

SUMMARY OF COST-BENEFIT DATA ON ESC FOR HEAVY VEHICLES

Introduction

Informal document No. GRRF-61-17 proposes that installation of stability control systems for vehicles in categories M2, M3, N2, N3, O3 and O4 should be mandatory for approval to Regulation No. 13.

The following gives a summary of cost-benefit data obtained from documents presented at the EVSC informal group and available on the GRRF/EVSC group website; in particular documents EVSC05-15 and EVSC06-11.

Both papers are based on data from Germany. Clearly, road conditions and the mix of vehicle types may vary between Contracting Parties applying Regulation 13. However, it is not believed that these differences are likely to alter significantly the cost–benefit ratio indicated below.

Benefits:

EVSC06-11 describes the accident situation in Germany in 2004 involving vehicle categories N2, N3 and M3. Of the 12339 accidents, 1411 were considered to be 'ESC relevant', i.e. analysis indicated that such accidents could be avoided (or the severity of their consequences significantly reduced) had an ESC system been fitted. The total injury and property damage costs for these 1411 accidents was €126,000,000. (This does not include additional costs due to increased congestion, etc.).

Costs:

EVSC05-13, which concentrates on vehicles over 7.5 tonnes, estimates the final cost to the customer for an ESC system to be €1,500 per vehicle, which is likely to be on the high side. Assuming a ten year vehicle life this translates to €150 per year. Maintenance costs (over and above the costs for a vehicle already fitted with ABS) and increased fuel costs are likely to be negligible. Obviously the cost of an ESC system will be very variable, depending on factors such as the number of axles or whether the vehicle is articulated. For vehicles under 7.5 tonnes which are likely to fall into the two-axle rigid van category, costs will probably be much lower. For cars, the cost of an ESC system has been estimated at around €120, so €50 (€50 per year) for a vehicle in the 3.5 -7.5 tonne range would seem reasonable, perhaps slightly high. The annual number of German registrations of vehicles in classes N2, N3 and M over 3.5 tonnes* is around 105,000. EVSC05-13 estimates that there are 370,000 commercial vehicles over 7.5 tonnes registered in Germany. Assuming that the size of the vehicle fleet is relatively constant, and that the average lifespan is 10 years, this means that there are 680,000 vehicles in the 3.5-7.5 tonne range.

So, assuming an annual cost of €150 for vehicles over 7.5 tonnes (including trailers where appropriate) and €50 for vehicles in the 3.5-7.5 tonne range, this gives a total annual cost of $(370,000 \times 150) + (680,000 \times 50) = \text{€}9,000,000$.

When compared with the likely saving of €126,000,000 this gives a benefit/cost ratio of 1.4.

However, this figure should be seen as being conservative due to a number of factors

- It does not take into account savings in congestion costs and other costs to the economy, which could be considerable particularly with larger vehicles,
- Some small buses may have been included in the costs but not the accident savings.
- Costs for ESC are likely to fall considerably as systems become more widely available.
- The savings potential will probably increase due to the likely future growth in goods traffic in Europe.

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* ACEA data.. May include some M2 and urban M3 vehicles that are not included in the accident statistics, but the majority are N2 and N3.