The nation’s first standards regulating school bus transportation for students who use wheelchairs is expected within the next 12 months. The impact will be far reaching.

By April 1992, the U.S. Department of Transportation is expected to issue the nation’s first standards regulating school bus transportation for students who use wheelchairs. The new requirements will undoubtedly affect transportation companies and wheelchair restraint manufacturers. But the action might also impact school districts, manufacturers of wheelchairs and those who work with disabled students.

Currently, there are no national safety standards to regulate the transportation of children in wheelchairs on school buses. The Federal Motor Vehicle Safety Standard (FMVSS No. 222) lists safety requirements for transporting able-bodied students on school buses, but specifically excludes those who are unable to sit in conventional car seats. Although some states have developed their own regulations, most have not.

The anticipated federal regulations are the result of a settlement reached, in late December, in Simms v. The U.S. Department of Transportation (DOT) (90-CV-20), filed in the U.S. District Court, Western District of Michigan, Southern Division. The plaintiffs charged the department with violating the civil rights of disabled students. The case was settled out of court on terms that require the National Highway Traffic Safety Administration (NHTSA), a DOT agency, to adhere to a 15-month time line for establishing regulations.

Lyle Stephens, a plaintiff in the suit, told TeamRehab Report he went to court because children, their parents, and transportation companies were exposing themselves to unnecessary risks and he felt something needed to be done. Stephens is the chief executive of Special Transportation Inc., a fleet of special transportation vehicles based in Lansing, Mich. He says that while many transportation companies recognize the need to provide some safety mechanism when transporting children in wheelchairs, there are no guidelines to ensure that they choose the correct equipment and use it properly.

Debra Simms and her son William were the other plaintiffs in the case. William is disabled and rides to school in a wheelchair on one of Stephens’ buses.

In its initial response to Stephens’ and Simms’ complaint, NHTSA published “Wheelchair and Occupant Restraint on School Buses.” The report, presented in May 1990, was a study of the latest technology in wheelchair and occupant restraint systems. It reviewed standards adopted by other countries and states, as well as crash studies and engineering reports conducted by experts in the field. The report did not make any recommendations, but concluded that:

- Persons transported in wheelchairs on school buses should be in a forward-facing position.
- Securement to the vehicle for both the occupant and the wheelchair should be independent.
- Lap and shoulder belt systems are one means of effective occupant restraint.
- Four-point, tie-down systems are the most reliable and secure means of stabilizing wheelchairs in vehicles.

According to the terms of the Simms v. DOT settlement, NHTSA must issue a Notice of Proposed Rule Making within the next few months to be published in the Federal Register. At TeamRehab Report’s press time, that notice had not yet been issued.
During the 15-month rule-making process, the public will have at least two opportunities to comment on the proposed standards. Tim Hurd, chief of media relations for the DOT told TeamRehab Report that the department would review the remarks submitted and consider revising the proposed standards if necessary.

In March 1992, a final notice of rule making is to be issued by the DOT. After the notice has been posted for 30 days, unless there is a strong reason for the proceedings to halt, a date will be set for the standards to go into effect. A compliance grace period will be set forth to allow the industry time to adopt the standards.

“We can only hope that the final order will address the issues,” Stephens said, adding that if the NHTSA fails to deliver in March, he is prepared to return to the district court.

Hurd would not comment about the specific issues to be covered by the upcoming standards, but Carl Ragland, principal author of the NHTSA report, said the rules would likely present a minimal standard. Once the regulations are in place and the compliance grace period has elapsed, transportation manufacturers that fail to comply could face a federal injunction, prohibiting sale of the product, and civil penalties. They might even be forced to recall the product.

**Research Support**

Studies of school bus collisions demonstrate the need to develop standards for wheelchair occupant safety, according to Lawrence W. Schneider, Ph.D. “Most of what is known about vehicle impact is that it has a severe frontal component,” he says, adding that most accidents involve some frontal impact.

Ideally, students should be transferred from their wheelchairs to bus benches and car seats when traveling in motor vehicles. Nevertheless, Schneider understands that in some cases moving the student is not an option. He has conducted crash tests for occupant restraint and wheelchair tie-down systems since 1978 and is director of biosciences at the University of Michigan. His research is the primary basis for forward-faced seating of wheelchair occupants.

Schneider hopes that in the future wheelchair manufacturers will keep transportation in mind when designing their products. “Wheelchairs have not been designed with vehicle transportation in mind,” he says, adding that only a small subset of wheelchairs on the market have been dynamically tested. “The more manufacturers consider this factor, the more I hope they will design for strength and transportation friendliness.”

Larry Sims, director of engineering at Everest & Jennings, agrees that wheelchairs are not designed for travel in vehicles. Although wheelchair manufacturers are examining ways to address transportation, effectively anchoring wheelchairs to vehicles is probably the best way of protecting the children, he said from his Camarillo, Calif., office.

“That may sound like we don’t want to deal with the issue, but frankly, if you start beefing up wheel-

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**Transportation Safety Resources**

NHTSA invites the public to comment on its proposed wheelchair transport safety standards. To submit remarks and for guidelines concerning the rule-making process, contact: the Office of Vehicle Safety Standards, National Highway Traffic Safety Administration, Attn: Charles Gauthier, 400 Seventh St., S.W., Washington, DC 20590; 202/366-0842.

Special KARS is a child passenger safety program for children with special needs. Sponsored by the National Easter Seal Society, the program’s acronym stands for “Kids Are Riding Safe.” The goal of KARS is to teach hospital staffs about motor vehicle seating systems for children. Contact: Carol Pate, director of new programs, National Easter Seal Society, 7070 E. Lake St., Chicago, IL 6061; 312/726-6200.

Society of Automotive Engineers Inc. has published the results of several crash tests involving wheelchair restraint systems. To order copies of reports written by Lawrence W. Schneider, contact: Society of Automotive Engineers Inc., Publications Division, 400 Commonwealth Drive, Warrendale, PA 15096: 412/776-4841.

SafetyBeltSafe, U.S.A. offers a variety of training programs and resource materials on child-passenger safety. Contact: Stephanie Tambrello, director, P.O. Box 553, Altadena, CA 91003; 213/673-2666.

Shinn and Associates produces a line of safety products and literature. Contact: Shinn and Associates, 2853 W. Jolly Road, Okemos, MI 48864; 517/332-0211.

Special Transportation Inc. For information about Simms v. DOT, contact: Lyle Stephens, Special Transportation Inc., 6911 S. Cedar St., Lansing, MI 48911; 517/694-3957.

The Automotive Safety for Children Program offers programs, videotapes and curriculum materials on child passenger safety, as well as transcripts from the National Conference on Pediatric Special Needs Transportation. Contact: Marilyn J. Bull, M.D., director, Automotive Safety for Children Program, Indiana University School of Medicine, James Whitcomb Riley Hospital for Children, 702 Barnhill Drive, S-139, Indianapolis, IN 46223; 317/274-2977.

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**Fig 4.** A neck roll may be added but should not interfere with use of harness straps.

The illustrations with this article are excerpted from transcripts from the National Conference on Pediatric Special Needs Transportation, Indiana University School of Medicine.
"If you’re meeting federal standards, as a transporter, then your liability is minimized."

-Lyle Stephens

Liability and Cost Issues

Liability is a concern that NHTSA’s standards won’t address directly, according to Hurd. However, once standards are in effect, he anticipates they will be used by attorneys in cases where liability is at issue. He indicated that, currently, if a student riding in a wheelchair is injured in an accident, anyone — from the person who boarded the passenger on the bus, to the driver and the manufacturers of the wheelchair, bus and restraint system — could be found liable. Stephens says this is another reason why standards are so important: “If you’re meeting federal standards, as a transporter, then your liability is minimized.”

David Shinn, president of Shinn and Associates, an injury prevention products and information firm, says the reason some transportation companies have not already adapted their vehicles to accommodate the special needs of wheelchair passengers is not because of a lack of standards or information about how to transport wheelchair occupants safely. The real issue is money.

“States do not provide compensation for transportation products for special needs,” he says. “They’ll provide $3,000 for a wheelchair but won’t provide for a $200 car seat.

Fig 2. A knee roll may be added in front, not behind, crotch strap.
“If you’re going to require that all wheelchairs be anchored properly — facing forward — it means reconfiguring buses, getting new anchor systems and it may also mean extra buses,” he says.

In Indianapolis, where state standards have been in effect since July 1, school district officials plan to spend approximately $770,000 this year to purchase new school buses for use by their students who are disabled. The district already owns 10 special-needs vehicles.

Each new 20-passenger bus, capable of accommodating up to three wheelchairs, will cost the district approximately $70,000, as opposed to $60,000 for an ordinary 66-passenger school bus, according to Bert Brooks, supervisor of operations for Indianapolis public schools. The district might cut some of its present contracts with outside transportation companies once it buys the new buses, he told TeamRehab Report.

But Stephens says he doesn’t think the federal standards will cause most transportation companies or school districts to incur inordinate expenses, since most are already working with some sort of safety mechanism. “They’re [standards] just to ensure that people are transporting wheelchair occupants in the proper way.”

Instrumental in helping Indiana develop its child transportation safety standards was Marilyn Bull, M.D., an advocate in the effort to raise public and professional awareness about transportation safety for children with special needs. She is also a pediatrician on the staff of the James Whitcomb Riley Hospital for Children in Indianapolis, which hosted a national conference in September on transportation safety for children with special needs.

Bull says that while no one knows exactly how many students in wheelchairs ride school buses, she is concerned about their safety and is encouraged to see the federal government taking a more pro-active role. In her opinion, it is critical for those who work with disabled children to know how to use and evaluate wheelchair and occupant restraint systems.

**Fig 5.** A child’s head should be positioned away from the side of the vehicle when secured supine on vehicle seat.