Accessibility in Houston Museums for the Visually Impaired

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Introduction

Unless they are an avid museum goer, anyone could easily be shocked upon hearing that there are museum programs specifically provided for blind and low vision visitors, especially because museums are institutions built for visually displaying objects to the public. However, in the last decade, many museums in Houston and the US have become increasingly accessible to individuals with physical and mental disabilities through new innovations, ranging from structures as simple as wheelchair ramps all the way to complex programs like sensory friendly exhibits. For blind and low vision visitors, museums have implemented interactive programs utilizing audio and tactile technologies, verbal descriptions, and intellectual conversations which collectively create a sensory experience that drastically contrasts past museum visits for the visually impaired. The Museum of Fine Arts Houston, the Houston Museum of Natural Science, and Space Center Houston provide accessibility programs for the visually impaired in response to public demand and present consistent efforts towards achieving accessibility through their unique implementations of programming and technology.

The Museums

Three museums have taken major strides towards accessibility efforts because of public demand. When interviewing the accessibility programs staff at these museums, they all noted that they created these programs because visually impaired visitors reached out to them directly to request for the establishment of museum experiences that would be accessible to them.

1. **Museum of Fine Arts Houston (MFAH)**

The MFAH initiated the first major program in the Houston Museum District specifically for visually impaired visitors. In an interview, Chelsea Shannon explained that she works as the staff advisor, who is tasked with picking two artworks, researching them, and booking the galleries in which those works are located for each session of the Art Beyond Sight (ABS) program. Shannon explained that ABS was established in 2010 due to public demand and is a monthly, and the only, program at the museum that exists for visually impaired visitors at the MFAH. Shannon worked in close collaboration with the original ABS facilitators in New York to train staff and docents in preparation for the program. During each session, the host provides a detailed visual description of the artworks to allow visitors to clearly visualize the works. This transitions into a group discussion where visitors discuss the art history of both works and their relevance to current events happening in the world.[1] Depending on the host, the group may listen to audio recordings, music or written literature that is related to the artworks. Tactile models composed of safe, accessible materials like puff paint or clay are distributed during sessions so visitors can interpret outlines and textures of the works without touching the originals.[2] Shannon is also the interpretation manager at the MFAH, so she creates "audio guides and digital interactive experiences," which are available online for use outside of ABS.[3]

2. **Houston Museum of Natural Science (HMNS)**

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[1]Allison Rogers, "Art beyond Sight," The Museum of Fine Arts, Houston, 2012, https://www.mfah.org/blogs/inside-mfah/art-beyond-sight.
[2] Chelsea Shannon, interview answer to author, October 21, 2022.
[3] Chelsea Shannon, "Chelsea Shannon," Chelsea Shannon, accessed December 3, 2022, http://chelseashannon.com/.

At the HMNS, Touch Tours are offered for blind and low vision visitors. According to Matti Wallin, Touch Tours were established in 2016 by Wallin and her colleagues, and were inspired by the ABS program at the MFAH. As a full-time accessibility programs manager, Wallin advertised the program on the official HMNS website, an emailing list, and the SCOOP newsletter, which is a newsletter that appeals to blind and low vision audiences. She also created a docent training guide on expectations and how to describe objects in a way visitors could understand. Touch Tour sessions are led in the same way the ABS program is, but additional improvements have been made to provide further accessibility to visitors. Private tours can be provided by request, visitors can touch actual objects rather than replicas of them, and there were even tactile books available for use in the past. The HMNS worked with a company called 3D Photoworks to make these books, and according to Wallin, they are collaborating again to create a tactile installation of King Tut's Tomb for the HMNS's King Tut's Tomb Discovery Experience, which will be available outside of Touch Tours. Along the replica, there will be hand sensors that play audio recordings describing the tomb's components, its purpose and history in visual detail. Wallin is also in the process of making an audio guide for the exhibition available on the museum's app so that visitors can keep it for reference.[4] In addition to Touch Tours, HMNS has other exhibits that are blind and low vision visitor friendly. According to the HMNS Sensory Guide, the Brown Hall of Entomology contains "interactives and live bugs" which appeal to visitors' senses of touch and smell, allowing for a highly immersive experience with natural objects instead of plain replicas. There is also the

[4] Matti Wallin, interview answer to author, September 30, 2022.

Cabinet of Curiosities exhibit, which is a room with "pull out drawers and hidden compartments."[5] This space is completely interactive, and enables visitors to explore objects composed of various materials besides simple materials like puff paint.

3. Space Center Houston (SCH)

Unlike the MFAH and the HMNS, which provide programs that target an older audience, Space Center Houston has created programs that specifically provide interactive experiences for the blind and low vision youth. In 2018, Space Center University launched the Visual Impairment Program, a three-day pilot program for visually impaired teenagers.[6] This program was created to "develop and improve [the children's] critical-thinking skills," through engineering-based activities, interactive projects that involve learning about one-stage rocket launches, thermal tile and cryogenic capsule testing, as well as speeches from NASA staff about space exploration projects. Any written text would be translated both verbally and in Braille, a service that is not available in both the HMNS or MFAH. The kids who participated were able to explore a real NASA 905 shuttle carrier aircraft with access to "visual assisting technology, page magnifiers and high-contrast materials," and shared brunch with a real astronaut from NASA.[7] For typical blind and low vision visitors, SCH has free Aira access, a navigating service for the blind that directs visitors in a GPS-like fashion.[8]

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[5] "HMNS Sensory Guide - Houston Museum of Natural Science," Houston Museum of Natural Science, 2020, https://www.hmns.org/wp-content/uploads/2020/01/Sensory-Guide-Update-1.3.20.pdf.

[6] "Space Center U® Visual Impairment Program," Facebook, 2018, https://m.facebook.com/events/367643577054341?active_tab=about&_se_imp=0B9Y9wSKc7zUzK22N.

[7] "Space Center U Visual Impairment Program - Albinism.org," Space Center University, 2018, https://www.albinism.org/wp-content/uploads/2018/04/Space-Center-U-VI.pdf.

[8] "Accessibility Options," Space Center Houston, May 16, 2022, https://spacecenter.org/accessibility-options/.

Aira is already free in other public facilities such as Starbucks, but has only recently become available in museums.[9] This allows blind and low vision visitors to be less dependent on docents to explore the museum and access an increasingly immersive and personalized experience.

Limitations of Current Efforts

Although museums have created programs and technologies specifically for visually impaired visitors, there are still some limitations to them. For example, accessibility programs for blind and low vision visitors are scarce. They only happen on predesignated dates and must be reserved in advance, so in reality, museums are not fully accessible at all times. For instance, HMNS Touch Tours happen three times a year.[10] Secondly, there are issues with staff. According to Wallin, tour guides are mainly volunteers so they sometimes don't practice describing objects enough, which can confuse visitors. If a tour group is particularly large, visitors may be unable to hear the session leader speaking.[11] Additionally, Wallin works fulltime whilst Shannon does not, emphasizing the difference in importance individual museums in Houston place on accessibility efforts. This may also be the reason as to why only the HMNS, MFAH, and SCH have well-established accessibility programs compared to other Houston museums that are in the early stages of accessibility efforts. Lastly, current technology is not adequate for visitors. Audio descriptions and Braille leaflets that are utilized during tours and certain exhibits across the US

[9] Matti Wallin, interview answer to author, September 30, 2022.
[10] "Accessibility," Accessibility | Houston Museum of Natural Science (HOUSTON MUSEUM of NATURAL SCIENCE), accessed December 4, 2022, https://www.hmns.org/visit/accessibility/.
[11] Matti Wallin, interview answer to author, September 30, 2022.

are vague and do not provide sufficient spatial information in the artworks. Contrary to common belief, Braille is currently used by less than ten percent of the US population, so it is difficult for a typical visitor to understand what the leaflets are saying. Additionally, while they are certainly helpful, 3D printed models cannot accurately represent the depth and volume of the works being discussed, so there is a possibility that the models will provide a biased idea of the physical structure of what they represent.[12]

Solutions to Current Efforts

In order to address these limitations, museums have worked to make improvements. Since 3D printed models and audio descriptions aren't adequate, researchers have been developing interactive multimodal guide prototypes such as the NOMAD, The Talking Tablet, and IVEO which all function through a touch sensitive pad that triggers audio descriptions.[13]

Recognizing the inadequacies of the docents' performance during Touch Tour sessions, Wallin reported that she was revising the docent manual and developing a more intense training module so that volunteers would become experienced explainers. [14]

Both Wallin and Shannon expressed their desire to collaborate with other museums to create more museum experiences for the visually impaired community, however, these collaborations

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[12] Luis Cavazos Quero, Jorge Iranzo Bartolomé, and Jundong Cho, "Accessible Visual Artworks for Blind and Visually Impaired People: Comparing a Multimodal Approach with Tactile Graphics," MDPI (Multidisciplinary Digital Publishing Institute, January 26, 2021), https://www.mdpi.com/2079-9292/10/3/297/htm.

[13] Luis Cavazos Quero, Jorge Iranzo Bartolomé, and Jundong Cho, "Accessible Visual Artworks for Blind and Visually Impaired People: Comparing a Multimodal Approach with Tactile Graphics," MDPI (Multidisciplinary Digital Publishing Institute, January 26, 2021), https://www.mdpi.com/2079-9292/10/3/297/htm.

[14] Matti Wallin, interview answer to author, September 30, 2022.

are still a work in progress. Instead, accessibility programming staff from different areas of Houston meet at conventions outside of their institutions to discuss what they have done for accessibility so far. According to Wallin, she attends the Houston Museums Educators Roundtable, which gathers other accessibility managers like her from the Houston area a few times annually to discuss accessibility and diversity themes that museums should focus on. She also attends the Leadership Exchange in Arts and Disability Conference, which is a national conference where attendees are expected to present what they've done in their museums to provide accessibility for the public.[15]

All these initiatives would allow for museums to agree on the importance of accessibility for Houston museums as a whole.

Conclusion

In one way or another, the reasons Houston museums find it necessary to provide programs for the visually impaired all seem to tie back to the International Council of Museums (ICOM) definition of museums. Evidently from the interviewees and outside research, it's clear that museums are providing these programs because the public demands it and museums want to be **accessible and inclusive**.[16] In fact, many visitors showed up the moment these programs became available. According to the ICOM, museums strive to foster **diversity and sustainability,**[17] and museums can only do so by evolving to provide for the general audience that visit museums,

[15] Matti Wallin, interview answer to author, September 30, 2022.
[16] "Museum Definition," International Council of Museums, August 24, 2022, https://icom.museum/en/resources/standards-guidelines/museum-definition/.
[17] "Museum Definition," International Council of Museums, August 24, 2022, https://icom.museum/en/resources/standards-guidelines/museum-definition/.

which is largely composed of visually impaired people.[18] Museums also strive to offer experiences for **reflection and knowledge,**[19] and as trusted institutions, museums play a significant role in inspiring people to care about certain issues. Just by having accessibility programs, museums can raise awareness and compel visitors to reflect on their importance.

At the end of her interview, Shannon admitted her struggle with explaining works in visual detail, however, she expressed how enjoyable it was to learn about the works she was explaining from visitors themselves. Visually impaired visitors are usually the elderly who are well versed in art history, and Shannon was inspired to see them passionately discuss works that they cannot even see.[20] Perhaps this can serve as a reminder of the insurmountable value works within a museum hold outside of their visual components and the necessity of cherishing museums for generations to come.

Appendix A: Houston Museum of Natural Science Touch Tours

Figure A1

[18] Matti Wallin, interview answer to author, September 30, 2022.
[19] "Museum Definition," International Council of Museums, August 24, 2022, https://icom.museum/en/resources/standards-guidelines/museum-definition/.
[20] Chelsea Shannon, interview answer to author, October 21, 2022.

Wallin, M. (2022). *Docents with Visitors* [Photograph]. Houston Museum of Natural Science.

Figure A2

Wallin, M. (2022). *Docent with Visitor* [Photograph]. Houston Museum of Natural Science.
Figure A3

Wallin, M. (2022). *Host Verbal Explanation* [Photograph]. Houston Museum of Natural Science.

Figures A1 and A2 depict docents interacting with blind and low vision visitors during a session of the Touch Tours at the Houston Museum of Natural Science. Figure A3 depicts a session host giving a verbal description of the works that are on the table in front of the visitors.

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