

Overview of scenario activities within WP2

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Inger Gustafsson

East West TC

Hamburg

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Telephone: +46 30 50 00, Fax: +46 30 50 10, E-mail: kansli@regionblekinge.se

1. Introduction

The purpose of this report is to describe the process within WP2 on defining overall goals with HGV road user charging and scenarios to be evaluated and analysed.

The overall objective of WP2 in the East West project is to illustrate how ITS applications can improve the transport opportunities in the corridor and also work against the negative impact that can be caused by increased traffic. One of the WP2 modules is focusing on road user charging and how that can support the overall objectives, i.e. increase the knowledge on which regional impact a road user charging system can have.

2. Identified overall goals with distance based road user charges for HGV

WP2 has a core team with representatives from the Swedish Road Administration and a number of consultants. The core team had a number of meetings and workshops to define which impact would be strived for when implementing a future road user charging system. The work resulted in the following three main objectives:

- Decreased negative environmental impact
- Increased traffic safety
- A sustainable transport system

These objectives were broken down into:

- Traffic management of heavy goods vehicle to the identified road network
- Increased share of intermodal transports
- Increased share of low emission heavy goods vehicles
- Improved traffic information
- Improved payment applications
- Support to the transport sector to increase the load factor and decrease empty running

3. Identified scenarios

Based on the identified goals three scenarios could be identified. The eagle, the frog and the extended frog. All scenarios were to be based on the assumption the road user charging for heavy goods vehicles would be implemented in Sweden and that all heavy goods vehicle with more than 3,5 ton maximum weight would be taxable and that all roads would be included. Those assumptions are based on the existing political material.

The Eagle

The vision of the eagle is to understand what will happen with the traffic flows in regard of modal split and route changes. It

was decided to carry out a simulation to get the information. This requires that the Baltic Sea Region is included in the simulations. The simulation will apply different price levels and include the following transport modes: road, rail, sea and intermodal. Further the simulation will be based on the following assumptions:

A) infrastructure, traffic demand and transport supply like today

B) 50% increased transport demand

The Frog

The vision of the frog is to understand if and how RUC can be used for supporting the over all goals, i.e. how should the system be designed to: Make the HGV use the identified network, i.e. make the HGV use the identified network and increase the share of low emission vehicles. It was decided to carry out a simulation to get the information and that the simulation would focus on the Regions of Skåne and Blekinge with a special focus on intra regional transport flows. The simulation will be limited to road transport and apply different price levels on the different parts of the network. Further the simulation will be based on the following assumptions:

A) infrastructure, traffic demand and transport supply like today

B) 50% increased HGV transport, Swedish infrastructure as for simulations year

The extended frog

The objective of the extended frog is to better understand what will happen to the haulier industry when road user charging

is implemented. In Sweden the policy suggest that the road user charging should be cost neutral. The question is however cost neutral to whom. The haulier industry is a heterogeneous market and depending on transport pattern and vehicle usage the charging will have quite different impact.

4. Identified methodology for analysis and simulation

The three defined scenarios require different methodology. The eagle and the frog will both be carried out using macro simulation models. For the eagle a tool call STAN will be used and for the frog a tool called SAMPERS will be applied.

For the extended frog no simulation will be used. Instead a three step analysis will be used including:

1. Interviews with expert to identify haulier segments and to make approximations of their cost structure and transport pattern today. To these cost structures the suggested level of road user charging will be added.
2. Interviews with haulier from each segment to validate the cost structure and to ask what will happen when road user charging is implemented, e.g. are there any potential for increased efficiency, who will carry the increased cost, how will the work situation change.
3. Based on the results from step 2 the cost structure will be revised and the impacts analysed.

REPORT



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