SIKA Report
Summary

2005:9

Forecast for Swedish goods transport for 2020

Swedish Institute for Transport and Communications Analysis

About SIKA

Swedish Institute for Transport and Communications Analysis, 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.

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Background

SIKA has been commissioned by the Swedish Government to produce forecasts for the development of transport in Sweden through to 2020 in consultation with and with the help of the National Rail Administration, the National Road Administration, the Swedish Maritime Administration and the Civil Aviation Administration.

This report describes the development of goods transport through to 2020. The reporting of this commission also includes an overall summary of the entire commission (SIKA Rapport 2005:6), a report on global environmental conditions (SIKA Rapport 2005:7) and a report on passenger transport (SIKA Rapport 2005:8).

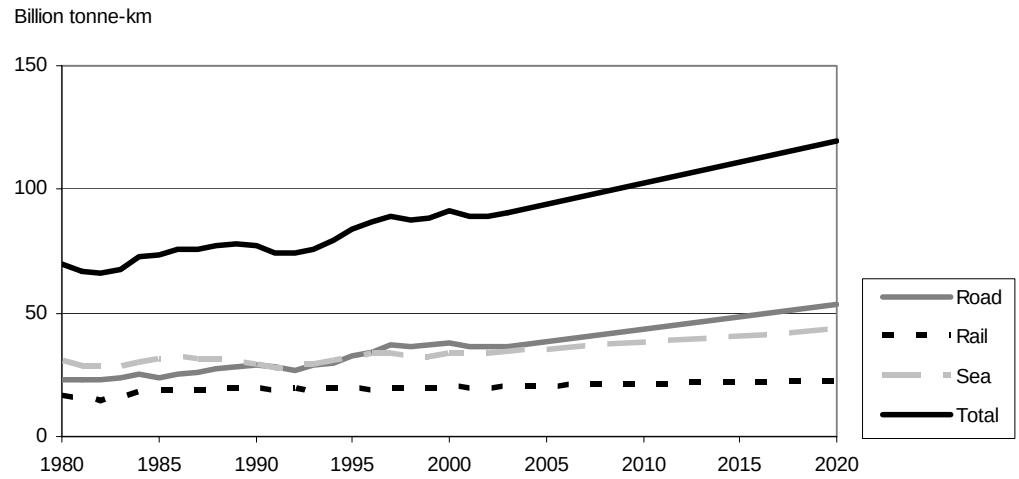
This report has been produced by Inge Vierth (project leader) and John McDaniel from SIKA. They have been assisted by Henrik Edwards, Petter Hill and Anna Johansson (all SIKA), together with Petter Wikström (the National Rail Administration), Anders Bornström (the National Road Administration) and Thomas Ljungström (the Swedish Maritime Administration).

Forecast for Swedish goods transport in 2020

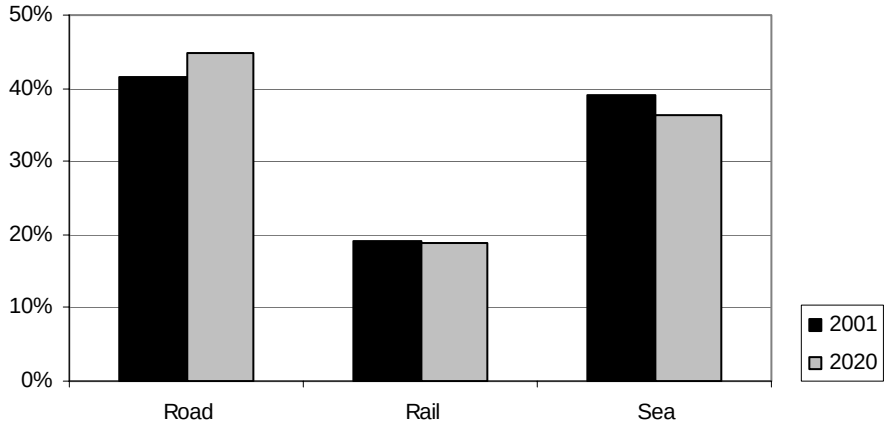
The aim of this report is to present a national goods transport forecast for the year 2020. The forecast is produced for an economic main scenario and an alternative scenario and is supplemented by sensitivity analyses that show how certain external factors affect the forecast. The forecast is intended for use as general information on the development of the transport and traffic performance over the next 15 years.

The result in the main scenario is a growth in the total goods transport performance in Sweden of around 21 billion tonne-kilometres (21 per cent) between 2001 and 2020. The total transport performance is expected to be around 120 billion tonne-kilometres in 2020. Growth is expected to be around 13 billion tonne-kilometres (30 per cent) by lorry, around 3 billion tonne-kilometres (18 per cent) by rail and around 5 billion tonne-kilometres (12 per cent) by sea. Foreign air freight including trucking is expected to see a growth in weight terms of around 150, 000 tonnes (74 per cent).

Road transport's share of the transport performance (over 25 km) in Sweden is expected to increase from around 42 per cent in 2001 to around 45 per cent in 2020. Sea transport's share is expected to fall from around 39 per cent to around 36 per cent. Rail transport is expected to maintain an unchanged share of around 19 per cent.

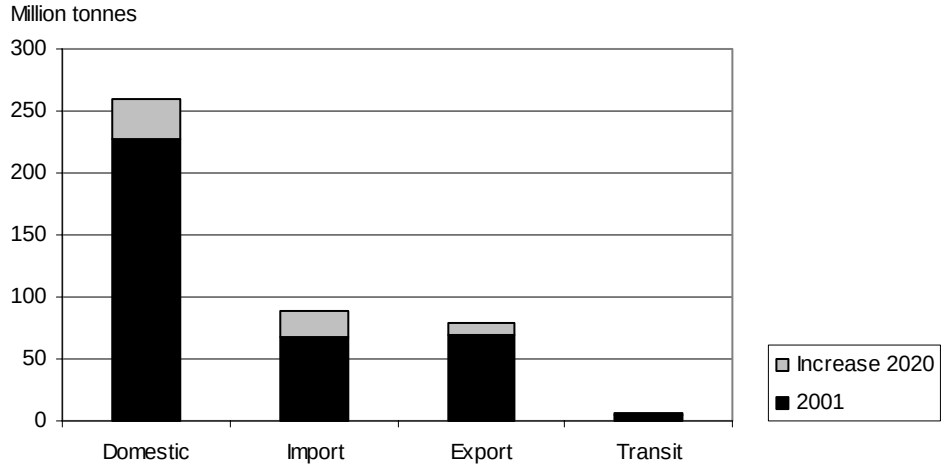


Goods transport performance in Sweden 1980–2020, billion tonne-km.



Distribution of goods transport performance per traffic type in Sweden in 2001 and 2020, percentage of tonne-km.

The composition of goods groups is expected to change to more high-value products. The transported goods quantities in tonnes are expected to increase at a much slower rate than GDP during the period 2001–2020 (17 per cent as against 40 per cent). However, it is estimated that transport distances will increase. International transport will increase more than domestic transport.



Transported goods quantities in 2001 and 2020 for domestic transport, import, export and transit, million tonnes.

Traffic performance on the roads is expected to increase by 33 per cent compared with transport performance, which is expected to increase by 30 per cent. For sea transport the result will be nearly four times greater percentage growth in transport performance for ferries compared with freight vessels. Greater vessel size means that traffic performance at sea is developing more slowly than transport performance. The same pattern can be seen on the railways where the rail network is being expanded for heavier and longer trains, in other words traffic performance is developing more slowly than transport performance.

Regionally there is a huge variation in growth. The number of tonne-kilometres on the roads is expected to increase most in the county of Västra Götaland (2.6 billion tonne-kilometres), Skåne (1.6 billion tonne-kilometres), Jönköping (1.3 billion tonne-kilometres) and Östergötland (1.2 billion tonne-kilometres). Two counties (Östergötland and Jönköping) show a growth of around 50 per cent.

The largest absolute increase in transport performance on the railway is expected to occur in Västra Götaland (0.8 billion tonne-kilometres), Gävleborg and Västernorrland (0.5 billion tonne-kilometres) and in Västerbotten and Örebro (0.4 billion tonne-kilometres). Transport performance in Jämtland is expected to fall as a result of a transfer to the Bothnia rail line along the Norrland coast.

The highest absolute growth for freight vessels and ferries together is expected in Gothenburg (9.7 million tonnes). Sizeable growth is also predicted in Skåne (Malmö – Helsingborg 4.4 million tonnes) and Eastern Central Sweden (Norrtälje – Nynäshamn 3.5 million tonnes, Södertälje – Norrköping 2.7 million tonnes).

Development with the alternative scenario

Economic conditions have great significance with regard to the overall transport performance. In our alternative scenario we exclude the tax increases that form part of the main scenario and which are assumed to be necessary for achieving a four-per cent reduction in carbon dioxide emissions. This involves a higher level of growth, especially in the energy-intensive industries such as the mining and mineral industry, the coal and petroleum industry, and steel and metal engineering plants. Transport performance, especially for freight vessels, is expected to increase more in the alternative scenario than in the main scenario.

With a higher crude oil price goods transport performance is expected to fall most for goods transport on the roads in spite of a relatively higher cost increase for bunker oil compared with diesel. The land-based categories of transport road and rail are closer substitutes to one another than shifts between sea and road/rail. With a constant electricity price there is a strong redistribution from road traffic and sea traffic to the railway. With the same electricity price development as with oil price development virtually the whole redistribution effect between traffic categories disappears. The redistributions that are expected to happen to the railway, given a constant electricity price, should to a certain extent be seen as theoretical and not practically achievable on the basis of the railway capacity assumed for the year 2020.

The extensive investment programme for the railway is only expected to have a limited effect on goods transport performance on the roads. With a prioritisation of goods trains over passenger trains, however, the distribution of transport performance between road and rail is expected to be seriously affected, especially on the Västra [western] and Södra [southern] main line.

Analyses of the introduction of marginal cost-based infrastructure charges in Sweden and Europe show limited but hardly negligible effects on the distribution of categories of transport.