Wheeled Mobility

A Project Access
White Paper

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ACCESS

By Gary Talbot

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Summary

This paper describes many of the common accessibility barriers that exist today at museums, theaters, and other cultural institutions and describes how these barriers impact people with disabilities who use assistive devices, including wheeled mobility devices, as they attempt to gain full integrated access to our nation's cultural institutions. This paper also describes the need for cultural institutions to plan and accommodate for guests who are blind or vision impaired, guests who are deaf or hearing impaired, and guests with disabilities who may have a service animal. When a cultural institution plans and accommodates for the needs of people with disabilities, the institution provides the framework necessary for their guests to experience true equal access, full integration, and the opportunity to benefit from all that the institution has to offer.

This paper focuses on the accessible elements that have the greatest impact on people with disabilities and formulates strategies that can be used by cultural institutions to assess the existing facility accessibility, methods to identify existing accessibility barriers, and the transition plan development necessary to remove the barriers and improve and increase facility accessibility. This paper will also highlight the importance of accessible routes to the cultural institution from adjacent public transportation stops/stations, curb ramps that connect to the pedestrian access route such as a sidewalk, accessible pedestrian signals (APS) where signalized crossings are provided, accessible drop-off areas and parking lots. If the cultural institution is difficult to get to because these accessible elements do not exist, many people with disabilities may simply avoid the institution, even though the interior of the building and its programs may be fully accessible.

In addition, this paper describes the benefits of utilizing a universal design approach to accessibility that is both compliant and inclusive and will benefit not only guests with disabilities as required by law, but also any guest who would benefit from an accessible route into the cultural institution, an accessible route inside the facility that connects all displays and elements, and the addition of effective communication elements that provide audio and/or text based descriptors, mobile application technologies, raised character/Braille, and other elements to enhance the ability of all guests to fully participate and benefit and are fully integrated into the fabric and mission of a given cultural institution.

Common problems

Accessibility deficiencies often exist with exterior accessible elements that must be used by people with disabilities to access the entrance of a cultural institution or facility. Often, these exterior elements are outside of the boundary of the cultural institution and are not considered when accessibility assessments are planned and/or performed. Each of the various accessible routes that feed the entrances

to the cultural institution must be assessed to ensure the cultural institution itself is accessible to people with disabilities, including those who use wheeled mobility devices.

When the surrounding environment's existing accessibility is not evaluated and assessed, basic arrival at the cultural institution may be difficult for some guests with disabilities and impossible for others.

Evaluation of elements for compliance should include: public transportation stop/station adjacent to the cultural institution, accessible drop-off areas, crosswalks, curb ramps, sidewalks, accessible pedestrian signals (APS used at signalized crossings), proper number (scoping) of accessible parking spaces with compliant accessible parking spaces and access aisles, and accessible routes from the accessible parking spaces to the facility entrance. If the surrounding environment's existing accessibility is not evaluated and assessed, basic arrival at the cultural institution may be difficult for some people with disabilities and impossible for others. When these barriers exist visitors can become frustrated before they have reached the entrance to the cultural institution.

Just like the general population, people with disabilities come in all shapes and sizes, including people who are blind or vision impaired, deaf or hearing impaired, ambulatory with reduced mobility, have hidden disabilities, those who use a wheeled mobility device or a non-traditional mobility device, those who have a service animal, or any other person who may be considered to have a disability. In addition to accommodating people of various heights, weights, and disabilities, cultural institutions need to accommodate a variety of mobility devices that vary in form, function, size and weight. People with disabilities may also have a service animal that performs a function for them and, as such, the person and the service animal are required to be accommodated together. If the built environment is made accessible, proper policies and procedures have been developed and instituted, and staff is trained to ensure adherence to the policies, the result will be an environment that is accessible, flexible, and much more inclusive for a much wider segment of the population.

Proposed solutions

The following recommendations are based on compliance with applicable accessibility requirements, best practices, and a desire to expand minimum accessibility to include the vision and promise of the Americans with Disabilities Act (ADA) and to fully integrate people with disabilities into the mainstream, thereby enabling all visitors equal opportunity to enjoy and benefit from our cultural institutions.

Path of travel

Automated pedestrian signals (APS) that are provided at signalized intersections often enable a safer pedestrian crossing for a wider segment of the population. An accessibility assessment should include the sidewalks, street crossings, intersections, APS, etc. to ensure the path of travel that feeds and connects to a cultural institution is fully accessible. When signalized crossings are adjacent to a cultural institution and an APS is not provided the institution should contact the local entity responsible and request the APS is installed to ensure the crossings are safe and accessible.

Curb ramps that connect from the crosswalks and/or public transportation drop off, accessible parking, etc. are also critical and should be evaluated as part of the

adjacent accessible route that provides the connections to the cultural institution. Curb ramps benefit many people; for instance, they can be used as a way-finding tool for people who are blind or vision impaired. They also benefit families with baby carriages, seniors, youngsters on bicycles, delivery personnel, and anyone else who prefers to avoid the larger, approximately six-inch step to get up/down from the curb to a crosswalk or pathway.

Exterior accessible elements that connect to cultural institutions and are also within the bounds of a cultural institution may include walkways, ramps, and elevators. The minimum width required by law for both a walkway and a ramp is 36 inches. All walkways by definition must have a slope of 1:20 (5%) or less to be classified as a walkway. The cross slope of a walkway and/or ramp is the slope of the surface perpendicular to the direction of travel. The maximum allowable cross slope for both a walkway and a ramp is 1:48 (2%). An excessive cross slope may make a walkway and/or ramp difficult to navigate for many users, including people who are ambulatory and/or people who use a wheeled mobility device.

A walkway is allowed to have a varied slope along the path of travel provided no section exceeds a 1:20 (5%) running slope or a 1:48 (2%) cross slope. Care should be taken when designing walkways with a sloped surface along a curved section. Walkways with a sloped surface that exceeds 1:48 (2%) along a curved section may create a non-compliance due to the excessive cross slope. Maintaining level sections along a curve or ensuring the running slope (direction of travel) along the curve is minimized to 1:48 (2%) or less is strongly encouraged. Walkways with an allowable running slope of 1:20 (5%) or less are not required to provide level sections along the walkway or handrails and the overall length of a walkway is not regulated.

A person with a disability may have a distance related limitation that could be adversely impacted by extremely long paths of travel that often result from an elevation change.

However, caution should be used when designing walkways that have excessive lengths or extremely long continuous slopes, especially without a level section that could be used as rest areas. A person with a disability may have a distance related limitation that could be adversely impacted by extremely long paths of travel that often result from an elevation change. When a continuous slope and resulting excessive length of a walkway is driven by an elevation change, consideration should be given to alternate vertical access solutions that could help minimize the overall length of the path of travel.

Ramps could potentially be used along sections of a walkway to reduce the overall length, but the steeper the slope, the more difficult the ramp is to traverse and navigate for people with disabilities, families with children and/or baby carriages, and seniors. Ramps by definition are sloped surfaces that are greater than 1:20 (5%) but must not exceed a slope of 1:12 (8.3%). Ramps must have a level rest area that is the full width of the ramp and five (5) feet in length located every 30 inches of vertical rise. Handrails are also required to be provided on both sides of a ramped surface, including the level rest areas.

The minimum width of a ramp (between handrails) is 36 inches, however, the width of a ramp and/or a walkway should be designed to be as wide as possible to enable two-way traffic and the ability for two wheeled mobility devices to freely pass each other. A ramp must be a minimum of 5 feet wide every 200 feet of run to enable two wheeled mobility devices to freely pass. Consideration should be given to provide wider walkways and/or ramps (a minimum of 6 to 8 feet wide) that would enable a much better flow of traffic and the ability for two wheeled mobility devices, baby

carriages, people who use walkers, canes, crutches, etc. to pass freely along the entire length of the ramp and/or walkway.

Often ramps and walkways are also part of a facility's fire and life safety strategic plan where the width of the ramp and/or walkway is proportional to the number of people that can be safely evacuated for a given time period. As a result, the wider the ramp and/or walkway, the greater the number of people who can be evacuated in a shorter period of time and the wider the ramp and/or walkway, the better the accessibility and the pedestrian flow and guest experience.

Accessible parking

Obtaining accessible parking may be the first step into a very enjoyable and beneficial experience or such a difficult and discouraging experience that a guest decides to leave without entering or swears to never return.

Accessible parking spaces are required whenever parking is provided at a cultural institution. The minimum number of accessible spaces is determined by counting the number of parking spaces provided on each level, and in each lot and/or structure, including any satellite lots that may also be used for overflow parking. The minimum number of accessible spaces required can then be determined by consulting the USDOJ 2010 ADA Standards for Accessible Design, section 208 Parking Spaces. The size of each accessible space, standard accessible space, and van accessible space, and the required access aisle that is adjacent to each accessible parking space can also be determined by consulting the same document, 208 Parking Spaces, 208.2.4 Van Parking Spaces and 502 Parking Spaces.

Accessible parking is often the first experience a guest with a disability has with a given cultural institution. Providing the proper number of accessible spaces and/or van accessible spaces, and ensuring the access aisle that is adjacent to each accessible parking space meets or exceeds the minimum width requirements and has proper markings to discourage others from parking in the access aisle is extremely important. Obtaining accessible parking may be the first step into a very enjoyable and beneficial experience or such a difficult and discouraging experience that a guest decides to leave without entering or swears to never return. Integrating the overall accessible path of travel and accessible parking into the ADA assessment is critical to ensure the cultural institution identifies key accessibility deficiencies and works to remove the barriers and improve accessibility. Key accessibility elements are provided below:

- Accessible parking spaces are required to be located the shortest distance to the entrance of the facility.
- If only one accessible space is required and/or provided, the space must be a van accessible space (16 feet wide including the access aisle). For every six accessible spaces, at least one space must be a van parking space.
- Van accessible spaces should be designed with the vehicle (van) pulled forward into the space and with the access aisle located on the passenger side of the vehicle.
- Access aisle must be a minimum of 5 feet wide for all accessible spaces.
- The access aisle should connect to the next accessible element and not require a person to travel behind other parked cars or in a vehicle way without a crosswalk.
- Accessible parking should be dispersed throughout a structure provided each level is accessible, and all accessible parking on each level must be the shortest distance to the entrance.

- Cultural institutions should consider adding additional accessible spaces beyond the ADA required minimums where populations warrant. When there are increased numbers of people with disabilities and/or seniors in a proximity to a cultural institution, the minimum number of accessible spaces needed may be considerably higher than the minimum number required by the ADA.
- Proper signage must be provided for each accessible space.

Accessible entrance(s)

Entrances to cultural institutions should be evaluated to ensure all entrances are accessible (where possible). When all entrances are not accessible, proper signage must be provided to indicate the accessible route to the accessible entrance. Exterior doors must be evaluated for size and door effort to ensure the doors are accessible. While a 32-inch-wide door is allowed, a 36-inch-wide door provides a much better opening for a person with a disability to navigate. In addition, a wider door opening benefits guests with baby carriages, families with children, larger groups, etc. The effort required to open exterior doors should also be evaluated.

When the door force exceeds 5 pounds force (lbf) due to door type, door closer, door weight, and wind loads, consideration should be given to power the door open/close. When powered doors are provided care must be taken on the placement of the doors' actuators (buttons) to ensure the actuators are on an accessible route and are accessible when the doors are in either the open or closed position. Automated door actuators (electronic actuators) benefit not just people with disabilities, people who use walkers, canes, or crutches, but anyone who finds reaching out to push a button is difficult or whose arms are full maintaining a family, pushing a baby carriage, or carrying packages. Power-door openers and automatically actuated power doors are a benefit for all and often make the entrance to a cultural institution much more inviting and welcoming.

Elevators

When elevators are planned for a cultural institution, the size and speed of the unit must be carefully considered. From an accessibility perspective, elevators today are much like the curb ramps of yesterday in that curb ramps were designed as a solution to enable a person using a wheeled mobility device to gain access from a sidewalk to a crosswalk or vice versa. Yet today, almost everyone benefits from the curb ramp solution, and the same can be said for elevators.

Elevators initially may have been intended to enable a person with a disability or a person using a wheeled mobility device to have vertical access to elevated spaces and/or floors, but the benefits are realized far beyond this limited population. As a result the pressure from additional users on elevators has increased over time. This increase use requires the elevators of tomorrow to do significantly more than what was originally envisioned. To accommodate more users, elevators should be larger and faster, and often there should be additional units along the path of travel to better accommodate the larger population of users.

Larger elevators enable more of the general population to stay together and minimize the need to separate the ambulatory population from persons with a disability or those who use a wheeled mobility device. When designing elevators care should be taken

when defining the clear door widths (larger is better), door closing speeds (slower is often better), audible announcements and floor indicators, visual announcements and floor indicators, elevator panels within the required reach ranges that have larger buttons that are proud of the panel surface and do not require an individual to push a small recessed button to call for a floor, call for help, etc. In addition, the National Fire and Protection Agency (NFPA) now allows elevators to be used as part of a building/facilities emergency evacuation strategy, if the elevators are compliant to NFPA 101. Each state has specific codes that impact if NFPA 101 is used and allowed, but if allowed by code, the cultural institution should factor the NFPA 101 requirements into any plans to overhaul existing elevators or install new units.

Inside the cultural institution

Once inside the cultural institution, visitors with disabilities should be able to access any area that is open to the public. Counters used for information, transactions, or any other guest service should be at a height that enables independent access to a person seated in a wheeled mobility device. Typical accessible counter heights are set between 34 and 36 inches above the finished floor. The entire length of the counter(s) should be at the 34- to 36-inch height to ensure that the entire counter is accessible during all hours of operation. When only a portion of a counter is lowered for accessibility, often the lowered section(s) becomes the area for brochures, schedules, special event information, and other handouts, rather than the accessible area for a visitor with a disability. In addition, counters that have specific locations for unique transactions would each be required to be accessible; the best way to accomplish this is to provide one counter height that is accessible to all and compliant with the law.

The accessible path of travel to be used by a people with disabilities should coincide with the non-accessible paths of travel wherever possible. Keeping families and friends together by providing only accessible paths of travel through a cultural institution or providing accessible paths of travel that are designed to be integrated into the mainstream flow of the institution is critical. Cultural institutions should work to ensure that exhibits and/or displays are available to all guests in the proper order and flow as designed by the institution. If the accessible path of travel that takes a visitor on a circuitous route to the next exhibit and/or display, people with disabilities would have to separate from their family or friends. As a result, visitors with disabilities may have a different experience from visitors who are able to walk up/down a few steps or climb up/down to an elevated or sunken area. This can be especially troubling for younger people with disabilities who are with friends or on a school field trip. Blending in and being allowed to “just be a guest” with all the other guests, is immensely important for a person with a disability. The ADA does not guarantee that each person will have an equal outcome, but equal access does ensure that a guest with a disability has the opportunity to have an equal experience; this is the promise of the ADA.

Exhibits and displays must be on the accessible path of travel, and areas used to view an exhibit and/or display should be level and large enough for others to pass freely without requiring a person who uses a wheeled mobility device to move. Information that is provided at an exhibit and/or display should be readily visible to someone who is standing and/or seated in a wheeled mobility device. Any materials that are provided for a visitors must be placed at a height that is accessible to all and must be within the required reach ranges: 15 inches above and below 48 inches from the

finished floor.

Communication technologies

Signage that is used to identify fixed rooms should be placed 60 inches above the finished floor and should be raised character/Braille to enable guests who are blind or vision impaired to independently navigate the institution. In addition to raised character/Braille signage, cultural institutions should consider the use of detectable indicators or cane-detectable accessible-route indicators that could be used along the accessible route leading through the cultural institution. Each accessible route that connects to each exhibit and/or display offered by the cultural institution and other accessible elements such as restrooms, elevators, emergency exits, and so forth could be identified using cane-detectable accessible-route indicators.

Cane-detectable accessible-route indicators could also be provided to direct traffic to a raised character/Braille map(s) that tacitly describes the layout of the cultural institution, location of exhibit and/or display, accessible route to other accessible elements, restrooms, emergency exits, and so forth. The cultural institution also should include visual information technologies that enable a guest who is deaf or hearing impaired to have independent access, and a full and equal experience.

In addition to the static signage and accessible indicators the cultural institution should develop mobile/electronic technologies that could direct individuals throughout the cultural institution and could enable a guest who is blind or vision impaired to navigate more freely. The advancement of communication technologies, both physical/tactile and electronic has opened the door for cultural institutions to provide a truly unique experience for visitors with disabilities including people who are blind and/or vision impaired, or deaf or hearing impaired. As a result, consideration should be given to expand, where possible, the ability for guests to independently experience a cultural institution from paths of travel through accessible exhibits and/or displays offered.

At each exhibit or display, visual signage should be provided that is visible from the guest area that defines in detail what is on display. When visual signage is provided the cultural institution should also provide an audio means to audibly describe what is presented visually. This could be accomplish with audible signage that is actuated by the proximity of a guest, push-button-actuated speakers, and/or mobile application technologies that could be downloaded by the visitor to his or her personal smart phone or other device that would enable independent access throughout the institution and to each exhibit and/or display.

Wheeled mobility devices

People with disabilities come in all shapes and sizes, and just as the general population has grown in physical size, so has the population of people with disabilities. The larger physical size of people with disabilities has also caused the mobility equipment they use to become larger, heavier, and often more diverse when compared to more traditional manual or power-based wheeled mobility devices. In addition, the technology of the traditional wheeled mobility device has changed significantly in recent years.

In the past, wheeled mobility devices could be categorized as manual or a power-base unit (power chair), or a manual steer power-base unit (scooter type). Manual-based chairs were divided into two basic categories: folding and fixed or rigid frame. A basic manual chair had a seat bottom and back, front leg extensions for placement of a person's feet, two smaller front wheels (casters), two larger rear wheels with push rims for the user to propel the unit, and two push handles on the rear of the chair to enable a person to assist the wheelchair user up/down curbs, steps, sloped surfaces, etc.

Thirty and more years ago a person who used a wheeled mobility device not only had to navigate streets and sidewalks without accessible crossings and often a lack of curb ramps, as well as buildings with no accessible entrance, no vertical access, etc. They had to be able to teach others how to assist them, given the lack of accessibility in the built environment. During this time it was critical for people with disabilities that relied on wheeled mobility devices to learn other ways to get from here to there – completely different paths of travel than what ambulatory users might take. A circuitous route often became the standard path of travel for a person who used a wheeled mobility device, and often no matter how creative the person might be, at the end of the route stairs or other barriers would present themselves, and at times force the individual to ask for assistance and have the ability to explain in detail how another person could help.

The message today from people with disabilities is loud and clear: Make the environment accessible and compliant to the ADA and the disability a person may have becomes completely irrelevant.

For the most part, those days are gone. We have come so far and made so many changes and improvements to the built environment that today people with disabilities expect and demand far more from the surrounding environment. The days of an entity or institution trying to learn more about an individual's disability, in the name of providing improved service, are gone. The message today from people with disabilities is loud and clear: make the environment accessible and compliant to the ADA and the disability a person may have becomes completely irrelevant. The same can be said for the type of wheeled mobility device a person with a disability may choose to use.

Today, it is not unusual to see a person with a disability use a manual wheeled mobility device that has no rear push handles, no place for another person to grab, push or otherwise assist the person who uses the manual device. By eliminating the push handles from the rear of a wheeled mobility device, the statement made by the user that assistance is not required, not solicited and not needed is in part due to the advancements in the overall accessibility of the built environment. Accessibility changes and improvements due to the passage of the section 504 of the rehabilitation act (1973 as amended) and the ADA (1990) have significantly improved the ability of people with disabilities to live an independent life and lifestyle. What was once a dream for many people with disabilities has become more of a reality, and as a result, people with disabilities have become far more independent and in some cases the need to have others assist, others to help, has been significantly reduced or eliminated.

Power-based wheeled mobility devices in the past were basically manual folding, fixed or rigid frame units that were powered, a power motor(s), battery(s) and a joy stick for control. Today the design of even the most basic manual wheeled mobility

devices have been changed and upgraded to include options that enable users to customize for their specific needs or desires: low backs, high backs, quick-release wheels, active suspension systems, assist wheels (pancake motors), no push handles, just to name a few.

Power-based wheeled mobility devices also have evolved to offer users a much more custom fit, feel, look, and function. Today a power-based unit may have more than four wheels, separate motors for drive wheels, adaptive seating with power tilt, power vertical adjust that raises and elevates the seat height, for example. What was once a standard wheeled mobility device has changed so significantly that they may look much less like a medical device and much more like a personalized mobility device, yet when used by a person with a disability, the device remains a critical element in that individual's independence and personal freedom.

For both the manual and power-based wheeled mobility devices the space required to accommodate each is similar to what is required in the ADA, a 30-inch by 48-inch footprint. However, some of the newer and larger wheeled mobility devices may actually extend beyond the current 30/48-inch footprint, and care should be taken when designing the path of travel, elevators, display spaces, restrooms, and any other spaces intended to be used by a person with a disability who uses a wheeled mobility device. In addition to a potential larger footprint, the weight of a power-based wheeled mobility device has increased. As a result, cultural institutions should plan for occupied power-based wheeled mobility devices that exceed the 600-pound limit that is currently listed in the 2010 USDOJ ADA standards.

Other Mobility Devices

In addition to power-controlled, power-wheeled mobility devices, there are various manual-steer power-based units (commonly called "scooters") that for some users provide an added level of convenience and flexibility. Scooters are often used by people who have the ability to ambulate for limited distances. However, with the technological advancements in the manual-steer/scooter technologies more non-ambulatory users are opting for this type of solution. These devices are often three- or four-wheeled devices that have a pivoting seat, and an area in front and below the seat for a person to place their feet. Manual-steer scooter-type devices often weigh more than a manual wheeled mobility device, but less than a power-based wheeled mobility device.

Many of the manual-steer and scooter-type devices have removable or fold-down seats that enable them to be carried and transported in a much larger segment of non-adapted personal use vehicles, such as sedans, SUVs and trucks. By having the flexibility to carry and transport the scooter-type units in a non-adapted personal use vehicle, the cost to modify the vehicle is avoided. As a result, this type of mobility device is often seen as part of a person's mobility continuum, especially for ambulatory users or those who have distance-related limitations.

As a person's mobility decreases over time new solutions are necessary to maintain his or her independence. A cane and/or walker for an individual with an ambulatory disability may be sufficient, but if the disability is progressive and/or age becomes more of an impact, the next level of mobility solution may be needed. The manual-

steer power-based units are often the device that is next in line. This solution is often common with seniors or others who have limited mobility and a need to avoid continuous or prolonged ambulatory activity. These devices most often will fit within the 30-inch by 48-inch footprint; however, the turning radius required for these devices can be much greater.

While power-based wheeled mobility devices that have power steer may have two motors that turn in different directions to actuate turning, the manual-steer scooter-type device uses a simple tiller attached to a wheel or steering linkage that simply turns the wheel(s) to steer. The steering wheels often turn less than 90 degrees to maintain stability. If the steering wheel(s) of a manual-steer device were turned 90 degrees or more the device could become unstable and could flip over; to prevent this, the turning radius for most manual-steer power-based units is considerably larger when compared to either the manual wheeled mobility device or a power-steer power-based wheeled mobility device. As our population ages and these devices become more prevalent, cultural institutions should factor the added clear space requirements and larger turning radius requirements into the their accessibility strategies.

Segway®

Another mobility device that has become increasingly more common is the Segway® or Segway® type mobility device. The Segway® is a two-wheeled device that enables a person who is ambulatory or has the ability to stand to traverse while standing. The Segway® uses a two-wheeled self-balancing system to enable the device to stay in the upright position. For many people with disabilities, especially those who are able to stand but walking or walking long distances is difficult the Segway® has become a tremendous mobility solution. These new non-traditional devices may offer a different and more appropriate accessibility solution to meet a person's specific needs better than the more traditional manual/power-based wheelchairs, scooters, rollator/walker, etc.

The Segway® may also be used by people who do not have a disability, but when these types of devices are used by a person with a disability they are required to be treated the same as any other wheeled mobility device.

The Segway® may also be used by people who do not have a disability, but when these types of devices are used by a person with a disability they are required to be treated the same as any other wheeled mobility device. One person's toy or recreational device can become another person's mobility device. What may be a fun device for one person may be a requirement for another person, and because of this the Department of Justice requires that when a non-traditional mobility device is used by a person with a disability, the device is allowed in all spaces where traditional wheeled mobility devices are allowed (see appendix A). Cultural institutions should plan for guests with a disability that choose to use a Segway® as their personal mobility solution. Below are some of the accessibility issues that should be considered when accommodating Segway® users:

- Cultural institutions may ask a person using a Segway® if they have a disability and if the Segway® is their mobility device. If the answer is yes, a Segway® is to be treated like any other mobility device, including canes, walkers, wheelchairs and scooters.

- A Segway® may be modified by mounting a seat that enables a person to sit while

driving and controlling the unit.

- A Segway® can be driven at a higher speed than most other power-based wheeled mobility devices.
- A person who stands on a Segway® platform will stand approximately 8 inches above the floor or ground surface. This requires the path of travel to accommodate a higher clearance envelop due to the 8-inch elevation when compared to a person who is standing or walking on the floor or ground plane. This increased height clearance should be evaluated by the cultural institution to ensure proper vertical clearance or identify potential interferences a guest using a Segway® may encounter.
- Cultural institutions should consider evaluating the path of travel to the entrance doors, egress routes, and path of travel throughout the facility to ensure vertical limitations or potential hazards are identified and mitigated.

Service animals

Service animals must be allowed into all spaces and areas that are accessible to other visitors.

Guests with disabilities may also use an assist animal that performs a specific task or function. An assist animal is not a pet, but rather an animal that is trained to perform critical tasks for the person with a disability. Any entity or institution is allowed to ask a person with a disability if the animal is a service animal. If the answer is yes, the institution is allowed to ask what task the animal performs. However, care should be taken to not be overly aggressive or in any way attempt to restrict access to a person with a disability who uses a service animal. Service animals must be allowed into all spaces and areas that are accessible to other visitors. They should be treated as extensions of their owners and as such must be allowed to stay with their owners throughout their visit.

Large institutions where visitors may stay for extended periods of time should identify a service animal relief area that is adjacent to the cultural institution. This would enable the guest with a disability to take the animal to the relief area during their visit and not require leaving the cultural institution permanently or to be charged a fee for re-entry. The service animal relief area must be on an accessible route, and the area used by the service animal should be grass or similar type of surface.

Conclusion

People with disabilities who use assisted devices or have a service animal should be accommodated by cultural institutions and offered the same service and opportunity as any other guest. Cultural institutions that develop standard operating procedures (SOP) that allow various types of mobility devices, including non-traditional mobility devices and service animals, and embrace and advance effective communication will be ensuring that people with disabilities have an equal opportunity to experience and benefit from all that a cultural institution offers. Cultural institutions that embrace accessibility and inclusion can become a favorite destination for people with disabilities. In addition, when cultural institutions improve the accessibility of their facilities all guests, all users benefit. In fact, the benefits realized from the larger population far outweigh the benefits realized by people with disabilities, making the

case even more for universal design and inclusion. Designing and implementing an equal access strategy benefits everyone, including the cultural institution and our nation as a whole.

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Appendix A

28 CFR Part 36

§ 36.302 Modifications in policies, practices, or procedures.

(c) Service animals.

(1) General. Generally, a public accommodation shall modify policies, practices, or procedures to permit the use of a service animal by an individual with a disability.

(c)(2) Exceptions. A public accommodation may ask an individual with a disability to remove a service animal from the premises if:

(i) The animal is out of control and the animal´s handler does not take effective action to control it; or

(ii) The animal is not housebroken.

(4) Animal under handler´s control. A service animal shall be under the control of its handler. A service animal shall have a harness, leash, or other tether, unless either the handler is unable because of a disability to use a harness, leash, or other tether, or the use of a harness, leash, or other tether would interfere with the service animal´s safe, effective performance of work or tasks, in which case the service animal must be otherwise under the handler´s control (e.g., voice control, signals, or other effective means).

(5) Care or supervision. A public accommodation is not responsible for the care or supervision of a service animal.

(6) Inquiries. A public accommodation shall not ask about the nature or extent of a person´s disability, but may make two inquiries to determine whether an animal qualifies as a service animal. A public accommodation may ask if the animal is required because of a disability and what work or task the animal has been trained to perform. A public accommodation shall not require documentation, such as proof that the animal has been certified, trained, or licensed as a service animal.

(7) Access to areas of a public accommodation. Individuals with disabilities shall be permitted to be accompanied by their service animals in all areas of a place of public accommodation where members of the public, program participants, clients, customers, patrons, or invitees, as relevant, are allowed to go.

(8) Surcharges. A public accommodation shall not ask or require an individual with a disability to pay a surcharge, even if people accompanied by pets are required to pay fees, or to comply with other requirements generally not applicable to people without pets. If a public accommodation normally charges individuals for the damage they cause, an individual with a disability may be charged for damage caused by his or her service animal.

(9) Miniature horses.

(i) A public accommodation shall make reasonable modifications in policies, practices, or procedures to permit the use of a miniature horse by an individual with a disability if the miniature horse has been individually trained to do work or perform tasks for the benefit of the individual with a disability.

(ii) Assessment factors. In determining whether reasonable modifications in policies, practices, or procedures can be made to allow a miniature horse into a specific facility, a public accommodation shall consider –

(A) The type, size, and weight of the miniature horse and whether the facility can accommodate these features;

(B) Whether the handler has sufficient control of the miniature horse;

(C) Whether the miniature horse is housebroken; and

(D) Whether the miniature horse´s presence in a specific facility compromises legitimate safety requirements that are necessary for safe operation.

(iii) Other requirements. Sections 36.302(c)

(3) through (c)(8), which apply to service animals, shall also apply to miniature horses.

§ 36.311 Mobility devices.

(a)

Use of wheelchairs and manually-powered mobility aids. A public accommodation shall permit individuals with mobility disabilities to use wheelchairs and manually powered mobility aids, such as walkers, crutches, canes, braces, or other similar devices designed for use by individuals with mobility disabilities in any areas open to pedestrian use.

(b)

(1) Use of other power-driven mobility devices. A public accommodation shall make reasonable modifications in its policies, practices, or procedures to permit the use of other power-driven mobility devices by individuals with mobility disabilities, unless the public accommodation can demonstrate that the class of other power-driven mobility devices cannot be operated in accordance with legitimate safety requirements that the public accommodation has adopted pursuant to § 36.301(b).

(c)

(1) Inquiry about disability. A public accommodation shall not ask an individual using a wheelchair or other power-driven mobility device questions about the nature and extent of the individual´s disability.

(2) Inquiry into use of other power-driven mobility device. A public accommodation may ask a person using an other power-driven mobility device to provide a credible assurance that the mobility device is required because of the person´s disability. A public accommodation that permits the use of an other power-driven mobility device by an individual with a mobility disability shall accept the presentation of a valid, State-issued disability parking placard or card, or State issued proof of disability, as a credible assurance that the use of the other power-driven mobility device is for the individual´s mobility disability. In lieu of a valid, State-issued disability parking placard or card, or State-issued proof of disability, a public accommodation shall accept as a credible assurance a verbal representation, not contradicted by observable fact, that the other power-driven mobility device is

being used for a mobility disability. A “valid” disability placard or card is one that is presented by the individual to whom it was issued and is otherwise in compliance with the State of issuance´s requirements for disability placards or cards.

Part 36 Nondiscrimination on the Basis of Disability in Public Accommodations and Commercial Facilities (as amended by the final rule published on September 15, 2010)

Authority: 5 U.S.C. 301; 28 U.S.C. 509, 510; 42 U.S.C. 12186(b).

Subpart A – General

§ 36.104 Definitions.

Other power-driven mobility device means any mobility device powered by batteries, fuel, or other engines – whether or not designed primarily for use by individuals with mobility disabilities – that is used by individuals with mobility disabilities for the purpose of locomotion, including golf cars, electronic personal assistance mobility devices (EPAMDs), such as the Segway® PT, or any mobility device designed to operate in areas without defined pedestrian routes, but that is not a wheelchair within the meaning of this section

Service animal means any dog that is individually trained to do work or perform tasks for the benefit of an individual with a disability, including a physical, sensory, psychiatric, intellectual, or other mental disability. Other species of animals, whether wild or domestic, trained or untrained, are not service animals for the purposes of this definition. The work or tasks performed by a service animal must be directly related to the individual´s disability.

Wheelchair means a manually-operated or power-driven device designed primarily for use by an individual with a mobility disability for the main purpose of indoor or of both indoor and outdoor locomotion.

Appendix B

Sergeant Christopher Champion steps onto a Segway at the Segs4Vets ceremony May 18, 2011, at the Alamo.
Photo: ANDREW BUCKLEY, SAN ANTONIO EXPRESS-NEWS

The Segway® x2's deeply treaded, all-terrain tires can conquer rugged patches of dirt, gravel, grass or sand.

IBOT 4000

Invacare TDXSP for Formula CG Powered Seating with G-Trac Technology

Maxima 4-Wheel
by Pride (Model No. SC940)

Pilot 3-Wheel
by ActiveCare (Model No. Pilot 2310)

Breeze S 4-Wheel
by Afikim (Model No. FTS4114)

Appendix C – Resources

2004 ADAAG

http://www.access-board.gov/guidelines-and-standards/buildings-and-sites/about-the-ada-standards/ada-standards

2010 USDOJ ADA

http://www.ada.gov/2010ADAstandards_index.htm

Wheeled Mobility Devices

Segway®

http://www.segway.com/

Scooters

http://www.spinlife.com/Afikim-Breeze-S-4-Wheel-4-Wheel-Scooter/spec.cfm?productID=95511#.UpfcclaA3io

Power Based Wheeled Mobility Devices

http://www.invacare.com/cgi-bin/imhqprd/products-services.jsp

Manual Wheeled Mobility Devices

http://www.spinlife.com/critpath/match.cfm?categoryID=7

T-Coil Hearing loops

http://www.harriscomm.com/index.php/equipment/personal-listening/loop-systems.html

http://www.ovalwindowaudio.com/

Cochlear®

http://www.cochlear.com/wps/wcm/connect/us/home/treatment-options-for-hearing-loss/treatment-options-for-hearing-loss?gclid=CLHVnZqaiLsCFYtQOgodLQMAUg

Appendix D – Author

Gary L. Talbot is currently the Amtrak Program Director for ADA; prior to this position, he was the Assistant General Manager for System-Wide Accessibility (SWA) with the Massachusetts Bay Transportation Authority (MBTA). The MBTA operates one of the largest mass transit systems in the United States; it includes a vast network of bus and rail lines, including rapid bus transportation, rapid rail, light rail, commuter rail and commuter boat service. The MBTA System-wide Accessibility Department was created by Talbot and is responsible for all aspects of accessibility, such as policy development, accessibility compliance, governmental oversight, work rules and procedure development, training module development, architectural plan review and design review.

Before joining the MBTA in May 2007, Talbot served as a senior engineer for Walt Disney World Ride and Show Engineering. He was responsible for evaluating existing ride, attraction, transportation and facility accessibility and development of design recommendations for improvement.

In February 2004, President George W. Bush named Talbot to the U.S. Access Board. Under the Americans with Disabilities Act (ADA) and other laws, the U.S. Access Board develops and maintains design criteria for the built environment, transportation, telecommunication, and information technology. In December of 2007, President Bush named Talbot to a second four-year term on the U.S. Access Board which ended December 31, 2011, but Talbot was held over as a board member by the Obama Administration until December 2012. Previous to Walt Disney World, Talbot worked as an Engineering Group Manager for General Motors (GM) and managed GM's Mobility Center. The GM Mobility Center was responsible for engineering and design and development of vehicle features and options specially designed for drivers and passengers with disabilities and seniors. While at GM Talbot was awarded two patents (co-inventor) that improved the accessibility of personal use vehicles for passengers and drivers with disabilities.

Talbot, who holds a degree in mechanical engineering from the University of Michigan, is active in various trade and civic organizations. From 1996 to 2009 Talbot was the chair of the Society of Automotive Engineers (SAE) Adaptive Devices Standards Committee (ADSC), which has responsibility for developing technical standards for adaptive devices and/or vehicles used in personal use vehicles by persons with disabilities.