Problem solvers

Are you facing a community transport problem? Perhaps you're assessing the implications of recent legislation or considering the specifications of a new vehicle. Whatever your community transport poser, *CTA Journal* can help.

Our problem solver, Amanda Howard (pictured), is a member of the CTA's advice and information team. Every day the team members field enquiries from across the UK's community transport sector and have a wealth of knowledge and experience to draw upon.

If you have a problem that you'd like solved on this page, please write to Problem Solvers at *CTA Journal*, 26 Gransden Avenue, London E8 3QA.

"We have a passenger who is about to purchase a new ISO-approved wheelchair. What do we need to consider when undertaking a risk assessment prior to providing transport for her?"

In recent years, standards for wheelchair transportation have been developed by ANSI/RESNA and ISO, which are US and international standards organisations. These standards require that any wheelchair tie-downs and occupant restraint system for manual and powered wheelchairs and wheelchair seating used in motor vehicles should successfully pass a 30mph/20g impact sled test. The manufacturer of the device takes responsibility for working with the testing facility to meet these requirements.

The first decision should be to establish whether the passenger can transfer to a passenger seat and wear a passenger seatbelt, which is the safest choice. However, if this presents too great a risk or is not possible for health reasons, they may have to travel in their wheelchair. At this point, organisations should undertake a risk assessment.

The next decision should be which wheelchair tie-down equipment to use. Wheelchair tie-down equipment has improved significantly, with four-point systems now being the preferred option for many operators. Some wheelchairs have restraint equipment designed specially for them. Other wheelchairs, such as those with reclining backs, will need different restraint equipment depending on the height of the back at the time of travelling. ISO-tested wheelchairs will have been tested with a specific type of restraint system so you must use the type that has been tested and it should be attached to the wheelchair frame at the points designated by the manufacturer. Wheelchair restraint manufactures often produce guidance on which of their restraint systems are suitable for a specific make and model of wheelchair.

The CTA is currently working with a number of organisations to develop the Code of Practice for Wheelchair Passport Schemes (PAS 900) in conjunction with the British Standards Institute. This should be of great benefit to operators and wheelchair users as it will provide the standards for attaching information labels or 'passports' that detail the restraint requirements for both passenger and wheelchair. A draft for consultation is available on the BSI website *at http://drafts.bsigroup.com*

Many wheelchairs have not been designed with transport on vehicles in mind, so will not have been crash tested or have specified points for attaching restraints. Often wheelchairs do not allow attachment at the optimum point on the frame and on many occasions the driver is left to work out the best method for securing the wheelchair securely. These wheelchair frames could partially collapse in a severe impact.

However, wheelchairs of this type have been carried safely in vehicles for years and the key action to take is to identify the most appropriate restraints. Four-point webbing systems will usually be the best.

Next you need to consider which type of restraints are suitable for the wheelchair user. A wheelchair posture belt does not give the same standard of safety as passenger seatbelts in vehicle seats. Most posture belts are not adequately fixed to the frame of the wheelchair but are simply screwed into the seat frame. Velcro and posture belts with buckles offer inadequate crash protection.

The ISO standards are based on the use of occupant restraints and high level cant rails as it is considered that these types of restraints afford the best protection to the passenger. However, many minibuses don't have cant rail tracking and operators have to use the floor tracking instead. Increasingly though, new minibuses are specified with a cant rail fixing point above the side windows. This meets the ISO standard for the upper restraint mounting point and significantly reduces the likelihood of a compressive spinal injury, which is possible with a completely floor mounted system.

When considering passenger safety it is worth providing a temporary head restraint which can be fitted to the wheelchair handles. Although not currently covered by any ISO standards, this will considerably reduce the risk of whiplash in an accident.

Some restraint manufacturers offer a combined passenger seat and wheelchair restraint system which can be used by ambulant passengers, then folded to become a wheelchair restraint system. Passengers may have other equipment such as an oxygen cylinder attached to their wheelchair which may be detachable so this may need safely storing elsewhere. ■

The ISO standards

- ISO 7176 Part 19 Wheeled Mobility Devices for Use in Motor Vehicles
- ANSI/RESNA WC19 Wheelchairs for use in Motor Vehicles
- ISO 10542 Parts 1-5 Wheelchair Tie-down and Occupant Restraint Systems
- ISO 16840 Part 4 Wheelchair Seating for Use in Motor Vehicles

The CTA's Access10 exhibition features a number of wheelchair tie-downs and occupant restraint system manufacturers, including NMI Safety Systems, Q'Straint and Unwin Safety Systems. Entry is FREE.