

LIMOBEL

Long-run impacts of policy packages on mobility in Belgium

DURATION OF THE PROJECT

Phase 1: 01/01/2007 – 31/01/2009
Phase 2: 01/02/2009 – 31/01/2011

BUDGET

710.294 €

KEYWORDS

Freight and passenger transport, Policy packages, Sustainable transport, Modelling

CONTEXT

LIMOBEL deals with three priority research areas that are interrelated: transport and mobility, energy and environmental issues. While generating many economic benefits, transport use also causes many problems. Congestion, accidents and environmental costs are the most important. These problems call for government intervention in order to arrive at a more sustainable transport system. LIMOBEL aims to help the government in its decision process, taking into account various government objectives.

PROJECT DESCRIPTION

Objectives

The aim of LIMOBEL is to develop a fully operational modelling tool to study the impact of transport policies on the economy and on emissions in order to help the government make choices when it is faced with different objectives. The project will produce long term projections (up to 2030) of passenger and freight transport demand in Belgium. A baseline scenario will be constructed that will be compared with alternative policy scenarios for more sustainable transport. In the alternative policy scenarios packages of instruments will be considered, including pricing instruments, regulation and infrastructure measures. The pricing and regulation instruments can concern both the use and the ownership of vehicles. Besides transport instruments the project may also consider more general instruments (such as labour taxes, transfers) in order to ensure budget neutrality. A cost-benefit analysis will be made of the policy packages. LIMOBEL will consider the impact of these policy packages on general economic performance, on freight and passenger transport demand, on energy use, on the emissions of air pollutants and greenhouse gases, on congestion, on accidents and on welfare (in general and of different population groups).

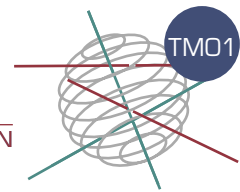
Methodology

LIMOBEL builds upon existing models of the three teams, extends these models and links them. The first model is the PLANET model which is developed at the FPB. It is a medium term and long term projection model for freight and passenger transport demand in Belgium meant as a policy support tool for the Federal Public Service Transport and Mobility. The second model is NODUS, a multi-modal freight network model developed at GTM. The third model is the environmental impact assessment model developed at VITO. This model determines the emissions of various air pollutants and greenhouse gases by different vehicle types and calculates the social costs of these emissions using the impact pathway methodology.

The aim of LIMOBEL is to link these three modelling approaches and to extend them. The main contributions of LIMOBEL are:

1. to construct a model for long term macro-economic projections at the sectoral (i.e., several economic sectors) and regional (i.e. the three Belgian regions) level, with an explicit modelling of the interaction between the economy in general and the transport sector. This implies that the assumption of an exogenous macroeconomic evolution, which is made in PLANET and many transport projection models, is dropped. Another extension with respect to PLANET is the introduction of several consumer groups such that the distributional impacts of policies can be analysed. Finally, the model will take into account the Belgian institutional context with several regions and a federal government.
2. to produce a link between the extended PLANET model and NODUS, which allows a more realistic modelling of the generalized transport costs and of the impact of infrastructure measures. The network model will be extended





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to include passenger transport, such that the interaction between passenger and freight transport can be taken into account.

- 3. to produce a link between the environmental impact assessment model and the two other models. The environmental model will be updated and its parameters will be adapted such that it can be used for a time horizon of up to 2030. In addition, the methodology will be extended to maritime transport.

INTERACTION BETWEEN THE DIFFERENT PARTNERS

Each team is responsible for the development of 1 specific part of the project. The FPB develops the macroeconomic projections, GTM develops the network model and VITO develops the model that calculates the environmental impacts. The three teams are responsible for linking the three modelling approaches, since this is one of the main contributions of the project.

EXPECTED RESULTS AND/OR PRODUCTS

The end product of LIMOBEL will consist of two parts: (i) a fully operational modelling tool and (ii) a set of cost-benefit analyses of alternative policy packages

PARTNERS - ACTIVITIES

The FPB makes studies and projections on economic, socio-economic and environmental policy issues. The Energy-Transport team has expertise in the development and analysis of transport indicators, satellite accounts and long term transport projections.

GTM is an inter-departmental research entity of F.U.C.a.M. Its recent research topics includes, amongst others, cost-benefit and multicriteria analyses of transport infrastructure and the monetary valuation of qualitative transport attributes. GTM developed the NODUS software.

VITO conducts customer oriented contract research and develops innovative products and processes in the fields of energy, environment and materials. The Integrated Environmental Study team develops and applies evaluation models for sustainable development.

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Follow-up Committee

For the complete and most up-to-date composition of the Follow-up Committee, please consult our Federal Research Actions Database (FEDRA) by visiting <http://www.belspo.be/fedra> or <http://www.belspo.be/ssd>

