

## 60-T VEHICLES IN EUROPE

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### 1. INTRODUCTION

The big challenge for Road Administrations as for many other bodies in Europe is to combine increased mobility with sustainability as congestion and overloaded roads heavily impact the local economy and environment in many areas.

Heavy Goods Vehicles (HGV) in Europe are increasingly more numerous, heavier and longer. Many people think that the road networks are not adapted to accommodate the increased number of HGVs, nor their larger size or heavier weight.

Two northern European countries, Finland and Sweden, have many years of experience with the use of long HGV on their roads.

The purpose of this study is to review the experiences in Finland and in Sweden and to encourage other countries to think about a way of minimising the effect of the ever increasing growth in goods transport throughout Europe.

### 2. SUMMARY OF THE FINDINGS ON 60-T VEHICLES

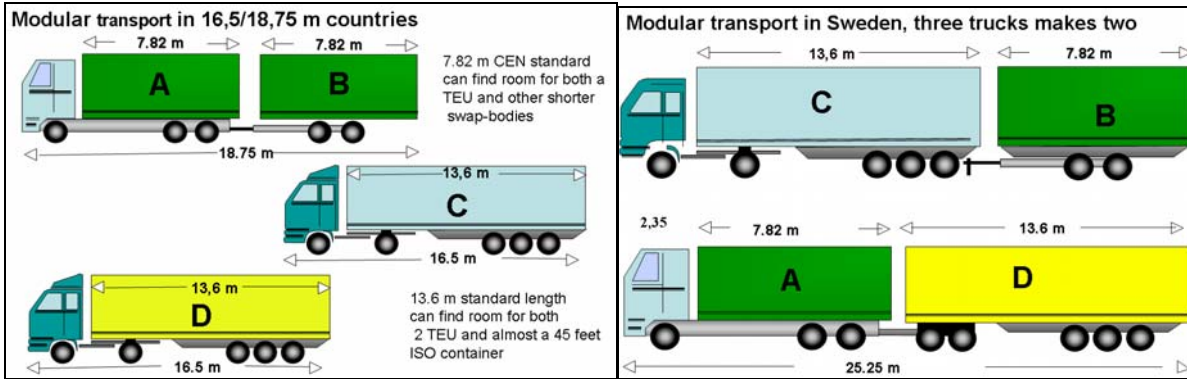
The volume of goods transported in Europe is increasing steadily – especially the amount of goods transported by road. 73% of the goods transported inland are by road, 16% by rail, 6% by inland waterways and 5% by pipelines. The mid-term review of the European Commission's 2001 Transport White Paper forecasts that freight transport will increase by 50 % for the period 2000 – 2020 and road freight by 55 %.

At the same time the capacity of many European roads has reached, or is close to its saturation point; these roads encounter heavy congestion and delays.

To keep freight transport in Europe moving, all modes of transport, road, rail, inland waterways, pipelines, sea and air, are challenged to improve their efficiency. The shift from road transport to other modes can only pick up a minor share of the forecasted transport growth and even this minor share requires that the non-road modes also improve their efficiency.

The best way to minimise the effect of increased traffic volumes on the roads has therefore to be found in the road transport system itself. The most fruitful way to decrease the number of HGVs on the roads is probably to use longer and maybe also heavier vehicle combinations.

For the EU countries, the Directive on weight and dimensions, 96/53/EC, gives the option for member countries to allow long vehicle combinations in a modular system.



Both Finland and Sweden have, since 1993, considerable experience in allowing longer 60-t HGV combinations onto their roads. They have sparse populations located in very remote areas in comparison to other European countries and the distances to these areas are considerable.

**The consequences of allowing 60-t HCV combinations were:**

- a) **On road wear and tear:** the road wear and tear per transported ton or transported volume has not increased; the opposite is probably true.
- b) **On the environment:** studies were carried out by Finland and Sweden during their negotiations to join the EU. These studies showed that a decrease in vehicle weights and dimensions would increase the CO<sup>2</sup> and NO<sup>2</sup> outputs.

in Finland by:

CO <sup>2</sup>	+ 18 %
NO <sub>x</sub>	+ 20 %

in Sweden by :

CO <sup>2</sup>	+ 700 000 tonnes	+ 18 %
NO <sub>x</sub>	+ 12 000 tonnes	+ 20 %

- c) **On road safety:** the experience showed that for a certain amount of goods to be transported, a longer and heavier HGV combination also means fewer HGVs on the roads and therefore less exposure to risk for the road users.
- d) **On the economy:** the economical benefits from having long and heavy vehicles were estimated at 6.5 billion SEK or 20% of the transport costs in Sweden and 17% in Finland.
- e) **On the modal split:** the increase of HGVs' weights and dimensions during the last two decades seems to have had only a marginal effect on the modal split.

The Finish and Swedish experiences showed that with longer HGV combinations on the road, investments in the road infrastructure may be necessary, even though this need should not be overstated. The trial in the Netherlands showed that it is also possible, even in a densely populated country, to identify road networks suited for long HGV combinations.

For other countries, the issue remains unanswered as to whether the country's roads and bridges can support the weight of such vehicles without being reinforced.

Finland's and Sweden's positive experiences have encouraged other countries to try out this more efficient way of road freight transport.

In the Netherlands, one of the most densely populated countries in Europe, trials with long HGV combinations have been carried out. The initial period and scale were extended during the second phase to confirm the positive results found in the first phase.

Denmark and Norway are performing or are preparing trials with the so called modular system, using 25.25 metre long HGV combinations.

Other countries will follow.

### **3. CONCLUSION**

The volume of goods transported in Europe will increase substantially over the next few years and thereby contribute to congestion and overloaded roads. Increasing the efficiency of road freight transport remains an important challenge for all Road Authorities to minimise the negative effects of road freight transport.

Sweden and Finland experienced good results with long HGV combinations. Positive effects were encountered as far as road wear and tear, the environment, road safety, the economy and the modal split are concerned.

Most European countries should have the possibility to achieve a big increase in efficiency by opening up all or part of their road network to modular HGV combinations with an increased total length.

However, for other European countries, the debate remains open. Some are of the opinion that modular HGVs will not contribute to solving the problems of transporting inland more and more freight by roads and bet their future on shifting freight transport from road to rail.

The authors hope that, based on the experiences over many years in Finland and in Sweden, this paper will stimulate the discussion concerning the wisdom of introducing modular HGVs in Europe.