

# ADA Transportation Series

## City Bus Systems

Please be advised that this document has **not** been reviewed for legal sufficiency by the U.S. Department of Transportation or the U.S. Department of Justice.

### Questions and Answers

This document is part of a series devoted to increasing the understanding and awareness of the transportation provisions of the Americans with Disabilities Act (ADA).

The U.S. Department of Transportation is responsible for the enforcement of ADA transportation requirements. This information is intended solely as informal guidance. It is neither a determination of legal rights and/or responsibilities under the ADA, nor is it binding on any agency with enforcement responsibility under the ADA.

The requirements of 49 CFR Part 37 address the acquisition of accessible vehicles by public and private entities, requirements for complementary paratransit service by public entities operating a fixed route system and provision of nondiscriminatory accessible transportation service. Accessibility specifications for transportation vehicles are addressed in 49 CFR Part 38. Answers to the questions in this series are quoted directly from the transportation rules, with subsection locations shown in parenthesis.

To order other ADA documents, contact your regional ADA Technical Assistance Center at (800) 949-4232 (V, TTY).

The ADA Transportation Regulations cover public entities operating a fixed route system (e.g., consistent routes traveled on a regular schedule or the typical city bus system). This document addresses some of the most common questions about City Bus Systems.

### **1. How is disability defined for purposes of transportation?**

A person with a disability is an individual with a physical or mental impairment that substantially limits one or more of the major life activities such as caring for one's self, performing manual tasks, walking, seeing, hearing, speaking, breathing, learning, and working of the individual. The definition also includes individuals with a record of such an impairment or an individual who is regarded as having such an impairment. (§37.3)

### **2. What is a "fixed route system"?**

A fixed route system is a system for transporting individuals on which a vehicle is operated along a prescribed route according to a fixed schedule. A typical city bus system fits clearly into this category. With fixed route service, no action by the individual is needed to initiate service. If an individual is at a bus stop at the time the bus is scheduled to appear, then that individual will be able to access the transportation system. If a service is provided along a given route, and a vehicle will arrive at certain times regardless of whether a passenger actively requests the vehicle, the service in most cases should be regarded as fixed route rather than demand responsive. (§37.3)

### **3. What is paratransit?**

Paratransit is a comparable transportation service required by the ADA for individuals with disabilities who are unable to use fixed route transportation systems. Paratransit has a specialized meaning in the context of the transportation regulations. The term refers to the complementary paratransit service, comparable to public fixed route systems, which must be provided. Typically, paratransit is provided in a demand responsive mode. Obviously, the regulations refer to a wide variety of demand responsive services that are not “paratransit” in this specialized sense. (§37.3)

### **Nondiscrimination**

#### **4. Is a person with a disability required to use special transportation services if they are provided?**

No, an entity must allow an individual with a disability an opportunity to use the entity’s transportation service for the general public, if the individual is capable of using that service. (§37.5(b))

#### **5. Is a person with a disability required to use designated priority seating?**

An entity may not require an individual with a disability to use designated priority seats, if the individual does not choose to use these seats. A person with a disability may choose to take advantage of this accommodation or not. (§37.5(c))

#### **6. May an entity impose special charges on people with disabilities?**

An entity may not impose special charges on individuals with disabilities, including individuals who use wheelchairs, for providing services required by the regulations or otherwise necessary to accommodate them. For example, if a shuttle service charges \$20.00 for a ride from a given location to the airport for most people, it could not charge \$40.00 because the passenger had a disability or needed to use the shuttle service’s lift-equipped van.

Higher mileage charges for using an accessible vehicle would likewise be inconsistent with the rule. Charging extra to carry a service animal accompanying an individual with a disability would also be inconsistent with the rule. If a taxi company charges \$1.00 to stow luggage in the trunk, it cannot charge \$2.00 to stow a folding wheelchair there.

This provision does not mean, however, that a transportation provider cannot charge nondiscriminatory fees to passengers with disabilities. The taxi company in the above example can charge a passenger \$1.00 to stow a wheelchair in the trunk; it is not required to waive the charge. This does not prohibit the fares for paratransit service which transit providers are allowed to charge. (§37.5(d))

#### **7. Is a person with a disability required to travel with an attendant?**

An entity may not require that an individual with a disability be accompanied by an attendant. However, the entity is not required to provide attendant services (e.g., assistance in toileting, feeding, dressing, etc.) (§37.5(e))

## **8. Are there any circumstances under which an entity may deny service to a person with a disability?**

An entity may refuse to provide service to an individual with a disability because that individual engages in violent, seriously disruptive, or illegal conduct. If the entity legitimately refuses service to someone, it may condition service to him or her on actions that would mitigate the problem. For example, the entity could require an attendant as a condition of providing service it otherwise had the right to refuse.

However, an entity may not refuse to provide service to an individual with a disability solely because the individual's disability results in appearance or involuntary behavior that may offend, annoy, or inconvenience employees of the entity or other persons, but which does not pose a direct threat. For example, some persons with Tourette's syndrome may make involuntary profane exclamations. These may be very annoying or offensive to others, but would not be a ground for denial of service. Nor may the entity deny service based on fear or misinformation about a disability. For example, a transit provider could not deny service to a person with HIV disease because its personnel or other passengers are afraid of being near people with that condition. (§37.5(h))

### **Service Requirements**

## **9. What are the requirements for maintenance of accessibility equipment?**

Public and private entities providing transportation services must maintain in operative condition those features of facilities and vehicles that are required to make the vehicles and facilities readily accessible to and usable by individuals with disabilities. These features include, but are not limited to, lifts and other means of access to vehicles, securement devices, elevators, signage and systems to facilitate communications with persons with impaired vision or hearing.

It is not sufficient to provide features such as lift-equipped vehicles, elevators, communications systems to provide information to people with vision or hearing impairments, etc. if these features are not maintained in a manner that enables individuals with disabilities to use them. Inoperative lifts or elevators, locked accessible doors, accessible paths of travel that are blocked by equipment or boxes of materials are not accessible to or usable by individuals with disabilities.

Allowing obstructions or out of order accessibility equipment to persist beyond a reasonable period of time violates the transportation regulations of the ADA. Mechanical failures due to improper or inadequate maintenance are also a violation. Failure of the entity to ensure that accessible routes are free of obstruction and properly maintained, or failure to arrange prompt repair of inoperative elevators, lifts, or other accessibility-related equipment, would also violate the regulations.

The rule also requires that accommodations be made to individuals with disabilities who would otherwise use an inoperative accessibility feature. For example, when a rail system discovers that an elevator is out of order, blocking access to one of its stations, it could accommodate users of the station by announcing the problem at other stations to alert passengers and offer accessible shuttle bus service around the temporarily inaccessible station. If a public address system were out of order, the entity could designate personnel to provide information to customers with visual impairments. (§37.161)

Entities must make communications and information available, using accessible formats and technology (e.g., Braille, large print, TDDs) to obtain information about transportation services. (§37.167)

**10. Are service animals allowed on transportation vehicles and in transportation facilities?**

Service animals are always permitted to accompany their users in any private or public transportation vehicle or facility. One of the most common misunderstandings about service animals is that they are limited to being guide dogs for persons with visual impairments. Dogs are trained to assist people with a wide variety of disabilities, including individuals with hearing and mobility impairments. In addition, other animals (e.g., monkeys) are sometimes used as service animals as well. In any of these situations, the entity must permit the service animal to accompany its user. (§37.167(d))

**11. May a transportation provider require an individual with a disability to use securement devices provided in a vehicle?**

A transportation provider may require that wheelchair users use securement systems for their mobility devices. The entity, in other words, can require wheelchair users to “buckle up” their mobility devices.

Further, the entity is required to use the securement system to secure wheelchairs. This requirement is a mandate to use best efforts to restrain or confine the wheelchair to the securement area. The transportation provider does the best it can, given its securement technology and the nature of the wheelchair. Entities with relatively less adequate securement systems on their vehicles are encouraged to retrofit the vehicles with better securement systems, that can successfully restrain a wide variety of wheelchairs. (§37.165(c)(3))

**12. If all securement locations are filled, may the transportation provider refuse to pick up a wheelchair user?**

Entities may require wheelchair users to ride in designated securement locations. That is, the entity is not required to carry wheelchair users whose wheelchairs would have to park in an aisle or other location where they could obstruct other persons’ passage or where they could not be secured or restrained. An entity’s vehicle is, therefore, not required to pick up a wheelchair user when the securement locations are full, just as the vehicle may pass by other passengers waiting at the stop if the bus is full. (§37.165(b))

**13. May a transportation provider require that a wheelchair user transfer to a vehicle seat?**

Entities have often recommended or required that a wheelchair user transfer out of his or her own device into a vehicle seat. It is no longer permissible to require such a transfer. The entity may provide information on risks and make a recommendation with respect to transfer, but the final decision on whether to transfer is up to the passenger. (§37.165(e))

**14. May people who have disabilities, but do not use wheelchairs, make use of lifts?**

People using canes or walkers, and other standees with disabilities who do not use wheelchairs, but have difficulty using steps (e.g., an elderly person who can walk on a plane without use of a mobility aid but cannot raise his or her legs sufficiently to climb bus steps), must also be permitted to use the lift on request. (§37.165(g))

## **15. Is a transportation operator required to announce stops?**

On fixed route systems, the transportation provider must announce stops. These stops include transfer points with other fixed routes. This means that any time a vehicle is to stop where a passenger can get off and transfer to another bus or rail line (or to another form of transportation, such as commuter rail or ferry), the stop would be announced. The announcement can be made personally by the vehicle operator or can be made by a recording system.

Announcements also must be made at major intersections or destination points. In addition, the entity must make announcements at sufficient intervals along a route to orient a visually impaired passenger to his or her location. The other required announcements may serve this function in many instances, but if there is a long distance between other announcements, fill-in orientation announcements would be called for. The entity must announce any stop requested by a passenger with a disability, even if it does not meet any of the other criteria for announcement.

Entities must make communications and information available, using accessible formats and technology (e.g., Braille, large print, TDDs) to obtain information about transportation services. (§37.167)

If the vehicle is small enough so that the operator can make himself or herself heard without a P.A. system, it is not necessary to use the system. (§37.167(b)(2))

## **16. Are all transportation providers required to provide paratransit?**

Only public entities operating fixed route systems must provide paratransit or other special service to individuals with disabilities. The paratransit system must be comparable to the level of service provided to individuals without disabilities who use the fixed route system. This requirement applies to light and rapid rail systems as well as to bus systems, even when rail and bus systems share all or part of the same service area.

Requirements for complementary paratransit do not apply to commuter bus, commuter rail, or intercity rail systems.

Paratransit may be provided by a variety of modes. Publicly operated dial-a-ride vans, service contracted out to a private paratransit provider, user-side subsidy programs, or any combination of these and other approaches is acceptable. (§37.121(c))

Additional material on paratransit can be found in the Paratransit Eligibility and Paratransit Service documents of the Transportation QandA series.

## **17. What is equivalent service?**

A fixed route or demand responsive system is providing equivalent service if the service available to individuals with disabilities, including individuals who use wheelchairs, is provided in the most integrated setting appropriate to the needs of the individual and is equivalent to the service provided other individuals with respect to the following service characteristics:

- (a) (1) Schedules/headways (if the system is fixed route)
- (2) Response time (if the system is demand responsive)
- (b) Fares

- (c) Geographic area of service
- (d) Hours and days of service
- (e) Availability of information
- (f) Reservations capability (if the system is demand responsive)
- (g) Any constraints on capacity or service availability
- (h) Restrictions priorities based on trip purpose (if the system is demand responsive).

In applying the provisions to this section, it is important to note that they are only points of comparison. For example, if a demand responsive system gets a van to a non-disabled person in 2 hours, 8 hours, or a week and a half after a call for service, the system must get an accessible van to a person with a disability in 2 hours, 8 hours, or a week and a half. (§37.105)

A private entity not primarily engaged in the business of transporting people which operates a demand responsive system must ensure that its system, when viewed in its entirety, provides equivalent service to individuals with disabilities, including individuals who use wheelchairs, as it does to individuals without disabilities. Entities in this category are always required to provide equivalent service, regardless of what they are doing with respect to the acquisition of vehicles. The effect of this provision may be to require some entities to arrange, either through acquiring their own accessible vehicles or coordinating with other providers, to have accessible vehicles available to meet the equivalency standards or otherwise to comply with the standards. (§37.171)

## **Vehicle Acquisition**

### **18. What are the rules for public entities operating city bus systems when they acquire vehicles?**

A public entity, operating a fixed route system, that makes a solicitation after August 25, 1990 to purchase or lease a new or used bus or other new or used vehicle for use on the system, must acquire a vehicle that is readily accessible to and usable by individuals with disabilities, including individuals who use wheelchairs.

The public entity may purchase or lease a new bus that is not readily accessible to and usable by individuals with disabilities, including individuals who use wheelchairs, if it applies for, and receives, a waiver. A public entity may purchase or lease a used vehicle for use on its fixed route system that is not readily accessible to and usable by individuals with disabilities if, after making demonstrated good faith efforts to obtain an accessible vehicle, it is unable to do so. (§37.71)

If a public entity operating a fixed route system remanufactures a bus or other vehicle so as to extend its useful life for five years or more or makes a solicitation for such remanufacturing, or purchases or leases a bus or other vehicle which has been remanufactured after August 25, 1990, the vehicle must be accessible. The rule makes it clear that remanufacturing is to include changes to the structure of the vehicle which extend the useful life of the vehicle for five years. It clearly is not intended to capture things such as engine overhauls and the like. (§37.75)

## Vehicle Accessibility

### 19. Are public transportation providers required to maintain lifts to ensure access?

Vehicle and equipment maintenance is an important component of successful accessible service. In particular, an aggressive preventive maintenance program for lifts is essential. Lifts remain rather delicate pieces of machinery, with many moving parts, which often must operate in a harsh environment of potholes, dust and gravel, variations in temperature, snow, slush, and deicing compounds. It is not surprising that they sometimes break down. The point of a preventive maintenance program is to prevent breakdowns, of course. But it is also important to catch broken lifts as soon as possible, so that they can be repaired promptly. Especially in a bus system with relatively low lift usage, it is possible that a vehicle could go for a number of days without carrying a passenger who uses the lift. It is highly undesirable for the next passenger who needs a lift to be the person who discovers that the lift is broken, when a maintenance check by the operator could have discovered the problem days earlier, resulting in its repair.

Therefore, the entity must have a system for regular and frequent checks, sufficient to determine if lifts are actually operative. This is not a requirement for cycling the lift daily. (Indeed, it is not, as such, a requirement for lift cycling at all. If there is another means available of checking the lift, it may be used.) If alternate day checks, for example, are sufficient to determine that lifts are actually working, then they are permitted. If a lift is used in service on a given day, that may be sufficient to determine that the lift is operative with respect to the next day. (§37.163(b))

### 20. What are the specific accessibility requirements for city buses?

*General:* All buses shall provide a level-change mechanism or boarding device (e.g., lift or ramp) and sufficient clearances to permit a wheelchair or other mobility aid user to reach a securement location. At least two securement locations and devices shall be provided on vehicles in excess of 22 feet in length; at least one securement location and device shall be provided on vehicles 22 feet in length or less. (§38.23(a))

*Vehicle Lift - Design Load:* The design load of a lift shall be at least 600 pounds. Working parts, such as cables, pulleys, and shafts, which can be expected to wear, and upon which the lift depends for support of the load, shall have a safety factor of at least six, based on the ultimate strength of the material. Nonworking parts, such as platform, frame, and attachment hardware which would not be expected to wear, shall have a safety factor of at least three, based on the ultimate strength of the material. (§38.23(b)(1))

*Controls:* The lift controls shall be interlocked with the vehicle brakes, transmission, or door, or shall provide other appropriate mechanisms or systems, to ensure that the vehicle cannot be moved when the lift is not stowed and so the lift cannot be deployed unless the interlocks or systems are engaged. The lift shall deploy to all levels (i.e., ground, curb, and intermediate positions) normally encountered in the operating environment. Where provided, each control for deploying, lowering, raising, and stowing the lift and lowering the roll-off barrier shall be of a momentary contact type requiring continuous manual pressure by the operator and shall not allow improper lift sequencing when the lift platform is occupied. The controls shall allow reversal of the lift operation sequence, such as raising or lowering a platform that is part way down, without allowing an occupied platform to fold or retract into the stowed position. (§38.23(b)(2)(i))

*Exception:* Where the lift is designed to deploy with its long dimension parallel to the vehicle axis and which pivots into or out of the vehicle while occupied (i.e., “rotary lift”), the requirements of this paragraph prohibiting the lift from being stowed while occupied shall not apply if the stowed position is within the passenger compartment and the lift is intended to be stowed while occupied. (§38.23(b)(2)(ii))

*Emergency Operation:* The lift shall incorporate an emergency method of deploying, lowering to ground level with a lift occupant, and raising and stowing the empty lift if the power to the lift fails. No emergency method, manual or otherwise, shall be capable of being operated in a manner that could be hazardous to the lift occupant or to the operator when operated according to manufacturer’s instructions, and shall not permit the platform to be stowed or folded when occupied, unless the lift is a rotary lift and is intended to be stowed while occupied. (§38.23(b)(3))

*Power or Equipment Failure:* Platforms stowed in a vertical position, and deployed platforms when occupied, shall have provisions to prevent their deploying, falling, or folding any faster than 12 inches/second or their dropping of an occupant in the event of a single failure of any load carrying component. (§38.23(b)(4))

*Platform Barriers:* The lift platform shall be equipped with barriers to prevent any of the wheels of a wheelchair or mobility aid from rolling off the platform during its operation. A movable barrier or inherent design feature shall prevent a wheelchair or mobility aid from rolling off the edge closest to the vehicle until the platform is in its fully raised position. Each side of the lift platform which extends beyond the vehicle in its raised position shall have a barrier a minimum 1-1/2 inches high. Such barriers shall not interfere with maneuvering into or out of the aisle. The loading-edge barrier (outer barrier) which functions as a loading ramp when the lift is at ground level, shall be sufficient when raised or closed, or a supplementary system shall be provided, to prevent a power wheelchair or mobility aid from riding over or defeating it.

The outer barrier of the lift shall automatically raise or close, or a supplementary system shall automatically engage, and remain raised, closed, or engaged at all times that the platform is more than 3 inches above the roadway or sidewalk and the platform is occupied. Alternatively, a barrier or system may be raised, lowered, opened, closed, engaged, or disengaged by the lift operator, provided an interlock or inherent design feature prevents the lift from rising unless the barrier is raised or closed or the supplementary system is engaged. (§38.23(b)(5))

*Platform Surface:* The platform surface shall be free of any protrusions over 1/4 inch high and shall be slip resistant. The platform shall have a minimum clear width of 28-1/2 inches at the platform, a minimum clear width of 30 inches measured from 2 inches above the platform surface to 30 inches above the platform, and a minimum clear length of 48 inches measured from 2 inches above the surface of the platform to 30 inches above the surface of the platform. (§38.23(b)(6))

*Platform Gaps:* Any openings between the platform surface and the raised barriers shall not exceed 5/8 inch in width. When the platform is at vehicle floor height with the inner barrier (if applicable) down or retracted, gaps between the forward lift platform edge and the vehicle floor shall not exceed 1/2 inch horizontally and 5/8 inch vertically. Platforms on semi-automatic lifts may have a hand hold not exceeding 1-1/2 inches by 4-1/2 inches located between the edge barriers. (§38.23(b)(7))

*Platform Entrance Ramp:* The entrance ramp, or loading-edge barrier used as a ramp, shall not exceed a slope of 1:8, measured on level ground, for a maximum rise of 3 inches, and the transition from roadway or sidewalk to ramp may be vertical without edge treatment up to 1/4 inch. Thresholds between 1/4 inch and 1/2 inch high shall be beveled with a slope no greater than 1:2. (§38.23(b)(8))

*Platform Deflection:* The lift platform (not including the entrance ramp) shall not deflect more than 3 degrees (exclusive of vehicle roll or pitch) in any direction between its unloaded position and its position when loaded with 600 pounds applied through a 26 inch by 26 inch test pallet at the centroid of the platform. (§38.23(b)(9))

*Platform Movement:* No part of the platform shall move at a rate exceeding 6 inches/second during lowering and lifting an occupant, and shall not exceed 12 inches/second during deploying or stowing. This requirement does not apply to the deployment or stowage cycles of lifts that are manually deployed or stowed. The maximum platform horizontal and vertical acceleration when occupied shall be 0.3g. (§38.23(b)(10))

*Boarding Direction:* The lift shall permit both inboard and outboard facing of wheelchair and mobility aid users. (§38.23(b)(11))

*Use By Standees:* Lifts shall accommodate persons using walkers, crutches, canes or braces or who otherwise have difficulty using steps. The platform may be marked to indicate a preferred standing position. (§38.23(b)(12))

*Handrails:* Platforms on lifts shall be equipped with handrails on two sides, which move in tandem with the lift, and which shall be graspable and provide support to standees throughout the entire lift operation. Handrails shall have a usable component at least 8 inches long with the lowest portion a minimum 30 inches above the platform and the highest portion a maximum 38 inches above the platform. The handrails shall be capable of withstanding a force of 100 pounds concentrated at any point on the handrail without permanent deformation of the rail or its supporting structure. The handrail shall have a cross-sectional diameter between 1-1/4 inches and 1 1/2 inches or shall provide an equivalent grasping surface, and have eased edges with corner radii of not less than 1/8 inch. Handrails shall be placed to provide a minimum 1-1/2 inches knuckle clearance from the nearest adjacent surface. Handrails shall not interfere with wheelchair or mobility aid maneuverability when entering or leaving the vehicle. (§38.23(b)(13))

*Vehicle Ramp - Design Load:* Ramps 30 inches or longer shall support a load of 600 pounds, placed at the centroid of the ramp distributed over an area of 26 inches by 26 inches, with a safety factor of at least 3 based on the ultimate strength of the material. Ramps shorter than 30 inches shall support a load of 300 pounds. (§38.23(c)(1))

*Ramp Surface:* The ramp surface shall be continuous and slip resistant; shall not have protrusions from the surface greater than 1/4 inch high; shall have a clear width of 30 inches; and shall accommodate both four-wheel and three-wheel mobility aids. (§38.23(c)(2))

*Ramp Threshold:* The transition from roadway or sidewalk and the transition from vehicle floor to the ramp may be vertical without edge treatment up to 1/4 inch. Changes in level between 1/4 inch and 1/2 inch shall be beveled with a slope no greater than 1:2. (§38.23(c)(3))

*Ramp Barriers:* Each side of the ramp shall have barriers at least 2 inches high to prevent mobility aid wheels from slipping off. (§38.23(c)(4))

*Slope:* Ramps shall have the least slope practicable and shall not exceed 1:4 when deployed to ground level. If the height of the vehicle floor from which the ramp is deployed is 3 inches or less above a 6-inch curb, a maximum slope of 1:4 is permitted; if the height of the vehicle floor from which the ramp is deployed is 6 inches or less, but greater than 3 inches, above a 6-inch curb, a maximum slope of 1:6 is permitted; if the height of the vehicle floor from which the ramp is deployed is 9 inches or less, but greater than 6 inches, above a 6-inch curb, a maximum slope of 1:8 is permitted; if the height of the vehicle floor from which the ramp is deployed is greater than 9 inches above a 6-inch curb, a slope of 1:12 shall be achieved. Folding or telescoping ramps are permitted provided they meet all structural requirements of this section. (§38.23(c)(5))

*Attachment:* When in use for boarding or alighting, the ramp shall be firmly attached to the vehicle so that it is not subject to displacement when loading or unloading a heavy power mobility aid and that no gap between vehicle and ramp exceeds 5/8 inch. (§38.23(c)(6))

*Stowage:* A compartment, securement system, or other appropriate method shall be provided to ensure that stowed ramps, including portable ramps stowed in the passenger area, do not impinge on a passenger's wheelchair or mobility aid or pose any hazard to passengers in the event of a sudden stop or maneuver. (§38.23(c)(7))

*Handrails:* If provided, handrails shall allow persons with disabilities to grasp them from outside the vehicle while starting to board, and to continue to use them throughout the boarding process, and shall have the top between 30 inches and 38 inches above the ramp surface. The handrails shall be capable of withstanding a force of 100 pounds concentrated at any point on the handrail without permanent deformation of the rail or its supporting structure. The handrail shall have a cross-sectional diameter between 1-1/4 inches and 1-1/2 inches or shall provide an equivalent grasping surface, and have eased edges with corner radii of not less than 1/8 inch. Handrails shall not interfere with wheelchair or mobility aid maneuverability when entering or leaving the vehicle. (§38.23(c)(8))

*Securement Devices - Design Load:* Securement systems on vehicles with GVWRs of 30,000 pounds or above, and their attachments to such vehicles, shall restrain a force in the forward longitudinal direction of up to 2,000 pounds per securement leg or clamping mechanism and a minimum of 4,000 pounds for each mobility aid. Securement systems on vehicles with GVWRs of up to 30,000 pounds, and their attachments to such vehicles, shall restrain a force in the forward longitudinal direction of up to 2,500 pounds per securement leg or clamping mechanism and a minimum of 5,000 pounds for each mobility aid. (§38.23(d)(1))

*Location and Size:* The securement system shall be placed as near to the accessible entrance as practicable and shall have a clear floor area of 30 inches by 48 inches. Such space shall adjoin, and may overlap, an access path. Not more than 6 inches of the required clear floor space may be accommodated for footrests under another seat provided there is a minimum of 9 inches from the floor to the lowest part of the seat overhanging the space. Securement areas may have fold-down seats to accommodate other passengers when a wheelchair or mobility aid is not occupying the area, provided the seats, when folded up, do not obstruct the clear floor space required. (§38.23(d)(2))

*Mobility Aids Accommodated:* The securement system shall secure common wheelchairs and mobility aids and shall either be automatic or easily attached by a person familiar with the system and mobility aid and having average dexterity. (§38.23(d)(3))

*Orientation:* In vehicles in excess of 22 feet in length, at least one securement device or system required by paragraph (a) of this section shall secure the wheelchair or mobility aid facing toward the front of the vehicle. In vehicles 22 feet in length or less, the required securement device may secure the wheelchair or mobility aid either facing toward the front of the vehicle or rearward. Additional securement devices or systems shall secure the wheelchair or mobility aid facing forward or rearward. Where the wheelchair or mobility aid is secured facing the rear of the vehicle, a padded barrier shall be provided. The padded barrier shall extend from a height of 38 inches from the vehicle floor to a height of 56 inches from the vehicle floor, with a width of 18 inches, laterally centered immediately in back of the seated individual. Such barriers need not be solid provided equivalent protection is afforded. (§38.23(d)(4))

*Movement:* When the wheelchair or mobility aid is secured in accordance with manufacturer's instructions, the securement system shall limit the movement of an occupied wheelchair or mobility aid to no more than 2 inches in any direction under normal vehicle operating conditions. (§38.23(d)(5))

*Stowage:* When not being used for securement, or when the securement area can be used by standees, the securement system shall not interfere with passenger movement, shall not present any hazardous condition, shall be reasonably protected from vandalism, and shall be readily accessed when needed for use. (§38.23(d)(6))

*Seat Belt and Shoulder Harness:* For each wheelchair or mobility aid securement device provided, a passenger seat belt and shoulder harness, complying with all applicable provisions of 49 CFR part 571, shall also be provided for use by wheelchair or mobility aid users. Such seat belts and shoulder harnesses shall not be used in lieu of a device which secures the wheelchair or mobility aid itself. (§38.23(d)(7))

*Doors, Steps and Thresholds - Slip Resistance:* All aisles, steps, floor areas where people walk and floors in securement locations shall have slip-resistant surfaces. (§38.25(a))

*Contrast:* All step edges, thresholds, and the boarding edge of ramps or lift platforms shall have a band of color(s) running the full width of the step or edge which contrasts from the step tread and riser, or lift or ramp surface, either light-on-dark or dark-on-light. (§38.25(b))

*Door Height:* For vehicles in excess of 22 feet in length, the overhead clearance between the top of the door opening and the raised lift platform, or highest point of a ramp, shall be a minimum of 68 inches. For vehicles of 22 feet in length or less, the overhead clearance between the top of the door opening and the raised lift platform, or highest point of a ramp, shall be a minimum of 56 inches. (§38.25(c))

*Priority Seating Signs:* Each vehicle shall contain sign(s) which indicate that seats in the front of the vehicle are priority seats for persons with disabilities, and that other passengers should make such seats available to those who wish to use them. At least one set of forward-facing seats shall be so designated. (§38.27(a))

Each securement location shall have a sign designating it as such. (§38.27(b))

*Interior Circulation, Handrails and Stanchions:* Interior handrails and stanchions shall permit sufficient turning and maneuvering space for wheelchairs and other mobility aids to reach a securement location from the lift or ramp. (§38.29(a))

Handrails and stanchions shall be provided in the entrance to the vehicle in a configuration which allows persons with disabilities to grasp such assists from outside the vehicle while starting to board, and to continue using such assists throughout the boarding and fare collection process. Where on-board fare collection devices are used on vehicles in excess of 22 feet in length, a horizontal passenger assist shall be located across the front of the vehicle and shall prevent passengers from sustaining injuries on the fare collection device or windshield in the event of a sudden deceleration. Without restricting the vestibule space, the assist shall provide support for a boarding passenger from the front door through the boarding procedure. Passengers shall be able to lean against the assist for security while paying fares. (§38.29(b))

For vehicles in excess of 22 feet in length, overhead handrail(s) shall be provided which shall be continuous except for a gap at the rear doorway. (§38.29(c))

Handrails and stanchions shall be sufficient to permit safe boarding, on-board circulation, seating and standing assistance, and alighting by persons with disabilities. (§38.29(d))

For vehicles in excess of 22 feet in length with front-door lifts or ramps, vertical stanchions immediately behind the driver shall either terminate at the lower edge of the aisle-facing seats, if applicable, or be “dog-legged” so that the floor attachment does not impede or interfere with wheelchair footrests. If the driver seat platform must be passed by a wheelchair or mobility aid user entering the vehicle, the platform, to the maximum extent practicable, shall not extend into the aisle or vestibule beyond the wheel housing. (§38.29(e))

For vehicles in excess of 22 feet in length, the minimum interior height along the path from the lift to the securement location shall be 68 inches. For vehicles of 22 feet in length or less, the minimum interior height from lift to securement location shall be 56 inches. (§38.29(f))

*Lighting:* Any stepwell or doorway immediately adjacent to the driver shall have, when the door is open, at least 2 foot-candles of illumination measured on the step tread or lift platform. (§38.31(a))

Other stepwells and doorways, including doorways in which lifts or ramps are installed, shall have, at all times, at least 2 foot-candles of illumination measured on the step tread, or lift or ramp, when deployed at the vehicle floor level. (§38.31(b))

The vehicle doorways, including doorways in which lifts or ramps are installed, shall have outside light(s) which, when the door is open, provide at least 1 foot-candle of illumination on the street surface for a distance of 3 feet perpendicular to all points on the bottom step tread outer edge. Such light(s) shall be located below window level and shielded to protect the eyes of entering and exiting passengers. (§38.31(c))

*Fare Box:* Where provided, the farebox shall be located as far forward as practicable and shall not obstruct traffic in the vestibule, especially wheelchairs or mobility aids. (§38.33)

*Public Information System:* Vehicles in excess of 22 feet in length, used in multiple-stop,

fixed-route service, shall be equipped with a public address system permitting the driver, or recorded or digitized human speech messages, to announce stops and provide other passenger information within the vehicle. (§38.35(a))

*Stop Request:* Where passengers may board or alight at multiple stops at their option, vehicles in excess of 22 feet in length shall provide controls adjacent to the securement location for requesting stops and which alerts the driver that a mobility aid user wishes to disembark. Such a system shall provide auditory and visual indications that the request has been made. (§38.37(a))

Controls shall be mounted no higher than 48 inches and no lower than 15 inches above the floor, shall be operable with one hand and shall not require tight grasping, pinching, or twisting of the wrist. The force required to activate controls shall be no greater than 5 lbf (22.2 N). (§38.37(b))

*Destination and Route Signs:* Where destination or route information is displayed on the exterior of a vehicle, each vehicle shall have illuminated signs on the front and boarding side of the vehicle. (§38.39(a))

### **Other Sources of Information**

Regional ADA Technical Assistance Centers: Toll-Free 1-800-949-4232 (V, TTY)

**Federal Transit Administration ADA Toll Free Technical Assistance Line: 1-888-446-4511 (Voice) or 1-800-877-8339 (TTY); <http://www.fta.dot.gov>**