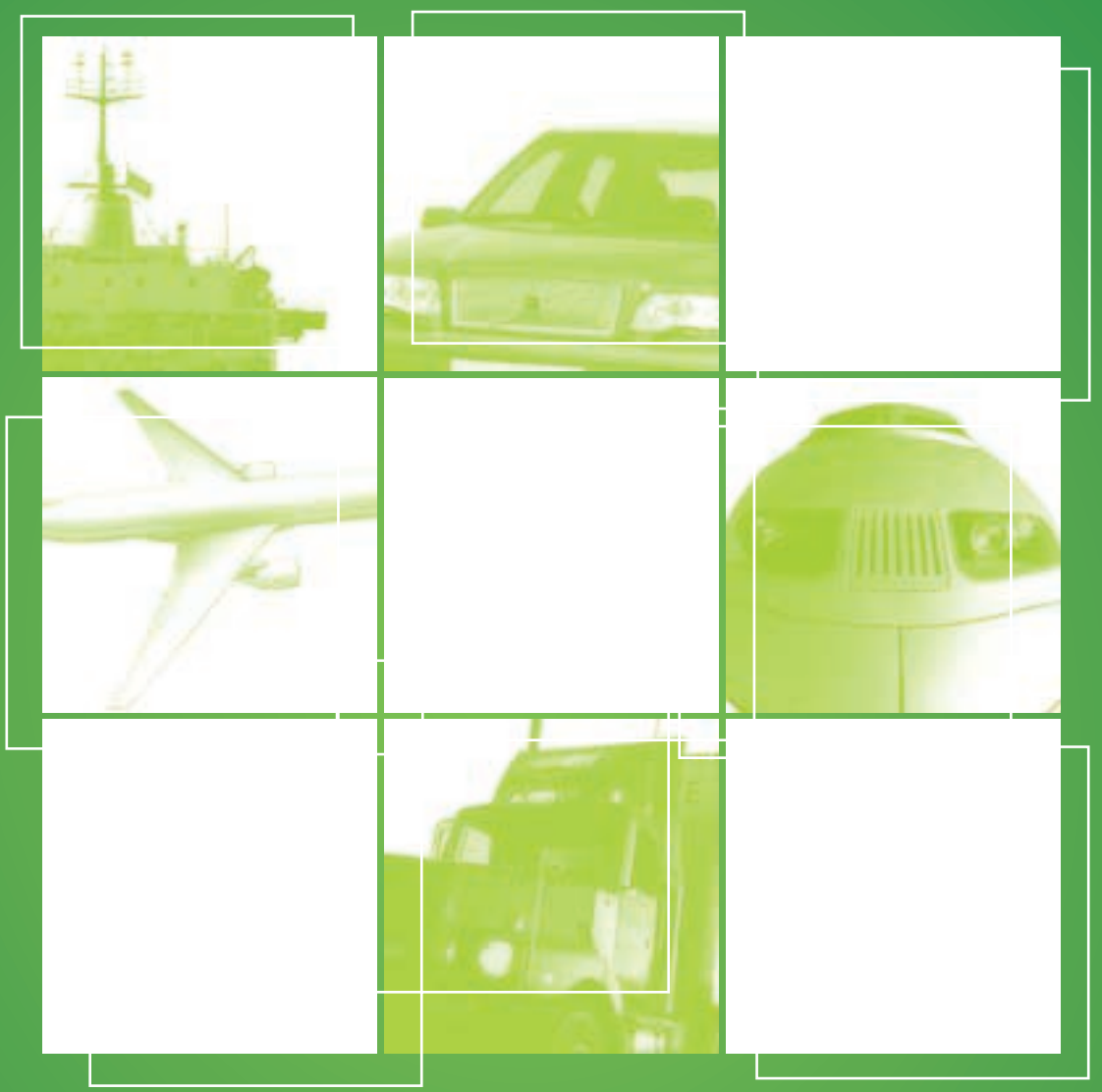
SWEDISH INSTITUTE FOR TRANSPORT AND COMMUNICATIONS ANALYSIS



FOLLOW-UP OF THE SWEDISH TRANSPORT POLICY OBJECTIVES

MAY 2001

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FOREWORD

The Swedish Institute for Transport and Communications Analysis, SIKA, 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 2001, which was published as SIKA Report 2001:4. It is based on material in the form of annual reports, sector reports, etc. from the transport agencies, i.e. the Civil Aviation Administration, the National Rail Administration, the National Road Administration and the Swedish Maritime Administration.

The forecasts for future passenger and goods transport have been produced by SIKA and the transport agencies. All of SIKA's reports are available at www.sika-institute.se.

Stockholm, June 2001
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.

- **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, scheduled intermediate objectives have been established for subsidiary objectives for transport quality, transport safety and environment. 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 2000, both passenger and goods transport continued to increase. This increase is not unexpected since there has been an upswing with an increase in GDP of almost 3.6 per cent. Our forecasts also indicate that this increase in traffic will continue in the event of a slackening of economic growth in the next few years.

The increase in traffic, not least road traffic, places a greater load on the transport system and the environment. This will make it more difficult, at least in the short run, to comply with a number of the subsidiary objectives of transport policy.

A summary is given in the following table of SIKA's assessment of recent developments in relation to the subsidiary objectives of transport policy.

Subsidiary objective	Developments towards long-term intermediate objectives during 2000	Are the intermediate objectives being met by decisions made?
Accessibility	Uncertain	–
Transport quality	Yes	No
Safe Traffic	Roads: No Other modes of traffic: Yes	No
Environment		
• Effect on climate (CO_2)	No	No
• Air pollution (S, NOx, VOC)	Yes, probably	Yes, probably
• Noise	Yes	No
• Ecological adjustment	Uncertain	–
• Effect on natural and cultural environment	Uncertain	–
Regional development	Uncertain	–

– No subsidiary objectives

Accessibility, transport quality and regional development

Increased accessibility although longer distances
New roads and railways, improved means of transport, etc. have meant a dramatic improvement in accessibility, viewed over a longer period. The fact that people travel more and that more goods are transported are clear expressions of an improvement in accessibility.

Increased accessibility has not always led to shorter transport times, however. It is also used to increase our geographical sphere of action. Larger areas can be reached in the same travelling time as before. Many people therefore opt to move further away from work and service in order to have a better living environment. Improvements of the transport system have also made other structural changes possible, in the form, for instance, of concentration in industry and public service.

Increased overcrowding has led to a deterioration in ease of travel
Ease of travel, which is one aspect of accessibility, has deteriorated in some parts of Sweden recently. Congestion on both roads and railways is increasing in parts of the big city areas. Together with reduced speed limits and structural changes, this has led to an increase in average travel and transport times for road traffic in recent years.

Improved but not good road standard
The road standard (measured as the evenness of the road surface, the length of gravel roads, closure due to frost damage and the proportion of roads in the highest load class) has improved slightly during 2000. However, the rate of improvements is not sufficient to comply with the intermediate objectives for the road standard. There is also a continuing backlog in road maintenance.

Increased delays for train and air transport

Train and air transport are both increasing. At the same time, however, both modes of transport, are experiencing problems with delays. In train transport, the total delay time has increased mainly because each delay has become longer on average. In air transport, delays have fallen in 2000 from a record high level in 1999.

Safety

Continued negative development for road traffic

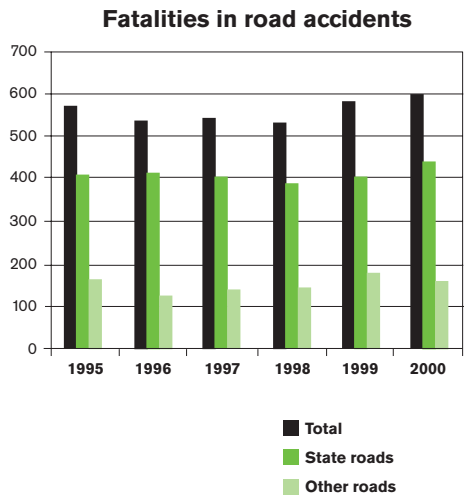
Over the past year, the development of road safety has moved in the wrong direction to the zero vision, i.e. the subsidiary objective that no one was to be killed or seriously injured. For the second year running, the number of fatalities increased in 2000 (to a total of approximately 600). This is an increase of over 3 per cent compared with the previous year. It therefore seems that the intermediate objective of a halving of the number killed in road traffic accidents between 1996 and 2007 will be very difficult to achieve.

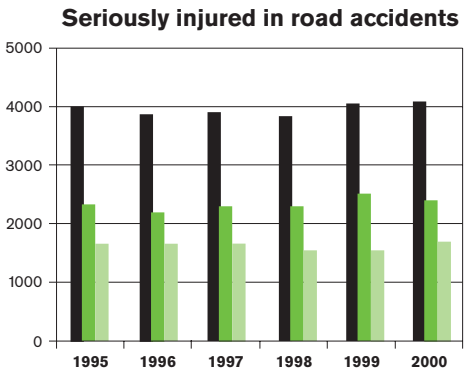
This negative trend can be partly explained by an increase in traffic (in particular, lorry traffic), that more drivers are under the influence of drugs, and that there has been an increase in the number of inexperienced drivers. The major investments in, for instance, reconstruction of roads that have been made in the past two years have not been sufficient to keep down the increase in serious accidents.

Increased safety in other modes of transport

As regards accidents in other modes of transport, the trend has been favourable in 2000, however.

There were 29 accidents at road-rail crossings in 2000, 13 fewer than in the previous year. Private aircraft crashes fell to 25 (of which 2 led to fatalities), compared with 36 crashes in the previous year. The number of deaths in leisure craft accidents was 27, the lowest figure since the sea rescue authority started to keep statistics in 1972.



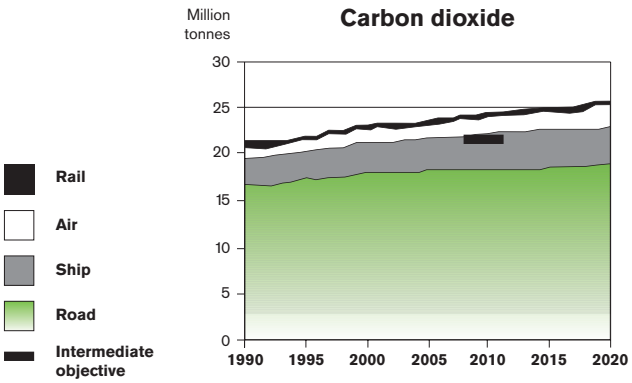


Number of fatalities and seriously injured reported to the police in road traffic.
Source: SIKA/Statistics Sweden.

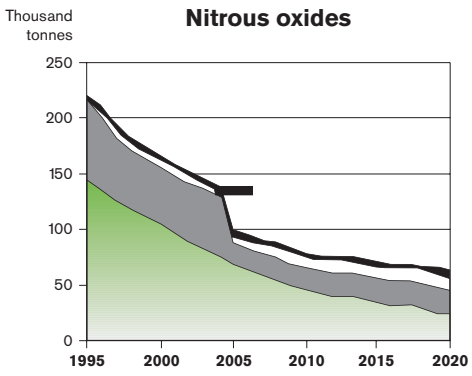
Environment

Emissions of carbon dioxide continue to increase
The increased traffic in 2000 has led to an increase in total fuel use this year as well. Accordingly, emissions of gases affecting the climate, primarily carbon dioxide, have also increased. However, emissions in aviation have temporarily fallen, despite the increased number of passengers. The reason for this is the changeover to larger, more fuel efficient aircraft, although it is expected that emissions from aviation will again increase in coming years. It will be very difficult to comply with the intermediate objective for unchanged emissions of carbon dioxide.

Other emission objectives can be achieved
Technical improvements in vehicles, craft and fuels have contributed to reducing emissions of air pollution by the transport sector, in particular sulphur and nitrous oxides. Accordingly, it is expected that the intermediate objectives for emissions of these substances will be complied with. However, there are deficiencies in the statistics on emissions, which make the assessment somewhat uncertain.



Emissions of carbon dioxide by the transport sector since 1990, and forecast to 2020. Million tonnes.
Source: The transport agencies' environment report 2001.

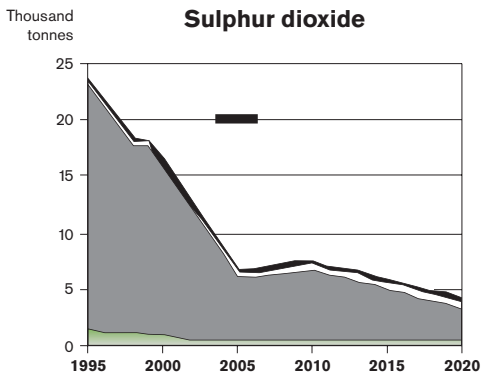


Emissions of nitrous oxides by the transport sector since 1990 and forecast to 2020. Thousand tonnes.
Source: The transport agencies' environment report 2001.

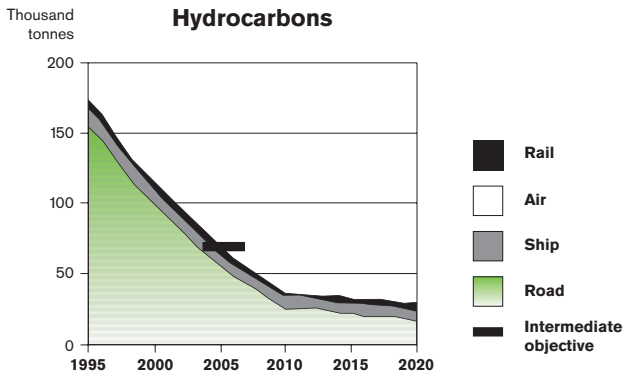
Insufficient ecocycle, traffic noise difficult to reduce

Developments in the transport sector are to some extent moving in the direction of the goals for increased ecocycle adaptation of the infrastructure. However, the increase in dumping and reduced recycling are developments in the wrong direction. Action on water resources is only taking place at a slow rate and pit run is still being used to a rather large extent.

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 for noise in the existing environment during the current planning period (1998–2007).



Emissions of sulphur dioxide by the transport sector since 1990 and forecast to 2020. Thousand tonnes.
Source: The transport agencies' environment report 2001.



Emissions of volatile hydrocarbons by the transport sector since 1990 and forecast to 2020. Thousand tonnes.
Source: The transport agencies' environment report 2001.

THE ECONOMY IS MOST IMPORTANT FOR THE DEVELOPMENT OF TRAFFIC

The most important driving forces underlying the development of transport are the general economic development and population changes. These factors affect the development of industry, trade, etc. which in turn affects how we travel and transport goods.

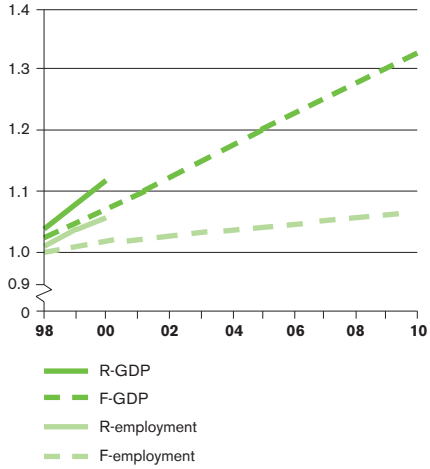
During 2000, GDP increased by 3.6 per cent, compared with 3.8 per cent in the previous year. Prior to that, the annual economic growth has been 2.2 per cent on average per year between 1972 and 1998.[1] During 2000, household real income increased by 3.6 per cent.

According to the assessment of the National Institute of Economic Research (March 2001), GDP growth is expected to be 2.8 per cent in 2001 and 3.1 per cent in 2002. The Long-Term Planning Commission estimated long-term development in 1999/2000 at 2 per cent per annum between 1998 and 2015. SIKA's and the transport agencies' forecasts for the development of traffic are based on these assessments.

GDP has increased almost twice as fast as was assumed in the most recent forecasts for traffic development. Employment has also increased considerably more quickly.

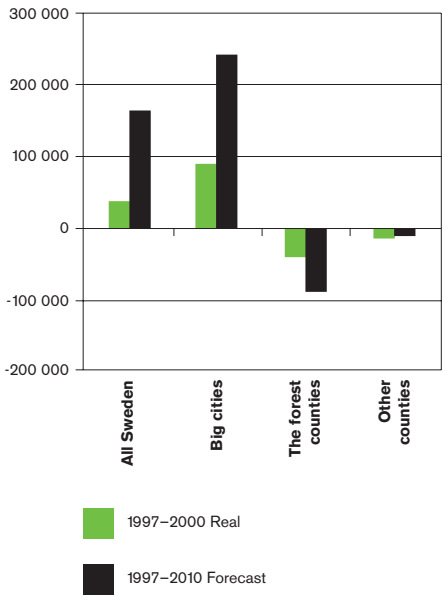
In recent years, the population of the big city regions and in some university cities has increased considerably more rapidly than assumed in the forecasts while it has fallen faster in the forest counties, for instance. This development has also had an effect on transport, with, for instance, increased congestion in the big city areas.

GDP and employment



Percentage increase of real (R) and forecast (F) GDP, employment.

Change in population



Change in population 1997–2000 compared with forecast change between 1997 and 2010. The forest counties consist of Värmland County, Dalarna County and the Norrland counties, the big city areas consist of Greater Stockholm, Greater Gothenburg and Greater Malmö.
Source: Statistics Sweden (processed statistics and forecast)

[1] Disregarding the exceptional downturn from 1991 to 1993. If these years are also taken into consideration, GDP growth would instead be 1.8 per cent from 1972 to 1998.

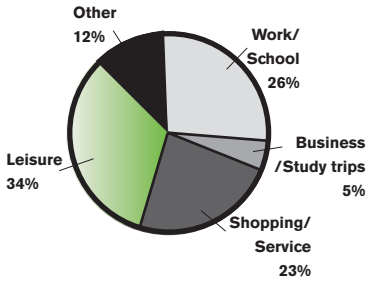
PASSENGER TRANSPORT CONTINUES TO INCREASE

Stable travel pattern

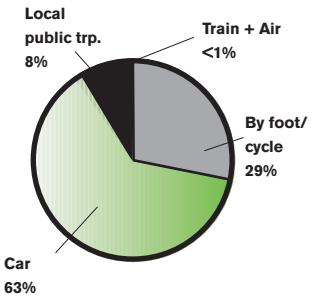
Most journeys that are made are leisure journeys (a third), while journeys to and from work/school and service journeys each account for about a quarter of the number of journeys. This pattern of travel has been stable in recent years.

The car is the most common mode of transport, six out of ten journeys being made by car. The car's predominance is even clearer from the point of view of transport performance. Almost three out of every ten journeys take place on foot or by cycle, although as these modes of transport are used mostly for short journeys they only account for a few per cent of the transport performance carried out.

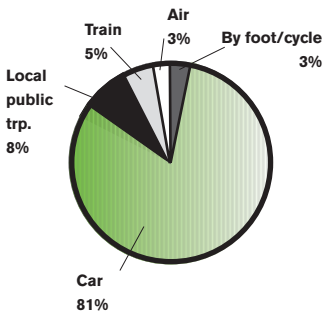
No. of journeys acc. to purpose



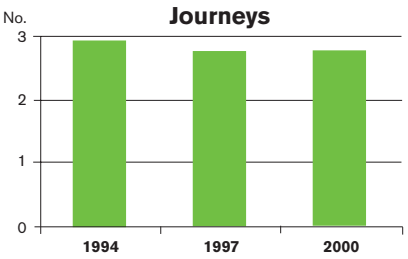
No. of journeys

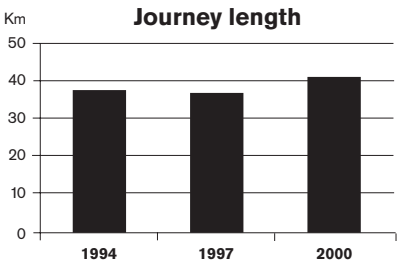


Transport performance



The number of journeys according to purpose and mode of transport and transport performance (passenger km) according to mode of transport in 2000, journeys within Sweden. Journeys refer to part journeys, i.e. one movement for each particular purpose.
Source: RES 2000 processed by SIKA





The number of journeys inside Sweden and km travelled inside Sweden per person and day, 1994, 1997 and 2000.
Source: Riks-RVU/RES, processed by SIKA.

Business journeys are getting longer

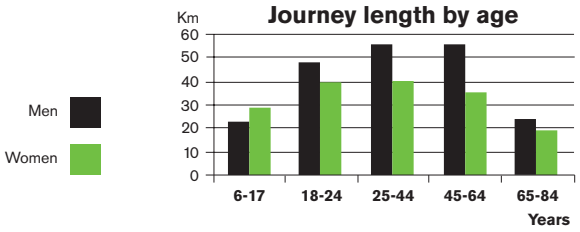
Total travel within Sweden increased by approximately ten per cent between 1997 and 2000. In recent years, the trend has been for the number of journeys per person and day to be relatively constant, while the distance travelled per person and day has increased slightly. The categories of journeys that have increased most are business journeys and air travel.

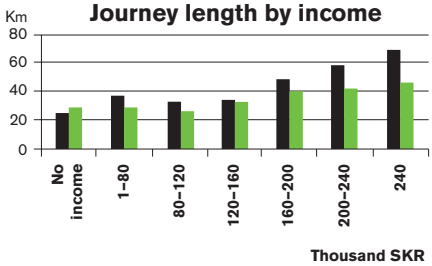
Men of working age travel considerably further than women. However, young girls make both more and longer journeys than boys. The number of journeys per person, as well as the length of the journey, increases with income. Disregarding those without income (mainly children and young people), men travel considerably longer than women in all income groups.

Women and older people drive cars to an increasing extent

The proportion of those with a driving licence and access to a car is lower among those living in big cities than in the rest of the country. One explanation for this is that there is better public transport in the densely populated areas. However, it may also depend on other factors, e.g. the age structure or parking problems.

Access to a car and driving licence is still much higher among men. However, in recent years, the trend has been towards a slight increase in the proportion of women and older people with access to a car and a driving licence. As regards young people, the tendency is still that they seem to wait before taking a driving licence.





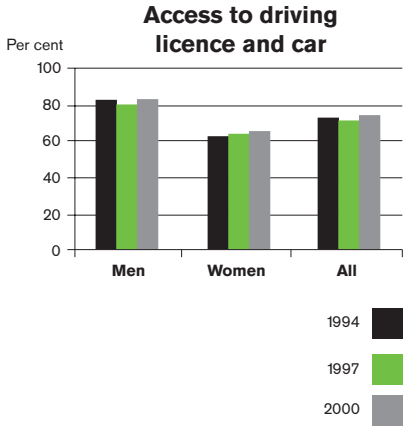
Average journey length per individual and day by age and annual income respectively broken down for men and women. These figures refer to an average for the years 1997–2000 and apply to travel within Sweden.
Source: Riks-RVU/RES, processed by SIKA.

Car travel is expected to increase most

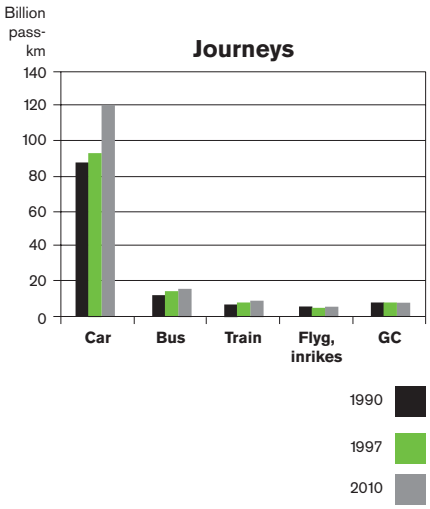
The most recent transport forecast covers the period 1997–2010 and includes passenger transport by car, air, train and bus, as well as goods transport by lorry, rail and shipping.

Total passenger transport is expected to increase by an average of 1.8 per cent per annum between 1997 and 2010. The car is responsible for the absolutely largest increase and the largest relative increase (+29 per cent) up to 2010. Rail transport is expected to have an almost as large relative growth as car travel up until 2010 (+26 per cent), as well as air travel (+24 per cent).

The forecast for 2010 hardly indicates any reversal of the trend in relation to the development to date during the post-war period. While the expected increase for car travel is higher than between 1993 and 1997, it is at the same time lower than during the 1980s.

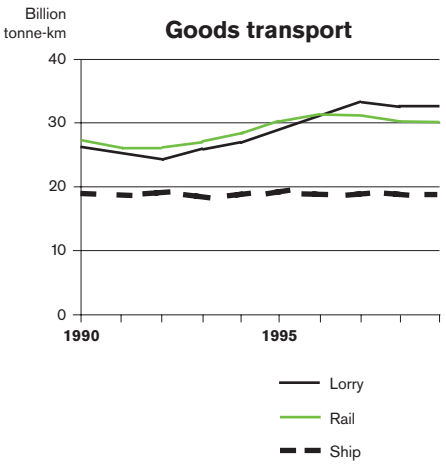


The proportion with a driving licence and access to a car broken down by sex. Refers to persons over 18, 1994, 1997 and 2000.
Source: Riks-RVU 1994,1997/RES 2000.



Journeys 1990, 1997 and forecast for 2010 (billion passenger kms).
Source: SIKA.

Development of Sweden's export in value and weight. Index 100 =prices and weight year 1991.
Source: SIKA/Statistics Sweden, Statistics Sweden/National accounts.



Goods transport 1990–1999 (billion tonne kms).
Source: SIKA/Statistics Sweden.

GOODS TRANSPORT BY LORRY IS INCREASING MOST

The value of transported goods is increasing
A clear trend in recent years is that the value of goods transported is increasing. It is primarily exports that have changed towards more high-value goods such as electronic products and pharmaceuticals. This development has particularly favoured goods transport by lorry and to some extent by air as well. Imports have also increased more in value than in weight in recent years, although not to such a great extent.

Our neighbouring countries dominate our exchange of goods with the surrounding world. 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 account for a small but expanding part of trade. Together, exports there amounted to 5 per cent and imports 26 per cent of Sweden's European trade in 1999.

Lorry transport is increasing greatly
Since the early 1990s, transport performance has increased continuously with a temporary slackening in 1998. Official statistics are still not available for 2000. However, it seems as if there has been a large increase this year as well.

It is primarily transport by lorry that has shown a long-term increase. There are indications that the development of transport by Swedish lorries has fallen off while transport by foreign lorries in Sweden is increasing.

Shipping increased in the early 1990s, although it has been relatively unchanged in recent years. Foreign shipping has increased slightly while Swedish shipping has fallen. Rail transport was substantially unchanged throughout the 1990s while it increased in 2000.

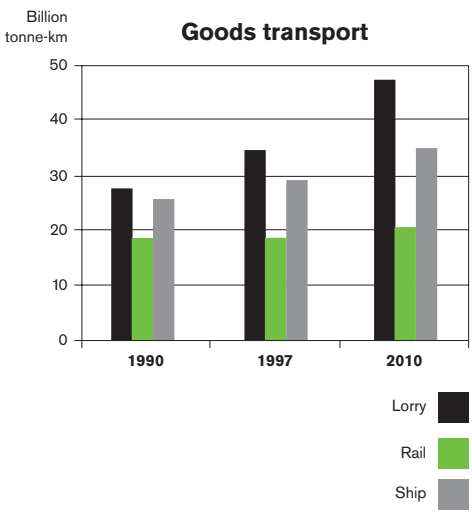
Transport of hazardous goods is also increasing

Transport of hazardous goods has attracted increasing attention, not least due to some major accidents in recent years. Of the total transport of hazardous goods on land, approximately two-thirds take place by lorry and one-third by rail. Hazardous goods make up 4–5 per cent of the quantity of goods transported (in tonnes), both by road and rail. Transport increased during the 1990s although the volume has been largely unchanged between 1998 and 1999. The share of hazardous goods transported by Swedish vehicles has increased, however.

Lorry transport is expected to increase most quickly

Goods transport in Sweden is expected to increase by a total of 25 per cent between 1997 and 2010. Lorry transport is expected to increase by 38 per cent, equivalent to an annual increase of approximately 2.5 per cent. Goods transport by rail is expected to increase by 10 per cent and freight ship and ferries (in Sweden) by approximately 20 per cent. Air freight is not included in the forecasts.

The forecasts show accordingly an increase for all modes of transport. Since the increase is largest for lorry transport, a redistribution takes place, however, from rail and shipping. The strong concentration to a limited number of main corridors for goods transport that we already have today is expected to become even more pronounced in the next 10–15 years.



Goods transport 1990, 1997 and forecast for 2010 (billion tonne kms).
Source: SIKA.

IMPORTANT EVENTS DURING 2000

The Öresund link
In July 2000, the fixed combined road and rail link over Öresund was opened to traffic. During the latter half of 2000, 1.5 million cars crossed the bridge in both directions. This is equivalent to over 8 000 cars per 24 hours on average. The number of heavy lorries was over 60 000 during the six months that the link was open for use.

More than 2 million passenger journeys took place on regional trains during the six-month period. In addition, a smaller number of journeys by Kustpilen from Blekinge and SJ's long-distance trains to Copenhagen should be included. Travel by regional train exceeded the operators' forecasts before the start of traffic by 40 per cent. Goods traffic on the railway stabilised after running-in problems at the start and was approximately 300 000 tonnes per month at the year-end 2000/2001.

Major road projects completed (over SEK 500 million)
- E 6 Yttre Ringvägen, Malmö (16 km motorway, connection to the Öresund link)
- E18/20 Örebro – Arboga (43 km motorway)
- E 6 Håby – Rabbalshede (20 km dual carriageway)
- E 6 Sunningeleden med Uddevalla bridge (10 km motorway)
- E 22 Söderåkra – Hossmo in Kalmar county (28 km 13-m way)

Major rail projects completed

- New railway between Landskrona and Helsingborg
- Connection to the Öresund link
- Connection to Arlandabanan from the north (Uppsala)
- Malmbanan on the Gällivare – Boden section (upgrade to 30 tonnes load per axle)
- Railway between Bergslagen and Gothenburg port (upgrade to 25 tonnes load per axle)

Tax changes

The Riksdag decided to increase tax on diesel fuel by SEK 0.10 per litre, as a step in the tax shift (equivalent to SEK 0.117 per litre with upward index adjustment). Public transport was compensated for the increase in diesel tax by reduced VAT on passenger transport from 12 to 6 per cent. The Riksdag also decided to increase vehicle tax on older diesel cars (1993 and earlier) to the same level as for newer diesel cars.

High petrol prices

During 2000, the price of petrol varied greatly. The price for a litre of unleaded 95-octane petrol reached its highest level in June (SEK 9.95 per litre according to Statistics Sweden); for short periods, the price was even over SEK 10 per litre. The price was lowest in January when a litre cost SEK 8.77.

Large amounts of rain in the summer and autumn

The heavy, persistent rain during the summer in southern Norrland and at the end of the year in Dalsland and Värmland led to considerable damage to roads and railways. Some hundred sections of road had to be closed leading to considerable problems with access. Of the railway, the Mittbanan in southern Norrland was particularly badly affected.

Swedish institute for transport and communications analysis, SIKA, has been instructed by the Swedish Government to compile an annual report on how the transport policy objectives are being met within the entire transport sector. This publication is a summary of the annual report for 2001. (SIKA Report 2001:4 UPPFÖLJNING AV DE TRANSPORTPOLITISKA MÅLEN, MAJ 2001, in Swedish only).

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.

This report, as well as other publications from SIKA, can be ordered from our web site.

www.sika-institute.se
sika@sika-institute.se

Postal address:
P.O. Box 17 213
SE-104 62 Stockholm

Tel (+46)8-506 206 00
Fax (+46)8-506 206 10

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Examples of public commissions on inquiry of importance for the transport sector

- The Climate Commission's report *Förslag till svensk klimatstrategi* (Proposals for a Swedish climate strategy, SOU 2000:23) containing proposals concerning the impact of the transport sector on the environment and climate.
- The Transport Liability Commission's report *Ett gemensamt ansvar för trafiksäkerheten* (Common Responsibility for Road Safety, SOU 2000:43) containing proposals on a freestanding road traffic inspectorate, etc.
- The Environmental Objective Commission's report *Framtidens miljö – Allas vårt ansvar* (The Environment of the Future – Everyone's Responsibility, SOU 2000:52) containing proposals on the impact of the transport sector on environment and climate.
- The final report of the Regional Policy Commission (SOU 2000:87) containing proposals for measures in the transport system to promote larger regions.