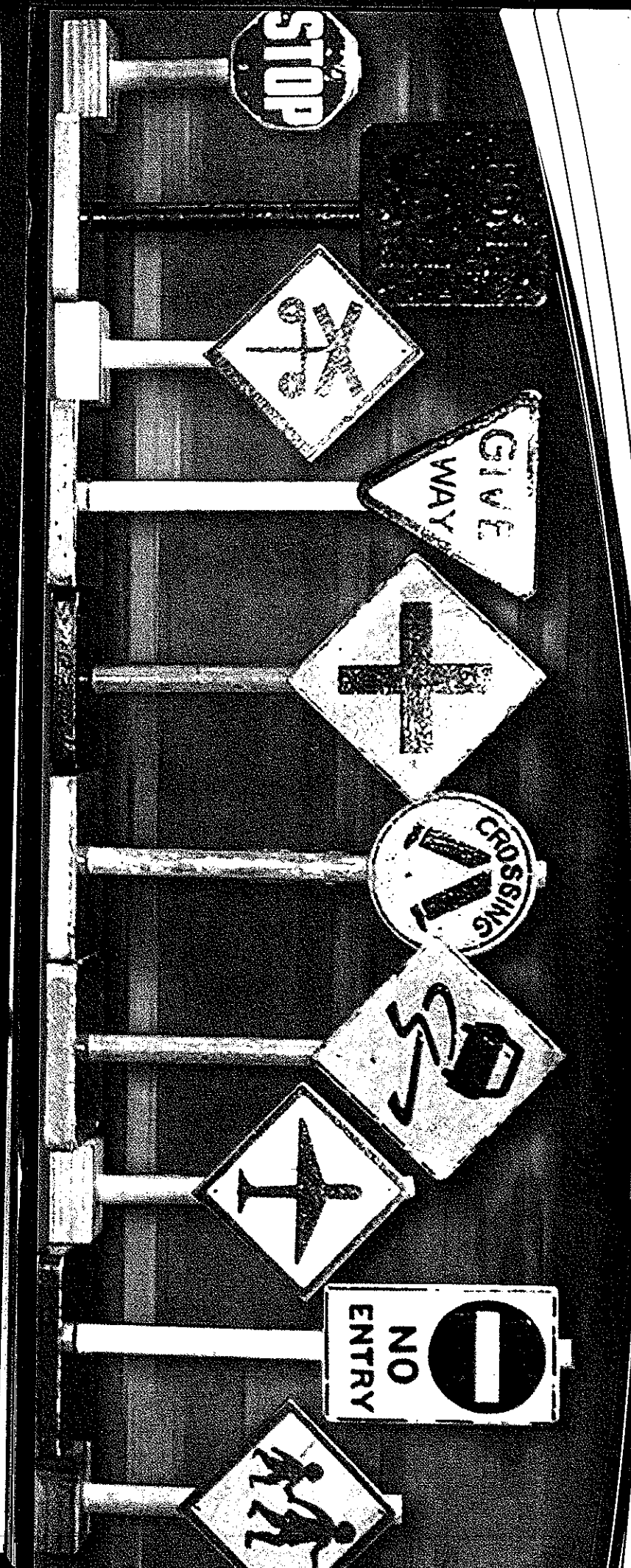




Australian Government  
Australian Transport Safety Bureau

# Road Safety in Australia

A Publication Commemorating  
World Health Day 2004



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## Headbands for vehicle occupants: safety with fashion?

Research commissioned by the former Federal Office of Road Safety and the ATSB has demonstrated that headwear in the form of bicycle-style helmets or padded headbands would be almost as effective in reducing head and brain injuries as driver airbags, but at a fraction of the cost.

Protection of this type would be particularly beneficial for occupants of older vehicles that are not equipped with the latest safety devices, but would provide additional protection even for drivers of cars equipped with airbags.

The research has found that helmets would be substantially more effective than many vehicle design options, including improved interior padding, side-impact airbags and advanced restraint systems. As head injuries to car occupants

in Australia cost about \$3.7 billion per year, helmets could save the community as much as \$950 million, or about 25 per cent of annual head injury cost.

While full helmets would approach the ideal form of occupant head protection, an analysis of impact patterns among brain injury cases has shown that specially designed headbands could provide a practical alternative. To be effective, the headband would cover the front and sides of the head, where a large proportion of the impacts have been found to occur. The headband would have energy absorbing properties to provide the wearer with real protection, but would be lighter, cooler and less bulky than a conventional helmet. Protective headbands would offer about half the total benefits of a full helmet.

Prototype headbands have been tested using a variety of materials, including expanded polypropylene sandwiched between a styrene outer shell and a cloth liner.

The ATSB is of the view that the use of protective headwear for car occupants would be a voluntary market-driven safety option. Preliminary market research has found that the concept would have very limited acceptance across the wider community, at least in the short term. Similar consumer resistance was demonstrated in the early stages of the introduction of seat belts and helmets. However, the headband could be of considerable interest to certain groups such as young families. With some imaginative designing, the headband might well be developed as a fashion accessory.

