

OPINION

The Case for Concrete Road Safety Barriers

By Patrick McGuire

Several recent road accidents on our highways have highlighted the need for an urgent reassessment of the type of median barriers being installed throughout New Zealand's roading network.

These incidents have prompted road user groups, such as the Bikers Rights Association, to call for the wire-rope barriers to be replaced with concrete barriers to improve road safety. They reiterate the position of the Automobile Association and some emergency services specialists, which have advocated in favour of concrete barriers as the safest device for median strips.

One particularly tragic crash, on Auckland's Southern Motorway last October, resulted in the death of a young motorcyclist after he lost control of his vehicle and collided with the wire-rope barrier adjacent to the road.

Another crash on the same stretch of highway involved a truck smashing through the wire-rope median barrier, and colliding with cars approaching in the opposite direction on the other carriageway – a so-called “cross-over” accident.

And only two weeks ago, an accident on Centennial Highway north of Wellington resulted in a major traffic jam because the wire rope barrier prevented traffic from being diverted around a crashed vehicle.

There is clearly an urgent need for authorities to reconsider their policies on New Zealand's road safety barriers, as steadily growing traffic volumes on our motorways and arterial routes will inevitably result in more frequent cross-over accidents.

The cost of failing to address this important road safety issue is too great, not only for the people directly affected by the horrific smashes, but also for the health system and the wider economy.

While there has been significant investment in our roading infrastructure in the past few years, there has not been the same level of investment in the most effective road safety barriers – those made from concrete.

The wide-scale introduction of concrete road safety barriers will require a different approach from decision makers, however, who have traditionally given preference to perceived lower initial costs when choosing the type of barrier. This focus has led to a proliferation of the wire-rope barriers along our highways, as concrete barriers are about twice as expensive to install.

But long-term safety performance and lower life cycle costs, both key advantages of building with concrete, must be taken into account when making these decisions.

There is a ground swell of international opinion in support of the benefits of concrete road barriers over alternatives such as steel and wire-rope barriers. In Norway, for

instance, wire-rope barriers have been banned and are being gradually replaced, while in other countries wire-rope barriers are being modified to reduce their impact in crashes to road users such as motorcyclists.

In 2005, the UK's Highways Agency announced an initiative to install concrete median barriers

on all of England's motorways which carry more than 25,000 vehicles a day. Traffic volumes on many of New Zealand's major highways exceed this threshold.

A review conducted by the UK agency concluded that rigid concrete safety barriers provided the greatest benefit in terms of safety and reduced long-term cost. In addition to their vehicle containment and impact resistance capabilities, concrete safety barriers had reduced maintenance requirements, and did not require repairs following accidents, therefore minimising consequent disruption to traffic. At least a 50-year lifespan was also expected for concrete barriers.

Concrete road safety barriers prevent dangerous motorway cross-over accidents by redirecting the errant vehicle along the direction of the flow of traffic in which it was travelling, rather than into oncoming vehicles, regardless of the type of vehicle.

As such, these barriers easily meet the performance criteria required for New Zealand's roading infrastructure, and the evidence from overseas indicates they are a suitable and affordable alternative to the wire-rope median barriers currently being installed throughout New Zealand.

While the industry I represent may benefit from the wide-scale introduction of road safety barriers made from concrete, this issue is not about extra business or profit for our members, but the best solution for New Zealand's roading network.

When deciding what type of road safety barrier to use, New Zealand should consider all the benefits of concrete barriers, including the long-term safety performance and reduced life cycle costs. Surely New Zealanders' lives are worth it.



Wire-rope barriers - minimising initial cost at the expense of safety.