

Scooter Safe



Use of Electric Scooters and Wheelchairs in the ACT: Policy Implications & Recommendations





The People for People over 50

**Scooter Safe
Policy Implications
&
Recommendations related to use of
Electric Scooters and Wheelchairs in the
ACT**

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Background to the Project

One day while sitting at a set of traffic lights at the corner of Wisdom Street and Yamba Drive in Hughes, ACT, I observed a senior person on a motorised scooter cross Wisdom Street by coming off the footpath and driving into the stream of traffic along Yamba drive. If you can imagine a person sitting on a motorised scooter travelling to the left of, and in the same direction as fast moving vehicles including trucks you can appreciate that I held my breath while this brave soul crossed Wisdom Street and remounted the footpath on the other side. I was puzzled as to why this person pulled into the stream of traffic when they clearly had a pedestrian crossing with a green light available to them. What madness was this?

Around the same time, on two separate occasions, I observed people assisting motorised scooter users to right the scooter and “climb back on”. These scooters had apparently flipped over while travelling along ordinary footpaths.

As a Policy and Research consultant for the Council on the Ageing (COTA) in the ACT, I discussed this issue with colleagues at the Council. It quickly became obvious that while different people had some awareness of motorised scooter use, overall, significant questions existed about the use of such vehicles in the ACT. After some preliminary investigations, it became obvious that a number of stakeholders were involved in the issue and each had a different perspective on the usage of motorised scooters. The Council resolved to seek funding to investigate the use of, and issues surrounding motorised scooters in the ACT.

At the same time as these discussions were occurring within COTA, Chris Marcar of Able Access was concerned that motorised scooter users were experiencing a number of problems relating to use, training and awareness of the legal and other rights, obligations and responsibilities of users.

In March 2000, both Able Access and COTA applied to the NRMA-ACT Road Safety Trust for funding to undertake projects related to our respective concerns about motorised scooter use and road safety aspects. The trust recognised that synergies existed within our applications and asked that we consider combining the two applications into a single omnibus grant application. Funding for this combined omnibus project was granted in July 2000.

This paper is a combination report which outlines measures taken within the project and identifies policy and research issues that need to be addressed by the ACT community to make the use of motorised scooters safer for all concerned.

Executive Summary

Motorised scooters and electric wheelchairs are increasingly used as an alternative form of transport for older people, and for people with disabilities as a supplement to the traditional wheelchair.

The number of users in the ACT is unknown, but based on estimates from ABS statistics we might expect about 2000 users of motorised scooters within the ACT community.

In general throughout Australia, users of motorised scooters are classified as pedestrians. The Australian Road Rules attempt to provide a common approach to the use of motorised scooters within each Australian state and territory. There remain inconsistencies and irregularities, which can lead to concerns for motorised scooter users about their legal status and responsibilities.

While superficially it seems overkill to require registration of motorised scooters, such an approach would overcome problems with management of numbers and types of scooters, issues related to third party and public liability insurance and provide a mechanism to ensure that users of scooters have some education about their use. We therefore recommend that:

Notwithstanding the Australian Road rules, the ACT require all scooters that may be used on the side of the road, road related areas, or any other public place in the ACT; be registered under a special vehicle registration category.

Such registration should include provision of a “third party” insurance coverage to protect people who may be injured, or property that may be damaged by scooter users.

The costs of such registration be kept to an absolute minimum so as to reduce the impact on older and disabled users who may have limited incomes.

The ACT fund regular scooter education programs and require that new scooter users attend such a program before their scooters are “registered” for use in public places.

Defining motorised scooter users as pedestrians is problematical as it causes legislation to apply to scooter users in inappropriate ways. The ACT's interpretation appears adequate but other jurisdictions seem to have alternative views, which could lead to confusion for users given that people have been led to believe that we now have uniform road rules. As a result, it is recommended that:

The ACT seek to clarify the interpretation of the pedestrian road rules as they are actually interpreted in relation to scooter users by other states and territories and seek to facilitate a common application.

While the ACT has above average quality footpaths and shared pathways (by comparison with many other Australian locales), the forums clearly identified that they are the greatest area of concern for scooter users. Given that failures in pathway design are both directly a hazard for scooter users, and that they can encourage increased use of the roads, it is essential that the pathways be improved and the problems identified by scooter users overcome. Specifically it is recommended that:

Kerb ramps:

- ***Be built to standard (AS1428.1);***
- ***Be placed at all corners;***
- ***Be placed at all crossings; and***
- ***Be placed on both sides of the street.***

All future pedestrian networks are designed and built to the ACT Department of Urban Services (2001). Civic Accessibility Study. Volume 3: Access Guidelines.

The ACT begin a program of:

- ***Ongoing and concerted efforts to replace all broken, seriously cracked and disjointed paths;***
- ***Ongoing and concerted efforts to ensure that all paths have a crossfall no greater than 1:40;***
- ***Replacing all non-complying kerb ramps;***
- ***Marking the road space at the base of kerb ramps as "no parking" or "keep clear"; and***
- ***Ensuring that cuttings be constructed at road level for all islands, median strips, and safety islands with width and length allowances appropriate to scooter use.***

In order to increase motorist's awareness of the limitations of scooter users and their rights and obligations as pedestrians, we believe that a campaign of including information about scooter users with motor vehicle registration renewal advice would inform motorists about safe motoring in the vicinity of a scooter. It is recommended that:

A campaign of including information about scooter users with registration renewal advice be undertaken to inform motorists about safe motoring in the vicinity of a scooter.

Matching the scooter to the user's personal characteristics and desired usage is not always performed adequately. We encourage the ACT government to consult with the major suppliers, occupational therapists and the Independent Living Centre to develop a "Code of Practice" to which suppliers should be required to comply. We recommend that:

The ACT government consult with the major suppliers, occupational therapists and the Independent Living Centre to develop a "Code of Practice" and require suppliers to comply.

The lack of an Australian Standard for scooters contributes to the difficulty of ensuring that wheelchair accessible taxis, and buses can adequately transport scooters. Development of such a standard requires that a suitable authority request Standards Australia to develop one. It is recommended that:

In the interests of developing an Australian Standard for motorised scooters that the ACT Government provide leadership in this area and request Standards Australia to develop such a standard and champion the process.

The current speed "standard" for motorised scooters is 10 Km/Hr, but despite the development of the Australian road rules this is not standard across Australia. It is difficult to determine how the speed limit of 10 Km/Hr was settled on and there seems to be good arguments for both increasing and decreasing the maximum speed limits.

COTA believes that the issue of speed regulation of motorised scooters needs further investigation. It is recommended that:

The ACT government seek professional input into the issue of motorised scooter speed limits from road safety experts such as are available from a number of Australian universities (Monash, QUT, University of SA).

As a result of such input, the ACT government seeks a review of and standardisation of the speed limit requirements for motorised scooters within the Australian Road Rules.

Overall, the issue of scooters usage may appear relatively inconsequential as a road safety issue at this point in time. Quantifying accident rates involving scooters is difficult with few records kept by authorities. However, the ageing of the population and relative wealth of the ACT population will result in significant increased use of motorised scooters over the next 20 years. Action taken now to develop suitable policies and overcome anomalies in standards and legislation will help to maintain the ACT's high road safety standard and ensure that potential for serious accidents is minimised.

Introduction

Scooter users have been identified as vulnerable road users by most State road transport authorities and Austroads. Motorised scooters and electric wheelchairs are increasingly used as an alternative form of transport for older people, and for people with disabilities as a supplement to the traditional wheelchair. Older people are using motorised scooters both because of disabilities and as an alternative form of transport when they no longer feel safe to drive a motor vehicle.

Throughout this report, references to "scooters" always includes all of the various forms of sit-on motorised vehicles which are below 110kg and can travel no faster than 10 KPH. These include motorised wheelchairs and three/four wheeled scooters, which are based on a platform design with centred front tiller and pedestal seat. Seniors and people with disabilities use these as a mobility aid and a mode of transport. Although this in the main this report uses the term scooter, the issues also apply to people using motorised wheelchairs.

The number of scooter users is very difficult to quantify because of the lack of registration or lodgment of numbers of scooter sold. The 1996 census estimates that 135,000 people in Australia use scooters for mobility and another 191,000 use electric wheelchairs, although not all as a means of transport. The number of users in the ACT is unknown, but based on the above figures we might expect about 2000 users of motorised scooters within the ACT community.

In general throughout Australia, users of motorised scooters are classified as pedestrians. The Australian Road Rules attempt to provide a common approach to the use of motorised scooters within each Australian state and territory, but as we shall see there remain inconsistencies and irregularities which can lead to concerns for motorised scooter users about the legal status and responsibilities.

Project Objectives

The stated objectives of the project were

1. To develop a set of recommendations to government on the legislative and insurance issues relating to motorised scooter use in the ACT which will provide the basis for the establishment of an appropriate policy framework. That is the main purpose of this document.

And;

2. To maximise safety for users of electric wheelchairs & motorised scooters in the ACT by:
 - Developing a training program and manual for use with scooter users;
 - Increasing public awareness of scooters and scooter safety;
 - Identifying the stakeholders, their roles and responsibilities.

Methodology and Information Gathering

As noted above, the Scooter Safe Project, more than most, developed a life of it's own. As a result, the methodology originally proposed for the project was subject to continual revision and enhancement. The major methodologies adopted for this project included, literature reviews, public forums, stakeholder consultations, the development and delivery of pilot programs and evaluations of outcomes.

The major stakeholders consulted for this project were:

Scooter Users
ACT Road Transport Authorities
NSW Road Transport Authorities
Other ACT Department of Urban Services Officers
Insurance Companies
Scooter Providers
Scooter Servicing Centres
Standards Australia
Occupational Therapists
Related Health Professionals

Some stakeholders were consulted more than once and others consulted as a result of related activities conducted by the authors. For example, through her work on the Civic Accessibility Study 2001 for Department of Urban Services, Chris Marcar was in consultation with various sections with regard to the provision of adequate pedestrian networks. Allan

Brownsdon consulted with a range of people as a result of a work group established in response to this and other projects by the National Roads and Motorists Association (NRMA).

As a result of the distinct lack of quantitative data on scooter use and about scooters in general, much of the information in this report is based on qualitative research. Where information was anecdotal, it has only been given credence where it has been forthcoming from authoritative sources or from several distinct sources.

A list of the references identified and utilised in this project can be found at Appendix A. The literature review indicated several important issues around the use of scooters. Principally, it indicated that little research had been conducted into the design, safety, or usage aspects of scooters. While the list in Appendix A is not claimed to be complete in terms of identifying all material that may have been published, the difficulty in finding even this material and the limited scope with which it dealt with some of the issues is itself informative.

Following the literature review, the Council on the Ageing (ACT), held a public forum at its offices in Hughes, ACT. Invitations to the forum were distributed widely to individuals, via a promotional campaign through disability organisations, newsletters and in the public press. This forum was advertised in local newspapers. It was conducted on the 27th of February 2001.

Some 38 people attended the forum; of these 13 were scooter users. Others included carers or family members, representatives from the wheelchair accessible taxi drivers, occupational therapists, representatives from community organisations, the Department of Urban Services and suppliers. Discussion of the information from this forum is presented in Attachment B.

In response to issues raised in the forum, we began consultations with various stakeholders about the specific issues raised. Of particular concern was the complexity of the insurance, registration and training issues identified by scooter users. Kerb design and access were also investigated further.

During this period, various sections of the Department of Urban Services had identified some issues relating to the increased use of scooters and were in regular consultation with Chris Marcar. For example the issue of scooters in taxis was discussed at length and led to the change in taxi regulations to ensure safe restraint of the scooter and improved safety of the scooter user.

Chris Marcar and Eric Martin also conducted the Civic Accessibility Study Access Audit commissioned by the Department of Urban Service during the term of the project. This provided an opportunity to ensure that the needs of scooter users were included in the formulation of recommendations and the Action Plan reported in the Study.

As a member of the ACT Access and Planning Advisory Committee (AAPAC), Chris Marcar had the opportunity to consult with members representing professional groups and disability groups planning for access to the built environment by scooter users.

At this stage of the project, various people interstate had become aware of the project and the issues being investigated. In particular the Department of Veteran's Affairs and the National Roads and Motorists Association (NRMA). In part as a response to issues being raised in various forums, which were being stimulated by this project, the NRMA decided to convene a series of meetings of interested parties at its headquarters in Sydney. Allan Brownsdon attended most of these meetings on behalf of COTA and this project.¹

The NRMA convened meetings included representatives from:

- The NRMA
- NRMA Insurance Pty Ltd
- QBE Insurance
- Department of Veteran's Affairs
- NSW RTA
- Standards Australia
- COTA (ACT)
- Scooter users

These meetings aided this project in further discussing issues directly relevant to the ACT and identifying issues that are of concern amongst scooter users Australia wide.

The issues and findings from the literature, stakeholder consultations, forum participants, and the NRMA meetings² are discussed in the next section.

¹ When we first became aware of these meetings being convened, we encouraged representatives from the Department of Urban Services to send appropriate representatives. Unfortunately they were not able to attend.

² Throughout this document, the group that the NRMA convened is referred to as the "NRMA Scooter Group"

Issues and Findings

Demographics and Information Gathering

It is difficult to obtain demographic information about scooter use in Australia and within the ACT in particular. In 1998 the ABS Census collected information on aids and equipment used by people with disabilities. As stated in the introduction, extrapolations from these ABS figures³ suggest that between 2000 and 4000 people may utilise motorised scooters in the ACT. This is between 0.7% and 1.4% of the ACT population and is a significant number. However, this is only an estimate and with the high relative sampling error estimated by the ABS the numbers remain unclear.

The census is believed to be the only available collection of scooter usage data. Suppliers consider their sales figures to be commercially sensitive and therefore will not reveal them. The absence of any registration requirements means that government does not have any means for maintaining statistics about sales and numbers of users.

It would therefore be beneficial for the ACT government to develop a strategy for collecting usage information. As we will see below, there are good reasons to understand the numbers and vintage of scooters being used.

Scooter Use

Knowledge of road and pedestrian rules

In the main scooter users indicated limited knowledge of their rights and obligations as pedestrians. Some users were aware that they were classified as pedestrians under the Australian Road Rules; however, there was evidence of some confusion by suppliers and health professionals relating to the use of scooters on paths and roads. The formal classification of scooters as an "invalid aid" and therefore pedestrian rules applying only occurred relatively recently (1999) and is poorly understood by these groups.

While no empirical evidence is provided to support the statement that "In general, the population at large is unaware of their obligations as pedestrians"; observation of pedestrians in Canberra seems to support that statement. Assuming this to be true, then it follows that scooter users would be equally unaware of their obligations.

Further, some scooter users have never held a licence to drive a motor vehicle so they have limited understanding of road rules in general. Conversely many scooter users have held a drivers licence for many years and have concentrated on road rule

³ Australian Bureau of Statistics. (1998), *Survey of Disability, Aging and Carers*. Canberra, ACT: Australian Government Publishing Service (AGPS)

as a driver not as a pedestrian, and have difficulty dissociating their car driving patterns from those required on the scooter.

It appears that scooter users underestimate the impact of the speed and quietness of the scooter and the impact on other pedestrians. The maximum allowable speed of 10 KPH is much higher than walking pace especially for those who are frail, and is of very real concern in shopping centres and crowded areas. This leads to the question of accident rates.

Accident rate of scooter users

The literature review found little statistical data on accident rates. A study by Kirby and Ackroydstolarz⁴ examined accident rates for users of scooters and electric and manual wheelchairs in the United States between 1975 and 1993. In this time, the US Food and Drug Administration had recorded some 651 accidents. Scooters accounted for 52.8%, powered wheelchairs for 24.6% and 22.6% for manual wheelchairs. Engineering problems were identified as the principle cause of accidents; however, this figure was influenced by a particular mechanical error since rectified. User error and environmental factors were also identified reasons for accidents.

The total accident rate indicated by the above study and anecdotal evidence is not high. An attempt by the QBE insurance representative who attended the NRMA Scooter Group and by the NRMA itself could not identify any reported claims relating to scooter accidents.

The absence of reported accidents however, should not be a cause for complacency. Increased usage by an ageing population and issues around vehicle maintenance and user error could lead to an increase in problems in the future. As the situation of a scooter fire noted in the next section indicates, accidents can be severe.

Maintenance of scooters - who by, how often, and effectiveness

Anecdotal evidence from suppliers indicates that scooters are often under-maintained. The key areas for maintenance are; the battery, tyres and tyre pressures, braking mechanisms, electronic controllers and motors. Other areas for maintenance include lights, seat fittings, steering mechanisms and other mechanical parts.

The limited mobility of some scooter users makes it difficult for them to maintain the scooter. This problem is perhaps confounded by the apparent simplicity of the devices, which leads people to ignore maintenance issues.

Some suppliers require that a scooter be “returned” interstate for servicing – a very expensive proposition. Some local suppliers will only maintain scooters that they

⁴ Kirby RL and Ackroydstolarz SA. *Wheelchair safety – adverse reports to United States Food and Drug Administration*. American Journal of Physical Medicine & Rehabilitation (1995)

have sold and refuse to service second hand vehicles – even if they are a brand they stock.

While each scooter will have a maintenance schedule suggested, this is not always provided to users and even when done so, the importance overlooked.

An under-maintained scooter is not as significant a road safety issue as a motor vehicle; nevertheless there is some scope for serious injury. Many scooter users have slow reaction time and in the event of a mechanical failure may be unable to react quickly enough to avoid a dangerous situation. At least one case of an immobilised scooter user being burnt to death when the vehicle caught alight has been reported in Australia. A scooter with faulty brakes or battery failure could place the driver in an unsafe situation.

Assistance in case of breakdown

When a motor vehicle breaks down, or has an accident, the driver or others can seek assistance in the area. In the case of breakdown, the driver can walk to seek assistance. A scooter user, however, may have limited ability to move and therefore not be able to seek help. A scooter, which tips over in a quiet part of a street, may not easily attract attention.

In the ACT and NSW, the NRMA provides limited roadside assistance to scooter users as an act of goodwill. In other states, equivalent bodies offer a low cost assistance scheme for such vehicles. The NRMA can only assist a scooter user where they are within reach of a roadside assistance vehicle. Some pedestrian pathways in the ACT are not accessible by these vehicles.

We therefore believe that it is important that scooter users carry a mobile phone with them at all times. It appears that many may not have considered this issue and do not have mobile phones.

Supply of scooters

In the ACT there does not seem to be any restriction on who may use a motorised scooter, however in the main motorised scooters are used by older people with a range of mobility restrictions including but not limited to physical disabilities such as hip and knee joint pain, other arthritic conditions and heart disease. There are many cases where use of a scooter is preferable to other alternatives. For example, in the ACT, we have encouraged those who have limited mobility to consider giving up their licences and using a scooter in preference to driving⁵. Nevertheless such use is not without ramifications.

Scooters in the ACT are supplied by specialist dealers and some pharmacies and can also be obtained second hand from individuals. Interstate dealers also often supply scooters into the ACT.

No compulsory assessment procedure applies to the supply of scooters. Anyone can go to a supplier to purchase one. However, an assessment of abilities and of likely future needs can provide a better match between scooter and purchaser. The Independent Living Centre can provide some advice for purchasers and in many cases an assessment by a qualified occupational therapist is recommended.

As we liaised with users and suppliers we became aware that widely disparate advice was given to purchasers. For example, one supplier claimed that a 3-wheel scooter was as stable as a 4-wheel model. While for a specific model to model comparison this could be true, most occupational therapists have suggested to us that they believe 4-wheels are more stable than 3.

There is no official code of practice for suppliers of scooters; however, we were assured by local suppliers that they complied with their own. Without an official code of practice the purchaser is unable to ensure that information being offered meets any standard.

Training scooter users

Analysis of research data in the USA indicates that user error is an important factor in the incidence of accidents. This was also confirmed in the Mobility with Safety Report⁶, which identified that driver ability and community awareness were key factors towards scooter safety.

In the past, training for scooter users has relied on the supplier instructing them on use. This can range from a quick 10-minute “how-to” to a 1-hour instruction session by a specialist supplier. Such instruction is usually limited to operation of the scooter and its controls. Consultation with interstate groups indicates that local governments have begun providing scooter-training days, however, these are ad hoc without any

⁵ Retiring from Driving reference to be entered

⁶ Mobility with Safety

evaluated programme being used. Until now there has been no attempt in the ACT to provide any group-based training.

As part of this project, we developed and delivered a series of pilot scooter training programs. As we developed and delivered these programs it was obvious that many users had limited knowledge and skills about safety, manoeuvrability, visibility and the limitations of their scooters. Some had learned “the hard way” that a scooter should not be ridden up a slope (such as a footpath ramp) at an angle. For others, this was new knowledge. Many users had trouble manoeuvring their scooters in tight spaces such as they would experience in a shopping centre. Reversing was almost universally a difficult task.

Road and pathway infrastructure

The widths of pathways in the ACT vary depending on when they were constructed and the standards which applied at that time. In general paths are at least 1100mm wide, which is adequate for the average scooter, which is on average 640mm wide⁷. However people using wider scooters with widths approaching 800mm may find such path widths limited especially if concentration wanes or other pedestrians are using the path.

Pathways in the ACT are usually well constructed as compared to other cities; nevertheless there are some problems that are particularly significant to the ACT environment. As a “bush capital” we have many trees and bushes alongside pathways that result in broken and/or “bent” paths caused by tree roots and much overhanging foliage. Paths with a marked crossfall are especially hazardous for scooter users and can cause the scooter to tip. These issues can encourage scooter users to drive on the road.

Scooter users identified poor pathways and discontinuous routes of travel as key areas of frustration. We understand that these have also been listed as a key area of complaint to the Access City Hotline since commencing operation early in 2002.

A common problem is that once on a road, it is often difficult to locate a suitable ramp to go back onto a path. Further, kerb ramps vary greatly in gradient, and width making it difficult for scooter users to predict the impact of the ramp on their scooter. Sometimes, the gradient is too steep making control difficult, especially when travelling down onto the road. Kerb ramps should be built to standard (AS1428.1) and be located strategically for improved safety. This is particularly important on roundabouts, to guide the pedestrian on the safest route.

The example given in the background to the project is a particular case in point. To cross a triangular pedestrian island at a traffic light, or a central pedestrian island, at a crossing can be difficult for a scooter user. They must traverse a steep ramp, stay

⁷ Willoughby-Thomas M. (1998), *Space requirements for access and mobility for disabled persons in scooters* Unpublished manuscripts, Independent Living Centre

stable on a short flat section of path and then travel down a steep ramp. Their ability to control the scooter and avoid any car turning left for example, would be compromised by the path and hence they may choose to skirt around the island using the road. The simple design variation, where paths are cut into the islands at road level overcomes this problem, however the width of the path and length of the path through the island must be adequate.

Use of Scooters on Roads

As “pedestrians” scooter users are only permitted to travel on the side of the road when other options are unacceptable.

Scooter users on roads are often less visible than a pedestrian due to the combined height of the scooter and its user being lower than a standing person.

The width of a scooter makes its use along the side of a narrow road more problematical than for a pedestrian. Traffic can more easily pass a pedestrian than a scooter user. Further, a pedestrian can step off the side of the road if necessary whereas a scooter user cannot.

The maximum speed of a scooter (10 KPH) is faster than most people walk, but slower than most bicycles. The relative absence of scooters on the road means that drivers have less experience in judging their speed or predicting their movement.

In the main, scooter users are sensible and avoid travelling on roads where possible. As we have noted above however, there is not always the option to do so.

As pedestrians, and unlike cyclists, scooter users have no requirement to utilise helmets. Occupational therapists whom we consulted were concerned that scooter users were vulnerable to head injuries from scooter accidents precisely because they are travelling along roads, sometimes for long distances.

Modern scooters come equipped with lights, indicators, horns and other routine safety devices. Use of additional equipment such as flags is to be encouraged to increase visibility.

The use of roads by scooters can be ambiguous. While it is recognised that pedestrians must use a footpath in preference to a road where provided, the question of when it is legal for them to use a road can still be ambiguous. Consider the following recent exchange between Mr Howard, the General Manager, Road Safety, VicRoads and Mr G Spry, MP in a submission to a Public Hearing of the Victorian Parliament’s Road Safety Committee’s inquiry into “Improving Safety for Older Road Users”.⁸

Mr Spry: “... *Are scooters required to observe the road rules? Are they legal on roads?*”

⁸ Quoted at URL: <http://www.parliament.vic.gov.au/rsc/older/publichearing20May2002.htm>

Mr Howard: *“They are not registered vehicles so that they are not allowed to operate on roads. They are pedestrians so they are able to cross the road, but they are not motor vehicles”*

Mr Spry: *“So when I saw a scooter going along Pakington Street on the wrong side of the road, facing a B-double, he was taking a bit of a risk?”*

Mr Howard: *“Without a question. He was also breaking the law”*

This particular exchange occurred immediately following one talking about the issue of lack of footpaths in some outer Melbourne developments and the difficulty it created for scooters.

Fortunately in the ACT, we have a good network of footpaths, but as noted above there are many reasons why a scooter user may find themselves required to use the road. Further, an ACT resident using their scooter interstate could find a different legal and/or cultural attitude, to the use of their scooter on the road.

Legislation and insurance

As we have noted, users of motorised scooters are generally categorised as pedestrians provided the vehicle weighs under 110Kg and can travel at no more than 10 KPH.

When we attempted to discuss issues of scooter usage with Road Transport Authorities, the initial response was that no problems existed. As one Urban Services Officer was to exclaim *“we solved that problem by declaring them to be pedestrians”*. It was generally presented that the issue of motorised scooter usage had been addressed by adoption of the Australian Road Rules.

In the main we would agree that the approach taken of declaring scooter users to be pedestrians is a step forward in clarifying their legal status. However several anomalies and problems exist. Not all states and territories have adopted the road rules in the same way – WA for example has an upper speed limit of 7 KPH. This immediately creates uncertainty for those who are travelling interstate.

Newer scooters and electric wheelchairs are entering the market, which are bigger and more powerful, but still used as a general mobility aid. The legal status of these aids could be a challenge to deal with legally. For example, it could be argued that a scooter could have one speed mode for use on the road and another for use off-road.

More importantly; as we have no way of knowing how many people are using scooters; and do not record accident statistics for scooter users (they are classed as pedestrians) we have no way of judging the impact of increased use on road safety.

Insurance

A significant problem exists in terms of insurance and liability issues for scooter users. Users alerted us early on to this problem and it took considerable effort to attempt to resolve it. As scooters are not covered by any form of registration requirement, they do not necessarily carry any third party insurance cover.

A scooter user travelling along a road and causing injury to a person or damage to property could be sued for damages. In NSW the “Nominal Defendant Scheme” covers scooter users. That also appears to be the case in the ACT. However that does not necessarily cover all situations. A scooter user who enters a shopping mall, for example, and causes damage or personal injury may not be covered.

It is by no means clear that a scooter user in the ACT would be covered for all situations that might arise on the road.

An obvious solution is to insure the scooter with some form of third party liability insurance. However, identifying suitable coverage has continued to prove problematical. The NRMA Scooter Group sought help from the Insurance Council of Australia to canvass members about coverage. Answers were either not forthcoming or were ambiguous.

To date the only company with a clear policy perspective is IAG. Under a home contents policy, if a client indicates that a scooter is a “specified and mobile item”, then the driver will be covered for public liability. Other insurers may also offer such cover, but as we could not get clear and/or consistent answers it seems unlikely that users will be able to be confident that their insurer covers them.

Standards relating to scooter design and safety

Throughout much of this project, officers from the Department of Urban Services, Canberra Cabs and various scooter users had extensive discussions about the use of scooters in wheelchair accessible taxis. The issue was complex but in essence it was about; the ability of a scooter user to utilise a cab, whether the rider could remain seated, and whether the scooter could be restrained regardless of its riders status. Without re-engaging this discussion here, the key issue seems to be about scooter weight and design.

A computer setting adjusted by the distributor or the supplier at the time of purchase controls the speed of a scooter. All have the ability to go faster than 10 KPH. Anecdotal evidence from NSW indicates that controls are being altered after purchase and the motors adjusted for increased speed. This is an alarming scenario and should be of concern to authorities.

A representative of Standards Australia participated in the NRMA Scooter Group. The representative was interested in feedback about the new Australian standard for electric wheelchairs. At first it was thought that the electric wheelchair standard

should cover the use of motorised scooters. Users and others were quickly convinced that such a standard could not adequately deal with design and safety issues for motorised scooters.

Motorised scooters and electric wheelchairs differ markedly in structure and technical design requiring the development of separate standards. Unfortunately development of a standard specifically for motorised scooters will require someone to request that Standards Australia starts the process of developing the standard. In practice, this person/company/government authority would probably need to champion the process and participate in the design of the standard. Without such standards, we believe that safety standards for scooters will remain compromised. While designs are improving, the development of a standard, albeit that it would be voluntary, would add impetus for Australian and New Zealand manufacturers to design to a standard. It could also ensure that scooters manufactured overseas comply with minimum standards in order to be marketed in Australia.

Pedestrian and Motorist Awareness

Motorised vehicles sharing pedestrian areas

Use of scooters in shopping malls

Awareness by other pedestrians of limitations and capabilities of scooters and drivers

In the main, motorists and pedestrians are tolerant of users of motorised scooters. The same is not so for some scooter users towards pedestrians. As noted, 10 KPH is at the upper end of most people's walking speed and much higher than that of pedestrians in shopping malls and on streets. The writers have noted several occasions of impatience by scooter riders "hooting" at pedestrians they consider to be in their way or weaving in and around pedestrians. It seems that some scooter users are unable or unwilling to adequately adjust the speed of their scooters to match that of other pedestrians.

Scooter users sharing areas with other pedestrians need to be made aware of the high risk of causing injury to others, especially younger children, and their responsibility of avoiding such injury.

Scooters are very quiet vehicles. Pedestrians and scooter users underestimate the impact of a scooter suddenly appearing behind a person. It can be a shock for the pedestrian and the scooter user seems unaware that the pedestrian did not hear them coming. Scooter users need to be educated to make better use of horns when in the vicinity of walking pedestrians.

Awareness by car drivers of limitations and capabilities of scooters and drivers

We were not able to determine the awareness of car drivers about the limitations of scooters, but given the experience with pedestrians and scooter users, it is unlikely that they are any more aware as a cohort.

ACT Policy Implications & Specific Recommendations

Registration

In the main, authorities throughout Australia have avoided requiring registration of motorised scooters. Clearly to do so would have a number of difficulties; users would most likely object to the cost and administrative requirement; the road transport authority may also have objections to the administrative load. Yet registration of scooters could enable a measure of the numbers in use, their respective age, and provide a means for ensuring that only those suitable for use on paths and occasional road use are permitted.

In NSW, the RTA has recently removed or changed the provision for an “Unregistered Vehicle Permit” (UVP), which some scooter users utilised as a way of providing coverage for their use on roads. Anecdotal evidence suggests that the Queensland Department of Main Roads has introduced a voluntary registration process for scooters, but we have not been able to confirm this. We understand that this registration is at a greatly reduced rate and ensures that a scooter has insurance coverage when used on the road.

COTA believes that use of scooters on roads is undesirable and should be discouraged, but we also recognise that there are times when travel on a road is necessary. We are also concerned that the increasing use of such vehicles could create problems, which are not visible while the numbers are small. Tracking of the increased usage would enable better planning and control by the urban authorities.

As noted below, there are issues with ensuring adequate insurance coverage of scooters. Some form of registration, which included insurance, would overcome this problem.

Skills Experience and Licensing of Scooter Drivers

There is no requirement for riders of scooters to be licensed. If we consider that riders of scooters are pedestrians and that scooters travel relatively slowly, then there appears to be little reason to require licensing of riders. Of concern however, is that some riders of scooters may never have held a license at any time in their life and therefore have little concept of traffic and road rules as they apply to vehicles on the road. Once again, it can be argued that no pedestrian has need of such experience, but riding a scooter on the side of the road, or crossing that road is different to a pedestrian doing the same.

As most pedestrians do not appear to have a clear understanding of their rights and obligations under the law, it is likely that many riders of scooters will also have little sense of even that aspect of the law.

From the training programs⁹ it was clear that scooter riders found difficulty manoeuvring their scooters in a number of situations that could be of concern if they were using the road.

⁹ Since completion of the pilot programs, Able Access and COTA have received requests from individuals, occupational therapists and retirement villages to run more sessions.

Not all scooter users had adequate training and/or experience and/or ability to manage a scooter.

Further consider that a person who has given up their motor vehicle license may still use a scooter on the road under some circumstances. A person who has lost their license to drive a motor vehicle due to failing eyesight, or perceptual difficulties can still ride a scooter. Surely it behoves us to ensure that people using scooters have adequate skills and ability to manage a scooter, especially if it is going to be on a road.

Third Party insurance

As we noted earlier, insurance issues became a major investigative aspect of this project. There are several situations in which insurance issues come to the fore.

- Coverage for loss or theft of the scooter. This is largely an issue for the scooter user and has little impact on other people and therefore is not of direct import here.
- Coverage for “Third Party Property” on the road. A scooter user could be responsible for damage to another vehicle. For example, scraping the side of a car while manoeuvring on the side of the road.
- Coverage for personal injury to other individuals. For example, a scooter could potentially “run over” a young child and cause personal injury. Likewise it is possible for an individual to be knocked by a scooter and to be injured.
- Coverage for damage to a shop or other property while not on the road or road related surfaces.

Scooter users have been concerned about gaining adequate insurance coverage. They have variously talked to different authorities and insurance companies and felt that they received ambiguous and sometimes conflicting responses. COTA made an initial attempt to clarify this issue and likewise felt that the responses were ambiguous.

The issue was raised with and by the NRMA Scooter Group. After initially thinking that they had gained clarity, the NRMA Scooter Group experienced ambiguous responses when various insurance companies were asked to clarify specific examples of how their coverage would apply.

In NSW, the RTA indicated to the NRMA Scooter Group that scooters would be covered by their “Nominal Defendant” scheme. This may perhaps also apply in the ACT, but there is a question about coverage. The ROAD TRANSPORT (GENERAL) ACT 1999 refers to drivers of “motor vehicles”, and the definition of scooter users as pedestrians under the Australian Road Rules makes it ambiguous about whether they could be covered by such a scheme. Clearly this would need further investigation by legal experts.

Further, coverage in one state (e.g. from the issuing of a states individual UVP) may not apply if the scooter is used in another state.

While we were able to determine that IAG’s Home Contents Policy would provide cover under its Public Liability insurance cover as long as the Scooter was noted as a “specified item”, the attitude of other insurance companies remained unclear and ambiguous. The person seeking coverage has to know the right questions to ask in order to ensure coverage and hope that the person selling the insurance also understands the situation!

Recently, the whole issue of public liability insurance has come to the fore throughout Australia. It is likely that the increased costs of such insurance could become an issue for scooter users in the future.

When each of the three areas above: Registration, Skills and Licensing, and Insurance are considered together, it is clear that:

- From a public policy perspective it is important that the ACT have some measure of the numbers, types and ages of scooters being used in public places and on the roads;
- The existing lack of specified skill requirement for a scooter user is inadequate to ensure that they are being used in safe ways for both the users and other pedestrians; and
- That it is essential that scooter users have adequate insurance coverage to protect themselves and others in the event of an accident.

We therefore recommend that:

Notwithstanding the Australian Road rules, the ACT require all scooters that may be used on the side of the road, road related areas, or any other public place in the ACT; be registered under a special vehicle registration category.

Such registration should include provision of a “third party” insurance coverage to protect people who may be injured, or property that may be damaged by scooter users.

The costs of such registration be kept to an absolute minimum so as to reduce the impact on older and disabled users who may have limited incomes.

The ACT fund regular scooter education programs and require that new scooter users attend such a program before their scooters are “registered” for use in public places.^{10 11}

Clarification of Inappropriate Pedestrian Rules

The definition of motorised scooters as pedestrians is problematical when legislation applying to pedestrians is clearly applied inappropriately to the scooter user. For example, the Australian road rules state that a pedestrian should travel to the extreme left or right of the road when they find it necessary to travel along the side of the road. Occupational therapists and others have been advising scooter users that when they are travelling along a road that they should travel on the left hand side of the road with the flow of traffic. It is considered safer because of the greater width at the back of the scooters and because they can be more easily seen, passed and their speed estimated by motorists. This approach is acceptable with the Australian road rules as applied in the ACT.

However, the exchange quoted above between Mr Howard, the General Manager, Road Safety, VicRoads and Mr G Spry, MP, is an indication that the rules could be interpreted and/or applied differently by other jurisdictions. Given the perception in the community that the Australian road rules are now universal, differences in application such as this could lead to confusion amongst motorists, pedestrians and scooter users. It is recommended that:

¹⁰ (We realise that the link between registration and program attendance is loose and that a scooter user could utilise someone else's scooter without attending a program. We believe that, in general, this is unlikely to occur in the current environment where scooter users treat scooters as a personal transport mechanism.)

¹¹ Transfer of the registration of an existing scooter would also require the new user to provide evidence of having attended a scooter education program

The ACT seek to clarify the interpretation of the pedestrian road rules as they are interpreted in relation to scooter users by other states and territories and seek to facilitate a common application.

Improvement of road and pathway networks

COTA has previously identified that poorly maintained pathways (cracked, disjointed and badly cambered) are a significant problem for older people in general. While the ACT has above average quality footpaths and shared pathways (by comparison with many other Australian locales), the forums clearly identified that they are the greatest area of concern for scooter users. Given that failures in pathway design are both directly a hazard for scooter users, and that they can encourage increased use of the roads, it is essential that the pathway problems identified by scooter users be addressed.

Specifically it is recommended that:

Kerb ramps:

- *Be built to standard (AS1428.1);*
- *Be placed at all corners;*
- *Be placed at all crossings; and*
- *Be placed on both sides of the street.*

All future pedestrian networks are designed and built to the ACT Department of Urban Services (2001). Civic Accessibility Study. Volume 3: Access Guidelines.

The ACT begin a program of:

- *Ongoing and concerted efforts to replace all broken, seriously cracked and disjointed paths;*
- *Ongoing and concerted efforts to ensure that all paths have a crossfall no greater than 1:40;*
- *Replacing all non-complying kerb ramps;*
- *Marking the road space at the base of kerb ramps as "no parking" or "keep clear"; and*
- *Ensuring that cuttings be constructed at road level for all islands, median strips, and safety islands with width and length allowances appropriate to scooter use.*

Increased awareness by car drivers of scooter limitations

As previously noted, we were unable to determine the awareness of car drivers about the limitations of scooters. We do note however that determining the speed of slow moving vehicles is problematical and that this is the case with scooters. The lack of awareness by scooter users that they were technically classed as pedestrians suggests that this would probably be the case for motorists also. We therefore believe that a campaign of including information about scooter users with registration renewal advice would inform motorists about safe motoring in the vicinity of a scooter. It is recommended that:

A campaign of including information about scooter users with registration renewal advice be undertaken to inform motorists about safe motoring in the vicinity of a scooter.

Code of practice for suppliers

While the key suppliers of motorised scooters appear to be operating responsibly, we have noted that scooters have variously been sold by a number of different outlets. As a result matching the scooter to the user's personal characteristics and desired usage is not always performed adequately.. Further, introductory training is also variable depending on supplier. We encourage the ACT government to consult with the major suppliers, occupational therapists and the Independent Living Centre to develop a "Code of Practice" to which suppliers should be required to comply.

We recommend that:

The ACT government consult with the major suppliers, occupational therapists and the Independent Living Centre to develop a "Code of Practice" and require suppliers to comply.

Lobby for specific standard for motorised scooters.

The issue that occurred within the ACT regarding use of scooters in wheelchair accessible taxis is a salutary lesson about mismatching between product and user need. The existence of standards for electric wheelchairs allows them to be adequately tied down and transported. The lack of standards contributes to the difficulty of doing the same for scooters.

Similarly, the ACT is expending significant funds to upgrade its bus fleet to carry wheelchairs and other disability devices. From the training sessions in which a suitable ACTION bus was made available, it was demonstrable that most scooter users were unable to manoeuvre their scooters into the space on the bus. We understand that this space has been designed to match that of the standard for electric wheelchairs, whereas no such standard exists for scooters.

While it will clearly not be desirable to design a standard for scooters that can achieve the high degree of standardisation that exists for electric wheelchairs, it is possible to set standards for such items as safety in design, essential safety equipment and “tie-down” points for transport.

As noted previously, a representative from Standards Australia attended the NRMA Scooter Group. This group initially thought that the proposed new wheelchair standards would be adequate for scooters, but after some discussion it was agreed that a specific standard for scooters is desirable. The creation of such a standard requires some authority or organisation to take responsibility for requesting Standards Australia to convene a group to develop this standard. In effect this group would become the initiator and would need to provide ongoing support of the development process (i.e. a representative to attend meetings). It is recommended that:

In the interests of developing an Australian Standard for motorised scooters that the ACT Government provide leadership in this area and request Standards Australia to develop such a standard and champion the process.

Examine the upper limit of speed of scooters

It is difficult to determine how the speed limit of 10 KPH was settled on for motorised scooters. This speed is faster than the average pedestrian, but slower than might be desirable if a scooter is forced to travel along the side of a road for any length of time. Many scooter users desire a faster top speed, but this may be hazardous where other pedestrians are involved.

The speed setting of most modern scooters is electronically “programmed” to 10 KPH for Australian conditions. The scooters usually have a higher theoretical speed limit, which is

often permissible overseas. Against this, Western Australia has seen fit to limit the upper speed to 7 KPH. This difference in interpretation/application of the Australian Road rules could result in an ACT user, who used a scooter in Western Australia, being in breach of the WA road rules.

As noted, the speed of 10 KPH within pedestrian areas is faster than most people walk and therefore is perhaps too high. Against this, in open areas and on the side of the road, a faster speed might be desirable.

The issue of speed regulation of motorised scooters needs further investigation. It is recommended that:

The ACT government seek professional input into the issue of motorised scooter speed limits from road safety experts such as are available from a number of Australian universities (Monash, QUT, University of SA).

As a result of such input, the ACT government seeks a review of and standardisation of the speed limit requirements for motorised scooters within the Australian Road Rules.

Conclusion

Overall, the issue of scooters usage may appear relatively inconsequential as a road safety issue at this point in time. However, the ageing of the population and relative wealth of the ACT population will result in significant increased usage of motorised scooters over the next 20 years. Action taken now to develop suitable policies and overcome anomalies in standards and legislation can only work to maintain the ACT's high road safety standard and ensure that the potential for serious accidents is minimised. The issues identified in this paper attempt to start a process of review and encourage the development of adequate responses to the increased use of electric scooters within the ACT.

APPENDIX A

BIBLIOGRAPHY OF LITERATURE REVIEW

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APPENDIX B

SUMMARY OF ISSUES IDENTIFIED BY THE PUBLIC FORUM ON SCOOTER USE

Following a literature review about the use of motorised scooters, the Council on the Ageing (ACT), held a public forum at its offices in Hughes, ACT on the 27th of February 2001. Some 38 people attended the forum, of these 13 were scooter users. Others included carers or family members, representatives from the wheelchair accessible taxi drivers, occupational therapists, representatives from community organisations, the Department of Urban Services and suppliers.

This forum was conducted as a 2-hour facilitated discussion. While a number of open-ended questions were put to the forum based on our reading of the literature, discussion was free to flow where participants wanted it to go. Participants raised a large number of issues¹², which are summarised in the order in which they were raised.

Scooter safety

When asked if scooter users felt safe using their scooters, there was a resounding negative response.

¹² While this project and by extension the forum was largely about road safety aspects, many ancillary issues were raised. It was considered by the facilitators that these ancillary issues should be discussed and recorded, as potential impacts on safety issues could then be determined.

Access to the built environment

Scooter users were troubled by the difficulty accessing buildings and spaces. Issues highlighted were:

Kerb ramps are too steep and short with little room to manoeuvre.

Doors are too heavy with too little circulation space around the door. They often have to get off the scooter to open the door. They then have trouble keeping it open. This is particularly a problem with toilets. It was agreed that sliding doors were easier to use. Particular problem areas identified were Calvary Hospital and the toilet at Cooleman Court.

There was a lack of confidence that demountable designated accessible toilets were big enough for scooter users. Scooter users indicated that they were “Not game to go into them in case could not get out again.”

Step lifts were not big enough for some scooters.

Insurance and Registration

Generally there was some confusion about the need or requirement to take out third party insurance. One person identified that in Queensland scooters are registered providing identification for the user and ability to take out third party insurance. Some participants thought that other states require registration and third party insurance. This was a grey and confusing area and considerable efforts have been expended in this project attempting to clarify these issues.

One scooter user indicated that her scooter was included in her house contents insurance cover, but another user noted that the scooter could not be insured separately. A representative from the Department of Urban Services reminded the group that if the scooter could travel at more than 10 KPH, it must be registered and the driver licensed.

Emergencies

Scooter users indicated that puncture-proof tyres were essential. Flat batteries were a common problem. It was thought by many that NRMA Road Service would assist free of charge in case of breakdown, but the scooter had to be on or near the road. This issue was clarified as a part of this project and is dealt with in more detail later.

Scooter users felt confident that they could travel 30km on a fully charged battery.

Maintenance

Many felt that maintenance and servicing was unreliable. They thought that there was one specialised maintenance/servicing company in the ACT. A supplier told the group that scooters should be serviced annually and owners should take them back to the supplier for servicing. Participants advised that not all suppliers provided that level of service. The cost varied and it was up to the owner to initiate the service.

Road and Paths

A series of problems were identified:

- Tree roots and broken paving;
- Poorly defined kerbs for people with vision loss;
- Poor pathway drainage with pooling affecting electrics;
- Overhanging foliage knocking people on the scooter who unlike other pedestrians could less easily skirt around this problem;
- The location of kerb ramps was considered to be poor in terms of the frequency and appropriateness of their location; and
- Kerb ramps were considered to be too steep.

Participants noted that some scooters stalled trying to get up steep ramps, which was of some concern if they slid back onto the road. There was also a fear of the scooters, especially 3 wheelers, tipping backwards onto the road. When coming down steep ramps, scooter riders sometimes find it difficult to control the speed and approach onto the road. It was emphasised that lining up the scooter at the correct approach angle was a skill that needed to be learnt quickly to prevent accidents.

Kerb ramps are difficult to locate and see from a distance making it difficult to plan the route in advance and causing some frustration either about finding a way off a path, or getting back onto a path after travelling on the road.

Kerb ramps at taxi ranks and set down areas are rare.

Participants noted that they are sometimes forced to use the road because no footpaths or kerb ramps are available.

Transport

Some scooter users were unsure if they could fit on an ACTION bus or in fact if they were allowed. One user of a “Shoprider” scooter said he fits on safely, and travels with his back

to the front. He recommended only using the bus in off peak times. Routes 34 & 84 were identified as dedicated accessible routes, which are serviced by accessible buses.

At the time of the forum, a considerable debate was being undertaken in the community about the use of Scooters in wheelchair accessible taxis. Scooter users expressed significant anxiety about this issue. Representatives from Department of Urban Services and the wheelchair accessible taxi drivers explained the critical importance of restraining the scooters appropriately. It was explained that while some taxi drivers would take a scooter user even if they could not be transferred to the seat, transferring is recommended for safety reasons. It was emphasised that it is up to the driver to decide whether to transport a scooter, or to transport a person who stays seated on the scooter. Not all scooters can be transported because of their size and lack of tie down points on the scooter.

Private vehicles raised a different set of issues. People often found it difficult to transport their scooters. One scooter owner described the use of reinforced tie down points in his station wagon, so that the scooter could be transported easily. Another described a trailer specifically built for scooters. A supplier told the group that there are many devices to assist the stowage of scooters in cars.

A representative from the Department of Urban Services was concerned that scooters were not adequately restrained in cars. He explained that the restraint had to be strong enough to withstand 20 times the mass of what was restrained. In larger vehicles, less was required (about 10 times) so the importance was to contain the scooter in a small area. Therefore wheelchair spaces in buses included a reinforced barrier to protect the person in a forward crash. In lighter vehicles the person must be restrained as well. One scooter user commented that better occupant restraints were required.

One scooter user expressed the desire to be able to use scooters directly off planes.

Training

When the facilitators asked the group whether user training for scooter users should be compulsory the vast majority initially indicated "yes".

Some of the areas identified for training were:

- Correct use of kerb ramps - how to approach and at what speed;
- Terrain assessment;
- General handling;
- Manoeuvring in tight spaces;
- Reversing; and
- Knowledge of where people can use scooters e.g. fitting them into buses.

On reflection, participants expressed concern that licenses might be made a requirement if training was introduced. It was felt by some that older people and people with disabilities may not use the scooter to their potential in a test situation. Some felt it was too stressful. It was thought that a cost would need to be incurred and questions were raised on how compulsory training could be enforced. Many scooter users agreed that the emphasis on training should be on helping the person use the scooter safely rather than to be about certifying a right to use.

Suppliers indicated that while they give basic training to new owners, they were concerned that people buying second hand scooters were untrained. An occupational therapist stressed that optimally, training should be provided in the users immediate environment and at major venues.

Many agreed that they would like a guide, which described basic skills and a description of a monthly and weekly maintenance regime. It was thought that this would be particularly relevant for second hand purchasers.

It was stressed by many that medical tests should be compulsory. These should include physical, mental and visual testing by doctors.

Scooter users as pedestrians

The facilitators explained that the Australian road rules defined scooter users as pedestrians. When asked if this was an issue, scooter users felt it made little practical difference to their concerns. Discussion then led to use of paths, travelling under 10 KPH and many felt that the legal issues were difficult to identify because of a lack of information about their legal status.

Scooter Design

In response to a question about scooter design participants indicated that improvements seemed to be occurring as new models come onto the market. The major wants identified were:

- That the horn and other controls be able to be used by the foot;
- Improving tie downs points for restraining in vehicles;
- Making them smaller and lighter; and
- Improving the protection of electrics from water.

Other issues

As part of winding up the session, participants were asked to identify any other issues they did not think had been covered by the facilitated discussion. Issues identified were:

- Provision of charging points at work places and shops. A supplier reminded the group that 1 hrs charge only gave 5 minutes running time so charging time would need to be lengthy;
- Ways to hook the scooter to a shopping trolley;
- The need to find ways that a scooter can be securely parked;
- The difficulty in entering shops and restaurants because of clutter, tables and chairs and limited flow paths;
- Stowage in a car was particularly difficult because of the weight of the scooter; and
- Someone noted that scooter users might be able to claim the scooter as a tax deduction if essential for mobility. A letter from a doctor is required.