

## Summary of Initial Evaluation (“Stocktake”) of Road Safety to 2010 Strategy

### Taylor Duignan Barry Limited & Parker Duignan Limited: November 2004

- 1.1 LTSA and Police road safety funding increased by around 27% or \$51.6M in real terms<sup>1</sup> between 1997-99 and 2003/04. Over the same period there was a reduction, per 100K pop, of over 14% in fatality rates and over 22% in hospitalisation rates. On a per 10,000 vehicle basis the reductions are over 20% and over 28% respectively. On a BVKT<sup>2</sup> basis rural fatalities have fallen by over 20%.
- 1.2 Adjusted for the LTSA estimate of the combined effect of Transfund financed projects and vehicle fleet improvements (10.8%) the reduction in fatality and hospitalisation rates attributable to the increased LTSA and Police funding and other factors would be over 10% and around 16% respectively.
- 1.3 There are complications in an attempt to put a dollar value on the above reductions in the fatality and hospitalisation rates. In particular, the expected saving does not show up in the reported social cost, with the \$3.18B reported for 2003 (at 2001 prices) being only a little less than the \$3.2B average reported for 1997-99<sup>3</sup>. This is because reported social cost is based on reported injuries which as noted in the full report appear to have been affected by increased reporting by attending Police of injuries compared to earlier periods. A conversion factor is being derived to allow social cost to be calculated from hospitalisation data but is not yet available. Based on the reported injuries approach, the social cost might be viewed as having fallen by 5.9% or around \$190M adjusted for population growth or by around 14.4% or \$460M adjusted for registered vehicle growth but on the LTSA estimates Transfund financed projects and vehicle fleet improvement would account for \$320M of savings leaving little to be attributed to the increased funding.
- 1.4 An alternative approach, in the absence of a social cost estimate based on hospitalisation data, is to focus on the reduction in the fatality rate and hospitalisation rates of more than 10% after allowing for Transit financed projects and vehicle fleet improvements. For the 2003 social cost estimate, 10% would be around \$320M.
- 1.5 In comparing the increased funding of \$51.6M with the above \$320M a caveat should be noted. The \$3.18B is around 2.3% of GDP and it is not at all clear that the results of the survey should be interpreted as indicating a willingness to divert such a large proportion of GDP to the objective of reducing road crashes. The \$51.6M dollar value of increased funding on the other hand is an amount that has actually been diverted from other uses.
- 1.6 Intermediate outcomes relating to the major Police road safety outputs of speed control, drunk driving control and restraint control show significant improvements. However the

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<sup>1</sup> 2003/04 prices

<sup>2</sup> Billion Vehicle Kilometres Travelled

<sup>3</sup> Road Safety Progress June 2004 quarter, LTSA.

detail of the improvements in intermediate outcomes suggests important issues for consideration particularly when the reported causes of crashes are taken into account. In particular, since 1999 there has been a substantial reduction, to 0.7%, in surveyed drivers whose breath tests are over the alcohol limit but a high number of drivers are killed with excess alcohol and a high 20% to 30% of crashes are assessed as involving alcohol. In 2003 a jump in drivers killed with excess alcohol slowed progress in reducing fatalities per 100K pop.

- 1.7 Given that offence notices for driving over the limit amount to only 1.1% of breath tests, the current approach faces a difficult task in trying to remove the small minority of drunk drivers from the road (and to prevent them resuming driving after conviction) although random testing has changed general behaviour regarding drink driving. The 31% increase in nominal expenditure on enforcement (plus advertising expenditure) in this area since 1999 has been accompanied by a reduction in the percentage of drivers over the limit.
- 1.8 The 36% (or greater when Highway Patrol is taken into account) increase in speed control funding has funded a major increase in tickets issued for speeding. This has been highly successful in reducing from 20% to 6% vehicles travelling at speeds above the tolerance level of 110kph in surveys of the open road speed. Disappointingly, 2003 showed almost the same rate per 100K pop as 1997-99 of fatal crashes assessed as involving "too fast for conditions" speeds. However this appears to be attributable to the jump in alcohol related crashes, which often involve excessive speeds. On this analysis, the 2003 outcome can be reconciled with the widely used international rule of thumb that a 1 kph change in mean speeds at around 100 kph is predicted to be associated with a 3% reduction in fatal crashes. This would imply that the 2.7kph and 3.8 kph reductions in winter and summer surveyed open road mean speeds will have been responsible for a reduction in rural fatal crashes of 8% to 11% compared to the overall observed reduction of around 14% per 100K pop and the reduction of .. per BVKT for rural fatal crashes.
- 1.9 With 94% of surveyed drivers travelling at or below the tolerance of 110kph an increase to 100% would according to the rule of thumb reduce fatal crashes by around 1%. Further reduction would seem to require that either the tolerance or speed limits were reduced or some other way found to persuade drivers who are within the tolerance level to reduce their speed. The introduction of provision for wider use of a variety of speed limits would also open up other possibilities.
- 1.10 Restraint control, plus the effect of advertising and education has improved seat belt usage significantly and this appears to have been reflected in the assessment of fatal crashes. Non-usage is high compared to the surveyed use in general but this reflects both the involvement of alcohol and the expected outcome that a (declining) number of fatalities occur precisely when belts are not worn.
- 1.11 Visible Road Safety Enforcement received 13% less funding in 2003 than in 1999, with however an increase in offence notice issuance being achieved. The effectiveness of activity in this area is more difficult to measure which would need to be taken into account in considering the case for increased funding. Nevertheless it is an area for consideration in looking for ways to reduce fatalities and injuries and LTSA have advised

some increase in funding is being considered. An important issue will be to develop measures to assess the results.

- 1.12 Commercial vehicle investigation and Road User Charge enforcement has received 30% additional funding since 1999. The increase in such vehicles and in their involvement in crashes suggests that increased enforcement is warranted but it is difficult to evaluate the results.
- 1.13 The overall conclusion regarding the increased funding for enforcement provided since 1999 is that significant gains have been achieved in the targeted intermediate outcomes of speed, percentage of drunk drivers and restraint usage. Unfortunately, as noted, in 2003 the gains regarding alcohol for surveyed drivers have not been reflected in the outcome for crashes involving alcohol which reflects the difficulty of detecting and deterring drivers over the limit who are a small percentage but are involved in a high number of crashes. Apart from alcohol, gains in compliance do appear to have been reflected in reductions in crashes.
- 1.14 In regard to Incident and Emergency Management funding the key issue is whether reporting of crashes both injury and non-injury could be made less resource intensive and more uniform. Although these issues have been considered previously the amount of funding involved suggests a continuing search for more efficient techniques is warranted.
- 1.15 In regard to LTSA funding, the major area of safety information and promotion is intensively managed based on a market survey research approach. The need for advertising to maintain and increase awareness of enforcement and public acceptance of causal relationships such as those relating to alcohol and speed is clear. The value being obtained from the current approach appears substantial but is not however easy to quantify.