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A Case Study: An Examination of Access for Those With Disabilities at Revenue-Generating Sport Facilities at an NCAA Institution

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Abstract

Over 54 million Americans have disabilities (McNeil, 1996). Although those with disabilities make up almost 20% of the U.S. population, little research exists on the access these individuals have to sporting facilities. A complete examination of accessibility in sport spectator facilities is needed to (1) provide current facility managers an unbiased analysis of the strengths and weaknesses of access to sport facilities and (2) provide a formal protocol for professionals in the field of sport and recreation facilities management to proactively address facility access. The purpose of this study was to examine accessibility and barriers of two revenue-generating sport facilities at a Division I (D-I) athletic university, specifically one football stadium and one basketball arena belonging to the same D-I university.

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Bullock, Mahon, and Killingsworth's (2010) guide to examining barriers was used to identify existing physical obstacles within the facilities and other tacit barriers of environmental and programmatic limitations. Researchers in this project used temporary assumption of disability to more completely gauge accessibility within the facilities.

Findings indicated that spaces provided for parking lots, ramp degree of steepness, width to accessible seating, amount of accessible seating, and number of accessible stalls were concerns to various degrees. In addition, limited advertising of people with disabilities at the sporting event, challenges related to acquiring accessible seating, and staff training at either or both facilities were problematic.

Keywords: *Disability accommodation, facility access*

Over 54 million Americans have disabilities (McNeil, 1996). Although those with disabilities make up almost 20% of the U.S. population, they are not adequately represented in many aspects of society due to physical and social barriers (Srinivasan, O'Fallon, & Dearry, 2003). This underrepresentation continues in the context of recreational opportunities, where physical and social barriers are coupled with environmental and program limitations (Bramston, Bruggerman, & Pretty, 2002). Many of those with disabilities suffer from feelings of social isolationism (Srinivasan et al., 2003), and a lack of access to sporting events, which can be both communal and cathartic, may enhance this sentiment (Juette & Berger, 2008).

From an organizational standpoint, facility managers often calculate revenue brought in by the population with disabilities by determining profits from purchases made only by those with disabilities. They disregard that providing access also influences friends' and family's attendance, which strengthens the market impact of consumers with disabilities (Grady, 2010). With this in mind, sport marketers focus on meeting minimum requirements of the Americans With Disabilities Act (ADA) instead of actively promoting to those with disabilities, despite the large market share they represent (Burnett & Baker, 2001). In turn, those with disabilities are less likely to travel even moderate distances to attend sports and tourism events, in part because they lack sufficient knowledge of opportunities for those traveling with disabilities and in part because they perceive barriers will exist at the sports facilities where events take place (McKercher, Packer, Yau, & Lam, 2003).

Although fields such as hospitality and tourism have been active in examining access and the influence of consumption (Flores, 2006; McKercher et al., 2003; Pizam & Ellis, 1999), the examination of access at sporting facilities is lacking. One example of this limited research is a study by Pate, Bemiller, and Hardin (2010), who examined accessible parking at collegiate football stadiums. A complete examination of accessibility in sport spectator facilities is needed to (1) provide current facility managers an unbiased analysis of the strengths and weaknesses of access to sport facilities and (2) provide a formal protocol for professionals in the field of sport and recreation facilities management to proactively address facility access. The purpose of this study was to examine accessibility and barriers of two revenue-generating sport facilities at a Division I (D-I) athletic university, specifically one football stadium and one basketball arena belonging to the same D-I university.

Methods

Research Design

A multidimensional examination of access was conducted at a single football stadium and a separate basketball arena, both of which are located at a D-I university in the southern United

States. Bullock, Mahon and Killingsworth's (2010) guide to examining barriers was used to identify existing physical obstacles within the facilities as well as other tacit barriers of environmental and programmatic limitations. Researchers visited both facilities several times to examine various barriers that would hinder the ability of people with disabilities to use the facilities optimally. In addition to a thorough visual examination of the structural components to detect physical barriers, relevant representatives from the university were also contacted and interviewed to review any protocols or plans available to increase accessibility for individuals with disabilities.

Researchers in this project used temporary assumption of disability to more completely gauge accessibility within the facilities. Assumption of disability is defined as "role playing and assuming a disability" (Bullock et al., 2010, p. 221). To accomplish this, one researcher toured the football stadium and basketball arena using a wheelchair during assessment.

Context

The primary concern of this study was focused on both the spirit and the letter of the ADA laws and relevant guidelines. These buildings were chosen for review because they have received a limited number of formal complaints about facilities. Issues of access may not always be reported or even apparent to those with disabilities, so the ideal setting was a facility that had received few formal complaints.

Findings: Football Stadium

The D-I football stadium was built in the early 1930s. The stands at the time were wooden bleachers and held a maximum of 4,000 spectators. It was later renovated in the mid-1970s and expanded in 2008. Currently the stadium has a maximum capacity of 36,000 people.

Physical Barriers

Physical barriers are defined as "a condition of the physical environment that restricts or complicates access, movement, or participation by individuals attempting to use recreation facilities or areas" (Bullock et al., 2010, p. 123). Multiple physical barriers were identified throughout the football stadium and are detailed below.

Parking. Parking lot pavement and parking spaces are an intricate aspect of all sporting facilities. Providing the public with a safe and fully accessible parking lot and spaces is necessary. The university has designated a parking lot with 135 wheelchair accessible parking spots. This was an appropriate number as there were less than 3,375 university-provided parking spots.

Ramps. The main physical barriers present at the stadium were ramps leading to the accessible seating area. The *ADA Standards for Accessible Design* (Department of Justice [DOJ], 2010) requires a maximum rise over run ratio of 1:8 (§405.2). These ramps were constructed at a steep 16.67° incline, or approximately 1:3 slope. In order to climb the ramp successfully in a wheelchair, the researcher assuming disability needed the help of another researcher. In line with ADA regulations, most ramps were correctly marked with an ADA ramp marker (Figure 1).

Stairs. The height of each stair in the stadium is 6 in. (Figure 2). This measurement falls within the ADA standards (DOJ, 2010), which allows a minimum of 4 in. and maximum of 7 in. for single stair elevation (§504.2). This will aid individuals who use assistive devices (e.g., crutches, walkers) for mobility or for those whose walking abilities are limited.

Figure 1. ADA ramp markers indicate accessible routes between levels.

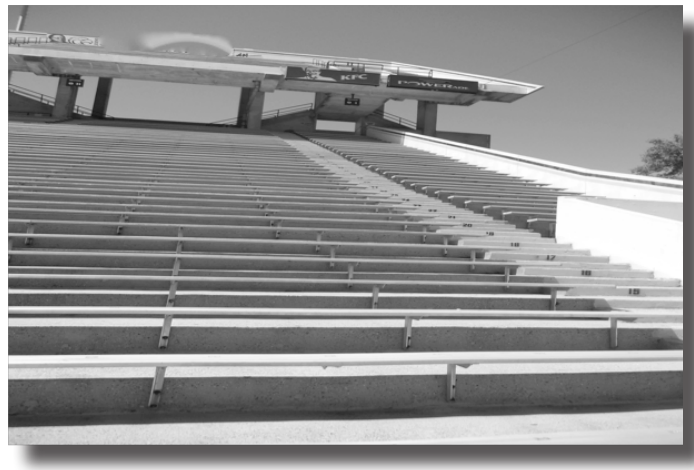

Figure 2. Stair height of bleachers is regulated to accommodate persons with mobility.

Entrances to accessible seating area. The standard width of a manual wheelchair is 24.5 to 26.5 in. (Tsavo Media Canada, 2006). However, the width of the aisle located on the west side of the accessible seating area was measured at 25 in., which is inaccessible for wheelchair passage. On game days there would be individuals sitting in the surrounding bleachers, which would add to the difficulty of maneuvering a wheelchair through the aisle. A single alternative entrance leading to the seating area for wheelchair users is wider and easier for users of wheelchairs to navigate. Facility management should consider the number of entrances and exits available for the accessible seating area when planning access routes, including for emergency situations.

Seating. The maximum capacity of the stadium is 36,000 people. Roughly 40 seats were wheelchair accessible (Figure 3). In addition, this included companion seating, which means there could be as few as 20 wheelchair seats available. This number of seats is not adequate enough to meet current ADA guidelines (DOJ, 2010), which state that the total number of wheelchair accessible seating for any assembly area consisting of over 5,001 seats is 36 plus 1 for every 200 seats over 5,001 (§ 221.2.1). For a stadium of 36,000 seats, at least 191 would be required for wheelchair spaces. Future modifications of the stadium could include increasing the number of wheelchair accessible seating to reflect current ADA standards.

Figure 3. The number of wheelchair accessible seats falls short of current ADA guidelines.

Bathrooms. Bathrooms were properly marked with signs aligned with the guidelines of the ADA. There was a single accessible stall located in each bathroom. Traditionally, accessible stalls are required to have an area of 60 in. x 56 in. (DOJ, 2010; §603). These measurements provide an unhindered transition from one's wheelchair to the toilet seat. In the older sections of the building, the designated stalls were 36 in. wide and 58 in. in length, falling short of the amount of space necessary to meet modern guidelines. The stalls contained ill-fitted handrails, which would require a person using a wheelchair to use a great deal of physical strength to lift himself or herself from the chair to the toilet seat. However, current renovations are being made to include eight fully accessible bathroom stalls.

In the newer portion of the stadium, wheelchair accessible stalls were larger than those found in the older sections, in compliance with ADA regulations. The grab bar located on the rear wall above the toilet met ADA guidelines, which state that rear wall handrails should have a minimum length of 36 in. (Figure 4; DOJ, 2010; §604.5.2).

Figure 4. Bathrooms were properly marked with appropriate signage.

Environmental Barriers

Universal symbol of accessibility. In the older section of the stadium, a universal symbol of access is located on the bottom level beside one ramp (Figure 5). In the newer portion of the stadium, every ramp and bathroom is marked with the symbol, which includes Braille for persons with visual impairments. Future plans include adding universal access symbols at every accessible location.

Figure 5. Proper use of the universal symbol of access provides clear direction for persons with disabilities.

Advertisement. There were no advertisements for individuals with disabilities on the football website. Future considerations should include advertising individuals with disabilities, in order to inform people with disabilities that the facility is accessible.

Programmatic Barriers

Parking. Shuttle services are available to assist people with disabilities, as well as the elderly (personal communication, April 11, 2011). In order to schedule a shuttle ride, individuals must call in advance and set a time for the shuttle to transport spectators. This feature enhances accessibility.

Tickets. A representative stated that there was the option of purchasing wheelchair accessible seating on the facility's website (personal communication, April 11, 2011). However, researchers were unable to locate the webpage for wheelchair-specific ticket purchases. The website should be modified to include easy-to-find and clear instructions on how to purchase wheelchair accessible seating.

Emergency planning. When asked about emergency procedures (e.g., necessary evacuation), a representative of the stadium stated that there would be ushers at the ramps who would assist people out of the stadium, but no other specific protocols were reported (personal communication, April 11, 2011). There should be formal emergency protocols and procedures on file, specifically those catering to the population with disabilities. Staff members should be educated on these procedures to reduce risk of injury and to increase safety of people in the building.

Staff training. A representative interviewed used the term *handicap people*, which is an outdated label and considered to be impolite (personal communication, April 11, 2011). Future training of facility employees should focus on using less offensive and more well-informed terminology, including person-first language, which identifies a person as having a disability (e.g., person who is deaf), as opposed to using the disability as the primary identifier (e.g., deaf person). Training may also include how to sensitively communicate with individuals with disabilities.

Findings: Basketball Arena

The basketball arena was built in 1965 and currently seats 8,095 spectators. It is primarily used for basketball home games and is also home to winter and summer commencement.

Physical Barriers

Parking. The pavement of the parking lot, excluding the area for parking spaces, is replete with cracks and uneven spaces, which increase mobility difficulties of persons with disabilities. The arena has a total of 15 accessible parking spaces out of 480, which is more than sufficient according to current ADA guidelines (DOJ, 2010), which state that for every 401 to 500 parking spaces, there should be a minimum of nine accessible spaces (§ 208.2).

However, all of these slots are standard-sized car spaces converted to pseudo-accessible parking by placing large symbols of access at the head of each space (Figures 6 and 7). The proximity of the cars placed adjacent to each other hinders easy exiting of the vehicle for those with wheelchairs or assistive devices, which typically require doors to be open wide to accommodate the equipment. Possible upgrades for the parking lot include repaving the concrete, creating permanent and wider car slots for the disabled, and also constructing a sidewalk accessible to users of wheelchairs.

Figure 6. Some parking spots are reserved exclusively for those with disabilities on a temporary basis.

Figure 7. Pseudo-accessible parking does not accommodate those needing extra-wide spaces for wheelchair exit from the vehicle.

Ramps. Similar to the football stadium, the basketball arena has ramp slopes that are built at an incline with a slope of approximately 1:3, which is steeper than recommended by the ADA (DOJ, 2010; § 405.2). The ramps create highly stressful situations for users of wheelchairs and individuals with limited walking abilities. A healthy young researcher was able to walk the steps in 13 s. However, climbing the ramp using a manual wheelchair took over fourfold longer (55 s), demonstrating the difficulty involved with ramp use. Recommendations include installing rails to assist individuals who use the ramp, as well as stationing employees nearby to assist individuals.

Lifts. Lifts are needed in sporting event facilities to assist individuals unable to ascend stairs without assistance. The arena includes a lift that can carry a maximum weight of 465 pounds (Figure 8; personal communication, April 11, 2011). With this capacity, the lift can accommodate most patrons in need of its use.

Figure 8. Lifts assist those who are unable to ascend stairways.

Guiderails. Researchers observed that guiderails were absent within the sporting facility. These are crucial for preventing accidents, especially for those who are visually impaired or who have an unstable gait or mobility injuries. We recommend installing guiderails inside of the facility, especially along stairways.

Seating. Out of the 8,095 possible seats in the arena, only 17 are accessible to persons with disabilities (Figure 9; personal communication, April 11, 2011). This number falls staggeringly short of the ADA guidelines (DOJ, 2010), which recommends 52 seats for a sporting facility with this seating capacity (§ 221.2). Prices for these seats are the same as standard seats, which is encouraging to those who would benefit from this offer. Additionally, users of wheelchairs can buy floor seating, but the only available restrooms are located on the upper levels of the arena. Suggested improvements include installing an elevator for people using a wheelchair to have easier access to the upper levels or placing accessible stalls in bathrooms on the lower floor, as well as increasing the number of accessible seats to reflect current ADA standards.

Concessions. Concessions are a relevant part of any sporting event. People with and without disabilities enjoy being able to access these with ease. Concessions stand countertops in the arena were 52 in. high, which makes visibility and transfer of goods to users of wheelchairs difficult (Figure 10). To facilitate employee–client visibility and transactions at the concessions stand, at least one or more portions of the counter space should be lowered to 34 in.

Figure 9. With over 8,000 arena seats, only 17 designated spots are accessible to persons with disabilities.

Figure 10. Countertop height at concession stands prevents clear visibility and transfer of goods to wheelchair users.

Bathrooms. Of the 24 total stalls inside the arena, only two are designated as accessible, one per gender (Figure 11). These are located only at the upper section of the arena, not the floor level. The amount of space within the stall is large enough to accommodate the user of a wheelchair comfortably. We suggest the inclusion of one wheelchair accessible stall per bathroom to increase accessibility.

Drinking fountains. Drinking fountains located near bathrooms were 36 in. from the ground, in line with ADA standards (DOJ, 2010; §602.4). This height is accessible to patrons using wheelchairs or those of short stature (Figure 12).

Braille. Braille was absent from all signage within the facility. This poses a risk for individuals with visual impairments. Facility management should install and/or replace signs to include Braille and station these near bathrooms, stairs, entrances, and other areas where the visually impaired would benefit from Braille placards.

Figure 11. Accessible bathrooms accommodate wheelchair width and include grab bars.

Figure 12. Accessible drinking fountains stand 36 in. from the ground.

Environmental Barriers

Staff training. The facility building manager and assistant equipment manager for the arena was well informed on the facility (personal communication, April 12, 2011). This staffer was able to identify specifics about the building and the limitations of accessibility along the premises. This information should be shared with all employees, especially those who interact directly with patrons on game days, to ensure positive experiences for persons with disabilities. Staffers should also know the details of emergency procedures and protocols that are in place, including those concerning clients with various physical impairments.

Programmatic Barriers

Ramp assistance. At least one arena employee is specifically staffed to assist persons with disabilities ascend the ramp during commencement ceremonies, but not during game days (personal communication, April 12, 2011). If it is not profitable to staff an employee exclusively to help individuals with the ramp during game days, we suggest giving one or more employees the flexibility to leave their posts to accomplish this task when the need arises.

Tickets. When staffers are notified of a floor ticket purchase for a user of a wheelchair, they remove chairs on the floor to be able to include the individual(s). This accommodation is provided by the university athletic department.

Conclusion

This university is not alone in the challenges and limitations related to disability access in its revenue-generating athletic facilities. Disability access is a spectrum, and each facility can strive for more effective accommodations. This university has set an aggressive plan to renovate facilities, with access for people with a disability as a high priority. This study provides useful information for other athletic departments and can be used as a blueprint to assess and improve provisions available to patrons with disabilities.

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