

Monash Report

Monash aware of
economic costs

Optimum Speed is
the optimum average
speed calculated.

Existing av. sp. is 85kph

4

LCR/RS/12

vehicle. This is the speed which balances the social costs and benefits of increased travel time with decreased road trauma, vehicle operating costs, emissions and other costs.

Using the "human capital" approach to value road trauma costs, there would be overall economic benefits from reducing speed limits on divided and undivided Category 1 roads from 110 km/h to 100km/h (Table 10.2). The optimum speed for all vehicle types combined on these roads is no more than 100 km/h, so this would support a reduction in the limit to 100 km/h in each case.

If it is assumed that the majority of the Tasmanian State Road Network consists of straight, unimpeded road sections, then for the undivided roads in each of Categories 2-5, the hypothesised 5 km/h reduction in mean free speeds due to a reduction in their current 100 km/h limits would appear to result in an overall economic loss. The optimum speeds on these roads are generally about the same as the envisaged lower limit proposed for each class of road (90 km/h for sealed Category 2-5 roads and 80 km/h for the unsealed Category 5 roads), but the hypothesised reduced mean speeds are substantially less. However these economic analysis results assume that road trauma (crashes and serious injuries) should be valued by conservative "human capital" costs; and that vehicles travel on Category 2-5 roads at their mean free speeds throughout their length without slowing for sharp curves and stopping occasionally.

Table 10.2: Economic impacts of speed reductions, and estimated optimum speeds. Straight, unimpeded road environment. "Human capital" costs of road trauma.

Road category and current speed limit	Effect of 5 km/h mean speed reductions on total economic cost		Optimum Speed (km/h) (speed which minimises total economic cost)		
	Change p.a. (\$ million)	Percentage change	All vehicles combined	Cars & LCVs	Heavy vehicles
Rural roads with 110 km/h speed limits					
Divided Category 1 Trunk Roads	-1.083	-0.8%	100	102	94
Undivided Cat. 1 Trunk Roads	-1.870	-0.4%	98	100	92
Undivided rural roads with 100 km/h speed limits					
Category 2 Regional Freight Roads	+3.291	+1.7%	90	92	88
Category 3 Regional Access Roads	+2.593	+0.9%	88	90	86
Category 4 Feeder Roads	+2.261	+0.8%	90	92	86
Category 5 "Other" Roads ¹	+2.722	+1.4%	88	88	84
Unsealed rural roads (100 km/h speed limit)					
Category 5 "Other" Roads ²	+0.027	+0.3%	82	82	82

¹ Includes unsealed gravel roads on State Road Network. Crash data 2004-2008 not provided separately.

² Casualty crash rate per 100 million vehicle-kilometres from AGPE04/08 Table 4.1, not real crash data.

*This sheet shows
social cost benefit 110-100 case.
social cost loss 100-90 case? - driven by
change in vehicle costs and reducing crash costs*