

Your Honour, thank you for letting me speak today; I realise that the court is busy and I will keep my submission short and to the point.

I wish to outline my defence against the charges laid; whilst the matter at hand – riding a bicycle without a helmet – is in many ways a trivial matter, my defence is far from trivial, resting as it does on established NSW legal precedent and proven scientific fact.

However, first let me put one matter to rest. I do not dispute the facts as presented by the prosecution – I freely admit that I was riding a bicycle on the two occasions cited without wearing a certified bicycle helmet. Further I have no intention of attempting to have the charges dismissed on procedural grounds; I might add that in both cases the Police Officers I dealt with were professional, courteous and friendly.

My defence draws on the established NSW legal principle of 'necessity'. Whilst I am sure you Honour is familiar with this legal principle, I will take just a moment to describe it for the benefit of the court.

The defence of necessity was affirmed in the common law jurisdictions in *R v Davidson* (1969) and *R v Wald* (1971), and has been subject to some refinement in subsequent cases such that a well established framework exists to test its application.

In very simple terms, the defence of necessity allows that a crime may be excused if a person has a reasonable belief that in following the law they would put their life or health at risk.

The test for this has been codified, primarily in the ruling in *R v Sood* (2006), and has three main parts that have to be proven, as follows:

Firstly, the accused must have an honest belief on reasonable grounds that complying with the law will put them at increased risk of death or injury.

Secondly, the accused must show that it was necessary to be undertaking the activity leading to the breach of law, and

Thirdly the accused must show that any negative consequences of breaking the law are proportionate to the possible negative consequences of following it; as Judge Menhennit put it in the previous cited Davidson case; 'that the evil inflicted by it was not disproportionate to the evil avoided'.

I will briefly outline how each of these three conditions can be shown to apply in this case.

Firstly to the matter of the belief. I firmly believe that wearing an Australian standards approved helmet whilst riding a bicycle puts the rider at increased risk of serious brain injury.

This is not a matter of opinion, but an established scientific fact, as evidenced by a number of peer-reviewed papers published in reputable Australian and international journals. There are two major contributory factors that lead to this outcome, and I will briefly outline these, together with appropriate citations.

Firstly, because wearing a helmet increases the effective head circumference, it has the effect of amplifying rotational forces applied to the head in the event of a collision. Rotational forces are the primary mechanism by which serious brain injury occurs; specifically Diffuse Axonal Injury, and as such any increase in these forces increases the risk of such an injury. This effect has been the subject of several research papers, including Curnow's *'Bicycle Helmets: a Scientific Evaluation'* published in the journal *'Transportation Accident Analysis and Prevention'* in 2008. It has further been acknowledged in an internal memo within the RTA, a memo obtained by Sue Abbott under

Freedom of Information legislation.

Secondly, wearing a helmet actually increases the risk of being involved in an accident. This is because cyclists ride faster and take more risks when wearing helmets. This is an entirely expected outcome given the well established theory of risk compensation; it has specifically been shown to apply to bicycle helmets by Phillips et al in their paper 'Risk compensation and bicycle helmets' published in the journal 'Risk Analysis' in March 2011.

It is worth noting that it is this effect that first prompted my interest into the science of bicycle helmets; around three years ago I left home without my helmet entirely by mistake, and by the time I realised it was too late to turn back. I was astonished to find that I rode significantly more cautiously for the rest of the ride; I took fewer risks and generally rode more slowly.

It can also be noted that in research published by Wasserman et al, 'Bicyclists, helmets and head injuries: a rider-based study of helmet use and effectiveness' in the *American Journal of Public Health* showed that helmeted cyclists were seven times more likely to have reported hitting their heads than unhelmeted cyclists!

Finally you might note that research has shown that the rates of head injury to cyclists has risen since the introduction of mandatory helmet legislation in Australia, for example Robinsons paper 'Head injuries and bicycle helmet laws' published in 'Accident Analysis & Prevention', 1996.

You can appreciate that, as the data show that wearing a helmet leads to an increased risk of brain injury in the event of an accident, and also makes having an accident more likely, then it is entirely reasonable to believe that wearing a helmet whilst riding a bicycle places ones life and health at increased risk, and thus fulfils the first criteria for the defence of necessity – that complying with the law would put me at increased risk of death or injury.

The second criteria needed for the application of the defence of necessity is that of necessity; that there were no reasonable alternative actions that could have avoided the need to break the law.

There are two key reasons why I needed to ride a bicycle on the two occasions cited; one is for the wellbeing of myself and my family, and the other is my obligations to wider society.

On the first point I should explain that I am the proud father of a delightful fourteen month old daughter, and my wife is expecting our second child in August of this year. There is a lot of research that shows that the emotional wellbeing of children is influenced by the amount of time they spend with their parents; particularly fathers, who tend to be the more absent figure. As noted Australian childcare expert Robin Barker instructs fathers in her book 'The Mighty Toddler': 'spending time with you toddler ... contributes in a major way to his or her healthy development and enjoyment of life'. By implication, not spending time with my daughter will be detrimental to her development and enjoyment of life, so it is a matter of necessity that I maximise the time I spend with her. Of course, I also need to provide for my family in material ways – to give them a roof over their heads and food on the table, and to this end I need to be employed. I thus deliberately work in a location that is close to my home in order to maximise the time I can spend with my family, and minimise commuting time.

The NSW transport infoline shows that the travel times from my home in Lilyfield to my workplace in North Sydney average around forty minutes – assuming that one gets perfect connections and there are no delays. In reality at peak time it usually takes closer to an hour to make the journey on public transport.

Driving can also be slow. According to the RTA average morning peak time speeds in Sydney are around 34kph; given the approximate 12km distance from my home to my office this would entail a car journey of 22 minutes, plus a further five minutes parking the car and five minutes walking back to the office from the nearest public car park – 32 minutes in total. Of course, this is just the average, and on many occasions would be much slower.

Riding my bicycle I can get from my home to my workplace in around 35 minutes – significantly

faster than public transport, and comparable with driving a car. Needless to say it is also much cheaper than either! Furthermore when riding a bicycle one is not as subject to the vagaries of traffic as one is in a car; most of my route is on dedicated bicycle lanes and even when the city is gridlocked I can be confident in getting home in good time to give my daughter her evening bath. As such, riding a bicycle to and from work is the best way for me to ensure I get the most time with my daughter, thus safeguarding her healthy development and enjoyment of life whilst providing for the material needs of my family.

Riding a bicycle is also beneficial to my own health. Exercise is important to maintaining one's health, and yet it can be hard to find the time to do it between work and family commitments. Cycling is an excellent form of exercise; indeed research amongst factory workers published in 1986 in the *British Journal of Industrial Medicine* showed that workers who cycled enjoyed a level of fitness equivalent to being 10 years younger – something that is very handy for me being a relatively old parent chasing around after a lively toddler!

The second reason why riding a bicycle is a necessity relates to our obligations to the wider environment. I believe that climate change is real, and that in order to safeguard the planet for future generations we have a moral obligation to reduce our carbon footprint wherever possible. Such a sentiment is far from a fringe view; it has been voiced by public figures as diverse as Pope Jean-Paul II, Peter Singer, Carl Safina and Barack Obama – incidentally essays from each are included in the book *'Moral Ground: Ethical Action for a Planet in Peril'* published last year. Riding a bicycle wherever and whenever possible, as opposed to driving, is an important way of reducing my carbon footprint and fulfilling that moral obligation. The fact that riding a bicycle is also tremendous fun is, of course, a useful fringe benefit!

Neither of these two reasons are trivial, and both have been arrived at after considerable thought and reflection. I truly believe that there is no alternative to me riding my bicycle to and from work that would not cause harm to my family, myself and the wider environment, and as such fulfils the second part of the defence of necessity – that there was no reasonable alternative to breaking the law on the occasions cited.

The final aspect of the defence of necessity requires the accused to show that the negative consequences of breaking the law are proportionate to the harm that may be caused by following it. The law in question requires bicycle riders to wear helmets, and it is instructive to consider if there are negative consequences of failing to comply with the law.

It should be noted that riding a bicycle is a very safe activity. Australian injury statistics show that, on a per-hour basis, riding a bicycle is much safer than playing netball, for example. As already noted it is also an activity that has health benefits. Several studies have been done that demonstrate that bicycle riders live longer, on average, than non riders; for example a study in Denmark by Andersen et al published in the *'Archives of International Medicine'* in 2000 showed that non-cyclists had a 39% higher mortality rate than cyclists. Note this study was conducted in a country where helmet wearing is negligible.

Analysis undertaken by Professor Jong of Macquarie University and published in *New Scientist* in 2009 shows that increasing cycle use significantly reduces the healthcare costs to society, even when helmets are not worn.

Government estimates put the costs of lost productivity due to road congestion at four billion dollars annually; as cycling helps reduce congestion riding a bicycle - with or without a helmet - delivers a direct economic benefit to society.

Riding a bicycle also reduces the risks to other road users. Data from the Australian Bureau of Statistics shows that you are twenty times less likely to cause a fatality whilst riding a bicycle as you are when driving a car.

It can be seen, then, that breaking the law by riding a bicycle without a helmet, far from having negative consequences, has many positive consequences; and thus the final aspect of the defence of

necessity – that any harm caused is proportionate to the harm averted – is clearly show.

To sum up; whilst I admit I was riding a bicycle without a helmet on the occasions cited, I submit that I have a reasonable defence. I have demonstrated that riding with a helmet incurs an increased risk of both accident and injury compared to riding without one. I have further demonstrated the necessity for me to be riding a bicycle, in order to avert possible harm to myself, my family and the wider environment. Finally I have shown that there were no negative consequences that arose from me riding without a helmet.

As such I submit that I have a robust defence, based on established NSW legal precedent and proven scientific fact, and urge your Honour to dismiss the charges.

Finally, I will leave it to your Honour to ponder the following absurdity. Riding a bicycle without a helmet is activity that delivers health benefits to the individual, reduces the healthcare tax burden on society, delivers economic benefits in terms of reduced road congestion, reduces the risks to other road users and benefits both the local and the wider environment. It is safe, has no appreciable negative consequences, and is considered entirely normal everywhere in the world where bicycle use is widespread. Yet this safe, fun, and beneficial activity is considered a criminal offence in New South Wales.