

Easter Seals Project ACTION's Distance Learning Seminar Series (Audio Conference)

Wheelchair Securement on Buses and Paratransit Vehicles

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Background Documents

- ESPA's Status Report on the Use of Wheelchairs and other Mobility Devices
- Developing a Wheelchair Marking & Tether Strap Program (PDF), by Doug Cross
- ESPA's report, "Oversized/Overweight Mobility Aids: Status of the Issue"
- Excerpt from the U.S. Department of Transportation, Federal Transit Administration: "ADA regulations and guidance related to mobility and securement" in (PDF)
- www.travelsafer.org/ (about vehicle safety for people who use wheelchairs)

FIRST MODULE

ADA Requirements (USDOT / FTA)

Federal Transit Administration ADA web pages:
(www.fta.dot.gov → Civil Rights & Accessibility → Americans with Disabilities Act→ADA Regulations, Guidance, and Procedures)

49 CFR Sec. 37.3 Definition of "wheelchair":

"Wheelchair means a mobility aid belonging to any class of three or four-wheeled devices, usable indoors, designed for and used by individuals with mobility impairments, whether operated manually or powered. A "common wheelchair" is such a device which does not exceed 30 inches in width and 48 inches in length measured two inches above the ground, and does not weigh more than 600 pounds when occupied."

On June 17, 2008, the US Dept. of Justice (DOJ) issued a notice of proposed rulemaking (NPRM) to update and clarify the existing ADA definition of "wheelchair" in § 35.104 (but there has since been no action to make this proposal a final rule – see reg's excerpt)

Service Accessibility

49 CFR Sec. 37.165 - Lift and securement use (highlights):

- Transit personnel must assist in using securement equipment
- All devices meeting "common wheelchair" definition must be accommodated

- May require mandatory securement
- May not deny wheelchairs that can't be secured
- May not mandate transferring to regular seats (although transit personnel may recommend)
- "Interpretive" Appendix D to Part 37 - Background as to purpose of the regulations, has force of law.

Sec. 37.173 Training requirements

"...ensure that personnel are trained to proficiency... so that they operate vehicles and equipment safely and properly assist... individuals with disabilities"

Vehicle Accessibility

49 CFR PART 38: ADA Accessibility Specifications For Transportation Vehicles; Subpart B, Buses, Vans and Systems; Sec. 38.23 Mobility aid accessibility, (d) Securement devices (highlights):

- Strength requirements for securement systems
- Location and size, including minimum floor area of 30 inches by 48 inches, as well as "sufficient clearances to permit a wheelchair or other mobility aid user to reach a securement location." (But no specific measurements are required)
- Seat belt and shoulder harness is required for each securement area, but shall not be used instead of tie-downs to secure the wheelchair

Proposed updating of ADA Vehicle Accessibility Guidelines (Draft only, not an NPRM yet)
(www.access-board.gov → Transportation → Vehicles → Update Of The Guidelines → Revised Draft of Updated Guidelines for Buses and Vans/November 19, 2008)

- Proposes elimination of the term "common wheelchair", relying instead on more detailed requirements for wheelchair parking and maneuvering space
- Adds two more space requirements to the basic 30 x 48 inch wheelchair space, depending on vehicle interior layout; either 36 x 48 or 30 x 60 (the latter mainly on large buses)
- Adds the requirement that paths connecting wheelchair spaces to doorways be at least 34 inches wide
- Proposes weight capacity for lifts and ramps to be raised from 600 to 660 lbs.

FTA "Questions and Answers" bulletin

(fta.dot.gov → Civil Rights & Accessibility → Americans with Disabilities Act → ADA Technical Assistance → FTA Bulletins)

- Transit providers must establish a policy in order to require mandatory securement
- Use of occupant restraints (seat belts) for mobility device users can be made mandatory only if all passengers in vehicle are required to use them

Safety and Liability Issues

- Most injuries to mobility device users are related to “normal operating” vehicle movements such as abrupt braking or turning (as opposed to crashes or other accidents)
- While wheelchair user accidents are infrequent compared to those of other passengers, they are often catastrophic in terms of life-changing injuries and liability
- Failure to secure, or improper securement, is a major cause of wheelchair accidents
- Tip-overs of scooters, esp. 3-wheeled but also 4-wheeled, and to a lesser extent standard wheelchairs, are the most frequent source of serious injury
- Other issues are injuries to bus/van operators when performing securement, and tripping on tie-downs by other passengers

Standards for transportable wheelchairs

- ANSI/RESNA Standard No. WC19: “Wheelchairs Used as Seats in Motor Vehicles” was approved in 2000 as a voluntary U.S. national standard.
 - Strength and geometric requirements for at least 4 securement points
 - Seat/shoulder belt anchorage points that can withstand crash forces
 - “RideSafe” brochure on the standard and securement principles at: www.travelsafer.org
- An increasing number of wheelchair models, both manual and power (but not scooters), are being provided with this as an optional, extra-cost feature
- A listing of products with WC-19 “Transit Option” as of December 15, 2008 is available at: www.nercwts.org (see red “WC19” logo)
- Not many wheelchairs are actually purchased with this feature
- Education of consumers, healthcare practitioners, and mobility device vendors, as well as acceptance by health-care funding/insurance agencies (and maybe government regulation) is needed before WC19 compliant wheelchairs will be in widespread use

Standards for vehicle securement equipment

- ADA requirements (as described above)
- Society of Automotive Engineers (SAE) Recommended Practice J2249: Wheelchair Tiedowns and Occupant Restraints for Use in Motor Vehicles - design and performance requirements
- Research and development of new ANSI/RESNA and ISO standards for “docking” technology and rear-facing “passive compartmentalization” such as in use in Canada and Europe
- The rear-facing approach is being tried in Bus Rapid Transit vehicles in the US, and at least one securement manufacturer has displayed a prototype of an automatic rear-facing compartmentalized system

SECOND MODULE

Operating policies and procedures

- SOP's for vehicle operators and other personnel, including how to respond when passengers don't want to have their wheelchair secured
- Customer service guides, including print, web site and alternate formats, describing accessibility features and policies
- Policies statements of transit system responsibilities/limitations, as well as customer responsibilities, including:
 - Policy on securement (mandatory or optional), also posting in vehicle interiors, such as by decals, advertising-type cards, or other signage
 - Use of occupant restraints (seat belts)
 - Assistance that will be provided by vehicle operators
 - Size limitations of vehicle mobility aid accommodations
 - Statements recommending (but not mandating) transferring to a regular seat
- Instructions on stowage of portable oxygen, walkers, shopping carts, and other non-wheelchair items (also how "orthopedic strollers" will be treated)

Training – Ideas for Best Practices

- "How-to" guides that use pictures and/or videos to demonstrate technical issues of securement, both tie-downs and proper placement of seatbelts
- Using a variety of types of wheelchairs and scooters in hands-on training
- Inviting wheelchair-using transit customers and disability advocates to participate in training
- Incorporating wheelchair boarding and securement into simulated driving practice throughout new driver training, instead of relegating it to a single "class"
- Wheelchair securement as a component of "roadeo" driving skill competitions
- Tips on proper ergonomic practices to minimize risk of injury while performing securement
- Vehicle operators should be periodically monitored or evaluated on their ability to secure wheelchairs

THIRD MODULE

Issues with oversized wheelchairs

- Overall issues are beyond the scope of this session on securement – refer to the two ESPA reports in the background documents
- Oversized wheelchairs and scooters may have difficulty maneuvering into the securement location
- If the mobility device cannot be oriented properly in the securement location, or

- If it is so large that the only available tie-down attachment points cause the tie-downs to not work properly, this could be a reason for not accommodating that particular device
- Some mobility devices that are within the “common wheelchair” envelope, especially four wheeled scooters, are not maneuverable enough to maneuver into the securement location

Auxiliary aids - wheelchair marking and tether strap programs

- Most new wheelchair designs do not have the type of frame joints that tie-down systems were originally designed for, and most do not yet come with the new industry standard (WC-19) “transit option” loops
- To help, transit systems and disability organizations offer wheelchair marking and/or tether straps
- The first component is markings for appropriate attachment points on customers’ chairs with color-coded tape, stickers, wire ties, etc.
- If there is no good place for attachment of belts or hooks, a fabric webbing “tether strap” can be installed on the mobility device
- Markings and tether straps require careful implementation
- Only those familiar with BOTH wheelchairs and bus equipment should install markings/straps
- Some wheelchairs/scooters don’t have adequate installation points even for tether straps
- Liability often precludes installation by organizations outside transit systems
- For “semi-permanent” installations, several lengths of straps are needed
- Training and education for customers and staff, as well as record keeping

(End of presentation)