SIKA Report

2005:3

Follow-up of the Swedish Transport Policy Objectives

May 2005

SIKA

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 *SIKA Rapport* and *SIKA PM*. The statistics are published in the series *SIKA Statistik*, in the journal *SIKA Kommunikationer* and in the *Transport and Communications yearbook*. All publications are available on SIKA's website www.sika institute.se.

Swedish Institute for Transport and Communications Analysis
P.O. Box 17213, S-104 62 Stockholm
Visit: Maria Skolgata 83
Telephone 08-506 206 00
Fax 08-506 206 10
e-mail sika@sika-institute.se
internet: www.sika-institute.se

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Contents

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Swedish Institute for Transport and Communications Analysis, SIKA
Telephone: +46 8 506 206 00, fax +46 8 506 206 10
e-mail: sika@sika-institute.se
Internet: www.sika-institute.se
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Preface

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

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.

In this report for 2004, SIKA notes that development is moving in the right direction for accessibility and transport quality. However, it will difficult to achieve the objectives for safe traffic and the environment. The development is uncertain for the gender and regional development objectives.

This report is a summary of SIKA Rapport 2005:1. 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.

Stockholm, June 2005

Kjell Dahlström
Director-General

The transport policy objectives 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 and six subsidiary objectives. Transport policy is also guided by a number of basic principles. One prominent principle is that infrastructure charges are to be based on socio-economic marginal costs. Individual users and commercial providers of transport are to pay the external marginal costs that their use of the infrastructure gives rise to, through taxes and other charges. Other bearing principles are freedom of choice for transport users and collaboration between different means of transport and modes of transport in combination with effective competition. A further guiding principle is that decisions on transport are to be made at as decentralised a level as possible.

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. There are six subsidiary objectives linked to the overall objective. These concern an accessible transport system, regional develop-

OVERALL OBJECTIVES	**Development towards the long-term objective** It is possible, to some extent, to assess the development towards the objective, even if documentation is lacking to determine whether the provision of transport as a whole is approaching the objective. The systems 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	**Development towards the long-term subsidiary objectives in 2004**	**Are the subsidiary objectives being complied with by the decisions made?**
Accessibility	Yes	No
Regional development	Uncertain	Objective lacking
Gender equality	Yes?	Objective lacking
Transport quality	Yes	Objective lacking
Environment		
- *Effect on climate (CO_2)*	No	No
- *Air pollution (SO_2, NO_X, VOC)*	Yes?	No?
- *Noise*	No	No
- *Ecocycle adaptation*	Uncertain	Objective lacking
- *Impact on natural and cultural environment*	Uncertain	Objective lacking
Safe traffic	No?	No

ment, gender equality, high transport quality, safety and the environment.

All these objectives are intended to be long-term and continuous in a longer-term perspective.

Development towards the long-term transport policy objective takes place very slowly for natural reasons. Since no new documentation or new knowledge has been produced in 2004 on how this development can be measured, the same conclusion is drawn as last year that it is not possible to determine whether transport resources as a whole are approaching the overall transport policy objective.

One area where new material has become available is marginal cost pricing. The system of charges for rail and sea transport has been adapted to social marginal costs and a better basis for marginal cost calculations has been produced during the year.

As regards the subsidiary objectives, transport quality and accessibility have developed positively. SIKA notes, however, that developments in some of the subsidiary objectives give cause for concern, above all in the environment. Carbon dioxide emissions remain high and noise is increasing along roads and railways. For the subsidiary objective traffic safety, there has been a slight decrease in the number of fatalities in road traffic although the zero vision still seems remote. Development is uncertain for the gender and regional development objectives.

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.”

It is difficult to monitor development of accessibility in the transport system. Shorter travel times or other improved accessibility often leads to more travel, since the ability to reach a larger labour market or other freedom of choice are improved. An increase in travel times is thus not a self-evident indication of deterioration in accessibility.

Travel times on the national road network have decreased. Accessibility between urban areas has thereby increased although there is still consid-

erable congestion in the metropolitan areas. Travel times on the national railway network have also decreased. More regional trains have also led to a large increase in regional travel. However, accessibility by air has deteriorated, both within Sweden and internationally. Fewer cities can be reached over a day and the time available for spending at locations has decreased. Ticket prices have become more expensive for domestic journeys while it has become increasingly cheap to travel abroad.

The supply and performance of public transport are unchanged in comparison with last year. Deficient statistics on accessibility for pedestrians and cyclists make it impossible to assess the development for 2004.

The adjacent table shows the estimated average travel times by car and the distance to work in different parts of Sweden. The travel times are by far and away longest in the Stockholm area, where the average travel time by car to work was 23 minutes in 2001. However, the distance to the workplace is greatest in the Gothenburg area at 20 kilometres. In Gothenburg, people live on average further away from the workplace, although travel time is still relatively short. In Stockholm, the reverse situation applies. Average travel time by car to work is 23 minutes in each direction and the average distance 16 kilometres. Congestion on the road network combined with the fact that many live a relatively long way from the workplace are the most important causes of long travel times in Stockholm. In the inland forest counties, travel times and distance to work are both short on average. However, there are peripheral areas in the inland forest counties, where there are few employment opportunities, which means that the inhabitants must commute long distances. There are a few long-distance commuters in other locations in the forest counties as well. However, most inhabitants of the forest counties have relatively short distances by car to work.

The access of the disabled to the transport system has been formulated in an interim objective, according to which public transport is to be accessible to the disabled at the latest by 2010. The transport agencies have carried out a survey for the third consecutive year to measure the proportion of the disabled able to travel by a particular mode of transport. Viewed over the whole period, the proportion of satisfied disabled travellers is increasing for all modes of transport except air travel, which already had the largest proportion of satisfied disabled travellers. All transport agencies are carrying out measures to make public transport accessible for the disabled, although the measures are probably not sufficient to be able to achieve the interim objective by 2010. Lack of information and difficulties in finding an allergy-friendly environment seem to be consistent causes for journeys not taking place.

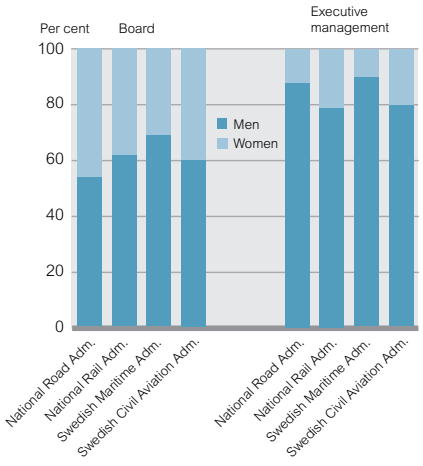
SIKA's overall assessment is that accessibility in Sweden is generally good and improving with the exception of domestic air travel.

Estimated average travel times by car and distance to work 2001.

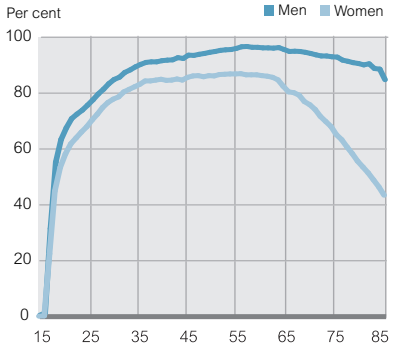
	Travel time (in min)	Distance (in km)
Region	2001	2001
Inland forest counties	11	11
Other forest counties	12	14
Other municipalities	14	17
Stockholm	23	16
Gothenburg	16	20
Malmö	15	18

Source: SIKA Report 2004:7 Omvärldsanalys. Förutsättningar som kan påverka svensk transportpolitik.

Regions according to the National Rural Development Agency.
Inland forest counties are local labour markets which were previously included in the EU Objective 6 area (0.4 million inhabitants). *Other forest counties* are local labour market regions in forest counties outside the EU Objective 6 area (1.4 million inhabitants). *Metropolitan regions* are the local labour market regions of Stockholm, Gothenburg and Malmö (3.2 million inhabitants). *Rest of Sweden* are local labour market regions in the rest of the country (3.8 million inhabitants).
Source: National Rural Development Agency.



Gender distribution on boards and executive management including director-general, in per cent.
Source: SIKA/Markör.



Proportion of driving licence holders 2003 by sex and age.
Source: National Road Administration.

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, and their values shall be given equal weight.”

A survey of women’s and men’s representation in leading positions in the transport sector shows that the sector is still very male-dominated. The preponderance of men is greatest in the interest and sector organisations, although the proportion of women is also low in the transport agencies.

All transport agencies now report on women’s and men’s travel patterns in their respective sector reports. However, there is still no analysis of the basic reasons for why the travel patterns by women and men differ.

SIKA’s assessment is that women’s perspectives and values continue to be poorly represented in planning, decisions and administration throughout the transport sector. In other words, they have poorer opportunities to influence the design of the transport system.

Transport quality

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

The subsidiary objective of a high quality transport system is measured in terms of predictability, safety, flexibility, comfort, accessibility and access to information. The development of transport quality has been predominantly positive in 2004. An increasing number of roads have increased bearing capacity and have been made smoother, in particular in the forest counties.

The punctuality of trains has improved, in particular express trains, and the number of hours of delay has decreased. Most responsible transport authorities and rail companies now have systems of compensation for travellers affected by delays or other deficiencies in traffic. However, one disadvantage is that the travel guarantees only apply to the part of the journey taking place within the area of the transport authority. A traveller may therefore have to make claims for compensation for each separate part of the journey.

Delays increased in air travel, however, in 2004 compared with 2003, mainly due to increased traffic.

Measures have been taken in sea transport to reinforce protection against terrorist attacks. Sea transport protection has been introduced and increased protection is being developed at ports.

SIKA's assessment is that the transport quality of the Swedish transport system is good and becoming progressively better.

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."

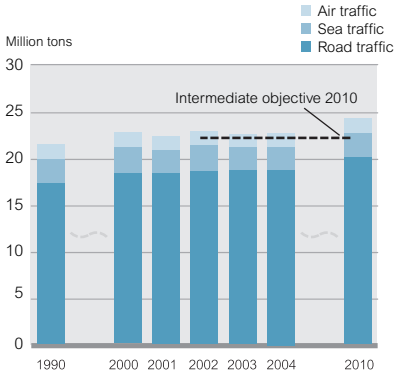
Emission of carbon dioxide by the transport sector increased by almost five per cent in 2004 compared with emissions in 1990. SIKA considers that the interim objective of stabilising the emission of carbon dioxide to the 1990 level by 2010 will not be achieved without energetic measures. Road traffic accounts for the greatest increase in carbon dioxide emissions and, according to SIKA's calculations, emissions from road traffic will increase by over 13 per cent by 2010. Total emission of carbon dioxide will increase by almost 11 per cent by 2010 in comparison with 1990.

The interim objective for emission of nitrogen oxides will be achieved, however. The interim objective for sulphur dioxide may be achieved although it is not clear whether subsequent development is moving in the right direction. The emission target for hydrocarbons will probably not be achieved either although development none the less appears positive.

The air quality in Swedish urban areas has improved greatly in the past decades. Measurements for the winter season of 2003/04 show, however, that the previous trend of reduced levels has decreased and that the air is not improving at the same rate as before.

The number of persons disturbed by noise is increasing. Traffic intensity is the underlying cause, although new housing in locations already affected by noise and the construction of roads, streets and railway tracks are also leading to an increase in noise in our surroundings. Another contributory cause is the increasing number of large cars with broad tyres since these tyres make more noise.

The overall assessment of the subsidiary objective A good environment is that development continues to be negative although it has moved in the right direction in some areas.



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

Source: SIKA.

Safe traffic

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

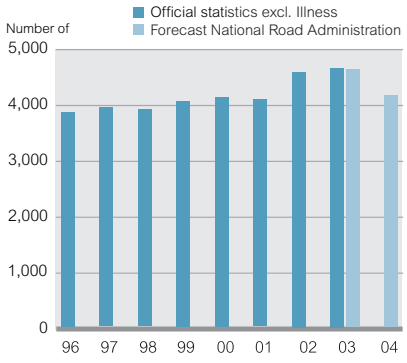
A summary assessment of development up to 2004 is that the design and performance of the transport system has not been adapted to the requirement that there should be no deaths of serious injuries in traffic.

It is the development in the sphere of road traffic that gives rise to this conclusion. The number of fatalities in road traffic was largely unchanged in 2004 in comparison with the reference year 1996, while the number of seriously injured increased during the same period. At present, there does not either seem to be any plan of concrete measures that can lead development in a different direction.

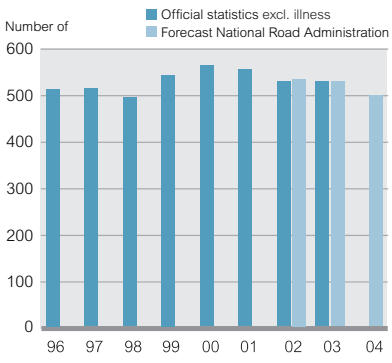
If the interim objective of a halving of the number of deaths by 2007 is to be achieved, the number of fatalities must decrease by an average of 80 persons for each remaining year. SIKA considers that more drastic measures need to be taken than has been the case to date. Alternatively, the Government should consider reformulating the interim objective.

Safety has been high for a number of years in the other modes of transport – rail, air and sea traffic. Development in these areas is so close to the subsidiary objective that there cannot be said to be a traffic safety problem.

About STRADA
In 2002, STRADA was commissioned – a new system for reporting of road traffic accidents. The new system is to reduce the hidden statistics in reporting of accidents. The increase in the number of serious injuries reported to the police between 2001 and 2002 is due more to the introduction of STRADA and the measures for motivation and training of police registering accidents that took place then, than an increase in the actual number of serious injuries.



Number of serious injuries in road traffic reported to police, 1996–2004.
Source: SIKA Statistics 2004:6 and National Road Administration's Forecasts for 2003–2004.



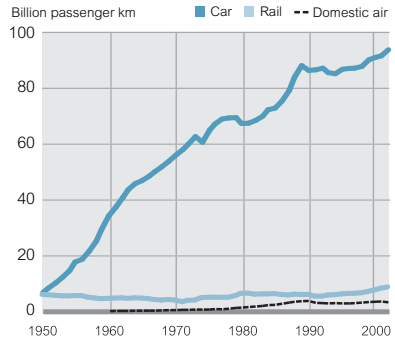
Number of fatalities in road traffic 1996–2004, excluding illness-related.
Source: SIKA Statistik 2004:6 and National Road Administration's sector reports 2002-2004.

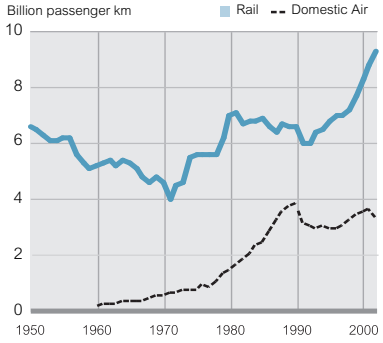
Passenger travel

Domestic passenger transport performance has increased ten times over in the past fifty years. In the ten-year period 1992–2002, transport performance increased for road, rail and air transport together by 11 per cent. Measured in absolute terms, this is equivalent to an increase by over 96 billion to almost 107 billion passenger kilometres.

Road transport has increased most in absolute figures, the increase totalling 6.6 billion passenger kilometres. Road transport performance now accounts for around 90 per cent of the total transport performance. For rail transport, the increase was approximately half as large, 3.3 billion, while domestic air travel increased by a moderate 0.3 billion.

Viewed in relative terms, however, the increase in passenger transport performance during the period 1992 to 2002 was greatest in rail travel, which increased by 56 per cent, while road transport increased by eight per cent and domestic air travel by 10 per cent.





Domestic passenger transport performance, billion person 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 in Sweden has increased by 24 per cent since 1975. Road goods transport performance has increased most by 70 per cent. During the ten-year period from 1993 to 2004, goods transport performance increased by 15 per cent. In absolute terms, this is an increase from 76 billion to 91 billion tonne kilometres.

Road transport, including foreign lorries, accounts for the greatest increase both relatively and absolutely. The increase in road transport during the period 1993 to 2003 is eight billion tonne kilometres, which is equivalent to an increase of 28 per cent. Goods transport performance by ship has increased by almost six billion tonne kilometres or 20 per cent, while transport performance by rail has increased by 1.5 billion tonne kilometres or eight per cent.

As regards freight volumes, domestic freight volumes decreased by almost 11,000 tonnes, over 70 per cent, between 1993 and 2003. During the same period, the international freight volumes almost doubled from 93,000 tonnes to 186,000 tonnes.

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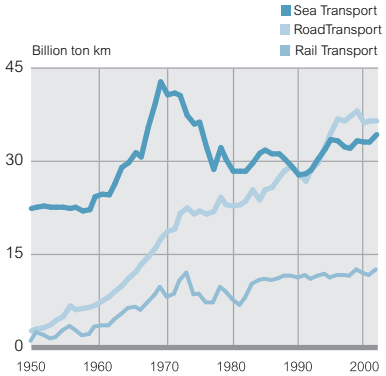
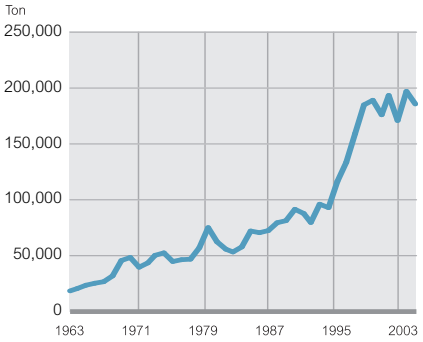


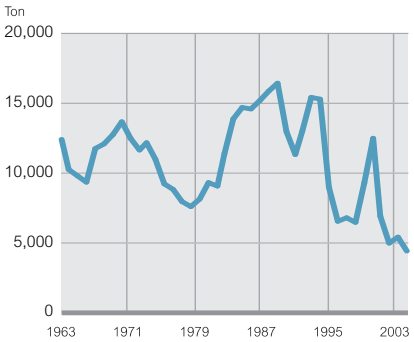
Domestic goods transport performance, billion tonne kilometres.

Source: SIKA.



International freight at Swedish airports, tonnes.

Source: SIKA.



Domestic freight at Swedish airports, tonnes.

Source: SIKA.

Explanation of Terms

CO_2
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.

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 in transport policy. There is no internal ranking order between the subsidiary objectives but they are all to be eventually achieved

Interim objective
In short-term, priorities may be made among different subsidiary objectives. This prioritisation should take place primarily by interim 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 interim objective is that public transport should be accessible to the disabled at the latest by 2010.

Local labour markets
Consists of municipalities which are connected by work commuting.

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 or 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 kilometre.

Marginal cost pricing
Is a means of achieving efficiency. The design of taxes and charges gives transport users an incentive to take into consideration the costs that their travel causes others (for instance, through impact on the environment and risks of accidents for others). In this way, traffic volumes will comply more closely to what is socially and economically efficient.

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

Passenger kilometre
The movement of one person one kilometre.

SO_2
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.

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.

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

VOC
Volatile hydrocarbon compounds. 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.