

Wheelchairs or Scooters: transporting passengers in vehicles

When using a vehicle to transport passengers with a wheelchair or scooter (gopher), it is vital to ensure that both the user and their mobility device are safely and correctly secured into the vehicle

In many cases, the user may need to remain seated on their mobility device due to their need for more supportive seating and/or a reduced ability to transfer into the passenger seat of a vehicle.



Refer to the following standards for further recommendations: *AS/NZS 3696.19:2009 Wheelchairs, Part 19: Wheeled mobility devices for use as seats in motor vehicles*, *AS/NZS 10542.1:2009 Technical systems and aids for disabled or handicapped persons-Wheelchairs tiedown and occupant-restraint systems, Part 1: Requirements and test methods for all systems*, *AS/NZS 3856.1:1998 Hoists and ramps for people with disabilities – vehicle mounted, Part 1: Product requirements*.

Wheelchairs for use in vehicles

In Australia there are presently no specific legal requirements surrounding which types of wheelchairs can or cannot be used in a vehicle. However, to ensure user safety, the following features should be considered:

- A high backrest
- A headrest which can be attached during transit
- Tie-down points—consideration should be given to using a wheelchair that has brackets or tie-down points already designed and incorporated by the manufacturer as suitable for securing a wheelchair to a vehicle. Tie-down points that are incorporated after manufacture or design may not be as strong or may weaken the wheelchair frame.

The following mobility devices may be unsuitable for use in vehicles due to potentially hazardous design construction features. These include (but are not limited to):

- Lightweight 'stroller' type wheelchairs
- Wheelchairs or mobility scooters where the seat is attached to the base via a single post (often featured with a swivel-style seat)
- Any wheelchair or mobility scooter that features projections at the front, such as a tiller, as these may be hazardous in the event of an accident.

It is strongly recommended that any user of a mobility scooter, or one of the wheelchair types mentioned above, transfers into one of the passengers seats of the vehicle during transit and does not travel seated on their mobility device.

The user may transfer to a passenger seat either before or after their wheelchair or scooter has been loaded into the vehicle depending on their capabilities and the design of the vehicle.

Loading a wheelchair/scooter and user into a vehicle

Ramps or lifting platforms may be used to transfer the user and their wheelchair or scooter into a vehicle. These may be positioned either at a rear or side door opening of the vehicle, depending on the size of the vehicle and the ease and space provided while getting in and out when the vehicle is parked.

Consideration should be given to the height of the door opening as well as the space available inside the vehicle. Australian Standards recommends a minimum doorway width of 800 millimetres and a height of 1400 millimetres for wheelchair access with an internal height of 1500 millimetres or a minimum of 50 millimetres clearance above the person's head. The recommended internal floor space is 1300 millimetres long by 800 millimetres wide—the same as allowable in accessible public transport.

Ramps

There are many types of ramps available including portable ramps that can be transported between vehicles and fixed ramps that attach to either the towbar or the floor of a vehicle. Fixed ramps are generally more secure and easier to deploy.

It is important that the ramp is not too steep and does not exceed a gradient of 1:4. In cases of assisted use, a maximum gradient of 1:6 is preferred (*AS/NZS 3856.1:1998*).

When selecting a ramp it is important to consider:

- The load capacity of the ramp (how much weight can it hold, including the combined weight of the mobility product and the user)
- The physical effort required to deploy and stow the ramp
- The space required to deploy and stow the ramp
- The impact that the stowed ramp may have on visibility when driving.

Lifting platforms

Generally, lifting platforms are electrically and/or hydraulically operated. They are available in a number of types, including platforms that stow away inside the vehicle or platforms that stow away externally either against the rear or under the vehicle. External models save space inside the vehicle; however, as they are constantly exposed to the elements they may require more maintenance.

When operating a lifting platform, the brakes of a wheelchair should be engaged and powered mobility devices should be turned off.

Some model platforms may have a safety belt to secure the mobility device and user to the platform, and if this is provided it should always be used.

It is important to consider:

- The space required to both deploy and stow the lifting platform
- The load capacity required
- The ease of operation—some electrically-operated models still have a manual component.

- The position of controls—vehicle-mounted; platform-mounted, or hand-held.
- The safety features which should be included as a minimum—roll stop barriers at the front and rear, edge barriers on both sides, hand rails, and a manual emergency lowering
- The impact of the stowed platform on visibility when driving the vehicle.

Securing a wheelchair/scooter inside a vehicle

Any wheelchair or scooter being transported inside a vehicle must be secured directly to the body of the vehicle using wheelchair restraint systems that meet the relevant Australian Standards.

A variety of restraint systems is available depending on the vehicle and device:

- Pocket (or bracket) style anchorages that incorporate brackets located at fixed points in the floor of the vehicle. This is generally a cheaper system but may restrict the ability to transport different sized wheelchair and scooters
- Tracking style anchorages that use brackets that can be moved back or forth along tracking in the floor of the vehicle. This is a more flexible type of system as it can take many different wheelchairs. However, it can be a little more complicated to use
- Docking stations, where the wheelchair clicks in automatically to a specific dock when manoeuvred into place. This system is generally more expensive and requires the fitting of brackets to both the wheelchair and the vehicle. It is more common in vehicles modified for the wheelchair user to self-drive.

When using the pocket or tracking anchorages, at least four restraints should be used—two at the front and two at the rear of the wheelchair base. If transporting wheelchairs with tilt-in-space it is recommended to have two additional restraints at the rear attached to the seat. Restraints may be manual tensioning, self-tensioning, or electrically operated. With all systems the following should be observed:

- The preferred direction for the wheelchair user to be facing in a private vehicle is forwards. (Note: In some forms of public transport, the user may be instructed to face to rear of the vehicle for other safety reasons.)
- There should be 400 millimetres of clear space behind the wheelchair user and in front of their head/torso there should be at least 950 millimetres of clear space (can be reduced to 650 millimetres if a lap sash belt is used across the occupant)
- Where the wheelchair manufacturer has not specified tie-down points, the restraints should be attached to the frame of the wheelchair. They must **never** be attached to moveable parts of a wheelchair such as foot rests, arm rests, wheels or axles
- Avoid any twisting of restraints
- Do not cross restraints from one side to the other or from the front to rear
- Restraints should be around 45 degrees to the floor when correctly attached.

Securing the user in the vehicle

Even if the wheelchair user has a belt or other harness as part of their wheelchair seating, it is essential that a transport occupant restraint, which is secured to the vehicle, also be used.

A lap belt that goes across the pelvis and secures to the vehicle is the minimum requirement, however, it is preferred to have a lap sash belt that goes over the shoulder as well as the pelvis. Guidelines regarding their use:

- The lap belt should make full contact across the front of the body and pass down between the user and any side panels on the wheelchair, **not** over the arm rests
- Belts must fit firmly
- The lap belt needs to sit across the pelvis, not across the abdomen. Avoid transporting the passenger in a reclined position as the user is more prone to slide down under the lap belt causing additional pressure on the abdomen and a potential choking risk if a sash belt is being used
- Position a sash belt so that it remains in contact with the shoulders of the wheelchair user.

Other considerations

- Secure any loose objects on the wheelchair or elsewhere in the vehicle and remove wheelchair trays—these can become a hazard to the wheelchair user in the event of an accident
- Drive the vehicle with increased consideration for the wheelchair user—accelerate smoothly, brake early and gently, take corners smoothly and slowly.

Contacting the Independent Living Centre

For further information or to make an appointment to visit the display please contact the Independent Living Centre. The Independent Living Centre offers free advice on equipment and techniques to help you with everyday tasks.

Independent Living Centre
11 Blacks Road
Gilles Plains SA 5086

Phone: 1300 885 886 (SA & NT callers only) or 8266 5260

Email: ilcsa@dcsi.sa.gov.au

Website: www.sa.gov.au/disability/ilc

Accessible off street parking is available.

Bus services run nearby. Call 8210 1000 for timetable information.

