

Exploring The Development of Rearward Facing Wheelchair and Occupant Restraint Systems for Passengers with Complex Posture

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Transport for persons seated in wheelchairs and seating system who possess complex postural needs provide frequent challenges to transport providers. This case study continues the development of low-risk transport solutions for wheelchair seated passengers by demonstrating the concept of a rearward facing wheelchair securement and an integrated occupant restraint harness in a combined 'restraint station' for use in minibus type vehicles, such as those used in 'Home to School' or 'Patient Transport Service' operations.

The work also includes measures to safely secure life supporting medical devices usually attached to the wheelchair, by means of a vehicle anchored device carrier.

It is anticipated that the development of a suitable device with basic adjustments could provide a transport solution for a number of wheelchair and passenger profiles, and potentially avoid the need for stretcher-based ambulance transport services and bring increased opportunities for leisure-based, inclusive activities.

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