# Questions and answers

Last updated on: 16/04/2019

**What is the ‘Social Cost of Road Crashes and Injuries’ report?**

This report provides an annual update of the social cost of road crashes and injuries in New Zealand. Social cost measures the total cost of road crashes to the nation, including loss of life and life quality, loss of productivity, medical, legal, court and vehicle damage costs.

**What does value of statistical life (VOSL) measure? How was it determined?**

The VOSL is a measure of the pain and suffering due to a loss of life or life quality to the injured and to their family. For non-fatal injuries, it also includes the loss of output due to permanent disability.

The value was established through a Value of Safety survey (conducted in 1991). The survey asked respondents the amount they would pay for safety improvement under a range of real life decisions. Results were analysed to understand how respondents trade off between safety and wealth. Such information is then used to determine the willingness-to-pay value for avoiding one premature death (known as the willingness-to-pay value of statistical life). Based on the same survey, separate estimates were also derived for serious and minor injuries. This willingness to pay approach has been widely used by many countries and is considered the most appropriate approach for use in safety intervention analysis.

The VOSL was established at $2 million in 1991. It is indexed to average hourly earnings (ordinary time) to express the value in current prices. The same VOSL has been used in all safety evaluations across all three transport modes (road, maritime and aviation).

**Why was the report undertaken? How will the estimates be incorporated into the process for evaluating transport projects?**

Road crashes impose intangible, financial and economic costs to society. These costs include reduced quality of life; reduced productivity; medical and other resource costs.

The social cost estimates provide a way of putting a value on road safety impacts to society. To ensure the cost of any safety measure can be compared with the safety benefits it could achieve, the social cost estimates need to be updated each year to express values in current dollars.

To ensure limited road safety resources are utilised efficiently, the cost of any safety interventions should be evaluated against the resulting benefit expressed in terms of social cost. When there are different solutions or options to a transport problem, social cost information also facilitates consistent comparison between solutions or options, especially when these solutions have different impacts on injury and crash risks.

The updated social cost estimates will replace the 2017 estimates currently incorporated in the New Zealand Transport Agency’s Crash Analysis System (CAS) to facilitate consistent appraisal of the safety benefits from the prevention of road crashes and injuries.

The CAS is widely used by transport engineers and analysts for evaluating the safety impacts of any transport project that affects road safety. The updated estimates will also be used by transport officials for evaluating the safety impacts of any transport policy, rules or legislations.

**Who carried out the report and what methodology was used?**

The annual update of the report is carried out by the Ministry of Transport. A brief description of the methodology used to work out the estimates included can be found in the appendix of the report. For a more detailed description of the methodology, please refer to the June 2006 update [PDF, 407 KB] .

**What areas did the report look at?**

The report looks at the social costs associated with road crashes and injuries.

It provides estimates, at June 2018 prices, of:

- average social cost per injury and per crash
- total social cost of road crashes and injuries in 2017

**What are the key results of the report?**

The updated social costs of road injury is $4.37 million per fatality, at June 2017 prices. This includes the updated value of statistical life of $4.34 million.

Allowing for non-reported cases of injuries from road crashes, the updated average social cost is estimated at $791,000 per reported serious injury and $84,000 per reported minor injury. These estimates are useful for assessing interventions (e.g. seat belt wearing initiatives) that aim to reduce the number of injuries but not crashes. They are also useful for establishing the social cost of a specific crash considering the number of injuries sustained in that crash.

In per-crash terms, the updated average social cost is estimated at $5.07 million per fatal crash, $926,000 per reported serious crash and $107,000 per reported minor crash. These estimates are useful for assessing interventions (e.g. speed management interventions) that aim to reduce the number of crashes and the associated injuries.

The total social cost of motor vehicle injury crashes (including both reported and non-reported cases) in 2017 is estimated at $4.8 billion, at June 2018 prices.

**How does social cost of road crashes and injuries differ from that faced by ACC's motor vehicle claims?**

The social cost estimates include all costs (including non-financial cost) incurred as a result of a crash/injury, irrespective when the cost incurs and who pays. The total social cost estimates are based on accident year and include the estimated cost of loss of life and life quality, loss of output, medical cost, property damage costs and legal and court costs. All on-going costs are incorporated in the social cost estimates. In other words, the social cost estimates is a measure of the true costs of road crashes and injuries.

By comparison, ACC claims costs represent the financial burden to ACC, which covers only part of the social cost components.