

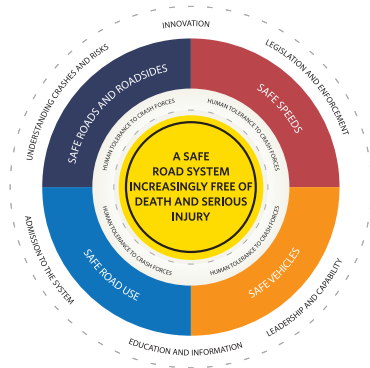
PAT'S SELF-PROFESSED CONCLUSION

'Results of impact with wire rope barriers will differ according to speed, angle of impact, road conditions, skill of rider (in this case: none, nil, nada) and many other factors.'

That's an awesome plain English description of the Safe System.

The Safe System approach aims to strengthen the whole system. In a safe system we will have more motorcycle-friendly roads; advanced safety features on motorcycles, such as ABS; appropriate travel speeds and alert, skilled riders and drivers. Instead of asking 'Why did that person crash?' we ask 'Why was that person so seriously injured?' We need to plan and design the system to accommodate human error so if one part of the system fails, the other parts will still protect the people involved. The solution to a problem in one part of the system may lie in another part – so we need to look at the whole system and strengthen all the parts.

The Transport Agency, ACC and other government agencies are taking all the factors into account, along with advice from the Motorcycle Safety Advisory Council on investment of MSL funding to treat New Zealand's motorcycle safety challenges.



MORE INFORMATION

If you want to read-up on the research, check out these sources:

www.tars.unsw.edu.au/downloads/Stage4_report.pdf

www.towardszero.vic.gov.au/making-progress/articles/flexible-barriers-how-they-work-and-the-cheese-cutter-myth

www.diva-portal.org/smash/get/diva2:670552/FULLTEXT01.pdf

trafinz.org.nz/workspace/downloads/raphael-grzebieta-2-524dfcb668f97.pdf

MONASH University Accident Research Centre, (2003) 'Flexible barrier systems along high-speed roads: a lifesaving opportunity', www.monash.edu/__data/assets/pdf_file/0005/216806/muarc210.pdf

Carlsson (2009) Evaluation of 2+1 roads with cable barriers: Final report VTI rapport 636A, www.diva-portal.org/smash/get/diva2:670552/FULLTEXT01.pdf



If you have further queries, call our contact centre on 0800 699 000 or write to us:

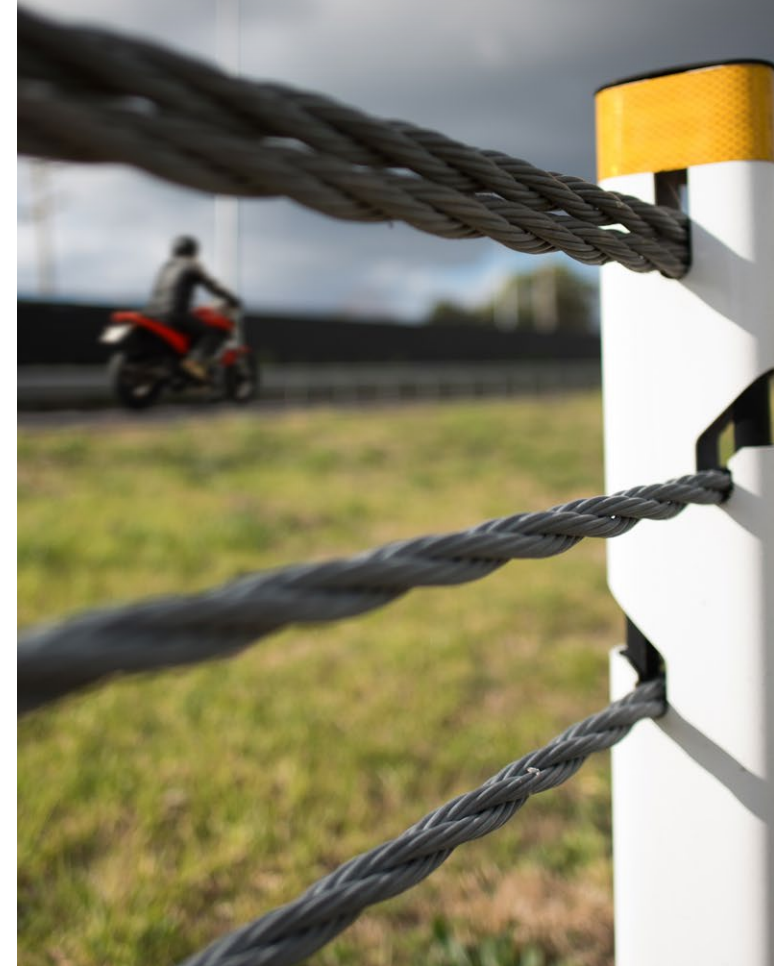
NZ Transport Agency
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This publication is also available on NZ Transport Agency's website at www.nzta.govt.nz

The NZ Transport Agency is part of, and contributes to, the Safer Journeys programme. Safer Journeys is the government's strategy to guide improvements in road safety over the period 2010–2020.

For more information visit www.transport.govt.nz/saferjourneys

UNTANGLING WIRE ROPE BARRIERS



WHAT HAPPENS WHEN A MOTORCYCLIST MAKES CONTACT WITH A WIRE ROPE BARRIER?

PAT LITHGOW HAS A STORY TO TELL

On the return leg of a ride with friends over Nelson's Rai Saddle, Pat Lithgow experienced sun strike halfway up the hill. He managed to get a glimpse of the rumble strip to indicate direction of turn. Glancing at his speedo in the next area out of the sun, Pat registered 93km/h, knowing his true speed to be 90km/h. Pat figures that the next bend scrubbed about 6km/h off his speed and he may have eased off the throttle as he came back into the sun. Unable to see, he found himself approaching the wire rope diagonally at the distance of about one to two metres and quickly closing.

'My instinct was to parallel the wire rope,' explained Pat, 'but the road had been recently gritted... the change of direction caused the rear wheel to lose grip and it slid into the barrier.'

'I fish-tailed back onto my lane thinking, 'this is going to hurt' when the bike gained control.' Without the barrier Pat says he probably would have gone off the road, down a drop and likely been killed – most certainly injured.

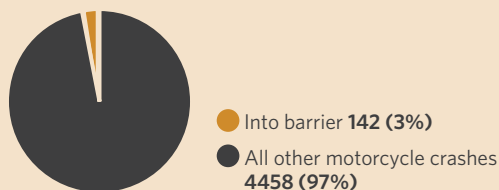
Pat took a picture of his close encounter with a flexible barrier. He reckons he had about 10cm of contact with the wire rope before the main impact with a stanchion. He also notes that during loss of traction, the tyre wore down to the ply although the tread on the rest of the tyre would pass a WoF.



Pat's experience holds true in general for both wire rope and steel barriers – it's not the wire or W-steel that does the real damage, it's the post.

Pat's experience is what would be expected – most of the damage came from hitting the post, not the wire. Impacts with barriers represent a very small proportion of the safety problem for motorcyclists, as for all road users. Over the last 10 years (2006 to 2015), barrier collisions of any type made up 3% of deaths and serious injuries suffered by motorcyclists, and ½ a percent of the deaths and serious injuries to all road users.

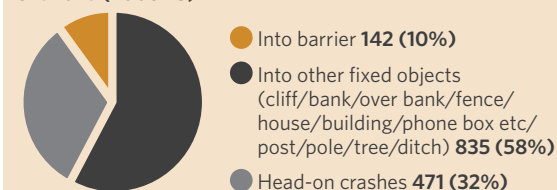
MOTORCYCLE DEATHS AND SERIOUS INJURIES (2006-15)



THE REAL THREAT IS BEYOND THE BARRIER

Barriers are put in place primarily to help keep vehicles from striking objects on the side of the road or each other head-on. Just looking at deaths and serious injuries from striking objects, over the same 10 years, there have been 28 reported deaths and 114 serious injuries from motorcyclists colliding with barriers. The other 90% of traumatic crashes involving object strikes were head-ons, falling off cliffs and into ditches, and hitting fences, poles, trees and other roadside objects, from which barriers would have provided some protection. Of the barrier collisions, two deaths occurred on motorways.

MOTORCYCLE DEATHS AND SERIOUS INJURIES INVOLVING OBJECTS (2006-15)



SETTING THE RECORD STRAIGHT

There is solid evidence dispelling assumptions that wire rope barriers have a 'cheese cutter' effect and increased risks for motorcyclists are unfounded. In fact, the evidence shows the opposite. Installing roadside and median barriers – particularly wire rope barriers – reduces the likelihood of motorcycle casualties by up to half. This is because motorcyclists are more likely to survive an impact with a roadside or median wire rope barrier than an impact with a tree, pole or oncoming vehicle.

In Sweden, a survey of more than 600km of flexible barriers on their roads had no record of motorcycles being 'sliced' by the barriers. Sweden has seen a 40-50% reduction in risk in motorcyclists killed on their 2+1 system where wire rope barriers have been installed, as vehicles crossing the centre line and causing head-on crashes are avoided.