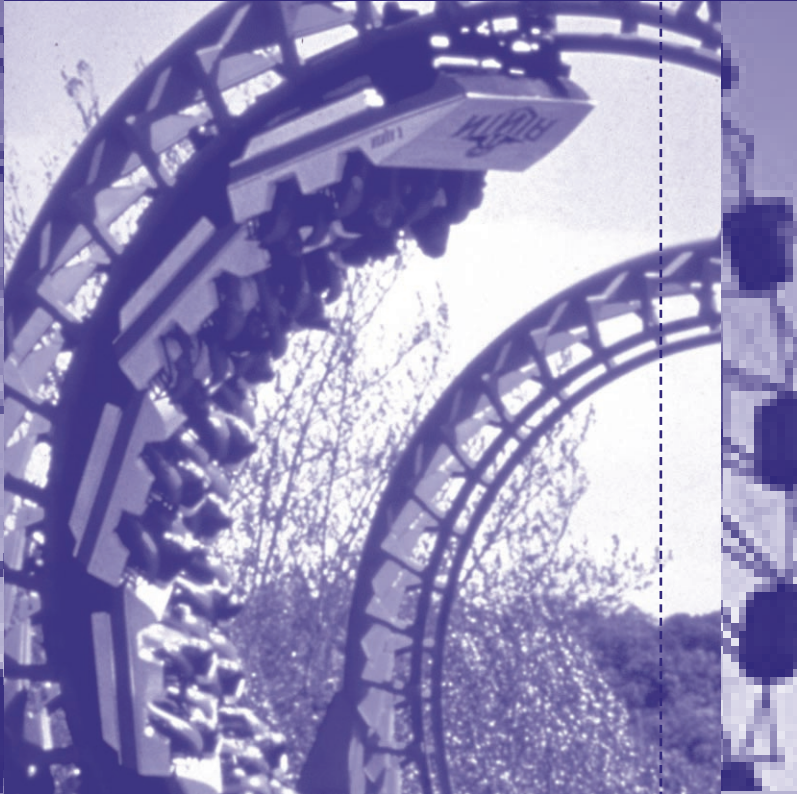




UNITED STATES ACCESS BOARD

amusement rides boating facilities fishing piers & platforms golf courses miniature golf sports facilities swimming pools & spa

# accessible amusement rides



a summary of  
accessibility guidelines  
for recreation facilities

JUNE 2003

A FEDERAL AGENCY COMMITTED TO ACCESSIBLE DESIGN

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This information has been developed and reviewed in accordance with the Access Board's information quality guidelines ([www.access-board.gov/infoquality.htm](http://www.access-board.gov/infoquality.htm)).

## Accessibility Guidelines for Recreation Facilities



### Introduction

The Americans with Disabilities Act (ADA) is a comprehensive civil rights law that prohibits discrimination on the basis of disability. The ADA requires that newly constructed and altered state and local government facilities, places of public accommodation,

and commercial facilities be readily accessible to, and usable by, individuals with disabilities. The ADA Accessibility Guidelines (ADAAG) is the standard applied to buildings and facilities. Recreational facilities, including amusement park rides, are among the facilities required to comply with the ADA.

The Access Board issued accessibility guidelines for newly constructed and altered recreation facilities in 2002. The recreation facility guidelines are a supplement to ADAAG. As a supplement, they must be used in conjunction with ADAAG. References to ADAAG are mentioned throughout this summary. Copies of ADAAG and the recreation facility accessibility guidelines can be obtained through the Board's website at [www.access-board.gov](http://www.access-board.gov) or

by calling 1-800-872-2253 or 1-800-993-2822 (TTY). Once these guidelines are adopted by the Department of Justice (DOJ), all newly designed, constructed and altered recreation facilities covered by the ADA will be required to comply.

The recreation facility guidelines cover the following facilities and elements:

- Amusement rides
- Boating facilities
- Fishing piers and platforms
- Miniature golf courses
- Golf courses
- Exercise equipment
- Bowling lanes
- Shooting facilities
- Swimming pools, wading pools, and spas

This guide is intended to help designers and operators in using the accessibility guidelines for amusement park rides. These guidelines establish minimum accessibility requirements for newly designed or newly constructed and altered amusement park rides. This guide is not a collection of amusement ride designs. Rather, it provides specifications for elements of amusement rides to create a general level of usability for individuals with disabilities. Emphasis is placed on ensuring that individuals with disabilities are generally able to access the amusement ride and use a variety of elements. Designers and operators are encouraged to exceed the guidelines where possible to provide increased accessibility and opportunities. Incorporating accessibility into the design of an amusement ride should begin early in the planning process with careful consideration to accessible routes and providing access to rides.

The recreation facility guidelines were developed with significant public participation. In 1993, the Access Board established an advisory committee of 27 members to recommend accessibility guidelines for recreation facilities. The Recreation Access Advisory Committee represented the following groups and associations:

- American Ski Federation
- American Society for Testing and Materials (Public Playground Safety Committee)
- American Society of Landscape Architects
- Beneficial Designs
- City and County of San Francisco, California, Department of Public Works
- Disabled American Veterans
- Environmental Access
- Golf Course Superintendents Association of America
- Hawaii Disability and Communication Access Board
- International Association of Amusement Parks and Attractions
- Katherine McGuinness and Associates
- Lehman, Smith, and Wiseman Associates
- Michigan Department of Natural Resources
- National Council on Independent Living
- National Park Service
- National Recreation and Park Association
- New Jersey Department of Community Affairs
- Outdoor Amusement Business Association
- Paralyzed Veterans of America
- Professional Golfer's Association
- Self Help for Hard of Hearing People
- States Organization for Boating Access
- Universal Studios
- U.S. Army Corps of Engineers
- U.S. Forest Service
- Y.M.C.A. of the U.S.A.
- Walt Disney Imagineering



The public was given an opportunity to comment on the recommended accessibility guidelines, and the Access Board made changes to the recommended guidelines based on the public comments. A notice of proposed rulemaking (NPRM) was published in the Federal Register in July 1999, followed by a five-month public comment period. Further input from the public was sought in July 2000 when the Access Board published a draft final rule soliciting comment. A final rule was published in September 2002.

*“Whenever a door is closed to anyone because of a disability, we must work to open it.... Whenever any barrier stands between you and the full rights and dignity of citizenship, we must work to remove it, in the name of simple decency and justice. The promise of the ADA...has enabled people with disabilities to enjoy much greater access to a wide range of affordable travel, recreational opportunities and life-enriching services.”*

*President George W. Bush, New Freedom Initiative, February 1, 2001*

## Amusement Rides

The recreation facility guidelines described in this guide focus on newly designed or newly constructed and altered amusement rides. Other provisions contained in ADAAG address elements commonly found at an amusement park or theme park, such as accessible vehicle parking spaces, exterior accessible routes, and toilet and bathing facilities. ADAAG addresses only the built environment (structures and grounds). The guidelines do not address operational issues. Questions regarding operational issues should be directed to the Department of Justice, 1-800-514-0301 or 1-800-514-0383 (TTY).

An “amusement ride” is defined by the guidelines as a system that moves people through a fixed course within a defined area for the purpose of amusement. The guidelines do not apply to vehicles such as trams or gondolas, which, while they may be enjoyable, are designed primarily to transport people. These vehicles are addressed in the ADA Accessibility Guidelines for Transportation Vehicles, which can be found at [www.access-board.gov/transit/html/vguide/htm](http://www.access-board.gov/transit/html/vguide/htm).

### New Rides

New rides refer to the “first use,” which is the first time amusement park patrons take a ride on a custom designed or newly manufactured ride. If a ride is moved to another area

of a park or to another park, it is not considered new. If the ride was purchased from another entity, “new” is the first permanent installation of the ride, whether it was purchased “off the shelf” or modified before installation.

### Altered Rides

Altered rides refer to changes in structural or operational characteristics of an existing ride vehicle configuration from those specified by the manufacturer or the original design criteria. An existing ride is also considered an altered ride if the load or unload area is newly designed or constructed. Thus, if an existing ride is simply moved to another area of a park or to another park, it is not considered altered unless the load or unload area is newly designed or newly constructed. Routine maintenance, painting, or changing the theme boards is not considered an alteration.



### Exceptions

There are four types of rides that are not covered by the guidelines. However, other ADA requirements still apply. The four types are:

- Mobile or portable amusement rides such as those in traveling carnivals, State and county fairs, and festivals, do not need to comply. Mobile rides are available that provide wheelchair access and other rides could provide transfer access with minor modifications.
- Rides that are controlled or operated by the rider (such as bumper cars and go-carts) are not required to comply with the guidelines, but an accessible route to the ride and a turning space (60-inch diameter circle or T-shaped turning space) in the load and unload area must be provided. (This exception does not apply if patrons can merely cause the ride to make incidental movements, but otherwise have no control over the ride.)



- Rides designed for children, assisted on and off by an adult, are only required to provide an accessible route to the ride and a turning space in the load and unload area. While the occasional adult user may ride, the exception applies only to those rides that are designed for children.
- Rides that do not have seats must only provide an accessible route to the load and unload areas and a turning space in the load and unload area.

### Unique Attractions

There are amusement attractions that are not specifically addressed by the guidelines, for example, “virtual reality” rides when a device does not move on a fixed course through an area. For these attractions, the guidelines should be applied to the extent possible. An accessible route should be provided to connect to a reasonable number, but at least one, of these attractions. If appropriate technical provisions exist, they should be applied. Operators are still subject to all the other ADA requirements, including program accessibility or barrier removal and the obligation to provide equal opportunities.

### Accessible Rides

Each newly constructed or newly designed amusement ride must provide at least one wheelchair space, or at least one ride seat designed for transfer, or a transfer device designed to transfer a person using a wheelchair from the load and unload area to a ride seat. The choice of which type of access that is provided for each ride is left up to the operator or designer.

Where possible, operators are encouraged to exceed the number of accessible ride seats so that more people with disabilities and their families can enjoy the rides at the same time.

### Accessible Routes

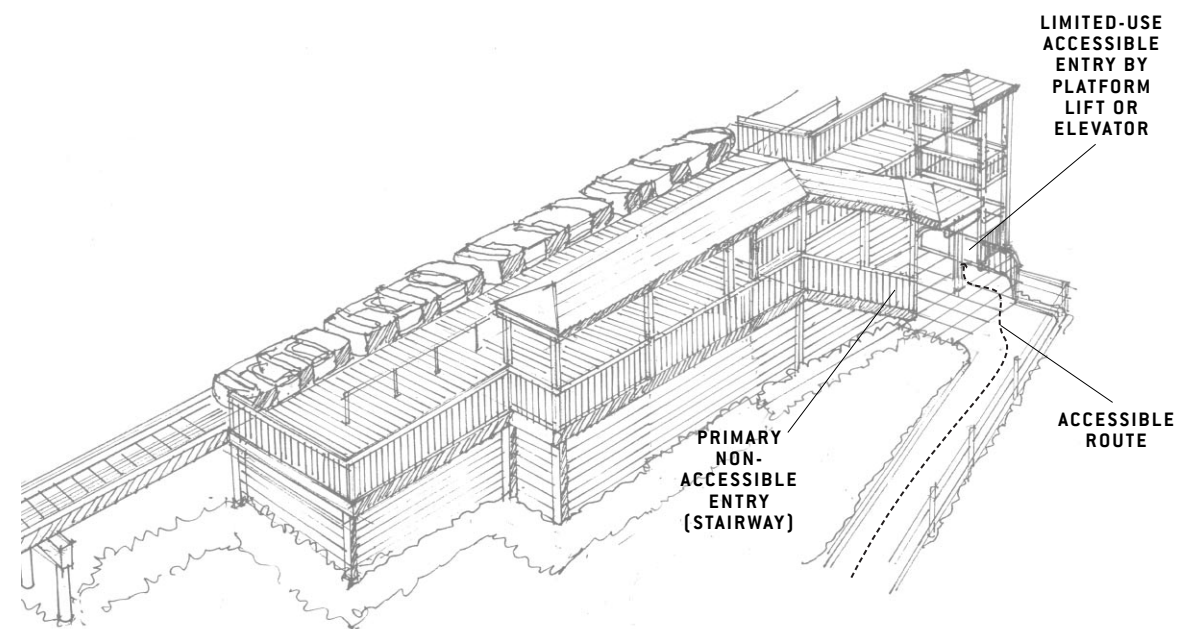
Accessible routes are continuous, unobstructed paths connecting all accessible elements and spaces of a building or facility. For each accessible amusement ride, an accessible route

is required to connect to a wheelchair space, a ride seat designed for transfer, or a transfer device for use with an amusement ride. The accessible route must comply with ADAAG provisions for the location, width (minimum of 36 inches), passing space, head room, surface, slope (maximum of 1:12 or 8.33%), changes in level, doors, egress, and areas of rescue assistance, unless otherwise modified by specific provisions outlined in this guide.

As previously discussed, an accessible route is also required to connect the load and unload areas of rides that are not required to comply with the guidelines. This includes rides that are controlled by the rider, rides designed for children, and rides without seats.

Any part of an accessible route with a slope greater than 1:20 (5%) is considered a ramp, which limits the slope to 1:12 (8.33%) maximum. There are some exceptions to the accessible route requirements when connecting to an accessible amusement ride:

- In the load and unload areas or on the ride, the guidelines permit slopes as steep as 1:8 (12.5%), if it is structurally or operationally infeasible to limit ramps to slopes of 1:12 (8.33%). In most cases, this will be limited to areas where the route leads directly to



the ride and there are space limitations on the ride. This exception does not apply to the queue line.

- Handrails are not required on accessible routes that exceed 1:20 (5%) in the load and unload area or on the ride, if it is structurally or operationally infeasible to provide them.
- Limited-use/limited-application elevators (LULA's) and platform lifts may be provided as part of the accessible route serving the load and unload area. Platform lifts must comply with ADAAG.

The guidelines do not address the motion or speed of moving turntables and walkways as part of the accessible route because those can be stopped or slowed. Operators should adjust the speed to accommodate riders, where necessary.

### Signage

Signage must be provided at the entrance of the queue or waiting line for each accessible amusement ride to identify the type of access provided on the ride (e.g., rides with wheelchair spaces or transfer rides). If the route to the accessible load area is different for persons with disabilities than for other riders, there must be signage indicating the location of the accessible load area so that riders can avoid unnecessary backtracking.

### Amusement Rides with Wheelchair Spaces

Minimum space requirements and clearances for wheelchairs are specified where a ride provides a wheelchair space. If possible, designers and manufacturers should incorporate more space to enhance the ease of loading and unloading and to accommodate a greater variety of personal mobility devices.

### Approach

Turning space (60-inch diameter or T-shaped space) for a wheelchair must be provided where the accessible route adjoins the ride, so that riders can access the ride. One side

of the wheelchair space must adjoin an accessible route. The turning space may overlap the accessible route and the required clear floor space.

### Load and Unload Areas

The floor or ground surface in the load and unload areas must have a slope not steeper than 1:48 and be stable, firm, and slip resistant.

### Gaps

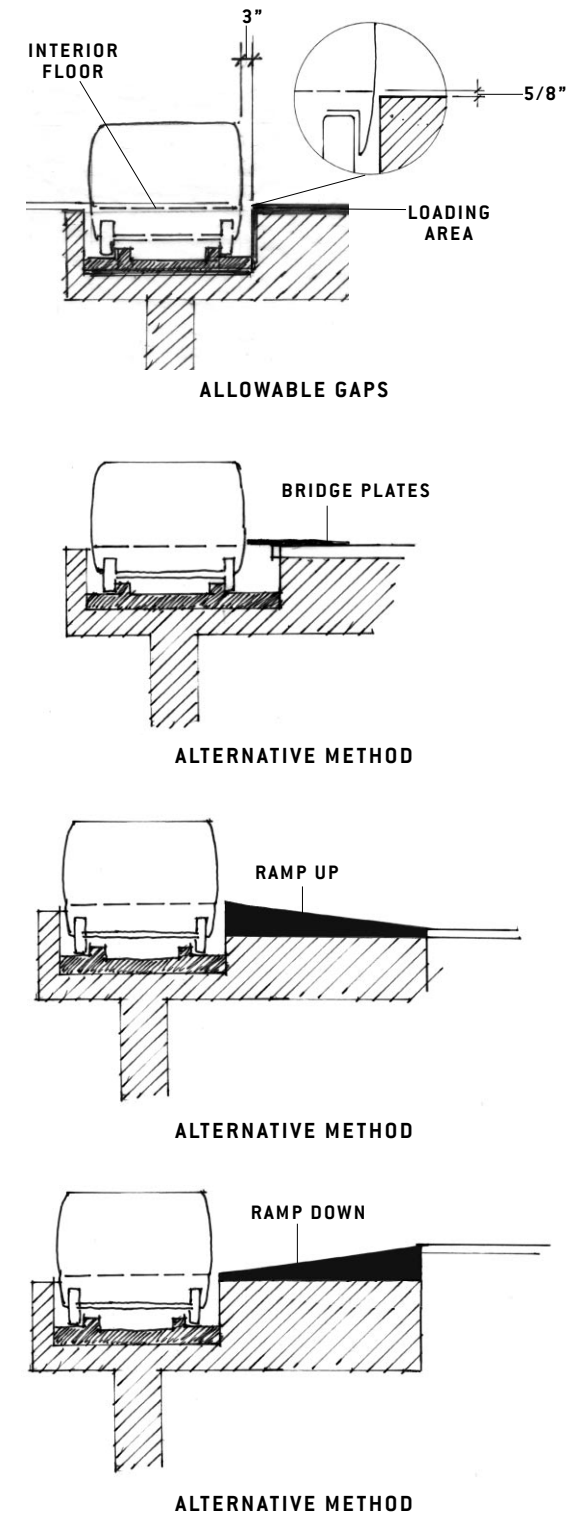
Where wheelchair spaces are provided on amusement rides, the floors of rides must be coordinated with the floors of the load and unload areas so that when the ride is at the load and unload position, the vertical differences between the two floors are within 5/8 inch and the horizontal gap is not more than 3 inches, under normal conditions.

However, if compliance with those measurements is not operationally or structurally feasible, operators may use bridge plates, ramps or other devices. They must comply with the Board's vehicle guidelines (36 CFR 1192.83 (c), available at [www.access-board.gov/transit/html/vguide.htm#LRVM](http://www.access-board.gov/transit/html/vguide.htm#LRVM)).

### Clearances

Wheelchair spaces on amusement rides must comply with the following provisions, with three exceptions:

- Securement devices may overlap required clearances.
- The wheelchair spaces may be mechanically or manually repositioned, for example, using a turntable.



- There is no clear headroom requirement for wheelchair spaces on a ride since many rides move through confined spaces. The 80-inch minimum vertical clearance requirement remains for circulation areas and accessible routes in the queue line and load and unload areas.

### Openings, Width and Length of Wheelchair Space

Openings and the width and length of wheelchair spaces need to be considered in relation to each other. Openings on rides that provide wheelchair spaces must be at least 32 inches wide. This minimum width is necessary for passage of a wheelchair or mobility device.

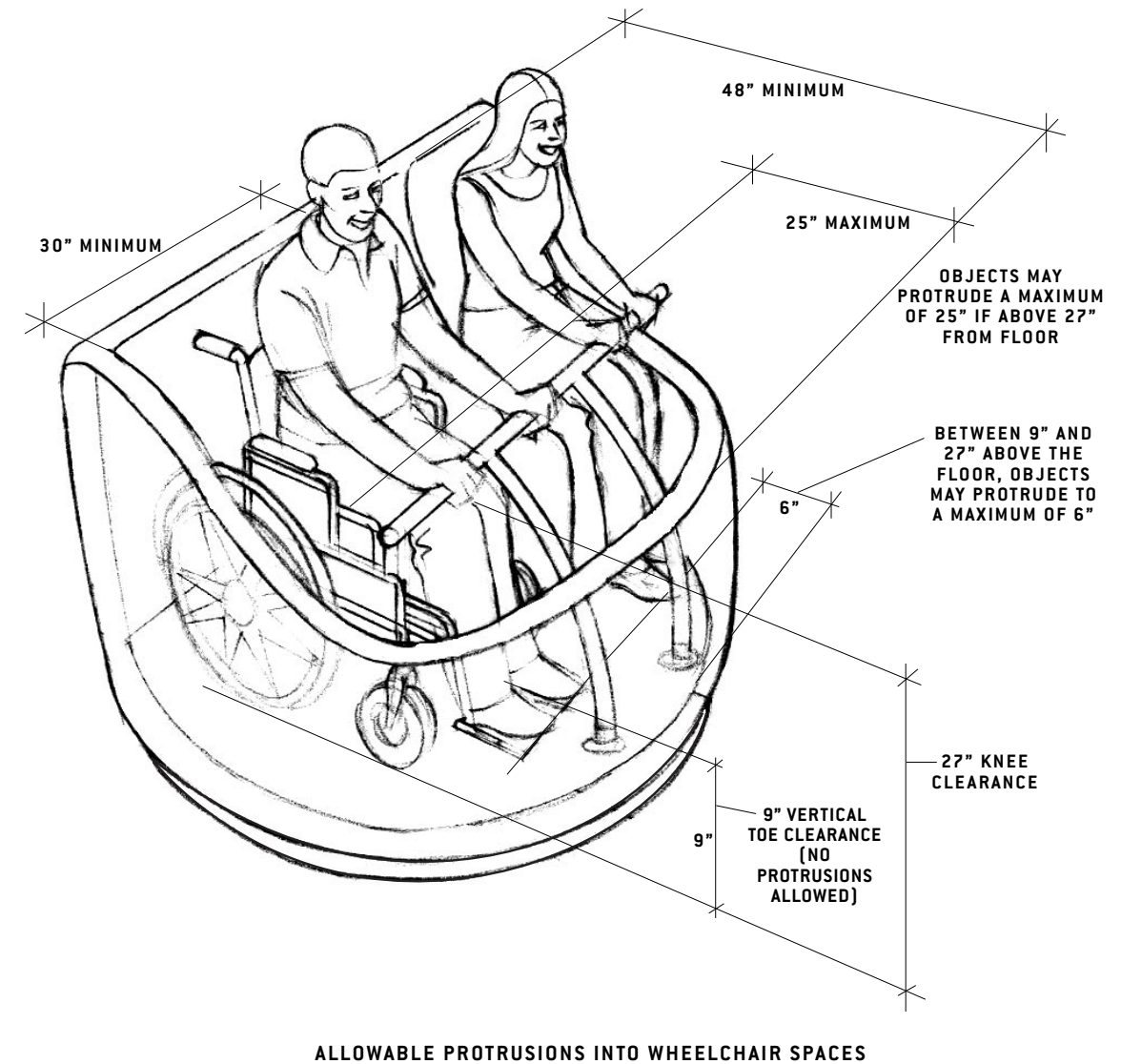
Wheelchair spaces must have a clear width of 30 inches minimum and a clear length of 48 inches minimum, measured to at least 9 inches above the floor surface. Wheelchair access can be provided onto the ride vehicle in many ways, including, but not limited to, rear entry, side entry, or side entry with a turntable.

### Side Entry Openings, and Width and Length of Wheelchair Space

If the wheelchair space can only be entered from the side, the ride must be designed to permit sufficient turning space for people using a wheelchair or mobility device to enter and exit the ride. Designers must consider the position of the opening in relation to the wheelchair space and add clear space and larger openings as necessary. For example, an opening of 32 inches, combined with a 30-by-48-inch minimum wheelchair space, is not enough space for turning to face the front of the ride vehicle. If there is a 42-inch opening, a wheelchair space with a clear length of 60 inches minimum and a clear width of 36 inches minimum would be needed.

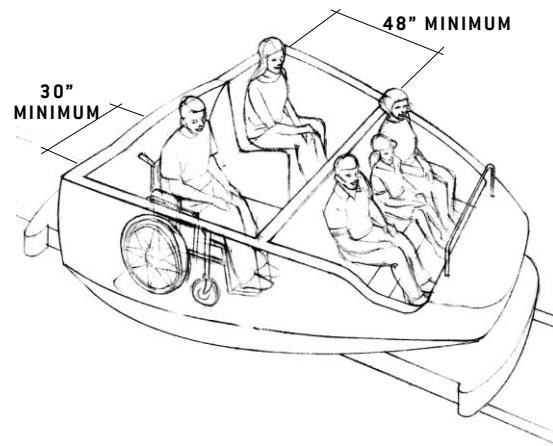
### Protrusions

There may be some protrusions into wheelchair spaces on rides, but not into circulation areas, accessible routes, or load and unload areas. Where a wheelchair space is located on a ride, nothing may protrude into the front of the wheelchair space 9 inches from the



floor. Objects may protrude into the space a maximum of 6 inches along the front of the space, if they are between 9 inches and 27 inches maximum above the floor. Objects may protrude a maximum of 25 inches along the front of the space if they are more than 27 inches above the floor surface.





WHEELCHAIR SPACE WITH COMPANION SEATING

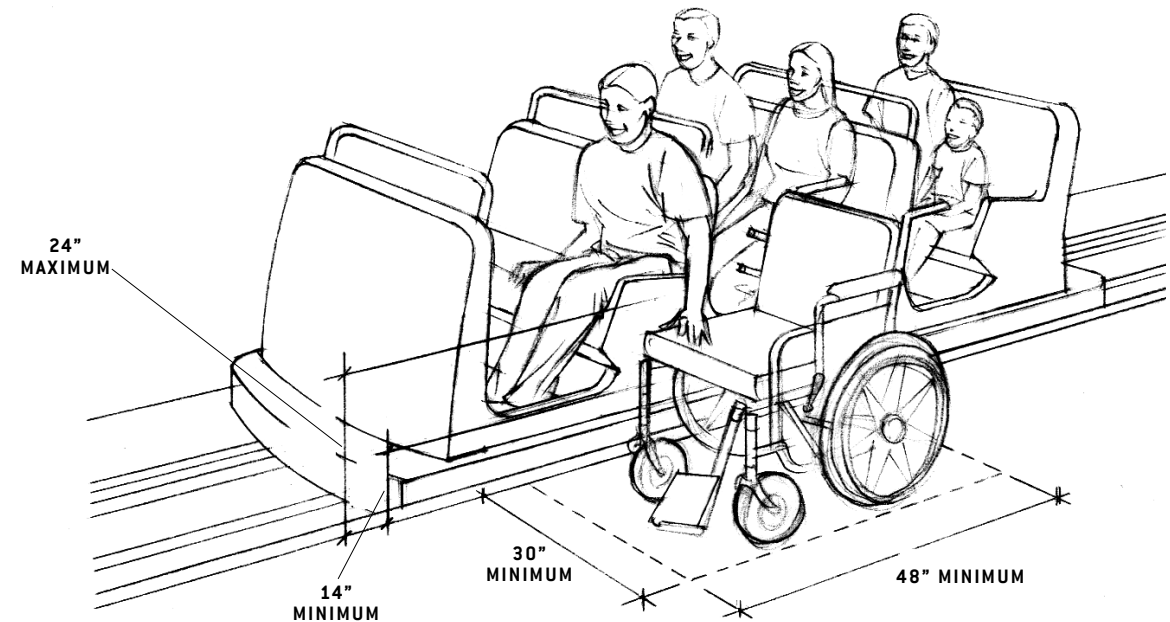
### Companion Seats

Where companion seating is provided on a ride, companion seating adjacent to wheelchair spaces is also required in some cases. A companion seat is required if the interior of an amusement ride is more than 53 inches wide, there is seating for more than one rider, and the wheelchair doesn't need to be centered within the ride to maintain the center of gravity.

If the ride has shoulder-to-shoulder seating, the companion seating must be shoulder-to-shoulder with the adjacent wheelchair space. If shoulder-to-shoulder companion seating is not operationally or structurally feasible (i.e., in water rides where the rider's center of gravity is critical) operators must comply with this provision to the maximum extent feasible.

### Amusement Ride Seats Designed for Transfer

Where an amusement ride seat is designed for transfer, it is expected that someone will transfer only once from a wheelchair or mobility device to the ride seat. Amusement ride seats designed for transfer should allow individuals to make independent transfers to and from their wheelchairs or mobility devices. There are many different ways that individuals transfer from their wheelchairs or mobility devices. Both the clear space and the height of the seat are critical for a safe and independent transfer. When greater distances are required for transfer, consideration should be given to providing gripping surfaces, seat paddings, and avoiding sharp or protruding objects.



RIDE SEAT DESIGNED FOR TRANSFER

### Clear Floor Space

The load and unload areas adjacent to ride seats designed for transfer must have a clear space of 30 by 48 inches minimum. Designers may decide which location is best suited for transfer on a particular ride. Because people transfer in different ways, providing additional space both in front of and to the side of the ride will increase flexibility and usability for a more diverse population.

### Transfer Height

Ride seats designed for transfer must be between 14 and 24 inches above the load and unload area surface. Where possible, designers are encouraged to locate the ride seat within 17 to 19 inches above the load and unload surface.

### Transfer Entry

There is a large amount of variance in amusement rides and the sides of the ride are often part of the restraint or securement system. For those reasons, the opening provided to



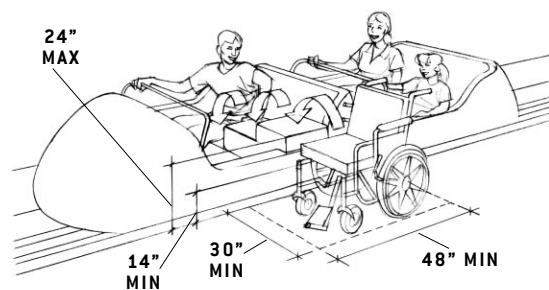
transfer from a wheelchair or mobility device must provide sufficient clearance for transfer.

### Transfer Devices for Use with an Amusement Ride

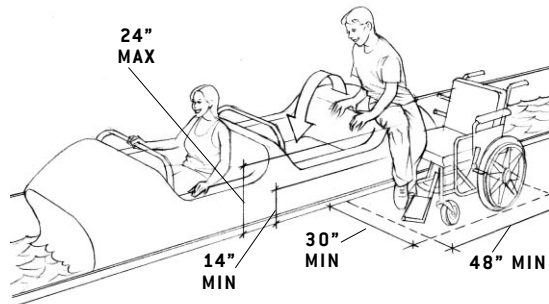
Transfer devices may also be used to provide access onto an amusement ride. A transfer device can be either permanent or temporary and does not require modification to the ride. There are a variety of transfer devices available that could be adapted to provide access onto an amusement ride. Examples of devices that may provide for transfers include, but are not limited to, transfer systems, lifts, mechanized seats, and other custom designed systems.

Operators and designers have flexibility in developing systems that will facilitate individuals to transfer onto amusement rides. These systems or devices should be designed to be reliable and sturdy. A transfer board, provided by the operator, for example, may not be sufficient because it will not provide enough support or stability. However, people using mobility aids may prefer to use their own transfer boards in addition to devices provided by the operator.

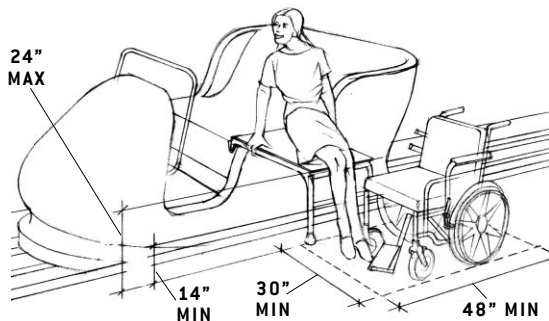
Designs that limit the number of transfers required from one's wheelchair or mobility device to the ride seat are encouraged. When using a transfer device to access an amusement ride, the least amount of transfers for the least amount of distance is desired.



TRANSFER DEVICE: PORTABLE TIER



TRANSFER DEVICE: FIXED TIER



TRANSFER DEVICE: PORTABLE BENCH

### Clear Floor Space

The load and unload areas adjacent to transfer devices must have a clear space of 30 by 48 inches minimum. Designers may decide which location is best suited for transfer on a particular ride. Because people transfer in different ways, providing additional space both in front of and to side of the ride will increase flexibility and usability for a more diverse population.

### Transfer Height

The height of the transfer device must be between 14 and 24 inches above the load and unload area surface. Where possible, designers are encouraged to locate the transfer device seat within 17 to 19 inches above the load and unload surface. If greater distances are required for transfers, extra consideration should be given to providing gripping surfaces, seat paddings, and avoiding sharp or protruding objects in the path of transfer to better facilitate the transfer process. If multiple transfers are necessary to reach the amusement ride seat, it is recommended that each vertical transfer not exceed 8 inches.

### Wheelchair Storage Space

People using wheelchairs and mobility devices need to leave their equipment when they transfer onto rides. There must be space in or adjacent to load and unload areas for each ride seat designed for transfer or transfer device. The space must be a minimum of 30 inches by 48 inches. For safety reasons, this space may not overlap any required means of egress or an accessible route. Most designs for load and unload areas will already include enough space. Operators are not required to provide a constructed element or lockers for storage, only a clear space.

### More Information

You can obtain copies of the recreation facility guidelines, which include amusement rides, and further technical assistance from the U.S. Access Board at [www.access-board.gov](http://www.access-board.gov), 1-800-872-2253, or 1-800-993-2822 (TTY).