

Curbing China's Road Safety Horror

By Raphael Grzebieta

I have now visited China on two occasions at the invitation of the Ministry of Public Security and the Asian Development Bank. I was asked to present a number of road safety and crash investigation related topics to an audience made up predominantly of Police from various Chinese Provinces. This is a brief outline of my impressions during those visits.

At the outset I must emphasise that I thoroughly enjoyed my brief stays. I learned a lot about China and its traffic problems from a first hand encounter. My hosts were most gracious, kind, and warm. They assisted me in whatever way they could to make my trip and stay as comfortable and pleasant as possible and my presentations run smoothly.

I should also emphasise that they too are just as anxious and committed to reducing their embarrassingly high road carnage as quickly and efficiently as possible alongside other road safety committed nations. Indeed, they have already implemented a number of significant road safety strategy solutions and they are searching for more.^{1,2} They have also provided a vision that embraces and concurs with the Swedish "Vision Zero" and Australia's "Safer Drivers in Safer Vehicles on Safer Roads" concepts. How to efficiently implement these concepts to what seems an overwhelmingly difficult and daunting task is what they are seeking and are keen to learn about.

China is undergoing rapid economic growth. Along with that growth is a massive increase in the number of vehicles sold and now driven in China. There has also been a huge increase in the transportation of goods and materials particularly in relation to the building boom. Gridlock traffic jams in the larger cities such as Beijing and Shanghai are now an every day occurrence with mobility and pollution becoming pressing issues of concern. Coupled to this is a horrific rise in fatalities and serious injuries resulting from: a lack of appreciation of what is a safe road system; under-developed primary and secondary roads and highways; vehicles with virtually no crashworthiness characteristics; and an over represented poor road safety aware vulnerable road users group. Mix into this the notion of an economically hungry and super active population and one starts to get a picture of what confronts the leaders of China.

The official road toll was 107,000 for 2004. Figures for 2005 have yet to be released. This is just over 300 people per day killed on the roads. The Ministry of Public Security spokesman, Wu Heping, told a press conference in Beijing in

November this year³ that "The death toll means traffic accidents are nothing less than war. Which modern war has claimed 100,000 lives?". This is a perspective that I strongly agree with and share, and likewise am vocal about in Australia in regard to our Australian road toll.

Figure 1 provides a further perspective of China's problem when the statistics are viewed in light of other countries statistics. When the top chart is viewed of fatalities per 100,000 population the resulting road toll appears on the surface to be equivalent to developed OECD countries. This is an anomaly because of China's massive population. However, if the statistics are presented using a different denominator, it immediately becomes clear from the values presented in terms of number of vehicles registered and kilometers traveled that driving in China is very dangerous. Comparing the three charts also highlights the potential rising problem confronting China as it develops and more people want to become more mobile and hence more cars and motorcycles are driven on their roads. The 8 deaths per 100,000 population will begin to rise very rapidly as demand for mobility begins to increase exponentially. I became acutely aware of this first hand on both of my visits to China. The following brief précis describes my road traffic related encounters from my second visit.

On landing at the airport in Shanghai at around 7 pm, I was greeted by a Chinese interpreter who then directed me to a vehicle where another road safety speaker from Canada, Mr Roy Buchanan⁵, an ex police officer from Toronto, was waiting. We were then driven via a freeway (tollway) to Wexi in Jiangsu Province where the 4 day International Symposium on Road Safety was to be held. Everything seemed to go smoothly as we drove on the tollway through the night. The speed limit on the tollway was 110 km/hr.

When we left the tollway at around 10 pm and began to drive on the primary and secondary roads leading into Wexi city, a population of around 1.2 million, Roy and I began to notice and become involved in some frightening situations. This helped us suddenly understand in a way that I would have preferred not to, why China has a high road fatality problem. As we drove along a divided four lane road that had two lanes in opposing directions and a concrete and landscaped plant median between the lanes, we noticed a dump truck full of concrete driving straight towards us up the wrong side of the road at about the speed limit being 80 km/hr. We virtually screamed at the driver to pull over to the shoulder and let him go through.

After calming down from this event, we drove up to a major intersection about ? km along the same road. The lights were red and so we waited as a responsible driver would who complies with road laws. After about 40 or so seconds we

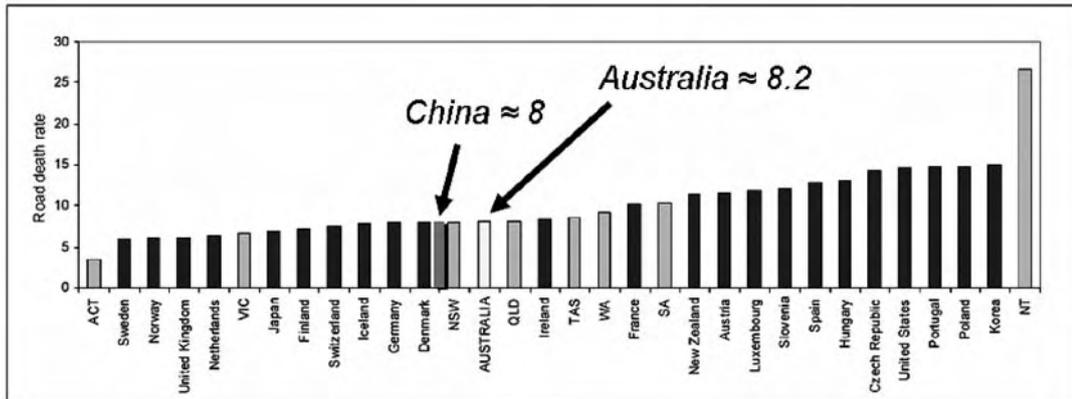
1 http://www.adb.org/media/Articles/2004/5378_PRC_safer_roads_a_public_good/default.asp?registrationid=guest

2 <http://www.adb.org/Documents/TARs/PRC/36458-PRC-TAR.pdf>

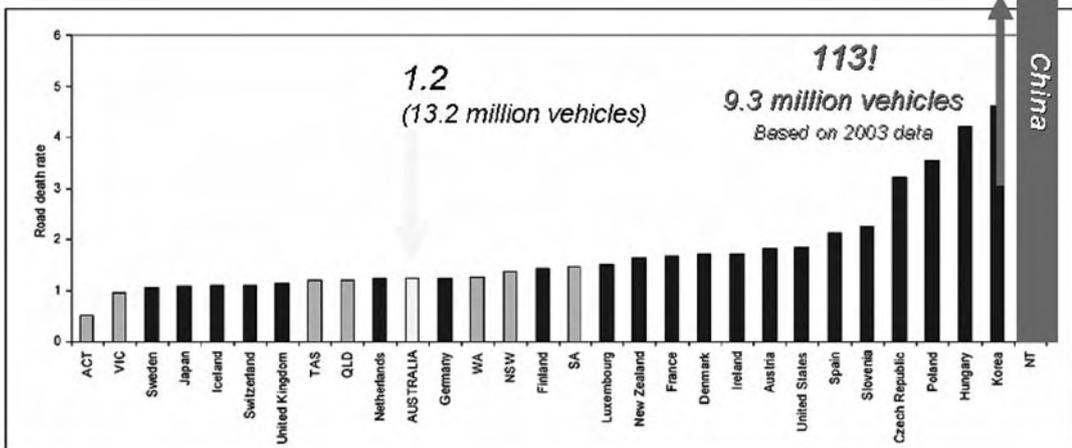
3 <http://www.shanghaidaily.com/press/2005/11/17/traffic-death-toll-worse-than-war/>

5 <http://dynamic-animations.com/>

Per 100,000 population, OECD nations & Australia



Per 10,000 registered vehicles, OECD nations & Australia



Per 100,000,000 vehicle kilometers traveled, OECD nations & Australia

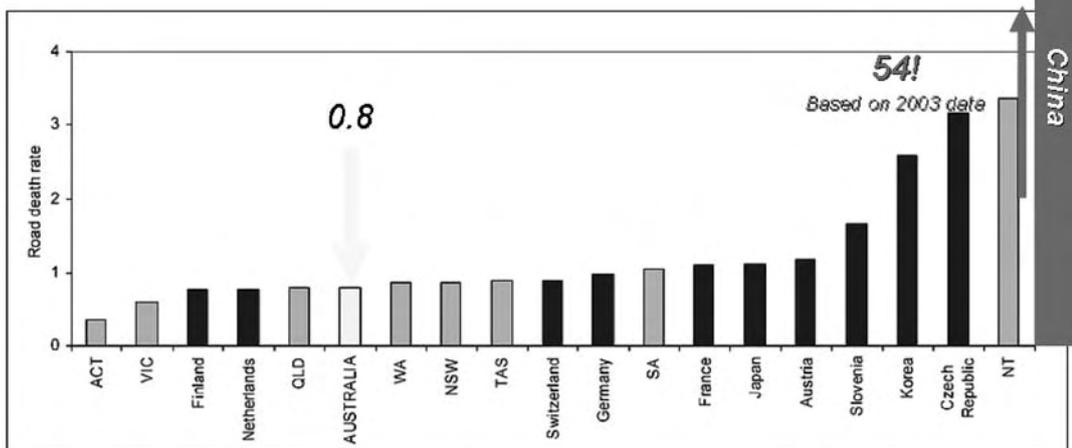


Figure 1 China's road safety record compared to other benchmark statistics.⁴

⁴ Source: Australian Transport Safety Bureau.

heard and then saw the equivalent of a large articulated truck (some 30 tonnes or more) hurtle past us through the red light again at around 80 km/hr. In utter disbelief we turned to our hosts and asked them "What the heck is going on here? Is this usual practice?" The reply was "It is late at night and there is little traffic and they are in a hurry." I muttered to Roy something along the lines that "It seems red lights are negotiable in China." Needless to say we arrived safely at the hotel though a little stunned.

The following day Roy and I were treated to a tour of Wexi. I was keen to be driven around in the traffic and see first hand what every day driving and road safety issues confronted Chinese citizens as they went about their business. We had a comfortable MPV, a driver and a translator provided to us. I was seated in the front taking photographs.

As soon as we got into the car I noticed the driver put on her seat belt. I sat in the front passenger seat and clicked my seat belt into its buckle housing. I looked over to Roy who was sitting in the rear driver's side searching for the buckle housing for his seat belt. The translator sitting behind me grabbed Roy's seat belt. She began to insist that he didn't need to put it on. "It's not the law. You don't have to wear it!" she persisted as she tried to tug Roy's seatbelt away from his hands. Roy and I looked at each and began to quietly laugh. I then responded to her that "It's not that he does not want to wear it. He wants to wear it for safety reasons" I tried in vain to explain. I drew a confused look from our translator and driver. Roy eventually found the buckle and clipped it in.

I then turned to our translator and said "Could you please buckle up so that you don't slam into my back and crush me up against my seat belt if we have a crash". She gave me a strange look and insisted in not wearing the seat belt and said she would brace herself in time. After some discussion we found out that her perspective of this issue was somewhat similar to the misguided notion Sydney taxi driver's have. It was a sort of weird misconceived pride that they are in a privileged position where compliance with the seat belt law is not required. I didn't press the point.

Of course we then began to observe if people wore seat belts in other cars. We noticed passengers in the majority were not. I decided then and there to highlight this point in my keynote lecture on the following day with some good visual graphics of crash dummies slamming into windscreens and being ejected from vehicles. It certainly made an impression on the Police attendees and a large number smiled as if saying "Now you know what is confronting us. How do we overcome it." I replied, "Enforcement and education".

I also showed them some of the Victorian TAC television advertisements dealing with seat belts. During the coffee break I asked if they thought using advertising like the TAC may help them in educating their vehicle population to buckle up. They felt that there would be considerable resistance and abhorrence if advertisements showing people being hurt as a result of not wearing a seat belt. They felt enforcement would

yield better results. Sound familiar?

After the Symposium, Roy visited Beijing and related these observations in a recent email. *"Remember the incident with the seat belt in the back seat when we went on our tour. No such problem in Beijing. The rear seat belts had been completely removed. I first thought perhaps the car had not been equipped with rear seat belts, but then I found the reclining slot. When I asked, my guide could not explain why the seatbelts had been removed from the back seat."*

As Roy and I proceeded with our tour of Wexi, we noticed motorcyclists not wearing helmets, some wearing construction helmets, and very few wearing complying motorcycle helmets (Figure 2). On asking why helmets were not being worn the reply was from our interpreter "It is too hot to wear a helmet". The temperature was pretty cool outside being autumn in the northern hemisphere.

The other quite scary observation was how pedestrians would cross the road. They would forcefully walk out in front of a car barreling towards them, playing 'chicken' and expecting the car to stop. Even more incredulous though were the people walking towards and into traffic in 80 km/hr zones and gardening on the tollways with cars traveling at 110 km/hr or faster (Figure 3). *Roy observed on his Beijing tour that "There is no such thing as driver courtesy with cars, bicycles, or pedestrians. The first one to reach a space is the one to occupy it. I believe it is very lucky that my driver didn't hit a pedestrian, cyclist, or one of those 3 wheeled enclosed vehicles that they have."* Indeed our tour driver in Wexi did not travel above 40 km/hr to her credit.

Of course there is an ulterior motive why pedestrians and cyclists are so cocky crossing the roads. They know the drivers



Figure 2 - Cyclists and a motorcyclists. Few wear helmets
Top: waiting to cross an intersection.
Bottom: driving in 60 km/hr zone



Figure 3 - Top: Worker tending to garden on 110 km/hr Tollway between Wexi and Shanghai. Bottom: 80 km/hr zone. Pedestrian crossed road and jumped fence. Note officer in background walking towards traffic.



Figure 4 - Top: 80 km/hr zone with blunt end barrier with no crashworthy end terminal. Bottom: block of concrete placed in front of W-beam guard rail ends with no terminals on 100 km/hr tollway.

are now particularly cautious in regards to ensuring they don't hit a pedestrian or cyclist. The new China Road Law has ensured appropriate compensation if a vulnerable road user is struck. The following extract from Wikipedia encyclopaedia explains why⁶ *"A long-standing tenet has been for the larger vehicle involved in an accident to assume responsibility, e.g., if a car collides with a bicycle the car driver is at fault. If a bicycle and pedestrian collide it is the bicyclist's fault. Practically, this understanding emboldens pedestrians and cyclists to take liberties with cars and trucks, impeding their progress by moving into the flow of traffic under the assumption that larger vehicles will give way."*

Intersections were also very interesting. Pedestrians, cyclists and motorcyclists would congregate at the intersection, wait for the light to change and then scramble in all directions. The cars would wait until the intersection cleared and then would proceed.

Roy's experience in Beijing further underlined the problems with drivers disobeying road laws putting their lives at high risk. *"Imagine an intersection where there is an advance left turn (right turn in Australia) green arrow before opposite traffic gets a green light. In Canada, we often have a couple of cars continuing to turn after the advance green arrow turns off, and opposite traffic has a green light. In China, not only do a couple of cars at the front of the left turning line turn, but the cars behind that have not even reached the intersection cross the centre line and form a line of traffic in the on-coming lanes, effectively playing chicken with the on-coming traffic that now has a green light."*

Another issue that I became acutely aware of is the complete lack of appreciation of the amount of energy a vehicle possesses when traveling at high speeds, and the consequences when it crashes into something rigid or a device that can spear through it. Figure 4 shows two examples of poorly finished roadside barriers where end terminals were non-existent. This was a common sight on tollways and high speed arterial roads.

As China frantically moves head on towards a motorised society, its population will hopefully start to become more aware of the consequences of poor road design and inappropriate road user behaviour and that it leads to road trauma. Helping the Chinese population understand that road laws are enacted and enforced to help protect us is a key issue. Indeed, education and enforcement are seen as the two main areas that require immediate attention to help reduce their road toll. A lot of overseas specialists have already provided the Chinese government an overview of how reductions in the road toll can be achieved. They are keenly listening. The Asian Development Bank (ADB) have certainly recognised the issues and have begun to assist the Chinese in this regard.⁷ Let's hope for the sake of the Chinese road users they quickly implement the known strategies that ADB is encouraging them to adopt and have worked in the OECD countries.

6 http://en.wikipedia.org/wiki/Rules_of_the_road_in_the_People%27s_Republic_of_China

7 <http://www.adb.org/Projects/PRCRoadSafety/road-safety.asp>