STUDENTS WHO RIDE SEATED IN WHEELCHAIRS: SURVEY OF STATE DIRECTORS OF PUPIL TRANSPORTATION

Patricia Karg[1], Mary Ellen Buning[2], Karen Frost[3]
[1]Department of Rehabilitation Science and Technology, University of Pittsburgh, Pittsburgh, PA, USA; [2]Department of Neurological Surgery and [3]Department of Mechanical Engineering, University of Louisville, Louisville, KY, USA

INTRODUCTION

The safety of school bus transportation for typical students is substantiated by statistics [1-6]. In sharp contrast, little safety data are available for wheelchair-seated students. In fact, no published data exists to provide even a reliable estimate of the number of students who travel while seated in their wheelchair. Although regulations from the Federal Motor Vehicle Safety Standards control school buses, many other aspects of transportation policy and procedure vary state to state [7, 8]. As part of the Rehabilitation Engineering Research Center on Wheelchair Transportation Safety (WTS), the authors developed a survey to uncover variation among states in regard to WTS policies and procedures, awareness of WC19 wheelchairs, incident reporting, use of contracted services, ownership and numbers of school buses, and numbers of wheelchair seated students riding lift-equipped buses. Our overarching goal was to determine where improvements are needed to increase safety for students who ride seated in a wheelchair on the school bus.

Each state has a director of pupil transportation, with broad responsibility for all students aged 3 to 21, who meet local eligibility requirements. This director oversees both regular and special needs transportation. Students with disability have individualized education plans (IEPs), so school bus transportation services assume additional importance. Transportation is considered a related service and as part of a student's IEP is customized to student needs.

Transportation guidance is offered to states through the National Congress on School Transportation (NCST). At this every five-year meeting, delegates review, develop, debate and ratify best practices in school bus equipment and procedures to ensure student safety [9]. Because of unique issues surrounding the transport of students who use wheelchairs, several chapters and numerous appendices on this topic are included in the resulting NCST document, called the National School Transportation Specifications and Procedures (NSTSP) [9]. This document serves as a resource to states as they develop their pupil transportation policies.

METHODS

To initiate this study, we conducted a focus group with the board of directors of the National Association of State Directors of Pupil Transportation. They advised survey development by informing the researchers about the types of data to which they generally have access and common industry terminology.

We used Survey Monkey, an online survey tool, to reduce the burden of completing the survey. Survey questions were developed in categories comprising adaptive equipment policies and procedures (wheelchair tiedown and occupant restraints systems, wheelchair boarding devices), the incorporation of the NSTSP into state policies, RESNA WC19-compliant wheelchairs, driver training policies, incidents involving wheelchair-seated students, ownership and operation of vehicles, and transportation statistics for wheelchair-seated students.

RESULTS

A total of 33 states participated in the survey. States varied in the number of questions they answered, resulting in sample size variations among data and figures.

Adaptive Equipment Policies and Procedures

Out of 29 responses, approximately 79% indicated they had state policies and procedures on boarding devices (lifts, ramps) and 72% on wheelchair tiedown and occupant restraint systems.

National School Transportation Specifications and Procedures (NSTSP)

When asked to what degree statewide transportation policies were aligned with the NSTSP, 29 states responded. Results revealed that approximately 24% have adopted all, 62% some and 14% none of the *equipment specifications* in this document. Regarding *operations and procedures*, approximately 10% of states reported they adopted all, 73% some and 17% none of the NSTSP recommendations.

RESNA WC19-compliant wheelchairs

Of 29 state responses, 83% indicated awareness of the RESNA WC19 voluntary safety standard for wheelchairs used as seats in motor vehicles. Out of those who responded, 68% indicated state policies do not address types of wheelchairs used as seats in school vehicles, 73% indicated there was no effort at the state level to educate parents on potential advantages of a WC19-compliant wheelchair, and 71% responded there was no effort at the state level to encourage parents to purchase these wheelchairs.

School Bus Driver Training Policies

Ninety-seven percent (97%) of 31 respondents indicated their state had a school bus driver training policy. When asked if the school bus driver training policy included training in transporting special needs students, only 17 states responded, however 13 of these states (76%) reported that their school bus driver training policy did include training in transporting special needs students, and 9 of 13 states (69%) reported that this training addressed boarding and securing wheelchairs, and applying lap and shoulder belts to wheelchair-seated students. In all but one case, these states reported that training for special needs students was included as part of their general school bus driver training policy.

School Bus Incidents Involving Wheelchair-seated Students

Of 29 respondents, 20 (69%) indicated their state utilizes a standard incident report form for documenting school bus incidents. Types of incidents that must be reported at the state level included student injury (93%; 27 respondents) and property damage (83%; 24 respondents). When asked how incident data were stored, a slight majority of states reported incident data were stored electronically (32%; 25 respondents) versus on paper (28%; 25 respondents), but most states indicated they store incident data using both paper and electronic means (36%; 25 respondents). The majority of states indicated their standard incident report form does not identify whether or not an incident occurred on a wheelchair-equipped bus (84%; 25 respondents), nor does it indicate if an incident involves a wheelchair-seated student (88%; 25 respondents).

Ownership and Operation of School Vehicles

Thirty percent (30%) of state directors did not respond to initial survey questions asking them to report the quantity of buses owned by the state or school districts, versus private contractors. However, some of this data was published in School Bus Fleet [10] allowing the researchers to send a follow up email asking state directors to verify the published data, thereby increasing the response rate to 100% for these questions. Results indicate that state and/or school district ownership of buses ranged from 18% to 100% among respondents. The majority of states (76%) reported that the state and/or school districts retained ownership of greater than 60% of school buses operated in the state.

States also varied in their use of contractors to operate school buses. Twenty-nine states provided information regarding type(s) of contractors used (Figure 1) by school districts in their state. The majority contracted with a combination of national/multi-state, local and small (1-2 vehicle operators) companies. The survey also asked how contracted services were used by the districts in the state for regular route and special needs transportation. Twenty-nine states responded (Figure 2) indicating the majority of districts contract with a single

company for all transportation services. Regardless of the type of contractor(s) used, the majority of states indicated they do not use contractors specializing in special needs transportation (78%; 27 respondents).

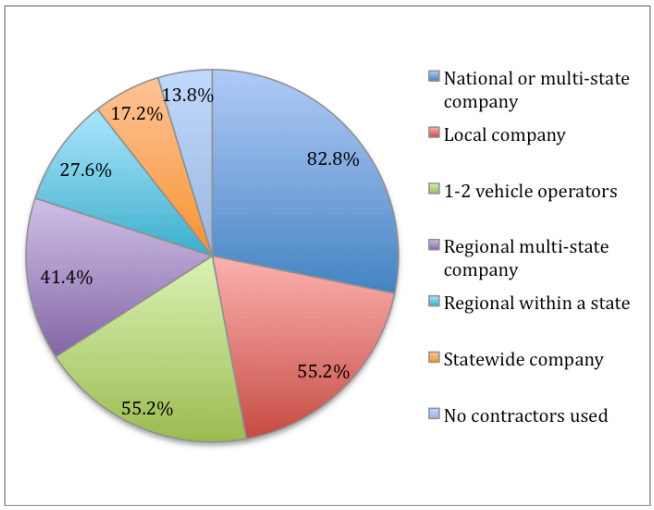

Figure 1. Percentages of contractor types used as reported by 29 states (legend listed in descending order)

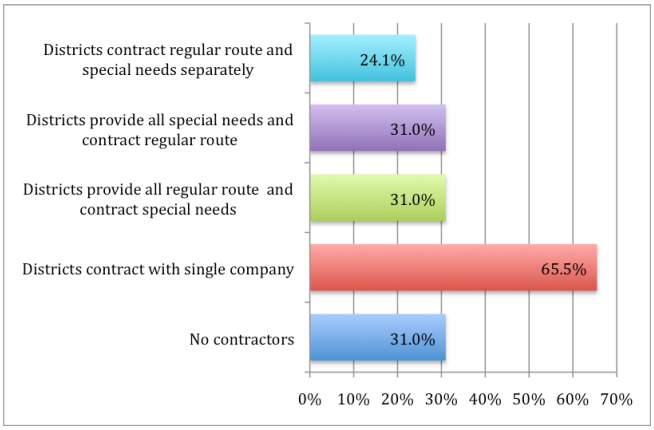

Figure 2. Percentages of ways contractors are used as reported by 29 states

Transportation Statistics

We were unable to get information at the state level on total transportation miles traveled or trips per year for students with special needs or the subset of students who use wheelchairs. No responding states were able to provide information on the number of special needs students transported or the number of students transported who use wheelchairs. In addition, states could not provide information on the numbers or types of buses equipped with wheelchair securement stations.

DISCUSSION

The majority of the states that responded have state policies and procedures on boarding devices (lifts, ramps) and wheelchair tiedown and occupant restraint systems. The majority of states also incorporate in their state policies the equipment specifications, operations and procedures recommended in the NSTSP document either completely or in part. A previous review of 42 state policies concluded that 63% incorporated the NSTSP in full or in part [8]. There was large variation in the extent of incorporation, with bus specifications being more likely to be included over procedures such as driver training.

We were unable to get comprehensive information regarding state driver-training policies and additional study is required. We were able to determine that the majority of responding states do have state training policies, and of the 17 states that responded more than three quarters indicated this policy included training in transporting special needs students and was part of the general driver training policy. Investigation of how well best practices for wheelchair transportation are addressed in these policies is the next step in determining what improvements are needed.

Eighty-three percent of responding states indicated awareness of the RESNA WC19 voluntary safety standard for wheelchairs used as seats in motor vehicles. However, the majority of these states also indicated that state policies do not address types of wheelchairs used as seats in school vehicles, and that there was no effort at the state level to educate parents on advantages of using a WC19-compliant wheelchair or to encourage parents to purchase these wheelchairs. Improved communication from the state level on the availability and benefits of WC19-compliant wheelchairs is needed.

We were unable to get statistics at the state level on the transportation of students with special needs or the subset of students who use wheelchairs. These data were to be used along with incident data to determine the frequency

and nature of incidents to wheelchair-seated students. Although we were able to determine that the majority of state respondents have a standard incident report form, we were unable to get any data on incidents involving lift-equipped vehicles of students seated in a wheelchair. This is due to the fact that incident data collected by most states does not identify whether the incident occurred on a bus equipped for wheelchairs or involved a wheelchair-seated student. The 2010 NSTSP now includes an updated incident report form that includes many additional aspects of safety to collect information specific to wheelchair-seated students [9].

A large number of states have districts that use private contractors and contract with a single company for all transportation services, including special needs. The most common type used was a national/multi-state contractor. This provides an opportunity for a focused effort to properly train contractor employees on wheelchair transportation best practices to have a large impact on improving safety for wheelchair-seated students.

ACKNOWLEDGEMENTS

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