



# Kansas RTAP Fact Sheet

A Service of The University of Kansas Transportation Center for Rural Transit Providers

## Wheelchairs and Other Mobility Devices on Public and Private Transportation

By Anne Lowder

*Project Action report provides recommendations on meeting challenges of transporting passengers using variety of size and types of mobility devices.*

The challenges of accommodating the variety of mobility devices on transit vehicles is a common topic of discussion when any group of transit drivers get together. Oversize or overweight mobility devices, limited room for maneuverability and lack of securement points are among the most frequently mentioned. A report commissioned by Project Action and released in 2008 provides some useful information on some of the current issues and some of the practices to provide a response to these challenges. This article provides an overview of that report and some of the best practices that should help agencies better serve their customers with disabilities, and for riders to make best use of the services available to them.

### Three main challenges regarding mobility devices on transit vehicles

The report, written by Nelson/Nygaard Consulting Associates, focuses on three major challenges:

#### 1) *Space and maneuverability.*

The combination of limited interior space on transit vehicles, ramp location and deployment, the range of sizes of mobility devices and the less maneuverable devices leads to potential difficulty with boarding. Vehicle layouts differ among minivans, paratransit vans and fixed route buses. Riders may carry

backpacks, shopping bags, oxygen tanks or other devices onto the bus, or attached to their wheelchairs. This may exacerbate problems of maneuverability and access to securement points on the mobility device, and can also block the aisles for other passengers, especially in fixed route bus services. Finally, non-mobility aids brought on board by passengers, such as shopping carts, bicycles, baby strollers may vie for spaces intended for wheelchair users, further limiting maneuverability.

#### 2) *The variety of mobility devices.*

Transit providers are increasingly having difficulty transporting large or heavy wheelchair and user combinations that exceed ADA's definition of a "common wheelchair." Examples of difficulties include safety and maintenance of the lifts, customer ability to maneuver non-wheelchair mobility aids and the ability to secure the mobility device.

Significant confusion also exists on how to determine when a mobility aid actually can't or should not be accommodated as opposed to merely falling outside the ADA "common wheelchair" parameters, and how to determine whether there are viable alternatives for these. Some paratransit agencies are "screening out" oversized or overweight wheelchairs during the ADA eligibility certification process.

The use of non-traditional mobility

Some transit passengers refuse securement or prefer that their wheelchair as well as themselves not be secured for various reasons. These reasons include fear that the mobility device will be damaged and physical discomfort with the invasive physical contact that may be required for the securement of the lap and shoulder harness. Your agency can refuse service if a customer refuses personal securement if a policy exists for seatbelt use for all riders.



aids is increasing and there is confusion and lack of uniformity in how they are accommodated. Examples are wheeled walkers with seats, Segways, orthopedic strollers and other devices. Segways, where encountered, pose unique challenges such as how the machines are to be stowed on the vehicle

3) **Transit personnel awareness and training.** Some transit passengers refuse securement or prefer that their wheelchair as well as themselves not be secured for various reasons. These include fear that the mobility device will be damaged and physical discomfort with the invasive physical contact that may be required for the securement of the lap and shoulder harness.

Debates among consumers/advocates and transit industry professionals reveal a preference for a universal securement method that meets the standards and recommendations of a WC19 wheelchair and for wheelchair vendors to better inform customers about whether wheelchairs are “transit friendly.” (See sidebar for more information about the WC19 standards.) A universal securement method reduces the physical difficulty and challenges of properly securing occupants. Some people, though, do not support universal requirements fearing interference with full mobility.

**Some best practices**

The report by Nelson/Nygaard provides suggestions for improvement to the industry and well as to transit agencies. The following list is limited to suggested practices for agencies. Additional recommendations are available in the full report.

**Vehicle procurement:**

- Conduct a wheelchair configuration layout audit to ensure wheelchair maneuverability and ease of securement;
- Allow users to test prototypes of new transit units, and
- Pilot new boarding approaches for ease of customer use.

**Passenger education:**

- Educate passengers about “transit-safe” mobility devices
- Provide policies and service guides for your agency in print and alternate formats. Describe system accessibility, statement of assistance, size limitations of vehicle mobility aid accommodations, policy on securement (mandatory or optional) and policy on alternative non-wheelchair devices such as Segways.

- Educate users about the benefits of WC 19-compliant mobility devices through the promotion of such materials as “Ride Safe” and the [www.travelsafer.org](http://www.travelsafer.org) Web site.

**Driver education:**

- Provide hands-on sessions with

*Segways are particularly difficult to stow on board a transit vehicle.*



**C**ustomers tend to complain, and rightly so, about drivers who:

- are not sensitive to their needs,
- don’t listen to how devices should be secured, or
- don’t want to know how to properly secure a device,
- drive by and don’t stop when the lift is malfunctioning,
- don’t want to take the time to deploy the lift and secure the occupant.

Driver training can be helpful, but providing adequate training about mobility device securement is a challenge because there is no real standardization in devices, vehicles and sometimes even across services. However, 49 CFT 37.173 states that each public or private entity that operates a fixed-route or demand-responsive system shall ensure personnel are trained to proficiency, as appropriate to their duties, so that they operate vehicles and equipment safely and properly assist and treat individuals with disabilities who use the service in a

a variety of types of wheelchairs and scooters,

- Provide sensitivity training on the proper use and placement of seatbelts and accessibility and disability awareness.

**Conclusion**

Continued discussion and education is needed to focus on priority topics of concern such as space and maneuverability of wheelchairs in public transportation, types of mobility devices including WC19 standards and awareness and training for both agencies and customers on how

**Sources**

Easter Seals Project ACTION

<http://projectaction.easterseals.com/site/DocServer/WheelChairNewestVersion.pdf?docID=81943>

Federal Transit Administration ADA Web pages:

[http://www.fta.dot.gov/civilrights/civil\\_rights\\_236.html](http://www.fta.dot.gov/civilrights/civil_rights_236.html)

Code of Federal Regulations [Title 49, Volume 1] [Revised as of October 1, 2005] CITE: 49CFR37] TITLE 49—TRANSPORTATION Subtitle A—Office of the Secretary of Transportation PART 37\_TRANSPORTATION SERVICES FOR INDIVIDUALS WITH DISABILITIES (ADA)

## The WC-19 Standard

The complex and various designs of wheelchairs and scooters, often without traditional frame joints that can accept vehicle tie-down devices, has challenged transit providers to accommodate the travel needs of passengers with disabilities. Newer and less cumbersome securement systems have been



*Not all wheelchairs and scooters have traditional frame joints that can accept vehicle tie-down devices.*

developed, but these systems use hooks instead of the cam buckles or clasp closure sometimes resulting in less flexibility for attaching non-traditional mobility devices.

While there has been an effort to develop voluntary standards for wheelchairs that meet design and performance requirements of the WC19 Wheelchairs approved in April 2000 by the American National Standards Institute (ANSI) and the Rehabilitation Engineering and Assistive Technology Society of North America (RESNA) as a U.S. standard it is not yet widely available. A WC19 wheelchair has four crash-tested securement points where tie-down straps and hooks can be easily attached so the wheelchair can be effectively secured to the vehicle. Wheelchairs that meet the requirements of this voluntary standard are labeled to show that they comply with WC19.

Although an increasing number of wheelchair models are being designed and tested to be WC19-compliant, many mobility devices on the market, especially scooters, are not available with this option. Lack of

consumer education and limited funding sources to cover the WC19-compliant features has lowered the actual number of models that can be purchased with this important feature.

### Wheelchair manufacturers (Ask for WC-19 compliant)

Convaid — [www.convaid.com](http://www.convaid.com) ; 800-266-8243  
Freedom Designs — [www.freedomdesigns.com](http://www.freedomdesigns.com) ; 800-331-8551  
GOVAN + wheelchair and docking system — [www.smd-abitech.com](http://www.smd-abitech.com) ; 204-975-3004  
Invacare — [www.invacare.com](http://www.invacare.com) ; 800-333-6900  
Mulholland Positioning Systems — [www.mulhollandinc.com](http://www.mulhollandinc.com) ; 800-543-4769  
Otto Bock — [www.ottobock.com](http://www.ottobock.com) ; 800-328-4058  
Permobil — [www.permobil.com](http://www.permobil.com) ; 800-736-0925  
Pride Mobility — [www.pridemobility.com](http://www.pridemobility.com) ; 800-800-8586  
Sammons Preston — [www.sammonspreston.com](http://www.sammonspreston.com) ; 800-323-5547  
Sunrise Medical — [www.sunrisemedicalonline.com](http://www.sunrisemedicalonline.com) ; 800-333-4000

### Wheelchair seating manufacturers (Ask for WC-19 compliant)

Adaptive Engineering Lab — [www.aelseating.com](http://www.aelseating.com) ; 800-327-6080  
Adaptive Equipment Systems — [www.aesys.com](http://www.aesys.com) ; 800-237-2370

### Wheelchair tiedown and occupant restraint manufacturers

(Ask for products that comply with SAE J2249)  
Creative Controls — [www.creativecontrolsinc.com](http://www.creativecontrolsinc.com) ; 800-539-7237  
EZ-Lock — [www.ezlock.net](http://www.ezlock.net) ; 225-214-4620  
Orthosafe — [www.orthosafe.com](http://www.orthosafe.com) ; 609-587-9444  
Q'Straint — [www.qstraint.com](http://www.qstraint.com) ; 800-987-9987  
SureLok — [www.sure-lok.com](http://www.sure-lok.com) ; 866-787-3565

existing policies and guidelines can be more effectively implemented.

Collaboration is also vital among entities in the transportation industry such as manufacturers, securement equipment and vehicle suppliers, wheelchair manufacturers, medical funding and regulatory entities, transit agencies and wheelchair users to improve the ability of transit agencies to provide those with disabilities a safe ride and to encourage manufacturers and suppliers to design safe transportable mobility devices and equipment that can accommodate a diversity of mobility designs.

### Useful Web sites

For more information, visit the Web sites of the following organizations:

Rehabilitation Engineering and Research Center on Wheelchair Transportation Safety,  
<http://www.ercwts.pitt.edu>

University of Michigan Transportation Research Institute,  
<http://www.umtri.umich.edu>

University of Pittsburgh,  
<http://www.wheelchairnet.org>

Society of Automotive Engineers,  
<http://www.sae.org>

RESNA Rehabilitation Engineering Society of North America,  
<http://www.resna.org>

National Highway Traffic Safety Administration,  
<http://www.nhtsa.dot.gov>

National Mobility Equipment Dealer's Association  
<http://www.nmeda.org>

The Association for Driver Rehabilitation Specialists  
<http://www.driver-ed.org>

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