



**Platooning – a solution for the future? Summary
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Publiceringsdatum: 2017-01-18

Summary

More efficient road transport is a topic of great interest. Platooning and automation as well as the use of longer, heavier vehicles are all measures for increasing efficiency. Platooning results in lower fuel consumption mainly due to less air resistance as the vehicles are being driven closely together. Automation produces savings as the number of drivers may be reduced and the remaining drivers can use “driving time” in other ways, such as for administrative tasks or rest. Longer vehicles can carry more freight per vehicle, lowering the cost per transported ton. If these trends become commercialised and are combined in the future, road transport may be carried out as road trains in which many long vehicles drive in a platoon.

The potential costs of these future road transport alternatives are examined and compared with those of traditional road and rail transport in this report. The prerequisites for the various transport alternatives are illustrated using specific scenarios. The costs calculated are operating costs, external costs to society (e.g., emissions and wear and tear), and the value of transport time for the goods.

The results indicate that the future platooning of transport could reduce external costs to society by 30 per cent, given our prerequisites, compared with traditional road transport. The savings derive from technical development in terms of platooning and from external changes such as increased energy efficiency. Compared with the railway case, the platooning case results in a 15-per cent reduction in external costs.

A large share of the road cost reduction derives from less wear and tear on the infrastructure. The introduction of longer vehicles will reduce the total number of vehicles and increase the number of axles per vehicle, meaning that each axle carries less weight. The already lower cost of road wear and tear, compared with the comparable rail cost, will be even lower in the platooning case, increasing the difference between the rail and road infrastructure costs. Regarding the costs to society of carbon dioxide emissions, rail will continue to have much lower costs, even compared with future, more efficient road transport.

The rail transport case will still have the advantage in terms of operating costs, which differ by about 100 per cent of the platooned road transport operating costs, although the platooned road transport case will have operating costs about 30 per cent lower than those of traditional road transport. These savings derive mostly from fewer drivers being used in the automated concept, but also from fuel savings. Lead times are considerably shorter in the road transport than the rail transport case, implying lower costs in terms of goods transport time.

In summary, taking account of all costs, it can be concluded that future automated platooned road transport with long vehicles will operate at a total cost about 15 per cent higher than that of current rail transport but about 25 per cent lower than that of current traditional road transport.



Trafikanalys är en kunskapsmyndighet för transportpolitiken. Vi analyserar och utvärderar föreslagna och genomförda åtgärder inom transportpolitiken. Vi ansvarar även för officiell statistik inom områdena transporter och kommunikationer. Trafikanalys bildades den 1 april 2010 och har huvudkontor i Stockholm samt kontor i Östersund.