

# Summary

Nowadays road transportation is handled by numerous types of vehicles and vehicle combinations. Over the years a lot of different types of vehicles appeared on public roads, with the goal to transport cargo in the most efficient way. To get a structured overview of the possible road vehicles and road vehicle combinations, an inventory has been made, including discussions with people from different fields of the transport branch.

A structure is created by using a flow diagram. This structure is the base of the report. Road vehicles, with axle load from 10 (t), are divided into three main groups,

- The truck
- The articulated vehicle combination
- The truck / trailer combination

Within every main group there is a distinction between different types of vehicles, which will be discussed with respect to their application, features and gross vehicle weight. The Dutch Vehicle regulations are treated with respect to the maximum allowed lengths, maximum allowed axle load and the turning test. For vehicles that do not comply with the Dutch Vehicle regulation the guidelines for grant discharge are studied for the combination length, axle load and volume of the vehicle and cargo.

In addition to the discussions with people from the transport branch, the following tendencies in road transport are observed:

- The expectations of grant discharge for Longer and Heavier Vehicle combinations (LHV's). The utilization of these LHV's will lead to an improvement of the transport efficiency and to a large reduction of the vehicle kilometers and emission of toxic gases.
- The decrease of the mass of the road vehicles, to reduce the costs per kilometer. The transport capacity will increase for a fixed number of trips, because more mass is optional for cargo with the use of lighter vehicle combinations.
- Checks for axle load increase very rapidly. Nowadays electronic measuring systems in highways can register very precisely the individual axle load, lengths and mass of a passing vehicle combination. Therefore the cargo overload of vehicle combinations will soon be something of the past.
- The cargo volume increased the last two decades with approximately thirty percent, and this trend will continue in the future. There has been a shift in the last decades from the transport of semimanufactured products and raw materials to the transport of end products. During the same period the volume mass of these end products decreased, resulting in a increase of transportation volume.