

# Follow-up of the Swedish Transport Policy Objectives



May 2006

SIKA is an agency working in the transport and communications sector. Our main tasks are to make analyses, descriptions of the current situation and other reports for the Government, to develop forecast and planning methods and to be responsible for the official statistics.

The reports are published in the series SIKARapport and SIKAPM. The statistics are published in the series SIKASTatistik, in the journal SIKAKommunikationer and in the Transport and Communications yearbook. All publications are available on SIKAs website [www.sika-institute.se](http://www.sika-institute.se).



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# Preface

SIKA has been commissioned by the Government in 2006 to make an annual follow-up on developments in the transport sector and whether the overall and subsidiary objectives of transport policy will be fulfilled. SIKA's report for 2006 relates to the subsidiary objectives for 2005.

The overall objective is to ensure socially and economically efficient and long-term sustainable transport resources for the public and industry throughout Sweden. There are also subsidiary objectives for an accessible transport system, regional development, gender equality, high transport quality, safe traffic and the environment.

SIKA's commission is solely to follow up the transport policy objectives.

This report is a summary of SIKA Rapport 2006:2. It is based on material from the National Rail Administration, the Swedish Civil Aviation Authority, the Swedish Maritime Administration and the National Road Administration.

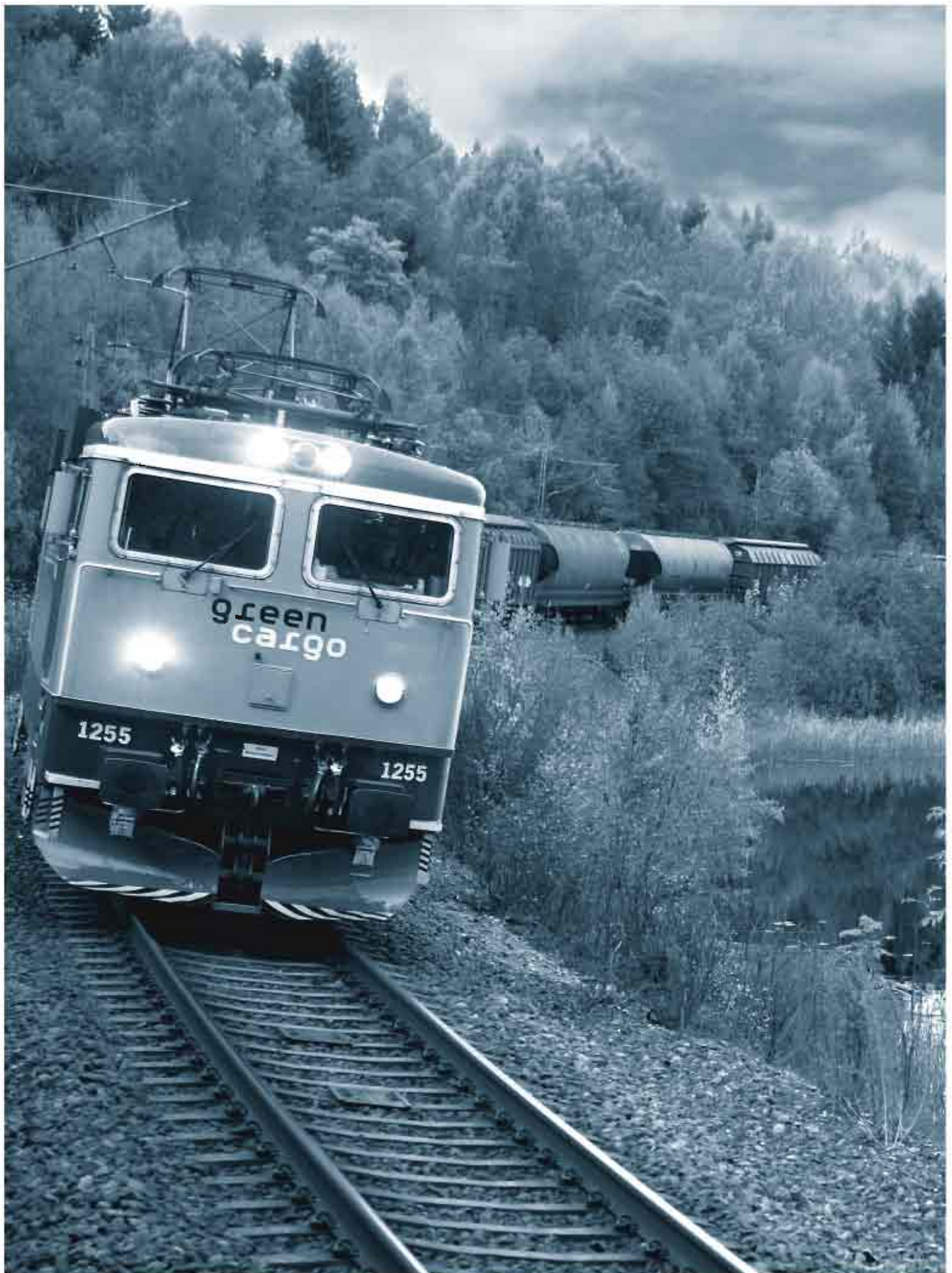
SIKA has produced reports of this kind since 1999. All reports from SIKA are available on the agency's website [www.sika-institute.se](http://www.sika-institute.se)

*Stockholm, August 2006*



Kjell Dahlström  
Director-General





# The transport policy objective and the subsidiary objectives

The Swedish Parliament, the Riksdag, and the Government have decided that Swedish transport policy is to be guided by an overall objective, six subsidiary objectives and a number of intermediate objectives. The subsidiary objectives state the long-term level of ambition while the intermediate objectives specify appropriate steps on the way towards the long-term objectives. All of these objectives are to be achieved in the long-term.<sup>1</sup>

The following table shows an overview of SIKAs follow-up of objectives for 2005.

OVERALL OBJECTIVE	<b>Development towards the long-term objective</b>	
	At present, there is insufficient documentation to determine whether the transport resources as a whole are approaching the objective. The system of charges for rail and sea transport has been adapted to marginal social costs and a better basis for calculating marginal costs has been produced during the year.	
SUBSIDIARY OBJECTIVE	<b>Development towards the long term subsidiary in 2005</b>	<b>Are the subsidiary objectives complied with by the decisions made</b>
Accessibility	Yes	Yes?
Regional development	Uncertain	Objective lacking
Gender equality	No	Objective lacking
Transport quality	Yes	Yes?
Safe traffic	Uncertain	No
Environment		
- <i>Effect on climate (CO<sub>2</sub>)</i>	No	No
- <i>Air pollution (SO<sub>2</sub>, NO<sub>x</sub>, VOC)</i>	No	No
- <i>Noise</i>	No	No
- <i>Ecocycle adaptation</i>	Uncertain	Objective lacking
- <i>Impact on natural and cultural environment</i>	Uncertain	Objective lacking

## The overall objective

**“The overall objective of transport policy is to ensure socially and economically efficient and long-term sustainable transport resources for the public and industry throughout Sweden.”**

The objective is intended to achieve a transport system, which is environmentally, economically, culturally and socially sustainable.

<sup>1)</sup> Government Bill 1997/98:56. Transportpolitik för en hållbar utveckling (Transport Policy for a Sustainable Development). Government Bill 2001/02:20. Infrastruktur för ett hållbart transportsystem (Infrastructure for a Sustainable Development).

There has not been a lot of new documentation or assessments of development in relation to the overall transport policy objective in 2005. As has been the case in previous years, SIKAs overall assessment is therefore that development towards the overall objective can only be measured in particular subsidiary areas.

Fairly comprehensive information is available for investments and responsibility for transport costs. According to this information, there are clear indicators that the present Swedish transport system deviates markedly from what may be regarded as an optimal state of social efficiency. SIKAs therefore considers that there is scope for better fulfilment of the objectives for social efficiency.

As regards long-term sustainability, SIKAs considers that it is difficult to assess development. At present, insufficient information is available to enable statements to be made about the extent of fulfilment of objectives or whether we are approaching or moving further away from the desired state. The transport system has approached a state of ecological sustainability in some subsidiary areas. However, in other areas, we seem to be moving further away from the objective, not least with regard to the impact of the transport system on climate. Dependence on oil also appears as an ever larger problem viewed from the perspective of financial sustainability.

Current transport policy includes a major redistributive component and a considerable part of public expenditure in the transport sector is used to sustain a reasonably uniform provision of transport throughout Sweden. However, knowledge about the effects of these measures is lacking to a great extent. It is therefore difficult to determine how well the present provision of transport meets the distributive aims of transport policy.

## Accessibility and regional development

**“The transport system will be designed so that the basic transport needs of the public and industry may be satisfied.”**

**“The transport system will promote positive regional development by both evening out differences in opportunities of various parts of Sweden to develop and also by counteracting disadvantages of long transport distances.”**

There has been little change in travel times in the national road network in 2005 compared with previous years. However, the National Road



Administration considers that the intermediate objective of improved accessibility for the public and industry between sparsely-populated areas and central towns, between regions and their surroundings and between metropolitan regions and urban areas was achieved in 2005. The National Road Administration considers that that the intermediate objective that cycle traffic is to increase has been partly achieved.

The National Rail Administration considers that the accessibility of rail transport improved in 2005, which is confirmed by an increase in transport performance for both passenger and goods transport according to preliminary statistics.

The accessibility of air transport is considered to be have deteriorated slightly in 2005. The Civil Aviation Board assesses the accessibility of air transport based on ease of reach and accessibility of airport regions. The measure is the average period of stay. Ease of reach has deteriorated for 32 of 37 airport regions, while it has improved in five regions. Accessibility has also deteriorated for most regions. Among the investigated airport regions, accessibility has improved only for eight regions, two are unchanged while 27 have experienced a deterioration.

The National Road Administration and the National Rail Administration consider that the common operational objective of increasing the proportion of children and young people able to use the road and railway system has been fulfilled in 2005.

The Government has formulated an intermediate objective that public transport should be accessible to persons with disabilities at the latest by 2010.

The transport agencies have carried out measurements for the fourth consecutive year to be able to report on the proportion of disabled persons who can use the respective mode of transport. The National Road Administration considers that the intermediate objective can be achieved on certain prioritised routes. The National Road Administration considers that accessibility for the disabled has improved in 2005. The National Road Administration and the National Rail Administration have initiated joint work to speed up the rate towards achieving the intermediate objective in 2010. The Civil Aviation Authority considers that the aviation sector has good prospects of achieving the intermediate objective. The Swedish Maritime Administration reports a positive trend among the view of the disabled on the accessibility of transport in the sea transport sector.

## Gender equality

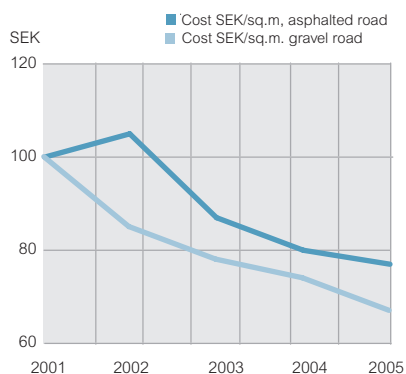
**“The transport system shall be designed so that it meets both men’s and women’s transport requirements. Women and men shall have the same opportunities to influence the construction, design and management of the transport system.”**

All of the transport agencies now include reports on travel surveys for women and travel patterns in their respective sector reports. However, analyses are still lacking of the basic cause for women’s and men’s particular travel patterns.

In SIKA’s view, in-depth studies and analyses are required of what determines our travel patterns, and what our basic needs actually look like. Without this, we do not have knowledge to determine what an equal transport system should look like or how the resources allocated should be distributed to meet the interests of both sexes.

It should be borne in mind that equality in the transport system does not mean that men’s and women’s transport requirements are to be met at every price but only that their respective needs are to be met to an equally great extent.

As regards women’s and men’s ability to influence the transport system, exactly the same conclusion is drawn as last year – that a lot remains to be done before women and men have the same influence over the design of the transport system. SIKA also notes that very small resources are allocated to work with the equality objective by the transport agencies. This means that work to achieve equality in the transport system is moving very slowly.



**Operation and maintenance at 2005 prices, index 2001=100.**

Source: National Road Administration's 2005 annual report.

## High transport quality for the public and industry

**“The design and operation of the transport system will allow transport quality for the public and industry.”**

There is an intermediate objective for the subsidiary objective of a high quality transport system according to which the quality of the Swedish transport system should be measured in terms of a gradual improvement in predictability, safety, flexibility, comfort, accessibility and access to information. The intermediate objective does not include any quantification of what is to be achieved neither is any particular year specified for

achievement. Instead a gradual improvement of various dimensions of quality is aimed at.

The majority of the operational objectives that have been set for the development of transport quality in 2005 have not been achieved. This is, at the same time, a strong indication that it is unlikely that the transport policy intermediate objective has been achieved. The problems would seem to be to a great extent attributable to insufficient maintenance and deficient administration of the state-owned transport facilities.

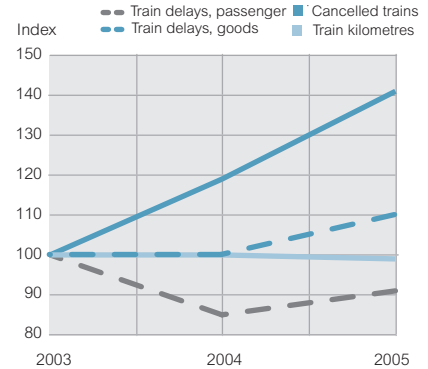
As regards the road transport network, the National Road Administration makes the assessment that the state of the roads has not been improved while the objective of less load restrictions on the road network has been achieved.

The National Rail Administration considers overall that the objectives of improved quality and punctuality in the railway system have not been achieved. Developments in 2005 are not either in line with the objective of reducing the number of disruptions to goods traffic on the worst-affected routes by half by 2007 compared with 1998. However, the National Rail Administration considers that the objective of the degree of utilisation of the state-owned track facilities has been achieved during 2005.

The Government has set the objective that there should be a reduction in the number of delays in commercial aviation. However, during 2005, delays have increased and the objective for air transport has thus not been achieved.

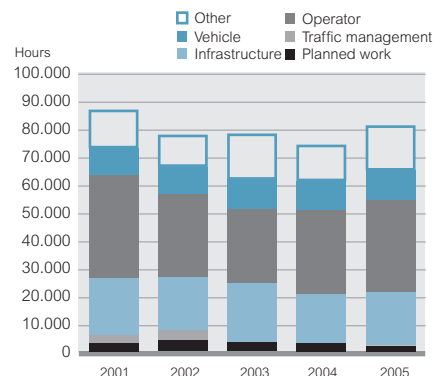
In the case of sea transport, the objective has been for Swedish fairways with intensive shipping should be surveyed in accordance with the international standard by 2014 and that ten per cent of the remaining unsurveyed area should be surveyed in 2005. The objective for 2005 has not been achieved and hydrographic surveying operations must be intensified considerably if the objective for 2014 is to be met.

However, the overall quality of the transport system depends to at least as great an extent on the development of the vehicle fleet and traffic systems that have been built up by a combination of vehicles, information systems and traffic facilities, among other things. The objectives, measures and reporting are not as well-developed in this area. However, SIKKA considers that vehicles and traffic systems in 2005 offer improved transport quality in the form of predictability, safety, flexibility, comfort, accessibility and access to information to such an extent that this compensates for the deficiencies noted in the infrastructure.



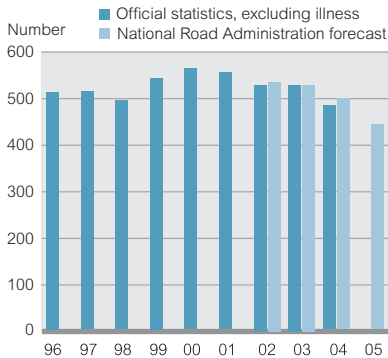
**Traffic volume and disruptions on the state-owned railway network. Index 2003=100.**

Source: National Rail Administration's 2005 annual report.

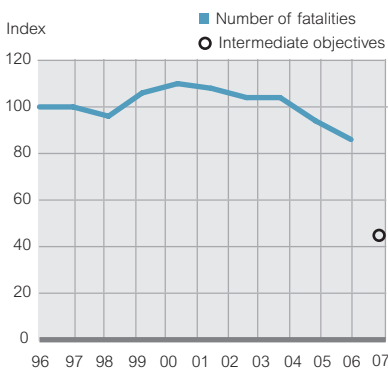


**Train delays by cause.**

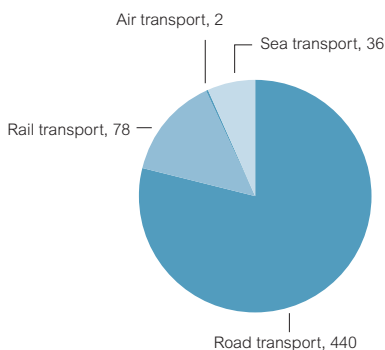
Source: National Rail Administration's 2005 annual report.



**Number of fatalities in road traffic 1996–2005, excluding illness-related.**  
 Source: SIKAs Statistik 2005:14 and National Road Administration's sector reports 2003–2005.



**Number of fatalities in road traffic relative to the base year 1996. Index 1996=100.**  
 Source: SIKAs Statistik 2005:14 and National Road Administration's sector reports 2005.



**Preliminary number of fatalities in various traffic sectors in 2005.**  
 Source: SIKAs summary of statistics from the respective agency.

## Safe traffic

“The long-term objective for traffic safety is that no one should be killed or seriously injured as a result of traffic accidents. The design and operation of the transport system must be adapted to the demands following on from this.”

SIKA considers that it is uncertain whether the design and operation of the transport system has been adapted during 2005 in order to achieve the objective of safe traffic.

SIKA’s conclusions are based on the fact that there is a general lack of definitions of and measures for the long-term health losses that are referred to as serious injuries. The number of seriously injured should reasonably exceed the number of fatalities and it is in that sense a greater problem. It seems important to establish what a serious injury is so that measures can be designed to reduce the number of seriously injured in the transport system. A definition of this kind should moreover be uniform for the various modes of transport.

There is a trend reduction in the number of fatalities in road traffic although road traffic still has a special position in the transport system as regards the number of injured. At present, there is no plan including concrete measures whose effects can be shown to be able to achieve the intermediate objective of halving the number of fatalities in road traffic by 2007. More energetic measures than those taken to date will be needed if the intermediate objective is to be achieved.

## A good environment

“The design and operation of the transport system will be adapted to the requirement of a good living environment for everyone, where nature and the environment are protected from damage. The effective management of land, water, energy and natural resources must be promoted.”

The intermediate objective for the emission of carbon dioxide by the transport sector means that emissions of CO<sub>2</sub> from transport in Sweden should have stabilised at the level of 1990 by 2010. SIKAs notes that the intermediate objective will not be achieved without additional measures.

Since 1990, emissions of carbon dioxide by road traffic have increased by 11 per cent and during 2005 by one per cent compared with the preceding year. The reason is primarily stated as being an increase in traffic

performance by lorry. Emissions of carbon dioxide by air transport have decreased slightly since 1990, although they have increased during 2005 compared with the previous year. International flights account for the increase of emissions. Emissions by sea transport have increased slightly in 2005.

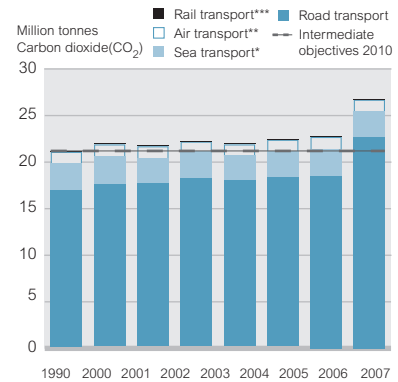
The intermediate objective for sulphur dioxide emissions, which entails that emissions of SO<sub>2</sub> from transport in Sweden should have decreased by at least 15 per cent by 2005 based on the level for 1995, does not appear to have been achieved. According to the sector reports by the transport agencies, total sulphur dioxide emissions by the transport sector has decreased by just under ten per cent in the period from 1995 to 2005. However, the calculations of sea transport emissions are very uncertain. It is therefore difficult for SIKA to make any definite statement about compliance with the objective.

The intermediate objective for nitrogen oxide emissions has not been achieved either. Emissions of NO<sub>x</sub> from transport in Sweden should have decreased by at least 40 per cent by 2005 from the 1995 level. According to the transport agencies' sector reports, the total emissions of the sector have decreased by around 36 per cent from 1995 to 2005. According to SIKA's calculations, the transport sector's nitrogen oxide emissions will decrease in the future, despite an increase in traffic performance. This is primarily due to the increasingly stringent emission requirements on road vehicles and additional measures in sea transport.

According to the intermediate objective, emissions of hydrocarbons from transport in Sweden should have decreased by almost 60 per cent by 2005 based on the level for 1995. SIKA's assessment is that the intermediate objective has not been completely achieved. According to the sector accounts of the transport agencies, the sector's total emissions of hydrocarbons decreased by around 56 per cent in the period from 1995 to 2005. Emissions have decreased from all modes of transport. The largest relative decrease has been for road transport, which accounted for the major part of transport emissions. This decrease is largely attributable to more stringent emission requirements having an increasingly large impact in the vehicle fleet.

Air quality continues to be a problem in many urban areas. According to studies, it is estimated that at least a fifth of the Swedish municipalities have not met the environmental quality norms for particles and nitrogen oxide.

The intermediate objectives of the National Road Administration and the National Rail Administration for reduced noise levels for residents have not either been achieved during 2005. Both the National Road Administration and the National Rail Administration have taken steps during the year to decrease the number of households exposed to noise.



1990 2000 2001 2002 2003 2004 2005 2006 2007

\* Forecast values for sea transport 2004 and 2005.

\*\* The outcomes for 2003 have been adjusted upwards to the same extent as the total quantity of goods has changed to 2004 and 2005.

\*\*\* Climate reporting 1990-2003, the rest values from 2003. No forecast for 2020 for these values considered to be negligible.

**Emissions of carbon dioxide by the transport sector, million tonnes.**

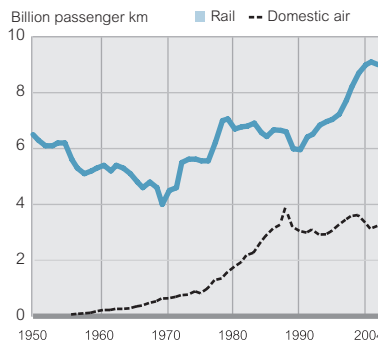
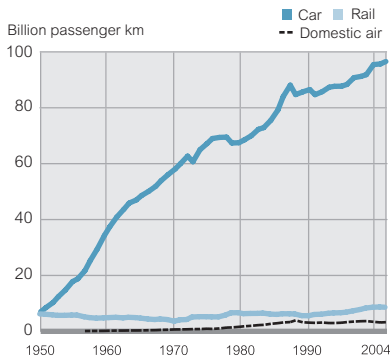
Source: National Road Administration, Civil Aviation Administration, and Swedish Maritime Administration's sector reports 2005 and National Rail Administration's climate report. Forecast from SIKA Rapport 2005:9 and 2005:8.

## Passenger travel

Transport performance for road transport, rail transport and domestic air transport increased by a total of 14 per cent during the ten-year period from 1994 to 2004. Measured in absolute figures, this is an increase of over 95 billion to almost 109 billion passenger kilometres. In absolute fig-

ures, road transport has increased most, to around 11 billion passenger kilometres. Road transport performance now accounts for almost 90 per cent of the total transport performance. Passenger transport performance by rail increased by around 2.5 per cent. However, in relative terms, the growth

in passenger transport performance during this period was largest in rail transport, which increased by over 38 per cent, while road transport increased by 12 per cent and domestic air travel by four per cent.



**Domestic passenger transport performance, billion passenger kilometres. The diagram on the right shows an enlargement of part of the diagram on the left.**

Source: SIKA

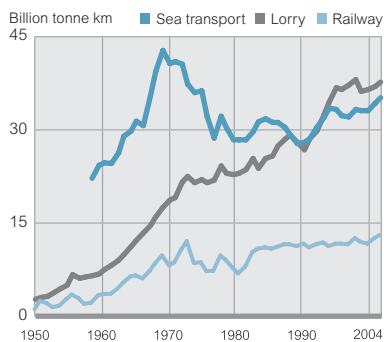
## Goods transport

Total goods transport performance increased by almost 20 per cent during the decade from 1994 to 2004. In absolute figures, this is an increase from 79 billion to 93 billion tonne kilometres. Road transport, including foreign lorries, accounted for the

largest increase, both relatively and absolutely. Goods transport performance by lorry increased during the period by 28 per cent, by ship by 16 per cent and by rail eight per cent.

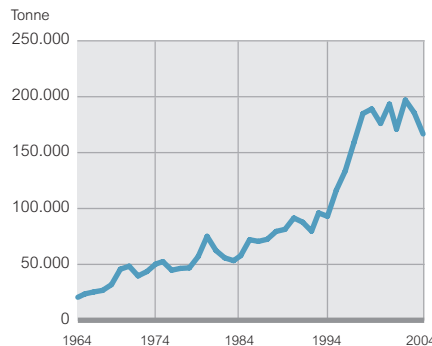
Domestic air freight volumes halved

between 1994 and 2004, from almost 9,000 tonnes to around 4,500 tonnes. The development of international freight volumes during the same period increased from around 116,000 tonnes to almost 167,000 tonnes, an increase of 43 per cent.



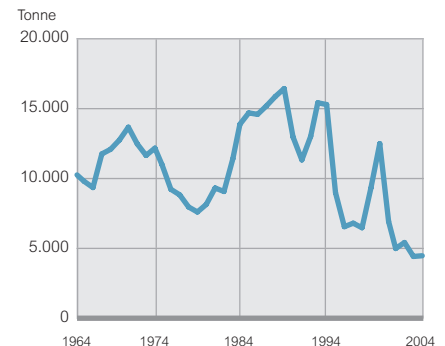
**Domestic goods transport performance, tonne kilometres.**

Source: SIKA



**Foreign goods transport performance at Swedish airports, tonnes.**

Source: SIKA



**Domestic goods transport performance at Swedish airports, tonnes.**

Source: SIKA



# Explanation of terms

## **Accessibility and ease of access**

The concept of the Civil Aviation Authority to measure accessibility and ease of access, the measure used is the period of stay. Concretely, this means the ability of a person to make a journey from the airport in city A by the first flight to visit city B and then return home by the last flight the same day. The former is called city A's ease of access to city B and the latter city A's accessibility from city B. Only periods of stay of four hours or more are included.

## **CO<sub>2</sub>**

Carbon dioxide. Released when fossil fuels are burnt. The emissions of carbon dioxide and other gases lead to an increase in the atmosphere of greenhouse gases. The gases allow solar radiation to pass through to the earth but prevent it from radiating back into space. More heat is captured and the earth's average temperature increases. This is usually called the greenhouse effect.

## **Hydrographic surveying**

Surveying the topography of the seabed. In Sweden, hydrographic surveying is carried out by the Navigational Chart Department at the Swedish Maritime Administration.

## **Intermediate objectives**

In the short-term, priorities may be made among different subsidiary objectives. This prioritisation should take place primarily by intermediate objectives, which are realistic in relation to existing resources, technical possibilities and international undertakings and which are reconciled to one another. An example of an intermediate objective is that public transport should be accessible to the disabled at the latest by 2010.

## **Marginal cost**

The additional social and economic cost that transport gives rise to. This includes the cost of fuel, vehicles, etc. but also the cost of wear and tear of roads and railways, emissions to the environment and the increased risk of accidents. The marginal costs are usually expressed in unit of money (SEK) per litre fuel, per vehicle kilometre or per passenger or tonne kilometres.

## **NO<sub>x</sub>**

Nitrogen oxides. Created when fossil fuels are burnt leading to precipitation of acidic substances, contributing to over-fertilisation of ground and water. Precipitation crosses national borders and thus also comes from other countries.

**Passenger kilometres** The movement of one person one kilometre.

## **Social efficiency**

Social efficiency means that the resources of society are used to create the greatest possible benefit for society, regardless of whether this concerns time, the environment, health or something else. In the final analysis, this is about individuals having the best possible situation, today and in the future.

## **Subsidiary objectives**

The overall objective is broken down into six subsidiary objectives: accessibility, regional development, gender equality, high transport quality, safe traffic and the environment. The long-term objectives are to remain unchanged over a longer period of time to provide continuity and a long-term approach to transport policy. There is no internal ranking order between the subsidiary objectives but they are all to be eventually achieved.

## **SO<sub>2</sub>**

Sulphur dioxide. Created when fossil fuels are burnt leading to a precipitation of acidic substances. Precipitation crosses national borders and thus also comes from other countries.

## **Tonne kilometres**

The movement of one tonne of goods one kilometre.

## **Transport performance**

In passenger transport, transport performance means the number of persons transported multiplied by the distance transported. It is measured in passenger kilometres.

In goods transport, performance means the quantity of goods transported multiplied by the distance transported. It is measured in tonne kilometres.

## **VOC**

Volatile hydrocarbon products. Organic substances that are created when fossil fuels are burnt and which contribute to the accumulation of ozone in the lower atmospheric layers. The ozone, which is useful as an UV filter in the atmosphere is harmful for people, animals and plants in layers of air close to the ground.

