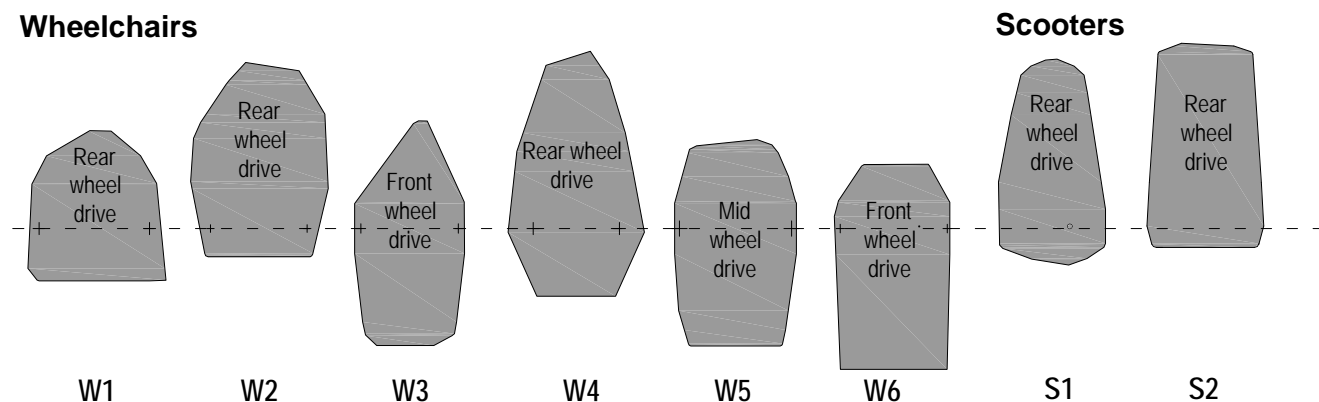


Asymmetry of occupied wheelchairs and scooters

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Convex hulls (outlines) of occupied wheelchairs and scooters, aligned on their common drive wheel axis

These are convex hulls of eight occupied wheelchairs and scooters¹. The entities have been arbitrarily selected from 560 occupied wheelchairs and scooters measured by Hunarch Consulting for the Australian Commonwealth Government in 2002. The hulls have been compiled from the dimensional dataset released by the Government in June, 2009².

A convex hull is a two-dimensional outline equivalent in shape to an elastic band stretching between points on the same plane. The hulls shown here are comprised of points that have been projected vertically downwards to the floor plane from outer-most points at different heights on the occupied wheelchairs and scooters. Parts of the actual outlines of the entities may occur inside the hulls. They have been created for use in motion simulation software.

Illustrations in the literature, including design guides and standards, of occupied wheelchairs and scooters commonly show symmetry of outline about the longitudinal axis. However, a large number are markedly asymmetrical.

Where accurate space formulation for wheelchair or scooter use is required, asymmetry needs to be taken into account.

¹ People with their wheelchairs or scooters

² The information was released in response to an application under the Australian Freedom of Information Act by the Association of Consultants in Access Australia Incorporated.