

## TranSPOT Committee – POSITION STATEMENT

### Children with disability travelling in strollers in vehicles

*TranSPOT is a group of professionals affiliated with SPOTonDD who aim to promote best practice in the safe transportation of people with disability in NSW [www.spotondd.org.au](http://www.spotondd.org.au)*

TranSPOT recommends that children travel in an Australian Standards (AS) approved child restraint that is compatible with the child's age and size, as per Legislation.

In situations where travelling in an AS approved child restraint is not possible, and the child uses a specialised stroller as their primary mobility device, transport in a stroller would be considered as the option of "less risk" when all of the following conditions can be addressed:

- An AS approved child restraint with modifications cannot be used
- A special purpose child restraint has been considered
- The specialised stroller has factory fitted transit options that have been crash tested
- Both the occupant restraint and vehicle tie-down system will always be used
- The stroller will be forward facing in the vehicle
- The occupant restraint can be correctly fitted to the child
- A check by an authorised vehicle modifier is undertaken
- Primary carers are provided with training and instructions are provided that are specific to the child, vehicle and stroller used
- Primary carers take responsibility for securing the stroller in the vehicle and fitting the occupant restraint to the child and/or educating other carers
- Guardian/parent signs consent acknowledging risk and primary carers carry a medical certificate in the vehicle

#### GLOSSARY OF TERMS

**Authorised Vehicle Modifier:** specialist engineer with authorisation for vehicle inspection and modifications in accordance with Transport for NSW

**Legislation/Standards:**

- NSW Road Rules 2008
- AS/NZS 1754:2004, 2010 and 2013 Child restraint systems for use in motor vehicles
- AS/NZS 4370:2013 Restraint of children with disabilities, or medical conditions, in motor vehicles
- AS/NZS 2088: 2009 Prams and strollers - safety requirements
- AS/NZS 10542.1: 2009 Technical systems and aids for disabled or handicapped persons- Wheelchair tie-down and occupant-restraint systems. Part 1 Requirements and test methods for all systems (ISO 10542-1: 2001, MOD)
- AS/NZS 3696:19:2009 Wheelchairs Part 19: Wheeled mobility devices for use as seats in motor vehicles (ISO 7176-19:2008, MOD)
- ANSI-RESNA WC19 (officially SECTION 19 RESNA WC-4:2012) A voluntary standard for wheelchairs designed for use as a seat when traveling in a motor vehicle.

NOTE: ISO 7176-19:2008 is an international wheelchair standard that is comparable with WC19

**Occupant Restraint System:** Either a lap or lap-sash belt anchored to the vehicle that is used to secure a person seated in a wheelchair/stroller.

**Primary carers:** Parents, other family members or foster carers who have responsibility for care. Does not include paid carers, school staff or respite carers.

**Specialised Stroller:** Specialised stroller designed for children with disability, with factory fitted, crash tested transit brackets in place

**Special Purpose Child Restraint:** A child restraint that is specifically designed and designated as suitable for use by a child with a disability, but may or may not comply with AS/NZS 1754:2004, 2010 or 2013, or AS/NZS 4370:2013

**Transit Brackets:** Factory fitted brackets that allow the stroller to be secured in a vehicle.

**Vehicles:** Accessible cars, vans, taxis and school buses. Excludes public transport.

**Vehicle Tie-down System:** Equipment installed in a motor vehicle which allows a wheelchair/stroller to be anchored in the motor vehicle in order to limit wheelchair/stroller movement in the event of a motor vehicle crash.

## APPENDIX

### Background:

Historically, in NSW the TranSPOT Committee has advised against transporting children in strollers as the specialised strollers available were not crash tested in Australia and transit brackets were not provided as standard features. The design and structure of specialised strollers has more recently changed to include sturdier frames, more options for customised seating, and an increased range of specialised strollers available that have been crash tested overseas with transit brackets in place. For children with disability, who are of the age that would generally use a specialised stroller as a mobility device rather than a wheelchair, Australian Standard approved child restraints are available and required by law. Children of this age travel in vehicles accompanied by an adult carer.

With this in mind, the TranSPOT committee conducted an informal review of the specialised strollers available in order to make recommendations regarding children travelling in strollers in vehicles when an Australian Standard approved child restraint cannot be used and travel in a stroller would be considered the option of "less risk".

### Areas Investigated:

Suppliers of specialised strollers in NSW were invited to participate in a floor simulation of installation in a modified vehicle using a QRT vehicle restraint system.

In determining the potential for using strollers with transit brackets in place in transport the following factors were assessed:

- The A/NZ and/or ISO Standard to which the stroller has been crash-tested
- The angle of the tie-down restraint and whether it complies with AS7176 – 19 (ie between 30 – 45 degrees from horizontal)
- Stability of the stroller when tie-down restraints are in place (including front and sideways movements)
- Ease of threading the lap/sash of the occupant restraint system and aligning it in the correct position, so that the lap/sash is placed directly on the child with the lap belt positioned low on the pelvis and the sash across the shoulder.
- The effect of the position of the stroller in the vehicle
- The type of vehicle tie down system and resultant tension of the restraint

### Findings:

- Information provided by the stroller distributors on manufacturer crash testing was unclear as to the type of conditions used and whether occupant restraints were utilised. As such, information provided by suppliers was deemed inadequate for decision making on safety of a stroller for use during travel.
- For all the strollers tested care had to be taken to ensure that the occupant restraint was applied correctly so that the restraint fits close to the body and not just close to the frame of the stroller.
- For 2 out of the 7 strollers reviewed, the angle of the tie-down restraint did NOT comply with AS7176 – 19:2009 (ie between 30 – 45 degrees from horizontal).
- The position of the stroller in the vehicle and the type of vehicle tie-downs used can influence the angle and tension of the vehicle tie downs on the stroller and whether this is compliant with AS7176-19:2009.
- The position of the stroller in the vehicle may influence how the occupant restraint fits the child. If a lap sash occupant restraint is used, the correct angle of the sash over the child's shoulder is more likely to be achieved when the stroller is positioned close to the side of the vehicle rather than in the middle of the vehicle.
- The type of vehicle tie-down system used can affect the tension of the restraint.

### Recommendations:

1. Confirm with the supplier the crash testing results and the conditions of the testing prior to purchasing a stroller, if it will be used for travelling in a vehicle.
2. Include child specific photos in any instructions for carers to reduce the risk of incorrectly applied occupant restraints.
3. Families consult with an authorised vehicle modifier before considering transport in a stroller in a private vehicle that has already been modified or before modifying a private vehicle. This is to ensure to ensure correct positioning of the stroller in the vehicle, correct positioning of the occupant restraint; and to determine the most appropriate vehicle tie-down system.

### Disclaimer/limitations of study:

These results are limited to the models of strollers tested, and the test environment, including the vehicle tie-down system and occupant restraint used and may not be able to be generalised to all types of specialised strollers, vehicle restraints and vehicles.

This study would not have been possible without the support of Accessible Transit Specialists (ATS) who provided the testing facilities and technical expertise; and Dejay Medical, GTK Rehab and Paediatric Mobility Equipment who provided the strollers for review and technical information.