

This review lodged
with RSAC early 2011

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Continual requests
for a review were
presented.

An Independent Review of the Tas. Safer Speeds Trials.

The Monash Report formed the basis of the safer speeds proposal and is particularly important as it is in effect a cost benefit analysis which is a necessary part of any proposal. It is comprehensive in scope, written in a way that explains itself as it develops – but some of the assumptions made that are part of the model are flawed.

The following points have been put forward to the RSAC with the view that they should have been given consideration in the process, but no such evaluation has taken place.

Summary:

Pages 2 and 3 Monash Report:

There are several flaws in the vehicle costing used and a fundamental flaw in methodology. The assumption that a 5 kph drop across the board would be achieved was never possible in country areas.

Page 4 RSAC Process:

The accuracy of figures used in the brochure and website are unequivocally wrong and should have been withdrawn.

Page 5.

Summary in layman's terms.

Pages 6 and 7 Kingborough Trial.

Results clearly indicate that speeds in curved sections have risen rather than fallen and this is the exact opposite to the intended results.

Some of the assumptions made and inputs used in the Monash Report that should have been given attention include:

1. The assumption made that hills, or “vertical curves” as it refers to them, have no statistical significance is flawed in its application to heavy vehicle costs. The failure to recognise the difference that loss of momentum at the bottom of hills makes to a truck underestimates both time and fuel costs.
2. Time costs have been calculated using the standard daily cost tables from industry, thus fail to acknowledge that the extra time involved for full time drivers will be at the end of the shift and be paid at “time and a half” using Monash figures of 6.3% increased time costs this is 40 minutes a day, thus 60 minutes pay – meaning \$100 per week wage cost. This figure has been consistently ignored by the RSAC in their assertions of cost savings
3. The fuel costs used of 86-88c/litres is apparently an effort to align cost inputs at 2007 figures Standard procedure in cost benefit analysis is to use the latest figures available to maximise accuracy, and with fuel costs having out run CPI by a considerable margin between 2007 and 2010 this unnecessarily adds a level of under accounting of vehicle costs.
4. The percentage of crash savings appears to have been over estimated at the lower mean speed situations. Neither the figures quoted by RSAC of 2-3% crash savings for every 1% drop in speed, nor the 18% for every 5 kpm mean speed drop by Monash can be sustained over a wide range of mean speeds.
5. There appears to be a serious flaw in methodology by Monash in the Cat 2 – 5 roads. In the case of Cat 1 roads, with just one set of tables - the present mean speeds are close to the present speed limit and would be reduced by the new limits originally proposed. Thus the driver behaviour measured gives a degree of benefit.

However, the situation on Cat 2 – 5 roads is quite different in that present mean speeds are much lower than the speed limit and lower than the proposed limit. There is no basis or logic in assuming that driver behaviour will change on the curvy road sections. Monash was quite wrong to assume a 5 kph drop in mean speed across the board. Since the present mean speed is so much below the new proposed limit there will be no change in driver behaviour on the curved sections (hence no benefit) and any drop in overall mean speed will be generated on the straight sections.

Since about 80% of crashes occur in curved sections and only about 20% on straight roads the calculations are quite wrong. In addition to that, it is the crashes on the curves that have the most chance of involving inappropriate speed as a factor, with the major cause of straight road crashes simply being inattention, so that a reduced speed limit won't help there much either .

I believe a review by a competent independent statistician would reach the conclusion that a blanket speed reduction will not achieve the necessary drop in mean speeds where it matters (unless the limit was reduced to below 80 kph) and that the appropriate action would be a targeted drop on sections of road which had a distinct problem.

The problems associated with the RSAC handling of the process:

- (a) From a public perspective – the public meetings held in 26 locations were by invitation only and this has to be seen as not in the spirit intended for such processes.
- (b) The requirement of the govt. that public submissions should be taken and “properly assessed” has been corrupted.
RSAC received about 220 public submissions with 80% indicating against it. The RACT, which has a seat on the RSAC, conducted a poll of its own members with 81% of 1130 respondents indicating against. Despite this the RSAC conducted a secret phone poll indicating 75% in favour, and took this to the Road Safety meeting.
- © The only source of information for most of the public was the Safer Speed brochure and the website. The focus of the brochure was the supposed social benefit and lower vehicle costs, but these could only be achieved in combination with figures from the 110-100 roads in its very early days. The Monash figures for the Cat 2 – 5 roads, even in uncorrected form, show the opposite.

Similarly the website figures concentrate on supposed vehicle operating cost savings – but because it misrepresents what means speeds mean in calculations it is totally misleading

RSAC has failed to act or respond when asked to review their figures.

The problem with the proposed country road speed limit changes from 100 to 90 kph is that both Monash and the RSAC have assumed it will result in a 5kph drop in speed and have based their expected crash savings on that. The proposal should have been dropped the moment that DIER figures indicated that the present mean speed of 85kph, in the 100 kph areas is already under the optimum mean speed they were aiming for.

An application of common sense would have them realise that the present 85 kph average indicates that drivers are averaging about 95 on straight roads and it follows that present mean speeds on curved roads is 80kph or less.

There is no earthly reason to expect driver behaviour to change on the curved sections, and hence there is no benefit where 80% of accidents occur and where the cause may be linked to inappropriate speed. The proposal simply won't work because any drop in mean speed is only achieved on the straight road sections, which involves possibly 20% of accidents and where the cause is overwhelmingly due to inattention.

The RSAC is citing the Kingborough trial as a success for the speed changes. However a check reveals that the DIER figures indicate that the mean speed in Kingborough has dropped only 0.9 kph while the speeds in the Central Coast area used as a control in the model have dropped 1.6 kph with no change in speed limits. It would appear that the positive views from the poll of Kingborough residents is a placebo effect – there is nothing to indicate a safety improvement over the control area.

The public have a right to know that the information supplied to them on the RSAC website and in the Safer Speed brochure contains some totally incorrect information. It purports to show that there is a social cost saving and an actual vehicle operating cost saving in this measure, but with a Monash representative in a permanent seat on the council they should have known better. Even in uncorrected form the Monash report clearly shows that at the average speeds relevant in this case, vehicle costs are increasing, wages costs continue to increase and that the social costs rise

The Kingborough Trial Results.

The control area of the Central Coast showed a consistent small drop in mean speeds across all sites, with no speed limit changes.

The original un-corrected Monash Report was based on achieving a drop of 5 kph.

The actual results after 24 months show a drop on the two straightest sections, but actually a rise in the speeds on the curvy sections (see page 6)

Curved Sections:

The corrected Monash Report results would have expected no changes here – but the actual rises indicate that drivers have responded by tending to drive to the speed limit and not to the conditions as previously. This habit quickly becomes entrenched and is of course a very bad result.

Straight Sections:

It should be noted that on the straightest section the mean speed was 96.4 under the 100 kph law but is now 92.6 – the majority of drivers are breaking the law.

The Result of the Kingborough Trial has resulted in drivers being “supportive” of the measures – compliance on the straight sections is low and they are driving faster in the curved sections.

The point of having a control area is to measure any underlying other factors involved so they can be accounted for.

An overall drop similar to the control area is therefore the assumed starting point for Kingborough. The fact that in the three slower sites there was a rise in speeds indicates that drivers responded by driving about a total of 5% faster in those areas, than if nothing had been done.

The projected crash savings due to the change to 90 kph thus becomes based on

- (a) 5% faster on curved roads
- (b) 2% slower on straight sections (the difference between straight sections in the control area V Kingborough).

There appears to be no breakdown of figures for Tasmania of the % of crashes in corners V straight sections. N.S.W has for many years used 80% on curves and 20% on straights as a key part of their country road safety programme.

This needs to be factored in to the calculations.