

**Transport policy guidelines and
transport network investment
and financing programme until 2020
Government transport policy report
to Parliament**





Authors (from body; name, chairman and secretary of the body)		Type of publication	
Ministerial working group on transport and communications, chair: Minister Anu Vehviläinen, secretaries: Director-General Juhani Tervala and Ministerial Adviser Juha Parantainen		Report	
		Assigned by	
		Government (government programme)	
Date when body appointed			
Name of the publication			
Transport policy guidelines and transport network investment and financing programme until 2020. Government transport policy report to Parliament			
Abstract			
<p>On 27 March 2008 the Finnish Government submitted its first report on transport policy to Parliament. The report was prepared under the leadership of the ministerial working group on transport and communications chaired by Ms Anu Vehviläinen, Minister of Transport. In future a Government transport policy report will become a standard practice and a report will be issued to Parliament in the beginning of every parliamentary term.</p> <p>A key aim of the report is to improve long-term sustainability in transport policy. The report also includes decisions on transport investments and their financing for the current four-year parliamentary term. This will provide better opportunities for planning and implementing long-term projects and taking the economic fluctuations in the civil engineering market into consideration.</p> <p>The report discusses such issues as economic, industrial and climate policies, public transport, walking and cycling, traffic safety, transport markets, transport network and its financing. The report also includes an investment programme for this parliamentary term and a list of projects that should be addressed. In the parliamentary term until 2011 a total of 17 transport projects worth around 1.9 billion euros will be launched. In addition, the Government prepares to provide state aid of 200 million euros, at the most, for an extension of the metro line in Helsinki. New financing tools for transport investments that complement budget funding will be examined and introduced. Two new PPP projects will be launched in this parliamentary term. Resources and conditions for introducing positioning-based road user charges in the next decade will be secured. Possibilities to introduce a congestion charge in the Helsinki metropolitan area will be examined.</p> <p>In the next decades controlling climate change will be a key priority in transport policy. The transport policy report presents the general guidelines for climate policy in the transport sector and the most important transport policy means to control the change.</p>			
Keywords			
transport policy, transport, logistics, industrial policy, climate change			
Miscellaneous			
Contact person at the Ministry: Juhani Tervala The report has been published in Finnish (<i>Liikenne- ja viestintäministeriön julkaisuja 17/2008</i>)			
Serial name and number		ISSN	ISBN
Publications of the Ministry of Transport and Communications 30/2008		1457-7488 (printed version)	978-952-201-611-9 (printed version)
		1795-4045 (electronic version)	978-952-201-612-6 (electronic version)
Pages, total (printed version)	Language	Price	Confidence status
70	English		Public
Distributed and published by			
Ministry of Transport and Communications			

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INTRODUCTION

The Ministry of Transport and Communications started to prepare this Report on Transport Policy in the spring of 2007, in accordance with the programme of the new government led by Prime Minister Matti Vanhanen that was formed following Parliamentary elections in March of that year. The Vanhanen II government programme states: “At the beginning of the electoral period, the Government will present a report to Parliament to outline its long-term transport policies. The report will include a transport facility investment programme for the 2007–2011 electoral period and a long-term transport and infrastructure development and investment programme based on a comprehensive approach to the transport system. At the same time, the adoption of optional financing schemes for transport facility investments complementing budget funding will be evaluated”.

Work on drawing up the Report was carried out under the leadership of a Ministerial Working Group on Transport and Communications Policy. The Group comprised a number of government ministers: Minister of Transport Anu Vehviläinen (chair), Minister of Foreign Trade and Development Paavo Väyrynen, Minister of Communications Suvi Lindén, Minister of Defence Jyri Häkämies, Minister of Justice Tuija Brax and Minister of Migration and European Affairs Astrid Thors.

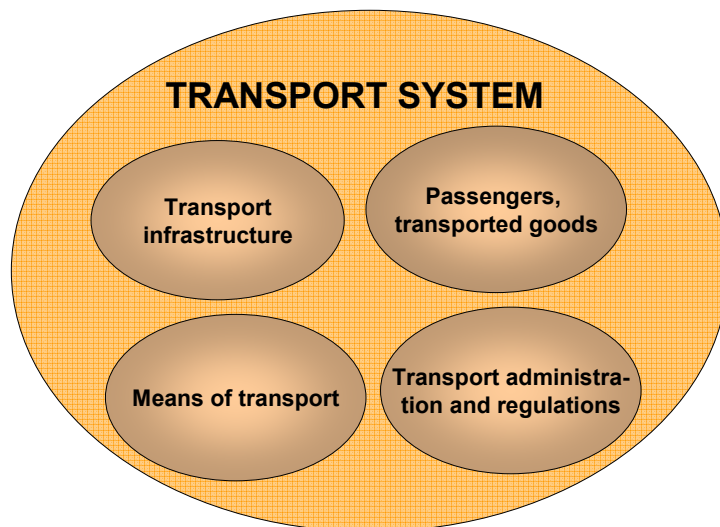
The main goal of the Report was considered to be the creation of a more sustained, long-term approach to transport policy. In this context, “long-term” means covering a time period of 10–15 years. The Report adopts a perspective that covers the whole transport system and tries to avoid focusing only on infrastructure for the main traffic flows. As the period of time covered by the Report extends well beyond a single governmental term of office, emphasis has been placed on the importance of Parliament’s position in defining long-term guidelines for transport policy.

In June 2007, the Ministry of Transport and Communications asked some 200 groups and organisations with interests in the transport sector for their views on issues to be dealt with in Report. About 130 statements were received and used as background material. Various transport sector forums and advisory boards which have been set up by the Ministry have also provided their opinions for the Report. These include the Transport Advisory Board of the Helsinki Metropolitan Area, the Traffic Safety Advisory Board, the Infrastructure Forum, the Logistics Forum, the Public Transport Forum and the Aviation Advisory Board. Regional discussion and information events were held in August-September 2007 in Oulu, Joensuu, Pori, Riihimäki and Kotka. A discussion session was also arranged for Members of Parliament in October 2007.

The Ministerial Working Group on Transport and Communications Policy has discussed the Report on eleven occasions, and it has also held a special seminar on financing aspects. The Working Group has received expert opinions from Jorma Haapamäki, Chairman of the Finnish Association of Civil Engineers, and Raimo Sailas, Permanent Secretary of State at the Ministry of Finance. The intermediate report from a working group to assess operating prerequisites of the forest industry in Finland, chaired by Esko Aho, President of Sitra, the Finnish Innovation Fund, has also been used as background material in the preparation of this Report.

1 CONTENT AND MAIN GOALS OF TRANSPORT POLICY

The transport system consists of the transport infrastructure, the means of transport, the people who are in motion and the goods being transported, as well as all the regulations and organisations involved. Transport policy refers to all the measures which are taken that focus on these sectors of the transport system and serve to promote national competitiveness and economic activity as well as to maintain the well-being of citizens. Transport policy and the transport system are closely connected with other functions of society, especially with the development of regional and community structure.



Good transport infrastructure and functional transport systems are important for people's everyday life. Almost everyone makes daily trips to work or to school, to the shops, on business or for pleasure – an average of three such trips per day. In sparsely populated regions, the quality of road infrastructure and transport services has the greatest impact on the convenience and safety of travel. In urban regions, the quality of transport infrastructure, the provision of high-quality public transport services and good traffic management are particularly important for improving the functionality of journeys and connections.

Transport provides the links between activities within a society, so the quality of the transport system directly affects people's well-being and the economy. Until now, economic growth and rising standards of living have increased traffic volumes and the need for transport investments. The transport system is an important competitive factor for Finland, because of the country's extensive area and long transport distances. Industrial and residential development is dispersed widely throughout the country, and the forest and metal industries, which transport large number of heavy products, account for a high share of national production. The availability of an adequate level of service on the main transport routes is essential for the functionality of the whole transport system and for Finland's competitiveness.

Good transport connections are vital for regional development. The availability of transport connections affects companies' decisions about where to locate. Shorter travel times for

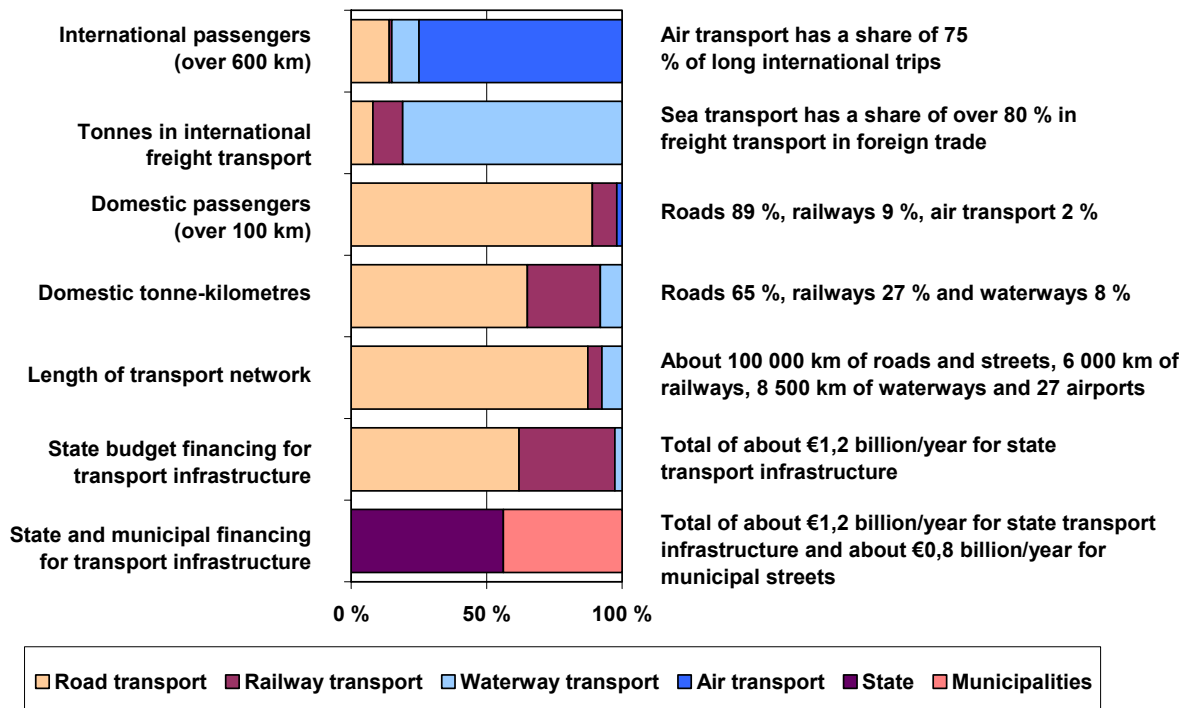
passenger traffic make business trips more efficient and promote networking between regions and municipalities for the joint production of services.

Transport has also serious negative impacts on the environment and on human health. In addition to the carbon dioxide emissions which contribute to climate change, negative effects include other emissions, noise, dispersed community structure, and barrier effects arising from transport infrastructure. About 750 000 people live in the noise zones of roads and streets, about 50 000 in railway traffic noise zones, and about 30 000 in air traffic noise zones. Noise reduces the quality and comfort of life and the environment and leads to the impairment of people's health, well-being and vitality.

Private car traffic accounts for a majority – about 85% - of all kilometres travelled. Quality of life, the environment and people's safety in traffic can be significantly improved by taking measures that impact car traffic volumes and time spreads, and the national vehicle stock.

Every mode of transport has its own strengths. It is essential to provide seamless transport operations along the entire chain of travel or transport. Road transport is the most flexible mode and short trips particularly involve travel by road. Railways have competitive advantages in passenger traffic between large population centres, in commuter traffic in extensive urban areas, and in long-distance heavy-goods transport, for example, from industrial plants to ports. Sea and waterway transport is often the most economic for long-distance shipments. Air transport is suitable for long-distance transport of passengers and light or high-value goods.

Finland's transport system: some key figures



The state authorises budgets for transport agencies and administrations within the administrative field of the Ministry of Transport and Communications. The Finnish Road Administration, the Finnish Rail Administration and the Finnish Maritime Administration and safety administrations, including the Finnish Vehicle Administration, Finnish Civil Aviation Authority and the Finnish Rail Agency, are official state organisations and Parliament decides on their appropriations on the base of Government proposals.

Finnair is a listed company in which the state has a majority holding. The VR Group is entirely state-owned. Ownership guidance for these companies and other market-based companies in which the state has an ownership interest was centralised on the Ownership Steering Department of the Prime Minister's Office in summer 2007. The state has a "strategic interest" in both of the above-mentioned companies. Ownership guidance for companies requires regular cooperation between the Ownership Steering Department of the Prime Minister's Office and the relevant Ministry with regard to strategic interests – in this case the Ministry of Transport and Communications.

There are also three unincorporated state enterprises within the administrative sector of the Ministry of Transport and Communications: Finavia, which administers the airport network, the Finnish State Pilotage Enterprise, and Finstaship, the Finnish Shipping Enterprise. Through ownership steering, the state takes care that these enterprises fulfil their public service assignment in a cost-efficient way and follow the political guidelines of the Government. The Board of Directors exercises power in unincorporated state enterprises and limited companies, and it must have the confidence of the owners. The future of the unincorporated state enterprise model is currently under review.

2 A FUNCTIONAL TRANSPORT SYSTEM SUPPORTS BUSINESS LIFE AND ECONOMIC GROWTH

The goal of the Government's economic, employment and industrial policy is to promote people's well-being by creating the preconditions for improved employment and productivity. The creation of strong economic growth and better productivity is particularly necessary in view of the ageing of the population and the increasing need for public services. When necessary, the Government will take quick action to secure the competitiveness of the various branches of trade and industry.

A well-functioning transport system and a long-term transport policy together support the operating conditions and competitiveness of business life and in this way they promote economic growth. Rising standards of living also pose new challenges to transport policy. Economic activity increases passenger and freight traffic volumes. Growth of traffic volumes means that the Government must meet the challenge of climate change through sustainable transport policy measures, without, however, jeopardizing the operations and transport flows of business life.

Transport policy should strengthen Finland's position as a favourable and competitive country for companies. It is especially important to create the preconditions for smooth and cost-efficient logistics operations. Smooth, reliable and punctual transport operations, both for international freight and for domestic shipments of trade, food and construction goods, are essential for business life.

Heavy manufacturing industry's share of Finland's gross national product is amongst the highest in the OECD countries. The structure of Finnish industry and the long distances involved result in the number of tonne-kilometres relative to GNP being much higher than that of the main competitor countries. Control of logistics costs in Finland is a significant competitive factor. Logistics knowhow and the existence of a functional transport system will be even more significant competitive factors in the global economy in future.

In order to improve logistics efficiency, Finland must be able to reduce transport costs in comparison with competitor countries. Good use must be made of first-rate skills, new technologies, innovations and active research and development. Functional transport markets and open competition are the essential preconditions for developing and improving a competitive freight transport system.

Transport connections affect companies' decisions about their locations. Whenever necessary, the Government should be able to react quickly to the transport infrastructure needs of new business development. For example, the new rise of the extractive industry will require preparedness for infrastructure investments.

Shortage of labour is an acute problem in the logistics sector. Properly targeted educational and industrial policy measures will be required in coming years. The logistics sector needs to be made attractive for young people. Employment-based immigration is also needed.

Industry, mining and trade

Over 80% of domestic freight transport volumes are industrial shipments. Industries and production plants are located in many different parts of Finland, so good transport connections are needed to all parts of the country. The transport needs of different branches of industry and product groups vary, and they use different modes of transport. In domestic freight transport, road transport is used for almost all short-distance shipments and also for longer-distance shipments of highly refined products or small quantities of goods. Rail transport is particularly used for transporting raw materials and the products of basic industries.

Cost-efficiency is important for freight transport in all branches of industry. Punctuality and speed have become more important service-quality factors in freight transport. For cost-efficient transport, the structural condition of roads and railways must permit large loads, and in this way the amount of equipment needed for transport can be kept to a minimum. In order to improve cost-efficiency, the railways' upgrading programme should be completed, and the sections of line that are most important for freight transport should be upgraded to permit 25-tonne axle loads.

Punctual transport operations depend on there being no significant capacity problems in the transport network. In Finland's main road network there are no significant bottlenecks affecting the punctuality of freight transport, but there are many narrow and hilly road sections which are frequently used by heavy traffic and no longer meet the demands of present types of vehicles and shipments. Rail capacity problems can also be found, for example in the railway network of southern Finland and on the sections of line between Seinäjoki and Oulu and between Oulu and the Vartius border station.

The start-up of mining operations at several locations in northern and eastern Finland is under study or under preparation. If these projects are implemented, they will have significant impacts on employment, particularly in areas where the creation of new jobs is a challenging task. The mining projects under consideration include those of Talvivaara, Suhanko, Kolari, Kevitsa, Suurkuusikko, Sokli, Pampalo and Kylynlahti. If implemented, these mining projects will significantly affect the flows of goods and require the reconsideration of the railway network's investment needs. New mining activities will also generate additional traffic to the ports in northern Finland. The railway network should be developed systematically and comprehensively to secure the competitiveness of rail freight transport.

The retail and wholesale trade employs about 13% of the labour force in Finland and produces 11% of the country's GNP. Most of the companies in the sector are small, but the greatest volume of trade, measured by turnover and number of employees, is concentrated in large companies. Wholesale and retail trade shipments are precisely scheduled and most of them take place at night. The main freight flows are concentrated on the trunk road network; local delivery flows use the road and street networks of urban regions. Spare parts and perishable foodstuffs are also transported as air cargo. Reliability of round-the-clock delivery of goods is important in the trade sector. Thus, for example, good maintenance of the roads in winter is important for the punctuality of trade shipments.

The forest industry and security of wood supply

Cost-efficient logistics and a functional transport infrastructure are important competitive factors for the Finnish forest industry. The functionality of logistics is directly reflected in the industry's production development, employment and investments. Because of the large volumes involved, the forest industry's logistics systems are demanding and complex. Predictability of the operating environment makes it easier to develop the systems and make any changes required.

Russian export duties on timber pose an acute threat to the Finnish forest industry's raw material supply. All measures to secure a replacement supply of domestic wood raw material are therefore urgent. According to the goal set in the government programme, the felling of domestic timber should be increased by 10-15 million cubic metres per year in a sustainable way. Increasing the supply of domestic timber requires measures to be taken in a variety of parts of the transport network: the condition of private roads and forest roads should be improved, and the network of minor roads, and some low-volume railway lines, should be upgraded. Other measures for developing the transport network that are important to the forest industry include the upgrading of sections of main roads which are old and liable to cause accidents, and increasing the load-bearing capacity of some main railway lines.

Increasing the use of renewable energy from forests requires increasing utilisation of forest chip biomass (felling residues, stumps and small-diameter wood). The harvesting of forest chip biomass is most economical, when it is integrated with the procurement of raw wood for the forest products industry. It is not possible to harvest chip biomass in winter because of the frozen ground and thick snow cover, but harvesting it mainly during the period when the ground is not frozen offers an opportunity to balance the seasonal variation in industrial wood procurement, which mostly takes place in the winter months.

The movements of harvesting equipment from place to place and the transport of woodchips to storage areas increase the load on the network of lower-grade roads. The all-year usability of roads becomes even more important. The condition of the lower-class road network, and of forest roads and other private roads, should be improved to permit the transport of heavy loads during the autumn and the spring thaw season, as well as when the ground is firm. Increasing the procurement of forest chip biomass will increase transport distances, which will improve the competitive advantage of rail transport.

Transit traffic to Russia

One of Finland's strengths lies in its good transport connections to the east. Transit traffic through Finland to Russia is growing rapidly. Russia is the fourth most important country for Finnish exports. The value of transit traffic through Finland to Russia is, however, almost four times higher than the value of Finland's own exports to Russia. According to a study by Sitra, the Finnish Innovation Fund, the transit traffic sector employs about 4 000 people in Finland, for example, in cargo handling, warehousing, shipping and transport operations. Finnish logistics service companies' annual revenues from transit traffic amount to over 300 million euros.

Transport times should be made more predictable, as ever-better punctuality is expected from shipments. Border-crossing formalities at the Russian border make the prediction of journey times more difficult, especially for international road freight. It is intended that there will be a changeover to electronically transmitted customs documents for transport between the EU and Russia at the beginning of 2009. This would make customs clearance more efficient, speed up border crossings and reduce the length of queues at border stations in south-eastern Finland by about 20 kilometres.

Tourism has great potential

Tourism is important for the Finnish economy and for employment, and it has high growth potential. Tourism accounts for about 2.4% of Finland's GNP. About 60 000 people are employed in the tourist sector.

Functional transport connections and good access to tourist resorts promote tourism. Because of the long distances involved, good connections are particularly important for tourism in Lapland and eastern Finland. Tourism is one of the main branches of industry in Lapland, and being a labour-intensive sector it is very significant for the regional economy. Tourism employs about 5 000 people in Lapland. The proximity of an airport is an important competitive factor for tourist resorts. There are five airports in Lapland: Enontekiö, Kittilä, Ivalo, Kemi and Rovaniemi. Peak seasons include Christmas and New Year, the winter skiing holiday months and the summer. The number of international charter-flight tourists is five times higher than it was a decade ago. A total of 150 000–200 000 international tourists visited Lapland in December 2007.

Almost half of all of nights spent in Finnish hotels by international tourists were in the Helsinki region. The most popular tourist attractions in Finland are also located in Helsinki. The international trend towards short city holidays is also evident in Helsinki.

The number of Russian visitors has passed the numbers of Germans and Swedes to become the largest group of international tourists visiting Finland. The annual growth in numbers has been as high as 30%. About 100 000 Russian tourists visited Finland in January 2008. The most popular destinations for Russian tourists include towns and cities in the vicinity of the border, Helsinki, the Finnish Lake District and ski and spa resorts in Lapland, Kainuu, North Savo and North Karelia. Most of the Russian tourists come to Finland by car, arriving through the border stations in south-eastern Finland. Congestion during peak periods causes traffic safety problems. Information for drivers and passengers should be improved, taking into account the different traffic cultures in Finland and Russia.

Assessment of the situation

- *A functional transport system and long-term transport policy enable the favourable development of business life and economic growth.*
- *Logistics costs in Finland should be reduced relative to those of competitor countries.*
- *Well-functioning transport links and services promote positive regional development.*
- *A logistics strategy drawn up in accordance with the government programme should become an integral part of the wider development of policy for trade and industry.*

3 TRANSPORT POLICY AND CLIMATE CHANGE

Guidelines in the Government Programme of Prime Minister Vanhanen's second Cabinet

- *The Government is of the opinion that Finland, together with the rest of the European Union, must bear a heavy responsibility in combating climate change.*
- *Determined action will be taken to curb the growth of energy consumption.*
- *Transport and traffic are responsible for climate change to a significant degree. The energy saving and climate objectives set for the transport sector will be achieved by reducing the environmental damage caused by traffic and by promoting public transport, environment-friendly modes of transport and by switching to biofuels. The environmental impact of traffic and transport will be contained by urging the transport industry to take voluntary measures to save energy, improving efficiency in logistics, promoting public transport and by reducing carbon dioxide emissions from private vehicles.*
- *The creation of integrated community structures and supplementary construction will be promoted.*

Divisions of governmental responsibilities in defining climate policy for transport

Greenhouse gas emissions from traffic can be affected by the measures of several government ministries. The responsibilities of the Ministry of Transport and Communications include, for example, traffic management, new transport projects and vehicle technology as well as transport legislation excluding taxation. The Ministry of Finance is responsible for transport taxation policy, the Ministry of the Environment is responsible for regional structure and community structure (which affect transport needs), and the Ministry of Employment and the Economy's responsibilities include, for example, the development of biofuels. In addition to

measures by the state administration, municipal land-use policies and the activities of business and individuals all have impacts on greenhouse gas emissions.

Climate policy in the transport sector is addressed in three Government projects which are being prepared. The Report on Transport Policy is the first to be completed. The Climate and Energy Strategy, which covers all sectors, will be completed in the summer of 2008 and the Foresight Report on Climate and Energy Policy will be completed in spring 2009. The time horizon of the Report on Transport Policy extends to the year 2020. The Foresight Report on Climate and Energy Policy includes guidelines for the climate policy in the transport sector beyond the year 2020.

This Report examines the general guidelines of climate policy in the transport sector and the efficiency of the main instruments of transport policy in mitigating climate change. The material that has been drawn up will be used in the preparation of the Climate and Energy Strategy and the Foresight Report on Climate and Energy Policy, which cover all sectors. Finnish climate policy in the transport sector can be defined in more detail after a joint position on climate policy has been reached at EU level. This will not occur until the French Presidency of the EU, at the end of 2008.

Greenhouse gas emissions from traffic in Finland

Carbon dioxide is the most significant greenhouse gas contributing to climate change (about 80% of greenhouse gas emissions). Traffic produces about 13 million tonnes of carbon dioxide emissions annually in Finland. Traffic accounts for about one-fourth of carbon dioxide emissions and about one-fifth of greenhouse gas emissions in Finland. Road traffic has a share of about 90% of greenhouse gas emissions from traffic. In turn, private car traffic has a share of about 60%, and lorry traffic a share of 23%, of road traffic emissions. Railway traffic has a share of about 2% of emissions. Carbon dioxide emissions constitute a share of about 96% of greenhouse gas emissions from traffic, so it is possible to focus on these emissions in the future.

International agreements for reducing emissions

According to research, the negative effects of climate change start to grow significantly if the climate warms more than two degrees above the temperature level of the pre-industrial era. Studies report that if present trends continue, the limit beyond which the two-degree rise in temperature can no longer be avoided will be reached during the next couple of decades. The two-degree limit for temperature rise will not probably be exceeded if greenhouse gas emissions could be reduced at least by half by 2050.

Efforts are being made to mitigate climate change through international agreements. Finland is a contracting party both to the United Nations Framework Convention on Climate Change (the UN Climate Treaty), which was launched in 1992, and to the supplementary Kyoto Protocol of the year 1997. The period of validity of the Kyoto Protocol will expire in 2012. According to the Protocol, the EU will reduce carbon dioxide emissions by 8% from 1990 to 2012. Finland's goal from 1990 to 2012 (the Kyoto Protocol) is to maintain carbon dioxide emissions at the level of 1990.

Discussions on a new agreement are underway. A decision was reached at the United States Climate Change Conference in Bali in December 2007 to start negotiations on a new international agreement concerning the period following 2012. In the meeting, the line was taken that industrial countries should reduce emissions by 25–40% from the 1990 level by 2020. In the concluding Conference, to be held in Copenhagen in 2009, the aim is to agree on global goals for reducing greenhouse gas emissions after 2012.

Trading system for emissions allowances

A considerable number of the sources of greenhouse gas emissions, including energy production and parts of industry, come within the sphere of the trading system for emissions allowances that was adopted by the EU in 2005. In this system, the total quantity of emissions is limited by allocating emissions allowances to industrial plants and other sources of emissions. Charges must be paid for exceeding the limits of emissions allowances.

Air transport will not be included in the EU Emission Trading Scheme until the beginning of the year 2012. The special problems of air transport include the rapid increase of emissions and their multiple effects on climate compared, for example, to equal amounts of carbon dioxide emissions from car traffic. The preparation of a climate policy for sea transport in the EU will start on the basis of a study of alternatives to be published by the Commission in 2008. Carbon dioxide emissions from other transport sectors will be reduced, for example, by traffic management and control and by promoting the use of environmentally friendly vehicle and fuel technology through taxation policy and regulations.

EU guidelines

In the EU summit of March 2007, it was decided that carbon dioxide emissions will be reduced by 20% from the 1990 levels by the year 2020. The EU is ready to raise this goal to 30% for the year 2020, if the rest of the world is committed to comparable reductions of emissions. The Commission published its Climate Action and Renewable Energy Package in January 2008, and this includes:

- A proposal for spreading the 20% carbon dioxide emission reduction goal approved in March 2007 over the Member States. The Commission proposes a 16% emissions reduction goal for Finland in the sectors not covered by the EU Emission Trading Scheme (transport, agriculture, construction and housing).
- The goal of increasing the use of renewable energy sources and a proposition for spreading the increase over the Member States. A commitment was made at the EU's March 2007 summit to increase the share of renewable energy sources to 20%, which requires a considerable increase in the share of renewable energy sources in all countries. The Commission proposes a goal for Finland to increase the share up to 38% by the year 2020.
- A review of the Emissions Trading Directive, so that auctions will become the most important method for allocating emissions allowances in all sectors of emissions trading.

As a minimum long-term goal, the Commission proposes that carbon dioxide emissions will be reduced by half by the year 2050. The Commission also proposes that in accordance with the guidelines prepared earlier in the EU Summit, the EU is ready to adopt the 30% emission reduction goal for the year 2020, if the rest of the world is committed to comparable

reductions. The reading of the Climate Action and Renewable Energy Package has started in the working groups of the Council and the European Parliament. Political agreement on the Climate Action and Renewable Energy Package will not be reached until the French Presidency of the EU in the end of 2008.

Reduction of carbon dioxide emissions from traffic

According to the burden-sharing principle of the EU's Climate Action and Renewable Energy Package, Finland should reduce carbon dioxide emissions by an average of 16% during the years 2005–2020 in the sectors not covered by the EU Emissions Trading Scheme. This goal would be very challenging for the transport sector: a maximum of 10.9 million tonnes of carbon dioxide emissions would be permitted in 2020. At present, the quantity of annual emissions is about 13 million tonnes and this is estimated to increase to 13.9 million tonnes by the year 2020 unless new measures are taken. The reduction required in the year 2020 will be 2.5–3 million tonnes depending on technological development and the share of biofuels.

The VTT Technical Research Centre of Finland has studied the efficiency of measures for reducing carbon dioxide emissions. Examples of methods for reducing carbon dioxide emissions from traffic are presented in the following table. The most efficient measures for reduction include those which have an extensive impact on the transport system and the vehicle fleet. Estimates about the efficiency of measures are indicative because such factors as the assumptions included in emission calculations, the development of the operating environment, the time periods studied, and other measures taken at the same time, all have significant effects on the final result. In any case, it is clear that the measures outlined in the table below, or other similar measures, should be adopted.

Examples of measures for reducing carbon dioxide emissions from traffic

Measure	Reduction of the amount of carbon dioxide emissions
Promoting urban infills	Annually about 0.2 million tonnes by 2020 and 1.1 million tonnes by 2050, when need for transport decreases
Promoting public transport by e.g. favouring rail investments	Direct impact of about 0.2 million tonnes/year due to decrease in private car traffic. Indirect long-term impacts are clearly bigger and a consequence of the fact that investments in public transport guide the use of land.
Increasing use of renewable energy sources	0.5–1.5 million tonnes/year by increasing the use of biofuels, depending on the amount of emissions during the life cycle of biofuels.
Full utilisation of vehicle technology	About 2 million tonnes/year by 2025, if the EU regulations proposed by the Commission are adopted and if the vehicle fleet becomes less polluting through renewal.
Transport pricing	0–1.4 million tonnes/year, depending on the effect of road charges on kilometres travelled.
Influence on attitudes	Total of up to 2 million tonnes by 2050, if people can be persuaded to adopt more environmentally friendly choices of means of mobility.

Measures to reduce emissions concern all modes of transport. Today, private car traffic accounts for most of the emissions and thus it is possible to achieve the greatest reductions from these emissions. Technological development and renewal of the vehicle fleet will reduce emissions from cars, but so slowly that other measures are also needed. It should be considered in decision making that there are practically no alternatives to cars in areas which

do not have adequate supply of public transport services. When considering measures for lorry traffic, impacts on the competitiveness of business life should be taken into account.

The energy efficiency agreement in the freight transport and logistics sector was signed in January 2008. It aims at 9% energy savings by the year 2016. The corresponding agreement for public transport is currently under review. Energy consumption of lorry and van traffic has grown by over 7% during this millennium. The main reason behind this growth is smaller sizes of shipments than before. One way to mitigate consumption is to make freight transport and warehousing more efficient. The aim is to attract at least 60% of shipping companies and registered vehicles under the voluntary energy efficiency agreement. The agreement also concerns railway freight transport.

Carbon dioxide emissions from traffic can also be significantly reduced in the long run through changes in attitudes. The goal is that people would choose smaller cars and models with lower fuel consumption, decrease the use of private cars on short trips and adopt economical driving habits. Long-term education work and campaigning are needed in order to change attitudes. New legislation for amending the Vehicle Tax Act and Car Tax Act, which took effect in the beginning of the year 2008 and which introduced environment-based taxation, will enable the reduction of greenhouse gas emissions also through fiscal measures in the future, even if the currently applied levels of taxation would not reduce emissions.

Transport and community structure

Almost half the population of Finland lives in the ten largest urban regions. In urban regions, the greatest population growth occurs in the fringe areas and surrounding municipalities. This leads to a dispersal of community structure and growing traffic volumes. The reason behind this development is the high price level of housing in the city centres, and the fact that spacious single-family housing close to the countryside, of the sort which is particularly appreciated by families with children, is in short supply close to the urban centres. In order to enhance the competitiveness of public transport in urban regions, land use and transport system development should contribute to urban infill. The location of new areas should allow for the development of functional public transport services which can compete with private car traffic.

Rail transport projects are advantageous as far as climate change is concerned, particularly indirectly, as they enable the development of community structures that are sustainable with regard to climate change. The socio-economic feasibility of rail transport projects will improve as compared to road projects, if measures for mitigating climate change reduce the growth of road traffic volumes, and in turn promote the growth of railway transport. This should be considered in the profitability calculations for transport investments in the future. Rail investments should be foreseen early enough to be able to plan for efficient land use.

Municipalities and the Regional Councils are responsible for land-use planning. Due to the great number of actors involved, the state also has the important task of integrating community structure development measures. Clear guidelines concerning all actors are needed as a starting point for planning land use. The Government intends to decide on the revision of the National Land Use Guidelines in the spring of 2008.

Special issues in the Helsinki Metropolitan Area and large cities

The Housing Policy Programme drawn up in accordance with the government programme, the guidelines for urban policy in the Helsinki Metropolitan Area, and the joint letter of intent between the state and the Metropolitan Area municipalities for increasing the supply of housing and construction sites guide the development of community structure in urban regions in a sustainable direction with regard to climate policy. Essential measures for integrating housing and transport policy include:

- Planning of new areas alongside good public transport connections and particularly alongside railway connections.
- Implementation of residential areas and transport infrastructure as one seamless system in cooperation between municipalities and the state so that the opportunities provided by the development of the transport network are fully utilised in promoting urban infill.
- Existing railway connections will be utilised and the opportunities provided by the Ring rail line and western metro rail line will be prepared for in the zoning of residential areas in the Helsinki Metropolitan Area. The area included in the transport system plan of the Helsinki Metropolitan Area will be extended to include 14 municipalities. The plan and the related letter of intent will be revised.

Impacts of climate change on transport infrastructure

Climate change affects the transport environment and the maintenance of transport infrastructure. More frequent storms and windy conditions cause problems for air and sea transport. The period of open water becomes longer, but winter ice conditions become more difficult due to increasing amounts of pack ice. Warm winters with variable weather increase the need for anti-skid treatment of roads and airports, especially near the coast. With climate warming, the area requiring more efficient winter maintenance extends further into the interior of the country. Alternating rainy and icy periods during winter months also make railway traffic control devices more liable to malfunction.

As climate change proceeds, the existing planning standards for transport infrastructure are not necessarily suitable any more. For example, the depth of freezing of a road or railway track may change. This should be considered in planning standards. Research information is needed about the impacts of change in order to be prepared for climate change.

Assessment of the situation

- *According to the proposal of the EU Commission's Climate Action and Renewable Energy Package, Finland should reduce emissions from traffic by 16% during the years 2005–2020. This goal is very challenging. Political agreement on the EU Climate Action and Renewable Energy Package will not be reached until the French Presidency of the EU in the end of 2008.*
- *Emissions from private cars are reduced through technological development and renewal of the vehicle fleet, but the goals set for reducing emissions also call for other measures. The necessity of using private cars should be considered in decision making in regions which do not have adequate supply of public transport services. When considering measures for lorry traffic, impacts on business competitiveness should be taken into account.*
- *The promotion of urban infill is an essential measure of transport policy for mitigating climate change in the long run. It contributes to lower traffic volumes and the increased use of more environmentally friendly modes of transport.*
- *The promotion of urban infill is an efficient, but slow-acting measure for reducing traffic volumes and emissions. The necessary measures should be started quickly, as there is a time delay of 10–20 years before any impacts can be seen. Clear guidelines concerning all actors are needed as a starting point for regional and land-use planning. The Government intends to decide on the revisions of the National Land Use Guidelines in spring 2008.*
- *Land use and the transport system should be developed as a single seamless system in a way that the opportunities provided by transport network development are fully utilised in promoting urban infill.*
- *The promotion of railway traffic and public transport is a precondition for the development of sustainable community structure with regard to climate change. Railway traffic will be emphasised more in decision-making about transport infrastructure projects.*
- *Climate change affects, for example, the need for winter maintenance of roads and railways. Frequency and severity of freezing and flooding may also change, and this should be considered in planning standards.*

4 PROMOTING PUBLIC TRANSPORT AND PEDESTRIAN AND BICYCLE TRAFFIC AS ATTRACTIVE ALTERNATIVES

Guidelines in the Government Programme of Prime Minister Vanhanen's second Cabinet

- *The central government will contribute to the financing of public transport in large cities, provided that such funding increases the use of public transport services, improves the competitiveness of this mode of transport and that the cities themselves invest in public transport more than in the past.*
- *The Act on Licensed Passenger Transport Services on the Road will be amended to harmonise it with the EU regulations with due regard to Finland's special conditions.*
- *The Government will increase accessible public transport and create more favourable conditions for bicycle and pedestrian traffic.*

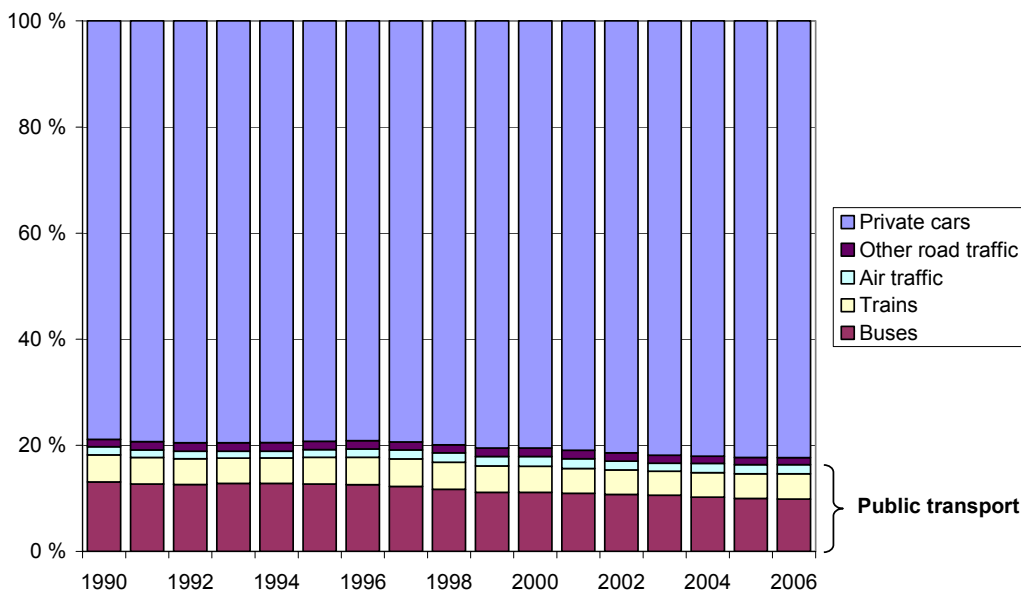
- *The efficiency of public transport systems will be enhanced by improving the flow of traffic, developing the employer-subsidised commuter ticket system, reviewing the regional planning procedures and purchasing policies.*
- *Purchased rail traffic services will be developed to respond to regional passenger needs more efficiently.*

Development of the market share of public transport

Public transport accounts for about 15% of domestic passenger-kilometres travelled. Public transport's market share has been decreasing year by year, while the share of private car traffic has increased. Bus traffic passenger-kilometres have decreased by about 10% since 1990. Railway traffic and air traffic have slightly improved their positions. The growth in passenger traffic consists almost entirely of the increase in private car traffic.

Many factors affect the competition between public transport and private car traffic. They include such matters as community structure, people's assessments and preferences, the costs of alternative modes of transport and subsidies to public transport as well as transport charges and taxes. Urban infill favours public transport, while dispersed structure favours car traffic.

Passenger-kilometres in Finland 1990–2006: percentages by means of transport



Promoting the competitiveness of public transport

Measures for promoting the popularity of public transport are presented below. Changes in prices or taxation, for example, have a rapid impact. Promoting urban infill has a slower impact on the improvement of public transport operating conditions.

Legislation should be revised so that it is **possible to plan public transport services as regional systems across municipal borders**. The existing fragmented and multi-level administrative model of public transport prevents the development of public transport services that meet people's actual needs for mobility. If the process of opening public transport markets to competition is

continued at the same time, the preconditions for continuous development and more efficient operations will be created.

Urban infill should be promoted by taking care that high-quality public transport connections are developed for new residential areas as well as for office areas and service centres. Legislation for building and construction should be revised so that in large urban areas the services generating significant car traffic volumes and the major concentrations of workplaces are located in the vicinity of railway stations or bus traffic corridors. Transfers from private car to public transport should be made flexible by providing adequate park-and-ride possibilities. Carpools and ridesharing schemes should also be developed.

Employer-subsidised commuter tickets should be made an attractive and competitive alternative to company cars. The use of employer-subsidised commuter tickets can be promoted, for example, by lowering their taxation value or setting a limit in euros for the tax-free proportion of it. Taxation can be revised so that travel expenses can also be deducted for the tax-free proportion of the commuter ticket. In the same way as luncheon vouchers or company car benefits, employer-subsidised commuter tickets can be considered as a bearer benefit. The development of ticket types suitable for occasional travellers promotes the use of employer-subsidised commuter tickets. Company benefits for cycling should also be promoted.

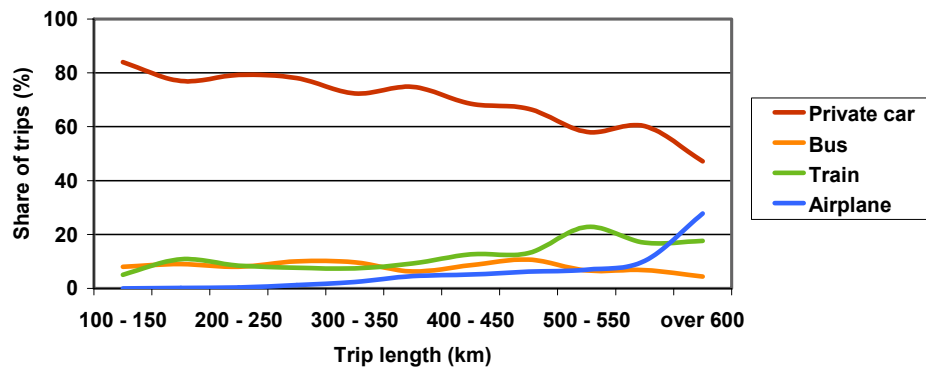
When making decisions on the **allocation of subsidies to public transport in large cities**, consideration should be given to the need for reducing the car traffic volumes flowing to city centres from neighbouring municipalities. The competitiveness of bus and railway traffic improves with an integrated ticketing system in a commuting area and ticket prices decrease. The level of public transport service should be particularly improved with regard to commuter traffic, which has the largest number of potential users. Travel centres' level of comfort and supply of services should be further developed, including their passenger information and park-and-ride services.

Other ways of promoting the competitiveness of public transport include taking such measures as improving the levels of service of regional bus lines, better marketing of public transport services, and the active and focused development of the passenger rail system.

Long public transport trips

Private cars are used for about 85% of trips with a length of 100–150 kilometres. The private car percentage decreases with increasing trip length. Trains and buses have roughly equal shares of trips with a length of 150–400 kilometres, but on shorter trips buses are the more common choice of transport mode. Trains are used more in longer trips. The market share of air traffic also increases with trip length.

Modal shares of trips over different distances



The production of long-distance public transport services is primarily market-based. The state spends about 100 million euros a year in purchasing rail, bus and air traffic services for routes which cannot be financed by ticket revenues. Budgetary appropriations are also used for purchasing ferry traffic services in the Merenkurkku (the Quark) region and in the archipelago.

The state secures the basic level of service of long-distance traffic by purchasing public transport services when market-based services cannot be provided. Only one mode of transport can be sufficient for achieving this basic level of service. The regions are mainly responsible for the services that exceed the basic level of quality in long-distance public transport. The state can support this type of traffic in particular cases, for example, through regional development appropriations.

Levels of service in long-distance public transport

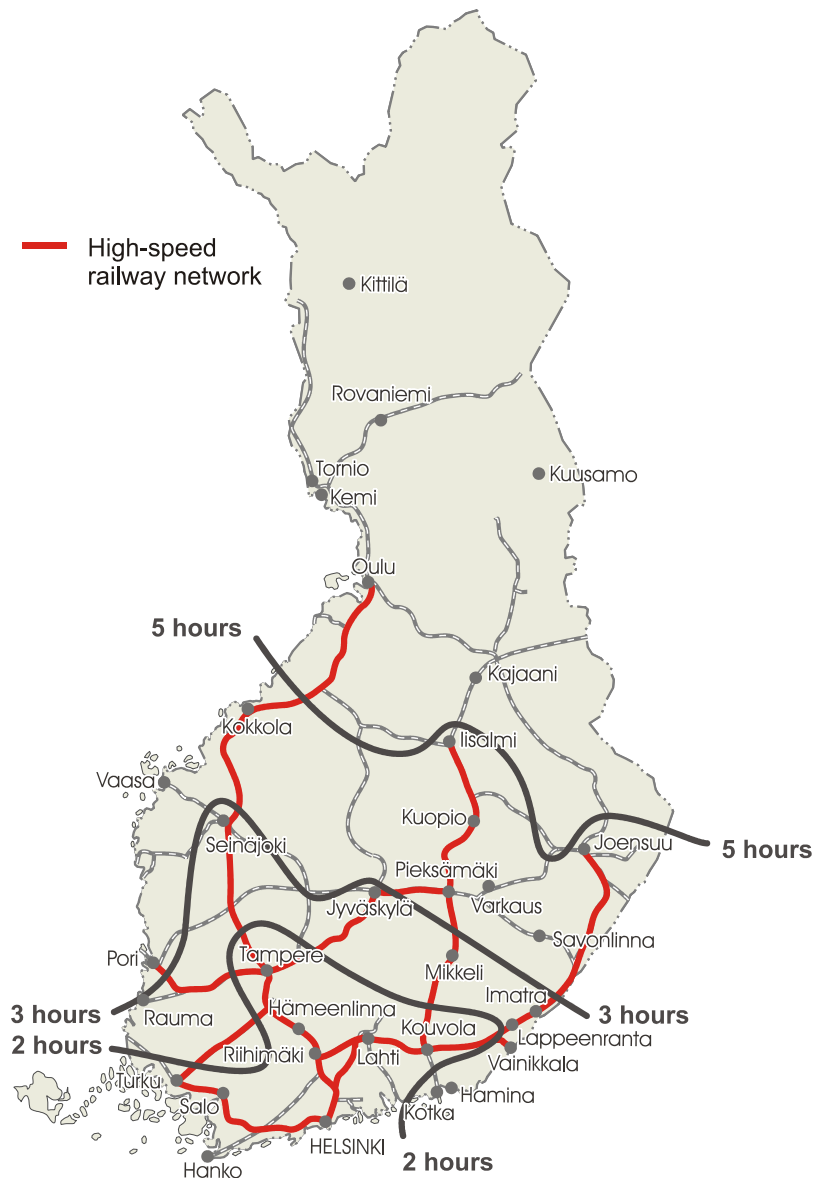
Basic level of service (the state secures public transport operations by purchasing services)	
It should be possible to make a round trip with no transfers between main regional centres and the Helsinki Metropolitan Area, or <i>vice versa</i> , within one day.	<ul style="list-style-type: none"> - Arrival on weekdays before 9.00 and departure for the return trip at 15.00 at the earliest. - On weekends, Friday evening and Sunday evening connections are required.
It should be possible to make a direct round trip or round trip with transfers between other regional centres and the Helsinki Metropolitan Area within one day.	<ul style="list-style-type: none"> - Arrival in Helsinki on weekdays before 10.00 and return connection in the afternoon. - At weekends, Friday evening and Sunday evening connections are required in both directions.
It should be possible to make a business trip between the largest regional centres within one day.	<ul style="list-style-type: none"> - Possibility for a stay of at least three hours at destination during normal office hours.
All regional centres should have a connection to the centre of the neighbouring region within one day.	<ul style="list-style-type: none"> - Connection is required at least from the smaller centre to the larger centre. - Arrival on weekdays before 10.00 and return connection in the afternoon.

Special level of service (can be provided by regions if they so wish; use of state regional development appropriations is possible after case-specific consideration)

Feeder connections from the largest regional centres to international flights without an overnight stay in Helsinki.	<ul style="list-style-type: none"> - Connection to the Helsinki-Vantaa airport on weekdays before 7.00 and return connection after 22.00
Feeder connections from other regional centres to international flights so that a maximum of one overnight stay is needed in Helsinki.	

The precondition for purchasing air traffic services to a particular destination is that travel time to this destination by high-speed railway exceeds three hours. For example, Lappeenranta, Mikkeli, Jyväskylä and Seinäjoki do not meet this criterion, but Savonlinna, Varkaus and Pori do conform to the requirement.

Travel time from Helsinki by rail



Public transport in urban regions

Residents in large cities – the Helsinki Metropolitan Area and the Tampere and Turku regions – frequently use several modes of transport. The Helsinki Metropolitan Area has the largest number of regular users of public transport, and correspondingly less pedestrian and bicycle traffic than elsewhere. The cities of the Helsinki Metropolitan Area together with Tampere

and Turku have spent a total of about 180 million euros a year on financing public transport. The Government has decided that starting from 2009 the state will participate in the financing of public transport in large cities.

Public transport services in cities are usually either regular services financed by ticket revenues, or contractual services mainly serving internal traffic demand in densely populated areas. Contractual services are purchased using the principle of “net price”. Operators plan the service supply and take the risk of insufficient ticket revenue. Public transport has weakened most in the smaller towns and cities, where the number of passengers has decreased by 10% over the past decade.

With regard to travel time and price, public transport need to be a competitive alternative to private car traffic in the Helsinki Metropolitan Area as well as in Tampere and Turku. Travelling without a car should be easy. Good levels of public transport service are also important in the regions around cities such as Oulu, Lahti, Kuopio and Jyväskylä, particularly on commuter and trunk routes. The main goal in other urban regions is to ensure possibilities for mobility by providing a basic level of public transport services. Improved levels of services can also be considered for commuter and trunk connections.

Transport in sparsely populated areas

Because of the remoteness of residences and the ageing of the population, it is difficult to maintain transport services based on regular schedules in sparsely populated areas. A majority of everyday trips will be made by private car in the future too. Households without cars thus pose a particular challenge. When the preconditions for public transport services weaken, people become more dependent on car transport provided by outsiders. At the same time it is important to improve taxi services.

The current practice, whereby regular transport services are supplemented by transport services purchased by the State Provincial Offices and municipalities as well as by chartered services (mainly for school transport) has led to poor coordination of public transport. In sparsely populated areas it is difficult to satisfy reasonable needs for public transport services which ensure satisfactory connections for everyday activities. State and municipal financing should be examined as an integrated and comprehensive whole, transcending municipal boundaries. For example, the possibilities of demand-responsive public transport, ridesharing and “neighbour aid” to satisfy the mobility needs of citizens are evaluated in a report which is being prepared by a special enquirer appointed by the Ministry of Transport and Communications and will be completed in September 2008.

Transport links that serve routes to work, school and interchanges, and provide possibilities to visit a nearby town or important regional service centre, should be safeguarded in public transport between municipal centres and other densely populated areas. The aim is for everyone to be able take care of their everyday needs and wants in a municipal centre or other service centre at least twice a week. The supply of public transport services should be as regionally comprehensive as possible. Legislation does not impose any direct obligation on the state or municipalities to provide the level of service of public transport outlined above. But the municipalities have obligations connected with the arrangement of transport under some special statutes, for example in the Basic Education Act and in the Services and Assistance for the Disabled Act.

Pedestrian and bicycle traffic

One-third of peoples' daily trips are made on foot or by bicycle. Walking and cycling have positive effects on physical, psychological and social well-being. Pedestrian and bicycle traffic is in the strongest position in small towns. Improving the conditions of pedestrian and bicycle traffic also promotes public transport, because in practice the use of public transport is almost always connected with walking and cycling. Short-distance car traffic can also be replaced by pedestrian and bicycle traffic.

Municipalities are responsible for most of the pedestrian and bicycle routes. The Finnish Road Administration is responsible for pedestrian and bicycle routes along public roads as well as for arranging intersections between public roads and pedestrian and bicycle routes. Pedestrian and bicycle routes which intersect with public roads are often needed as the result of land use development in municipalities. Currently, very few of the kinds of investments in pedestrian and bicycle traffic needed by municipalities can be implemented, since financing for basic road infrastructure management is primarily allocated to essential maintenance work. The technical standards for pedestrian and bicycle routes should be more flexibly adapted to prevailing mobility needs, instead of the routes' construction being based on the same formal standards regardless of circumstances.

The physical conditions for pedestrian and bicycle traffic can be decisively improved by land use and zoning. In compact city centres, the preconditions for pedestrian and bicycle traffic are usually less favourable than those in peripheral suburbs or for routes between suburbs. On the other hand, trips are shorter in city centres. Walking and cycling are encouraged by pleasant environments.

User needs should be considered more carefully than previously. For example, children's possibilities for personal mobility should be promoted through community planning measures. This way of thinking is further supported by the fact that habits of personal mobility adopted at a young age often continue into adulthood. Elderly pedestrians are troubled by such things as large number of cars and poor lighting conditions on pedestrian routes.

Accessibility in travel chains

The needs of people with mobility impairments should be taken into account in traffic. In spite of some positive development, traffic environment and transport services still provide inadequate services to the weakest user groups in traffic. For example, accessible travel chains or routes do not yet exist. Accessibility of and within travel chains will become ever more important as the proportion of older people in the population increases. Due to high costs, accessibility cannot be provided in all travel centres, and thus some travel needs must be fulfilled by special arrangements also in the future. Instead of providing special solutions for people with mobility impairments, the primary goal is to promote a safe traffic environment and high-quality services which are suitable for everyone. All population groups benefit from an accessible traffic environment.

Park-and-ride areas should be located near travel centres and have the proper dimensions. The construction of travel centres should be promoted through zoning measures.

Assessment of the situation

- *The attractiveness of public transport should be promoted in order to increase its market share. If sufficient market-based public transport services cannot be created, the basic level of service must be secured by purchasing transport services.*
- *A robust public transport system alleviates congestion in large urban regions and decreases the need for investments in transport infrastructure. There is less need for special transport services in the educational, social and health sectors, which leads to savings in public assets.*
- *Land-use development should support public transport. The promotion of urban infill is particularly necessary and new construction should be concentrated along the main public transport routes.*
- *In urban regions, residents' movements and activities transcend municipal borders and public transport should be developed accordingly. Public transport services should be planned and produced as large entities, both in cities and in sparsely populated areas.*
- *In sparsely populated areas, it is difficult to provide satisfactory public transport services which secure connections to places where people go to conduct their affairs. Thus, for example, the possibilities of demand-responsive public transport, ridesharing and "neighbour aid" to satisfy mobility needs are to be studied.*

5 FOCUS ON TRAFFIC SAFETY

Guidelines in the Government Programme of Prime Minister Vanhanen's second Cabinet

- *The Government's goal is to allocate, during the electoral period, sufficient funding for maintaining and managing the transport facilities to ensure an adequate standard of service and safety.*
- *Full use will be made of the potential offered by advanced information and communications technology in road safety education.*
- *The Government will prepare a programme for improving maritime safety on the Baltic Sea.*
- *Vessel traffic safety on the Baltic Sea will be improved by enhancing the monitoring systems, the reliability of the ice classification system and safe navigation in cooperation with international partners.*

Road safety

Road safety has improved slowly during the past decade. The period before that was very favourable. There have been 350–400 fatalities per year in traffic accidents during this decade. The previous Government's resolution on traffic safety, in spring 2006, set the goal of there being at most 250 fatalities in traffic accidents in 2010. The longer-term goal was for traffic safety to constantly improve so that there will be fewer than 100 fatalities per year in traffic accidents by the year 2025.

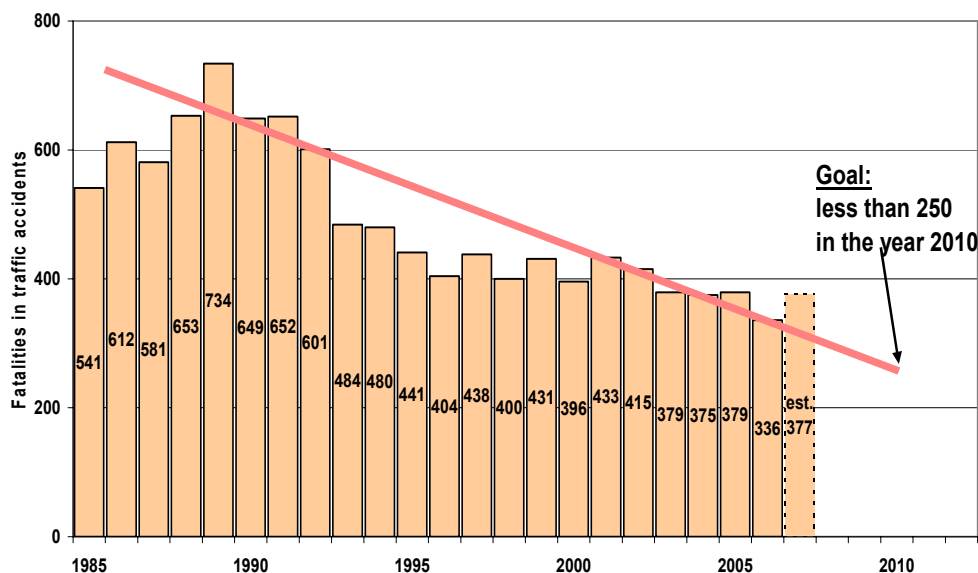
The most important measures included in the Government resolution are:

- reduction of the number of head-on collisions on main roads
- reduction of the number of pedestrian and bicycle accidents in population centres
- development of speed control
- reduction of the number of accidents involving the influence of drink or drugs
- reduction of the number of accidents involving professional drivers
- more efficient driver education and driving licence sanctions
- efficient utilisation of new technology.

The current Government is committed to the resolution and the related action plan. The proposed measures concern all the problem areas of traffic safety. The resolution has been actively implemented and some of the measures have already been carried out. However, it seems likely that the goal of reducing the number of fatalities in traffic accidents cannot be achieved without increasing the efficiency of measures, speeding up their implementation and adopting additional measures.

In October 2007, a working group of four government ministers proposed measures whereby traffic safety trends would be turned back in a positive direction during this government period. Amongst other things, the ministers agreed preliminarily on increasing automatic traffic surveillance and the participation of the municipalities in traffic control, earlier intervention regarding drink or drug problems, increased use of the alcolock device, and more consistent practice regarding the seizure of vehicle in cases of drunken driving. The preparation and implementation of these measures are already underway.

Fatalities in road traffic accidents 1985–2007



Head-on collisions constitute the most serious safety problem on main roads. There are good grounds to start implementing the median barrier programme on the most dangerous sections of main roads. In this programme, median barriers and overtaking lanes are constructed on single-lane main roads. Traffic safety in densely populated areas and their surroundings can be improved by traffic-calming measures that include structural solutions and speed limits.

The safety of children's personal mobility and their journeys to school should be ensured. At the same time, the mobility of elderly people is also improved.

There have been about 5 000 accidents a year involving elk or deer in recent years, about half of them being accidents with elk and half with deer. Such accidents cause 3–10 human fatalities per year. The aim is to reduce the number of accidents caused by elk or deer, and alleviate their consequences, by using road signs warning about paths used by the animals, clearing the roadside area for drivers to have a better view, and constructing deer fences. Reducing the elk and wild deer population to reasonable numbers is, however, the most efficient measure. The number of elk accidents per year corresponds quite closely to variations in elk populations. The road safety perspective should be taken into account in game management.

The attitudes of road users and the information they possess are important factors in road safety. Lifelong road safety education and effective communications are needed. Driver training should be brought up to date and the assessment of peoples' driving competence should be developed. It is important to be more effective, particularly in dealing with high-risk drivers.

Impacts on road safety should be considered at all levels of decision-making. The road safety perspective should be integrated as a permanent part of planning and decision-making in both private and public sectors. It should also be integrated into the quality and management systems of organisations.

Traffic surveillance is part of efficient traffic safety work. Surveillance can be made more efficient by increasing automatic traffic surveillance and having zero tolerance as the basic rule in speed control. The participation of municipalities in traffic surveillance work should be facilitated. Intelligent traffic solutions provide new methods of improving road safety. Technological solutions can supply the driver with important traffic information as well as provide support and make safe driving easier.

Improved road safety also requires better cooperation between the administrative sectors of the Ministry of Transport and Communications, the Ministry of the Interior, the Ministry of Justice, the Ministry of Social Affairs and Health and the Ministry of Education. Cooperation should have clear objectives, action plans, clear divisions of responsibilities, and sufficient resources. In October 2007 the Ministry of Transport and Communications appointed a special enquirer to evaluate road safety work in the state administration.

Level crossing accidents

Although rail traffic safety has developed in a positive direction, the number of level crossing accidents has not decreased for a long time. Level crossing accidents constitute the greatest safety risk in railway traffic. A total of about 50 level crossing accidents involving nine fatalities occurred in 2007. In international comparisons, Finland ranks as average, at most, regarding safety at level crossings. In comparison with the other Nordic countries, relatively four times more level crossing accidents occur in Finland. A considerable number of accidents occur on rail sections with low traffic volumes or low train speeds.

The number of level crossing accidents can be reduced by replacing level crossings with crossings with separate levels, providing warning signals and removing obstacles from lines of sight along the track. There are more than 3 700 level crossings in the state railway network. About 750 of them have warning signals. During the past decade, a total of about 950 level crossings have been removed from the main sections of passenger train track, and from sections of track on which hazardous materials are transported. The work will continue by removing an average of 50 level crossings per year, with the focus continuing to be on high-speed rail tracks. Efforts will be made to remove dangerous level crossings from other parts of the track network as well. Level crossings are not permitted on sections of track where train speeds exceed 140 km/h.

Assessment of the situation

- *The positive trend in traffic safety in recent decades has slowed down during this decade, and the road safety goal set out in the resolution drawn up by the previous Government will not be achieved without additional measures.*
- *Additional measures for improving safety are necessary in order to prevent head-on collisions, make traffic control more efficient, utilize technology and develop a safer national vehicle fleet.*
- *Traffic safety work transcends administrative boundaries by its nature. Reduction of the number of accidents requires extensive cooperation between different organisations and it should have clear objectives, action plans, a clear division of responsibilities and sufficient resources.*
- *Rail traffic safety has developed in a positive direction since the end of the 1990s. However, the number of level crossing accidents has not decreased for a long time.*

6 SMOOTH CONNECTIONS ACROSS BORDERS

Guidelines in the Government Programme of Prime Minister Vanhanen's second Cabinet

- *The Government underlines the importance of a smoothly working logistics system as a central element of Finland's competitiveness and accessibility. The Government will be closely involved in developing the logistics policy of the European Union to make it cater for the needs of Finland and its outlying regions more efficiently than today.*
- *Finland's logistic competitiveness will be improved with the aim of reducing the logistics costs all over Finland. The excessive margin on fairway dues will be removed, the transparency of the payments increased and the ice-breaking services secured at the present level by allocating adequate Budget resources for this purpose.*
- *A logistics strategy and a long-term economic and industrial policy programme covering all modes of transport will be prepared to promote the competitiveness of the Finnish transport cluster. The Government will be active in the efforts to solve the traffic problems on the Finland-Russia border.*
- *The Government will seek to secure the continuity of passenger and goods transports across the Quark in the Gulf of Bothnia. The Government will increase outlays for research and development in the transport sector. Aside from logistics research, special importance will be attached to control and information services which make use of telematics.*

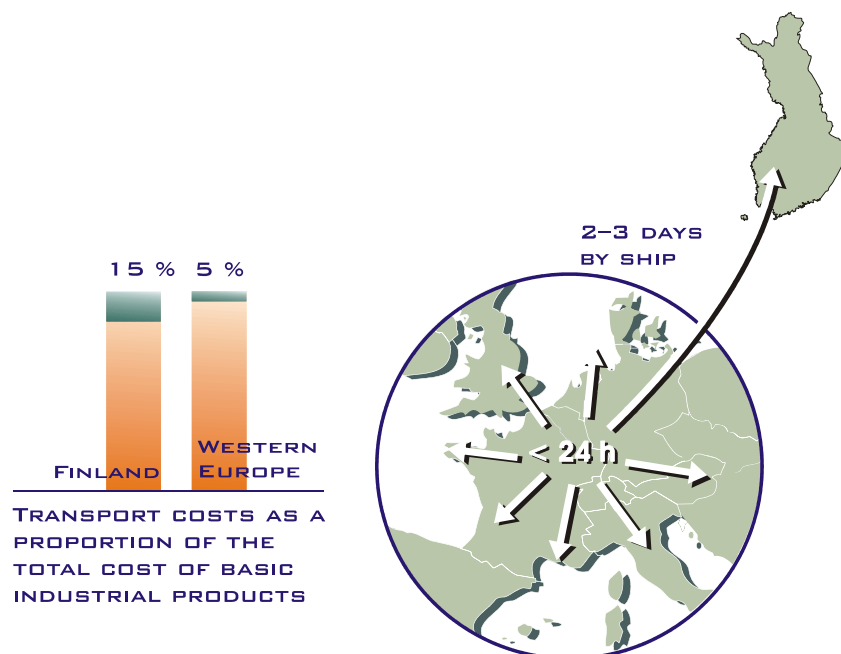
- *The Government will prepare a programme for improving maritime safety on the Baltic Sea. Vessel traffic safety on the Baltic Sea will be improved by enhancing the monitoring systems, the reliability of the ice classification system and safe navigation in cooperation with international partners.*

Special characteristics of transport in Finland

Over 80% of Finnish foreign trade freight volumes are transported by sea. Efficient sea transport is thus very important for the competitiveness of the Finnish industry. With long distances to the main market areas, difficult navigation channels in the archipelago, a rocky coastline and ice-bound conditions in winter, it is essential for Finland to have high-quality sea transport and efficient logistics systems. Finland is the only country in the EU where the entire coastal area is covered in ice for at least part of the winter. Icebreakers assist vessels visiting Finnish ports in winter.

The quality of transport connections is an important competitive factor for Finland. The long distances to the most important market areas and the severe climate increase the logistics costs of Finnish companies. Costs are some 2–3 times higher than those of companies in the core areas of the EU. In order to survive in the global economy, Finland has to compensate for its geographical weaknesses by having a more efficient logistics system than other countries. The development of fast, reliable and affordable transport connections is a vital necessity.

EU transport policy emphasises the alleviation of congestion, especially in road traffic. But instead of congestion, the challenge Finland faces is that of ensuring cost-efficient and punctual transport connections with continental Europe. Finland has actively brought logistics issues to the forefront of discussions in the EU and, mainly on Finland's initiative, the Commission published a comprehensive logistics package in October 2007. The Commission will also make a proposal regarding the Baltic Sea Strategy in June 2009 at the latest.



Finland should make good use of its favourable gateway position in air traffic and railway traffic. There are as many as 50 direct weekly flights from Helsinki–Vantaa airport to about ten destinations in Asia. About 40 direct and frequently-scheduled European flights provide feeder connections for air traffic to the Far East. Because of this, Finland's connections to European destinations are better than those of its neighbours in the Baltic area. The Finnish and Russian railways have the same rail gauge and there is a good connection from Finland to the Far East along the Trans-Siberian railway. The great advantage of this rail connection is the speed of transport service it offers. Total travel time by rail is an average of 16 days, whereas the sea voyage takes twice as long.

The Saimaa Canal connects the Lake Saimaa waterway system through deep-water channels to the Gulf of Finland. The annual freight volume on the Saimaa Canal has been about two million tonnes for a long time. Decreases in volumes of wood transports due to Russian export tariffs levied on timber have already been replaced by other shipments. The Saimaa Canal area lease agreement will expire in 2013 and negotiations for a new lease agreement are underway. Negotiations are scheduled to be completed during 2008.

EU transport networks

The decision about the existing main transport network of the EU, the Trans-European Network (TEN) was made in 2004. This decision identifies the transport connections which belong to the network (TEN maps) and provides a list of 30 TEN priority projects. The decision on the TEN networks will be reviewed at the turn of the decade. The Commission has started to prepare the review. As the basis for discussions, the Commission intends to publish its views about the review's starting points and goals in autumn 2008. The Government is preparing for discussion and negotiations by defining the Finland's national goals in the completion of the TEN transport network.

The TEN transport network (as decided in 2004)



The Nordic Triangle connecting the capital cities of the Nordic countries is one of the EU priority projects. In Finland, the Nordic Triangle includes the road and railway connection from Turku through Helsinki to the Russian border (Vaalimaa/Vainikkala). The deadline for completing each priority project is set out in the TEN decision. The Nordic Triangle projects in Finland should be completed before 2015. The Motorway of the Baltic Sea project is also one of the priority projects of the TEN transport network.

In addition to the TEN network, the main transport connections from the EU to its neighbouring countries are also part of the EU's transport networks. An agreement about these connections was made between the EU, its Member States and neighbouring countries in a High Level Working Group at the end of 2006. For example, the Russian part of the Helsinki–St. Petersburg–Moscow transport corridor and the connection from Narvik in Norway through Sweden and Finland to Russia and further on to the Far East are part of the network of the most important connections from the EU to its neighbouring countries. The aim of the Commission is to make a proposal on the development of these transport corridors in the summer 2008.

Sea transport is nearly always involved in the transport chain of shipments westward from Finland. Shipments from Finland to the “mainland” EU countries are usually transported across the Baltic Sea to the ports of Germany, Poland, Belgium and the Netherlands, from which they continue to their final destinations by rail or road. It is thought that the importance of the Baltic Sea route will continue in the future. Most of the transport flows between Finland and the Nordic countries are directed along the lines of the Nordic Triangle through Helsinki or Turku to Stockholm and to southern parts of the Nordic countries. The requirements for transport to more northern areas are met by sea connections across the Gulf of Bothnia and the “Bothnian Arc” along the northern coast of the Gulf of Bothnia. The rail section between Haparanda and Umeå, which is a continuation of the Bothnian Arc in Sweden, is currently being upgraded. When this project is completed, in the 2010s, it will also improve connections from northern Finland to Sweden.

The utilisation of natural resources and implementation of environmental projects in the Barents Area will increase the significance of the northernmost areas of Europe. The development of transit routes from the Barents Area and north-eastern Russia, for example, to the ports of the Gulf of Bothnia creates possibilities for industrial development in northern areas of Finland.

About 10 million tonnes of cargo per year are transported on the Murmansk–St. Petersburg railway line. This line primarily serves heavy industry, but it also carries large volumes of oil. The new Lietmajärvi–Kotshkoma rail connection reduces the distance from Murmansk and Arkhangelsk areas to the ports of the Gulf of Bothnia by over 500 kilometres and provides new opportunities for benefitting from transit traffic in Finland. The line is not yet in commercial use. A working group from the Ministry Transport and Communications is conducting a study on the development of border traffic connections between Finland and Russia in eastern and northern Finland. The working group’s report will be completed in spring 2008. In this context, studies are also being made as to how the interconnection of the Finnish and Russian railway networks in the north at Salla–Alakurtti would affect transport flows and regional development.

Finland’s most important international transport connections by land and sea are shown in the following figure. According to the TEN guidelines decided in 2004, the Nordic Triangle, the Motorway of the Baltic Sea and the railway connection through the Baltic countries to Warsaw are included in the EU’s priority projects. The Helsinki–Moscow connection and the connection from Narvik in Norway through Sweden and Finland to Russia are routes from the EU to its neighbouring countries. The decision on these connections was made in 2006 based on the proposal of the working group led by the former Commissioner for Transport, Loyola de Palacio. The development of other connections shown in the map is based on mutual cooperation between northern European countries.

Finland's most important international transport connections by land and sea



Maritime safety especially in the Baltic Sea area

Vessel traffic has increased rapidly in the Baltic Sea and the Gulf of Finland in recent years. Within the sea areas surrounding Finland, the biggest growth in transport volumes has occurred in the Gulf of Finland. This has been mainly due to the increase in transport of exports from the oil ports in Russia. Oil transports in the Gulf of Finland have more than tripled during the present decade. It is estimated that transport flows will further increase from the present annual volume of about 140 million tonnes to over 250 million tonnes by the year 2015. Furthermore, there is a lively passenger ferry traffic between Tallinn and Helsinki, carrying about six million passengers per year. Growing traffic volumes increase the risk of accidents. Vessel groundings or collisions may cause fatalities or serious environmental damage. For example, the oil spilt from a single oil tanker would contaminate the waters of the Gulf of Finland for a long time.

Maritime safety work is conducted at the international level in such organisations as the International Maritime Organisation (IMO) and the Baltic Marine Environment Protection Commission (HELCOM) and in the EU. In cooperation with Russia and Estonia, Finland maintains the mandatory Gulf of Finland Reporting System (GOFREP) for the international waters of the Baltic Sea. The system has worked well and plans for its further development are being prepared.

In accordance with the government programme, the responsible ministries will cooperate in preparing the Baltic Sea Maritime Safety Programme. This defines the main goals and measures for preventing accidents and improving vessel safety. The safety of vessel traffic in the Baltic Sea can be improved by, for example, developing traffic control systems and

navigation. Human actions play a part in about 80% of accidents at sea. Attention should therefore be paid to the professional knowhow and attitudes of the crew manning the ship's bridge. Ice conditions in the northern Baltic make navigation especially demanding.

The safety of vessels operating in the Baltic Sea can be promoted by measures taken by flag states and by port states. The safety of vessels operating under the Finnish flag can be promoted by controlling that Finnish vessels and their equipment are in good condition and that vessels have adequate number of qualified crew members. All measures that promote vessel safety also reduce the risk of environmental damage, since properly manned vessels in good condition are also safe with regard to environment.

Authorities in port states control the conditions and crews of foreign vessels visiting the ports. Inspections of vessels are based on international agreements and EU legislation. If necessary, a vessel in poor condition can be held at the port for repair work. The Baltic Sea countries can also totally deny a vessel access to a port. Closer cooperation between vessel control authorities in the Baltic region and better exchange of information would make activities more efficient. Maritime safety can also be improved through vessel traffic control and pilotage.

Assessment of the situation

- *The Baltic Sea separates Finland from the main market areas of the EU. The development of land-sea-land transport chains is therefore important for improving the smoothness of transport operations in Finnish foreign trade.*
- *The EU's Trans-European Network will be amended at the beginning of the 2010s. It is important for Finland that the main market areas of the EU can be reached in cost-efficient ways from all parts of the country.*
- *The utilisation of natural resources and implementation of environmental projects in the Barents Area increases the significance of the northernmost areas of Europe. Opportunities provided by the development of the Barents Area should also be considered in evaluating the transport network development needs of northern Finland.*
- *Finland should utilise its favourable position as a gateway for air and railway traffic. Helsinki-Vantaa airport is well located for transit traffic between continental Europe and Asia. The Finnish and Russian railways have the same rail gauge and there is a good freight transport connection from Finland to the Far East along the Trans-Siberian railway.*
- *It is estimated that annual oil transport flows in the Gulf of Finland will increase to over 250 million tonnes by the year 2015. There are significant passenger-ferry traffic volumes between Tallinn and Helsinki. Growing traffic volumes contribute to increasing risks of accidents. Vessel groundings or collisions may cause fatalities or serious environmental damage.*
- *Decisions on actions to improve maritime safety are made at the international level. According to the government programme, the Baltic Sea Maritime Safety Programme should set out the main goals, and define the measures, which Finland will promote in international cooperation, including the preparation of the EU Baltic Sea Strategy, and those which it will implement at national level.*

7 PROMOTING FUNCTIONAL TRANSPORT MARKETS

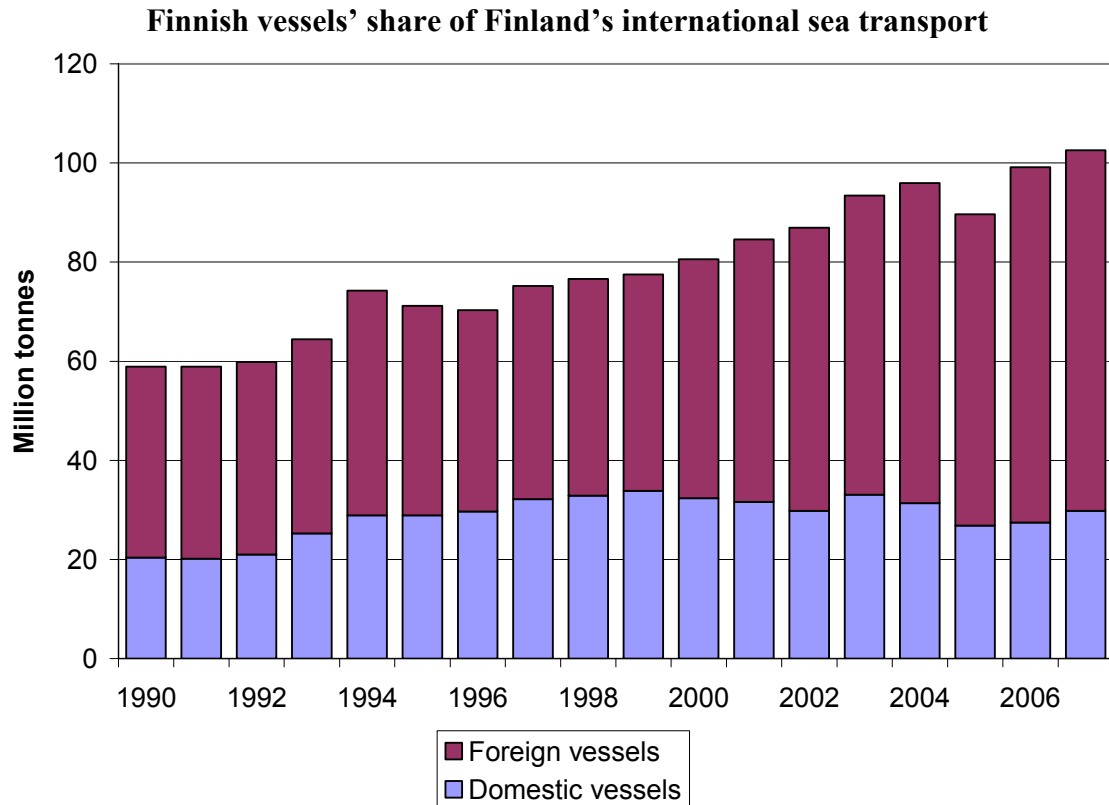
Guidelines of Prime Minister Matti Vanhanen's II Government Programme

- *The competitiveness of Finnish shipping services will be upgraded to the level of the most important competitors with the subsidies permitted under the EU regulations and by amending the taxation of shipping companies.*
- *The tonnage tax laws will be overhauled to ensure competitiveness. The possibility of using the system of general reserves will be evaluated.*
- *The objective of the maritime policy is to ensure the favourable development of the Finnish merchant fleet, the employment of Finnish seamen and the security of supply.*
- *Self-sufficiency in transport services essential to Finnish society will be secured under all circumstances.*
- *Preparations for competition in passenger traffic will be made in compliance with the community legislation and the timetable defined therein.*
- *The potential for introducing competition to the provision of passenger rail traffic services, particularly in the metropolitan commute-to-work area, will be assessed.*
- *Government regulation of the transport market will ensure that fleet operators offer safe and smooth traffic services.*
- *The Government will promote the single transport market within the European Union. The evolution of open, non-discriminatory transport markets will be supported, and measures designed to reduce the environmental impact of traffic and transport, to improve environmental safety, and to contain terrorism, will be promoted.*

The shipping industry

Sea transport is vital for Finnish foreign trade for geographical reasons. About 80% of foreign trade shipments – as much as 90% of exports – are transported by sea. Sea transport has increased year by year. In addition to the shipbuilding industry and the ports, ship-owning and operating is an essential part of the Finnish “maritime cluster”, which employs a total of about 50 000 people. The annual revenues from Finnish vessels in international traffic are about 1.1 billion euros.

Shipping is a global industry. It is developed in the framework of the International Maritime Organization (IMO). Freight charges are determined on the basis of international competitive bidding. The size of the Finnish merchant fleet, which mainly operates in international traffic, has declined, and the share of Finnish tonnage in sea transport has decreased at the same time. Domestic tonnage accounted for about 38% of imports and about 18% of exports in 2007.



It is important to have a domestic merchant fleet of sufficient size. It ensures the reliable, efficient and safe transport of goods involved in foreign trade in all circumstances, including exceptional winter conditions. Taking a cautious point of view, the low amount of tonnage under the Finnish flag is already on the threshold of becoming a risk as far as national security of supply is concerned. On the other hand, the share of domestic tonnage in the import of energy sources (oil and coal) is still relatively high, about 50–60%. The EU has no security of supply arrangements to safeguard sea transport in exceptional circumstances. One possibility would be to make bilateral agreements with other countries for securing transport operations.

The average age of the Finnish merchant fleet has also increased. The average age of Finnish vessels operating in international traffic is about 19 years, while the average in the EU is about 12 years, and the overall world average about 13 years. Mainly because of taxation, Finnish shipping companies have ordered only a few new vessels.

To prevent further decline in this sector, and enhance the international competitiveness of shipping, the EU has approved guidelines for the use of state aid. Within the limits of these guidelines, Member States have the possibility to affect their international competitiveness in the sector through national measures. Almost all countries with high cost levels provide economic support to domestic tonnage. The most common measures of support include different kinds of corporate tax relief for shipping companies and the reduction of income tax for crew members and of social expenses for employers.

Tonnage taxation has become the key instrument for competitiveness, and is the instrument through which the industry has enjoyed strong growth in several competitor countries. Tonnage taxation was adopted in Finland in 2002, but only one small shipping company has come within its scope. Subsidies granted to shipping companies to reduce manning costs in

Finland are currently near the upper limit of the EU regulations. Subsidies amount to 60–70 million euros per year. Legislation regarding shipping subsidies will be reformed.

Unlike the vessels of most competitor countries, Finnish vessels do not have “mixed crews”. It is common practice in EU countries that cargo ship officers come from the EU and the rest of the crew, or part of it, comes from low-wage-cost countries. At least until now, Finnish conditions of employment and wages have been applied in Finland no matter what the nationality of the employee.

Sea transport and the shipping industry are still experiencing strong growth both in the Baltic Sea region and worldwide. The importance of having high level of skill in this industry will become ever greater. The growth of sea transport also offers opportunities to Finnish shipping companies and crews, if they are competitive and can operate on the same economic terms as vessels in competitor countries.

Road freight transport markets

Thousands of lorry companies produce domestic freight transport services. The challenges faced by road transport include low price levels due to tough competition, the retirement of drivers and transport operators and a resulting shortage of drivers, congestion in urban areas, and lack of the appropriate rest areas required by regulations for driving and rest times.

The great majority of the nearly 11 000 lorry companies in Finland are single-vehicle firms. Most operate within the framework of the shipment management system of a bigger company. Owner-drivers do not usually have the resources to develop their own business activities by themselves. One-third of all lorry companies produce a loss.

The number of transport businesses will decrease when the present owner-drivers retire. The size of companies is growing gradually, but faster growth would be beneficial for the development of business skills. The shortage of drivers will become worse if young people are not more actively attracted to work in the logistics sector.

In 1995, Finland and Russia made an international road transport agreement concerning transport between the two countries and transport to third countries through them. The main principle of the agreement is a transport licence system for bus and lorry traffic between the two countries. In practice, the licence system does not impose constraints, but permits transport operations relatively freely. Finland granted 315 000 licences to Russian transport companies in 2006, and about 400 000 in 2007. It is estimated that 95% of road transit traffic is operated by Russian transport companies. The competitiveness of Russian companies is primarily based on their cheaper labour costs and their knowhow regarding the Russian operating environment.

EU legislation has a significant impact on freight transport to other countries. The access of international road freight transport to local markets is under review in the Community. A foreign vehicle operator would have the right to perform internal transport operations in another country, cabotage transport, for a maximum of three weeks after the vehicle enters the country. Thereafter, the vehicle would have to leave the country before a new right to cabotage transport starts.

Bus traffic

Bus transport is the dominant mode of public transport in Finland, and there is a dense and extensive network of bus routes. The mobility of the more than two million Finnish people who do not have a driving licence is mostly dependent on bus traffic. There are over 400 bus companies in Finland. The cities of Helsinki, Turku and Tampere have municipal public transport organisations. About 500 companies or individuals have a licence for public transport operations which entitles them to conduct charter and contractual bus services. Companies have free entry to markets, except for field of regular bus services.

The financial profitability of bus traffic has decreased. Insufficient ticket revenues and reduced demand constitute the greatest problems in rural traffic. Despite population growth, bus traffic has lost its market share in urban regions. More people use private cars for regular trips than before.

Market-based services are not always sufficient to maintain adequate level of public transport service. The State Provincial Offices and the municipalities purchase supplementary services. The EU regulation on public passenger transport services by rail and by road, which will be adopted in the end of 2009, will give authorities the right to intervene in market operations, if services are not at satisfactory level. Tendering for bus traffic will increase, especially in urban regions, after the regulation has come into effect.

Taxi traffic

Taxi charges and the introduction of new companies into the sector are regulated. High peak demands for taxi services, and the operations of dispatch centres, have created problems in the Helsinki Metropolitan Area. The situation is expected to improve with the growing supply of services. Transport services financed by society, such as the school transport markets, do not seem to operate well, particularly in small communities. The focus of development of the taxi markets is on diversifying taxi services, improving quality and promoting competition. Taxi services should also be developed in sparsely populated areas.

Sufficiency of drivers and other logistics labour force

There are about 80 000–90 000 professional drivers of heavy vehicles in Finland. The majority of them are lorry drivers, and the figure includes over 10 000 bus drivers. At present, the great majority of drivers practise their profession only through having a driving licence. The minimum level of driver education in road freight transport and road passenger transport has been harmonised by an EU directive. Basic training in the field will be required of professional drivers in the future. The directive puts professional drivers under an obligation to participate in regular training to maintain their professional skills. The requirement for the professional qualification of bus drivers will take effect in autumn 2008 and that for lorry drivers will come into effect a year later.

There is already a shortage of drivers in EU countries today, and the requirement for professional qualification will make the situation worse. It is estimated that 3 000 new lorry drivers and 700 new bus drivers will be needed in Finland each year to replace drivers leaving the labour market. The annual number of people who begin basic and professional driver training corresponds to about half of the additional annual demand. Drivers who have

completed their driver training in the armed forces also enter the sector, but only a few of them stay in the profession.

Globalisation and the enlargement of the EU will increase the demand for transport operations and drivers. The domestic volumes of forest industry timber transports will also grow. It is expected that shortage of drivers will get worse, when the baby-boom generation retires. This problem has a wide impact on the entire logistics sector and on society. Different sectors will have to compete for employees. When the demand for labour exceeds the supply, salaries will rise, contributing to increasing logistics costs. The shortage of drivers threatens to become a real bottleneck of logistics, and will affect companies' delivery chain structures.

Railway traffic

Railway traffic in the EU area has gradually been opened to competition. In accordance with EU regulations, domestic freight transport in Finland was opened to competition at the beginning of 2007.

No new railway undertakings have entered the markets so far. Another domestic operator is, however, entering the rail freight transport market and Russian-owned rail operators in the Baltic countries have been interested in freight operations in Finland and possibly later also in international passenger transport operations.

Railway transport markets and customers should benefit from the controlled creation of competition in freight transport. Authorities must act to create fair and non-discriminating conditions for competition in the railway transport markets and remove real barriers to competition so that new rail companies can be attracted to the freight markets.

Rail traffic between Finland and Russia plays a central and significant role in freight transport. It accounts for a volume of about 15–16 million tonnes per year, which is almost 40% of the freight transport volume of the VR Ltd. According to the new Railway Act, the VR Ltd maintains exclusive rights to these transport services.

It is the intention that the agreement between Finland and Russia on connecting railway traffic will be renewed in the next few years in accordance with EU legislation. This will increase the interest of rail companies from other EU countries in the Finnish markets.

So far, domestic rail passenger transport has not been opened to competition in Community legislation, nor is it required to be the subject of tenders. Defining the preconditions for tendering is considered necessary, especially in commuter traffic of the Helsinki Metropolitan Area. The Ministry of Transport and Communications is starting a study in accordance with the government programme so that a tendering process can be set in motion if required.

Air traffic

There are open internal markets for air traffic in the European Community for all airlines which possess a community license. Airlines in Finland also operate in competitive markets on a commercial base. If transport operations need to be continued on an economically unprofitable route, a public service obligation based on competitive bidding according to the Community legislation should be imposed on the route. On the other hand, high-speed rail

connections provide an alternative to air traffic connections on medium-distance journeys within the country.

Air traffic between Finland and countries outside the Community is mainly regulated by bilateral air traffic agreements, often limiting the traffic rights of both parties. The aim here is to liberalise the agreements in a controlled way so that fair operating conditions and circumstances for competition are secured for the airline companies. The EU also actively tries to conclude air traffic agreements at Community level and in this way it promotes competition on air traffic routes between the Community and third countries. Based on existing levels of service, the goal is to provide high-quality, safe and functional air traffic services in a freely competitive environment.

Assessment of the situation

- *Despite market growth, the size of the Finnish merchant fleet has decreased and its average age has increased. According to an estimate by the National Emergency Supply Agency, the diminished size of the fleet is on the threshold of becoming a risk with regard to national security of supply. The competitiveness of the tonnage registered in Finland should be increased to the level of main competitor countries.*
- *Railway traffic in the EU area has gradually been opened to competition. So far, no new undertakings have entered the railway markets in Finland. It is desirable for railway transport markets and rail transport customers that controlled competition be created in freight transport.*
- *There is a shortage of drivers already today in the EU countries and the requirement for professional qualification will make the situation worse. The annual number of candidates who begin basic and professional driver training corresponds to about half of the additional annual demand.*
- *The supply of transport services is a business activity. Transport companies should have enough business knowhow and resources for long-term development of operations. The attractiveness of the transport sector should be promoted to ensure an adequate number of drivers.*
- *The supply of high-speed rail services on a corresponding route should be taken into account when considering imposing the public service obligation on an economically unprofitable air traffic route.*

8 THE TRANSPORT NETWORK UNITES THE COUNTRY

Guidelines in the Government Programme of Prime Minister Vanhanen's second Cabinet

- *The Government's goal is to allocate, during the electoral period, sufficient funding for maintaining and managing the transport facilities to ensure an adequate standard of service and safety.*
- *The Government will take account of the hitherto inadequate funding provided for basic transport facility management, the general condition and maintenance of the lower-class road network, pedestrian and cycling paths and the importance of private roads as part of a well-functioning transport infrastructure.*
- *The ferry and shuttle services in the archipelago will be maintained at least at the present level.*
- *The Government will evaluate the adequacy of the airport capacity in the Greater Helsinki Area.*
- *Rail traffic will be promoted by improving the standard of quality and coverage of the rail network, continuing the electrification scheme and creating a regulatory framework for competition on the railways.*
- *The Government will encourage the introduction of transport services which make use of information technology.*
- *Steps will be taken to support the availability of airline services where possible.*

Starting points

Traffic volumes in Finland are low by European standards, but the number of kilometres travelled is high due to the length of trips. Despite traffic volumes, maintaining vitality in different parts of the country requires functional nationwide transport connections and public transport services. All the justified needs of transport infrastructure and public transport cannot be satisfied with the available resources. The transport infrastructure services and public transport services provided for society must therefore be prioritised.

Condition of the transport network

The road network consists of public roads maintained by the state (about 80 000 km), municipal streets (about 25 000 km) and private roads (about 350 000 km). The condition of public and private roads is described in more detail below.

The condition of the *road network* is a combination of several factors. These include, among other things, evenness of surface, the durability of road structures and bridges, the width, hilliness and curvature of roads, and the effects of freezing, thawing and rain on unpaved roads. A majority of the existing roads were constructed in the 1950–70s. Now they are approaching the end of their economic life and the number of roads in need of upgrading increases every year.

About 1 500 kilometres of main roads are in need of repair. These roads are narrow and overtaking is difficult because of their bends and hilliness. Head-on collisions are the most serious traffic safety problem. Land-use development spreading along the main road network creates problems as well. However, the surfaces of main roads are in quite good condition.

Regional roads and connecting roads are in the poorest condition. The deterioration of their condition has been halted in recent years and the condition has even slightly improved in certain places. The general situation is not yet satisfactory. Many regional and connecting roads are hilly and full of bends and too narrow for the existing transport equipment. There is also a need to upgrade over 14 000 road bridges.

Railway tracks need replacing at about 30-year intervals. The economic life of the track structure has then come to an end. Traffic operations are no longer safe, and despite more efficient maintenance, traffic restrictions must be introduced. Restrictions slow down traffic, decrease punctuality, increase transport costs and cut transfer connections. Renewed track structure is also cheaper to maintain.

The railway network has been previously upgraded in the 1950s and 1960s. The number of sections of line with traffic restrictions reached 800 kilometres before the ongoing upgrading programme was started in the 1990s. Traffic restrictions due to the condition of the railway network then went right down to about 300 rail-kilometres, but now traffic restrictions have been introduced on about 600 rail-kilometres again. Many marshalling yards are also in need of upgrading.

Over 90% of the railway network in Finland consists of single-track lines. These rail sections are “mixed traffic” lines, on which passenger trains and freight traffic use the same rail line. For example, a tanker train travelling at 60 km/h can use the same track as passenger trains with speeds over 100 km/h higher. This reduces carrying capacity and creates bottlenecks on the lines. Insufficient capacity on some main rail sections is the most significant problem. For example, the Helsinki–Riihimäki, Seinäjoki–Oulu, Luumäki–Imatra, Turku–Toijala and Oulu–Vartius rail sections have insufficient capacity.

In the waterway network, fairways at the entrances of several ports need to be dredged to permit the use of larger vessels and improve transport economy. Some fairways have also become shallower than their original channel depth.

Extent of the road network

Traffic on the low-volume road network, which is maintained by the state, decreases as the population becomes more concentrated. However, low-volume roads must be maintained in adequate condition for all-year traffic operations. The roads serve permanent residences and holiday homes, and are also important for rural services, tourism, agriculture and the forest industry. A satisfactory level of service for people’s mobility should also be ensured in sparsely populated areas.

Circumstances have changed in different parts of the country in recent decades, so some of the existing private roads are now more important for traffic operations than highways with the lowest traffic volumes. The road network also includes sections which do not have permanent residences or other facilities alongside them to generate traffic all the year round. According to the Highways Act, if a road is not needed for general traffic purposes or if the rest of the road network in the area is adequate, the road can be closed or changed into a private road. In the same way, private roads can be changed into public roads if certain criteria are met.

Extent of the railway network

Due to changes in society, traffic volumes have decreased on some rail sections that were previously important, so these sections cannot be economically maintained in a condition to permit traffic operations any more.

In a study made in 2005, the Finnish Rail Administration made a proposal as to which low-volume rail sections are to be upgraded, which sections are to be maintained to allow traffic operations for the time being, and which sections are possibly to be closed. A Ministry of Transport and Communications working group updated the action plan in summer 2007, taking the need for increasing domestic timber transport into consideration. According to the working group, the upgrading of rail sections that are important to timber transport can be justified, starting with rail sections which are in most immediate danger of being closed because of their poor condition. During this government period, these include the stretches Porokylä–Vuokatti (2009), Joensuu–Ilomantsi (2010) and Äänekoski–Haapajärvi (2011–12). The Ministry of Transport and Communications is evaluating the possibility of keeping the sections that are in danger of being closed in adequate condition for transport operations by more efficient maintenance as long as possible before investments to replace them become necessary.

Private roads

Private roads are an important part of the transport system. The adequacy of their condition is important not only for residents along the roads but also, for example, for the wood-processing industry. The transport of industrial wood raw material mostly starts from the verges of private roads. The maintenance of private roads is managed by the shareholders owning the roads. Forest owners, for the most part forest companies, are responsible for the construction and maintenance of forest roads. Subsidies for private roads will be ensured in the future as well.

The total length of the private road network is about 350 000 kilometres. About 55 000 kilometres of private roads are eligible for state subsidies. State subsidies for the upgrading and maintenance of private roads were cut considerably in the middle of the 1990s. Thereafter, the combined state and municipal subsidies have almost halved, despite the fact that municipalities have increased their support to private roads.

Ferry traffic in the archipelago

Car-carrying ferries and other ferries serve traffic connections in the archipelago. The Finnish Road Administration purchases most car ferry services from Destia Oy and the Finnish Maritime Association purchases other ferry services from the State Shipping Enterprise. Reorganization of car and other ferry traffic is underway. The aim is to put traffic services out to tender as a single service package. If necessary, opening traffic services to competition will be ensured by procuring vessels for the state and putting their operation out to competitive tender. The problems of ferry traffic include the over-aged vessel fleet and the declining number of passengers on routes that are not important for tourism.

The airport network in Finland

Finavia is a customer-financed enterprise which maintains the nationwide network of 25 airports. Airports are part of the Finnish transport system. Finavia maintains and develops them as one system according to network principles. Economically, Helsinki–Vantaa airport is the most profitable part of the network. Six other airports also produce a financial surplus. Many airports serve a small annual number of passengers and are not profitable in themselves. However, they feed passengers to the Helsinki–Vantaa airport hub and support its operations. In this way, they promote balanced national development and international competitiveness. The total deficit of the unprofitable airports is about 13 million euros per year.

Regular air traffic services are a precondition for maintaining an airport. The airport network is developed to meet the demand for, and needs of, air traffic, taking into consideration the development needs of the busiest airports, the importance of the airports to the regions' international competitiveness, and EU guidelines and recommendations. Changes in the profitability of the airport network will be brought about by the activities of airlines, improved ground transport connections, the trading system for emissions allowances in air traffic and proposals for a directive regarding airport charges.

The extent of the airport network should be evaluated from the viewpoints of transport policy and ownership policy. With regard to transport policy, it is essential that air traffic performs its task as part of the national transport system, maintains the level of service of long-distance public transport and ensures regional development and competitiveness. With regard to ownership policy, it is important to secure Finavia's ability to maintain its financial value so that it can perform its social task efficiently, also in the long run. Moreover, it should also be able to invest in the development of airports to secure their functional competitiveness, taking growth possibilities of international traffic into account.

The network principle supports regional development in Finland. Many economic areas are dependent on their most important international connection, air traffic. Well-functioning air traffic is an essential service factor for regional business life and national competitiveness as well as a precondition for the balanced national development of Finland. Functional and international air traffic connections are critical competitive factors for the tourist industry and for companies investing in export activities.

Airport capacity in the Helsinki Metropolitan Area

A study of the development possibilities of airport functions in the Helsinki region, which was prepared by Finavia and commissioned by the Ministry of Transport and Communications, was completed in the year 2007. According to the study, there are good grounds for relocating all the aeroplane and helicopter functions of the Malmi airport to a new airport. The Ministry of Transport and Communications has received comments and opinions on the study from the appropriate authorities, municipalities in the area, business organisations and the companies operating at the Malmi airport.

Decision making still requires an environmental impact assessment of the alternatives. The EIA-process will start in 2008 and last 2–3 years. Planning and construction of the airport will take a minimum of 10–15 years.

Full use of transport infrastructure capacity through intelligent transport systems

Solutions based on new technologies and the various methods of traffic management are applied to different modes of transport in different ways. In air, sea and railway traffic, traffic management is essential for the allocation of network capacity, and it is often real-time management. Information services for passengers are still being developed. In road traffic, traffic management applications are to be found in communications, control and guidance, and the management of traffic disturbances. New operating models have been rapidly adopted in public transport.

It is important to develop cooperation in traffic management and controlled utilisation of traffic services, particularly in urban regions. Congestion can be regulated by “steering” the periods of traffic demand as well as choices of modes and routes.

The attractiveness of public transport can be improved by intelligent technological solutions. Finland is one of the world’s forerunners with regard to electronic systems for paying for journeys on public transport. Paper-based tickets have been replaced by smart cards several years ago. Possibilities that are still insufficiently exploited include, for example, the comprehensive supply of wireless broadband connections in public transport vehicles, the development of traffic signal priorities, and the provision of real-time information about schedules and waiting times.

Assessment of the situation

- *Because of Finland’s large area and relatively evenly distributed population, functionality of national transport connections is important for maintaining vitality in different parts of the country.*
- *Adequate and affordable trips and transport services should be ensured in sparsely populated areas. This is made possible by sufficient financing for basic road infrastructure management and private roads.*
- *Circumstances in different parts of the country have changed in recent decades so that some lower-class roads do not meet the demands of general traffic. On the other hand, some of the existing private roads are more significant transport routes than public roads with the lowest traffic volumes. The inclusion of lower-class roads either in the public road network or in the private road network should be re-evaluated and the necessary changes should be made in such a way that practice is fairly applied in the different parts of the country.*
- *Some low-volume railway lines have special significance for transport of wood and raw material for bioenergy. Decisions on the future of these rail sections should be made case by case.*
- *It is necessary to start immediate renewal of vessels, equipment and berthing facilities to secure the service levels of ferry traffic in the archipelago.*
- *Over a 10–20 year time period, it is necessary to be prepared for the construction of another airport in the Helsinki region, which will complement the Helsinki–Vantaa airport. An EIA study will be conducted on the location of the new airport.*

9 SUPPLEMENTARY FINANCING METHODS FOR TRANSPORT INFRASTRUCTURE

Guidelines in the Government Programme of Prime Minister Vanhanen's second Cabinet

- *The report will include a transport facility investment programme for the 2007–2011 electoral period and a long-term transport and infrastructure development and investment programme based on a comprehensive approach to the transport system. At the same time, the adoption of optional financing schemes for transport facility investments complementing budget funding will be evaluated.*
- *Finland is committed to completing the Helsinki–Vaalimaa motorway E18 by 2015; to ensure this, a decision on upgrading the road sections not up to such standard will be made to cover the whole leg of the journey. Part of the project can be implemented under a PPP financing scheme.*
- *The introduction of use-based transport pricing systems will be evaluated, including experiments with intelligent road toll systems.*

Long-term approach to transport infrastructure management

The procedure for making decisions about transport policy should be revised so that long-term decisions on transport infrastructure can be made. It is important that conclusive decisions on transport infrastructure are made that are binding for longer than one electoral period. The time span of policy guidelines for transport infrastructure should therefore be extended to 10–15 years. The role of Parliament in decision making should be strengthened. The preparation of a Report on Transport Policy at the beginning of electoral periods should be made a permanent practice.

In connection with the Report on Transport Policy, every Government will prepare an investment programme for the electoral period. The Government will make a one-time policy decision on the implementation and financing of the investment programme for the entire electoral period. Projects to be started during the electoral period are listed in the decision on spending limits of government finances. In addition to the investment programme for the electoral period, an unprioritised investment plan will be prepared for scheduling the planning of transport projects. The extent of the investment plan will correspond to the investment volume of 3-4 electoral periods.

This new procedure provides significant savings:

- Resources for infrastructure construction and planning can be balanced better.
- Projects can be planned and implemented as more extensive entities, which leads to more efficient use of resources and enhanced possibilities for innovations.
- Need for plans can be anticipated and the production of plans becomes more efficient.

In 2007 there were several cases in which funding authorisations approved in the budget had to be revised, since tenders exceeded the preliminary cost estimate of the Finnish Road Administration. The short-term, project-specific budget procedure complicates efficient implementation of projects. The preparation and implementation of development projects should also be developed in the Finnish Road Administration. The first step towards long-term financing is to verify the credibility of the cost estimates of projects.

Development needs of the budget procedure and budget authority procedure

The current budget process is based on operating expense budgeting. In this case investments, too, are only considered as operating expenses.

In capital budgeting, as it is known, investments and operating expenses have their own budgets. The steering of capital finance is separated from the steering of operational finance and investments are spread over the economic lifetime. Instead of investment expenses, annual depreciations are entered in the budget. Capital budgeting has the advantage that it enables controlled investment and financial planning. In the steering of capital finance, the focus is on defining the level of service of existing infrastructure, whereas in the steering of operational economy the focus is on the maintenance of existing infrastructure and the production of traffic services. The adoption of capital budgeting would require the reform of the entire system for steering government finances.

Budgeting according to spending limits and the budget authority procedure of transport projects should be revised. It is essential that the Government makes one-time policy decision on the implementation and financing of the investment programme for the electoral period. Projects to be started during the electoral period will be listed in the decision on spending limits of government finances. In the reading of the 2007 budget, Parliament has presumed that sufficient appropriations for the long-term development and maintenance of transport infrastructure as well as for improvement of public transport are included in the spending limits from the start.

There is also a need to streamline the annual budget and budget authority procedure. Today, also insignificant issues, such as changes in the annual development plans of already approved contract authorities, are taken to Parliament for decision making. This creates friction in the implementation of investments and unnecessary bureaucracy in the administrative organisation. This problem predominantly concerns transport investments in the state administration, as most of the significant investments in other administrations have been shifted outside the budget economy over the years.

The concept of “thematic projects” was adopted during Prime Minister Matti Vanhanen’s first government term. Thematic projects consist of several small or medium-sized investments, which have similar types of impacts and through which problems of transport system can be efficiently addressed. Experiences from thematic projects have been positive. Financing of them from the sub-item of basic transport infrastructure management is, however, problematic regarding, for example, the transparency of decision making. Thematic projects should be financed from the appropriation for transport network development in the future, like other state investments.

Financing models for transport investments

Budget financing is the main method of financing transport investments in all countries. It is a general tendency worldwide that, alongside budget financing, new financing schemes are sought which will provide flexibility in the implementation of investments. Financing schemes which complement budget financing include, for example:

Life cycle model (PPP, Public-Private Partnership)

According to this model, the investment is implemented as an extensive service concept (design, build, finance and operate). The contract period is 25–30 years. The benefits of the model are based on real risk distribution between customer and producer. The model encourages to the use of solutions of life cycle economy. There are several variations of the model and its payment mechanisms, and other features are tailored to be suitable for each project. The applicability of a project to be implemented using the life cycle model should be verified by a so-called Public Private Comparator, in which the life cycle model is compared to the best possible traditional method of implementation. The project should be large enough (100–150 million euros) to be suitable for implementation using the life cycle model.

Service charges will tie up funding for transport infrastructure in forthcoming years and therefore the number of simultaneous projects using the life cycle model should be controlled. The use of the model requires special know-how from customer and contractor. Maintaining this know-how presumes continued application of the life cycle model in suitable projects. In an optimal situation, two to three new life cycle model projects will be started during each government period.

Municipal participation in financing

There are transport infrastructure projects especially in the Helsinki Metropolitan Area, from which municipalities obtain significant land use and other benefits. It is reasonable that part of these benefits is used for financing the investment. Especially in the Helsinki Metropolitan Area, municipalities have been responsible for a significant proportion of financing for several projects in exchange of zoning benefits, and this practice will continue.

“Speeding up loans” for projects have been used for a long time in Sweden and a few projects have been implemented by using this model also in Finland. According to the model, municipalities are responsible for costs in the early phases of the project. Municipalities have their own interest in the implementation of specific transport connections and they benefit from early completion of them. The state will pay back the temporary financing from the municipality as soon as the project is planned to be implemented in the investment programme. The precondition for using the model is that the loan granted by the municipality is interest-free. The use of the “speeding up loans” will not change the prioritisation of projects, but through this procedure the municipality can, if desired, advance the starting year of an important project which is included in the investment programme.

Good feedback has been received from use of the model and further application of it can be justified. The social benefits of an investment will also be realised faster as a result of the earlier implementation of the project and the opening to traffic of the new connection.

Road user charges

Road user charges and congestion charges are becoming more common and knowhow on them should be kept up-to-date in Finland as well. The technology for collection of charges (satellite technology) will develop and improve the possibilities of applying user-based road charges. Road user charges can in some cases be an alternative to investments, or an intermediate step, as the load on the transport network can be distributed evenly by using them. Charges can also be used for financing transport investments and public transport. It is essential that road user charges are specifically interpreted as being charges and not as taxes. In this way, revenues can be directly budgeted for the development of transport system.

The Ministry of Transport and Communications' study on arranging a trial for imposing charges on heavy traffic will be completed in May 2008. The introduction of a congestion charge in the Helsinki Metropolitan Area will also be studied.

Private Finance Initiative

This model is applicable when, for example, a new mining area is opened. The state has the main responsibility for providing transport connections to mining areas. Preparations should be made for a quick reaction to fulfil these needs. It is a good practice that the relevant company provides financing for the transport connection and the state refunds the costs later. The precondition is that mining activities are still in operation after a certain period of time. To a great extent, this procedure protects the state against the risk of lost investments.

Road and transport funds

There are different types of road and transport funds. Fixed capital can be obtained, for example, from budget funds. The fund's equity is used for fund raising, for example, by issuing bonds. Pension institutes can also invest in transport infrastructure through the fund. Assets are collected to the fund from different sources and the best possible financing instrument is tailored to each project. Financing instruments include, for example, low-interest loans, flexible loan periods, credit guarantees and credit provisions. Repaid loans are circulated further to new investments. If the assets of the fund are also used for financing projects which generate revenues (for example toll roads), more tax revenues are also available for the implementation of normal projects, which do not generate revenues.

Revenues from state-owned companies

Revenues from selling shares of state-owned companies have been used for transport infrastructure in several years. Guidelines were provided for the use of revenues from selling shares in the decision on spending limits in May 2007. When the annual revenues of shares exceed 400 million euros, a maximum of 25% of this overrun (up to a maximum of 150 million euros) can be used within

spending limits for single investments which promote knowhow, innovations and economic growth. If the level of expenditure remains below spending limits after supplementary budgets, the difference between them, up to a maximum of 100 million euros, can be used within spending limits for non-repeating expenses in the following year. The use of revenues from selling shares for transport investments can be justified, when the benefits from investments exceed the credit interest from the repayment of state debt. There are several very profitable projects in the investment programme which fulfil this requirement.

Financing for cross-border projects

EU-financed cross-border cooperation between Finland and Russia has moved into the sphere of European Neighbourhood and Partnership Instrument (ENPI) in the financing period which started in 2007. It is also possible to implement small transport investments within the programme. TEN financial support can be applied to the development of connections between Finland and Sweden which are part of the TEN transport network of the EU. The share of this support can be a maximum of 30% of costs for projects crossing the border of the EU Member States. When the extent of the TEN network will be appraised again at the turn of the decade, the possibilities for receiving TEN support must be considered when selecting negotiation tactics.

The project for the transport and logistics partnership of the Northern Dimension, which was originally envisaged by Finland, is developing in such a way that the EU, Norway, Iceland and Russia could together develop and implement regionally significant transport policy solutions. There is also the possibility of promoting together the creation of funding pools for the implementation of the top priority projects. The main goal of the partnership is to speed up transport projects in northern Europe between the EU and its neighbours. Projects between and within the EU countries are also possible. The aim is to finance the partnership projects from national budgets, from EU programmes or with the assistance of international financial institutions (for example NIB, EBRD and EIB) and the private sector. The content of the transport and logistics partnership will be specified when the proposal of the working group addressing this issue will be completed in autumn 2008.

Transport charges and pricing

Policy for transport charges, i.e. pricing policy, is a mechanism of transport policy which can be used to make the transport system's performance more efficient, finance its maintenance and development, and reduce any harmful effects on society.

The amendments to legislation regarding vehicle and car taxes which came into force at the beginning of 2008 introduced environment-based taxation. Otherwise, the fiscal needs of the state have been the main basis for taxation and charging policy of road transport. With the exception of fuel tax, there are no charges or taxes for using the road network in Finland.

The track fee, which is a taxation type of charge, is collected from railway traffic operators for using the state railway network. The principles of the track fee have been defined in the EU directive on rail capacity and infrastructure charges. Track fees have amounted to about 60 million euros per year and covered about 15–20% of the costs of basic rail infrastructure management. In addition, an investment charge which is also based on an EU directive on rail capacity and infrastructure charges is collected from rail companies for using the Kerava–Lahti direct rail line.

Maintenance of waterways as well as icebreaking and vessel traffic services are financed from fairway dues collected from coastal merchant shipping, which can also be considered to be a tax. The amount of the fairway dues is based on the voyage, net tonnage and ice class of the vessel. Fairway dues are returned to basic infrastructure management in the budget.

International experience

Road user charges are common in the world, and charging systems are used on all continents. In most cases, the goal is to finance motorways, bridges or long tunnels. The need to reduce car traffic and promoting public transport has also arisen in urban regions.

Traffic charging systems are becoming more common. The Netherlands has decided on the implementation of a charging system which will cover the whole road network and all vehicles by 2016. In Sweden, the aim is to adopt kilometre-based charges on heavy vehicles on the whole road network in the early 2010s. The most developed systems can now be found in Switzerland, Austria and Germany. New charging systems are being adopted, for example, in Slovenia, Slovakia and the Czech Republic. Nation-wide charges on heavy vehicles are also being considered in France.

Congestion charges were implemented on a permanent basis in the city centre of Stockholm in 2007, after a six-month trial period. The city centre entrance roads have 18 automatic control points and payments must be made when passing the control points in daytime on weekdays. The cost of implementing the system was about 180 million euros and the estimated annual operating costs are 25 million euros. It provides an annual surplus of about 50 million euros. The charge is 1–2 euros per car, with a maximum of 6.50 euros per day. The highest charge must be paid during morning and afternoon peak hours. Cars belonging to the class of environmentally friendly vehicles are exempt from the charge for the time being. The level of service of public transport was improved at the same time as the collection of charges from motorists started. Private car traffic volumes in Stockholm's city centre have significantly decreased after the adoption of the congestion charge. The congestion charge is technically a state tax.

The EU Directive on Road Charging, the Eurovignette Directive, enables charges to be made on heavy vehicles in the TEN transport network. The Directive on the Interoperability of Electronic Fee Collection Systems in Europe is also in effect. The Commission intends to publish a communication in summer 2008 on suitable models for infrastructure charging. The Commission will later introduce legislative proposals regarding the collection of infrastructure charges.

International experience shows that it is reasonable to adopt transport charging systems in several phases for minimizing risks. Development has usually moved on from limited or

manual systems concerning one sector or field of transport to more extensive and technologically advanced systems. The simplest charging systems include toll motorways, tunnels and bridges as well as time-based road tolls of heavy vehicles or vignettes, which are already being done away with. Regional tolls in urban regions based on microwave technology constitute a more advanced solution.

The most developed systems are based on satellite positioning. So far, this technology is only used in the system for charging heavy vehicles which is implemented in Germany. This technology is still far too undeveloped to be used for private car traffic systems.

Assessment of the situation

- *The preparation of a Report on Transport Policy should be made a regular practice at the beginning of electoral periods.*
- *The budget process should be developed in a direction which pays more attention to the nature and long-term life span of transport infrastructure projects than before. The first step towards long-term financing is to verify the credibility of the cost estimates of projects.*
- *Good feedback has been received from the use of the life cycle model, so the model should be developed further to suit Finnish circumstances, and a separate programme of possible life cycle model projects should be maintained.*
- *The use of alternative sources of financing that complement budget financing is necessary in order to secure an adequate level of service of the transport network. New financing schemes should be tested in an open-minded way.*
- *Traffic user charges have become more common worldwide in recent years, and for the most part good feedback has been received about them. Preparations should be made in Finland for the possible adoption of satellite-positioning-based systems in the forthcoming decade.*

10 MAINTENANCE AND DEVELOPMENT PROGRAMME FOR THE TRANSPORT NETWORK

Guidelines in the Government Programme of Prime Minister Vanhanen's second Cabinet

- *The Government's goal is to allocate, during the electoral period, sufficient funding for maintaining and managing the transport facilities to ensure an adequate standard of service and safety.*
- *The Government will take account of the hitherto inadequate funding provided for basic transport facility management, the general condition and maintenance of the lower-class road network, pedestrian and cycling paths and the importance of private roads as part of a well-functioning transport infrastructure.*
- *Finland is committed to completing the Helsinki-Vaalimaa motorway E18 by 2015; to ensure this, a decision on upgrading the road sections not up to such standard will be made to cover the whole leg of the journey. Part of the project can be implemented under a PPP financing scheme.*

Maintenance of transport infrastructure

Existing transport infrastructure is maintained through measures of basic transport infrastructure management. Basic transport infrastructure management includes daily maintenance of transport infrastructure, replacement of worn-out structures, traffic management and small investments usually valued at a maximum of a few hundred thousand euros. The use of financing for basic transport infrastructure management is controlled by performance targets, which are defined for the transport administrations and recorded in the budget. The transport administrations, i.e. the Finnish Road Administration, the Finnish Rail Administration and the Finnish Maritime Administration, allocate financing so that the goals will be met regarding, for example, the condition of transport infrastructure, traffic safety, environmental hazards involving traffic and efficiency of the transport administration.

The delayed programme for the upgrading of the railway network and insufficient capacity on some main rail sections constitute the greatest problems in rail infrastructure management. A majority of financing for basic road infrastructure management is used for road maintenance.

The programme for replacing ferry connections by bridges, which ended in 2006 was also financed from the appropriation for basic road infrastructure management. There are currently about ten ferry connections for which the investment in fixed-link replacements would have a pay-back of 5–20 years. In addition to these connections, there are a few large socio-economically feasible projects for replacing a ferry connection by a fixed link. These possible projects include, for example, the Hailuoto fixed link (50 million euros, benefit-cost ratio 2.1) and the Parainen–Nauvo fixed link (50 million euros, benefit-cost ratio 1.5).

A study should be made as to whether smaller projects for replacing ferry connections with a bridge or a tunnel, with a reasonable pay-back period as cost savings in the national economy, can be implemented using a life cycle type of financing model. The Finnish Road Administration pays an annual service charge to Destia Oy for ferry traffic operations. The replacement of a ferry connection with a fixed link would be possible using the life cycle model such that the amount of service charges to be paid to the company responsible for implementing the project would be equal to the amount of service charges that were earlier paid for ferry operations. Service charges would be paid from the appropriation for basic road infrastructure management, and payments would end when the contract period of the life cycle model project expires. Service charges would also include financing costs.

Financing for basic infrastructure management and private roads

The annual expenditure on basic infrastructure management of roads, railways and waterways is currently under one billion euros. About 600 million euros per year are used for basic road infrastructure management, about 330 million euros per year for basic rail infrastructure management, and about 25 million euros per year for the maintenance of waterways.

Financing for basic transport infrastructure management and private roads will be increased by a total of 165 million euros during the electoral period, as shown in the table below. Proposals regarding state aid to basic infrastructure management and private roads made by Esko Aho's Working Group to Assess Operating Prerequisites of the Forest Industry in

Finland are included in the figures. Additional investments will be allocated particularly to securing the supply of wood. In addition to the above financing, 60 million euros will be reallocated to measures for securing wood supply from the existing funds for basic infrastructure management included in the spending limits for this electoral period.

	Million euros/year					
	2008	2009	2010	2011	2012	Total
Basic road infrastructure management	41		18	8	5	72
Basic rail infrastructure management ¹⁾	9	18	10	10	10	57
Waterway infrastructure management ²⁾		2	2	2		6
Private road subsidies		10	10	10		30
Total	50	30	40	30	15	165

¹⁾ The following upgrading projects in the railway network will be started: rail section Porokylä–Vuokatti (27 million euros) in 2009, rail section Joensuu–Ilomantsi (10 million euros) in 2010 and rail section Äänekoski–Haapajärvi (20 million euros) in 2011

²⁾ Implementation of the Pietarsaari fairway (about 8 million euros)

Starting points for the investment programme

The challenges of transport network development in the 2010s include improving the cost-efficiency and punctuality of freight transport, making the daily mobility of people easier, promoting balanced regional development, improving traffic safety, and reducing environmental hazards. Examples of necessary measures include improving the carrying capacity and level of service of the railway network, upgrading narrow and curvy main road sections, and developing transport connections in urban regions. An adequate level of service of main transport connections is essential for the performance of the whole transport system and for national competitiveness. The possibilities that railway traffic provides for mitigating climate change should be utilised more thoroughly in the future.

Previous Governments have started, or made decisions on, about 25 transport investments with total cost of about 3.1 billion euros. These investments will generate costs of about 1.5 billion euros during this government period and costs of about 1.1 billion euros later. The annual expenditure on current and previously decided transport investments is about 400 million euros during this government term.

Ongoing and previously decided projects

	€million	Year of completion						
		2008	2009	2010	2011	2012	2013	2014
Transport connections to Vuosaari port	297	X						
Road E18 Muurla–Lohja	700	X						
Main road 2 Vihti–Pori	55	X						
Main road 3 Tampere western bypass, 2nd phase	57	X						
Main road 20 Hintta–Korvenkylä, Oulu	26	X						
Vaalimaa lorry parking area	24	X						
Raahe fairway	30		X					
Hakamäentie	100		X					
Rail section Seinäjoki–Oulu, 1st phase	110		X					
Main road 4 at Kemi including bridges	74		X					
Savonlinna–Huutokoski rail section	42		X					
Central Pasila	39			X				
Ilmala rail yard	100			X				
Rail section Lahti–Luumäki	190			X				
Hamina fairway	10			X				
Railway to Talvivaara mining area	49			X				
Main road 4 Lusi–Vaajakoski	75			X				
Main road 6 Lappeenranta–Imatra	177				X			
Ring Road I Turunväylä–Vallikallio	165				X			
Main road 5 Lusi–Mikkeli (will start in 2009)	40					X		
Main road 51 Kirkkonummi–Kivenlahti (will start in 2010)	70						X	
Ring rail line (will start in 2009)	590							X
Main road 14 at Savonlinna city centre (will start in 2010)	130							X

It is also stated in the government programme that the decision on the implementation of the entire Road E18 Helsinki–Vaalimaa motorway (about 750 million euros) as a single project will be made during this government term. The reservation of state aid for the western metro line will be a maximum of 30% of the revised cost estimate of 714 million euros. A total of 15 million euros has already been reserved for planning, and a maximum of 200 million euros will be reserved for construction. The construction of the western metro line will not start until 2010.

Process for preparing investment programmes and criteria for selecting projects

Transport network development projects are usually investments of a minimum of 20–30 million euros for improving traffic conditions. The prioritization of projects is a special process, in which projects are selected or rejected at many stages. Project proposals are first evaluated from the viewpoint of their socio-economic feasibility. Benefit-cost ratio, which is the ratio between the monetary benefits and costs of a project, indicates the socioeconomic feasibility of a project. Benefits are calculated for the estimated operating time of the project, for example 30 years, and discounted to the time of investment. Only socio-economically feasible projects have been selected for further study (those with a benefit-cost ratio over 1.5). This concerns new investments. On the other hand, the benefit-cost ratio cannot always be

unambiguously calculated for upgrading projects for existing railways and roads. In some cases, the implementation of the project requires expensive technical solutions, and it turns out that an important project may not be feasible according to the figures (for example the construction of bridges over Kallavesi on main road 5 in the Päiväranta–Vuorela project).

Almost 150 transport investments were proposed in the statements requested for the preparation of this Report. A group of about 50 socio-economically feasible projects valued at about 5 billion euros passed the screening process for further studies.

When selecting projects for the investment programme for the electoral period, attention has been paid to the priorities of regions and business life, as well as to regional balance and international commitments (for example the Nordic Triangle). Final timings are affected by planning preparedness, administrative decisions and the impacts of a project on the market situation in the earthworks construction sector.

Investment programme for the electoral period 2007–2011

The previous Government has already approved a resolution on starting four transport investments valued at 830 million euros during the present electoral period.

In the electoral period of 2007–2011, 13 new transport network development investments valued at about 1.1 billion euros will be started. A total of 50 million euros will be reserved for thematic projects during the electoral period. The construction of the E18 Koskenkylä–Kotka motorway and of additional track on the Ostrobothnian railway between Kokkola and Ylivieska will be implemented using the life cycle model.

	Number	€million
Road projects	7	450
Railway projects	2	134
Waterway projects	2	26
Projects, in which the life cycle model is used (PPP)	2	475 (constr.cost)
Thematic projects	-	50
Total	13	1 135

The following table provides a list of previously decided projects and new projects for the electoral period. The cost estimates shown are the estimated cost levels of the year 2009. The cost estimates of projects to be implemented at the end of the electoral period in particular are preliminary at this stage and will be revised when planning proceeds and competitive bidding takes has been carried out.

New and previously decided projects during the electoral period 2007–11

Project	Constr. cost (€million)	B/c-ratio
<i>Previously decided projects</i>		
Main road 5 Lusi–Mikkeli	40	1.7
Ring rail line ¹⁾	590	1.5
Main road 51 Kirkkonummi–Kivenlahti	70	3.8
Main road 14 at Savonlinna city centre	130	4.5
State aid to western metro rail ²⁾	714	-
<i>New projects</i>		
Main road 8 Sepänkylä by-pass road (Vaasa) (S)	50	2.6
Road E18 Hamina by-pass road ³⁾	130	1.9
Road E18 Ring Road III, 1st phase (S) ³⁾	50	
Road E18 Koskenkylä–Kotka (PPP) ³⁾	225	
Ostrobothnian railway: Seinäjoki–Oulu, extension of the 1st phase ⁴⁾	90	2.0
Ostrobothnian railway: additional track Kokkola–Ylivieska (PPP) ⁴⁾	250	
Electrification of Rovaniemi–Kemijärvi and Seinäjoki–Vaasa rail sections (S)	44	-
Ferries and car ferries ⁵⁾	15	-
Main road 5 Päiväranta–Vuorela, Kuopio (“bridges of Kalla”) (S)	90	-
Main road 12 Tampere lakeside road (“speeding up loan” is used) ⁶⁾	(45)	1.8
Main road 6 at Joensuu (S)	35	2.6
Main road 19 Seinäjoki eastern by-pass road (S)	50	1.9
Uusikaupunki fairway (S)	11	1.7
Acute, important projects with regard to the industrial policy during the electoral period (for example mining and tourism projects)	Separate government decision within spending limits of the budget	
Thematic projects during the electoral period (for example improving safety on main roads and promoting the conditions of public transport and pedestrian and bicycle traffic)	50	-

Benefit-cost ratio has been calculated only for new investments

PPP = life cycle model project; S = “speeding up loan” is possible for balancing the demand of infrastructure markets and controlling cost development; the use of “speeding up loans” is decided separately

¹⁾ State’s share is 374 million euros; Finavia allocates 30 million euros to construction costs of airport terminal

²⁾ State aid is 30 %, maximum 200 million euros

³⁾ Road E18 Helsinki–Vaalimaa motorway, total 750 million euros

⁴⁾ Ostrobothnian railway, total 800 million euros

⁵⁾ Service procurement

⁶⁾ State payments will start in 2015

Projects after 2011

The long-term preparation of a group of projects with investment volume over about 3–4 government periods should be continued so that plans, zoning and administrative processes will be completed in time and investment decisions can be based on reliable cost and other information in due time. There are good grounds to prepare for the post-2011 implementation of at least the projects listed below. The Finnish Road Administration, the Finnish Rail Administration and the Finnish Maritime Administration will complete and update the list, taking changes in the operating environment into account. Particular consideration will be

given to projects which are strongly justified from the point of view of trade and industry policy and the functionality of Finland's international connections. Investment cost estimates are indicative at this planning phase.

Policy decision on implementation as a single entire project in the government programme

- Road E18 Helsinki–Vaalimaa: PPP-project Hamina–Vaalimaa (construction costs of about €140 million) and Road E18, the second phase of Ring Road III (€205 million)

Development of road connections

- Main road 3 Tampere–Vaasa, €110 million, b/c-ratio 1.6
- Main road 4 Jyväskylä–Oulu, 1st phase, €85 million, b/c-ratio 2.2
- Main road 4 Oulu–Kemi, €85 million
- Main road 4 at Rovaniemi, €50 million, b/c-ratio 1.5
- Main road 5 Mikkeli–Juva, €75 million, b/c-ratio 2.6
- Main road 8 Raisio–Nousiainen–Pori, €140 million
- Main road 8 Vaasa–Oulu, 1st phase, €110 million
- Main road 10 / 12 Hämeenlinna–Lahti, €60 million
- Main road 12 Lahti southern ring road, €145 million, b/c-ratio 2.1
- Main road 12 Lahti–Kouvola, €120 million, b/c-ratio 1.9
- Main road 15 Kotka entrance road, €21 million, b/c-ratio 2.5
- Main road 15 Kotka–Kouvola, €60 million, b/c-ratio 1.6
- Main road 21 Palojoensuu–Kilpisjärvi, €50 million
- Main road 22 Kajaani–Oulu road section, €37 million (1st phase)
- Main road 23 Varkaus–Viinijärvi, €20 million
- Main road 40 Turku ring road (Kausela–Kirismäki), €60 million
- Ring Road I bottlenecks, 1st phase, €120 million
- Upgrading the entrance roads in the Helsinki Metropolitan Area, 1st phase, €65 million

Development of railway connections

- Ostrobothnian railway: Seinäjoki–Oulu, 2nd phase, €350 million
- Helsinki–Riihimäki rail section, additional capacity, €235 million
- Äkäsjoki–Kolari–Laurila rail section, electrification, €59 million
- Further electrification of the railway network (other projects), €196 million ¹⁾
- Luumäki–Imatra rail section, additional track and increase of speed level, €265 million
- Luumäki–Vainikkala rail section, additional track, €140 million
- Ylivieska–Vartius rail section, additional capacity, €390 million
- Local urban rail projects in the Tampere region, 1st phase, €65 million
- Espoo urban rail line, €190 million

¹⁾The electrification programme for the railway network includes the following projects: Ylivieska–Iisalmi €42 million, Hyvinkää–Hanko €45 million, Niirala–Säkäniemi and Joensuu–Uimaharju €27 million, Joensuu–Viinijärvi–Siilinjärvi and Joensuu–Viinijärvi–Varkaus–Pieksämäki €82 million.

Development of sea transport connections

- Mäntyluoto fairway, Pori, €6 million, b/c-ratio 2.5
- Rauma fairway, €15 million, b/c-ratio 2.0
- Kaskinen fairway, €3 million, b/c-ratio 4.5
- Kemi fairway, €3 million

Space reservations for land-use plans

For example, the space requirements of the following projects can be taken into account in regional planning and other land use planning:

- Helsinki–Turku-direct rail line (ELSA-rail line)
- Helsinki–Pietari-direct rail line (HELI-rail line)
- Connection from the main rail line to the Helsinki–Vantaa airport
- Extension of Ring Road II
- New urban rail projects in the Helsinki Metropolitan Area
- Rail projects in Tampere and Turku regions
- Main road 22 Oulujärvi scenic road

Thematic projects

The concept of thematic projects, which was adopted during the previous electoral period, has proved to work well. Thematic projects are composed of several small investments with parallel or mutually reinforcing impacts, through which problems in the transport system can be efficiently addressed.

Until now, financing for thematic projects have been allocated from appropriations for basic transport infrastructure management. Problems have arisen because thematic projects and the maintenance of the transport network have competed for the same appropriations. There are good grounds for financing thematic projects from the appropriation for transport network development in the future, just like other state investments.

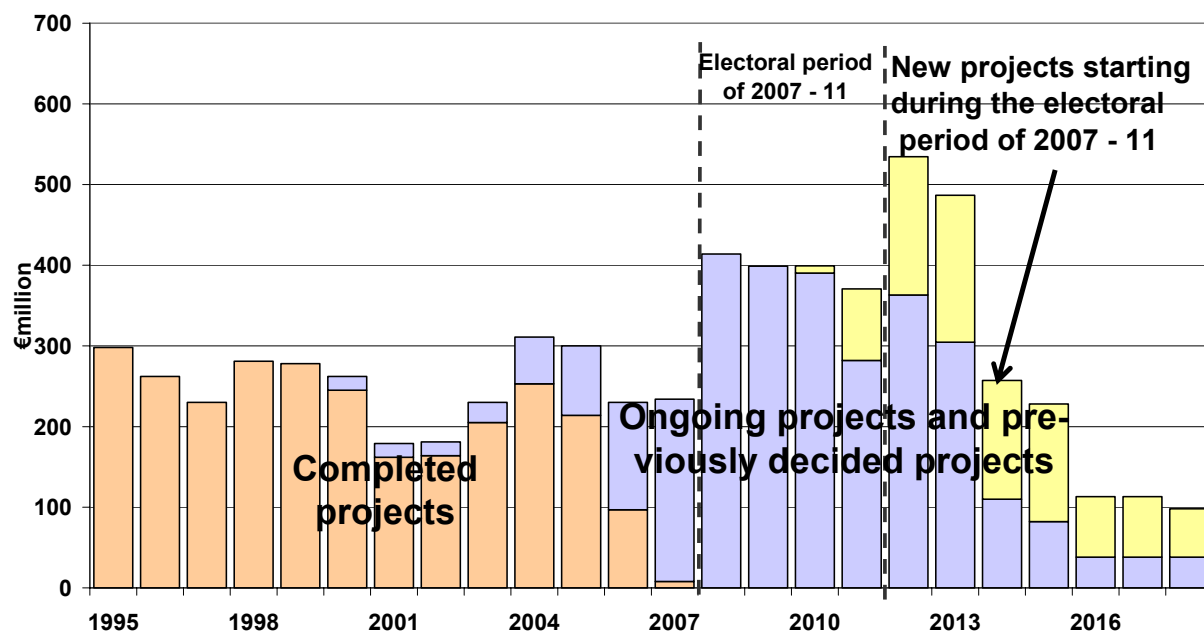
A total of 50 million euros will be reserved for thematic projects during this electoral period. The start up of thematic projects will be decided separately. Ultimately, Parliament will decide on the content of thematic projects, just as for other projects listed in the budget. The status and financing of thematic projects will be evaluated again in the middle of the electoral period. Financing for thematic projects during the electoral period will be allocated to such areas as, for example, improving safety on main roads (the median barrier programme) and promoting the conditions of public transport and pedestrian and bicycle traffic. The Ministerial Working Group on Transport and Communications Policy will discuss the content of thematic projects as a separate subject.

Financing of the investment programme for the electoral period

The expenditure on new development investments in the transport network will be about 110 million euros during this electoral period, and later about 1.5 billion euros. Expenditure during this electoral period will be financed by a reservation of 28.7 million euros which is already included in the budget spending limits, and by additional financing of 80 million

euros obtained from the sale of shares in state-owned companies. Infrastructure market demand is balanced, and cost development controlled, by adjusting the implementation schedules of projects through “speeding up loans”. The use of “speeding up loans” will be decided separately.

Expenditure on transport investments



The construction of the E18 Koskenkylä–Kotka motorway and additional railway track between Kokkola–Ylivieska on the Ostrobothnian line will be started during this electoral period using the life cycle model (PPP, public-private partnership).

11 GUIDELINES FOR TRANSPORT POLICY UNTIL 2020

The problems of travel and transport chains cannot be solved only through transport infrastructure investments or the measures by a single administration. An extensive transport system development programme is needed, in which the best means and measures of the state, the municipalities and other actors are integrated into as efficient and effective system as possible.

The environmental impacts of transport policy guidelines have been evaluated as extensively and specifically as possible in the preparation of this Report. The requirements set out in the Act on the Assessment of the Impacts of the Authorities’ Plans, Programmes and Policies on the Environment (200/2005) have been met. Interactive dialogue has had an important role in the preparation of the Report. Its preparation was preceded by giving stakeholders and interested parties the opportunity of submitting comments and opinions, and almost 150 official bodies took advantage of this possibility. Background material for the Report has been available on the web pages of the Ministry of Transport and Communications during its preparation, and the possibility to give feedback through the website was also provided.

The pages which follow present the Report's "vision" for transport objectives for 2020 and the key measures to be taken to achieve those objectives.

A. Principles and long-term allocation of financing

Objectives to be achieved by 2020

- *Long-term and sustainable approach in transport financing.*
- *Availability of a versatile selection of financing schemes, which supplement budget financing.*

Guidelines

1. The preparation of Reports on Transport Policy at the beginning of electoral periods will become a permanent practice.
2. The Government considers it necessary that commitment be made to long-term financing for basic transport infrastructure management which maintains the condition of transport infrastructure.
3. The Government considers it necessary that the volume of construction will remain stable and at an adequate level when the investment programme is implemented.
4. Revenues from selling state property are used for financing transport network development investments and thematic projects.
5. The life cycle model is used in a controlled way based on case-specific reference calculations as a financing method for transport investments.
6. Reform of budget legislation is underway in the Ministry of Finance and in this context investments implemented by budget financing are being evaluated. The next Government will decide as to the adoption of possible new budgeting practices.
7. The state is responsible for the construction of transport connections to significant mining projects mainly according to the principles of interest-free private finance initiative.
8. The Government considers it justifiable that municipalities in large urban regions participate in transport investments costs in exchange for land-use benefits received.
9. Approval will be given to the principle that municipalities can initiate an important transport project based on case-specific estimate according to the principles of interest-free private finance initiative.
10. Preconditions will be created for the adoption of satellite-positioning-based road user charges in the next decade. The Government has made preparations to create the legislative prerequisites for the adoption of possible regional congestion charges.

B. Supporting successful regional and economic development

Objectives to be achieved by 2020

- *The transport network provides the possibilities for developing and maintaining vitality to the various parts of the country.*
- *The logistics system in Finland operates efficiently and provides companies with possibilities for competitive operations despite additional transport costs caused by long distances and severe climate.*
- *Transport markets have fair and non-discriminating competitive conditions and significant barriers to competition have been removed. The transport sector in Finland is competitive in globalising markets.*

Guidelines

1. In accordance with the government programme, a single comprehensive decision will be made on the implementation of the entire E18 Helsinki–Vaalimaa motorway section. The long-term implementation of the Seinäjoki–Oulu rail section on the Ostrobothnian railway will also be continued as one system.
2. Due consideration will be given to the importance of basic transport infrastructure management, the lower-class road network and private roads in securing the preconditions for versatile business and economic activities throughout the country.
3. Preparations should be made for expanding railway network capacity, and the extent of the network is to be evaluated on the basis of transport needs. Low-volume railways will be upgraded due to significant special needs, such as securing the supply of wood.
4. The decision on ferry service arrangements will be made during this government period so that gradual renewal of vessel fleet can be started.
5. Airports are maintained according to the network principle whereby revenues from economically profitable airports are used for maintaining airports which have low traffic volumes.
6. The decision regarding the second airport in the Helsinki Metropolitan Area will be made during this government period.
7. In accordance with the government programme, the Government will prepare a separate logistics strategy and trade and industry policy programme for the transport sector.
8. The Government will take care that the Finnish shipping business is internationally competitive by utilising measures approved by the EU.
9. Preconditions for competition in railway traffic in relation to other modes of transport will be attended to, and fair competitive circumstances will be ensured for rail freight transport. Preconditions for tendering out commuter rail services in the Helsinki Metropolitan Area will be created in the 2010s.

C. Climate change and public transport

Objectives to be achieved by 2020

- *The number of journeys in public transport has substantially increased, and the number of car journeys is not growing.*
- *The need for transport has decreased due to dense urban structure and the coordination of land use and the transport system.*
- *Public transport is an attractive alternative in large urban regions. Land-use development is based on public transport services.*

Guidelines

1. The Government presents concrete goals for reducing emissions and measures for mitigating greenhouse gases in the Climate and Energy Strategy and in the Foresight Report on Climate and Energy Policy.
2. Municipalities should also, for their part, be responsible for reducing greenhouse gases from traffic. For example, transport pricing and parking regulations in city centres are under the authority of municipalities.
3. It is necessary that land use solutions in municipalities are sustainable with regard to climate policy and that they contribute to lower car traffic volumes.
4. Impacts on greenhouse gas emissions will be estimated in the preparation of all significant transport policy decisions.
5. The Government considers it important that large urban regions and the state together prepare long-term regional public transport development programmes. Letters of intent will be prepared for the implementation and financing of these programmes.
6. Public transport subsidy for large cities will be adopted at the beginning of 2009.
7. The basic level of public transport service is to be secured in sparsely populated areas and smaller urban regions. Demand-responsive public transport services will be developed to supplement decreasing regular traffic services. A separate study will be conducted on the possibilities of demand-responsive public transport, ridesharing and "neighbour aid" to satisfy the mobility needs of citizens.
8. The employer-subsidised commuter ticket system will be developed so that it truly encourages the use of public transport. A working group will be appointed to prepare a model of a functional employer-subsidised commuter ticket system.
9. The basic level of long-distance traffic service is to be secured by purchasing public transport services for routes, which do not have market-based supply of services. Air traffic services can be purchased for destinations, which cannot be reached from Helsinki in less than three hours by using the fastest train connection.
10. Needs of pedestrian and bicycle traffic are to be considered more than before in land-use and transport-system planning. Guidelines for promoting pedestrian and bicycle traffic will be prepared.

D. Traffic safety

Objectives to be achieved by 2020

- *Fewer than 150 people per year are killed in traffic accidents.*
- *Cross-administrative cooperation in safety works well.*

Guidelines

1. Investments in traffic safety work will be increased in order to achieve the goal of reducing the number of fatal accidents in accordance with the policy decision made by the Government in summer 2006. According to that goal, there will be a maximum of 250 fatalities in traffic accidents in 2010 and after that traffic safety will improve constantly so that there will be fewer than 100 annual fatalities in traffic accidents by the year 2025.
2. Efficient measures will continue to be implemented for preventing main traffic safety problems, such as drunken driving, disobeying traffic rules, failure to use safety equipment, speeding, and insecurity of unprotected traffic.
3. In traffic safety work, special attention will be paid to the mobility of elderly persons, children and people with mobility impairments.
4. Financing for thematic projects during the electoral period is to be allocated to improving traffic safety on main roads (the median barrier programme) as well as to other projects.
5. The opportunities offered by new technologies will be fully utilised, for example, by increasing the use of traffic control technology, facilitating the participation of municipalities in traffic control work, and promoting the adoption of traffic safety systems.
6. Comprehensive safety evaluation is included in projects concerning road and traffic environment.
7. Driver education and requirements for obtaining a driving licence will be renewed. In the first phase, new requirements for driving a moped will be strengthened.
8. Adequate resources and possibilities for implementation are to be secured for projects which improve regional traffic safety.
9. Cross-administrative cooperation in the traffic safety sector will be developed and coordination improved to facilitate more efficient use of resources.
10. The preparation of a traffic safety plan for the period 2011–2015 will be started during this electoral period.

APPENDIX

Project descriptions of the investment programme for the electoral period of 2007–11

Previously decided projects

Main road 5 Lusi–Mikkeli (€40 million, benefit-cost ratio 1.7)

Main road 5 between Heinola and Mikkeli has been upgraded with the exception of three hilly, curvy and narrow road sections having a total length of about 15 km. Sight distances on these road sections are poor and overtaking is difficult. The road will be upgraded to a three-lane road with overtaking lanes and a median barrier. The speed limit on the road will be 100 km/h excluding the road section at the Vihantasalmi bridge.

Ring rail line (€590 million, benefit-cost ratio 1.5)

The Ring rail line is a passenger rail line which connects the Vantaankoski rail line through the Helsinki–Vantaa airport to the main rail line. The Ring rail line will connect existing regional centres as well as residential and office areas and enable the concentration of new residential and office areas along an efficient transit route. In the first phase, five stations will be constructed along the rail line. The city of Vantaa will participate in the financing of the project.

Main road 51 Kirkkonummi–Kivenlahti (€70 million, benefit-cost ratio 3.8)

This busy road section having high accident risk will be upgraded to become a motorway. The existing motorway (Länsiväylä) will be extended to Kirkkonummi. Currently, the road section is very congested especially during the peak hours of commuter traffic. The road has the highest traffic volumes for two-lane roads in the Helsinki Metropolitan Area. Traffic volumes to the west of Ring Road III total over 20 000 vehicles/day, with about 12 000–15 000 vehicles/day to the east of Ring Road III. Traffic conditions have deteriorated every year due to additional land use development in the impact area of the road.

Main road 14 at Savonlinna city centre (€130 million, benefit-cost ratio 4.5)

Main road 14 is currently aligned along the street network through the city centre of Savonlinna. A new two-lane main road will be constructed on the northern side of city centre and through-traffic will be directed to this road section. At the same time, the Lake Saimaa deep-water channel through Kyrönsalmi will be moved in the vicinity of Savonlinna to Laitaatsalmi. Safety and traffic conditions on city streets will significantly improve. The safety and attractiveness of the city streets will improve. Traffic safety will improve. Currently, the number of fatalities on this road section is five times higher than the average for busy main roads.

Western metro railway line (€714 million, state aid to construction is a maximum of €200 million)

The construction of the western metro line, extending the Helsinki metro to Espoo between Ruoholahti and Matinkylä, will improve the internal and regional public transport connections in southern Espoo. It will also promote dense city structure and less use of private cars in Espoo. The standing of areas alongside the metro line and land-use development possibilities will improve. The state will participate in the planning and construction costs of the Helsinki-Espoo metro project.

New projects

Main road 8 Sepänkylä by-pass road, Vaasa (€50 million, benefit-cost ratio 2.6)

Main road 8 serves both long-distance by-pass traffic and the needs of land use and business life in the urban region of Vaasa. It also acts as the northern entrance road to Vaasa. A by-pass road will be constructed in the densely populated area of Sepänkylä. The project will enable land use development in the city of Vaasa and municipality of Mustasaari. The project was included in the investment programme of the previous Government, but implementation was delayed due to expired plans.

Road E18 Helsinki–Vaalimaa (€750 million, of which €405 million during this electoral period; benefit-cost ratio 1.9)

Road E18 Turku–Helsinki–Vaalimaa is the most international of Finnish roads and part of the transport system of the EU "Nordic Triangle" priority project. Finland has committed to the implementation of the Helsinki–Vaalimaa motorway by the year 2015. For ensuring this, an implementation decision will be made which includes all the remaining links along the entire road section. The implementation of the road section includes upgrading of Ring Road III and construction of the Hamina by-pass road, Koskenkylä–Loviisa–Kotka motorway and Hamina–Vaalimaa motorway.

Ostrobothnian railway, Seinäjoki–Oulu rail section (€800 million, of which €340 million during this electoral period; benefit-cost ratio 2.0)

Seinäjoki–Oulu is a busy, single-track rail section for passenger and freight traffic. Most of the long-distance railway traffic flows between northern and southern Finland use this rail section. Maintaining and developing the competitiveness of railway traffic requires the reduction of travel times in passenger traffic and increasing axle loads and sufficient capacity in freight traffic. Railway upgrading can enable increase of speeds to 160–200 km/h in passenger traffic depending on the train type as well as allow for a maximum of 25 tonne axle loads in freight traffic. The project includes the construction of an additional track between Kokkola and Ylivieska.

Electrification of the Rovaniemi–Kemijärvi rail section (€24 million)

Both freight and passenger transport benefit from the electrification of a rail line. If implemented, the Sokli mining project along the Rovaniemi–Kemijärvi rail section is estimated to increase transport volumes even by two million tonnes per year. Due to the closure of the Kemijärvi pulp mill, timber transport volumes on this rail section will grow by about one million tonnes per year. The electrification of a rail line is also significant for tourism industry. The overnight train service to Kemijärvi was restarted in February 2008. Diesel locomotives are used and sleeping cars obtain electricity from the generator car.

Electrification of the Seinäjoki–Vaasa-rail section (€20 million)

Both freight and passenger transport benefit from the electrification of the Seinäjoki–Vaasa rail section. Travel times to Helsinki will decrease when it is not necessary to change locomotives any more. Faster travel times will also lead to increasing number of passengers. The rail section has currently about ten daily train pairs in passenger traffic.

Ferries and car ferries in the archipelago (€15 million)

Car-carrying ferries and other ferries serve traffic connections in the archipelago. The Finnish Road Administration purchases most of the car ferry services from Destia Oy and the Finnish Maritime Association purchases other ferry services from the State Shipping Enterprise. The average age of the vessel fleet in ferry traffic is high. Reorganization of car ferry and ferry traffic services is underway. The aim is to tender out traffic services as one service package. Procurement of new vessel fleet is required in tendering process.

Main road 5 Päiväranta–Vuorela (Kallansillat), Kuopio (€90 million)

There is a road section on main road 5 at Kuopio between two motorway sections, on which the malfunctioning of the drawbridge across Kallavesi in particular causes traffic congestion for several hours. This can also jeopardize general safety, as the rescue services arrival may be hindered. The main road will be upgraded to motorway. The waterway will be moved to another location and a high fixed bridge will be constructed over it.

Main road 12 Tampere lakeside road (share of the state €45 million, benefit-cost ratio 1.8)

Main road 12 in Tampere, the Paasikiventie–Kekkosentie–Teiskontie road section, is important as a town entry road and as a through traffic road. In addition, the road serves local and regional commuter and business traffic. The road is frequently congested during weekday mornings and afternoons. The main road will be partly moved to a tunnel and the remaining section of the road will be widened. The city of Tampere is responsible for most of the project costs. The project will be implemented using “speeding-up loan” finance. The city will be responsible for the costs of the project in the first phase and the state will pay back the loan later.

Highway 6 at Joensuu (€35 million, benefit-cost ratio 2.6)

The Joensuu ring road is formed by main roads 6 and 17. At present, the road has only one roadway and few of its intersections are split-level. The road is congested and traffic safety is poor. Problems are become worse with land-use development in the surrounding areas of Joensuu. Another roadway will be constructed on the ring road and an interchange will be built at Karjalankatu.

Main road 19 Seinäjoki eastern by-pass road (€50 million, benefit-cost ratio 1.9)

Main road 19 is aligned through the street network of Seinäjoki. The street network is congested on this section, causes problems with regard to traffic safety and residential comfort. After the consolidation of the local municipalities, the focus of land-use development in Seinäjoki will move to the areas south of city centre. This will increase traffic problems. The main road will be improved by constructing an eastern by-pass road.

Uusikaupunki fairway (€11 million, benefit-cost ratio 1.7)

The port of Uusikaupunki is split between the ports of Kemira GrowHow Ltd and Hepokari. Transport costs are a key competitive factor for Kemira GrowHow Ltd's fertilizer transports. Dredging the fairway entering these ports will enable the use of larger vessels for freight transport.