

SPEED LIMIT MYTHS - BUSTED

Myth 3: “Higher speed limits mean less travel time, less fatigue and therefore fewer crashes” – BUSTED

1. Speed Limits and Travel Time

In rural areas, higher speed limits will generally result in people travelling faster and a reduction in travel time. However, time savings are only significant over long distances. For example, raising the speed limit from 100 km/h to 110 km/h will save 5.5 minutes if you are travelling 100 km (assuming there are no delays).

In built up areas, time savings from higher speed limits are hard to achieve due to the stop start nature of the journey and tend to be negligible for short journeys. In some circumstances, lower travel speeds may reduce travel times by minimising flow breakdown. Flow breakdown is disruption to the steady flow of vehicles at uniform speed. It occurs when traffic volumes are close to the capacity of the road and any erratic or unexpected driving manoeuvres, such as lane changing or sudden breaking, leads to stop start driving conditions.

Austroads' report titled, *“Impact of lower speed limits for road safety on network operations”* (AP-T143/10) presents a review of literature on the effect of reduced speed limits on network operations. It concluded that reduced speed limits would have greatest effect on travel time along roads with minimal congestion and number of intersections. It also concluded that, for arterial roads within urban environments, reduced speed limits would have no appreciable effect during times of congestion.

So, broadly speaking, higher speed limits can reduce travel time, but only over long distances.

2. Speed Limits and Fatigue

The travel time argument is often raised by the community around a perception that lower speed limits will dramatically increase travel times and hence fatigue, especially in rural areas. Evidence to date shows that where speed limits are lowered there has been a corresponding reduction in injuries and no rise in fatigue-related crashes. There are several factors that need to be considered:

1. The reduction in travel time will generally be less than that expected as a result of an increase in speed limit. This is because vehicles are unlikely to travel at the speed limit for the total length of a journey. Other sources of influence on a vehicle's speed can include lower speed limits in townships, intersections, curves, grade changes and interactions with other traffic. As such, the likelihood of a driver experiencing fatigue due to a slight increase in travel time is not significant.

2. Travel time savings are only likely to be significant over very long distances. For most routes, the average trip distance per vehicle using the route, will not be very long. Any potential (and debatable) fatigue reduction benefits of a higher speed limit for long distance drivers will be more than offset by the increase in risk to all drivers on that route.
3. Safety improvements from lower speeds far outweigh any disbenefits from potential fatigue. Research shows this to be the case. For example:
 - a. In 1987 the speed limit on the rural and outer Melbourne freeway network was raised from 100 km/h to 110 km/h. An extensive evaluation of the change found that the casualty crash rate increased by 25%. When 100 km/h speed limit was reintroduced 12 months later, the casualty crash rate decreased by 19.3%. These results are consistent with national and international experience.
 - b. A study published in the September Journal of Public Health (USA) analysed the number of fatalities and injuries in crashes from 1995 to 2005 on interstate and non-interstate highways. It found a 3.2% increase in road fatalities attributable to speed limit increases on all road types and estimated that, over a 10 year period, over 12,500 deaths and over 36,500 injuries were attributable to increased speed limits.



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