BUSINESS INTELLIGENCE ANALYSIS

Conditions that can affect Swedish transport policy

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Preface

In early summer 2004, SIKA was instructed by the Government to make a business intelligence analysis as a basis for the Government's transport policy bill.

The task was formulated in the following way: *The business intelligence analysis is to include assessments of factors that affect the subsidiary objectives for transport policy and which are thus important for the desired future development of transport policy. The prerequisites for the analyses are that the Government infrastructure planning decisions are upheld and that financial frameworks for transport policy remain substantially unchanged*.

SIKA has interpreted the task to mean that the analysis is to consider the conditions that can affect Swedish transport policy, but that it is not to include any analysis of conceivable Swedish political decisions on future transport policy. It is assumed that the need for policy analyses will be met through the Government Offices treatment of the transport policy bill.

Åsa Vagland has been project manager in this task. Other participants in the work were Niklas Kristiansson, Christina Kvarnström and Sonya Trad from SIKA's Statistics Department, Martina Estreen, Göran Friberg, Roger Pyddoke, and Anders Wärmark at the Research and Evaluation Department and Matts Andersson, Zara Bohlin, Helena Braun, Kristian Johansson, and Inge Vierth, at the Analysis Department and Ellen Åhlander at the Information Department.

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Director-General

1 Factors and conditions that can affect Swedish transport policy

SIKA has been instructed by the Government to produce a business intelligence analysis to serve as a basis for a planned transport policy bill.

The analysis takes up a selection of factors and conditions that may conceivably affect Swedish transport policy. We have concentrated on the established trends that we consider are very important for the development of transport and have placed less emphasis on more speculative developments. The development of the transport system is closely interwoven with other development in a modern society and increased transport can both be a driving force for and a consequence of increased prosperity. Unless otherwise mentioned, we have used 2020 as forecast year.

Passenger transport has increased greatly up to the present

Domestic passenger transport performance has increased approximately tenfold in the past fifty years. Transport performance by road accounts for around 90 per cent of the total transport performance. In relative terms, air travel has increased most during the past 25 years although this position is taken over by the railway if only the 1990s and 2000s are taken into consideration.

International travel has increased greatly, by 80 per cent since 1995 measured in passenger kilometres. International journeys have both become more and longer and leisure travel, which accounts for three-quarters of international travel, accounts for the largest increase. The destinations for international leisure and business journeys have also changed over time. Travel to Eastern Europe and Asia has increased in importance. As from1999, leisure travel to Asia accounts for a larger proportion of leisure travel than travel to North America.

Goods transport in Sweden is stable

Swedish goods transport is stable. It is dominated in volume terms by imported energy raw material and traditional export products associated with the mining industry and forestry. The goods transport that initially took place by train or ship continues to be so to a great extent. The new and expanding transport flows take place mainly by lorry and air, which has led the relative importance of rail and sea transport to decline over time. The total goods transport performance in Sweden has increased by 24 per cent since 1975. Goods transport performance by road has increased most, by 70 per cent.

International transport is dominated by sea transport. More than 80 per cent of the total flow of goods in tonnes arrives or departs by cargo vessel. In terms of value, lorry transport is most important for foreign trade. Between 50 and 60 per cent of foreign trade, measured in SEK, is transported by lorry.

Passenger and goods transport will increase in the future

Our forecasts are based on an increase in GDP of 40 per cent by 2020 and that the population and the number of employed women will increase by nine and eight per cent respectively. This will lead to us making considerably more and longer journeys. The great majority of new journeys are made by car, although, in relative terms, it is the number of journeys by air that are increasing most rapidly. In all, transport performance will increase from 120 to 159 billion passenger kilometres per year between 2001 and 2020. Transport performance by car, air and train is increasing at substantially the same rate.

As regards the long-distance journeys, rail travel is increasing fastest relatively while car travel accounts for the largest total increase. Looking at short-distance transport performance, car travel is increasing most quickly. Private travel, in particular leisure and visiting, is increasing greatly. For long-distance travel, private travel is increasing more than twice as quickly as business travel.

Goods transport performance in Sweden is calculated to increase from 89 to 114 billion tonne kilometres per year between 2002 and 2020, corresponding to an increase of 29 per cent. Lorry transport is increasing most quickly, by 43 per cent, while rail transport is increasing by 12 per cent and sea transport by 23 per cent.

Industrial development, in particular the growth of the commodity-producing sector, has a major impact on the development of goods transport. In the event of a slower changeover from the commodity-producing sector to the services sector than the basis for the above calculation, goods transport performance would increase even more. A change in the development of GDP would not at all have as great an impact on goods transport as the industrial development.

International goods transport performance will also be dominated by sea transport in future although the annual rate of increase is higher for lorry and rail transport. While sea transport is estimated to increase by 1.1 per cent per year, transport performance by lorry and railway will increase by 1.4 and 1.6 per cent respectively.

The climate issue is of major importance for transport

The climate issue is very important for the future development of the transport sector. The measures that Sweden has taken to date in the sphere of climate can – depending on the measures selected to meet the undertakings – entail major demands for adjustments to the transport system. Future international agreements may entail even higher demands.

Depending on how the EU system for trade with emission rights is designed, i.e. whether the transport sector will be part of the system or outside of it, the transport sector will have to bear a differing proportion of the targeted reduction in emissions in Sweden. The more sectors that are included in the system, the greater the possibilities of reducing costs to achieve a particular emission target.

Regardless of how the trade with emission rights is designed in the short term, the transport system will in the longer term have to meet far-reaching requirements for emission reductions to achieve the target set by the Swedish parliament, the Riksdag, of halving total emissions of greenhouse gases by 2050. Uncertainty about the demands for emission reductions that may be made on the transport sector in the future is important for the long-term planning of investments in the infrastructure since the socio-economic profitability of the investments depends, among other things, on how much traffic will use the facilities. If general means of control (carbon dioxide tax or trade with emission rights) are used to cope with far-reaching demands, calculations indicate that adaptations in road traffic will in the first place take place by changes in the sphere of vehicles and fuel and to a lesser extent by reduced demand for transport.

The world market price for crude oil has little effect on transport

The world market price for crude oil is expected to decrease up to 2020 although even an increase of the world market price by 28 per cent[1], produces marginal effects on the fuel price and thus on car travel. An increase in the price of petrol by eight per cent is expected to lead to a reduction of transport performance by car of between 0.9 and 2.4 per cent. Goods transport is not either markedly affected by the world market price. Transport performance by lorry is estimated to decrease by 2.8 per cent if the cost of diesel fuel for hauliers increases by 12 per cent. Some shifts can take place between modes of transport in the event of price changes but these are estimated to be moderate.

It is uncertain how train and air ticket prices will change in the future. A trend projection of Statistics Sweden's consumer price index for the years 1980 to 2003 is calculated as leading to an increase of domestic train tickets of 21 per cent and an increase in the ticket price for domestic air travel of two per cent by 2020. A price increase of 21 per cent on train ticket prices will lead to a reduction in train travel while the relatively moderate increase in the price of air tickets will not lead to an especially great reduction in travel.

IT can affect our travel

Our need to communicate affects our journeys. To date, both transport and other communications have increased over time and to date surveys show that contacts (IT) are rather a complement to travel than a substitute. Tele- and video conferences have, however, replaced travel to some extent although not all meetings can be replaced by the new technology.

[1]Which is the upper limit in EIA's forecast. Converted this gives an increase of eight per cent for the price of petrol and a 12 per cent increase for the price of diesel.

Nor is it certain whether distance work will lead to increased or decreased travel. A number of studies show, however, that travel is changed by distance work. It takes place at other times and between different points than previously. This can have positive effects on rush-hour congestion although may at the same time reduce the customer base for public transport.

According to researchers, there is a potential for reducing passenger transport by between two and five per cent with the aid of flexible work forms, virtual meetings and IT in home help services and care. However, SIKA makes the assessment that distance work, telephone conferences and e-commerce will in the immediate future be used to a relatively small extent.

We are becoming more and older

According to Statistics Sweden's population forecast, the population will increase to 9.7 million by 2020, which is an increase of approximately 800,000 persons from 2001. Throughout the country, there is a substantial movement from the countryside and small towns to larger towns, in particular the big city regions. Employment will also increase mostly in the big cities while the manufacturing industry is expected to decrease throughout the whole of Sweden.

The increased population base in the big city regions can provide better conditions for local, regional and interregional public transport in these regions and along certain main corridors, at the same time as conditions deteriorate in other parts of the country.

In 2020, the average age of the population will be considerably higher than it is today. At the same time, an increasing large proportion of elderly people will both have a driving licence and access to a car and if the trend is maintained, an increasing number of people will drive cars and travel on their hand at an advanced age.

Young people, however, are taking a driving licence increasingly late in life. Only 38 per cent of all 18-19-year olds held a driving licence in 2003 and the difference from the previous situation is maintained at a higher age. In 2003, 58 per cent of 18–24-year olds had a driving licence compared with 73 per cent in 1980. It is primarily in the cities that the proportion of young people with a driving licence has decreased. The financial situation for young people has deteriorated in the past ten years due to unemployment and an increased average period of study, which has led an increasing number to postpone the decision to obtain a driving licence.

Regional enlargement will continue

Regional enlargement i.e. local labour market regions being linked to form new larger labour market regions, will probably continue. In particular, regional enlargement will continue in the densely-populated regions. The financial development is the most important driving force for regional enlargement, both as

a driving force in the transformation from industrial society to information and knowledge-based society and as increased household income and increased car ownership.

Internationalisation leads to reduced costs and increased transport

With entry into the EU, the conditions for passenger and goods transport have changed. The transport markets have to a great extent been deregulated and the differences between competition rules have decreased. Deregulation has, however, not always led to increased competition. Increased internationalisation has led to customs charges and other barriers to trade decreasing and this has reduced transport costs for all modes of transport. Trade is increasing, primarily of more refined products, and businesses are centralising their production. Decreased transaction costs also reduce the advantage of being close to the final consumer, which leads to longer transport distances. Reorganisations in transport-related companies are made to obtain economies of scale and the lead time from order to delivery is expected to decrease, while the transport distance is expected to increase.

As transport becomes increasingly international, the demands to integrate transport systems over national boundaries and the demands to harmonise the infrastructure, for instance the technical design of the railway system, will increase. This will in turn lead to increased demands for common European planning of transport systems. Depending on the planning principles are applied for common European planning, the EC Commission White Book is based on different principles than Swedish transport policy, for instance, the traditional socio-economic basis for infrastructure planning may be weakened.

The transport system becomes increasingly vulnerable

The more international, extensive and sophisticated the transport becomes, the more vulnerable it is. It has accordingly become easier to use the system for blackmail and terror, while also other serious disruptions such as natural disasters, accidents etc. seem to occur more frequently. Vulnerability requires an increased security consciousness although increased security is attained at a high price. This involves increased costs for security checks, insurance, and also inconvenience for travellers and transport customers by increased travel times, poorer transport quality, etc. If more resources have to be invested in making the transport system more secure and robust, the scope for other development inputs in the transport system will be reduced, which will in turn mean an increase in transport costs and a deterioration in transport quality.

It is difficult to assess which effects increased disruptions in the transport system will have on the demand for transport. Modern society is highly dependent on functioning transport but it is difficult to know how acceptance for serious and frequent disruptions in the provision of transport will develop.