1. Introduction

1.1 Objective and background of the project

RAND Europe has carried out a research project on car ownership modelling for the Transport Research Centre (AVV) of the Dutch Ministry of Transport, Public Works and Water Management. The objective of this project, called ‘Audit of car ownership models’ is:

To review car ownership models in the Dutch and international literature and policy-making and to recommend on directions for potential development for improving the AVV car ownership models.

The car ownership model that AVV uses for most applications is the so-called FACTS model (Forecasting Air pollution through Car Traffic Simulation). FACTS also provides the future total number of cars that is used as an external total in the Dutch national Model System (LMS) for traffic and transport.

The background of this audit is the desire of AVV to obtain information on the basis of which a well-founded decision can be made on the development of an improved car ownership model, that can produce robust and sensible car ownership forecasts for all kinds of variants of variabilisation of the road tax (MRB) and car purchase tax (BPM).

1.2 Deliverables

In this project, a number of memoranda and reports has been written:

- A memorandum (memo 1) on the interviews that have been carried out with policy advisers (Ministries, also car importers) on what is required from a car ownership model; A copy of this memo (in Dutch) is attached as Annex 1 to this report.

- A memorandum (memo 2) on the first round of the audit of car ownership models: description of existing models, weak and strong points of different car ownership modelling approaches, pre-selection of most promising approaches given the requirements; Is FACTS appropriate as a basis for future model development? This memo, slightly revised, is included in this report as chapters 2-4.
A report which includes the information of the two memoranda, but also contains:

- The second round of the car ownership models: going into greater depth on the weak and strong points and the confrontation with the requirements for the most promising models;
- Several scenarios for improving the AVV car ownership models
- Recommended car ownership model type for the Netherlands.

This report 01192 of January 2002 is the third of the above-mentioned deliverables. In chapter 2 the FACTS model is described. Other car ownership models, available in the Netherlands are reviewed in chapter 3. Chapter 4 is the review of the international car ownership literature. In the international review we focussed on models developed recently (say since 1995) or models that are still in use, because the review should give the state-of-the-art and state-of-practice. For the Dutch models in chapter 3 we do include older models. A cross-comparison of the different model types, with advantages and disadvantages can be found in chapter 5. In chapter 6, the outcomes of the interviews with policy advisers, as agreed with the client steering group is reviewed. In chapter 7 we provide recommendations on what seem to be the most promising types of modelling car ownership and on the development of such models. Finally in chapter 8, a summary and recommendations are given.