Heading for a new transport policy

Final report by the Government Commission on Transport and Communications

Off-print of the summary and the Committee terms of reference

The Swedish Government Official Report SOU 1997:35

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Preface

Swedish transport policy has been revised about every tenth year since the beginning of the 1960th. The latest revision took place in 1988.

In December 1994 the Government appointed a Royal Commission to suggest a national plan for communications in Sweden.

This is an English summary of the Commission's final report. It deals with the whole breadth of transport and communication issues.

We propose new transport objectives and targets. A future transport system shall be economically, socially and environmentally sustainable. The framwork for policy objectives shall be based upon what human beings and nature can tolerate in the long term.

We propose new principles of transport policy. The traffic development and infrastructure shall be guided in the direction of socio-economic efficiency and long-term sustainability.

We propose measures concering all modes of transport for passenger and goods traffic by road, rail, sea and air – separately and conjointly. We show estimated consequences with regard to goal achievment, the economy, government finance and distributive effects.

In this off-print we also summarize the two interim reports which we have previously published. The official report SOU 1996:26 focus on suggestions for relevant goals and financial resources for the construction of road and rail infrastructure. The report SOU 1996:165 concerns principles for road traffic taxation.

Stockholm, March 1997

Rolf Annerberg
Chairman of the Government Commission on Transport and Communications

Summary of final report (SOU 1997:35)

A transport system of the future must contribute to economic and social development without depleting natural resources, destroying the environment or ruining human health. A transport system of the future must be economically, socially, culturally and ecologically sustainable.

This is how we introduce the vision of a transport system of the future presented in this final report. Our vision conveys a picture of the road towards a long-term sustainable transport system and provides a platform for the proposals we make. It indicates what we wish to achieve, within a surveyable future, through the new traffic policy we propose.

Transport policy objectives

We propose the following transport policy objective:

The objective of transport policy is to offer citizens and enterprise in all parts of the country a good, environmentally benign and safe transport supply which is socio-economically efficient and sustainable in the long term.

This objective can be more exactly expressed though the following partial objectives:

- *Increased welfare, employment and competitive capacity*

Traffic policy shall help to increase well-being, employment and the competitive capacity of enterprise.

- *Environmental quality*

The transport system shall contribute towards a good habitat and shall be adapted to what human health and nature can tolerate. Conservation of natural resources shall be promoted.

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- *Safe traffic*

The number of persons killed and injured by traffic shall be continuously reduced. In the long term, no one shall be killed or seriously injured by traffic.

- *Transport availability*

The transport system shall be designed in such a way that it can be used by all citizens. Public transport shall be made far more accessible to persons with functional impairment than has hitherto been the case. Persons with special needs shall be offered adapted transport means.

- *Positive regional development*

Transport policy shall contribute towards positive development in all parts of the country and shall help to offset the disadvantages of long distances between different parts of the country.

The requirements of long-term sustainability in the transport sector mean that transport operations shall not be a cause of human health deteriorating in any respect, and that emissions, noise, intrusion or other negative effects of transport operations shall not cause serious damage to nature or the cultural heritage. The transport system shall promote conservation of natural resources so as to make it part of the ecocycle, and so as to conserve cultural resources which have been built up by successive generations. In order to make possible the active utilisation of natural and cultural qualities, the transport system must be developed and designed in a way which ties in and interacts with, and builds on, the existing culture and environment.

We propose long-term environmental objectives for the following areas:

- emissions of air pollutants and greenhouse gases,
- the impact of air pollution on human health,
- noise,
- natural and cultural qualities,
- natural resources.

Where emissions of air pollutants and carbon dioxide are concerned, we also propose the following, timetabled intermediate targets:

Substance	*Base year* [1]	*Intermediate objective*	*Long-term objective*	*How far have we got (1995)?* [2]
Carbon dioxide	1990	-15% by 2020	-60%	+10%
Nitrogen oxides	1980	-50% by 2005	-80%	-11%
Sulphur	1980	-45% by 2005	-90%	-37%
VOCs	1988	-70% by 2005	-85%	-26%

[1] Base years rest on various agreements

[2] Source: Tne National Environmental Protection Agency, 1997

Principles of transport policy

We propose the following principles of transport policy with a view to obtaining socio-economically efficient transport supply and achieving the objectives of transport policy.

- Transport policy must be based on long-term objectives concerning a healthy habitat and on what nature and human health can tolerate.
- In connection with the planning of infrastructure and traffic at national, regional and local levels, society defines the framework for resource allocation within the transport sector, e.g. as regards road and railway construction and the supply of mass transit.
- Citizens and firms decide for themselves what transport arrangements they make, within the frames indicated by society. This, however, presupposes consideration, in a situation of choice, not only of personal cost/benefit but also of the effects on the community as a whole, which in turn can be achieved through economic instruments and regulatory arrangements which *internalise* the external effects, i.e. include, in the cost to the individual, the effects on others.
- The purpose of internalisation is to influence individual and corporate transport choice and behaviour, as a means of promoting the objectives of transport policy and a socio-economically efficient use of the transport system.
- Given the intention of encouraging efficient utilisation of the transport system, it is the traffic volume-related external effects, i.e. the consequences of using different modes of transport, which have to be internalised. One way of doing this is by using taxes and charges to bring the price of transport into line with its socio-economic maginal costs.

- Using the price of transport as a steering instrument is not enough. What is needed is a combination of economic instruments and regulatory devices whereby the objectives can be achieved with maximum cost-efficiency.
- Our intermediate targets for emissions of carbon dioxide and certain exhaust fumes can be used for deciding how environmental effects are to be evaluated when making socio-economic assessments and internalising external costs.
- The requirements for a long-term sustainable transport system lead us to attach particular importance to the objectives of a good environment and safe traffic. The objectives in these areas are an important point of departure for analyses of actions and consequences. They are to serve as a basis for judging the necessary strength of steering instruments for achieving very great improvements and the rapidity with which those instruments can be introduced, bearing in mind the requirements of socio-economic efficiency.
- Transport pricing adapted to the socio-economic marginal costs is not normally sufficient to cover fixed overheads. The manner of infrastructure finance should be determined according to its impact on the extent of investments and on utilisation of the infrastructure, on the administrative cost of the form of finance and on considerations of distributive policy and social fairness.

  - In *the road and rail sector*, efficiency considerations make it inappropriate to demand full cost coverage. The infrastructure must be financed primarily out of general taxation revenue. The level of taxes directly affecting traffic should be determined primarily according to the importance as instruments for internalising external effects. For tax redeployment reasons, however, it may be justifiable to levy higher taxes than internalisation demands. Taxes can then be reduced in other areas. For efficiency reasons, moreover, a certain element of user participation in the financing of infrastructure may be desirable, so as to achieve a linkage between those who derive benefit from an investment and those who pay for it.

  - In *civil aviation and shipping*, users will continue to pay for infrastructure. This deviates from the principles which we propose for roads and railways. This is because the infrastructure costs are relatively small, so that allowing them to be borne by transport users will have only a limited impact on the efficiency with which the transport systems are used. There are possibilities, within the structure of the public utility, of adapting systems of charges so as to cover infrastructure costs while at the same time allowing for

variations in external effects. In addition, special environment charges may be needed, for example, for carbon dioxide. These charges are regarded as taxes, and the proceeds of them accrue to the State.

These principles for governing the utilisation of the transport system can, in our opinion, form a basis of steering principles in all modes of transport. Implementation of the principles, on the other hand, may of course come to vary according to the differing circumstances of different modes of transport.

Road traffic

The road system is of great importance for economic development everywhere in the country. We addressed this topic in our first interim report on infrastructure (SOU 1996:26). Principles for internalising the external effects of road traffic have been dealt with in our second interim report (SOU 1996:165), in which we proposed the following changes to road traffic taxation:

- An increase in carbon dioxide tax so as raise the price of petrol in real terms by SEK 0:10 per annum for the period ending 2020. The price of diesel fuel is suggested to be correspondingly increased.
- No change in the energy tax on petrol.
- Higher energy tax on diesel fuel, so as to internalise the external effects of diesel-powered cars. We estimate that this would correspond to a price increase of SEK 0:20–0:50 per litre.
- Continuing differentiation of energy taxes on both petrol and diesel fuel according to the environmental performance of the fuels concerned.
- No energy tax on bio-based fuels for a long introductory period.
- Restructuring of the vehicle tax on cars, so as to encourage a more equal distribution of weights, for traffic safety reasons.
- Amendment of the vehicle tax on diesel-fuelled cars, to prevent new cars with superior environmental performance and safety qualities being taxes more heavily than older cars.

In the interim report we kept an open mind regarding the taxation of heavier goods vehicles, HGVs, because we wanted to make an overall assessment of goods transport in all modes of transport.

We have now supplemented our calculations of the external effects of heavy traffic. Some of those effects are internalised through the

energy tax on diesel fuel. If their external effects were to be internalised through the vehicle tax on HGVs, this would require very heavy increases in vehicle taxation.

Taxation increases of such magnitude would strike hard at Swedish enterprise and Swedish hauliers, and so we do not consider it advisable that vehicle taxes on HGVs should be raised to the level which full internalisation would demand. One has to consider the levels of taxation applying in other EU countries and decide what can be reasonable for Swedish enterprise. We present examples to show what this can mean.

Lorries used for delivery traffic are not exposed to the same competition as the HGVs, and the tax increases needed for full internalisation are smaller where they are concerned. For these reasons we propose that vehicle taxes on lighter goods vehicles should on the whole correspond to the external effects which are not internalised in diesel tax.

Buses are not faced with the same competitive situation as HGVs, nor will increased vehicle taxes on long-distance buses impact on production and employment. Considering that we propose full internalisation of the external effects of long-distance passenger traffic by rail, car and air, the same should apply to buses. In view of the heavy tax increases required, we propose that these be effected by stages.

On the other hand we do not feel that vehicle taxes on buses in regional and local service should be increased while the costs of car traffic in urban areas remain uninternalised. Tax increases of this kind would affect mass transit and could lead to increased fares causing public transport passengers to opt for private motorism.

Transit traffic through Sweden ought in principle to be made to bear the marginal cost of external effects which it gives rise to. This can to some extent be accomplished through the inclusion in the Eurovignette system of those parts of the road network which transit traffic makes use of.

It should be possible in the long term to introduce time- and place-differentiated taxation of heavy traffic in Europe, using the technology we describe for road pricing in urban areas. We propose that Sweden work to secure the introduction of such a system of charges.

We propose that Sweden, within the EU, should also press for

- agreements or regulations reducing specific fuel consumption;
- introduction of new systems for ecological and safety classification of vehicles; these should also include vehicles intended to run on fuels from renewable energy sources;

- successively stricter regulations of vehicle exhaust and noise emissions;
- sustainability requirements and monitoring systems for vehicular emissions.

We also propose that Sweden shall introduce a new system of eco-classification for motor vehicles. This can be used as an information for consumers and to a certain extent as a basis for public procurement.

In a separate chapter we present a strategy for traffic safety promotion and for realising the zero vision, i.e. zero deaths and zero serious injuries on the roads.

To achieve safe traffic, it is necessary among other things for the road transport system to be designed with reference to human tolerance of external violence. This means that safe traffic can be created in two basic ways: either by reducing speed, or by investing in safe streets and roads, safe vehicles and safety equipment. We present an achievement model for a safe traffic which can constitute the first stage of a programme for realising the zero vision.

Rail traffic

Since the 1988 transport policy bill, the railways have made progress in some respects and lost ground in others. Regional rail traffic and High Speed Trains HST (X2000) traffic have expanded heavily, while rail freight services, starting from a high level by international standards, have lost market shares. We propose among other things the following measures with a view to strengthening the competitive capacity of rail traffic:

- Continued segregation of track maintenance and transport operations in the rail sector.
- The National Rail Administration should be given the task of investigating ways of defining the line of demarcation between track maintenance and transport operations. Great importance should be attached in this connection to economies of scale and benefits of co-ordination in traffic.
- Goods traffic and passenger traffic within SJ (Swedish State Railways) should be clearly segregated. Means to this end should be investigated. Incorporation is a conceivable method and would create opportunities for widening the ownership of the whole rail freight business or parts of it.

- SJ passenger services will have priority on lines for interregional rail traffic which can be operated at a commercial profit. The commercially profitable lines will be supplemented by a national basic network procured by the State in collaboration with the transport providers. The transport providers will procure regional rail transport and will be able to take part in the procurement of the national basic network. The national basic network can also include non-rail traffic.
- The purpose of the national basic network is to maintain a satisfactory interregional transport supply with good availability and to contribute towards positive regional development. The basic network is to contain traffic justified by conditions of the national economy and regional policy. Night train services, for example, are highly important, not least to those who, for various reasons, are unable to travel by air. The basic network is also to include combined regional and interregional services.
- A *National Traffic Agent* will be appointed to design the national basic network together with the county transport providers, the National Rail Administration and SJ. The National Traffic Agent will also be responsible for State procurement of transport.
- If the State should procure the same transport as at present and no losses on this transport are to be covered by SJ, this will cost about MSEK 600. It should be the task of the National Traffic Agent, together with the transport providers, the National Rail Administration, SJ and possibly other partners, to compile supportive documentation for assessing the need of State funding allocations for procurement of the national basic network. The benchmark should be MSEK 700 per annum, which is the sum needed to procure approximately the same traffic as today plus the amount to cover the regional rail service.
- The Riksdag should decide on the focus of the national basic network, while at the same time deciding on the focus of infrastructure planning. The basic network should be decided by the Government when finalising the infrastructure and transport plans.
- Rail freight traffic will be completely deregulated. Freight traffic will be exempted from track charges because consideration of enterprise policy and competition preclude the full internalisation of the external effects of road haulage traffic. For the same reason, funding support will be given to intermodal transport operations.
- The present division of the rail network into main lines and county lines will be abolished. The National Rail Administration will be made responsible for the whole of the State-owned rail network.

- The National Rail Administration should be enabled to take over, on its own initiative, the most important parts of the capillary network. The National Rail Administration should be given the task of investigating which parts of the capillary network should be transferred to the Administration as a means of securing competitive neutrality and socio-economic efficiency.
- It should be possible for State grants to be made to certain other parts of the capillary rail network in the same way as for private roads. The State grant should vary according to the importance of the track facilities. Tracks receiving State grants must be kept open to various rail operators, on terms which will not prejudice competition. The National Rail Administration should be given the task of investigating the structure of the funding system and of proposing suitable funding percentages.

Shipping

Nearly 90 per cent by volume of Sweden's foreign trade is carried by ship. The total volume of shipping freight has increased during the present decade. On the other hand, the share of international goods traffic accounted for by conventional shipping has diminished, primarily in favour of ferry traffic.

Shipping causes environmental problems mainly through emissions of exhaust fumes and carbon dioxide, as well as marine pollution in the form of oil, oil-contaminated ballast and other waste. Shipping accounts for over 90 per cent of sulphur emissions from the transport sector and for roughly one-third of its nitrogen oxide emissions. There are good prospects of reducing these emissions, e.g. through the substitution of low sulphur fuels and by means of catalytic exhaust conversion of engine technology modifications on board ship.

The charges currently made for the use of shipping lanes and ports by shipping are not differentiated according to the external costs which shipping gives rise to.

In 1996 the National Maritime Administration, the Swedish Shipowners' Association and the Swedish Association of Port Authorities and Master Stevedores agreed on measures aimed at achieving a 75 per cent reduction of emissions of sulphur and nitrogen oxides from shipping by the year 2000.

- We approve of the voluntary agreement between the National Maritime Administration, the Swedish Shipowners' Association and the Swedish Association of Port Authorities and Master Stevedores

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and attach importance to its fulfilment. Efforts by the National Maritime Administration, however, should concentrate on reinforcing the incentives for action.

- We propose that Sweden take steps internationally to bring about similar agreements in other countries for reducing emissions from shipping, and that, within the EU, the IMO and HELCOM, for example, Sweden actively pursue the question of internalising the external costs of shipping at international level.

Disposal facilities for marine oil waste are lacking at present in most of the Baltic ports. The Baltic Strategy project now in progress under the auspices of HELCOM has the aim of installing such facilities in all Baltic states. A joint inspection control system is also needed.

- We regard the development of reception facilities in the Baltic ports as an urgent necessity. We recommend that the question of financing such facilities be given high priority in discussions concerning deployment of the special funding which the Government has allotted for Baltic co-operation.
- We also recommend that Sweden pursue the matter, in partnership with the countries concerned, of bringing about uniform legislation in the Baltic countries on control systems for the management of ship's waste.

Air traffic

Air traffic has obvious advantages when it comes to rapid long-distance domestic and international transport. It is also very important for the carriage of high-value or urgent freight. Domestic air services are especially important to citizens and enterprise in those parts of the country, e.g. large parts of Norrland, where good transport alternatives are lacking.

Air traffic causes environmental problems through its emission of air pollutants and carbon dioxide and though the noise entailed by take-off and landing. New aircraft with superior ecological qualities are gradually superseding older types, but the replacement process will take a long time. The latest generations of aircraft are far superior to earlier generations in terms of environmental performance. No further decisive technical improvements of alternative fuels are anticipated within the foreseeable future.

The Civil Aviation Administration (LFV) is a State-owned utility. Its charges are not primarily adapted to the marginal costs of air traffic.

There may be cause to consider the possibility of adapting the system of costs more closely to marginal costs, though with due allowance for the Administration's financing requirements.

We therefore propose

- That LFV investigate the effects of a system of charges more closely adapted to marginal costs, e.g. a time-adjusted tariff at Arlanda, higher charges at Bromma and the question of slot allocations. When changing the structure of charges, consideration must be taken to the Administration's financial responsibility for the infrastructure.

The former environment tax was abolished at the end of 1996. LFV is currently working, under a Government remit, to devise an environment charge which will take account of nitrogen oxide and hydrocarbon emissions. We propose

- That LFV's task of designing an environment charge be augmented in such a way that the charge will also be framed with reference to actual carbon dioxide emissions.
- That LFV be tasked with investigating the justifiability of stipulating catalytic conversion, at least for new engines, in the case of light, petrol-fuelled aircraft.

The majority of municipal airports represent a longstanding funding problem. Together they show an annual operating deficit of MSEK 150. At the same time, these municipal airports have a great impact on regional development. A joint long-term solution must therefore be arrived at by State and municipalities in order to guarantee the continuation of services.

Accordingly, we propose

- That the Government through LFV, distribute a grant to all 27 of the municipal airports currently maintaining regular flights, seasonal flights or substantial air freight operations. The grant should cover about 75 per cent of the total operating deficit. In 1966 figures this corresponds to about MSEK 115.
- That LFV be commissioned, together with representatives of the municipal airports, to frame a system of this kind.
- That the existing forest county grant and profit equalisation grant be simultaneously abolished.

The principle of internalising external costs can have certain adverse regional consequences by augmenting the cost of long-distance domestic air travel. We therefore propose that LFV, in conjunction with its work on a new system of environment charges, take into account the aim of positive regional development. The structure of airport charges should also be tested from this point of view, as should the structuring of the grant of the municipal airports.

Long-distance passenger transport

We propose that the external effects of passenger transport be fully internalised. This is estimated to entail reallocations of passengers from air and long-distance bus to rail transport.

We propose that large parts of interregional passenger traffic, as at present, should be operated on a purely commercial basis. Besides, as has already been made clear, the State is to set aside funding for interregional passenger transport on a national basic network. In this way the State will assume responsibility for all parts of the country obtaining satisfactory interregional transport supply of acceptable availability, even in areas which are difficult to supply with commercially viable transport. This is necessary in order, among other things, to sustain positive regional development.

Assuming that the external effects of bus traffic are fully internalised, we feel that long-distance bus services should eventually be completely deregulated. This can benefit passengers with small incomes. Considering, however, that rail traffic has not yet been able to harvest the benefits of the extensive investments in trackways that are now in progress, we feel that deregulation should be postponed for a few years, until the competitive capacity of the railways has been strengthened.

To improve the co-ordination of infrastructure planning and transport, the transport enterprises should supply passenger statistical data to those who are responsible for the planning of infrastructure. The Government should issue the necessary directives for the handling of travel statistics.

Better co-operation between the different modes of transport from door to door will confer great benefits on transport users and can help to enhance the attraction and competitive capacity of mass transit. Some of this can be achieved through continued development of the activities of Samtrafiken i Sverige AB.

Long-distance goods traffic

Goods traffic has grown rapidly in recent decades. Tonnage growth is now limited, but average transport distances are tending to increase. The biggest increase is shown by heavy long-distance goods traffic and air freight. This development is expected to continue.

Heavy road traffic has taken over a large part of the freight market previously dominated by the railways and shipping. Intermodal traffic has developed at a very moderate rate over a ten-year period, rising from 3 to 4 million tonnes. It has difficulty in holding its own in the price competition with road transport and conventional rail transport.

A large proportion of Sweden's foreign trade is carried on the transport networks of other countries, e.g. through Germany. Road traffic in Germany and the north of Western Europe is affected by growing congestion problems. Cross-border rail traffic also has serious problems. The Swedish Institute for Transport and Communications Analysis, SIKA, has shown in specimen calculations that these problems can also have a heavy impact on traffic in Sweden.

Sweden should work within the EU for the development of a Euro-vignette system for road traffic and for a corresponding system applying to rail traffic.

One salient principle of the transport policy which we propose is the internalisation of the external costs which traffic gives rise to. This, however, is subject to certain impediments where goods traffic is concerned. EU regulatory systems and considerations of employment and international competition preclude the full internationalisation of the external effects of heavy road traffic.

We have caculated, for example, that the vehicle tax on a 40 tonne, 5-axled vehicle would need to be raised from the present SEK 13,000/yr to about SEK 116,000/yr in order to achieve full internalisation of the external effects which are not externalised through the price of diesel fuel. In a specimen calculation we have indicated an increase from SEK 13,000 to SEK 26,000 annually. The difference between a factored increase of vehicle taxes on heavy traffic and full internalisation corresponds to roughly SEK 0:04 per tonne-km.

To make up for this difference, we propose that the external costs of rail and shipping freight be internalised to a corresponding lesser extent. The compensation for rail and shipping should be amount to some SEK 0:04 per tonne-km. An allocation of goods traffic between the different modes of transport can then be obtained resembling that which would result from full internalisation.

We therefore propose that track charges for goods traffic be abolished and that support be introduced for the terminal handling of

intermodal traffic. Track charges for goods traffic at present total some MSEK 350 annually. Intermodal transport support should be addressed to the transport purchasers and should be about SEK 20 per tonne. Given the present volume, it is estimated that intermodal transport support would need to be about MSEK 100 per annum. Shipping can be compensated to approximately the same extent by refraining from introducing a carbon dioxide charge on shipping freight.

We propose that SIKA and the National Rail Administration be instructed to design in greater detail a supportive system for intermodal terminal operations on the terms we have indicated. Consultations should be held with representatives of the transport enterprises concerned.

We further propose that SIKA be commissioned to design a freight strategy for State policy measures within the goods transport system. This work should proceed in association with a reference group representing the transport authorities, the enterprise sector and other parties concerned.

Regional and local traffic

The external effects of road traffic, i.e. exhaust emissions, noise, accidents, congestion etc., are much greater in urban than in rural areas. Moreover, they vary within urban areas and as between different hours of the day. We consider road pricing to be a fair and effective means of internalising the external effects in urban areas.

We therefore propose:

- That the Government commission the National Road Administration, together with the National Tax Board, SIKA and the municipalities, to devise a strategy for introducing road pricing in urban areas where this is justified by the external effects.
- That the aim should be to introduce road pricing in at least one urban area not later than 2002. This means that a decision must be taken in 2001 in connection with the next revision of the infrastructure plans etc.
- That the Government promptly investigate the legal feasibility of, and draft the legislation needed to empower municipalities to introduce, road pricing as a steering instrument in urban traffic.
- That the National Road Administration be commissioned, in consultation with the municipalities, to initiate large-scale demonstration projects immediately, in order among other things to

test new and advanced technology. One of the experiments should take place in the area of Stockholm.

- That Sweden work actively within the EU to develop technology and harmonise standards and contribute towards pilot projects in several places in Europe.

We have formulated a target for traffic safety to the effect that, ultimately, no one will be killed or seriously injured in traffic. In order for this to be achieved, cars must not be allowed to drive at more than 30 km/h in places where they risk meeting pedestrians or cyclists. This driving speed reduction must be achieved primarily by physical means. Other technical alternatives (the use of information technology) which means less physical measures can involve socio-economical advantages.

We propose:

- That the municipalities be empowered to impose, on municipal streets, regulations in derogation of the current basic speed limit of 50 km/h.
- That funding allocations for regional traffic facilities be made available for local traffic safety improvement measures (also beyond the MSEK 1,000 spending frame for traffic safety and environmental remediation measures indicated in the Government's Infrastructure Bill (1996/97:53)).
- That the National Road Administration should do more to support demonstration projects in the municipality and should help in other ways to improve knowledge within the municipalities of the zero vision and the way to achieving it.

The municipalities are responsible for the environment and health in urban areas. They can also use other instruments besides road pricing in urban traffic, e.g. parking policy, traffic controls, pollution-free zones, information and settlement planning. The State can support the municipalities by means of legislative amendments, research, development and demonstration projects, and also by contributing to the development of competence. The Communications Research Advisory Committee (KFB) and the National Road Administration have an important role to play in this connection.

We propose:

- That the Government initiate the legislative amendments needed in order to make possible the provision of favourable parking conditions for environment-friendly vehicles.

- That KFB be tasked with initiating and supporting pilot projects relating to the joint distribution of goods and to co-operative car pools.

Mass transit is a part of basic social services and can at the same time improve the environmental situation in the larger urban communities. Responsibility for mass transit services devolves on municipalities and county councils through the transport providers in the counties.

We recommend giving the counties greater liberty to distribute the new regional allocations for transport infrastructure in such a way that grants can also be made for local traffic facilities.

In order to contribute towards a positive development of public transport in rural areas, we propose:

- That KFB be tasked with supporting urgent pilot projects for co-ordinated public transport solutions in rural areas and with spreading information on successful ventures.
- That the National Road Administration be called upon in its maintenance planning to show special consideration for the needs of public transport in rural areas, i.e. the need for viable roads all the year round, safe bus stops and pathways leading to them, and so on.

We propose that the regional allocations also be made applicable to socio-economically justified facilities for local pedestrian and bicycle traffic.

We propose that the National Road Administration be instructed to review the rules which should apply concerning State responsibility for ferry services. The National Road Administration should consult the National Rural Area Development Board in this matter. It is essential that the rules and their implementation should contribute towards a living archipelago and should not be found unfair as between different archipelago areas and between inland and archipelago areas.

Co-ordination of planning, decision-making and follow-up

A developed system of *inter-modal follow-up* and evaluation of transport policy aims, principles and measures is lacking at present, and we therefore propose:

- That SIKA be tasked with reporting regularly to the Government on progress in achieving the aims of transport policy, and with presenting a concise causal analysis of such development. This task is to be of an intersectorial nature. It is to be carried out in consultation with other authorities concerned and based on their own follow-ups.
- SIKA will be given the task, acting in co-operation with the authorities concerned, of regularly following up the development of marginal costs, charges and regulatory arrangements in the traffic sector. The evaluation, which is to be reported to the Government, shall also contain an analysis of the impact of various instruments and policy measures on goal achievement.
- SIKA will be given the task, acting in co-operation with the authorities concerned, of following up the overall socio-economic profitability of infrastructure projects.
- The transport authorities will be given exact responsibilities for following up goals and achievement requirements in their fields of activity and within the scope of each authority's sectorial responsibilities, as well as for drawing up action programmes which will achieve the objectives.
- The Ministry of Transport and Communications will strengthen its resources for strategic analyses, follow-up and control.

None of the transport authorities has the overriding aim of promoting an efficient, environmentally appropriate transport system. The objectives merely state that each of them is to promote development within its particular mode of transport. This can impede co-ordination and co-operation between different modes of transport, and in our view the Government should therefore review the standing instructions of the traffic authorities and indicate an overriding operational objective for the whole function of the transport system.

The follow-up of transport policy is an important foundation for the *future planning of infrastructure and transport*. We propose that it should begin, as at present, with a focal planning process in which

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alternative directions of transport policy and important strategic questions can be analysed and assessed politically. We also propose that focal planning of this kind be conducted regionally, in view of the counties and regions having acquired greater responsibility for the planning of their regional transport system.

Methods are at present lacking for assessing, with any great accuracy, the cost of different types of intrusion. Costs of this kind, consequently, are not included in the socio-economic calculations. We feel that questions of intrusion should receive more attention in future planning. The Central Board of National Antiquities and the Environmental Protection Agency have been tasked by the Government with proposing methods the intrusion and impact of infrastructure on the natural and cultural environment can be described and taken into account in the subsequent planning process.

It is our opinion that the policy discussion of focal planning taking place during this planning period has been of great value. We propose that SIKA be given a political council, so as to provide an opportunity for political insight and dialogue in connection with continuing regular revisions of the infrastructure plans. A council of this kind can also be allotted an important role in the follow-up of transport policy.

A good environment

The pursuit of a good environment permeates the whole of transport policy and is addressed in every chapter of this report. As has already been noted, the transport authorities are to draw up action programmes within their several fields for the achievement of the policy objectives.

In order for the long-term target for carbon dioxide emissions to be achieved, fossil fuel inputs in the transport sector will have to be heavily reduced. An introduction of bio-based fuels should therefor begin immediately. This will improve the prospects of achieving the intermediate target of a 15 per cent reduction of carbon dioxide emissions from the transport sector between 1990 and 2020, and we therefore propose:

- Low admixture to petrol, not later than 2002, of motor alcohols manufactured from biomass, the admixture to equal the maximum permissible oxygen content today, corresponding to approximately 5 per cent ethanol by volume.
- Introduction is to be primarily on a voluntary basis. The Government should immediately open negotiations with the fuels trade in order to make low admixture possible. Parallel to this,

preparations should be made for the statutory amendments which may be necessary if a voluntary agreement cannot be reached.
- Carbon dioxide tax exemption for fuel from renewable energy sources.
- Prolonged energy tax exemption for fuel from renewable energy sources. When the carbon dioxide tax on fossil fuels has been increased and fuel from renewable sources becomes available in sufficient quantities at competitive prices, energy tax should be gradually raised so as to internalise external effects.
- State support for ethanol production facilities.
- Intensification of research, development and demonstration of technology using fuel from renewable energy sources.
- The new Energy Authority proposed in the Energy Agreement will have the task of co-ordinating work for the broad-based introduction of renewable fuels.

In our first interim report we anticipated that bio-based fuels from 2010 onwards would constitute 15 per cent of fuel energy content. It is essential to plan, in conjunction with a checkpoint in 2001, for the successive attainment of this higher proportion of fuel from renewable sources.

European co-operation

The attainability of the transport policy objectives will to a great extent hinge on events in the world around us. The development of a long-term sustainable transport system calls for extensive international co-operation. we must actively participate in that co-operation and influence the common European transport policy. In order to succeed in this, we need to develop a strategy for our European work in this sector, based on the traffic policy aims we propose.

We propose that priority be given to the following questions:

- Harmonised provisions concerning road use charges and road taxes, applying to all road traffic within the EU.
- Harmonised provisions on environment-based shipping charges, or alternatively bilateral agreements, above all with the countries round the Baltic. Wider scope for the use of economic instruments in air traffic and shipping.
- Further harmonisation of technical standards, including active participation in research, development and demonstration.

- Improved possibilities of competition on equal terms between national railway companies. This involves, for example, questions concerning access to tracks, harmonised provisions on track use charges and stricter observance of the EC regulations on state aid. As part of this work, Sweden should pursue the question of a system of track use charges resembling the Euro-vignette system for HGVs.
- Implementation of rail freight freeways through Europe.
- The possibility of facilitating large-scale introduction of bio-based fuels with the aid of differentiated rates of taxation. This will require amendment of the Mineral Oil Directive.
- Wider scope for using economic instruments to introduce, respectively, cleaner and safer technology in road vehicles. This presupposes wider scope for environmental and traffic safety classification and the possibility of combining such classification with tax differentials.
- Continuing integration in the transport sector of non-EU Baltic countries, with continuing high priority for environmental questions.
- Sweden should work to achieve network co-operation at European level corresponding to MaTs co-operation[1] in Sweden.

Other inter-modal questions

We present a programme for achieving an **available transport system**. This includes the following measures, among others:

- Improvements to bus stops.
- Investment in low-floor buses and service routes.
- Disabled access equipment for terminals and travel centres.
- Improvements to information, reservation procedures and services.
- Raised platforms for trackbound traffic.
- Lifting devices for boarding and alighting from aircraft.
- Improvements to landing stages and jetties for coastal and archipelago ferry services.
- Functional adjustment of small craft.
- Improvements to life-saving equipment for shipping.

[1] MaTs stands for a Swedish cooperation project, "Environmentally benign transport system", with transport, R&D and planning authorities and industry taking part and lead by the Enviromental Protection Agency.

The transport providers will receive State grants for disabled access modifications of regional and local public transport.

Public transport in rural areas plays an important part in the lives of residents without cars and driving licences. Because passengers are few in number and live far apart, public transport cannot be given a standard to rival that of the private car. For social reasons, however, it is imperative that rural residents should be offered a satisfactory supply of public transport. This is also important for reasons of social equality and equality of opportunity.

The definition of a "satisfactory supply of public transport" is a matter for the municipalities and county councils themselves to decide, since the preconditions for public transport vary so greatly from one part of the country to another. We feel it is important that the transport providers should define and follow up targets of this kind.

Access to work, schools, services, cultural amenities, leisure activities and social activities depends not only on the design of the transport system but also to a great extent on the way in which different functions in the community are planned and localised. IT developments can also make an important difference.

Many of our proposals will contribute towards a **positive regional development**.

In our interim report on infrastructure, we proposed heavily increased investments in operation and maintenance and load capacity improvements on the minor road network. The rail track investments we recommended were also concerned with improving freight services, not least in central and northern Sweden. Our proposals are reiterated in the Government's Infrastructure Bill. The Government has also proposed upgrading the Bothnia Line, partly in order to promote rail freight along the Norrland coast.

The support we propose for the operation of municipal airports has, we believe, an important bearing on access and entrepreneurial activity, above all in the inland regions of Norrland.

We also believe that the proposed earmarking of money for the procurement of a basic network for interregional passenger services has a very important bearing on regional development. In this way the State will assume responsibility for the whole country being adequately supplied with interrregional transport with a high level of availability.

The new planning system, with stronger regional responsibility, which we advocated in our first interim report, and which has been proposed by the Government, means that the regions will be more extensively enabled to choose the measures to be implemented. Since the regions themselves are best suited for to decide which investments

are most important, the new planning system should help to promote positive regional development.

Transport grants has an very important bearing on regional development, but it should be altered so as not to prejudice competition between the different modes of transport. Transport grants is being studied by a specially appointed investigator.

In order to achieve a more **transport-efficient society**, future urban development should be localised so as to make use of and underpin the main routes of the mass transit system. Housing development close to important mass transit routes should be relatively dense. Workplaces and service points with high personnel densities should be sited at nodal points between mass transit routes. The municipalities should be restrictive in their sanctioning of new out-of-town shopping centres which can eviscerate the urban centres and have a negative impact on the supply of convenience goods in housing areas.

We believe that, for transport reasons, there is cause to encourage "hot desking". This can be done, for example, by the Government encouraging public authorities and organisations to facilitate home-working for their employees. SIKA should maintain continuous observation of IT developments and their impact on transport needs and travel patterns, and should draft policy measures.

Great improvements can be made to passibility, traffic safety and the environment with the aid of **transport informatics**. we endorse the proposals made by the Delegation for Transport Telematics, e.g.:

- the setting up of a national digital transport database,
- the setting up of route guidance systems,
- availability of State grants, via the allocations for regional transport infrastructure, towards investments in regional and local transport telematics.

The whole of transport policy is thus to be permeated by **equal opportunities**. All proposals and decisions are to be preceded by analyses of their consequences for men and women.

A more equal distribution of power is needed in planning and decision-making. We recommend the issue by the Government of directives to the effect that an equal balances of the sexes is to be aimed for in the organisations and joint groups which are to design the national basic network for interrregional traffic.

The sexes are very unevenly balanced in present-day infrastructure and transport planning. We recommend that the Government instruct the traffic authorities and SIKA to present measures for increasing the proportion of women in various drafting groups etc., at national and

regional levels. The traffic authorities and SIKA should organise training/seminars for personnel on the subject of equal opportunities in the transport system. The proportion of women taking part in infrastructure and transport planning should be substantially increased in time for the next revision of the infrastructure and transport plans.

We recommend that the R&D work on socio-economic methods and models which is being planned, for example, by KFB, SIKA and the transport authorities be made to include analyses of differences in men's and women's values and of the impact of those differences on results.

Many surveys have shown that the Swedes take a close interest in environmental issues. The proportion of people ecologising their actions has increased. In traffic, however, this applies to only a slight extent.

The personal involvement and interest of the individual in environmental questions is a fundamental prerequisite for the realisation of an environmentally appropriate transport system. In order to achieve a great element of transport questions in Agenda 21, it is essential for municipalities choosing to work with traffic environment questions to receive State support for doing so. The National Road Administration should continue supporting the municipalities by means of training, competence improvement, physical measures in the traffic environment, information concerning good examples etc.

It is essential for the authorities to have a cogently reasoned, conscious strategy for using **information** as one of many instruments in pursuit of traffic policy objectives. We therefore propose that the Government commission the transport authorities, the National Environmental Protection Agency, KFB and SIKA to devise an information strategy capable of contributing towards the achievement of the traffic policy objectives.

Efforts in **research, development and demonstration** should be made to concentrate on a small number of fields in order to guide and accelerate development towards an environmentally appropriate transport system. The following fields should be given priority:

Strategic communications research:
- Long-term sustainability.
- The significance and role of communications.
- Processes and models of planning, decision-making and evaluation.

Passenger and goods transport:
- Environmentally appropriate vehicles and fuels.
- Mass transit and community-funded travel.
- Transport safety.

- Logistics and inter-modal transport solutions.
- Intelligent transport systems.
- Infrastructure operation and maintenance.

KFB, NUTEK (the National Board for Industrial and Technical Development) and the transport authorities will be commissioned to investigate the feasibility of integrated, fixed-term and target-oriented research, development and demonstration programmes based on co-operation between the enterprise sector and national research bodies.

In the context of joint EU activity and other international research co-operation, Sweden should play a leading, active part. Swedish efforts prior to the planning of the EUs Fifth Framework Programme, should be made to concentrate on strategic communications research and on areas which require harmonisation, such as vehicle technology and fuels, railway technology and transport telematics.

Consequences

The transport policy which we propose is aimed among other things at achieving efficient, safe and environmentally appropriate transport systems. A policy of this kind will contribute towards greater welfare, employment and competitive strength, at the same time as improvements are made to the environment and safety.

SIKA has estimated that there are great possibilities of basically achieving the intermediate targets for carbon dioxide and exhaust emissions. Of the long-term emission targets, the carbon dioxide target will be the most difficult to achieve. The possibility of achieving the sulphur target will hinge on developments in shipping. The MaTs co-operation has shown that it is also very difficult to achieve the targets concerning health and intrusion on the natural and cultural environment. We have proposed a new system of inter-modal follow-up of the targets and transport policy which will make it possible to complete with other measures if the instruments which we propose do not produce the effect intended or if the international agreements presupposed in our calculations prove hard to achieve.

The principles which we have proposed for infrastructure and transport planning, for example stipulating Environmental Impact Analysis, EIAs, at different stages of the planning process, will help to shape the transport system of the future in harmony with the surrounding natural and cultural landscape. We have also proposed that the targets concerning natural and cultural qualities be followed up continuously and that methods be developed for describing intrusion

and taking it into account in the planning process. This will further help to highlight the importance of taking natural and cultural qualities into consideration.

We believe that it is possible to reduce the risk of death of serious injury on the roads by more than half with special measures for safe road traffic, at a total cost of MSEK 80,000 or 90,000.

Many of our proposals will contribute towards positive regional development. This applies, for example, to support for the operation of municipal airports, procurement of interrregional passenger transport, the infrastructure focus and increased regional responsibility for transport planning.

Our proposals for the internalisation of the external costs of passenger traffic mean that mass transit passengers will be favoured, except for air passengers, who will have to pay higher prices. Lower prices and higher quality in public transport are particularly beneficial to low income earners and women. More long-distance bus transport will, as a result of a future de-regulation, be beneficial to seniors, students and others with low payment capacity. The brunt of increased air fares will be borne by persons travelling on business.

Road use charges on cars are more noticeable to persons with low incomes than to other categories. High charges can force these categories to refrain from travelling by car. At the same time, the drivers of cars in central districts, where the charges will be highest, are often men with high incomes. This group, accordingly, will be extensively hit by road use charges. If the road use charges provide scope for a wider and better selection of public transport, this will benefit women more than men.

SIKA has estimated the movement of household fuel costs resulting from our proposals concerning petrol price increases and regulated fuel consumption (assuming constant mileage). The analysis shows that, on these assumptions, fuel consumption in all income groups will decline between 1998 and 2010. The decline will be steepest in the upper income strata. Those with the lowest incomes will reduce their fuel expenditure by 4 per cent. For those with high incomes, the reduction will be 10 per cent.

Our proposals lead to a net growth of State expenditure in expenditure area 22 Communications by MSEK 215–235 per annum, depending on the handling of grants to municipal airports.

We also propose instruments which affect national government taxation revenue. This is expected to rise by something in the order of MSEK 800–1,500 as a consequence of our proposals.

Our environmental targets will be achieved if the intentions of our transport policy are fulfilled and we succeed well in our international

work. The programme which we propose for continuing work provides a good foundation for the development of a sustainable transport system.

Summary of interim report on infrastructure etc. (SOU 1996:26)

In this interim report we present alternative approaches and a recommended approach to infrastructure planning for the period 1998–2007. We also propose experiments in four counties for testing a planning process which strengthens political control of infrastructure planning.

In addition, we present an evaluation of the practical workings of present-day transport policy. This evaluation has given us a basis on which to specify the transport policy issues which we will be addressing as our work continues.

Heading for a new infrastructure planning

We believe that continued infrastructure development is necessary in order to safeguard social development and national welfare and to improve the competitive capacity of enterprise. In addition, the infrastructure must be planned in a manner compatible with long-term sustainable development. This means that infrastructure development must be guided by fundamental considerations of the environment and human health.

Socio-economic analyses have provided an important foundation for the framing of our proposals. Not all effects, however, can be analysed by means of socio-economic calculations, and many of our calculations are based on uncertain presuppositions. Deeper studies and supplementary analyses are therefore needed in a number of respects.

Infrastructure planning inseparable from traffic policy

Infrastructure investments cannot be viewed in isolation from society and overarching transport policy. Both the necessity and the focus of investments are heavily dependent on the objectives defined by society for transport policy. Equally crucial are the decisions made concerning

economic instruments, the structure of cost liability, regulations on vehicles and fuels or State procurement of traffic in various forms.

Infrastructure planning must agree with policy objectives for transport and the environment. The actions proposed must, for example, as far as possible be environmentally appropriate and conducive to traffic safety.

Infrastructure measures, however, are of limited significance in the solution of environmental problems. The purpose of infrastructure is to provide good opportunities for the transportation of people and goods. The achievement of environmental objectives demands further measures over and above those affecting infrastructure. The same goes for traffic safety objectives.

In drawing up our proposals on the focus of infrastructure planning, therefore, we have made a general analysis of various other measures needed in order for the objectives to be met. A more concerted and cogent analysis of the transport policy and infrastructural measures needed in order to achieve the objectives will be presented in our final report. Several of the measures to be considered are of such a kind that they may come to affect the sum total of traffic inputs and the balance between different types of transport.

Thus our standpoints on general issues of transport policy may have an impact on the planning of infrastructure investments.

Analyses of alternative focuses

We have analysed five alternative focuses for the development and maintenance of infrastructure:

- A *basic alternative* including all measures which are judged to be socio-economically profitable.
- An alternative attaching special importance to the objective of a *good environment*.
- An alternative attaching special importance to the objective of improved *traffic safety*.
- An alternative focusing particularly on the attainment of *regional balance*.
- An alternative attaching special importance to *business enterprise issues*.

These alternatives are compared with a *comparative alternative* (zero alternative) which only includes measures which are expected to be completed or begun by the New Year 1998.

In the light of the analyses of the alternative focuses, we have drawn up a *draft focus for infrastructure planning for the period 1998–2007*.

Proposals for the development and maintenance of infrastructure during the period 1998–2007

Our proposals imply a redirection of infrastructure planning.

- Following a period of heavy expansion of the national trunk road network, operational and maintenance-related inputs will have to be increased. We propose an increase of rather more than 30 per cent for operation and maintenance of the entire national road network, compared with the present-day level (1995).
- For the rail network we propose that the allocation for operation and maintenance be raised by 22 per cent compared with the present-day level. This includes the bringing forward of re-investments to raise the permissible axle load to 25 tonnes.
- Heavy investments are recommended to increase the carrying capacity of railway lines and of the regional road network.
- Of rail and road investments totalling MSEK 58,000 it is proposed that 60 per cent go on railways and 40 per cent on roads.
- Investments in the enlargement of national highways are reduced by more than half compared with the existing plan. This is partly because the standard of the road network has been elevated through enlargements in recent years and because we have now given priority to operation and maintenance within a limited budgeting frame. It is also connected with a new view of development strategy. We endorse the systematic approach and the development of a functionally integrated road network which have characterised planning, but we no longer attach any intrinsic importance to a uniform geometrical and traffic-technical standard. Every part of the national routes should be enlarged at the rate and given the standards which are justified by its own traffic conditions. The parts we have studied are relatively large and naturally demarcated. There is no question of replacing investments in new trunk roads with spot measures, but the big national trunk roads can be divided up into sections with differing traffic conditions.
- Traffic safety work, for socio-economic reasons, will concentrate on implementing measures under the national traffic safety programme. Measures relating to the road system will be concentrated on spot measures for black-spot intersections and sections instead of larger road investments.

- Our proposals imply a heavy reallocation from large road investments to the operation and maintenance of the road network. Since the poorest road standard is to be found on the minor road network in the forest counties, the increased operating and maintenance allocations and load capacity investments we recommend imply an equalisation of regional imbalances in road standards. We also recommend special measures for the further encouragement to regional development and business competitive capacity.

We propose a planning frame of MSEK 190,000 for investments and road and rail operation and maintenance during the planning period 1998–2007. This fits in well with the investment cut in this field resolved on by the Riksdag for the coming budget period. We have also assessed the consequences of changing the planning frame by ±15 per cent and of a 20 per cent rise in costs.

Other measures to meet the carbon dioxide target

Our analyses have shown that, of the environmental targets we have defined, the carbon dioxide target is the most difficult to achieve. As an intermediate target, we have assumed that carbon dioxide emissions in the road sector will decline by 20 per cent between 1990 and 2020.

Measures of several different kinds are needed in order to achieve the carbon dioxide targets. We have assumed heavier carbon dioxide taxation, regulation of the specific fuel consumption of vehicles and the rapid introduction of bio-based fuels.

Increased carbon dioxide tax

In our calculations we have assumed that carbon dioxide tax will be raised in such a way that the price of petrol, in real terms, will rise by 10 öre (SEK 0.1) per litre and year between 1990 and 2020. The real price rise for the period ending 2020 will then be SEK 2.30 per litre of petrol. A corresponding increase is assumed in the price of diesel fuel.

A large part of the scope created by this taxation revenue ought, in our opinion, to be applied to State support for environmental measures in the transport sector. Some form of compensation will probably also be needed for persons travelling long distances to work. If the rise in fuel prices should prove to have unacceptable distributive effects to the

detriment of rural areas, those effects should be offset by means of regional policy measures in the broad sense.

We will be analysing the question of carbon dioxide tax and related supportive measures in closer detail in our final report.

Regulation of vehicle fuel consumption

In order for carbon dioxide emissions from car traffic to be substantially reduced, cars will have to be made more fuel-efficient. There are several conceivable ways of inducing improvements in the fuel economics of new cars, e.g. regulations or differentiated taxes. It is difficult, however, for Sweden to introduce such instruments on its own. International agreements are needed.

In a specimen calculation we have shown how fuel efficiency will have to be improved in order for our carbon dioxide target to be attainable. We assume that the specific fuel consumption of new cars will gradually decline until 2005. As from that year, new cars are on average to have a fuel consumption of not more than 0.63 l/10 km (the average fuel consumption of new cards today is 0.92). Technically this is quite feasible, but it will make heavy demands on international co-operation.

Support for the introduction of bio-based fuels

In our calculations we have assumed that from 2010 onwards, bio-based fuels will on average provide 15 per cent of the energy content of fuel. This can be achieved through a combination of measures, including both the development of vehicles running on bio-based fuels only, e.g. ethanol or methanol, and low admixture of bio-based fuel to the fossil fuel.

In order for this to be possible, both technical development and some form of public support for the introduction of bio-based fuels will probably be needed. We intend to return with proposals on this subject in our final report.

It is also necessary for Sweden to make active efforts to secure amendments to the EEC directive on excise duties on mineral oils, so as to facilitate the introduction of bio-based fuels.

Consequences of our proposals and assumptions

Infrastructure measures in the national road network outside urban communities have only a marginal bearing on traffic generation and choice of transport. Our proposals, therefore, will have hardly any effect at all on the development of road traffic. The presumed increase in carbon dioxide tax and regulation of fuel consumption will between them make motoring cheaper in real terms per kilometre. Traffic growth between 1993 and 2010 is estimated at roughly 30 per cent.

As a result of heavy investments in railways, passenger rail traffic is expected to increase by about 80 per cent during the same period.

Summing up, our proposals have the following consequences:

- **Substantial travel time savings on certain links**

Our proposals confer travel time savings both by road and by rail. On the Stockholm–Göteborg and Stockholm–Malmö routes, using the fastest trains, journey times can be reduced to 2½ and 3½ hours respectively.

- **Reduced emissions of air pollutants and carbon dioxide**

The focus of infrastructure planning makes little difference to emissions of air pollution and carbon dioxide.

The possibility of achieving the carbon dioxide target with a 20 per cent reduction between 1990 and 2020 will depend entirely on the possibility of reducing specific fuel consumption in motor vehicles and increasing the proportion of bio-based fuels to the extent which we have assumed.

Stricter exhaust rules are needed in order to achieve the aim of an 82 per cent reduction in nitrogen oxide emissions between 1980 and 2020. Failing this, the reduction is expected to be about 65 per cent. The aim of reducing emissions of volatile hydrocarbons will be achieved in the short term, but in the longer term the growth of traffic will necessitate stricter exhaust regulations.

- **Reduced noise problems on national roads**

Targeted measures in the form of noise protection will remedy the noise problems of the 25,000 persons living alongside national highways and exposed to noise levels exceeding 65 dBA. The long-term target of 55 dBA will not be achieved, however, and serious noise problems will persist on the municipal road network.

- **Improved traffic safety**

By the end of the planning period (2007), the number of persons killed in road traffic is expected to have fallen to about 370, as against

589 in 1994. The number seriously injured is expected to decline from 4,221 in 1994 to about 3,600 in 2007.

- **Equalisation of regional imbalances**

The investments in operations and maintenance have a strong regional profile. Nearly half the increase will be in northern Sweden. Roughly 20 per cent of all frost-damaged roads can be remedied (4,000 km out of 19,000).

- **Improved opportunities for enterprise**

The investments in operation and maintenance and in load capacity improvements will mean a great deal to business enterprise, since they will improve the scope for heavy goods transport both by road and by rail. Special investments totalling MSEK 5,350 are recommended for rail freight traffic.

Summary of interim report on principles for road taxation (SOU 1996:165)

We have been tasked with setting out, in the form of an interim report, deliberations of principle concerning the use of economic instruments in the road transport sector. Our interim report is to serve as supportive documentation for the Government Commissioner appointed to review the overall road transport taxation of both light and heavy vehicles. The Government Commission's review is to *"concentrate on what is the most appropriate balance between sales tax, vehicle tax, energy tax and carbon dioxide tax, with a view to improving the aggregate steering effect on the safety and environmental aspects of transport"*.

The structuring of road transport taxation should be based on goals and guidelines of transport policy and environmental policy common to the whole of the transport sector. Integral proposals of this kind for a new transport policy will be presented in our final report.

In the present interim report we set out principles concerning ways of using economic instruments and regulations for attuning developments to society's objectives for the environment and safety and to a socio-economically efficient resource utilisation. In keeping with our remit, we consider possible ways of applying the same to road transport taxation.

Some overarching principles of transport policy

In our view, public control of the use of the transport system in keeping with policy objectives and socio-economically efficient resource utilisation should be governed by the following principles:

- Transport policy shall be based on both long-term objectives concerning habitat quality and permissible impact on the natural environment and human health, and also on politically defined interim objectives.

- The policy pursued at national, regional and local levels defines the frames for the allocation of transport sector resources in society, e.g. as regards the development of road and rail transport and the availability of mass transit.
- Citizens and business undertakings decide their own transport arrangements within the frames indicated by society. In order for this to proceed in a socially efficient manner, however, the elected process must be made to include, not only consideration of immediate profit and expense but also the effects on society as a whole. This can be achieved through economic instruments or regulations which *internalise* the external effects, i.e. for the individual transport user, include the costs incurred by others.
- The use of transport price as a steering instrument is not sufficient. What is needed is a combination of economic instruments and various forms of regulation whereby the objectives will be achieved with a maximum of cost-efficiency.

These principles, in our belief, can form the basis of management for traffic of all types. On the other hand, implementation of the principles may of course vary, depending on the varying circumstances of different kinds of transport. All that we have analysed in the present interim report is their application to road traffic. We will be returning to consider other transport modes in our final report.

Internalising the external costs of road transport

Every single road transport operation has an impact on the environment and human health, on the cost of operating and maintaining the public road network and, to some extent, on the safety and travelling times of other transport users. For the achievement of policy aims regarding transport and the environment, we find that transport users will have to make more allowance for these *external costs* when making their choice of transport. This can be achieved through *internalisation*, meaning that the person deciding on a transport operation is obliged, or induced, to consider its external effects. In this way the external costs become *internal* to the transport user or carrier.

If external costs are included and made visible in each individual transport user's choice, the transport sector can be guided towards policy objectives concerning the environment, safety etc. and towards a socio-economically efficient utilisation of the transport apparatus.

External costs should be internalised through a combination of *regulatory measures* and *economic instruments*. Emission costs ought to be internalised primarily through exhaust stipulations for new vehicles, i.e. regulatory measures. This has proved a successful method in recent years, and exhaust emissions from vehicle fleet have declined heavily.

Where economic instruments are concerned, road transport taxation, and above all the tax on fuels, has hitherto been regarded as the most important instrument for internalising the external costs of road traffic.

But the possibilities of guiding developments, through taxes and charges, towards the objectives and an efficient resource utilisation in the road traffic sector depend on how closely these instruments can be geared to the external costs of road traffic. Where many of the external effects are concerned, the tax on fuel is not an adequate instrument for achieving efficient adjustments and attaining the objectives.

The tax on fuel can be used to promote efficiency as regards external costs depending on fuel properties. In fact, a differentiated tax has already been successfully used as a means of reducing lead and sulphur emissions from fuels. A tax differentiated according to the fossil carbon content of different fuels is an effective means of reducing carbon dioxide emissions.

The tax on fuel, however, is a blunt instrument because it has to be made nationally uniform, whereas external costs vary a great deal in time and space and according to the properties of vehicles and fuels.

A combination of instruments is therefore needed, and an important role can then be played by a vehicle tax differentiated according to the ecological and safety-related qualities of vehicles.

Because the external costs are judged to be particularly heavy between urban and rural areas, the level of the tax should be geared to the costs of rural traffic. Our proposal is based on rural conditions. The solution of urban problems will require special, locally oriented instruments, such as road use charges or regulations of various kinds, over and above national road transport taxation. If urban problems were allowed to decide the level of national taxation, this would mean rural traffic paying for the solution of urban traffic problems. That in turn may lead to an inefficient use of resources and be considered unfair. We will be returning to consider urban problems in our final report.

There may, however, be relatively large differences between the external costs, e.g. in small communities, attractive recreational areas and the remote countryside. The national instruments, therefore, may strike too hard at rural residents, even if urban problems are separately

dealt with. This can lead both to less efficient utilisation of the transport system and to negative distributive effects.

Then again, for persons living and working in rural areas or in other places without alternative means of transport, the car is a necessary prerequisite of daily living. Without it, people cannot get to work, to the shops or public services or maintain a tolerable social life. An increase in the price of petrol, therefore, may strike extra hard at rural residents, and above all at those with long journeys to and from work.

If fuel price increases or other instruments for internalising average national external costs are found to have unacceptable distributive effects in rural areas, those effects should be offset by measures of regional policy in the broad sense. We will be returning to these reginal policy aspects in our final report.

Calculating the external costs of road transport

As a basis for our standpoints of principle concerning the taxation of road transport, we have procured calculations of the external costs of road transport.

The external costs of petrol-driven cars are now estimated to be a good deal lower than previously. Formerly (Ds 1992:44) the external cost was estimated at roughly the same amount as energy tax at that time, i.e. about SEK 3/l in rural conditions. The external cost is now estimated at about SEK 1.80/l petrol. Energy tax has been increased since 1992 and in October 1996 stood at SEK 3.41/l.

The difference between previous calculations and the new ones is due mainly to a change of view as to which accident costs are external and are to be priced.

The external costs of diesel-driven cars are estimated to be higher than those of petrol-driven ones, roughly SEK 2.30/l diesel fuel. The external costs of a lorry (over 7 tonnes) are estimated to be higher still, roughly SEK 3.50/l diesel. The energy tax on diesel fuel (October 1996) is SEK 1.74/l.

For the heaviest vehicles, external costs vary a great deal, depending on environmental qualities. The external costs of a 60-tonne rig have been estimated at SEK 17,000–88,000 per annum, assuming average mileage. Vehicle tax at present is SEK 34,000. The external costs of a semitrailer in European service are estimated at SEK 19,000–103,000 per annum, depending on environmental performance. The annual vehicle tax is SEK 13,000.

Proposed principles of road transport taxation

We have analysed ways in which the components of road transport taxation, meaning above all carbon dioxide tax, energy taxes on fuel and the annual vehicle tax, can be used as economic instruments. On the other hand we have not considered the fiscal role of road transport taxes as a source of national government revenue. The question of whether taxes should be used as a means of financing the road transport system as a whole is one to which we will be returning in our final report.

We propose the following principles of road transport taxation.

Carbon dioxide tax

Carbon dioxide tax is an effective means of reducing carbon dioxide emissions, in that it directly targets the thing to be affected. This tax should be based on the fossil carbon content of the fuel concerned.

It is our opinion that the target presented in our first interim report, namely a 20 per cent reduction of carbon dioxide emissions from the road sector between 1990 and 2020, must be adhered to. In the report we showed how this target could be achieved through a combination of instruments. We assumed, for example, an increased carbon dioxide tax, causing the real price of petrol to rise by SEK 0.10 per litre and year between 1998 and 2020 and implying a similar increase in the price of diesel fuel.

Energy taxes on petrol, diesel fuel and bio-based fuels

Energy tax should be used as one of several instruments for reducing negative external effects (carbon dioxide excluded) depending on the volume of traffic. Exhaust emissions, accidents, noise and road wear are some of the external effects which can be partly internalised by means of energy tax.

Energy tax is used today as a means of influencing the quality of fuels. This is done by eco-classifying fuels and differentiating energy tax accordingly. This principle should be retained.

Energy taxes should be based on rural conditions. The external costs of road traffic in urban areas are judged to be considerably higher than in rural areas. Special, locally oriented instruments are needed for the solution of urban problems. This can mean, for example, road use

charges or regulations of different kinds, over and above the national energy taxes. If urban problems were allowed to decide the level of national taxation, this would mean rural traffic paying for the solution of urban traffic problems. That in turn may lead to an inefficient use of resources and be considered unfair. We will be returning to consider urban problems in our final report.

Petrol

We estimate the external cost of petrol-driven vehicles to be lower than present-day energy tax. If energy tax, in keeping with our principles, were to reflect negative external costs, energy tax should be reduced. There are, however, several arguments against any such reduction:

- We assume that the price of petrol will need to be successively raised in order to achieve the aim of reduced carbon dioxide emissions. Because energy tax affects the price of petrol, it has a bearing on carbon dioxide emissions.
- Calculations of external costs are surrounded by a great deal of uncertainty.
- Up till now, there has not been any formal or real linkage between energy tax and external costs. Energy tax also has a fiscal function.

For these reasons we feel that, where petrol is concerned, there is justification for departing from the principle of energy tax corresponding to the estimated negative external costs.

Diesel

We estimate the external cost of diesel-driven cars to be higher than the energy tax on diesel fuel. The external costs of diesel cars are also higher than those of petrol-driven cars, which suggests that the energy tax on diesel fuel should be increased.

In our view, the level of energy tax on diesel fuel should be determined by external effects of diesel cars using the best practically feasible vehicle and propulsion technology.

Bio-based fuels

To facilitate the introduction of bio-based fuels, we find that these should be exempt from energy tax for a long introductory period.

Vehicle taxes

In our view, the annual vehicle taxes and sales tax on heavy vehicles should to the greatest possible extent be differentiated according to the environmental and traffic safety properties of the vehicles.

We have considered the possibility of differentiating the annual vehicle tax on *petrol-driven cars* in such a way that it will be reduced for newer vehicles with the best environmental and safety-related properties and increased for older vehicles with inferior properties in these respects. We have found, however, that the environmental and steering effect of such a differentiation would be limited, at the same time as the distributive effect would be profoundly negative.

As a means of encouraging, for traffic safety reasons, a more equal weight distribution in the national vehicle fleet, we propose amended principles of vehicle tax differentiation according to service weight. Vehicle tax should be the same in the lighter weight classes, and should rise more steeply in the heavier classes. Consistent implementation of this principle would mean the lightest and heaviest vehicles being more heavily taxed than in October 1996.

Considering that the energy tax on diesel fuel is appreciably lower than that on petrol, despite the higher external costs of diesel fuel, there is justification for retaining a higher vehicle tax on *diesel-fuelled cars* than on petrol-driven ones. It is our view, however, that the present-day vehicle tax on diesel-fuelled cars is wrongly constructed from an environmental and traffic safety viewpoint, in that new cars are more heavily taxed than older ones with inferior properties. This should be rectified by making vehicle tax independent of the year in which a vehicle was manufactured. Differentiation according to service weight should be modified in accordance with the principles we have proposed for petrol-driven cars.

In order to hasten the development of safer vehicles, new specifications of requirements are needed, together with a system for *classifying vehicle safety properties.* The National Road Administration should be given the task of compiling supportive documentation for systems of this kind, so that Sweden can actively raise these matters within the EU and elsewhere. Pending the development of a European classification system, measures should be considered which will increase the use of vehicle safety equipment not normally in demand among vehicle purchasers themselves, such as a device which immobilises the vehicle if driver and passengers are not wearing seat belts.

We find that the vehicle tax on heavy vehicles would need to be increased if it were to match the external costs which we have not

already assumed will be internalised through the energy tax on diesel. We are, however, unwilling at present to commit ourselves concerning the extent to which this principle is to be observed, in view of the keen competition existing between various forms of goods transport. When deciding the principles on which the external costs of heavy road traffic should be internalised, and when deciding what possible departures from those principles may be justifiable, one should also consider the way in which external costs are internalised for rail, sea and air freight operations. An overall assessment of this kind, concerning the even-handed treatment of different transport modes, will be presented in our final report.

Road transport taxation and the EU

Swedish regulatory systems have to be designed so as to interact with those of other countries. The EC regulatory systems impose constraints but also provide support for the definition of principles (and concrete figures) for Swedish road transport taxation and other policy instruments by which road traffic is affected. The EC rules have the following main components:

- The Mineral Oils Directive - minimum tax on vehicle fuels and the principle of equal taxation of fuels for the same purpose.
- Provisions on maximum permissible emission levels (exhaust emissions and noise) from motor vehicles - regulating the possibilities of tax differentiation in relation to the maximum permissible exhaust emissions of vehicles.
- Provisions on vehicle taxes and road charges for HGVs.

The Mineral Oils Directive reduced our freedom of action as regards the taxation of bio-based fuels. It is not permissible to have lower rates of taxation for fuels of this kind, other than in connection with pilot experiments.

As regards *maximum permissible emissions*, the European Commission is working on new exhaust emission provisions which are to be made obligatory in 2000 and 2005 respectively. Once these have been finalised it will be possible to encourage voluntary implementation of future stipulations, e.g. through a differentiated vehicle taxation.

Work has also begun within the European Commission on framing a system for the *eco-classification* of heavy vehicles. It is important

that, within the EU, Sweden should play a leading part in bringing about a European eco- and traffic safety classification of both heavy and light vehicles. This should provide an opportunity for differentiating vehicle and sales taxes according to environmental and safety performance.

Committee terms of reference

Dir. 1994:140

Drafting for a national plan for Sweden's communications

Resolution adopted at a Cabinet Meeting on 22nd December 1994.

The assignment in brief

A Parliamentary Committee is to be appointed to draft a national plan for communications in Sweden.

With reference to the 1988 Transport Policy Resolution and the policy decisions taken thereafter concerning a good living environment, development sustainable in the long term, the development of an environmentally appropriate system of transport and investments in transport infrastructure, as well as investment plans adopted by the Government for roads, railways and county transport installations, the Committee shall:

- analyse the extent to which the aims of transport policy expressed in the 1988 and 1991 Riksdag resolutions have been accomplished,
- suggest a national plan of communications, based on a holistic approach and calculated to contribute towards the achievement of an environmentally appropriate transport system, while at the same time promoting traffic safety, wellbeing, long-term sustainable growth, regional balance and a competitive enterprise sector,
- put forward proposals for financing communications within the frames of national government finance which have now been decided on,

- analyse the connections between a national plan of communications in Sweden and the planning of an environmentally appropriate, safe transport system in Sweden's larger conurbations and urban regions,
- identify the measures needed in order to achieve better integration and co-ordination than at present of shipping, air traffic and information technology with the land transport system,
- identify ways in which charges in the transport sector can be adapted so as to promote an environmentally appropriate, safe transport system and increase the sector's economic efficiency,
- identify ways in which investment, maintenance and operational measures in the transport infrastructure, together with policy measures and instruments of other kinds, can help to accomplish the aims of transport, environmental and regional policies,
- identify measures – e.g. with a view to making public transport more competitive – which can help to achieve the aims of transport, environmental and regional policies to a greater extent than infrastructural measures alone,
- analyse the effects of various regional policy measures within the communications sector, viewing those effects in relation to the costs and to the extent to which the aim of regional balance has been achieved,
- identify ways in which transport inputs can be reduced, subject to the desirability of free mobility and good communications,
- analyse the effects of the development of information technology and mobility needs, viewing these effects in relation to the expansion needs of transport infrastructure,
- identify ways in which the planning and funding system for transport infrastructure investments can be adapted and improved, partly in order to enhance the economic efficiency of the transport sector,
- recommend the main thrust of the revision of infrastructure investment plans for the period 1998–2007,
- recommend ways in which Sweden, within the context of EU co-operation, can help to frame a Common Transport Policy (CTP) and, in the context of work on trans-European networks, can pursue the introduction of an environmentally appropriate European system of transport,
- recommend measures capable of stimulating research and development in fields where the standard of knowledge needs to be elevated so that a transport system can be developed which will be sustainable in the long term.

Background

On 16th March 1994, the Riksdag resolved (Prop. 1993/94:100 Bil. 7, Bet. 1993/94:TU16, Rskr. 1993/94:154) that a Committee should be appointed to draw up a national plan for communications in Sweden. The Riksdag stated that the basic concern must be for investments to be given such a focus that we can achieve an environmentally appropriate transport system which at the same time will contribute towards greater wellbeing and growth. The plan is also to include proposals for the long-term financing of communications.

The remit

The starting point for the inquiry consists of the 1988 Transport Policy Resolution and the 1991 resolutions *Enterprise Policy for Growth* and *A Good Living Environment*. It is especially important to analyse the extent to which the principle of the cost liability of transport and the sectorial responsibilities of the different types of traffic for the environment have led to more efficient utilisation of transport and the pursuit of a more environmentally appropriate system of transport. The Committee is to propose ways of developing this principle further.

In a holistic perspective, the Committee is among other things to investigate transport use questions, environmental adjustment, infrastructure design and the focus of investment planning, the dimensioning of traffic and measures in the IT sector. The Committee's proposals will form the basis of a unitary draft resolution on communications policy.

The Committee is also to take as its starting point the Riksdag Resolution on sustainable development (Prop. 1993/94:111, Bet. 1993/94:JoU19, Rskr. 1993/94:256) and a sustainable transport system (Prop. 1993/94:100 Bil. 7, Bet. 1993/94:TU16, Rskr. 1993/94:154), together with the investment plans for road and rail expansion adopted by the Government in its resolution of 24th March 1994.

In the light of the Riksdag Resolution on investments in transport infrastructure and of the investment plans approved by the Government for investments in roads, railways and county transport installations, the Committee is to identify measures needed in order to achieve a better integration than at present of shipping, air transport and information technology with the land transport system.

The purpose of this inquiry is for the system of communications to be directed towards an environmentally appropriate system of transport which will at the same time contribute towards greater wellbeing and

sustainable growth in the various parts of the country. Access to efficient communications is also very much a question of wellbeing and distributive justice.

The expression "environmentally appropriate system of transport" refers to a way of organising and carrying out passenger and goods transport operations within the frames defined by what human beings and nature can tolerate.

Balances must therefore be struck on the basis of political deliberations. This applies, for example, to the relationship between the different types of traffic, availability, regional policy commitments and questions concerning finance and the apportionment of costs between the different types of communication.

The Committee has therefore to analyse various scenarios in which an environmentally appropriate traffic system as a whole is geared to various prioritisations of the aims of transport policy. The consequences of these prioritisations for the achievement of other goals of transport policy are to be presented in each scenario, as are each scenario's distributive effects. The analysis should be undertaken in the light of various proposals for reducing emissions in keeping with goals defined by the Riksdag. The scenarios are to be accompanied by an account of the way in which the infrastructure should be expanded during the next planning period (1998–2007).

The Committee should also suggest the best way in which Sweden can contribute towards the framing of a Common Transport Policy (CTP) within the European Union (EU). Work is also in progress within the EU on designing an integral, all-European transport network. A network of this kind will facilitate integral transport solutions based on multiple transport. The Committee should identify ways in which Sweden can strongly encourage the implementation of an environmentally appropriate European transport system. Furthermore, the Committee should analyse the consequences of the EU transport network for Sweden's communications and transport system, as well as considering and recommending measures whereby Sweden's communications will be suitably interlinked with the trans-European networks.

One basic principle underlying the work of the Committee should be that it is good communications in the broad sense which are to be pursued. An aim of this kind can be accomplished in various ways. New and advanced technology, such as information technology, can provide opportunities for the enhancement of transport efficiency. Furthermore, each type of transport should be used in the very context where it has its advantages. From an environmental viewpoint it is important in this respect that transport inputs can be distributed to the

means of transport which are economical of energy and in other ways have a low environmental impact. This means that several different kinds of transport can be used in a single transport operation. In a network of this kind, an important role is played, for example, by terminals and nodal points in the transport system. Reloading costs and transfer times can be minimised with efficient terminals in the right locations. Multiple transport operations can then become an efficient alternative to operations using one type of transport only. Integration with information technology can also have the effect of enhancing the quality of the services performed, while at the same time reducing sacrifices of time, natural resources etc. The Committee should therefore investigate the feasibility and necessity of improved nodal points and development of new technology in the Swedish goods and passenger transport system and should recommend measures to be taken.

The efficiency improvement resulting from the introduction of information technology can have a restraining effect on the close connection between transport inputs and economic development. The Committee is therefore to analyse whether this improved efficiency will affect the need for infrastructure capacity expansion.

Evaluations of the investment plans of the transport utilities have shown the system of road and rail investment finance to be an imperfect means of accomplishing the aims of transport policy, e.g. those of an environmental nature. The Committee is therefore to identify ways in which the system of planning and finance can be adapted and improved so as to encourage an environmentally appropriate system of transport and so as to improve the economic efficiency and traffic safety of the transport sector.

Owing to the change in the length of time for which the Riksdag and other representative assemblies are elected, State investment plans for transport infrastructure will in future be revised at four-yearly intervals. The Committee is to analyse the need for changes in the political basis of planning proposals at both national, regional and local levels. As regards the political basis at regional level, it is possible that changes will be introduced as a result of the ongoing deliberations of the Regional Government Commission (C 1992:06).

The Committee should recommend ways in which the Government's task of following up the investment resolutions should be carried out.

Sustainable development depends on the pricing system containing accurate information on resource consumption and benefit. The preparation of a national plan of communications, therefore, requires external factors in the national economy to be taken into account and

adjusted in one way or another. The Committee is therefore to analyse ways in which charges in the transport sector can be adapted so as to promote an environmentally appropriate transport system, enhance the economic efficiency of the transport sector and limit the use of finite resources. The consequences of changed price relations between fossil and renewable fuels should be illuminated.

On instructions from the Government, the county administrations are preparing regional traffic and environmental analyses with a view to laying down guidelines for the long-term development of environmentally appropriate transport systems within the counties. The National Board of Housing, Building and Planning is working, on the Government's instructions, with a national vision, addressing environmentally appropriate communications among other questions. A report, Sweden 2009, is currently being circulated for comment. In the light of the work done by the county administrations and the National Board of Housing, Building and Planning, the Committee should analyse the feasibility of an environmentally appropriate transport system in the various parts of Sweden and the connections between a national plan of communications and the planning of an environmentally appropriate transport system in the larger conurbations and urban regions of Sweden.

The Committee should also analyse ways in which investments, maintenance and operational measures within the transport infrastructure and measures and instruments of other kinds can help to accomplish the various aims of environmental, regional and transport policies.

The Committee is to consider whether a change is necessary in the present allocation of responsibilities between national authorities involved in the planning of communications.

The possibilities of steering use of the transport system solely through infrastructure investments, however, are relatively limited, and the Committee is therefore to identify measures which can help to achieve the aims of transport and environmental policy to a greater extent than infrastructure measures alone. Development of public transport and its competitive capacity can be an effective means to this end. This analysis will include recommendations concerning finance and possible steering instruments.

The feasibility of regional development and of balance between regions can be variously affected by measures in the communications sector. The Committee is therefore to evaluate the effects of various regional policy measures within the communications sector, viewing those effects in relation to the costs.

One precondition of sustainable design of a national communications plan is that the measures proposed can be financed in both the national and local government sectors. The Committee is therefore to consider and recommend ways of financing the various measures within the frames of national government finance already decided on.

Partly in the light of this analysis, the Committee is to consider and recommend a national plan of communications based on a holistic approach to the transport system. An environmental impact assessment is to be prepared for the proposals. The thrust of the proposals must be such that the plan will contribute towards the achievement of a safe, environmentally appropriate transport system while at the same time promoting wellbeing and growth in the various parts of the country.

The Committee is also to consider and recommend measures to encourage research and development in fields where the standard of knowledge needs to be elevated so that a transport system can be developed which will be sustainable in the long term.

Further points

The Committee is to keep itself informed of the work of the Traffic and Climate Committee (K 1993:01), the Commission on Further Development of the System of Environmental Classification for Cars etc. (M 1993:08), the Road Pricing Commission (K 1994:27), the Commission on the Feasibility of Greater Environmental Relation of the Taxation System (Fi 1994:11) and the Regional Government Commission (C 1992:06). The Committee is also to keep itself informed of the work of the National Board of Housing, Building and Planning on a national vision and the work of the National Environmental Protection Agency on an environmentally appropriate transport system. In keeping with Dir. 1992:50, the Committee is to declare the regional policy implications of its proposals, and in keeping with Dir. 1994:124 it is to declare the equal opportunities implications of its proposals, as well as taking into account the Government's instructions to all committees and special investigators to scrutinise public commitments (Dir. 1994:23).

A draft plan of national communications is to be included in the final report which the Committee is to present by 1st December 1996 at the latest. An interim report setting out alternative courses and recommending the main thrust of infrastructure investments for the period 1998–2007 is to be submitted to the Government on 15th

January 1996. This interim report is also to include any proposals for changes of political control at various levels of the planning system.

(The Ministry of Transport and Communications)

Heading for a new transport policy

Final report by the Government Commission on Transport and Communications

Transport policy objectives

A future transport system shall be economically, socially and environmentally sustainable. Proposals for the framing of policy objectives based on what human beings and nature can tolerate in the long term.

Principles of transport policy

How are traffic development and transport infrastructure to be guided in the direction of socio-economic efficiency and long-term sustainability? Proposed principles of transport policy.

Measures proposed in all modes of transport

Policy measure proposals for passenger and goods traffic by road, rail, sea and air – separately and conjointly. Consequences are shown with regard to goal achievement, the national economy, national government finance and distributive effects.

The Government Commission on Transport and Communications

is a parliamentary committee representing all the parliamentary political groups. The Commission has previously presented two interim reports – one on infrastructure emphasis (SOU 1996:26) and one on road traffic taxation (SOU 1996:165).