

REFIT – REFINEMENT AND TEST OF SUSTAINABILITY INDICATORS AND TOOLS WITH REGARD TO EUROPEAN TRANSPORT POLICIES

CLIENT: *European Commission, DG TREN*

YEARS: 2006 – 2008

DESCRIPTIONS OF ACTIVITIES

Objectives of the project

In current practice of transport policy three weaknesses can be identified.

Firstly, the links between existing modelling tools and sustainability indicators are inadequate. Secondly, the existing modelling toolbox is incomplete, especially with respect to the impact of transport policies on regional economic growth, on social equity and on local environmental quality. Finally, there has been a tendency to address measures in isolation without an understanding of interdependencies between measures.

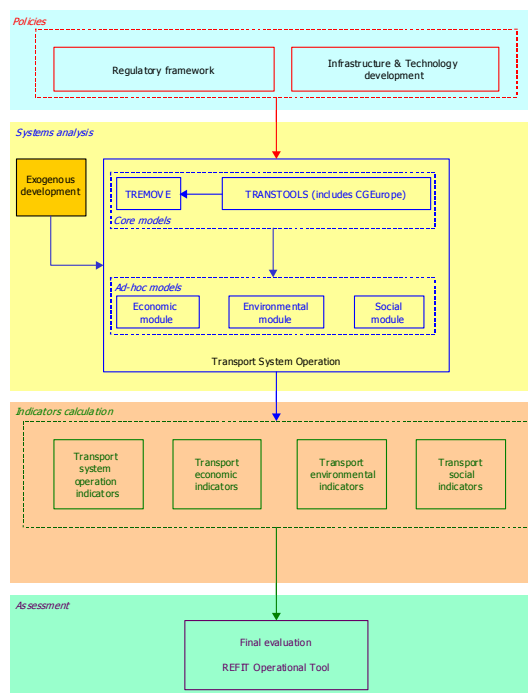
REFIT is a project, co-funded by the European Commission within the Sixth Framework Programme, that tried to address these weaknesses.

REFIT aimed to develop, test and validate a “modelling tools-based” methodology that, through the analysis of selected indicators, enables ex-ante evaluation of the European Common Transport Policy considering the economic, environmental and social dimensions of sustainability.

The REFIT operational framework

The REFIT operational framework includes four main areas.

- The *Policy* area includes the leverages that are used to design the transport policies. The definition of a policy implies a “change of assets” which might be either positive (the creation of new assets, e.g. new transport infrastructures) or negative (resource consumption, which is a reduction of assets). The Policy area provides inputs to the core and ad-hoc models of the “Transport System Operation” box within the System Analysis area.
- The *System Analysis* area is the ‘engine’ of the operational framework, where the input defined in the Policy area is translated into raw output that serve to compute the indicators. The main



The REFIT operational framework

element in this area is the “Transport System Operation”, which includes the core models, TRANS-TOOLS and TREMOVE, and the ad-hoc models, which produce sustainability indicators respectively for the economic, environmental and social dimension.

The TRANS-TOOLS/TREMOVE integrated model structure is the core of the quantitative procedure: TRANS-TOOLS is a network-based transport model whereas TREMOVE simulates aggregate demand and includes a detailed description of fleet development, fuel consumption and emissions factors. They simulate the change induced by a policy on a wide range of variables and produce a set of data, which are either indicators themselves or the input of the ad-hoc models. Indicatively: the *economic module* addresses the linkages between transport and economy,

mainly in terms of the effects of transport policy measures on regional GDP or employment; the *environmental module*, deals with health impacts of air-pollution and traffic noise; the *social module* handles the effects of policies on the social side in terms of aspects like the distribution of costs and benefits.

- The System Analysis area produces a wide range of quantitative results. Such results are transferred to the *Indicator Processing area* for the calculation of the sustainability indicators, which are either derived from the international literature or suitably created for REFIT project. The produced indicators provide the basis for the assessment phase carried out in the last area of the operational framework.
- The *Assessment area* is the place where the indicators developed in the previous steps of the operational framework can be used to derive a final response concerning the impacts of the transport policies on the sustainability.

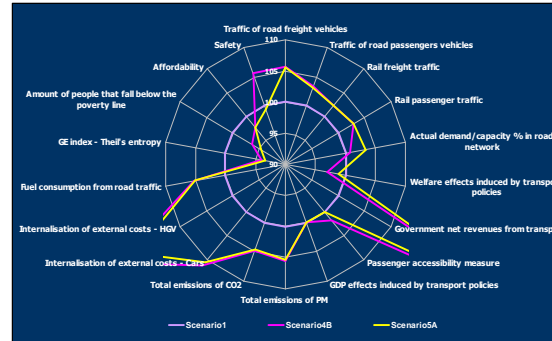
The REFIT operational tool

The REFIT operational tool is the instrument where the indicators computed in REFIT are gathered in a coherent way in order to provide the policy makers with a clear overview of the indicators and their individual and total response to a certain transport policy.

The REFIT indicators are grouped by topic: *transport system operation indicators*, *transport economic indicators*, *transport environmental indicators* and *transport social indicators*.

The operational tool is represented by Microsoft Excel workbook containing set of pivot tables and

graphs, which allow for a comprehensible analysis of the changes caused by the policy for each sustainability domain.



Applications

The REFIT framework has been applied to the assessment of the Strategy for an internalization of external costs under evaluation by the European Commission within the IMPACT project.

The role of TRT

TRT was the leading partner for the design of the assessment framework and for the integrated assessment of the policy packages.

The Consortium

The REFIT project was led by TNO Business unit Mobility & Logistics (NL), other members of the consortium are TRT Trasporti e Territorio (ITA), TML Transport & Mobility Leuven (BE), ISIS The Institute of Studies for the Integration of Systems (ITA), CAU Christian-Albrechts University of Kiel (GER), IER The Institute of Energy Economics and the Rational Use of Energy, University of Stuttgart (GER).