do not create an undue hardship, cause safety concerns, or fundamentally alter the nature of the event.

A reasonable accommodation is a change, exception, or adjustment to a rule, policy, practice, service, or environment that may be necessary for a person with disabilities to have an opportunity to participate.

This guide provides recommendations which will make *FIRST* resources and events more accessible. While this guide contains specific guidelines for achieving accessibility, readers should keep in mind that this guide is unable to predict all accommodations that may be requested or necessary. The purpose of this resource is to provide best practices and is not intended to provide legal guidance or requirements. It is important to remember that accessibility is not a recommendation but a requirement by *FIRST*.

A few things to keep in mind:

- Accommodations not discussed explicitly in this guide may be necessary.
- Use judgement on ways to accommodate without endangering the individual in need of accommodation or others' safety.
- Events should be accessible, and enjoyable for everyone.
- Contact *FIRST* (see the [Questions?](#) section for email addresses) with specific questions about more complex accommodations (e.g. extra components for students to participate in gameplay, etc.).

Reasonable Accommodations Definition

[Reasonable accommodations](#) are provided and could include adjustments or modifications to remove physical barriers, (unless it would impose an "undue hardship"). Reasonable accommodations should not be viewed as "special treatment," but rather as lending a helping hand, or a change in the way things are normally done to enable people with disabilities to have an equal opportunity to participate fully in all aspects of society without discrimination. Further, reasonable accommodation often benefits everyone, helping ensure equality of opportunity, full participation, independent living, and economic self-sufficiency for all.

We recommend event planners read this [Planning Guide for Making Temporary Events Accessible to People with Disabilities](#) document. Accessible events require planning well in advance. When you keep all attendees in mind during planning, you will be better prepared to support requests as they come in rather than scrambling at the last minute. This guide will help Program Delivery Partners (PDP) and Event Committees consider ways to make events more accessible.

A person with a disability is someone who:

- *has a physical or mental impairment that substantially limits one or more major life activities,
- *has a history or record of such an impairment (such as cancer that is in remission), or
- *is perceived by others as having such an impairment (such as a person who has scars from a severe burn).

If a person falls into any of these categories, the ADA protects them.

[Source: ada.gov](https://www.ada.gov)

A few reminders as you begin thinking about accessibility:

- **Proof of disability is not required** - No person is required to show proof of their disability—nor should they **ever** be asked for proof. This includes people who request accommodations, ask for accessible seating, attend with a service dog, or have an invisible disability.
- **Invisible Disabilities** - Invisible disabilities are physical, mental, or neurological conditions that can limit or challenge a person’s movements, senses, or activities, and can impact that person’s ability to learn or work.
- **Be mindful of words you use** - It is important to use respectful language when communicating with or talking about people with disabilities. Reference the [Stanford Disability Language Guide](#) for additional tips with language.

Language, Text, and Image Accessibility

This section focuses on the guidance regarding accessibility tools (software and apps) to use with *FIRST* resources and systems. It is recommended to also see the [Pre-Event Accommodations](#) section for additional recommendations as you prepare for the event. There are a variety of ways to provide accommodations for language, text, and image accessibility. Most web browsers have a screen reader/read aloud option.

- Google Chrome requires an Add In for [read aloud](#).
- Microsoft Edge includes read aloud in their three dots “...” setting in the upper-right corner of the browser.

Smartphone apps, like Seeing AI (Artificial Intelligence), provide awareness of an individual’s environment through the phone’s camera including facial recognition/description, read aloud for signs and other text, and much more.

Microsoft has great resources for providing access to your community based on their individual needs while using the Microsoft suite of products:

- [Accessibility Technology & Tools | Microsoft Accessibility](#)
 - Vision
 - Hearing
 - Neurodiversity
 - Learning
 - Mobility
 - Mental health

The [ADA website](#) also provides guidance and compliance information from the government agency. Here is a useful checklist of considerations for documents and marketing materials created in your region:

- Use Alt text in presentations and website for screen.
- Reader/read aloud accuracy.
- Try Google Translate or [Smartcat](#) for translation of PDF documents and other files.
- Colors have enough contrast to be distinguishable.
- Font size is appropriate for the visually impaired.
- For more information on [Title II visit the ADA Title II website](#).

Translations

- *FIRST*® Robotics Competition provides translated versions of the manual & KitBot resources in a few languages. See the [Season Materials](#) & [KitBot](#) webpages for more details. We also recommend contacting your [local support](#) as some Program Delivery Partners may translate additional materials beyond those
- *FIRST*® Tech Challenge systems can be translated into most languages if requested. Currently, FTC Scoring and FTC Live can be used in Spanish, French Canadian, and Portuguese. Please contact customerservice@firstinspires.org if you would like to translate the systems into another language.

Registration Accommodation Identification

During volunteer registration, volunteers can list any reasonable accommodations required under the optional Reasonable Accommodation section. Please note that while *FIRST* does our best to provide accommodations, we may not be able to provide all requested.

Both students and volunteers should also connect and work with their local event organizer on creating reasonable accommodations.

Volunteers and teams participating in *FIRST* Championship will be asked about accommodations during registration for this event.

General Event Recommendations

- Event Coordinators and/or Program Delivery Partners should contact teams in advance of the event (recommended 1 month prior to the event) to inquire if any of the teams attending need specific accommodations.
 - Program Delivery Partners can use this language as a starting point: “We strive to host events that enable all individuals, including individuals with disabilities, to engage fully. To request an accommodation or for inquiries about accessibility, please contact (name, email, phone).”
 - Teams are also encouraged to reach out to Program Delivery Partners with any accommodation requests.
- Identify an [Accommodation Coordinator](#).
 - *FIRST* encourages events to designate an accommodation coordinator who will be available to help coordinate accommodation requests, answer accessibility related

questions, and help provide guidance on how to make accommodation improvements to the events.

- All staff and volunteers should have a basic awareness and sensitivity to accessibility issues and accommodation requests. Ensure volunteers know who they can ask for help if they are unable to answer the question. Pit Admin must have access to this information as well as who the point of contact is for any questions they cannot answer as they often are the ones teams come to during the event.
- We recommend collecting feedback from teams, spectators, and volunteers attending the event to help provide feedback on accessibility. This can be done both before the first event at a venue as well as after. Consider reaching out to attendees to see what ways you can improve accessibility for future events.

Pre-Event Accommodations

Website Accommodations – It is highly recommended that you design your website to work for all. We also recommend looking at our [Language, Text, and Image Accessibility](#) section for more helpful tips. Here are a few things we recommend to make your website more accessible:

- Ensure your website is optimized for screen readers – including using headers to differentiate content and including alt text for pictures.
- Ensure the color scheme contrasts.
 - About 1 in 20 people are colorblind in some way. [This website](#) has a comprehensive guide to help ensure your website is accessible.
- Ensure any video content has closed captioning. This is easy to do with embedding videos from YouTube as they will automatically allow people to turn on/off closed captions.
- Use best practices for adding links including using words to describe what you are linking. **Do not** link URLs (screen readers will read each character) or link words such as “click here”, “read more”, etc.
- Consider providing information about accessible lodging, restaurants, etc. to make it easier for those who may need assistance.
- For more information on Title II [visit this website](#).

Printed materials – Event coordinators will also need to plan ahead to ensure printed materials that will be available at the event are accessible. We also recommend looking at our [Language, Text, and Image Accessibility](#) section for more helpful tips Here are a few things to consider:

- Keep messages short and simple.
- Use headings – Headings help readers find their way through the material.
- Color contrast – ensure that signage is easy to read by using contrasting colors. Be mindful of colors that may be harder to read for those who are colorblind.
- Use easy to read fonts such as Arial, Roboto, Helvetica, and Verdana.
- Use large font.
 - Use at least 12-point font and have large print versions available at the event (or in advance to download).
- Incorporate graphics or images within your printed materials to help break up large paragraphs of text.

- Use white space – People with low vision or cognitive disabilities benefit from the use of white space. White space is the area of the document without text, images, tables, etc.
- Avoid complex graphics which can be overwhelming or difficult to understand.

Venue Accessibility

Event Navigation

- **Accessible schedule** - easy to understand, posted online before the event and updated consistently throughout the event. Team check-in, opening ceremonies and activities based on role should be provided to teams and volunteers.
 - All *FIRST* Robotics Competition Events are asked to complete a Public Schedule. Public Schedules can be found in the additional info section via the [Team & Event Search](#).
 - The FTC Live software provides judging and inspection schedules in a table or list format.
- **Easy to read maps** - events should provide maps that help participants to navigate the layout of the event and easily identify bathrooms, quiet rooms, and other accommodations.
 - Note: FTC-Scoring provides a “Pit Map” builder option to build out the event layout in advance of the event.

Seating

Accessible seating at events should be prioritized in advance. Seating near the field should be reserved for individuals, both participants and spectators, who require accessible seating for visual or mobility support. Chairs should be provided for individuals who cannot access bleachers. Here are a few tips and reminders specific to seating:

- Reserve seating in a section where the person requiring accessible seating may sit with their team.
 - It is generally recommended that the member(s) with disabilities should have accessible seating that is with their team, not in a separate location, whenever possible.
- Standing spectators should not stand in front of accessible seating
- Closer seating to the event field for visually impaired participants and spectators.
- Consistent rules and training about saving seats/allowing teams to sit together near accessible seating, seating behind accessible seating for teams with members that require accessible seating.
- Chairs with back support for those who cannot utilize bleacher seating.
- Wheelchair seating for students to sit with their teams.

Walkways

Accessibility should be prioritized when determining the width of aisles, pit areas, and queuing areas. All areas should be clear to easily navigate the event. All walkways should be free of cables or any other potential barriers (ex: boxes, chairs, etc.) that could cause a hazardous environment. Some best practices on walkways include (but are not limited to):

- Ensure that aisleways are at least 48 inches (~122 cm) in width to accommodate people seated with room for a wheelchair or walking aides to move down the aisles/pathways.

- For more information, please see the [ADA Title III Technical Assistance Manual](#) and the [2010 ADA Standards for Accessible Design](#).
- Less crowded queuing areas to allow for ease of navigation.
- Aisle-wide standards: Provide instructions for any ramps and/or elevator access (elevators must remain operational throughout events) in the building; accessible bathrooms; barrier-free pathways; wide doorways and aisles.
 - For United States based events, the ADA an accessible route means the route is at least 36 inches (~92 cm) wide and has a minimum height of 80 inches (~204 cm). An exception to the width is at doors where the route may be reduced to 32 inches (~82 cm) for a maximum distance of 24 inches (~61 cm).

Additional Limited Mobility Accommodations

Teams that indicate a team member has limited mobility may request accommodations. Here are a few options that you may be able to offer them:

- Reserve seating in a section where the person requiring accessible seating may sit with their team. (see [Seating](#) for more details)
- Consider placing the team in a pit near the entrance.
- Provide a larger pit area for a team that has a member who uses a wheelchair or other mobility support as room allows. This will provide necessary space to move within the pit.
- Ensure there is enough accessible parking at the venue and communicate where they can find accessible parking in advance of the event.
- Provide instructions for accessible features, including ramps and/or elevator access (elevators must remain operational throughout events) in the building; accessible bathrooms; barrier-free pathways; wide doorways and aisles to accommodate wheelchairs/scooters. (see [Walkways](#) for more details)
- For *FIRST* Robotics Competition: remind them that there are some accommodations available by the field (see the [Game Manual](#) for more details):
 - a ramp is available at events for use by those with limited mobility who are members of the Drive Team. It is specially designed to allow those in a wheelchair to access the Driver Station shelf and/or see onto the Field; however, it can be used by anyone with a disability.
 - Please note this is available at all Regional events and varies by District.
 - 2 stools are available at events. It is specially intended to allow individuals who are shorter, better sightlines onto the field; however, this accommodation is available to anyone who has another physical disability that obstructs their view of the field.
 - If they need another field side accommodation, it is recommended to speak with the FTA so they can assist.

Visual Displays

All visual displays should be clear and easily readable. Visual displays include signage, videos/screen displays, and lighting. Here are some recommendations specific to visual displays:

- If possible, video displays should contain closed captioning (CC).
 - All videos provided by *FIRST*® Robotics Competition will have videos with closed captions available for use.
- CC on videos during ceremonies.

- For events occurring outside the US, you may consider adding closed captions in the country's native language.
- Attention to colors used to mark tables and rooms.
- Color standards - for lights, writing on boards, etc.
- 22" monitor or larger is recommended for score displays.

Apps such as Microsoft's "[Seeing AI](#)" are available to guide those with a visual impairment through their environment. These apps provide detection including people, read-aloud capabilities, and more.

Audio

FIRST has provided guidance around [Audio Levels at FIRST Events](#). Please be sure to follow these guidelines to create excitement with spectator safety and comfort in mind. Additional audio specific recommendations include:

- Suggest those with audio-sensitivities to bring ear plugs.
 - If possible, we suggest having ear plugs available for teams, volunteers, and spectators who may want a break from the noise.
- Does the event require an American Sign Language/Sign Language Interpreter
 - We recommend that if a team needs a sign language interpreter, the event should work with the team to find someone to be the interpreter. Some events may choose to create a custom volunteer role if they have teams with this need.
- Consider the times during the event when sound can be turned down.

Quiet Room

A Quiet Room provides students, spectators, mentors and volunteers a safe place during the competition to get away from the common competition stressors of noise and motion where they may get overwhelmed and/or overstimulated. This environment can lead to increased happiness and decreased levels of stress. In turn, this room can help individuals enjoy the competition more during events. Quiet spaces should contain tables, chairs, and optional quiet activities for students. Examples of quiet activities that can be provided are coloring books, coloring pencils, and puzzles.

- Space for tables and chairs.
- Resources for quiet activities for students (ex: coloring books and crayons, crossword puzzles, sudoku, jigsaw puzzles, etc.).

Quiet Rooms are strongly encouraged at all FIRST events. Check out the [Expanded Quiet Room Guide](#) for best practices on selecting a room, recruiting volunteers, and supplies you may want to have for the room.

If you provide a Quiet Room, be sure to advertise that it is available with signage, maps, & email reminders in advance.

Accessible Restrooms

Consider the availability of gender-neutral restrooms at your venue. If the venue does not have any, consider changing some restrooms to be gender neutral for your event and providing clear signage to indicate this.

Availability of Menstrual Products

Providing free menstrual products supports the participation of all students and volunteers. Free menstrual products should be available in female and gender-neutral bathrooms and should be easily identifiable and accessible.

Family Room

Consider allocating space for nursing parents, and others who need to care for young children.

Service Animals

Some participants at an event may require a service animal. A service animal is a dog (or in some instances a miniature horse under a separate provision of the law) that is individually trained to do work or perform tasks for a person with a disability.

- The ADA requires the animal to be under the control of the handler. This can occur using a harness, leash, or other tether. However, in cases where either the handler is unable to hold a tether because of a disability or its use would interfere with the service animal's safe, effective performance of work or tasks, the service animal must be under the handler's control by some other means, such as voice control.
- In situations where it is not obvious that the dog is a service animal, staff may ask only two specific questions. Staff are not allowed to request any documentation for the dog, require that the dog demonstrate its task, or inquire about the nature of the person's disability.
 1. Is the dog a service animal required because of a disability?
 2. What work or task has the dog been trained to perform?
- A person with a disability cannot be asked to remove their service animal from the event space unless:
 1. The dog is out of control, and the handler does not take effective action to control it; or
 2. The dog is not housebroken.
- When there is a legitimate reason to ask that a service animal be removed, staff must offer the person with the disability the opportunity to remain at the event without the animal's presence.
- According to the ADA, allergies or fear of dogs are not legal reason to deny a disabled person and their medical equipment access. Anaphylaxis or any other major dog allergy affects less than 1 in 100,000 according to the CDC, and the causes are usually repetitive licking on the face from a dog, not from contact transfer.
- For more information, please see [ADA Requirements: Service Animals](#).

Questions?

If you have additional questions or need help on accommodation requests, please contact us:

- For general questions at sie@firstinspires.org
- For *FIRST* Tech Challenge specific questions at customerservice@firstinspires.org
- For *FIRST* Robotics Competition specific questions at frcteamadvocate@firstinspires.org