

*Proposal for a
National Transport Policy 2003-2014*

Summary

FOREWORD

In the autumn of 1999, Mr. Sturla Bodvarsson, Minister of Communications, decided to have a national Transport policy for Iceland developed, extending 12 years, from 2003-2014, which would cover all three modes of transport, aviation, maritime traffic and road transport. Subsequently, a steering committee was appointed in May 2000 to lead the work. Mr. Vilhjálmur Th. Vilhjálmsson, lawyer and chairman of the Union of Local Authorities in Iceland, was appointed chairman. Other members of the steering committee were Mr. Helgi Hallgrímsson, Director General of the Public Roads Administration, Mr. Hermann Gudjónsson, General Director of the Icelandic Maritime Administration and Mr. Þorgeir Pálsson, Director-General of the Directorate of Civil Aviation.

Working with the steering committee were Mr. Jóhann Gudmundsson, Director: Transport and Planning, Ministry of Communications and Mr. Sigurbergur Björnsson, Project Manager: Transport and Planning from the beginning of the year 2001.

According to the terms of reference of the steering committee:

"The following conditions shall be taken into account in the transport policy:

- a) *to acquire a uniformed prioritisation process and policy making.*
- b) *to acquire a more efficient utilization of funds and manpower.*
- c) *to acquire more emphasis on cooperation of transport modes and the agencies of the Ministry of Communication."*

Preparation of a proposal for a comprehensive transport policy has now been completed. This summary was prepared to provide an overview of the policy proposals. Here, the financial prerequisites of the policy are explained, also its principal objectives and main items and the elements that affect it.

Chapter 1 specifies figures on revenues and expenses for each field, divided into three four-year periods. Chapters 2-4 further specify the various items of Chapter 1. Finally, Chapters 5 and 6 briefly touch on environmental and safety issues but the complete National Transport Policy covers these somewhat negative aspects of transport in detail. All figures are according to the pricing level for the year 2001.

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1. REVENUE AND EXPENDITURE PLAN

1.1 Aviation

Amounts in M ISK

| | 1st period 2003-2006 | 2nd period 2007-2010 | 3rd period 2011-2014 |
|---|-------------------------|-------------------------|-------------------------|
| INCOME AND CONTRIBUTIONS | | | |
| Earmarked income | | | |
| Air transport tax | 2,853 | 2,910 | 2,970 |
| Appropriation from the Treasury | 3,078 | 2,938 | 2,538 |
| State revenue | 511 | 551 | 551 |
| Special income | | | |
| Income from intern. air traffic ctrl | 4,836 | 4,836 | 4,836 |
| Other special income | 876 | 876 | 876 |
| TOTAL INCOME AND CONTRIBUTIONS | 12,154 | 12,111 | 11,771 |
| Capital movements | | | |
| Borrowing | 120 | 0 | 0 |
| Obligations and appropriations | -311 | -312 | 0 |
| Total capital movements | -191 | -312 | 0 |
| TOTAL DISPOSABLE FUNDS | 11,963 | 11,799 | 11,771 |
| EXPENSES | | | |
| Operations and service | | | |
| Central administration | 889 | 889 | 889 |
| Control and safety affairs | 460 | 460 | 460 |
| Airport service | 2,384 | 2,384 | 2,384 |
| Domestic air traffic ctrlnavigation | 1,164 | 1,164 | 1,164 |
| International air service | 4,836 | 4,836 | 4,836 |
| Relics and history | 60 | 60 | 60 |
| Operations total: | 9,793 | 9,793 | 9,793 |
| Maintenance and grants | | | |
| Maintenance funds | 580 | 580 | 680 |
| Total maintenance and grants | 580 | 580 | 680 |
| Initial costs | | | |
| Airports in basic network | 1,131 | 858 | 568 |
| Loan paym. -basic network projects | -311 | -312 | 0 |
| Scheduled air services airports outside the basic network | 0 | 125 | 70 |
| Other airports outside the basic network | 350 | 335 | 200 |
| Other structures, equipment and projects | 420 | 420 | 460 |
| Total initial costs: | 1,590 | 1,426 | 1,298 |
| TOTAL EXPENSES: | 11,963 | 11,799 | 11,771 |

1.2 Maritime affairs

Amounts in M ISK

| | 1st period 2003-2006 | 2nd period 2007-2010 | 3rd period 2011-2014 |
|--|-------------------------|-------------------------|-------------------------|
| INCOME AND CONTRIBUTIONS | | | |
| Earmarked income | | | |
| Vessel fees | 239 | 239 | 239 |
| Lighthouse fees | 379 | 402 | 427 |
| Special excise tax to the Harbour Development Fund | 0 | 0 | 0 |
| Earmarked disposable funds | 618 | 641 | 666 |
| Appropriation from Treasury | 6,201 | 3,593 | 3,593 |
| Total appropriations from Treasury | 6,819 | 4,235 | 4,259 |
| Other government revenue (certificates) | 5 | 5 | 5 |
| Special income (service revenues, etc.) | 473 | 473 | 473 |
| TOTAL INCOME AND CONTRIBUTIONS | 7,297 | 4,713 | 4,737 |
| Capital movements: | | | |
| Treasury obligations to harbour funds | -316 | 0 | |
| Borrowing / Appropriations | 0 | 0 | |
| Total capital movements | -316 | 0 | |
| TOTAL DISPOSABLE FUNDS | 6,981 | 4,713 | 4,737 |
| EXPENSES | | | |
| Operational expenses: | | | |
| Central administration | 777 | 777 | 777 |
| Lighthouses and navigation systems | 432 | 432 | 432 |
| Statutory ship surveys | 460 | 460 | 460 |
| Maritime traffic control centre | 816 | 712 | 712 |
| Research and development | 216 | 216 | 216 |
| Relics and history | 100 | 100 | 100 |
| Service agreements on safety affairs | 506 | 506 | 506 |
| Total operational expenses | 3,307 | 3,203 | 3,203 |
| Initial costs | | | |
| Harbours in basic network – investm. grants | 3,076 | 595 | 684 |
| Treasury obligations to harbour funds | -316 | | |
| Lighthouses and navigation systems | 66 | 66 | 66 |
| Ports outside the basic network | 304 | 304 | 239 |
| Grants for landing facilities for small craft vessels | 12 | 12 | 12 |
| Port facilities for ferries | 24 | 24 | 24 |
| Coastal protections | 306 | 306 | 306 |
| IMA - Equipment | 83 | 83 | 83 |
| Harbour development fund contribution | 120 | 120 | 120 |
| Total Initial Costs | 3,674 | 1,510 | 1,534 |
| TOTAL EXPENSES: | 6,981 | 4,713 | 4,737 |

1.3 Road administration

Amounts in M ISK

| | 1st period 2003-2006 | 2nd period 2007-2010 | 3rd period 2011-2014 |
|---|-------------------------|-------------------------|-------------------------|
| INCOME AND CONTRIBUTIONS | | | |
| Earmarked income | 42,700 | 44,430 | 46,300 |
| Appropriation from Treasury | 12,450 | 12,100 | 10,000 |
| State revenue | 40 | 40 | 40 |
| Special income | - | - | - |
| TOTAL INCOME AND CONTRIBUTIONS | 55,190 | 56,570 | 56,340 |
| Capital movements | | | |
| Borrowing | - | - | - |
| Obligations and amortizations | -1,313 | -301 | - |
| TOTAL DISPOSABLE FUNDS | 53,877 | 56,269 | 56,340 |
| EXPENSES | | | |
| Operations and service | | | |
| Central administration | 1,140 | 1,220 | 1,240 |
| Information services | 290 | 300 | 310 |
| Road traffic control | 330 | 340 | 350 |
| Service | 9,610 | 10,580 | 11,480 |
| Public transport | 3,200 | 2,420 | 2,110 |
| Thereof loan repayment | -1,153 | -221 | 0 |
| Research and development | 430 | 450 | 470 |
| Relics and history | 100 | 100 | 100 |
| Total operations and service: | 13,943 | 15,189 | 16,060 |
| Total maintenance: | 9,400 | 10,560 | 11,300 |
| Initial costs | | | |
| Basic network | | | |
| General projects | 1,800 | 1,600 | 1,600 |
| The greater Reykjavík area | 6,800 | 7,800 | 8,100 |
| Large-scale projects | 9,130 | 9,930 | 9,800 |
| Thereof loan repayment | -160 | -80 | 0 |
| Tunnel construction programme | 5,800 | 4,200 | 2000 |
| Country roads in the basic network | 300 | 500 | 700 |
| Total basic network | 23,670 | 23,950 | 22,200 |
| Outside the basic network | | | |
| Connecting roads | 1,980 | 1,990 | 2,000 |
| For bridge construction | 1,060 | 1,060 | 1,080 |
| Tourist routes | 1,540 | 1,100 | 1,160 |
| Fences | 250 | 350 | 400 |
| Country roads outside the basic network | 500 | 500 | 500 |
| Collecting roads | 1,130 | 1,150 | 1,200 |
| Grant roads | 230 | 240 | 240 |
| Bridle paths | 170 | 180 | 200 |
| Total outside the basic network | 6,860 | 6,570 | 6,780 |
| Total initial costs: | 30,530 | 30,520 | 28,980 |
| TOTAL EXPENSES: | 53,877 | 56,269 | 56,340 |

2 REPORT

2.1 General

Effective transport is one of the fundamental prerequisite for a strong economy and dynamic national life. The fast growth in transport also results in negative effect on the quality of life and the environment and undermines the benefits of good transport, if nothing is done to counter it.

One of the most important tasks in the new millennium is to counteract the negative effects of transport so that they fall within the limits of sustainable development without losing the benefits of good transport. This task calls for global solidarity and the more technological advanced part of the world is showing increased understanding for it. This is taken into account in the transport policy.

2.2 The main objectives of the transport policy

The national transport policy stresses four principal objectives:

1. Objectives for mobility in the transport system.
2. Objectives for cost-effective operations and transport development.
3. Environmental objectives for a sustainable transport system.
4. Objectives for a safe transport system.

Objectives for mobility in the transport system

An emphasis is placed on enhanced accessibility and mobility of people, as well as the efficiency of the transport system.

The enhanced accessibility shall ensure that people can access places, such as schools and places of work, and can go about their business in a convenient way and without any considerable shortcomings. An example of enhanced accessibility is improved public transport to provide populated areas of over two hundred inhabitants with access to land-based public transport. Also, communities of over one hundred inhabitants are linked to the basic road network. Furthermore, the transport policy aims at enabling most of the population to travel to the greater Reykjavik area in less than 3.5 hours.

Good accessibility also contributes to efficient utilisation of the country's natural resources, such as fishing grounds, minerals and sources of energy and nature for the benefit of tourism. It ensures supply to the sectors of the economy and transport of goods to the marketplace, both domestic and foreign, and it is an important part of the competitiveness of the Icelandic economy.

Increased mobility is achieved by enhanced accessibility and capacity of the transport system, but it is primarily the greater Reykjavik area that faces inadequate capacity. An aim for an improved capacity in the capital area is set forth and the actions needed are specified. There are strong ties between mobility and a dynamic economy. In Iceland, mobility is considerable, a little less than in the United States of America but somewhat more than in Western Europe. The national transport policy assumes that Iceland will be able to keep her position in this respect.

Objectives for cost-effective operations and transport development.

To seek the most advantageous options in building up and operating transport in Iceland the so-called basic network of transport in Iceland has been defined. The basic network is defined, on the one hand, from the point of view of traffic density and, on the other hand, service objectives. In addition to this objective, various subgoals and activities are stated in the plan, for instance, on cooperation of transport institutions, the development and operations of transport infrastructure, user tolls or fees, objectivity in monitoring activities and by utilization of market forces where applicable. These goals and activities are set in the interest of promoting the most economical solutions in the relevant field.

Objectives for an environmentally sustainable transport system.

An environmentally sustainable transport system by definition fulfils the need for flexible, safe and efficient transport options, which do not have harmful effects on human health or ecosystems so that (a) the utilization of renewable resources is less than the renewal rate and (b) the utilization of non-renewable resources is less than the speed of development of renewable resources.

The objective is to obtain sustainable transport. It requires transport to be in accordance with a policy on sustainable development, meeting the needs of the present generation and generations to come. Thus, it involves harmonising environmental, economical and social objectives within the transport sector. Means of environmental objectives are actions geared towards restricting the utilization of non-renewable resources, preventing the deterioration of the renewability of renewable resources, preventing harmful effects of transport on human health or ecosystems and taking measures to counter negative environmental impact. Sub-goals, also regarding the local environment, are set to promote sustainable transport and measures are discussed to achieve those goals, to the extent possible. Achievements in this field, however, greatly depend on international technological developments.

Objectives for a safe transport system.

One main objective of the transport policy is to achieve comparable or improved level of transport safety as best accomplished in the neighbouring countries in Europe, especially in Scandinavia. Safety matters are specially covered and certain sub-goals stated as well as activities on how to achieve prescribed objectives. Statistical data is presented on the present state of safety matters, result objectives set and ways to accomplish safer transport in the future. The Ministry of Communications is responsible for aviation safety and maritime safety. The Ministry of Justice and Ecclesiastical Affairs is partly responsible for the safety aspect of land transport. In the transport policy a reference is made to the traffic safety policy of the government.

3. FUND RAISING

The policy applies current fund raising means used in compiling the income plan for aviation, maritime and road affairs, although it may change during the planning period. The financial framework of the transport policy takes, to a large extent, into account the applicable income and expenditure framework of these schedules for the previous two years. This is specified in table 3-1 and the figures, in column one are multiplied by two to make the figures comparable with the periods of the transport policy. However, there are some variations, which are explained in the transport policy.

| | Special programmes in force | National transport policy | | |
|----------------------------|-----------------------------|---------------------------|--------------------|--------------------|
| | 2 years x 2 M ISK | 2003-2006 M ISK | 2007-2010 M ISK | 2011-2014 M ISK |
| Aviation | | | | |
| Income | 8,232 | 9,076 | 9,173 | 9,233 |
| Treasury appropriation | 2,690 | 3,078 | 2,938 | 2,538 |
| Total | 10,922 | 12,154 | 12,111 | 11,771 |
| Maritime affairs | | | | |
| Income | 1,090 | 1,096 | 1,119 | 1,114 |
| Treasury appropriation | 8,888 | 6,201 | 3,594 | 3,593 |
| Total | 9,978 | 7,297 | 4,713 | 4,737 |
| Road administration | | | | |
| Income | 42,202 | 42,740 | 44,470 | 46,340 |
| Treasury appropriation | 11,000 | 12,450 | 12,100 | 10,000 |
| Total | 53,202 | 55,190 | 56,570 | 56,340 |
| Transport affairs | | | | |
| Income | 51,524 | 52,912 | 54,762 | 56,717 |
| Treasury appropriation | 22,578 | 21,729 | 18,632 | 16,131 |
| Total | 74,102 | 74,641 | 73,394 | 72,848 |

Table 3-1. Overview of revenue and government contributions

Air transport tax is levied on passengers in domestic and international flights. An increase of 0.5% in the number of passengers per annum is presumed and the expected income from the tax is based on that figure. The revenue of the Icelandic Civil Aviation Administration levied by state regulation consists of a landing fee paid by aircraft operators. Aircraft survey and inspection fees and aircraft operators' fees are also levied by state regulation. Unchanged revenues from tariffs in state regulations are assumed throughout the policy period. The collection of the en route flight fee, is scheduled to be abolished. Revenues from international air service are collected in the form of passage fees and are supposed to refund 95% of the costs of international air traffic service. Iceland bears 5% of the rationalization expenses, which the agreement is believed to encompass. Unchanged special revenues are assumed throughout the policy period. The amount of the government contribution is largest in the beginning of the policy period but decreases gradually from then on. The Treasury appropriation is expected to decrease by 40 M ISK in the second period

due to increasing landing fees in the domestic air service. As from 2010, the intention is to let the airport service charge cover the 100 M ISK annual contribution to supported domestic air service (Public Service Obligation contracts). This is implemented by lowering the government contribution by 100 M ISK per annum from the same time. Otherwise, government contribution is expected to be unchanged throughout the period.

According to the transport policy the Icelandic Maritime Administration will take on new tasks, for instance vessel telecommunication services and supervision of service contracts on seafaring safety (The Maritime Safety and Survival Training Centre, operations of rescue vessels, etc.). These projects are financed by appropriation from Treasury and the annual state contribution to the Icelandic Maritime Administration increases by 330 M ISK on account of the agreements according to the pricing level for the year 2001. It is otherwise expected that expenditure resulting from maritime administration will be comparable to what it is today. The plan for harbour projects assumes that the government contribution will be in accordance with the applicable harbour schedule until the end of 2004 but after that the estimated contribution will be pursuant to the bill on new harbour act. As a result, expenses for the harbour schedule will decrease and the financial resources available will be used to cover road transport affairs. As a total, the government contribution to maritime affairs decreases as a result of the above-mentioned. The special income of Icelandic Maritime Administration will increase a little for the rest of the policy period.

An article in Icelandic law provides revenues from gasoline taxes and weight/km based taxes earmarked for road affairs managed by the Public Road Administration, in recent years enough to fund the development and the operation of the road system. This source of revenues is expected to continue throughout the policy period. No increase in rates is accounted for from the present situation. Annual gasoline sales are expected to be unchanged, 190 million litres. It is assumed that increase in the number of cars will counterbalance more economical engines and less driving per car. It is expected that the weight-based tax/charge per km will increase by an average of 2% per annum due to more driving. The amount of weight-based tax in the form of annual fee is believed to have increased faster than other income bases recently and it is expected that this will continue to be the case. The increase is estimated to amount to 4% in 2003 and 2% per year thereafter.

The Public Roads Administration receives state revenues, primarily in the form of licence fees in the transport industry.

The incumbent road schedule requires considerable contributions from Treasury in the latter years of the policy period (2.7-2.8 billion ISK per annum). This has been related to the scheme of the government to use a part of the sales value of state enterprises to support a campaign for road related developments. For example, these funds enable tunnel construction - speeding up various important large-scale projects in the capital area and in rural areas - and attending to peripheral settlements and tourist routes more actively than has been done. This is taken into account in the transport policy.

In addition, a part of the funds saved by the government resulting from a new harbour legislation will be allocated to fund road expenditures. The estimated annual amount is 600 M ISK as from 2005 onwards. The Public Roads Administration has recently been assigned management responsibilities of non-sustainable air service routes that

are supported by a public service obligation contracts. These routes are funded by Treasury. According to the national transport policy, the aforementioned projects are to be implemented in addition to the further development of some of the principal state roads across the highland area. The total fund raising is relatively unchanged throughout the policy period. Earmarked income increases somewhat but the state grant decreases.

Regarding ways of fund raising to cover road development expenses it can be pointed out that state revenues from automobiles and their use are considerably higher than the financial resources going to road related issues.

New methods of levying charges for the use of transport installations are being discussed in Europe. There are two major themes apparent in this discussion. The levying of charges should be according to the marginal cost principle and should extend to both internal and external costs. Also, the charges should occur at time and place of use. This is intended to prevent infrastructure charges to discriminate against transport modes and to direct transport to the most economical solution at each time. Internal costs relate to the direct use of transport installations but external costs pertain to accidents, traffic delays, use of the environment, etc. It takes a lot of work to introduce methods in this respect and it is expected that it will commence soon in Iceland and elsewhere. The development in Europe must be well monitored, both in respect of methods and technical solutions.

In recent years, private parties have to a large extent participated in the various fields of transport. There are many reasons for this development. The principal ones are increased demands for the application of market forces where possible and, furthermore, new ways to attract private capital in traditional governmental projects and operations. According to the transport policy this development will continue and the market will be utilized increasingly where practical.

The transport policy sets a few objectives, which are, in fact, a further implementation of the principal objective of efficiency in the development and operations of transport. These are in the following table:

| Chapter | Objectives for cost-effective operations and transport development | implementation |
|----------------|--|-----------------------|
| 5.3. | Agencies shall cooperate in assessing the factors that influence the transport availability and choice of transport mode. | 1st period |
| 5.8. | Promote cooperation between transport administrations in planning. | General |
| 5.8. | Promote cooperation between transport agencies in developing and operating transport installations and cooperation with other public bodies. | General |
| 5.5. | Bus-licences under state responsibility will be reorganised. | 1st period |
| 5.5. | To analyse how to increase the efficiency of the operations of ferries and how to select them. | 1st period |
| 5.4. | All rules adopted will contribute to improved safety without differential treatment of users beyond what is unavoidable. | General |
| 5.4. | Government subsidy will not result in a distorted competitive position for particular enterprises. | General |
| 5.4. | Government subsidies are to be well defined and transparent. | General |
| 5.4. | Analyse whether consumers receive differential treatment in pricing by transport mode and within transport mode and, if present, to seek ways to correct this. | 1st period |
| 6.5. | Look into classification, registration and presentation of external and internal costs in transport. | 1st period |
| 6.5. | The aim shall be that the cost of transport be borne by users. | end of 2nd period |
| 6.5. | The aim shall be to levy charges at time and place of use. | General |
| 5.9. | Look after the interest of Iceland in the development of Galileo and Egnos systems. | 1/2 period |
| 5.9. | Support the development and construction of the Galileo satellite radio navigation project. | 1/2 period |
| 5.2. | Find ways to utilize operational know-how of private bodies in transport. | General |
| 6.6. | To continue to delegate to private bodies the tasks concerning infrastructure projects and operations which are feasible in view of efficiency aspects. | General |
| 5.2. | The aim shall be for a separation between the setting of rules and control in the transport field, where applicable. | General |
| 6.6. | Private capital shall be used for the development of the transport system, where practicable. | General |
| 6.6. | Further call for competitive bidding regarding service and operational tasks in the transport sector, if satisfactory conditions are provided. | General |

4 THE TRANSPORT SYSTEM - PROJECTS, OPERATIONS AND MAINTENANCE

One of the main objectives of the transport policy is to meet the demand for mobility resulting from need of accessibility for people and need for capacity in the transport system. Several sub-objectives have been defined in the transport policy as well as ways to encourage this. The objectives for further development of the basic network, service and maintenance of the system and the relevant cost estimates take into account the prerequisites set forth in table 4.1.

| Chapter | Objectives for mobility in the transport system | implementation |
|---------|--|--------------------|
| 5.6. | In developing and operating transport systems infrastructure, ways should be found to support and enhance service and growth regions. | General |
| 5.6. | In developing transport outside service and growth regions, a good accessibility should be ensured to the next growth region. | General |
| 5.6. | Provisions should be made for enabling as many inhabitants as possible to travel to the greater Reykjavik area within the time of travel to the capital area to less than 3.5 hours travel time for as many inhabitants as possible. | General |
| 5.7. | A special plan to 2014 should be made on the operation and development of transport for tourists. | 1st/2nd/3rd period |
| 5.7. | Accessibility to the most popular tourist locations should be ensured throughout the year by improving winter services. | General |
| 5.5. | Public air or land transport should be available to all populated areas with a population of 200 or more. | General |
| 5.5. | Public transport should be enhanced, where practicable. | General |
| 5.5. | Government support for public transport of municipalities should be increased, i.e. weight-based diesel engine tax will be fully reimbursed. | 1st period |
| 5.5. | Public bodies should place increased emphasis on role of public transport in planning. | General |
| 5.2. | Increased dissemination of information on transport options should be emphasised which also ensures better harmonization of transport modes. | General |

Table 4.1. Mobility objectives in the transport system

4.1 The transport system - Basic Network - Investment

The transport system is designed to fulfil the needs of the nation for all transport of people and goods and for the fishing industry. In its broadest sense all installations, that may be utilized for this transport, are a part of the transport system. In compiling the national transport policy it is important to underline which installations are the most important ones for the benefit of the whole and form a natural and cohesive transport system nationwide. Here, this basic system of transport is named the basic network:

- ? With the basic network the carrier system is defined. It is the most important part of the transport system, which connects the country's larger districts and forms a whole.
- ? Most of the traffic is in the basic network and, therefore, it is important to prioritise its development in accordance with the adopted standards and safety requirements.
- ? The basic network must be looked at as a national system for the benefit of all the inhabitants. The development is in favour of the country as a whole but not only specific regions.

All municipalities with approximately 100 inhabitants or more are by definition connected to the basic network. The basic network also comprises the regions believed to be the most important ones for fisheries, tourism and for carriage to and from the country. The basic network links all the populated areas of the country and the primary transport links in the most populated areas are a part of the network.

In the following paragraphs the basic network is defined (see figure 4-1) and its main features are specified. Since changes in transport happen fast it may be expected that regular updates of the definition for basic network are necessary.

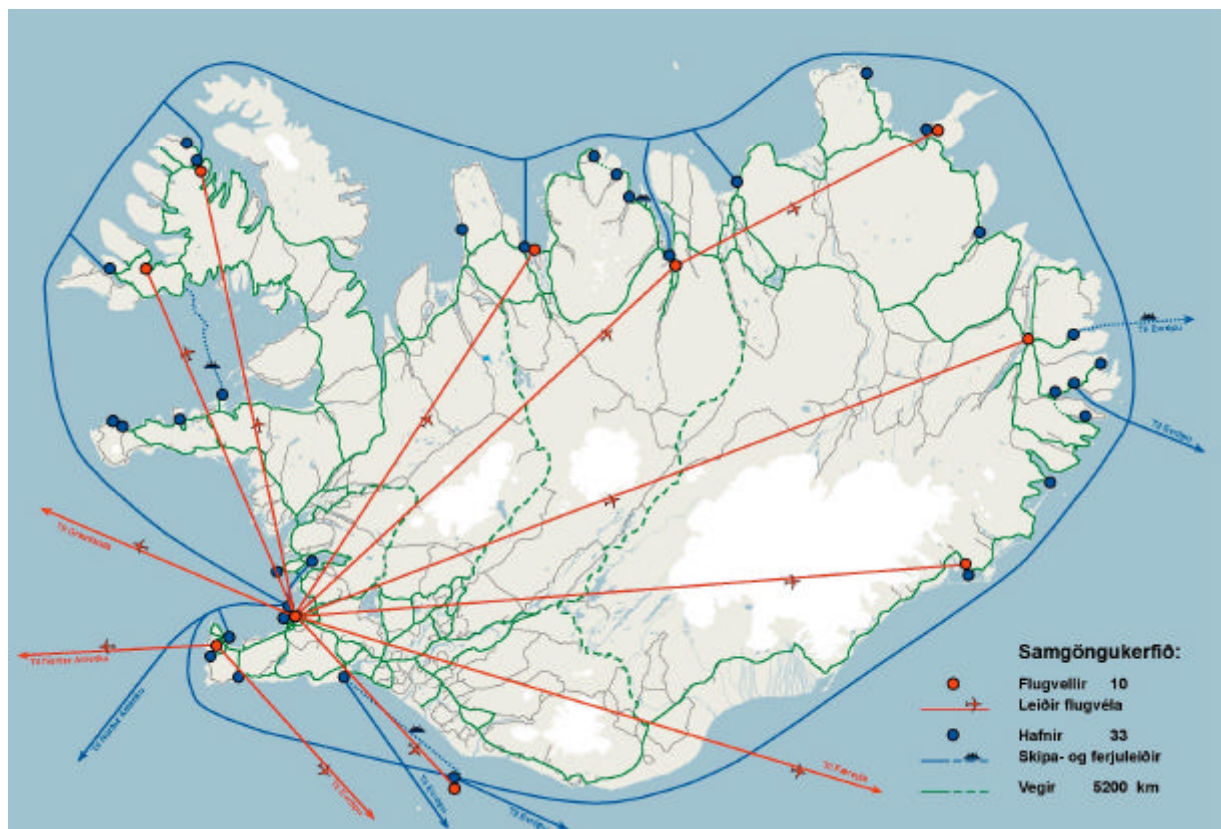


Figure 4-1. Basic network.

| |
|----------------------|
| Reykjavík |
| Bíldudalur |
| Ísafjörður/Pingeyri |
| Sauðárkrókur |
| Akureyri |
| Þórshöfn |
| Egilsstaðir |
| Höfn í Hornafirði |
| Vestmannaeyjar/Bakki |
| Keflavík |

Table 4.2. Airports in the basic network

| |
|--|
| Forsendur: Vöruflutningar yfir 10 þús. tonn eða landaður afli yfir 8 þús. tonn árlega. |
| Grundartangi |
| Akranes |
| Snæfellsbær (Rif og Ólafsvík) |
| Grundarfjörður |
| Stykkishólmur |
| Vesturbyggð (Patreksfjörður) |
| Bolungarvík |
| Ísafjarðarbær (Ísafjörður) |
| Skagaströnd |
| Skagafjörður (Sauðárkrókur) |
| Siglufjörður |
| Ólafsfjörður |
| Dalvíkurbyggð (Dalvík) |
| Akureyri |
| Húsavík |
| Raufarhöfn |
| Þórshöfn |
| Vopnafjörður |
| Seyðisfjörður |
| Fjarðabyggð (Norðfjörður, Eskifjörður og Reyðarfjörður) |
| Fáskrúðsfjörður |
| Djúpivogur |
| Hornafjörður |
| Vestmannaeyjar |
| Þorlákshöfn |
| Grindavík |
| Sandgerði |
| Reykjanesbær (Keflavík/Njarðvík) |
| Hafnarfjörður |
| Reykjavík |

Table 04-3. Harbours in the basic network

Airports in the basic network are shown in table 4-1. Airports are categorized by the size of aircraft that can use the airfield. In category I there are airports serving conventional aircraft in domestic air service with the capability of serving as alternate airports for aircraft in international air service. Besides Keflavík Airport, Reykjavik Airport, Akureyri Airport and Egilsstaðir Airport belong to this category. These are alternate airfields for international air services going through Keflavík Airport. To maintain this service it is

inevitable to define a around the clock readiness in order to be able to receive large jets on short notice. Other airports in the basic network belong to category II, for the use of air-crafts in domestic air service.

Ports belonging to the basic network of the transport policy are those through which 10 thousand metric tons of goods are shipped annually or where 8 thousand metric tons of fish products are landed. Large-vessel harbours through which 50 thousand metric tons of goods are shipped annually are located in 13 municipalities. In addition, 10 thousand metric tons of goods and/or over 8 thousand metric tons of fish products are shipped through ports in 17 municipalities. Therefore, a total of 30 ports belong to the basic network.

All stem roads belong to the basic network. In addition to the stem roads, connecting roads to municipalities with approximately 100 inhabitants or more, are included in the policy. Furthermore, it is proposed to include some long connecting roads with relatively heavy traffic as well as connecting roads to the most popular tourist locations. Finally, important country roads as well as connecting roads

linking them to the stem road system are included in the basic network. With this arrangement the length of the roads included in the basic network is around 5200 km or about 40% of the country's state road system.

All ports and airports, which are considered important for transport to and from Iceland, belong to the basic network. The development of traffic in the basic network has been assessed as well as its capacity in the light of this development. Bottlenecks have been studied and technical requirements put forward to be fulfilled by the basic network.

Project objectives for the basic network have already been defined. In a proposal for the national transport policy, the greater Reykjavik area is specially studied but in this summary the objectives for the rural areas and the capital area are studied as a whole.

Aviation

Airports in category I are scheduled to fulfil requirements on approach systems in the first period of the policy.

A traffic and service centre at Reykjavik Airport will be built as a possible BOT or BOOT project in the first period of the policy. Also, old and obsolete buildings in the airport area, are expected to be demolished or renewed.

A training airfield is intended to be built in the neighbourhood of Reykjavik in the first period of the policy.

Regarding airfields in category II, the aim is to fulfil requirements on "buildings", including machine storages, in the second and third periods of the policy.

Airports in category II are scheduled to fulfil requirements on "runways and ramps". In various places an effort needs to be made to smooth out and fill up safety zones.

An assessment shall be made on the operations of all airfields and runways within and outside the basic network and decisions must be taken on future usage in 2003.

Maritime Traffic

Shipping route safety: Shipping routes in the sea area around the country must be in conformity with international law and rules and state-of-the-art-techniques must be utilized to disseminate information to seafarers on weather and sea state and other issues related to safety of navigation.

Port entrance safety: All ports should fulfil requirements regarding depth, width, harbour channel markings and other aspects relevant to the safety of ships navigating within them.

Space within ports: All ports should have turning zones and depth fulfilling the relevant standards for the largest vessels that the port is capable of receiving.

Need for renewals: Port infrastructures are to be renewed as required. In the renewal process, account must be taken to ships' draught, pier stress and the applicable safety requirements.

Road network

The basic network of stem and connecting roads must be developed with full load bearing capacity and solid surfaces. Included in this objective is a project to rebuild/broaden roads with one lane solid surface, roads with a traffic density of ? 400 automobiles per day annually on average where old roads were covered with solid surface without modification and have proven dangerous, as well as road sections where the road track is unusable.

Broaden roads with a traffic density that leads to a capacity and traffic safety problem.

Dig tunnels in accordance with the Tunnel Construction Programme.

Eliminate single lane bridges on parts of the basic network with traffic density of ? 300 automobiles per day annually on average.

Make improvements on dangerous road sections in accordance with a special plan.

Commence renewal projects on principal country roads (shown with a dotted line in the basic network). The aim of the renewal project is to get these roads into "good shape" according to a more precise definition.

Fences will be built along roads with a traffic density of ? 300 automobiles per day annually on average in order to be able to ban the free roaming of livestock.

Build/renew bridges in the capital area to the extent that traffic conditions will not worsen from the present condition.

Cost estimate

Cost estimates have been calculated for the necessary projects in order to fulfil the aforementioned objectives. These costs are outlined below and for comparison the available capital for the relevant items in the policy is specified, where applicable. The costs regarding an airport terminal at Reykjavik Airport is not included since it is expected that it will be a consession project.

Aviation

| | 2003-2006 M ISK | 2007-2010 M ISK | 2011-2014 M ISK |
|-------------------------------|--------------------|--------------------|--------------------|
| Runways and ramps | 701 | 512 | 88 |
| Buildings | 270 | 180 | 130 |
| Approach and safety equipment | 160 | 166 | 350 |
| Total | 1,131 | 858 | 568 |

Table 4-4 Cost of airfields in the network.

Also included, cf. table 4-4, is initial cost regarding equipment not used by particular airfields, but jointly used by many parties, such as by various research. Also there is a

provision for corrections and urgent projects, which might emerge in the policy period.

| | 2003-2006 M ISK | 2007-2010 M ISK | 2011-2014 M ISK |
|-----------------------------------|--------------------|--------------------|--------------------|
| Air traffic control centre | 40 | 40 | 60 |
| Information system | 40 | 40 | 40 |
| Air navigation system, e.g. GPS | 40 | 40 | 40 |
| Research projects | 40 | 40 | 40 |
| Miscellaneous projects | 40 | 40 | 40 |
| Corrections and priority projects | 160 | 160 | 160 |
| Management costs | 60 | 60 | 80 |
| Total | 420 | 420 | 460 |

Table 4-5. Various equipment and projects.

Cost figures are based on necessary improvement to have airfields fulfil the requirements set for the relevant category. In the first periods, emphasis will be placed on airfields of the highest category.

Maritime affairs

The transport policy assumes that the state grant for harbour projects will change in accordance with the bill on new harbour act as from 2005. According to this state grant would be just over 4,200 M ISK and this capital is included in the transport policy. In addition, 316 M ISK are included in the policy, an unpaid state grant for previous years' projects. According to the new harbour bill, harbour projects and their funding are mainly the responsibility of the harbour funds themselves and therefore an estimate of total investment is not included in this plan.

Road network

| Roads in the basic Network | Expenditure M ISK | Economic resources M ISK | 2003-2006 M ISK | 2007-2010 M ISK | 2011-2014 M ISK |
|----------------------------|----------------------|-----------------------------|--------------------|--------------------|--------------------|
| General projects | 5,000 | 5,000 | 1,800 | 1,600 | 1,600 |
| The capital area | 30,000 | 22,700 | 6,800 | 7,800 | 8,100 |
| Large-scale projects | 38,400 | 28,860 | 9,130 | 9,930 | 9,800 |
| Tunnels | 17,400 | 12,000 | 5,800 | 4,200 | 2,000 |
| Country roads | 8,500 | 1,500 | 300 | 500 | 700 |
| Total | 99,300 | 70,060 | 23,830 | 24,030 | 22,200 |

Table 4-6. Expenditure of project objectives in connection with roads compared to the financial resources behind the policy and allocation of capital on periods.

The item "General projects" is to meet new and unforeseen demands and to create flexibility in the policy. This item is necessary since it is impossible to anticipate all the possible needs in such a long period.

The capital marked for tunnel construction will suffice to complete the projects already decided according to the Tunnel Construction Programme, i.e. Siglufjordur-Ólafsvík and Reydarfjordur-Faskrudsfjordur, and to commence work on the next project, although further decisions are subject to a revised transport policy. In all, the capital needed for the completion of all project objectives corresponds to just over one

period. As shown in the table, particular items will be progressing very differently at the end of the period.

In the greater Reykjavik area it is essential to study the options of using the road system better than the case is today in order to eliminate delays and queues. There are many options available, from better harmonization of traffic lights and minor repairs at crossroads to establishing a traffic control centre in the area. The Public Roads Administration will take action, in cooperation with the municipalities, to initiate such a survey and plan on corrective actions.

4.2 Investments outside the basic network

In all transport modes there is a large number of installations outside the basic network. Objectives have not been defined for this part of the transport system as has been done for the basic network. Appropriations aim at handling projects in this part of the transport system as well or somewhat better than has been the case in recent years.

Airports

Smaller scheduled air service airfields belong to this part of the transport system as well as other airfields not specified as scheduled air service airfields but serve ambulance flights and charter flights. Some of these airfields are primarily utilized in connection with tourism by charter flights during summer months. Furthermore, the airfields specified here are those, which are primarily used for instructional flying, training flights and private and sport aviation.

Costs are specified in the enclosed tables.

| | 2003-2006 M ISK | 2007-2010 M ISK | 2011-2014 M ISK |
|-------------------------------|--------------------|--------------------|--------------------|
| Runways and ramps | 0 | 110 | 40 |
| Buildings | 0 | 0 | 30 |
| Approach and safety equipment | 0 | 15 | 0 |
| Total | 0 | 125 | 70 |

Table 4-7. Scheduled air services airports outside the basic network.

| | 2003-2006 M ISK | 2007-2010 M ISK | 2011-2014 M ISK |
|-------------------------------|--------------------|--------------------|--------------------|
| Runways and ramps | 270 | 70 | 100 |
| Buildings | 50 | 170 | 60 |
| Approach and safety equipment | 30 | 95 | 40 |
| Total | 350 | 335 | 200 |

Table 4-8. Other airports outside the basic network

| | 2003-2006 M ISK | 2007-2010 M ISK | 2011-2014 M ISK |
|-----------------------------------|--------------------|--------------------|--------------------|
| Air traffic control centre | 40 | 40 | 60 |
| Information system | 40 | 40 | 40 |
| Air navigation system, e.g. GPS | 40 | 40 | 40 |
| Research projects | 40 | 40 | 40 |
| Miscellaneous projects | 40 | 40 | 40 |
| Corrections and priority projects | 160 | 160 | 160 |
| Management costs | 60 | 60 | 80 |
| Total | 420 | 420 | 460 |

Table 4-9. Various equipment and projects.

Ports and coastal protection

A total of 26 boat ports are not included in the basic network. Total project cost in those ports during the period 2003-2014 is estimated to amount to 1,665 M ISK. Planned state grants amounts to 917 M ISK. The main tasks are re-constructions and completion of projects already commenced (900 M ISK). Other tasks are: new projects on facilities for fishing vessels (around 200 M ISK), various safety matters and standard equipment (around 185 M ISK), capital dredging (170 M ISK), new breakwaters (110 M ISK) and maintenance dredging and maintenance of breakwaters (around 100 M ISK). Also included in this set of issues are coastal protections, improvements of landing facilities for small craft vessels, port facilities for ferries and various machinery and equipment for the Icelandic Maritime Administration, see breakdown in the following table.

| | 2003-2006 M ISK | | 2007-2010 M ISK | | 2011-2014 M ISK | |
|--|--------------------------|------------|--------------------------|------------|--------------------------|------------|
| | Total cost / State fund. | | Total cost / State fund. | | Total cost / State fund. | |
| Initial costs | | | | | | |
| Ports outside the basic network | 597 | 304 | 523 | 304 | 545 | 239 |
| Improvements of landing facilities for small craft vessels and ferries | 36 | 36 | 37 | 36 | 37 | 36 |
| Coastal protections | 350 | 306 | 350 | 306 | 350 | 306 |
| Icelandic Maritime Administration, machinery and equipment | 83 | 83 | 83 | 83 | 83 | 83 |
| Harbour Development Fund contribution | 120 | 120 | 120 | 120 | 120 | 120 |
| Total | 1,186 | 849 | 1,103 | 849 | 1,135 | 784 |

Table 4-10. Ports outside the basic network, coastal protections, etc.

Road network

The majority of the road system is not included in the basic network, i.e. around 7,800 km of a total of 13,000 km. The majority of connecting roads and country roads are in this category and all collecting roads. Appropriations are specified in a table below. Also included are appropriations to road projects not categorized as highways and a few contributions from the Road Fund, according to provisions in the Road Act. Appropriations to bridge and tourist route projects will be utilized in various categories of roads and even, to some extent, in the basic network. Appropriations to

fence projects will be utilized extensively in the basic network but also outside the network. To simplify the presentation, these items are specified in one place.

| Tasks | 2003 - 2006 M ISK | 2007 - 2010 M ISK | 2011 - 2014 M ISK |
|---|------------------------------|------------------------------|------------------------------|
| Connecting roads | 1,980 | 1,990 | 2,000 |
| Bridges | 1,060 | 1,060 | 1,080 |
| Tourist routes | 1,540 | 1,100 | 1,160 |
| Fences | 250 | 350 | 400 |
| Country roads outside the basic network | 500 | 500 | 500 |
| Collecting roads | 1,130 | 1,150 | 1 200 |
| Grant roads | 230 | 240 | 240 |
| Bridle paths | 170 | 180 | 200 |
| Total | 6,860 | 6,570 | 6,780 |

Table 4-11. Project cost outside the basic network

4.3 Operations and service

This item covers central administration of transport agencies, operation of navigation systems and information dissemination, services provided in the transport systems, the monitoring operations of the agencies and public transport. Furthermore, included are research and development, education and preservation of relics and history.

Central administration

The tasks of central administrations of transport agencies are substantially similar, for example in the formulation of policy, professional and financial management and harmonization, as well as communication with Althingi (the Parliament), ministries and international organizations. Some increase in activities is expected, for example due to new tasks assigned to transport agencies.

Navigational system and maritime traffic services

Aviation

The activities of the Icelandic Civil Aviation Administration in this field include the operations of the Reykjavík Area Control Centre (RACC) and the Air Navigation and Telecommunication System.

The Reykjavík Area Control Centre and, to a large extent, the Air Navigation and Telecommunication System serve international air traffic crossing the Atlantic where Iceland is responsible for air traffic control in a large area, providing all general flight information service as well as search and rescue services. This service, as well as weather and telecommunication services, is largely paid by the users and in the near future it can be expected that it will be fully paid by users. The Icelandic Civil Aviation Administration operates a school (The ATC School) to train air traffic controllers and individuals engaged in providing flight information service.

Changes in air navigation are not expected other than it is likely that the use of global navigation satellite systems will increase during the policy period. As a consequence of this it will become necessary to employ a satellite signal monitoring systems. This

objective will best be achieved by participating in the European and the United States monitoring systems.

Maritime Traffic

This item includes operations and maintenance of the land based lighthouse system and the monitoring the operation of port lighthouses. Operation and ownership of the lighthouse network is twofold. State operated lighthouses are intended for navigation on general shipping routes, while port lighthouses, owned and operated by harbour funds, are intended as navigational aids into ports. This item also includes the operation and maintenance of the information system on weather and sea state.

Early in 2001 the Minister Communications entrusted the Icelandic Maritime Administration to prepare a call for competitive bidding on telecommunication service to ships and related services. The aim is to enter into agreements with contractors to take on this task from the beginning of the year 2003. Currently a large part of the task is under the auspices of Iceland Telecom Ltd and the Icelandic Association for Search And Rescue. It is assumed that a maritime traffic control centre will be the centre of maritime traffic within the Icelandic exclusive economic zone and will control the navigation of foreign vessels en route to Iceland, cf. a proposed European Union Directive on a monitoring, control and information system for maritime traffic. The Centre will monitor and control the traffic of vessels which will report to the automatic reporting system. Also the Centre will carry out various tasks for the Icelandic Maritime Administration, for instance reception of malfunction reports in the lighthouse system, collect information on vessels subject to port state control and monitor the information system on weather and sea state. Furthermore, the Control Centre will monitor emergency calls from ships and relay them to the control centre for search and rescue.

Road Network

Public Roads Administration operates an extensive information system for road travellers. The system will continued to be developed taking into account state-of-the-art-techniques each time.

Monitoring activities of transport agencies.

A large part of the monitoring activities of transport agencies is to ensure the safety of those using the transport system. This involves controlling whether enterprises and individuals comply with the minimum safety requirements provided for in law and regulations on those who use the transport system or take part in its operation.

Aviation

The monitoring activities of the Icelandic Civil Aviation Administration largely involve air safety carried out by the Air Safety Division. This monitoring includes, for instance, the issue of licences and certificates to individuals and enterprises.

In the coming years an identical monitoring process will be introduced in respect of the development and operations of airfields, systems and operations of the air traffic service. Until now, the responsibility for controlling and monitoring whether these activities are carried out in accordance with applicable international standards and procedures has been carried out by the parties directly involved in the operations, i.e. the Airports and Navigation Systems Division and the Air Traffic Control Division.

Aviation security is an activity, which is intended to prevent hijacking of aircraft or its security threatened by violence, bombs or dangerous substances. The Icelandic Civil Aviation Administration is responsible for ensuring the compliance with Icelandic law and international regulations in this field by aircraft operators and those who operate airports or are engaged in activities related to carriage by air. This set of issues is under the responsibility of the Flight Safety Division of the Icelandic Civil Aviation Administration.

It is clear that during the policy period monitoring activities of the Icelandic Civil Aviation Administration will increase considerably, particularly security control. The Minister of Communications has taken action to allocate more funds to this set of issues to increase the number of control officers in line with the increased activities in Icelandic flight operations. It is also apparent that formal supervision of airfields and air traffic service will call on increased control on behalf of the Flight Safety Division.

Maritime traffic

All Icelandic vessels, 6 metres in length and above, are subject to registration and ship survey. The vessels are categorized into two main groups, open and decked vessel. The number of power driven vessels is around 1400 and decked vessels around 1000. All the open boats are subject to surveillance by the Icelandic Maritime Administration and the majority of decked vessels. Approved classification societies carry out ship surveys.

The IMA is responsible for controlling the condition and manning of foreign merchant vessels in Icelandic ports pursuant to the Paris Memorandum of Understanding on Port State Control.

The Administration is responsible for control of new buildings, alterations of old vessels and imports of vessels and verifies plans and technical calculations are in accordance with applicable rules at each time. A large part of this service is paid directly by the relevant ship operator. According to this policy, ship survey activities will be of similar scale as in recently.

Road network

Road monitoring activities of the Public Roads Administration have increased considerably in recent years. This is both due to the fact that the Ministry of Communications has moved activities from its direct responsibility to agencies in accordance with administrative law and also on account of the fact that road traffic control, in cooperation with the police and the Traffic Safety Council, has been increased considerably. This development has called for increased work contribution by the Public Roads Administration and it pays a part of the employment expenses of the police force. It is expected that the development will continue to demand increased control.

Services in the transport network

The service attempts to ensure effective and safe traffic and good facilities for service delivery at airports and harbours. The ports of the country are nearly all owned by the relevant municipality. The harbour funds are independent operating units and administer the operations of installations and various harbour services.

Following are the defined objectives for the services:

Airports

Airports in the basic network in category I:

Structures such as runway, ramps, air terminals, car parks, etc., shall be able to service at least one fully loaded aircraft engaged in international flights as well as conventional traffic.

Airports in the basic network in category II:

Runways, ramps, air terminals, car parks, etc., shall be able to service at least two fully loaded aircraft engaged in domestic flights.

Ports

Service objectives are set out in the standard requirements for ports. The utilization of piers and discharging wharfs shall be within reference limits, equipment shall be available to deliver fresh water and electricity at wharfs and in large-vessel harbours facilities must be available for cargo ships. There is an open possibility to adjust objectives to changed conditions if the bill on new harbour act will be passed. Safety equipment and lighting in port areas must comply with the requirements of Regulation No. 247/2000.

Road network

Services for the road system during winter and summer shall be carried out to enhance efficient and safe traffic and must be in accordance with quality standards. During the policy period the road system of the basic network will be open all days of the week during winter. Measures to prevent slippery roads will be increased according to a special plan.

Island communities and other communities without road transport except part of the year will be ensured ferry transport (and/or air service), which fulfils general transport needs.

Public transport

One of the main objectives of the transport policy is to maintain safe and reliable public transport. It shall be available at all communities with 200 inhabitants or more. The travel time from rural communities to the capital area will not be longer than 3 1/2 hours with car or by air and car (see chart).

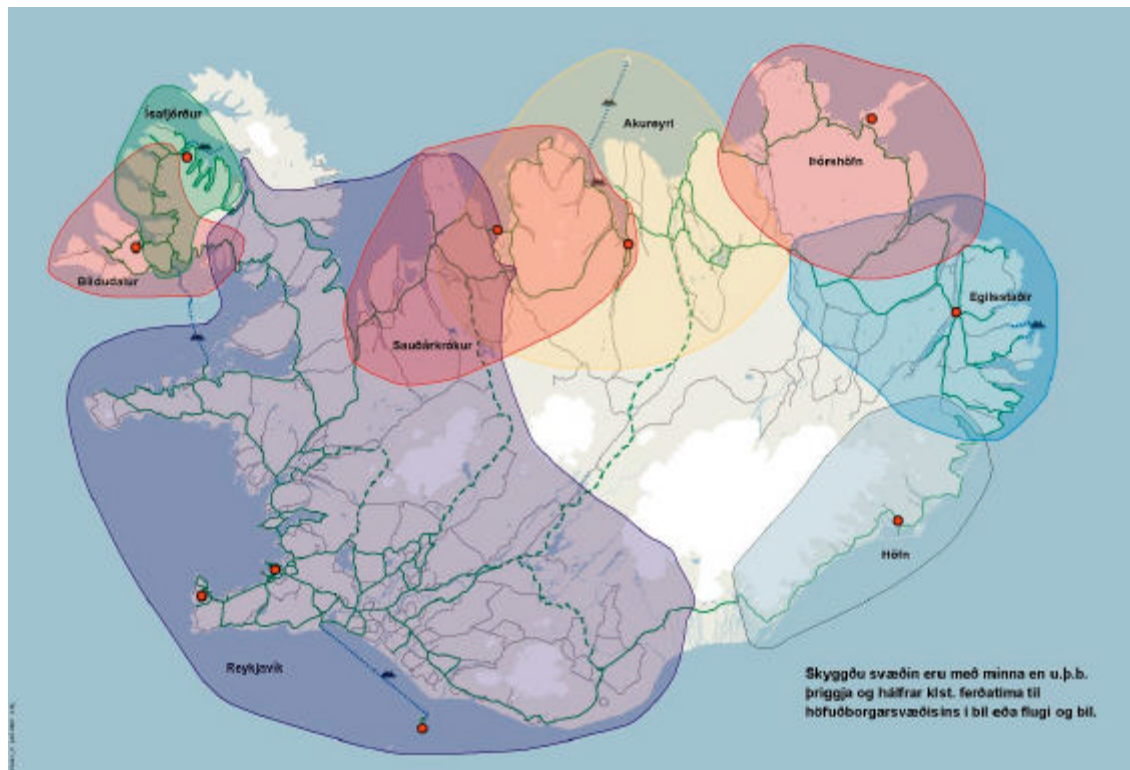


Figure 4-2. Duration of trips to Reykjavík.

All transport modes, enabling the public to purchase fares between places according to a published timetable, are considered to be public transport. All scheduled air services are considered public transport.

It is expected that scheduled air services will be operated on all air routes in the basic network and to several additional airfields, in particular to ensure minimum transport in isolated areas. Preferably there shall be daily flights to all scheduled air services airports and twice a day or more frequently to the places where the number of passengers is sufficient. Ferry routes in the transport policy are the same as operated currently, with the exception that the Breidarfjörður ferry route will presumably be discontinued in the present form. Installment payments on loans to ferry building are included here. It is expected that they will decrease during the period.

The system of regular service on roads will be restructured completely and the service enhanced. It is expected that costs will increase somewhat from the present situation.

The Public Roads Administration has been assigned to supervise all public transport subsidised by the state. The expenditure involved is, therefore, included in the road part of the transport policy.

Public transport in urban areas is excluded here and is not included in the transport policy.

Research and development

Research and development and various experiments are a growing and necessary field in all activities of national life. The transport sector is not excluded in this development. Transport agencies seek to carry out these tasks as practicable. They are responsible for the research projects themselves and cooperate with various domestic

and foreign research institutes. They also cooperate between themselves and carry out various research projects jointly. This working relationship will continue in the future.

There is a rising need for research and development projects in various fields within all agencies. At the Icelandic Civil Aviation Administration these projects are for instance related to the operations of the air traffic service, air navigation and economical aspects of transport. The latter is a joint project of all three agencies.

The Icelandic Civil Aviation Administration and the University of Iceland founded the Ltd company Flugkerfi Ltd to work on development projects previously carried out in collaboration with these two agencies. This enterprise plays an important role in ensuring know-how in air traffic control techniques, which are very specialized.

The Icelandic Maritime Administration carries out research on the safety of seafarers. Basic plans and model experiments regarding improvements in ports and harbour channels will be carried out according to the work programme of the transport policy. Soundings, sea bed research and sediment movements, e.g. due to coastal wave erosion, will be carried out. There is an ongoing research project on ship stability and the information system on weather and sea state will be developed further with the main emphasis on the safety of seafarers and environmental aspects.

Pursuant to the Road Act, 1% of the earmarked income to road construction shall be allocated to experiments, research and development. A series of campaigns with specialized topics, each with a duration of 5-7 years, will be implemented. In the years 1995-2000, emphasis was placed on research in the field of minerals, load-bearing surfaces and solid surfaces, but during 2001-2006 special emphasis will be placed on traffic safety. On this occasion, the Public Roads Administration took the initiative in establishing the Research Council of Road Safety, with the participation of 15 governmental agencies, enterprises and organisations. Already, there are ideas emerging to the effect that the next campaign will be focused on environmental issues.

Relics and history

The Icelandic Maritime Administration, the Public Roads Administration and their predecessor, the State Chief Municipal Engineer, have a history dating back to the last years of the 19th Century. It goes without saying that there are many noteworthy relics to be found within the range of operations of these agencies, although many of them have vanished. These are both installations and instruments of various kinds. Although aviation history is somewhat shorter, many noteworthy relics have been kept intact.

The preservation of relics greatly contributes to the conservation of the history of transport and transport agencies. However, historical preservation must be carried out in other ways, for instance by collecting pictures and documenting the history of projects and agencies.

An amount of 60-100 M ISK will be contributed to these projects at each agency in each period.

Operating and Service Costs

The objectives set have been cost estimated and the results are specified in the following tables.

Aviation

| Tasks | 2003-2006 M ISK | 2007-2010 M ISK | 2011-2014 M ISK |
|---|--------------------|--------------------|--------------------|
| Central administration | 889 | 889 | 889 |
| Control and safety affairs | 460 | 460 | 460 |
| Airport service | 2,384 | 2,384 | 2,384 |
| Domestic air traffic ctrl. and navigation service | 1,164 | 1,164 | 1,164 |
| International air service | 4,836 | 4,836 | 4,836 |
| Relics and history | 60 | 60 | 60 |
| Total operations | 9,793 | 9,793 | 9,793 |

Table 4-12. Operating and service costs.

Costs are unchanged throughout the policy period.

Maritime traffic

The Ministry of Communications has had a successful cooperation with the Icelandic Association for Search And Rescue (ICE-SAR) and its predecessor for many years. To enhance that cooperation even more, the Minister of Communication decided to enter into a contract of services with the association on all factors that it has been involved in recent years in safety of seafarers issues and the Icelandic Maritime Administration will supervise them.

The contracts, for instance, cover the operations of the Maritime Safety and Survival Training Centre, the Mandatory Ship Reporting System of Icelandic Ships, the Training and Education Centre at Gufuskálar and the operations of rescue boats around the country.

| Tasks | 2003 - 2006 M ISK | 2007 - 2010 M ISK | 2011 - 2014 M ISK |
|------------------------------------|------------------------------|------------------------------|------------------------------|
| Central administration | 777 | 777 | 777 |
| Lighthouses and navigation systems | 432 | 432 | 432 |
| Maritime traffic control centre | 816 | 712 | 712 |
| Statutory ship surveys | 460 | 460 | 460 |
| Research and development | 216 | 216 | 216 |
| Relics and history | 100 | 100 | 100 |
| Service contract on safety Issues | 506 | 506 | 506 |
| Total | 3,307 | 3,203 | 3,203 |

Table 4-13. Operating and service costs

Costs are unchanged for the remainder of the policy plan except that the control centre costs mainly fall on the first period. The column specifying the total costs will be included in chapter 1.2., which specifies the activities of the Icelandic Maritime Administration in the relevant fields.

Road network

| Tasks | 2003 - 2006 M ISK | 2007 - 2010 M ISK | 2011 - 2014 M ISK |
|--------------------------|------------------------------|------------------------------|------------------------------|
| Central administration | 1,140 | 1,220 | 1,240 |
| Information services | 290 | 300 | 310 |
| Road traffic control | 330 | 340 | 350 |
| Service | 9,610 | 10,580 | 11,480 |
| Public transport | 3,200 | 2,420 | 2,110 |
| Research and development | 430 | 450 | 470 |
| Relics and history | 100 | 100 | 100 |
| Total | 15,100 | 15,410 | 16,060 |

Table 4-14. Operating and service costs.

Expenditure increases progressively later on in the period. This is especially true when it comes to services, not the least increased costs regarding marking and various road equipment. Stricter requirements in this field are expected in the future.

4.4 Maintenance

Airports

As standard requirements of airfields are mostly complied with, assignments will be primarily focused on maintaining installations and facilities. The most expensive projects in this field during the policy period are maintenance work on the surfaces of runways and other aircraft operating spaces. This item includes runway painting and maintenance of buildings and electrical installations.

Ports

The Icelandic Maritime Administration owns and operates lighthouses. It is not easy to distinguish between maintenance and operations when preventive maintenance and operations are carried out simultaneously. Therefore, cost of lighthouse and navigation system maintenance is included in the operations item. The maintenance of port installations is paid by harbour funds owned by municipalities. When normal useful life is achieved the state has participated in rebuilding projects if there is a need for the relevant installation. If the bill on new harbour act will be passed this cost participation of the state in harbour matters will be less than before.

Road network

It must be ensured that the value invested in roads, bridges, tunnels and other land transport installations will be maintained. This involves all maintenance such as the renewal of surfaces, reinforcement and improvement of bridges, tunnels, embankments, road equipment and fences. The objective is to preserve those values. Gravel roads in stem and connecting road systems will also be brought into maintenance fit state. This item also includes improvements of dangerous spots and other safety measures.

Maintenance cost

Expenditure for conducting necessary maintenance work has been estimated and is specified in the table below.

Aviation

| | 2003-2006 M ISK | 2007-2010 M ISK | 2011-2014 M ISK |
|-------------------------|--------------------|--------------------|--------------------|
| Runways and ramps | 230 | 230 | 300 |
| Buildings and equipment | 70 | 70 | 100 |
| Machines and equipment | 280 | 280 | 280 |
| Total | 580 | 580 | 680 |

Table 4-15. Maintenance cost in aviation administration.

It is expected that the costs will increase in the last period.

Maritime Traffic

The Icelandic Maritime Administration is responsible for maintaining the domestic lighthouse system. The expenditure involved is included in the operational expenses of the lighthouses.

Road network

| | 2003-2006 M ISK | 2007-2010 M ISK | 2011-2014 M ISK |
|---|----------------------------|----------------------------|----------------------------|
| Solid surfaces | 3,400 | 4,000 | 4,500 |
| Gravel roads | 800 | 750 | 570 |
| Reinforcement and Improvement | 2,600 | 2,650 | 2,600 |
| Bridges, breakwaters, road tunnels | 1,200 | 1,400 | 1,600 |
| Safety measures | 600 | 800 | 900 |
| Maintenance of fences | 200 | 310 | 480 |
| Water damage and unforeseen occurrences | 600 | 650 | 650 |
| Total | 9,400 | 10,560 | 11,300 |

Table 4-16. Road maintenance cost.

Maintenance cost increases progressively later on in the period. This is mostly due to renovations of solid surfaces but also the need for bridge, tunnel and fence maintenance is increasing. Finally, an increase is expected in safety measures costs.

5. ENVIRONMENTAL ISSUES

Transport has an impact on the natural and inhabited environment and on human health. Environmental impact can be local, regional or global depending on where the impact is felt relative to its source. The impact is of different nature and, for instance, includes air pollution, greenhouse effects, energy use, health impact, noise, visual effects, etc. Many of these environmental impacts have increased in recent years, others have been unchanged or decreased but will possibly escalate again with increasing transport, if no counteraction is taken.

Roads and traffic are the largest contributors to the environmental impacts of transport. International air service remains in an international competitive environment and it is not expected that domestic air services will be able to meet the additional inflexible requirements. Therefore, special Icelandic rules in this field are not expected. The Committee on Aviation Environmental Protection (CAEP), of the International Civil Aviation Organization (ICAO) continuously works on revising standards, drawing up guidelines and assessing the environmental impact of aviation. Also, a lot of work is taking place in this field within the European Union and various organizations and associations in Europe. Maritime traffic is very dependent on international competitive environment and environmental requirements imposed on Icelandic ships must, therefore, take account of what is happening in the neighbouring countries.

Environmental objectives for a sustainable transport system need to take account of many different factors and projects. These are the principal projects to be tackled:

1. *Increasing transport demand*
2. *Increasing carbon dioxide emissions in transport*
3. *Noise emission from transport*
4. *Air pollution from transport*
5. *Land use for transport purposes*
6. *Disposal and hazardous substances from transport*

In order to assess achievements, quantifiable objectives must be defined regarding the above projects and standards for each of them must be determined. The objectives must be ambitious but also realistic, quantifiable and it must be possible to monitor and steer the development. By setting objectives it is possible to concentrate on actions to decrease the environmental impact of transport. Processes are under way within the European Union and various international organizations to determine the standards, which may be used globally to monitor the development of environmental impact in particular countries. The intention is to use the same standards in Iceland.

Objectives are set in the transport policy regarding the above factors and actions are identified to achieve good results. These actions, among other things, include diverse administrative measures, the provision of information and education, research and utilization of technical development. By taking these actions, good progress can be made in transport related environmental issues. However, international technological development is an important factor in achieving goals in many fields of transport related environmental issues, not the least regarding the global issues.

Table 5.1 below shows the principal objectives in environmental issues.

| Chapter | Environmental objectives for a sustainable transport system | implementation |
|---------|--|----------------|
| 7.3. | Decrease demand for transport services of individuals and enterprises without limiting quality of life. | General |
| 7.3. | Reduce CO ₂ emissions to achieve same level 2010 as was 1990. | 2nd period |
| 7.3. | Reduce transport based noise levels where possible | General |
| 7.3. | Air pollution from transport shall be reduced according to EU standards | General |
| 7.3. | In land use for transport purposes environmental aspects shall be taken into account. | General |
| 7.3. | Waste generation shall be reduced and reuse and recycling schemes shall be encouraged in transport. | General |
| 7.3. | The use of hazardous wastes in transport shall be restricted. | General |
| 7.3. | Rules shall be adopted on the restriction of ship traffic through biologically important sea areas (oil pollution). | General |
| 7.3. | Ways will be found for disposal of ships (e.g. deposit system). | 1st period |
| 7.3. | The entry into force of international conventions on the preservation of the oceans shall be encouraged (e.g. on the prevention of waste water pollution). | General |

Table 5-1. Objectives for an environmentally sustainable transport system.

6 SAFETY

Incidents and accidents are one of the main drawbacks of transport. In recent years, considerable effort has been put into measures to attempt to reduce the impact of this negative side of transport.

Icelanders effectively participate in international cooperation on safety. This work has been increasing in recent years, particularly in the field of aviation and maritime affairs. The most important reason is that Icelanders have committed themselves to comply with international standards and rules. This cooperation also is an important provider of necessary knowledge involving fairly little cost. Furthermore, it is necessary to harmonize safety requirements in international transport.

Safety matters are one of the most important issues in the operations of transport agencies and directly and indirectly relates to most of the activities. At the agencies, proposals are made for safety rules on equipment and operations of aircraft, ships and, in some instances, automobiles. It is their responsibility to ensure that requirements on equipment are complied with and that safety regulations are adhered to. The agencies are responsible for issuing certificates to aircraft crew members and seamen attesting their competence for the work. Also, the agencies operate navigation systems for air and sea traffic. They also operate an information system on weather and sea state and state of roads. All this is in the interest of safety of the users of transport systems. Finally, it is the responsibility of the agencies to ensure compliance with safety standards in design, development and operation of transport facilities.

A common goal for all transport modes is to achieve safety levels as best accomplished in other countries. The transport policy points out ways and topics to focus on to achieve set objectives. These goals relate to the laying down of rules, increased supervision of vehicles and their controllers, as well as increased responsibility of managers and operators. Increased education for all who play a role in transport is also a key factor. Much emphasis is placed on the improvement of the safety factor of transport installations and will be taken into account in the implementation of the policy. All the agencies stress the importance of research in connection to safety matters.

Close working relationship of all parties involved in safety matters is very important and also that the roles of the participants are clear. This particularly concerns safety on the roads since very important factors of this field are the responsibility of the agencies of the Ministry of Justice. Under the auspices of the Ministry of Justice, a traffic safety policy for 2001-2012 is being developed, and the transport policy will take account of that.

With concerted actions of all parties it should be possible to achieve the main objective of safety in transport.

Table 6.1 below shows the principal objectives in safety matters.

| Chapter | Safe transport objectives | implementation |
|---------|--|---------------------|
| | | |
| 8.3. | Promote that safety in commercial air transport operations in Iceland will not be less than in the Scandinavian Countries. | General |
| 8.3. | Promote that accident frequency of small aircraft in Iceland will not be more than in the Scandinavian Countries. | General |
| 8.3. | A quality insurance system will be established in the operation of airports and air traffic services. | General |
| 8.3. | Education and training of aircraft crew members will be of same or higher standards as in neighbouring countries. | General |
| 8.3. | The implementation of aviation security matters should fulfil relevant standards and measures shall be taken to monitor it. | General |
| 8.3. | Efficiency in the field of search and rescue matters will be improved. | General |
| 8.4. | Seafarer safety will be in line with the best accomplished in other countries. | General |
| 8.4. | Maritime casualties will decrease | 1st period |
| 8.4. | A safety control centre for ships will be established | 1st period |
| 8.4. | Shipping routes along the coast will be defined and information on dangers forwarded. | 1st period |
| 8.4. | Registration of accidents, near-accidents and incidents in harbours and harbour channels will be harmonized. | 1st period |
| 8.4. | An increased emphasis will be placed on safety aspects in the design and development in harbours. | General |
| 8.5. | Reduce fatal accidents and other serious traffic accidents by 40% in 12 years according to the average in 1996-2000. | 1st/2nd/3/rd period |
| 8.5. | Road standards will be revised with regard to traffic safety. | 1st period |
| 8.5. | Road surroundings will be improved considerably with regard to traffic safety. | 1st period |
| 8.5. | The quality of winter service will be enhanced with respect to safety, e.g. measures to prevent slippery roads and to provide information. | 1st period |
| 8.5. | Traffic markings will be improved with respect to traffic safety. | 1st period |
| 8.5. | Permitted traffic speed on the capital area highways shall be revised. | 1st period |
| 8.5. | Traffic safety scrutinizing shall be increased in designing installations. | 1st period |
| 8.5. | Further improvements shall be made on dangerous spots. | 1st period |
| 8.5. | Research on traffic safety matters shall be supported. | General |
| 5.2. | The flow of information to the public from transport agencies shall be increased to enhance transport safety. | General |

Table 6-1. Safe transport objectives.

AFTERWORD

Given the planned financial resources, there is a good possibility to reach milestones en route to the principal objectives of the transport policy . This not only applies to mobility and efficiency in operations and the development of transport but also environmental objectives for a sustainable and safe transport system.

However, it is worth turning the attention to the fact that this is only one step of many. The development, maintenance and operations of the transport system, is a continuous task. Demands will continue to increase for a long time. This is due to the fact that the campaign against the negative consequences of transport will grow tougher. The task of the years and decades to come is to attain and maintain the balance between mobility and the negative side-effects.