

## **Evaluation of 50 km/hr limits**

A turn out of 35 Members and friends of AITPM attended the Technical Forum held at Transport SA on 10 November to hear Dr Jeremy Woolley present an evaluation of the 50km/hr general urban speed limit in South Australia.

Jeremy's presentation was essentially given in two parts – the first giving background information and reviewing the world scene, while the second reviewed the data that had been gathered since the introduction of 50 km/hr as the general urban speed limit.

Speeding is endemic within our society, with up to 20 % of motorist being fined each year, mainly due, it is felt, to a failure to appreciate the risk associated with speeding. One of the problems is that the concept of speeding differs between individuals, with most people feeling that it is alright to "speed a little bit".

The reasons for this attitude are many. Although the population as a whole is generally aware of road safety, there are nevertheless a lot of mixed messages through advertising, general media coverage and publicity given to motor sport events. Car manufacturers design cars for speed, and even the roads are designed for speeds well above the speed limit.

It has been shown that the probability of a pedestrian (and other vulnerable road users) being killed or severely injured increases significantly at speeds in excess of 40 km/hr, and that small changes in average speeds results in significant reductions the severity of crashes.

The 50km/hr general urban speed limit was introduced in South Australia on 1 March 2003. This speed limit applied to local roads, while arterial roads (appropriately signed) remained at 60km/hr. Consequently, the benefits were not as great as they might have been had the new speed limit applied to all roads.

Speed measurements and crash data were collected at 52 sites to enable comparisons to be made prior to, and one year after the introduction of the speed limit change. Both arterial roads and local roads were represented in the data.

A reduction in the mean speed of 0.85km/hr was noted on arterial roads (although the speed limit had not changed from 60 km/hr), while 2.29km/hr was noted on the local roads (ie speed limit changed to 50 km/hr). In addition, the distribution of speeds (ie the 'bell-curve') shifted to the left for all categories of roads, indicating an overall reduction in speed.

While the reduction in speed may seem almost insignificant, small changes in speed lead to reduced stopping distances, and with most of the speed being lost in the last few metres, this leads to large reductions in impact speeds and impact energy. This in turn leads to a very significant reduction in the likelihood of serious injury or death.

The main benefit of reduced speeds appears to be a significant reduction in the number of right angle and rear end crashes. The number of casualties has dropped, although it is too early to determine a direct relationship with the reduction in the speed limit. Nevertheless, the signs are promising. There was also a significant reduction in the number of people requiring hospital treatment.

The reduction in crashes and associated trauma has led to a saving to the community of approximately \$30 million on local roads and \$32 million dollars on arterial roads.

Overall, it was concluded that the introduction of the 50km/hr general urban speed limit has been beneficial, with reductions in the crash rates, crash severity and savings of over \$60 million to the community.

As promised, Jeremy gave a most interesting and informative presentation on a topic that is of vital interest to practitioners, as was demonstrated by the lively discussion period that followed the presentation.