

Universal Design in a Zoological Setting

Zoos and aquariums are places of wonder and enjoyment for people throughout the world. They appeal to all ages from young to old. In the United States over 181 million people attend zoos and aquariums every year. This is more than all the people that attend national hockey, football, basketball and baseball games combined. Around the world, the number of people who visit zoos and aquariums is over 700 million.

While zoos and aquariums are popular for many people, how facilities and exhibits are designed can be a barrier to people with disabilities. The Brookfield Zoo in Chicago Illinois has incorporated Universal Design at the very start of

a guest's visit, from where you park a vehicle and how you enter the zoo to accessing the various exhibits and facilities. Guests with disabilities are informed of the easier access at the South Gate, which, because of the anticipated increase in use the percentage of accessible parking was increased and located directly across from the entrance. The level of the lot was raised to be even with the original curb and sidewalk eliminating the need for a curb ramp. Everyone can smoothly transition from the parking lot, to the sidewalk and entrance into the zoo keeping families and groups together. This inclusive design and the open concept of large archways at the gate incorporate the Universal Design Principles One, Three and Seven offering useful design, easy to understand way finding and appropriate spacing for mobility.



To enhance the ease of way finding, at each gate there is a zoo map, available in large print that includes access information related to various disabilities using correlating symbols. Information on assistive listening device for shows and tram tours, details on the enhancement of exhibits with touchable and life sized statues as well as the availability of Braille and large print handout and information on ramps or sloped walkway entrances into the buildings and their locations. Offering detailed information, as well as universal symbols most people were familiar with incorporates the ease of use and understanding regardless of a users experience, knowledge or language skill outlined in principles One and Three of Universal Design.

Brookfield Zoo is one of the largest zoos in the U.S. at 210 acres and offers a tram and bus transportation systems that provide wheelchair access on each vehicle, allowing a guest using a wheelchair to get on any vehicle at any time as noted in the equitable use of Universal Design Principle One.

The entrances to all public buildings and exhibits have been modified over the years to remove all stairs and replace them with sloped walkways designed to be less than 5% and provide easy access to guests using a wheelchair but also many visitors who are pushing a stroller or pulling a wagon. Level landings and easy open or automatic doors are installed at many entrances to provide easy access. Offering the low effort design of Principle #6 is not only helpful for a person using a wheelchair or other mobility device, but the general public appreciates the extra access, especially at the restaurants when carrying large trays of food and drink.

Today many zoos are undergoing redesign and development of new exhibits. In the US the Americans with Disabilities Act (ADA) only looks at an accessible route up to the exhibit area. No standards are provided regarding the exhibits themselves. The concepts of Universal Design Principles were incorporated into the public designs of the new as well as some existing exhibits of Brookfield Zoo as early as the 1990's. Because the zoo was interested in Universal Design before guidelines for Accessible Exhibition Design was developed by the Smithsonian in Washington DC, an advisory group was formed of organizations serving types of disabilities such as mobility issues, hard of hearing or deaf, low vision or total loss of sight as well as the use of focus groups provided feedback on how to make Brookfield Zoo more accessible for them. From their input, many ways to increase access were implemented.

One recommendation was the creation of life-size and detailed statues of the animals at exhibits. Since many animals are in large enclosures and not easily viewable by visitors with low vision or cannot be touch the statues provide details and dimensions they may not be aware of. The Tropic World is home to a life-size adult male gorilla statue by the entrance. This statue shows the wear of many, many visitors enjoying the up close experience. It is also a favorite photo opportunity for many visitors.



Along with man made statues different animal artifacts mounted near exhibit signage offer another type of information regarding the animal on exhibit. Items such as antlers, porcupine quills, equipment used on animals and sometimes even their food provide educational opportunities for all zoo visitors. The design of exhibits with a multi-sensory approach meets many of the Universal Design Principles. The equitable and flexibility of use from Principles One, Two and Seven combine with the ease of understanding and effective communication of information from Principles Two and Three. Adding to a multi-sensory experience some exhibits incorporate features of sound as well as smell. The sound exhibit in the Australia house is a recording of a Kookaburra bird's song. The recording housed in a box with an easy to operate push button, is positioned within reach range for children as well as a person in a wheelchair.

When visiting a zoo or animal collection often fencing or enclosures block the view of children or individuals needing a mobility device. Many exhibits now have large glass viewing windows, providing excellent viewing and an immersion experience. Several exhibits incorporated heated coils next to the viewing windows, encouraging the animals to lay and rest in the location that offers an excellent view of them to the zoo guests. This is especially helpful for visitors with low vision who can literally get within inches of the animal to view them safely up close and in a natural environment.



Also taken into consideration in the design of an exhibit must be signage. Providing signs at a height and distance easier to access by a person in a wheelchair, shorter adult or child and use of 18-point fonts of accessible design delivers the information in a usable fashion to all visitors. Noisy spaces with lots of visitors create challenges to receiving information offered at an exhibit, such as a video of information on the animals and their environments. The texts of the presentations are provided in the video as open captioning or the full script of the presentation is on display below the video itself. Brookfield Zoo offers narrated shows that now have assistive listening device systems available. The equipment designed to work with personal hearing aids to receive the transmission directly allows for a clear sound, no background noise and a better chance of hearing all the information. Assistive listening devices are available on the trams that pass by several of the narrated shows. Principle Four, perceptibility of information regardless of ambient conditions or the users abilities should become common practice for exhibit designers.

The overall accessibility of the Brookfield Zoo has increased access to a large and diverse audience of guests. By incorporating the Principles of Universal Design all visitors are offered equal experiences as they interact with the animal, exhibits and each other. Without even realizing barriers have been removed, everyone, regardless of their abilities, has a more enjoyable and inclusive experience.

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