

USABILITY OF THREE WHEELED MOBILITY DEVICE SECUREMENT SYSTEMS ON PUBLIC TRANSIT BUSES

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ABSTRACT

Participants who use wheeled mobility devices completed usability testing of three different wheelchair securement systems to determine which system would perform best in regular public transportation use. A conventional forward-facing four-point securement system (4-Point), a three-point forward-facing compartment system (Q-Pod), and an automated rear-facing securement system (Quantum) were compared. Results of the study indicated that the Quantum securement system was preferred by the majority of wheeled mobility device users in the study. While the participants, on average, reported feeling safe in each of the securement systems and that all systems would be acceptable for regular use, they rated the Quantum as easier to use, faster to use, and requiring less assistance to use. These results are important for future development of wheelchair securement systems to increase compatibility with more diverse mobility devices, provide increased independence for passengers using mobility devices, and decrease dwell time and physical effort for bus operators in public transit.

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