



**FOLLOW-UP OF THE SWEDISH
TRANSPORT POLICY OBJECTIVES**

MAY 2000

SWEDISH INSTITUTE FOR TRANSPORT AND COMMUNICATIONS ANALYSIS



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The Swedish Institute for Transport and Communications Analysis, SIKÅ, has been instructed by the Government to compile an annual report on how the transport policy objectives are being met within the entire transport sector. The first report was submitted in 1999.

This publication is a summary of the annual report for 2000. The complete report has been published in Swedish as SIKÅ Rapport 2000:5. It is based on material in the form of annual reports, sector reports, etc. from the transport agencies – the National Rail Administration, the Civil Aviation Administration, the Swedish Maritime Administration and the National Road Administration.

The forecasts for future passenger and goods transport have been produced by SIKÅ and the transport agencies in conjunction with the work on the strategic analysis, described in the report SAMPLAN 1999:2.

Both these reports, as well as this one, are available at www.sika-institute.se.

Stockholm, June 2000
Staffan Widlert
Director

THE TRANSPORT POLICY OBJECTIVES

In spring 1998, the Riksdag adopted the transport policy objectives that still apply. The objectives are designed as an overall objective and five subsidiary objectives.

The overall objective of transport policy will be to ensure socially, economically efficient and long-term sustainable transport resources for the public and industry throughout Sweden.

The five subsidiary objectives are as follows:

- **ACCESSIBLE TRANSPORT SYSTEM**

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

- **HIGH TRANSPORT QUALITY**

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

- **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 from this.

- **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 other natural resources must be promoted.

- **POSITIVE REGIONAL DEVELOPMENT**

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

Concrete intermediate objectives have been established particularly for subsidiary objectives for transport quality, transport safety and environment. The intermediate objectives apply for a set period and are concrete and thus possible to follow up. This report gives an account of the extent to which the objectives have been met and of expected future development.

HOW ARE THE OBJECTIVES BEING MET?

During 1999, both passenger and goods transport continued to increase. The rapid growth that is now taking place is not unexpected taking into consideration that we are now experiencing an upswing with a growth rate of almost 4 per cent. Our forecasts also indicate that this increase in traffic will continue in the event of a slackening of economic growth.

The fact that traffic is increasing – both passenger and goods transport – is then an expression of economic growth and increased welfare and thus also reflects social development that is positive in many respects.

At the same time, however, the increase in traffic places a greater load on the transport system and the environment. This will make it more difficult in the short run to comply with a number of the subsidiary objectives of transport policy. One indication of this is that it has not been possible to adapt the transport system to the increased traffic sufficiently quickly to make it possible to develop standards in the form of accessibility, safety, environment etc. in accordance with the objectives. A summary is given in the following pages of recent developments in relation to the subsidiary objectives of transport policy.

| Subsidiary objective | Development towards intermediate objectives | Are the intermediate objectives being met by decisions made? |
|--|---|--|
| Accessibility | – | – |
| Transport quality | Yes | No |
| Safe traffic | No | No |
| Environment | | – |
| • effect on climate (CO ₂) | No | No |
| • air pollution (S,NO _x , VOC) | Yes | Yes (VOC?) |
| • noise | Yes | No? |
| • ecological adjustment | – | – |
| • effect on natural and cultural environment | – | – |
| Regional development | – | – |

– means that there are no intermediary objectives.

Accessibility, transport quality and regional development

Longer travelling/transport times

Accessibility involves a number of dimensions. The fact that people travel more and that more goods are transported is largely an expression of an improvement in accessibility in a broad sense with an increased exchange between people and industry and within industry. However, ease of travel, which is an aspect of accessibility has deteriorated slightly in inter alia the road network recently. Increased travelling times, due to reduced speed for considerations of traffic safety, increased traffic density in big city areas, etc. outweigh the reduction in travelling time that has been made possible by road improvements. Average travelling/transport times for road traffic have thus increased lately.

Better travel possibilities promote dispersion of housing

Viewed over a longer period, the expansion of the road and railway network, improved means of transport, etc. has meant that accessibility has improved. These accessibility benefits have not always led to shorter transport times, however, although they have also made possible greater dispersion of housing and other structural changes in the form, for instance, of concentration in industry and administration. In certain regions in particular, this has led to the distance to work and service becoming longer. However, the conversion of accessibility benefits into such effects is an important part of the transport system's contribution to economic growth.

Overcrowding in the big city areas

Overcrowding on both roads and railways is considerable in the big city areas. Data is not available which describes how ease of travel has developed over the years. However, there has been a substantial growth in traffic, which indicates that the situation has deteriorated in recent years.

Increased delays for train and air transport

Train and air transport are both increasing. However, this development is accompanied by increased delays in both modes of transport. In aviation, the proportion of the number of delayed departures is also increasing. There has been an increase in the average length of delays in rail transport.

Funds for roads and railways are insufficient

The rapid increase in heavy lorry traffic meets important needs for customised transports and thus contributes to increased efficiency in industry and in the economy as a whole. However, this development places an increased load on the environment and makes great demands on the modernisation and maintenance of the road network that we have not been able to completely meet.

The objectives set for high transport quality that relate to demands on the standard of the infrastructure cannot be achieved with the allocation of funds specified in the current main railway network and county plans for the period 1998–2007. The objective for increased axle load on the railways may possibly be achieved if funds are allocated as planned. The delay in allocation of funds in relation to these plans results in goal compliance being even more remote.

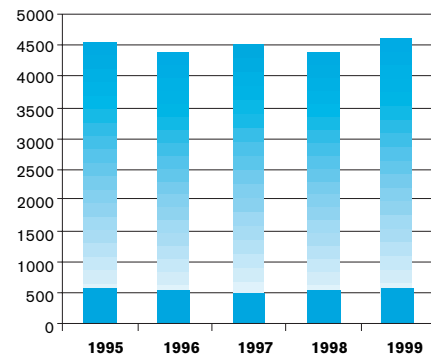
Safety

Vision zero is remote for the road traffic

Measures to improve road safety have been insufficient to prevent an increase in the accident rate for road traffic. This is in complete contradiction to, for instance, the detailed objectives for halving the number of traffic deaths by 2007.

570 people were killed in road accidents during 1999, an increase of 7 per cent compared with 1998, when 531 people were killed. Most accidents with fatalities and serious injuries occurred on the state road network.

Deaths and seriously injured



■ Seriously injured ■ Deaths

The number of fatalities and serious injuries (reported to the police) in road traffic 1995–99.

Source: National Road Administration

Few deaths in the other transport modes

While the number of accidents at road-rail crossings increased in 1999, the trend has been falling over several years. It is therefore still possible to achieve the objective of a halving by 2007.

There has been a weak upward trend for private aircraft crashes during the 1990s. Three crashes led to fatalities in the 1990s.

The number of deaths in leisure craft accidents has varied during the 1990s from a peak of 80 dead (1991) to a low of 28 dead (1999). There has been a declining trend for the number of deaths during the period 1990–99.

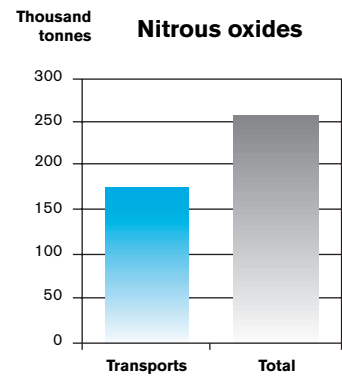
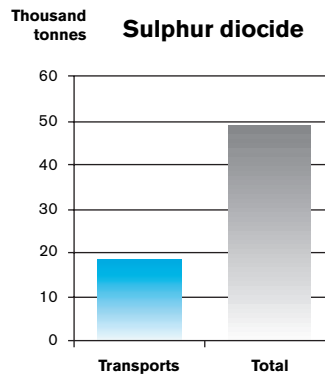
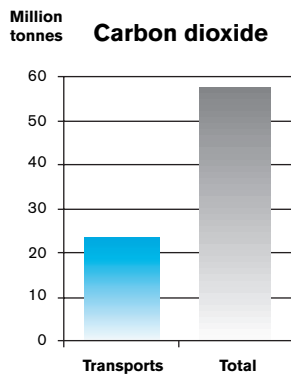
Environment

Emissions of carbon dioxide increase

The increased traffic has led to an increase in total fuel use and thus to emissions of gases affecting the climate, primarily carbon dioxide. The intermediate objective for emissions of carbon dioxide to have stabilised by 2010 at the 1990 level will not be met unless special measures are taken.

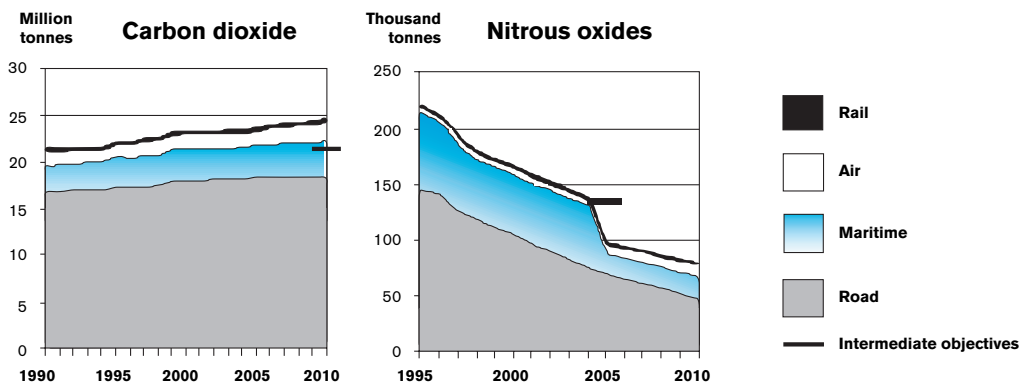
Emissions of climate gases and air pollution from traffic and totally.

Source: The transport agencies' environment report in 1999 and the National Environmental Protection Agency's report to the EU on emissions to the air in 1998.



The other emission objectives are possible to reach

Technical improvements of vehicles, craft and fuel have reduced the emission of air pollution from traffic and led to a reduction in emissions of sulphur and nitrous oxides in particular. Accordingly, it is expected that the set intermediate objective for emissions of these substances will be met by a broad margin. A reduction of at least 40 per cent for nitrous oxides is expected, and a reduction of at least 15 per cent for sulphur by 2005, calculated on according to the level in 1995. It is also expected that the intermediate objective for emissions of hydrocarbons (VOC) will be achieved, although by a narrower margin. A reduction of emissions of VOC is expected by at least 60 per cent to 2005, based on the 1995 level.

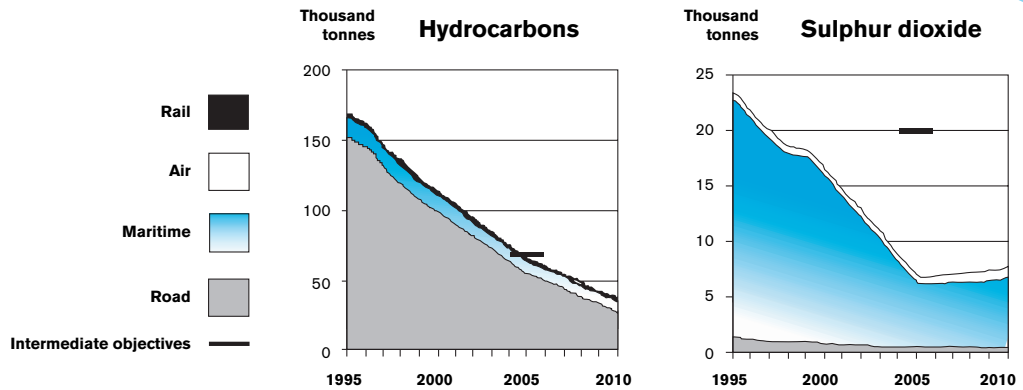


The emissions of carbon dioxide by the transport sector since 1990, and forecast to 2010. Million tonnes.

Source: The transport agencies' environment report 1999.

Emissions of nitrous oxides by the transport sector since 1995 and forecast to 2010. Thousand tonnes.

Source: The transport agencies' environment report 1999.



Emissions of volatile hydrocarbons by the transport sector since 1995 and forecast to 2010. Thousand tonnes.

Source: The transport agencies' environment report 1999.

Emissions of sulphur by the transport sector since 1995 and forecast to 2010. Thousand tonnes.

Source: The transport agencies' environment report 1999.

Unsufficient ecocycle, traffic noise difficult to reduce

Developments in the transport sector are to some extent moving in the direction of an increased ecocycle adaptation of the infrastructure. However, important exceptions are that dumping is increasing and recycling decreasing. Insufficiently fast action is being taken on water resources and pit run is being used at a faster rate than desirable.

The objectives for noise during new construction or large-scale reconstruction of traffic facilities are being met in most cases. However, the rate at which action is being taken today is insufficient to achieve the guidelines in the existing environment.

THE ECONOMY IS MOST IMPORTANT FOR THE DEVELOPMENT OF TRAFFIC

The most important driving forces underlying the development of transport are population changes and the general economic development with accompanying changes in the structure of industry, foreign trade, etc.

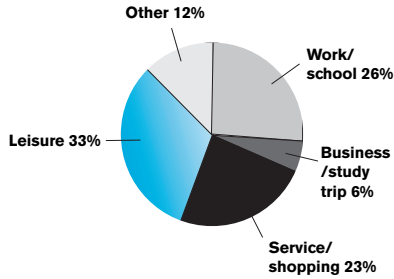
The population of the big city regions (Stockholm, Gothenburg and Malmö), as well in a number of other university cities, increased markedly in 1999, while the population fell in 16 of 21 counties. The population of the forest counties, i.e. the counties in Norrland and the counties of Dalarna and Värmland fell, for instance by a total of 12,100 people in 1999, corresponding to 0.7 per cent. This may be an indication that we are again entering a period of large population movements.

The annual economic rate of growth, expressed as an annual average of GDP growth, has been 2.2 per cent on average per year between 1972 and 1998, disregarding the exceptional downturn from 1991 to 1993¹. During 1999, GDP increased by 3.8 per cent, i.e. considerably more quickly than has been the case in recent decades.

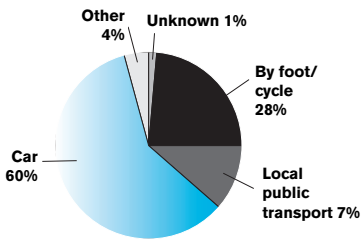
According to the assessment of the National Institute of Economic Research in March 2000, GDP growth in 2000 is expected to be 3.9 per cent and 3.3 per cent in 2001. The Long-Term Planning Commission estimates long-term development at 2 per cent per year from 1998 to 2015. An ageing population and increased demand for public services is expected to hold back growth during the latter part of the period, 2008 to 2015. SIKÅ's and the transport agencies' forecasts are based on these assessments.

¹ If the development in these years is also taken into consideration, GDP growth would instead be 1.8 per cent from 1972 to 1998.

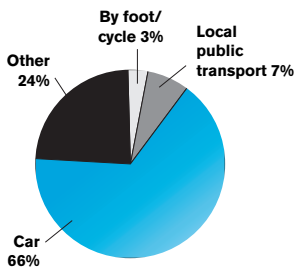
No. of journeys according to purpose



No. of journeys



Transport performance



Number of journeys and transport performance (passenger kilometers) according to mode of transport in 1999. Journeys refer to part journeys (DR), i.e. a movement for a particular purpose. For instance: If a person leaves a child at a day care centre on her/his way to work, this journey consists of two part journeys (home–day care centre, day care centre–work).

Source: RES 1999.

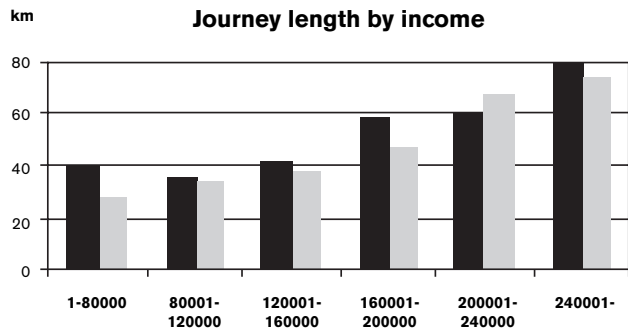
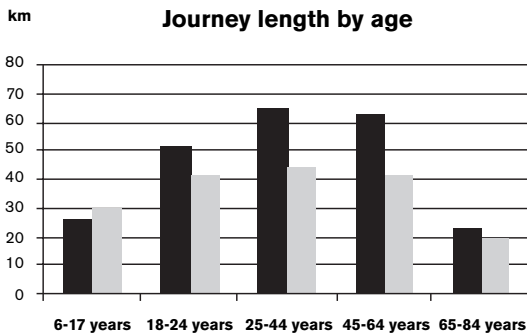
TRAVELLING IS CONTINUING TO GROW AS TO DATE

Travelling today

Most journeys that are made are leisure journeys (a third), while journeys to and from work/school and service journeys each account for about a quarter of the number of journeys. The car is the most common mode of transport (6 of 10 journeys are made by car) and this is even clearer if you look at the transport performance carried out. Almost 3 out of every 10 journeys take place on foot or by cycle, although as these modes of transport are used for short journeys they only account for a few per cent of the total transport performance carried out.

Men of working age travel considerably further than women of the equivalent age. However, young girls make both more and longer journeys than boys. The number of journeys per person and day increases with income. The length of the journey also increases with income, even to a very great extent than the number of journeys. There are no consistent differences between men and women in the same income group.

The proportion of the population with a driving licence and access to a car is lower among the population in the big cities than in the rest of the country. This is explained partly by better public transport in densely populated areas, but may also be due to other factors such as age structure. The trend during the most recent five-year period has been for women and older persons to have a driving licence and access to a car to a greater extent, while young people seem to wait before taking a driving licence.

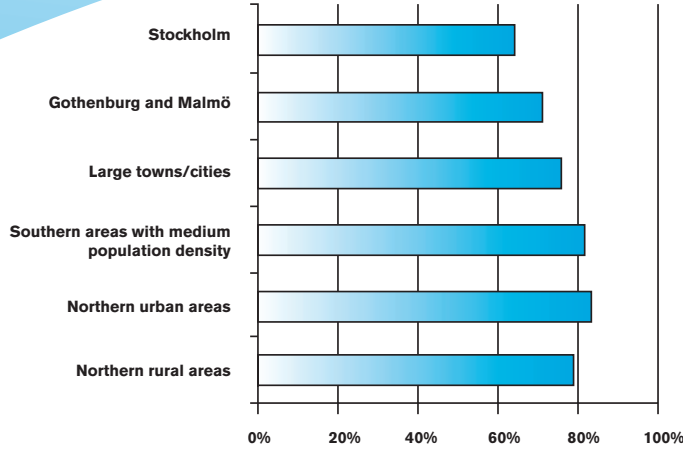


■ Man
■ Woman

Average journey length per individual and day according to age (left) and income (right) broken down for men and women. These figures refer to an average for the years 1994–99.

Source: RiksRVU/RES.

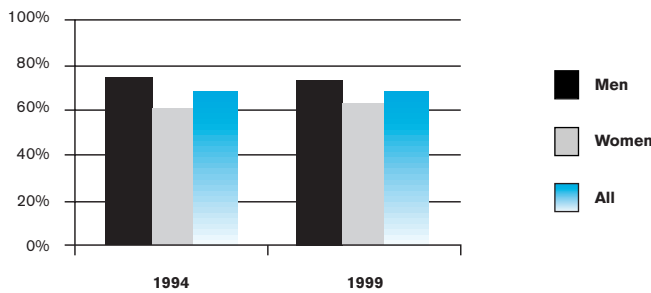
Proportion with a driving licence and access to a car



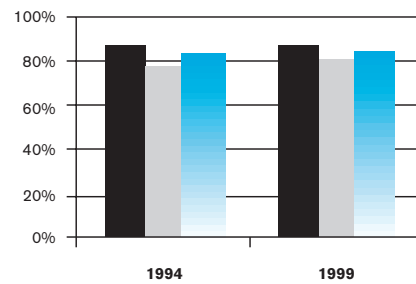
Proportion with a driving licence and access to a car in households in different areas of the country, (persons over 18 years of age).

Source: RES 1999. The areas are classified according to density of population.

Possession of a driving licence



Access to a car

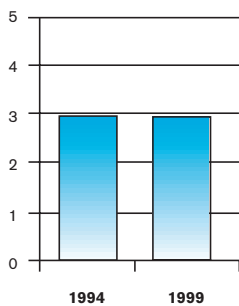


During the past five-year period, the tendency has been for the number of journeys to be unchanged while journeys have become longer. Business travel and travel by plane and train in particular have become considerably longer.

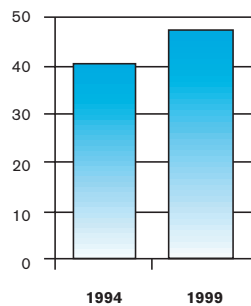
Proportion with a driving licence (left) and access to a car (right), broken down by sex, 1994 and 1999.

Source: RiksRVU/RES.

Number of journeys



Km travelled



Number of journeys and kilometres travelled per person and day, 1994 and 1999.

Source: RiksRVU/RES.

Travel in future

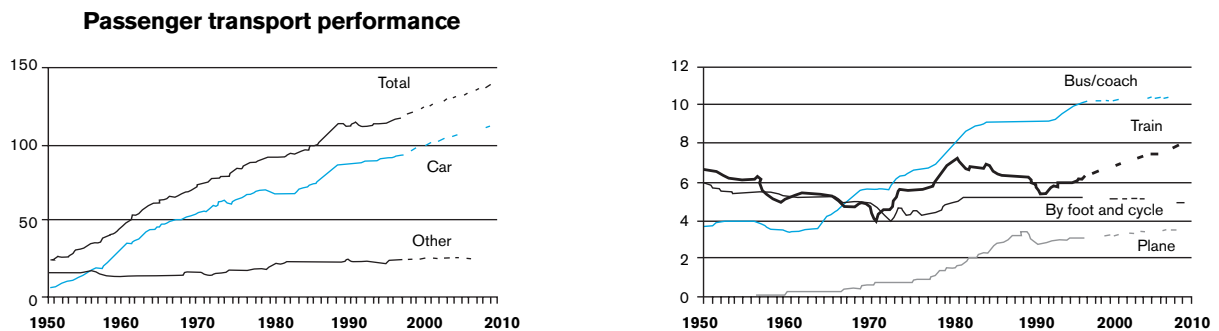
The total passenger transport performance is expected to increase by 17 per cent by 2010. This corresponds to approximately the same rate of increase as during the past twenty-year period.

The increase in car travel overshadows everything else in absolute figures. During the 1970s and 1980s, car travel increased by over 2 per cent per year, while the increase was somewhat lower in the 1990s. Car travel is expected to increase by just under 19 billion person kilometres by 2010 – a growth of 20 per cent. If you instead look at relative changes, the forecast shows that train travel is increasing most during the same period – from 7 to over 9 billion passenger kilometres, i.e. a growth by a full 31 per cent or approximately 2 per cent per year.

Domestic flights increased during the period 1997–1999 by 12 per cent, calculated in person kilometres. In the forecast for the period 1997–2010, it was estimated that air travel would increase by 17 per cent, a level which is expected to be reached already by 2000, however.

Passenger transport with ships and ferries is not measured in person kilometres and is therefore not included in the figures. The number of passenger with ferries to/from Sweden has fluctuated around a level of about 40 million during the most recent 10-year period, with a reduction of some millions during the latter half of the 1990s. Travel over Öresund accounts for approximately half of the total ferry travel.

Estimated person transport performance from 1950 to 2010. The left figure shows car and other modes of transport. The right figure shows other modes of transport, broken down by bus, train, and air, walking and cycling. Unit billion person km.



GOODS TRANSPORT BY LORRY IS INCREASING MOST

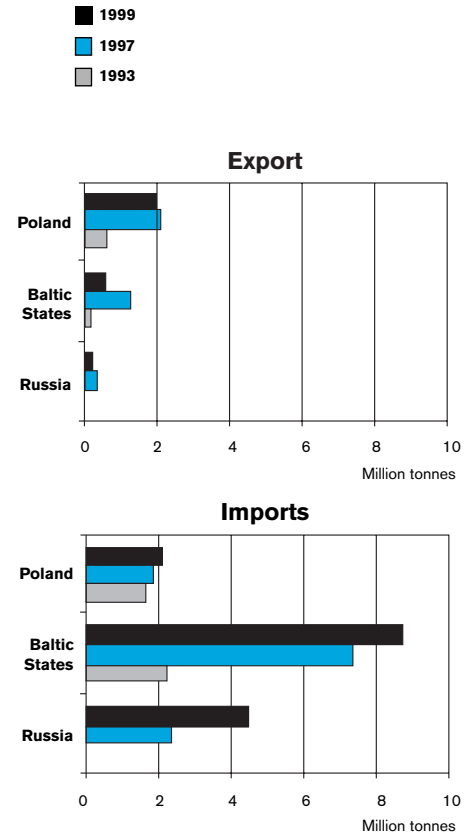
Most trade with neighbouring countries

As regards exchange of goods with the surrounding world, our neighbouring countries dominate in terms of volume. Export and import between Sweden and the Nordic countries and Germany accounts for more than half of the foreign flows of goods, estimated in million tonnes (approximately 55 per cent for both exports and imports).

The Baltic States, Poland and Russia, still account for a small part of trade – together exports there amounted to 5 per cent and imports 26 per cent of Sweden’s European trade in 1999. This trade is expected to continue to expand.

Goods transport today

An increasingly large proportion of goods transport in Sweden is carried out by lorry which has been the most dominating domestic type of transport since the 1970s. During the five-year period 1993–98 both the proportion of transported goods quantity (tonnes) as well as the goods transport performance carried out (tonne km) by lorry increased. Shipping has increased its transport performance compared with 1993, while rail transport has been largely unchanged both with respect to the quantity of goods and transport performance. The proportion of goods transport by air is insignificant if measured in tonnes or tonne kilometres. Looking at the value of the transported goods, air transport plays a more important role, however.

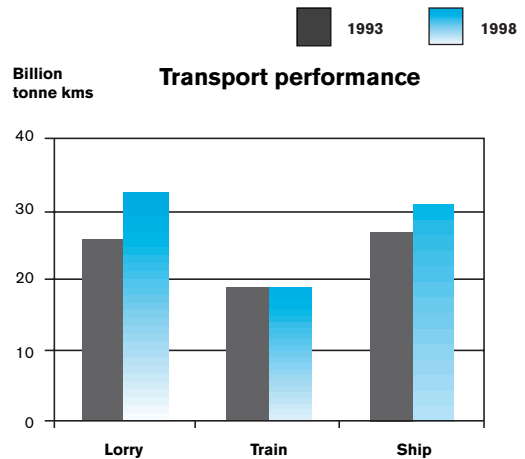
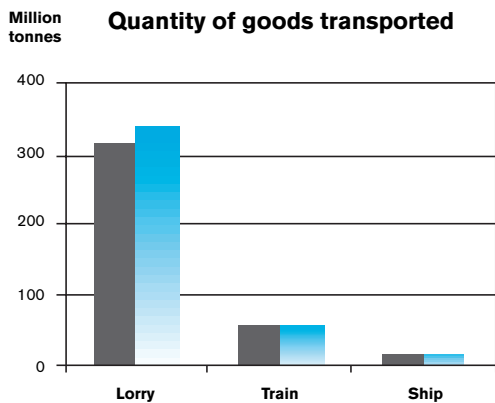


Export to (upper) and import from (lower) Poland, Russia and the Baltic states.

Source: Statistics Sweden.

Transported goods quantity and goods transport performance per traffic mode within Sweden and domestic share of foreign transports for the years 1993 and 1998. The statistics for 1999 are not available yet.

Source: SIKÅ.



An important explanatory factor for the large increase in lorry transports in recent years is that export has shifted towards more high-value goods (measured in SEK/tonne) such as electronic products and pharmaceuticals. Imports have also increased in value more than weight during the last few years but not to the same extent.

The future of goods transport

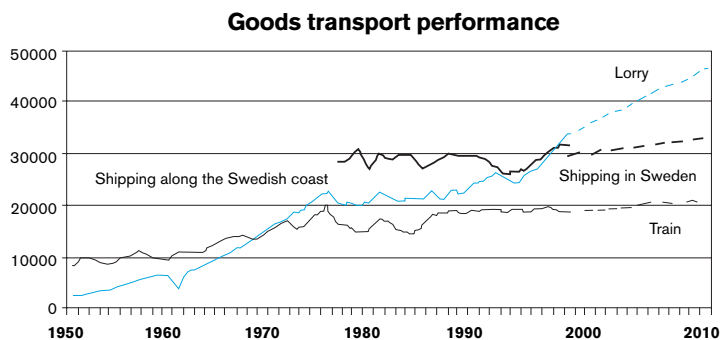
Goods transport is expected to increase by a total of 23 per cent during the period 1997–2010, measured in tonne kilometres. This means that growth is expected to continue at approximately the same rate as during the last twenty-year period.

This increase is particularly marked for lorry transport, both in the number of tonne kilometres and in relative figures: 37 per cent by 2010. Goods transport by rail and shipping in Sweden is expected to increase by 12 and 13 per cent respectively during the same period.

Altogether, this development of the different modes of transport means that the share of goods transport carried out by lorry in Sweden is expected to increase from 40 per cent in 1997 to 47 per cent in 2010, while the proportion of other kinds of transport is expected to decline slightly. Rail transport is expected to decrease from slightly over 22 per cent to 21 per cent, maritime transport from slightly over 33 per cent to 31 per cent.

An overview of the forecasts for both goods and passenger transport is in process (May 2000)² although it is not expected to change the main outlines in the future assessment presented here.

The development of goods transport performance broken down by different modes of transport between 1950 and 1997 with a forecast for 2010 (million tonne kilometres). The break in the curve for shipping is due to differences in the definition of calculated transport performance used in statistics and in forecasting models.



² A report in the SIKARapport series is due later in 2000

CHANGES IN THE TRANSPORT SECTOR DURING THE PAST YEAR

During 1999 and in early 2000, the following changes have been important or are expected to be important for the transport sector and its development.

General development in the transport sector

- *The Environmental Code*, and amendments to special legislation for each mode of transport that ensue from the new environmental legislation, came into force on 1 January 1999. Regulatory control was accordingly made more stringent in planning and maintenance of the infrastructure.
- *Diesel tax* increased by 27 öre per litre from the year-end 1999/2000 as a step towards a tax shift.
- *Tax-free* ceased in EU, which affected incomes particularly in air and ferry traffic.
- *The National Public Transport Agency was created*. The new authority the National Public Transport Agency started operations on 1 July 1999. The primary tasks for the new authority are to strive for the development and coordination of inter-regional public transport and to be responsible for government procurement of transport policy motivated inter-regional passenger traffic motivated by reasons of transport policy.
- The documentation *Strategic analysis* [Strategisk analys] for the long-term national infrastructure planning has been produced jointly by the National Rail Administration, the Civil Aviation Administration, the Swedish Maritime Administration, the National Road Administration

and SIKA. It was circulated for comment at the end of 1999 and in early 2000 and is to be included in the underlying material on which future parliamentary decisions on investments in the infrastructure are to be based.

Roads

- *Completed road construction.* During 1999 road works were completed that meant inter alia that the standard of 600 kms of European and national road network was improved. Examples of these improvements that may be mentioned are the Mjölby by-pass on the E4 which now means that the E4 is continuous motorway standard between Värnamo and Uppsala.
- *The eleven-point programme on traffic safety measures.* In April 1999, the Government presented an eleven-point programme for increased traffic safety on the roads. The Government decided at the same time that additional funds, SEK 400 million per year, are to be invested in special physical traffic safety measures during the period 1999–2003. The main part of these measures during 1999 were carried out in direct connection to the roads, mainly to improve the safety of roadside areas by, for instance, removing fixed objects, posts and large stones or by erecting barriers.
- *The requirement for winter tyres.* In 1999 the Government decided to make use of winter tyres compulsory in winter road conditions between 1 December and 31 March. This requirement applies to cars, light lorries and buses that weigh at most 3.5 tonnes and trailers that are pulled by these vehicles.

- *More private operators in passenger traffic.* The entry of new train operators at the beginning of 2000 meant that almost a third of passenger transport performance and approximately 60 per cent of the number of journeys would be carried out by another operator than SJ (Swedish State Railways). New traffic companies have been established on a market that is gradually becoming more and more open. Events later in spring 2000, for instance, on the traffic on the West Coast line indicates, however, that the development towards increased competition can be somewhat unstable.
- *Opening of the Arlanda line.* In November 1999, the private consortium, the A-train started passenger transport between Stockholm Central and Arlanda on the new railway line the "Arlanda line". SJ started long-distances services to Arlanda from January 2000. The new line cuts travelling time between Stockholm Central and Arlanda to approximately 20 minutes, approximately half the time it takes by airport bus.
- *The start of the Bothnia line.* In August 1999, the first sod was cut for the building of the Bothnia line on the section between Örnköldsvik and Husum. The new route between Ådalen and Umeå is to be completed by 2006.
- *Declaration of intent on faster train services between Stockholm, Oslo and Copenhagen.* The ministers of transport in Sweden, Norway and Denmark signed a declaration of intent on 4 February 2000 to improve and modernise train services between Stockholm, Oslo and Copenhagen. Their aim is that there should be faster and more modern daily train connections between Copenhagen, Oslo and Stockholm by the end of 2001.

Aviation

- *Poorer competition in domestic traffic.* Competition has been reduced markedly in domestic air services during 1999. Competition in the Swedish domestic market has almost disappeared when Braathens terminated all domestic air services to and from Arlanda in November 1999. After this, the market is almost totally dominated by SAS and its partner companies and there is de facto monopoly on practically every line. The risk of a permanent monopoly on domestic air services is considered to be great.
- *Opening of Pajala airport.* In 1999 a new airport was opened in Sweden – at Pajala. To start with it will be served by a line to Luleå with 8 return journeys per week. Traffic is organised so that Luleå serves airport for connecting flights further south.
- *Extended runway at Kallax in Luleå.* The runway at Luleå-Kallax airport has been extended by 1 150 m to 3 345 m which makes it the longest runway in the country. This extension is part of an investment to become a new freight airport for northern Europe for freight planes to/from the Far East.

Maritime transport

- *Expansion of navigation channels to Gothenburg.* In 1999 a decision in principle has been made to construct and finance shipping lanes to Gothenburg. Work has started on environmental impact descriptions.
- *High-speed ferry to Gotland.* In April 1999, a new high-speed ferry was put into service between Visby and the mainland. This halved travelling time compared with the traditional ferries.

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SIKA is an agency responsible to the Ministry of Industry, Employment and Communications and working within the sector of transport and communications. We carry out studies to the Government and co-operate with the National Road and Rail Administrations, the Civil Aviation Administration and the Swedish Maritime Administration in the work with national long-term infrastructure planning. SIKA is also responsible authority for official statistics in the transport and communications sector.

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