



INTERMEDIATE OBJECTIVES FOR A GOOD ENVIRONMENT

Summary

Preface

This report presents the results of the review of the intermediate objectives for the subsidiary objective of transport policy, a good environment, that SIKA carried out in collaboration with the National Rail Administration, the National Road Administration, the Swedish Maritime Administration, the Swedish Civil Aviation Administration, the Swedish Environmental Protection Agency, the National Board of Housing, Building and Planning and the National Heritage Board.

The commission entailed making recommendations for updated intermediate objectives for the subsidiary objective of transport policy, a good environment. These were to be based on the overall objective and the six subsidiary objectives of transport policy, the environmental policy subsidiary objectives and other changes that have taken place in the surrounding world since the existing intermediate objectives were adopted in 1998.

Representatives from the above-mentioned agencies have served as a steering group for this work. Special working groups have been set up in a couple of areas.

Consultation has taken place with the Swedish Association of Local Authorities, representatives of small and large businesses, interest organisations and other actors in the community that are affected or which are to contribute to the achievement of the objectives. Consultation has taken place by the draft report being circulated on 7 February 2003 with a request for comments to be submitted within just over three weeks.

SIKA interprets the assignment that the foremost task of the intermediate objectives is to provide guidance for the Government's own activities. The responsibility for implementation of the objectives cannot be directly decentralised to the transport agencies and other agencies concerned, since these do not have at their disposal all the instruments of control required to achieve the objectives. However, the intermediate objectives are important for the transport agencies in their role as being responsible for sectors. In this role, the agencies have the task of providing the Government with material on which to base decisions to produce measures strategies in order to achieve adopted intermediate objectives and for continuous development of the objectives.

The agencies in the steering group are in agreement on the recommended intermediate objectives presented in this report with the exception of one point. This concerns the recommended intermediate objective for the emissions of greenhouse gases by the transport sector, where the Swedish Environmental Protection Agency and the National Rail Administration take a different view from the recommendation presented in this report. The Swedish Environmental Protection Agency also has a different view on the recommended measures programme to achieve the proposed intermediate objective for noise. The

Environmental Protection Agency and the National Rail Authority present their views in Annex 4.

Stockholm, March 2003

Staffan Widlert
Director

Summary

This report accounts for the commission given by the Government to SIKA to review and make recommendations, in collaboration with the National Rail Administration, the National Road Administration, the Swedish Maritime Administration, the Swedish Civil Aviation Administration, the Swedish Environmental Protection Agency, the National Board of Housing, Building and Planning and the National Heritage Board, on updated intermediate objectives for the subsidiary objective of transport policy, a good environment.

According to the commission, this work was to be based on the overall objective and the subsidiary objectives for transport policy as well as the environmental policy subsidiary objectives. The work was also to take into consideration other changes that have taken place in the surrounding world since the existing intermediate objectives were adopted in 1998, for instance, new EC directives, the strategy for sustainable development and experiences of management by objectives in transport and environmental policy.

The report begins by presenting the foundations and limits that have applied when we considered the design of the intermediate objectives (chapter 2 and 3). In chapter 4, we have taken up developments in transport.

The intention of formulating intermediate objectives is to indicate timed and, if possible, quantified steps on the road towards the long-term objectives. They should express short and medium-term political priorities. In this way, the intermediate objectives are to serve as the basis for planning, implementation, and monitoring concrete measures.

The foremost task of the intermediate objectives is to provide guidance for the Government's own activities. The responsibility for implementing the objectives cannot be directly decentralised to the transport agencies and other agencies concerned, since these do not have at their disposal all the required instruments of control to achieve the objectives. However, the intermediate objectives are important for the transport agencies in their role as being responsible for sectors. In this role, the agencies have the task of providing the Government with material on which to base decisions for producing measures strategies to achieve the adopted intermediate objectives and for the continuous development of the objectives.

In the directives on the present commission, which is then limited to the subsidiary objective on a good environment, the Government formulates a number of requirements for the desired intermediate objectives. These are

- to be balanced with one another and to be realistic
- to be of an overall character
- to be clearly quantified and timed (to the extent appropriate)
- to contribute to achieving the subsidiary objectives of environmental policy (including the climate objective).

In this commission, we have decided to concentrate our efforts on investigating the intermediate objectives for those environmental effects where it can be anticipated that extensive measures will be required in the transport sector or where transport development is of great importance for achieving the environmental objectives decided upon and where the role of the intermediate objectives is not already dealt with in current legislation.

Chapters 5–12 contain a review of the needs and conditions for formulating intermediate objectives for different areas. These areas are of different character and the appropriateness of using intermediate objectives as an instrument of control varies. We have worked on the basis on the following criteria for an area to be appropriate for intermediate objectives as an instrument of control:

- When the environmental burden from the transport sector is a predominant source and is of great importance for complying with the environmental quality objective and transport development is important for the ability to achieve the objective.
- The area is suitable for management by objectives.
- Objectives can be formulated in an overall way in such a way as to provide guidance for the Government's activities and cannot be directly passed on to the agencies responsible for the sectors.

With these criteria, we have made the assessment that intermediate objectives are appropriate as instruments of control in three of the areas reviewed: greenhouse gases, noise in residential environments and the natural and cultural environment.

We consider the other areas to be just as important. However, in our assessment, other instruments of control are more suitable for these areas.

We have divided our recommendations into the following categories:

1. Intermediate objectives that can be quantified or designed as process objectives.
2. Intermediate objectives that are not considered to be able to contribute anything beyond application of current legislation, and reference is therefore made to that legislation.
3. The trend indicates that the environmental policy intermediate objective will be complied with by decisions already made. The regular monitoring of the subsidiary objective will show whether further measures are justified. No intermediate objective is therefore recommended for the time being.
4. Responsibility for the achievement of the environmental objectives can be directly referred to the transport agencies, which have at their disposal the required measures. The objectives can therefore be addressed directly to the respective agency in its role as agency responsible for the sector.

After having discussed the different areas in chapters 5 to 12 on the basis of the above criteria, we have arrived at the following recommendations:

Recommended intermediate objectives that are quantified or designed as process objectives

Greenhouse gases

- In 2010, the emission of greenhouse gases from the transport sector will be at most ten per cent higher than in 1990.
- By 2020, the emissions will have decreased by at least ten per cent compared with 1990

An improved basis for the distribution of burdensharing between the sectors should be produced for the checkpoint in 2004, when the intermediate objectives for the transport sector should also be reviewed.

Noise in the housing environment

- By 2010, the number of persons exposed to noise in excess of the target value indoors in housing should decrease by five per cent compared with 1998. The focus is to be on the most effective reduction of disturbances. No one should be exposed to unacceptable levels of noise indoors.

The intermediate objective can be achieved by a combination of the following programmes of measures.

1. A targeted programme consisting of the residential and educational buildings exposed to noise at 37–40 dBA equivalent level and over indoors and the residential buildings exposed to noise at 52–55 dBA maximum level and over indoors at night more than five times per night. The measures shall in the first place lead to restrictions in indoor levels to under the current target values. The programme is to have been implemented by 2010 at the latest.
2. A special programme for emission limitation for individual vehicles /craft and surfaces/rails and quieter operation of vehicles/craft. The programme should be drawn up in 2004 and initiated in 2005.
3. A programme for increased consideration to be given to noise for
 - a. measures that affect traffic
 - b. planning physical measures.

The knowledge base, recommendations and advice for different players in the community should be available and in use by 2005.

Besides the programme of measures, research and development of measures and methods should be carried out for determination of noise disturbances as well as further possibilities for reducing emissions from vehicles, tyres and surfaces. This would enable more effective measures against disturbances to be designed and to be able to monitor the development of noise disturbances from 2008 if this development is made a priority. The estimated cost is at least SEK 20 million.

The programmes including measures and method development will cost approximately SEK 2,500 million to implement. The socio-economic benefit through reduction of disturbances and other effects is estimated to SEK 500–800 million/year.

The Government has made the assessment that it is only possible to achieve a noise reduction of five per cent with existing knowledge and resources. However, the Government will monitor developments closely and the ambition is to be able to achieve an objective of a ten per cent reduction by 2010. With the measure level made more stringent by 3 dBA and the excess limit made more stringent by being reduced from five times a night to three times a night, a ten per cent reduction can be achieved at the same time as an effective reduction in disturbances can be expected. The more stringent levels are expected to cost SEK 1,800 and SEK 600 million respectively, in all approximately an additional SEK 2,400 million. The marginal utility is estimated to SEK 400–600 million/year.

The natural and cultural environment

- A method for systematically dealing with natural and cultural values in the transport infrastructure is to have been introduced by 2005 at the latest.
- At the latest by 2007, the transport sector is to have formulated levels of ambition for when and to what extent the quality requirements for natural and cultural values are to be met for new investments, existing facilities and operations.

It is proposed that the first intermediate objective be the first step towards the overall objective and specify that a common system, or a common method, has been produced and implemented in the respective transport agency's long-term measures planning and for operation and maintenance. The method should be used both in the formal decision-making process in accordance with the Environmental Code and in respective special legislation such as in the municipal general physical planning.

The objective is formulated, inter alia, in the light of the project that the National Road Administration has carried out in collaboration with the other transport agencies, the Swedish Environmental Protection Agency, the National Heritage Board and the National Board of Housing, Building and Planning to develop quality requirements and criteria for the adaptation of the transport infrastructure to natural and cultural values.¹

The second intermediate objective specifies the date by which the respective transport agency is to have formulated its level of ambition for when the quality requirements, i.e. the objectives that have been concretised in accordance with the previous section, are to be met.

The National Road Administration is the transport agency that has made most progress in the work of formulating quality requirements and criteria for the adaptation of the infrastructure to natural and cultural environments. Further

¹ *Mål och mått för natur- och kulturvärden*, National Road Administration, publication 2001:50

inputs are to be made to clarify the requirement of measures in relation to the criteria. It is furthermore intended to, as the deficiencies in relation to the requirements become known, to formulate objectives for when and how large a proportion of the road network the criteria are to be fulfilled. The National Road Administration makes the assessment that there should be a sufficient basis by 2007 to be able to formulate a level of ambition for how large a proportion of new investments, the existing road network and operating areas respectively are to comply with the quality requirements for nature and culture. It should be possible to apply experiences from the road sector to other transport sectors.

Current legislation is the most appropriate instrument of control

Air quality

It is not considered that intermediate objectives can increase the ability to achieve the desired air quality over and above application of the corresponding environmental quality norms. No new intermediate objectives are therefore proposed. The environmental quality norm for nitrogen dioxide should be complemented with a target level for 2010, where the starting point should be the environmental policy intermediate objective for nitrogen oxide adopted by the Swedish parliament.

The environmental subsidiary objectives are to be achieved without further measures

Nitrogen oxides, sulphur dioxide and volatile organic substances

Taking into consideration that the trends for emission of nitrogen oxides, sulphur dioxide and volatile organic substances indicate that the environmental policy subsidiary objectives will be achieved by decisions already made, we are not recommending any new intermediate objectives for the transport sector's emissions of nitrogen oxides, sulphur dioxide or volatile organic substances.

Developments should still be monitored in order for any changes in trends to be detected. If it turns out that the subsidiary objectives for environmental policy will not be achieved by 2010, the Government should commission SIKA to produce new intermediate objectives together with the agencies concerned.

There may be particular reasons for quickly establishing how environmental and transport statistics are to be monitored. The decision should be taken in consultation between SIKA, the Swedish Environmental Protection Agency and the Swedish Maritime Administration. The forecasts should also be reviewed.

However, a special objective should be formulated for emissions of sulphur dioxide by shipping, as soon as it has been established how emission statistics from shipping are to be monitored, at the latest, however, by 31 December 2003.

Objectives addressed directly to the transport agencies

Non-toxic ecocycle

- In a first phase, the *health and environmental risks* when using materials and chemicals in the respective mode of transport are to continuously decrease until 2010. The objective applies to the respective agency in its role as agency responsible for the sector. A *strategy* with measures and indicators for this work is to be produced by the transport agencies and adopted at the latest by 2005.

An ecocycle with efficient resource use

- In a first phase, *effective use of energy and materials* shall continuously increase within the respective mode of transport until 2010. The objective applies to the respective agency in its role as agency responsible for the sector. A *strategy* with measures and indicators for this work is to be produced by the transport agencies and adopted at the latest by 2005.

Physical planning and conflicts of objectives

An important issue is the extent to which measures to achieve one intermediate objective collaborate with or work against efforts to achieve other environmental policy or transport policy objectives. Some balances of this kind are struck within the framework of physical planning. This planning is an important means of making overall assessments of and considerations between the need of the transport infrastructure for land and its environmental impact and other land use. Programme work should therefore be started, which provides a basis for eventually (2005) developing an intermediate objective in the form of a process objective. An objective of this kind should specify that decisions on transport facilities should be treated and their consequences assessed in regional plans and/or in the municipal general plan. It is appropriate to co-ordinate programme work with implementation of the EC directive (2001/42/EC) on the assessments of the effects of certain plans and programmes on the environment in Swedish legislation and application.

Reconciled intermediate objectives

The basis for considerations on socio-economic bases has been produced in a number of other contexts, including in the report that served as the basis for the government bill on environmental objectives. However, it has proven very difficult to obtain relevant measures costs for many of the measures that are relevant in the transport sector. Since the material for formulating intermediate objectives, for which balances have been struck on a socio-economic basis, is deficient, they should be regularly reviewed and revised as necessary when new

information becomes available. New information can relate to the costs and effects of different measures but also the extent to which the policy that one is actually willing to implement leads to fulfilment of objectives.



THE SWEDISH INSTITUTE FOR TRANSPORT AND COMMUNICATIONS ANALYSIS

The Swedish Institute for Transport and Communications Analysis, SIKA, is an agency that is responsible to the Ministry of Industry, Employment and Communications. SIKA was established in 1995 and has three main areas of responsibility in the transport and communications sector:

- To carry out studies for the Government
- To develop forecasts and planning methods
- To be the responsible authority for official statistics

Swedish Institute for Transport and Communications Analysis

P.O. Box 17 213, SE-104 62 Stockholm, Sweden

Visit: Maria Skolgata 83

Phone: +46 8 506 206 00 Fax: +46 8 506 206 10

sika@sika-institute.se

www.sika-institute.se

ISSN 1401-3460