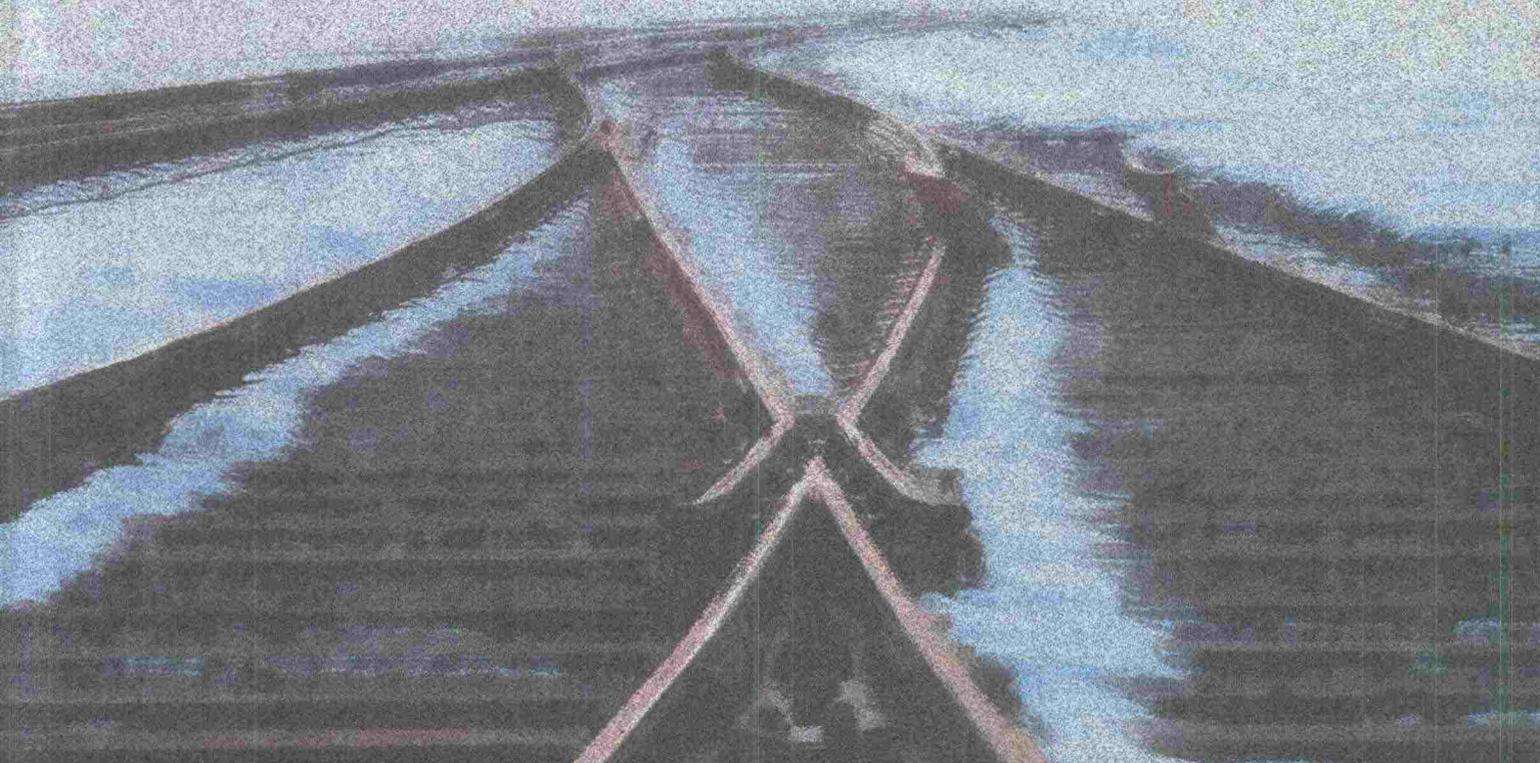


# ANNUAL REPORT 1998



# CONTENTS

---

	Page
Business Idea	3
Organization	3
Rail Administration Board	3
Chief Director's Review	4
Performance Objectives	6
Operating Environment	8
Track Renewal	12
Development	14
Safety	16
Environment	18
Annual Report of the Rail Administration Board	20
Statement of Income and Expenses	23
Balance Sheet	24
Fixed Assets	25
Use of Budget Funds	26
Rail Network Facts	27
Contact Information	27

## BUSINESS IDEA

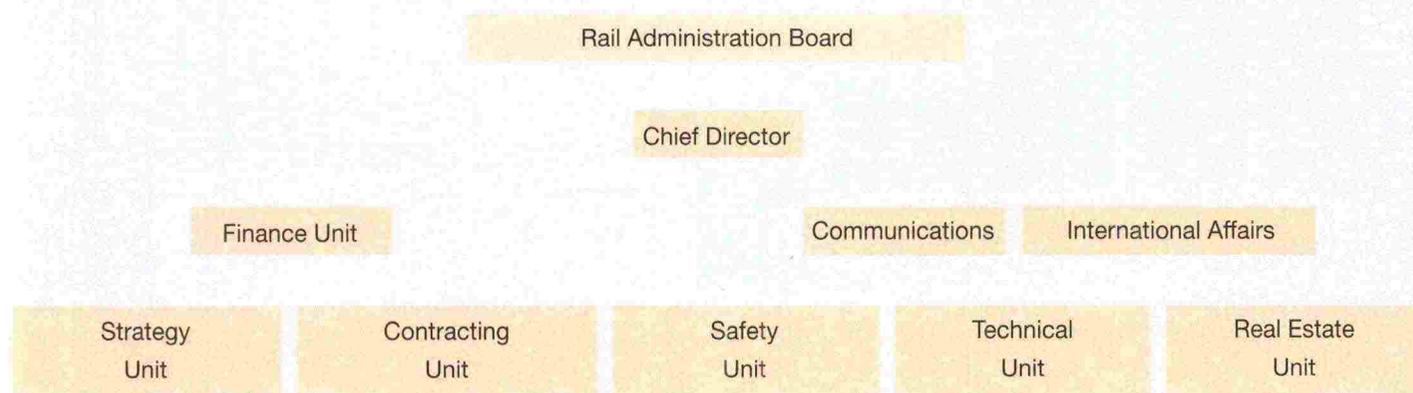
The Finnish Rail Administration (RHK) works to improve the operating conditions of rail traffic, enabling it to be an efficient, safe and environmentally friendly mode of transport, both in Finland and as part of the international transport system.

RHK is in charge of maintaining and developing the rail network, is responsible for the safety of rail traffic and provides a competitive transport network for use by railway companies.

RHK takes into account the transport needs of industry and commerce as well as the need for public transport and operates in accordance with the principles of sustainable development. It is developing Finland's rail network for international traffic as a key link between West and East.

RHK works actively to influence issues that affect Finland's transport policy and transport infrastructure.

## ORGANIZATION



## RAIL ADMINISTRATION BOARD

### 1998–2000

Mr Ossi Niemimuukko (chairman), Chief Director,  
Finnish Rail Administration

Ms Rita Piirainen, Chief Engineer,  
Ministry of Transport and Communications

Mr Veikko Vaikkinen, Director,  
Economy and Systems Department, VR-Group Ltd

Ms Maire Kaartama, Transport Economy Agent,  
Confederation of Finnish Industry and Employers

Mr Harri Ajomaa, Finnish Traffic Association

Ms Arja-Hannele Lilja, Chief Inspector,  
Finnish Rail Administration (up to 3 December 1998)

Mr Tapio Peltohaka, Planning Manager,  
Finnish Rail Administration (from 3 December 1998)

# CHIEF DIRECTOR'S REVIEW

---



1998 was a sad year in the history of rail safety. Two serious accidents only two years after the one in Jokela have understandably stimulated discussion and raised questions regarding the safety of rail services.

Although the Finnish Rail Administration began investigating and improving rail safety before the Jokela accident, this work did not have time to bring fruit or was not adequate.

As a result of what happened last year, the state, VR and RHK have together and separately taken decisions and steps to raise the safety of rail services to a top European level. This goal is demanding but can be achieved if attention is paid especially to three key factors in the entire rail organization. These factors are attitudes, management systems and technology – in that order.

With regard to the renewal of the rail network, 1998 can be characterized as a record year. Not since the 1960s had such a large number of sleepers, rails and switches been installed as last year. This was made possible by the systematic work to restore the rail network to the required level which began in the middle of the decade. This work is not yet finished. Far from it, since there is still an alarming amount of infrastructure which is over thirty years old, even on our main lines.

Track renewal is also reflected in RHK's performance indicators – in two ways. First it is a pleasure to note that the total length of track under traffic restrictions was reduced by one-fourth. The amount of funding, the proper focusing of projects and improvements in working methods were key factors behind this positive development.

On the other hand the record amount of work carried out on busy line sections has caused traffic disturbances. In rail traffic punctuality is an even more important success factor than speed. The weakening of punctuality and the resulting public criticism do not give a good picture of the rail organization's ability to take care of growing traffic and simultaneously increasing

track work. In this matter both the Finnish Rail Administration and VR should further develop their procedures in the area of quality control.

---

Although the Finnish Rail Administration's focus has been on track renewal, development of the rail network has also continued. Electrified services began between Tampere and Rauma at the beginning of 1998 and electrification work proceeded on other line sections in southwestern Finland. A study concerning the further electrification of the rail network was also completed during the year. The Finnish Rail Administration considers it important for electrified line sections to form a network which will allow the most efficient use of tractive stock.

Another landmark in development was reached in the early part of the year. Construction of the Helsinki–Huopalahti–Lepävaara urban line began in the spring, with backing from the Minister of Transport and Communications and the mayors of Helsinki and Espoo.

The new urban line is in many respects perhaps the most demanding project under way. The schedule and financing are tight, a number of cooperation partners are involved, the method of operation is new and interest in the project is great. The

project must also be carried out in extremely demanding conditions alongside brisk rail traffic. In these conditions it is certainly an advantage that some of the contractors can make use of their experience in building the urban line between Helsinki and Tikkurila.

---

It is also the task of the Finnish Rail Administration to look farther into the future. With this in mind the preparation of a development programme under the title Rail Network 2020 began late in the year. Its purpose is to provide a foundation and

realistic objectives in preparing development plans for different line sections and traffic on them.

Since lines and trains are built to last for decades, the importance of this type of forward-looking work is clear. In creating the future we cannot be fortune-tellers and mere wishers; we must be able to analyse and see ahead. The Rail Network 2020 project will serve this purpose.

Helsinki, 26 February 1999



Ossi Niemimuukko

# PERFORMANCE OBJECTIVES IN 1998

---

The performance objectives which the Ministry of Transport and Communications set for the Finnish Rail Administration were achieved as follows (objective in italics):

## LEVEL OF SERVICE

### Service level categories

*50 km of track will be changed from service class 3 to service class 2.*

This objective was exceeded. 65 kilometres of track was changed from service class 3 to service class 2. The service class improved on the Toijala–Tampere and Luumäki–Vainikkala line sections.

### Traffic delays

*Delays lasting over 5 minutes due to track maintenance will not exceed 1,300 hours in long-distance passenger traffic*

Delays in long-distance passenger traffic lasting over 5 minutes due to track maintenance were considerably higher than the objective, totalling 2,245 hours. This exceeded the objective by 72.7%. In 1997 the total exceeded the objective by 16.8%, with delays totalling 1,922 hours.

The objective was challenging. In 1997 delays also exceeded the objective even

though less construction went on that year than in 1998. The main reasons for delays were record construction and disturbances in safety equipment.

Track work started at the beginning of the year on the busy Riihimäki–Lahti, Helsinki–Tampere and Tampere–Seinäjoki line sections. Disturbances in safety equipment were mainly caused by cable breaks at work sites, installation problems and disturbances in placing new signalling in operation. Disturbances in the last category remained lower than the year before.

In summary track work caused most delays. Work was conducted particularly on busy line sections, so delays piled up and their significance was increased.

In September speed limits for most trains were lowered from 140 km/h to 135 km/h, and timetables were not fully adjusted. In some cases this reduced possibilities to make up delays caused by construction work.

### Traffic restrictions

*Axle weights according to service class will not be restricted. The length of track under speed restrictions will be reduced by at least 100 km. At the end of 1998 a maxi-*

*mum of 710 km will be under speed restrictions.*

Restrictions on axle weights were not imposed. Speed restrictions were reduced early in the year. At the end of June 720 track-kilometres were under speed restrictions. The objective for the whole year was achieved quite well and the reduction in restrictions exceeded the objective. At the end of the year 619 track-kilometres were under speed restrictions.

### Rail network condition index

*The rail network condition index will be calculated on the basis of the geometric condition level in relation to track kilometres according to maintenance class. The condition index's maximum value is 100. The index will be calculated as a four-year average. The objective for the average in 1995–1998 is 75%.*

The larger the number of track-kilometres in each maintenance class, the larger its weight in calculating the rail network condition index. If the condition index is 100%, the rail network has met geometric condition requirements completely. The condi-



tion index in the objective is calculated on the basis of spring measurements as a four-year sliding average. In 1998 the sliding average was 79%, which means the objective was exceeded by 4 percentage points.

## IMPROVING SAFETY

### Accident fatalities

*No fatalities will occur in passenger traffic accidents.*

A serious derailing at the Jyväskylä station resulted in fatalities. The driver and nine passengers died in the accident. The board of enquiry concluded that the accident occurred because the driver made a mistake regarding which track the train was to take at the station and the train consequently was travelling too fast when it arrived at a switch.

### Accidents at level crossings

*The number of accidents at level crossings will not exceed 40.*

A total of 39 accidents occurred at level crossings during the year.

### Accidents due to permanent way

*The number of accidents due to permanent way will not exceed five.*

Only one accident was due to track maintenance, so performance in this respect was excellent.

## ECONOMY OF INFRASTRUCTURE MANAGEMENT

*Unit costs of infrastructure management products will decline by at least 3% during the year.*

Infrastructure management products have for the most part been developed. Product costs in 1998 are being assessed. On the basis of this information it will be possible to calculate unit costs

and compare annual changes in them. Information from 1997 will be compared with product costs for 1998.

## ENVIRONMENT

*An environmental action plan will be prepared for the period 1998–2001 and will be implemented.*

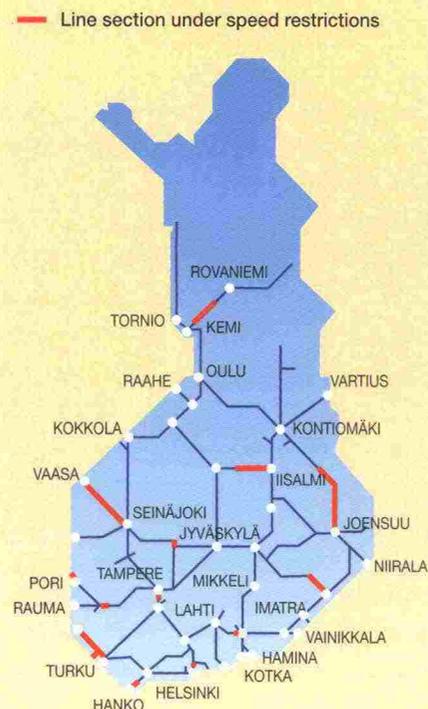
RHK completed an environmental action plan. It is also participating in a revision of the environmental programme in the entire administrative sector. Environmental measures begun in 1997 were continued. A number of new projects were also started, including a study of RHK's noise control system and a study of the environmental costs of rail emissions in Finland.

## OTHER OBJECTIVES

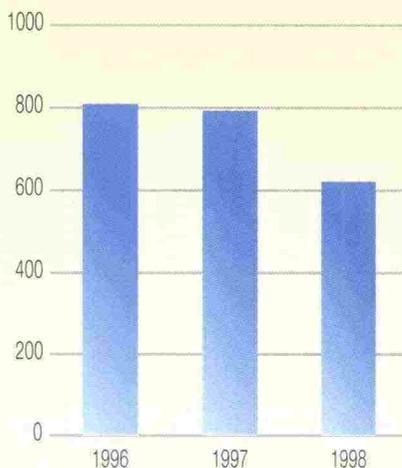
*The Ministry of Transport and Communications drew RHK's attention to the fact that infrastructure management funds should be used economically and efficiently to improve the service level of the rail network, for example by developing contracting and outsourcing.*

The implementation of work programmes proceeded according to plan in 1998. Projects got off to a good start in the first half of the year and construction proceeded even better than expected thanks to favourable conditions in the summer. In spite of the early arrival of winter, projects' level of completion corresponded to the objective for the year as a whole. The amount of work planned with the financing anticipated at the beginning of the year corresponded exactly to the amount of work performed. Contracting and outsourcing were used efficiently.

## Speed restrictions 31.12.1998



## Development of speed restrictions, track-km



# CHANGES IN THE OPERATING ENVIRONMENT

---

*The point of departure in maintaining and developing the rail network is national and international traffic requirements. Infrastructure management creates the preconditions for safe, efficient and competitive rail services. Changes in the operating environment result in new tasks for infrastructure management.*

Finland has 5,867 kilometres of railway lines. Most of these are used for both passenger and freight traffic. Rail traffic is operated by VR Limited.

## **Traffic continues to grow**

Around one-fourth of Finland's freight traffic is by rail. In 1998 rail freight reached a volume of 40.7 million tonnes, up 1% over the previous year.

The volume of domestic rail freight remained unchanged at 23.6 million tonnes. Eastern traffic totalled 13.0 million tonnes.

This traffic increased by nearly 10% owing to exceptionally large imports of roundwood. Transit traffic amounted to 2.9 million tonnes and western traffic 1.2 million tonnes.

Passenger traffic amounted to 51.4 million journeys, up about 3% over the previous year. This total included 12.0 million journeys in long-distance traffic and 39.4 million journeys in commuter traffic in the Helsinki region. The latter figure increased by nearly 6%. Traffic between Finland and Russia fell by slightly over 2%.

## **Improving competitiveness in freight services**

The railways serve as a basic carrier for industry in Finland. The forest, metal and engineering, and chemical industries are the most important customers. The competitiveness of freight services is being improved by developing the rail network. For example, the maximum axle weight will be raised on main lines from 22.5 tonnes to 25 tonnes by 2010. VR Cargo is renew-

ing its rolling stock to meet customers' needs. Inter-modal transport is also an important development area.

The total volume of rail freight is expected to grow at an average rate of 1-3% a year in the near future.

## **Improvements in passenger services**

After the economic slump of the early 1990s, the number of long-distance rail journeys (over 75 kilometres) has steadily risen since 1994. This growth is expected to continue in the near future as a result of positive economic development and improvements in the level of rail services. Train speeds will be increased on key line sections and high-speed Pendolino services will gradually be expanded. Rolling stock will also be renewed. Annual growth in long-distance passenger traffic is expected to average 1-3% during the next five years.



Journeys in commuter traffic have also increased in recent years. The most important factor behind this growth is the completion of the Helsinki-Tikkurila urban line in 1996, which made possible a major increase in the service supply and the development of feeder traffic.

Growth in commuter traffic is forecast to continue as a result of the large population increase in the Helsinki region and along railway lines and the completion of the Helsinki-Huopalahti-Leppävaara urban line in 2001. The urban line will allow a major increase in services and the development of feeder traffic. Commuter traffic is expected to grow by 2-6% annually during the next five years.

### The European Union's railway policy

The EU has accelerated the restructuring of the rail sector by requiring that the member states clearly separate infrastructure management and transport operations and adopt commercial principles. Means include deregulation, the use of a track fee system and allowing new operators access to lines. In Finland infrastructure management and rail transport operations were separated in 1995, when the Finnish Rail Administration was established.

In 1998 the European Commission published an infrastructure package which includes three draft directives for the development of rail traffic. These directives concern the separation of functions, operating licences and the division of rail capacity and track fees. The first and second of these will not cause changes in Finnish practice. The Commission's goal is to gradually harmonize pricing in the use of the rail network in the member states. The draft directive concerning track fees and

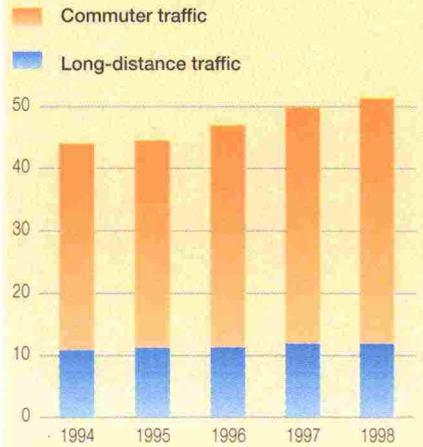
the division of rail capacity will consequently cause changes in the present track fee system.

### Opening of competition under preparation

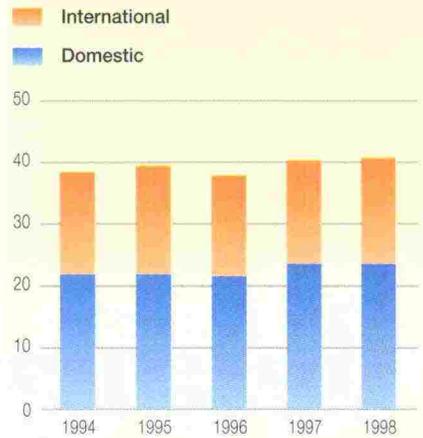
A working group which was appointed by the Ministry of Transport and Communications to study the opening of competition in Finland's rail network completed its report in spring 1998. The report presented the preconditions for opening competition in passenger and freight traffic and possible effects.

On the basis of its analysis the working group proposed that free access to the rail network be allowed for freight traffic and that limited competition be introduced in passenger traffic. Passenger traffic would not be opened to competition, but services could be put out to tender in commuter traffic in the Helsinki region and local traffic in other parts of the nation. Legislative work is now under way on the basis of the report.

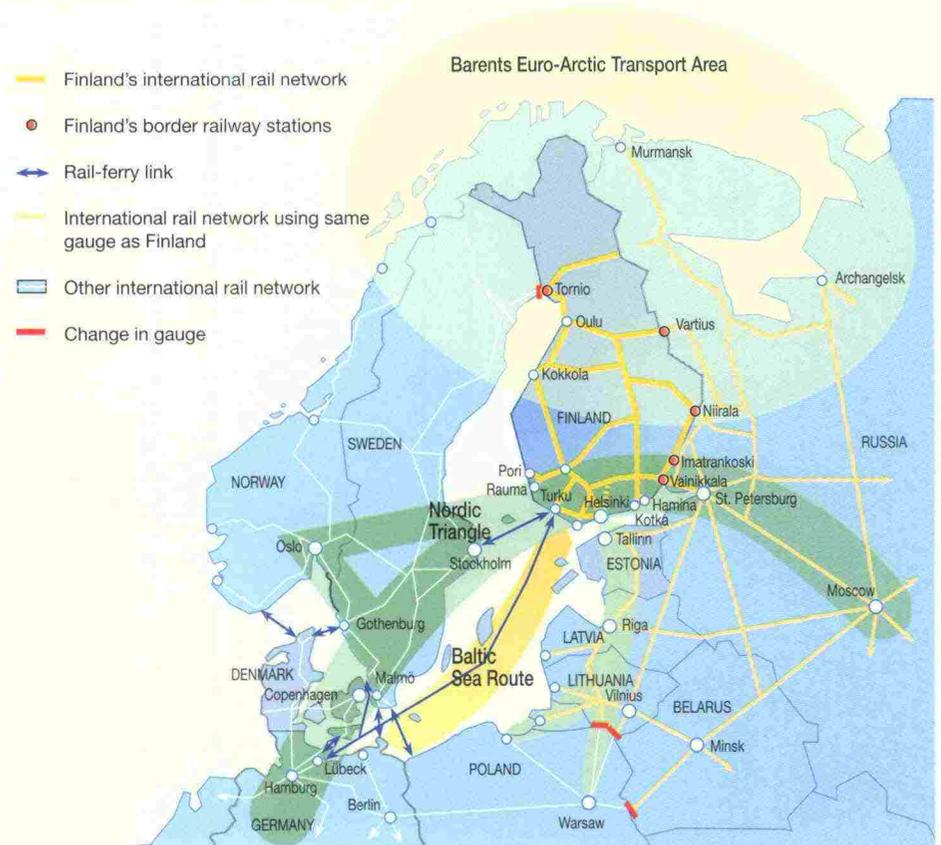
Passenger volume, million journeys



Freight volume, million tonnes



### Finland's international railway links



## **Trans-European Networks**

The European Union's goal is to increase the competitiveness of rail traffic by speeding up passenger services and improving freight services. The intention is to create Trans-European Networks by 2010. This means facilitating border crossings and harmonizing different countries' technical systems.

Finland's TEN networks were approved by the European Parliament in 1996. Plans exist to include the Helsinki-Turku, Helsinki-Seinäjoki and Helsinki-Vainikkala lines in the TEN high-speed network during the EU's next round of talks. Finland's goal is to increase speeds to around 200 km/h with the help of tilting-body trains which do not require separate high-speed tracks.

Fourteen top-priority transport projects are under way in the EU, and links to countries outside the EU are being developed within the framework of 12 pan-European corridors and three transport areas. Finland is also working to develop the northern dimension in the EU.

### **The northern dimension**

The development of northern transport links is part of a northern dimension which is intended to develop EU policies in a way which promotes Finland's goals. Important rail projects for Finland are the Nordic Triangle, the rail corridor from Helsinki to St

Petersburg and Moscow and the Barents Euro-arctic transport area.

The Nordic Triangle is a high-priority EU project which includes the railway from Turku via Helsinki to Vainikkala as well as the line sections from Hyvinkää to the port of Hanko and from Kouvola to the ports of Kotka and Hamina. Investments are being made to renew and develop infrastructure. It is especially important to increase rail capacity to meet the needs of growing traffic.

Rail investments in the Nordic Triangle project will total FIM 6.4 billion in 1998-2010.

Finland has received support from the EU's TEN budget and a loan from the European Investment Bank to plan and implement TEN rail projects.

### **Barents Euro-arctic transport area**

The Barents Euro-arctic transport area was included in the pan-European traffic development programme in 1997. The development of transport links in northern areas covers all modes of transport and involves cooperation between Finland, Sweden, Norway, Russia and the European Commission.

Major development projects in the rail sector include improving border crossing between Tornio and Haparanda in Sweden,

and the completion of the Lietmajärvi-Kochkoma line in Russia. The electrification of lines in northern Finland will also create the preconditions to develop international traffic.

In order to develop rail links between Finland and Sweden, efforts have been made to find automatic track gauge change system which is suitable for arctic conditions so that border crossings can proceed without the need for transshipment. Spanish equipment is being tried in Haparanda and equipment based on German technology in Tornio.

### **International cooperation**

During the year forms of cooperation were agreed among the rail administrations in the Nordic countries. The goal is to work together in preparing EU matters and to divide tasks in European cooperation. A good example is cooperation in preparing technical specifications for the high-speed train directive.

Cooperation between rail administrations at the European level has also received regular forms, as reflected in the presentation of joint stands in EU matters.

### **Ministerial working group**

The ministerial working group on transport infrastructure completed its report in December. The working group recommended



that annual financing for transport infrastructure in 1999–2003 be increased to FIM 600 million, including FIM 150 million for track maintenance. It also recommended that VR-Group Ltd's dividends be used for track maintenance. Financing for track maintenance would thus total FIM 2,350 million a year.

Additional financing would help stop the weakening of the rail network. The increase in appropriations would make it possible to begin construction of the Tikurila–Kerava urban line by 2003 and to speed up track renewal work. A separate decision is required to proceed with the Vuosaari port line and the direct line from Kerava to Lahti.

### Extensive research

Focuses in the Finnish Rail Administration's R&D programme are the socio-economic effects of infrastructure management, operational and technical development of the rail network and rail services, traffic safety and the development of environmental management. The purpose of R&D is to support RHK's activities and management and to increase information on the operating environment.

Each focus includes tens of research projects either under RHK's direction or in cooperation with other interest groups. RHK also participates in numerous national and international cooperation projects. New research needs concern GIS (Geographic Information System) and telematics applications of the rail network.

RHK began publishing a research series in 1997, and four new series were started last year. These deal with track technology, train safety, track work and rolling stock.

### Quality system

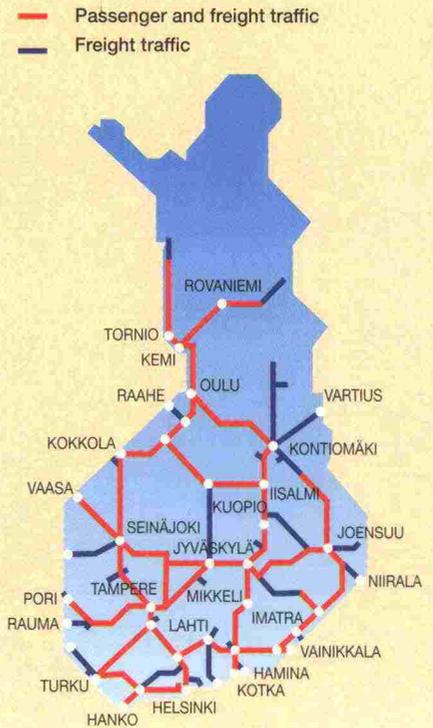
The Finnish Rail Administration's quality manual was completed during the year. In its activities it is important for RHK to know and take into consideration its customers' needs as well as social and environmental demands. RHK's main customers are rail traffic operators, for which quality is defined in terms of safety, reliability, efficiency and environmental friendliness.

Rail safety is ensured by controlling compliance with traffic regulations and technical standards as well as employees' professional qualifications.

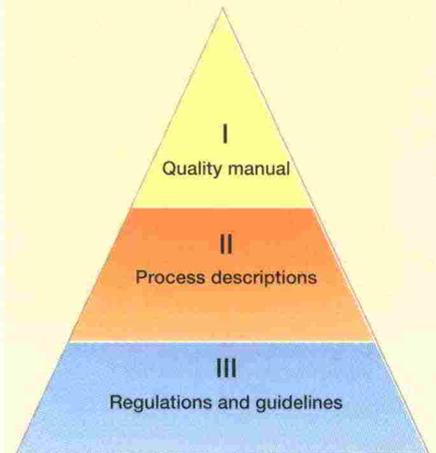
The reliability and efficiency of rail traffic is influenced by the work performed by RHK and the enterprises which supply track maintenance services. This work requires expertise, a responsible attitude and quality control.

Development of the quality system will continue at RHK. Future work will focus on describing the most important processes and improving process quality.

### Traffic on the rail network



### RHK's quality system



# RECORD YEAR FOR TRACK RENEWAL

---

*Track renewal in 1998 reached levels which had not been recorded in decades. As a result the length of track under speed restrictions fell by nearly one-fourth, from 790 kilometres to 619 kilometres.*

Superstructures were renewed on several important line sections last year. Over 600,000 sleepers were replaced on nearly 400 kilometres of track, using concrete sleepers. Rails were replaced on over 350 kilometres of track and 140 switches were replaced.

## **Lines kept open to traffic**

Track renewal is indispensable, since the last time superstructures were extensively renewed was in the 1960s. RHK's primary goal is to upgrade existing lines to meet the needs of passenger and freight traffic.

All renewal projects are performed on lines which are kept open to traffic. This requires the careful planning and scheduling of work in order to minimize traffic disruptions. A great deal of effort has been put

into coordinating track work and traffic, but during the busiest construction period, traffic delays cannot be avoided entirely.

## **Several line sections and yards**

Track renewal continued on the Helsinki-Tampere line section, which is the busiest in the nation. Renewal of this line section is the biggest track renewal project currently under way and involves significant development investments.

The renewal of superstructures also continued on the Riihimäki-Kouvola, Laurila-Rovaniemi, Kouvola-Pieksämäki, Tuomioja-Raahe and Karjaa-Hanko line sections. Renewal work began on the Säkäniemi-Joensuu and Joensuu-Uimaharju line sections.

Yard renewal was completed in Järvenpää and proceeded in Hämeenlinna, Toijala, Kouvola and Viinikka. Yard renewal began in Tampere. In the next few years the passenger yard will be completely renewed, allowing improvements in the service level and increased traffic.

Safety equipment is also upgraded in connection with track renewal. During the year a significant agreement was concluded for the upgrading of the safety equipment system between Kouvola and Pieksämäki.

## **Greater efficiency through competition**

The Finnish Rail Administration has concluded most of its contracting agreements with VR-Track Ltd, which has in turn invited tenders from subcontractors. The goal, however, is to gradually increase competition among contractors in order to improve efficiency, raise productivity and make better use of funds, according to the performance objectives set for RHK by the Ministry of Transport and Communications. EU regulations also require the opening of procurements to competition.

Competition has already proceeded considerably further in material purchasing than in contracting. RHK has purchased key track materials such as rails, switches, and concrete and wooden sleepers on the basis of tenders. RHK also invites tenders for safety equipment purchases and elec-



trification work. RHK's own purchases of materials are aimed at ensuring equal competition in the future.

Construction work has shifted from cost and fee contracting to order-based activities in which jobs are precisely defined and payment is tied to the results of scheduled work. Track maintenance work has been ordered on a fixed-price basis, resulting in a significant lowering of costs.

### Record amount of rail-grinding

One important task of track maintenance is rail-grinding, which reduces track maintenance costs, improves running characteristics and reduces noise.

Last year rails were ground over a record distance of nearly 350 kilometres on main lines. A new, more efficient rail-grinding train was used for this purpose. This work was ordered from a Swiss company on the basis of international tenders.

### Qualifications for track workers published

During the year RHK drafted qualifications for track workers and published them. Training programmes for track workers will be planned on the basis of these requirements. This will be done in close cooperation with the VR Training Centre. RHK will monitor training and the use of qualification cards by contractors.

### Real estate management

In the area of real estate management attention was focused on building repairs and an assessment of the condition of RHK's significant buildings was completed.

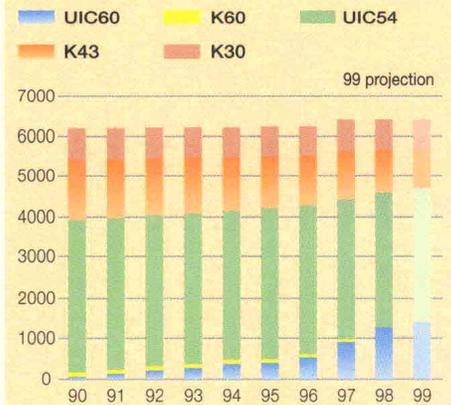
A cooperation agreement was concluded between the Ministry of the Environment, the National Board of Antiquities, RHK, VR-Group Ltd and the State Real Property Authority. This is the first agreement of its kind in Finland.

According to the agreement the question of protection for each property will be resolved when development, planning or transfer of the area or the buildings on it becomes timely. This will make it possible to take the individual characteristics of each property into consideration. The point of departure in the agreement is to find new uses or to continue present use by developing the station area so that the area's cultural-historical nature will also be preserved in connection with supplementary building.

Competition in the area of real estate services was continued, with maintenance and the cleaning of platform areas being put out to tender all over the country.

Travel centre projects also proceeded during the year. RHK agreed on the creation of a travel centre in Seinäjoki. The Oulu travel centre plan was completed in December. Travel centre projects are currently under way in Tampere, Lahti, Hämeenlinna and Kouvola, among other places.

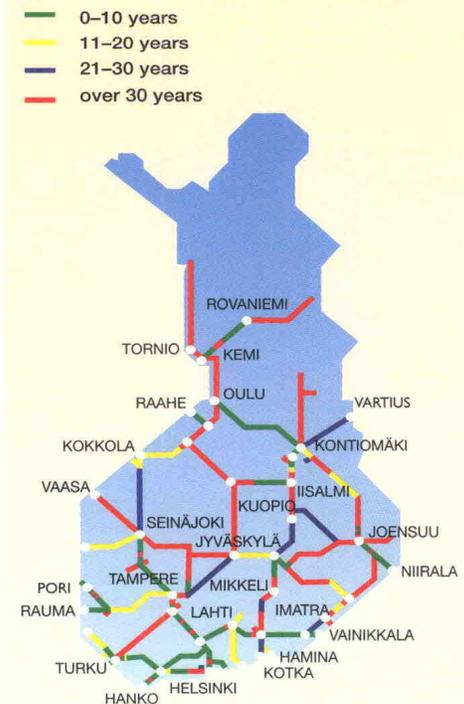
### Types of rails on main lines, track-km



### Installed sleepers, million



### Age of superstructures in the rail network



# DEVELOPMENT PROJECTS IMPROVE COMPETITIVENESS

---

*The competitiveness of rail transport is also being improved through a number of major development projects. The focus is on increasing rail capacity, expanding electrification and improving safety.*

Additional rail capacity is required especially in the Helsinki region, both on the main line leading to the north and on the coastal line.

## **New urban line under construction**

The most significant development project in the Helsinki region is the construction of the Helsinki-Huopalahti-Leppävaara urban line, which began in April 1998. The project includes two additional tracks as well as station and street arrangements to accommodate feeder traffic. The new urban line will have separate tracks for long-

distance and commuter trains, allowing a substantial increase in the number of services.

The new urban line is a joint project undertaken by the Finnish Rail Administration and the cities of Helsinki and Espoo and is part of the development of the public transport system in the Helsinki region. RHK is responsible for building tracks, while Helsinki and Espoo will take care of station, street and access arrangements. The urban line is scheduled for completion in autumn 2001.

## **Extension of urban line from Tikkurila to Kerava**

During the year a master plan was completed for an extension of the Helsinki-Tikkurila urban line to Kerava. This project is also part of the development of the public transport system in the Helsinki region.

The construction of an additional track will make it possible to separate long-distance and commuter traffic and thus increase and improve services.

The urban line will be extended in stages. The first stage is the construction of a passing track between Rekola and Korso, which will begin in early 1999 in connection with renewal of the Helsinki-Tampere line.

## **Upgrading of the Helsinki-Tampere line**

Renewal of the Helsinki-Tampere line also includes improving the level of service. For example the line's geometry will be designed for a speed of 160 km/h, allowing tilting-body trains to travel as fast as 200 km/h. In freight traffic the maximum axle weight will be increased to 25 tonnes. Traffic safety will be improved by eliminating



level crossings and traffic capacity will be increased by building a third track between Sääksjärvi and Tampere.

The service level at the stations on the Helsinki–Tampere line will be upgraded by raising platforms and building covered shelters, improving passenger information and developing access arrangements.

### Further electrification to begin in northern Finland

Electrified traffic began on the Tampere–Rauma line section at the beginning of 1998. The line section was also renewed and yards were enlarged. These projects, together with investments in safety equipment and traffic control which will be made in the near future, will increase the line's capacity and create the preconditions for substantial growth in traffic volumes.

Finland now has 2,197 kilometres of electrified lines. This is 37% of the total rail network. Currently about 70% of rail traffic is electrified. Electrification is under way on the Kokemäki–Pori and Toijala–Turku line sections. Electric traffic is scheduled to begin in summer 1999 on the Pori line and in summer 2000 between Toijala and Turku.

RHK completed a study concerning the further electrification of the rail network during the year. This study indicated that further electrification is socio-economically feasible and will improve preconditions for freight and passenger traffic.

Further electrification of the rail network will begin in northern Finland on the Tuomioja–Raahe and Oulu–Rovaniemi line sections. In the next stage the intention is to electrify the Oulu–Iisalmi and Kontiomäki–Vartius line sections.

### Master plan for direct line to Lahti

A master plan for a direct line from Kerava to Lahti was completed during the year. On the basis of statements submitted on the plan, the overall assessment and impact analysis for the project will be revised.

The plan calls for the new line to follow the Lahti motorway. The direct line will provide additional capacity for eastern traffic and shorten the journey from Helsinki to Lahti by 26 kilometres. It will also reduce the load on the main line leading from Helsinki to the north and thus provide an opportunity to develop rail traffic on this line.

### Improvements in safety

Development projects also include safety investments, such as the expansion of automatic train protection and the elimination of level crossings.

Automatic train protection will be expanded to cover practically the entire rail network by 2005. Level crossings are being eliminated or protected in a systematic manner, beginning with transit and high-speed line sections. Over 100 level crossings were eliminated in 1998.

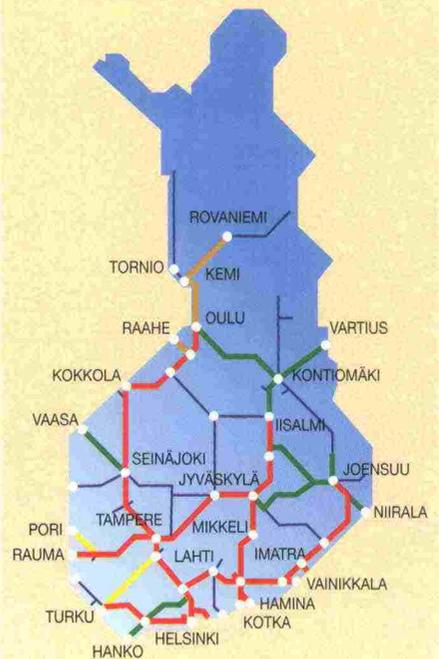
### Rail network strategy

In autumn 1998 RHK began preparing its own rail network strategy. The purpose of the Rail Network 2020 project is to outline a long-term strategic plan for the rail network, based on socio-economic calculations, including measures and their order of execution, effects and costs.

Strategic planning is being conducted in cooperation with different interest groups. The point of departure is the general transport policy objectives presented by the Ministry of Transport and Communications. Consideration will be given to transport needs and the operator's objectives. The rail network plan is scheduled for completion in 1999.

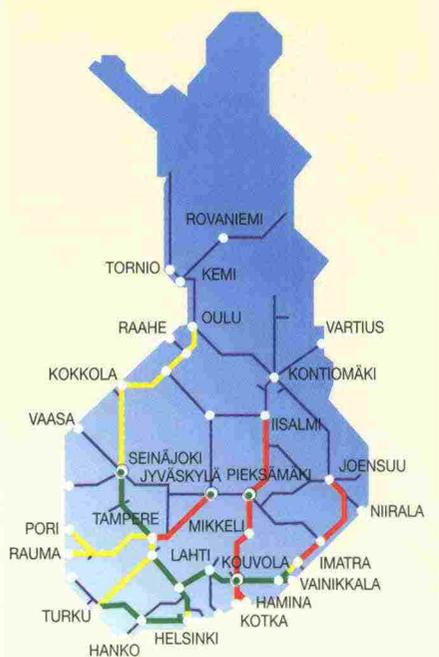
### Electrification of the rail network

- Electrified
- Under construction
- Electrification decision made
- Further electrification studied



### Construction of automatic train protection equipment

- Completed
- Ordered
- Construction decision made
- ⊙ Spot protection of yard approaches



# CLEAR OBJECTIVES FOR SAFETY WORK

---

*Two extremely serious rail accidents took place last year. As a result increased attention has been paid to the development of rail safety.*

Ten people died when an express train derailed in Jyväskylä on 6 March 1998. In addition eight passengers were seriously injured and 86 suffered minor injuries. The Council of State appointed a board of enquiry to investigate the accident. Twenty-six persons suffered minor injuries when an InterCity train collided with a freight train in Suonenjoki on 12 August.

The Finnish Rail Administration took additional measures to improve rail safety as a result of these accidents. It set the goal of raising the safety of rail services to a top European level by 2002. The most important means to achieve this goal are to develop safety management and control and to improve safety technology. Clear annual objectives will be set for a safety programme which will be implemented in cooperation with VR.

## **Safety management system**

Late in the year the Finnish Rail Administration completed a safety management system based on quality control. This system will make it possible to monitor more effectively different operations such as train movements, switching and fleet maintenance. The system also covers traffic control and the operation of machinery involved in track construction and maintenance.

Rail safety is substantially effected by technical standards, which RHK is responsible for issuing, developing and monitoring in Finland. RHK also participates actively in international standardization, since European standards form the basis for national regulations and guidelines. During the year the revision of standards focused on track structure, operating points, superstructure welding, switch inspection and maintenance, motor coaches and track machinery. The goal is to complete the revision of most standards by the end of 1999.

## **Expansion of automatic train protection accelerated**

According to an accelerated plan, the Finnish Rail Administration's objective is to equip the nation's main lines with automatic train protection by the end of 2001. The entire rail network will be covered by automatic train protection by 2005, with the exception of certain line sections with low traffic volumes.

## **Information systems improved**

A new communication system between traffic controllers and train drivers is being developed on the basis of a European standard. This will replace the current line radio system. During the year user specifications and a general plan were prepared for the new system.



Information on factors influencing rail traffic, such as track work, is supplied to train drivers. This information is collected in a single bulletin. During the year work proceeded to reform the system required to produce this information. The present system follows a weekly rhythm, while the new system will update information daily.

### Importance of type approvals

Technical type approvals and standards are another part of work to ensure and improve rail safety. RHK issues type approvals for track, electrical and safety equipment and for rolling stock. During the year type approval was granted for VR's double-decker passenger coach, a new concrete sleeper and a new rail fastening system, for example.

### Elimination of level crossings

Thanks to the elimination and protection of level crossings the number of accidents at level crossings has steadily fallen.

During the year RHK, VR, the police and the Central Organization for Traffic Safety in Finland continued a joint information

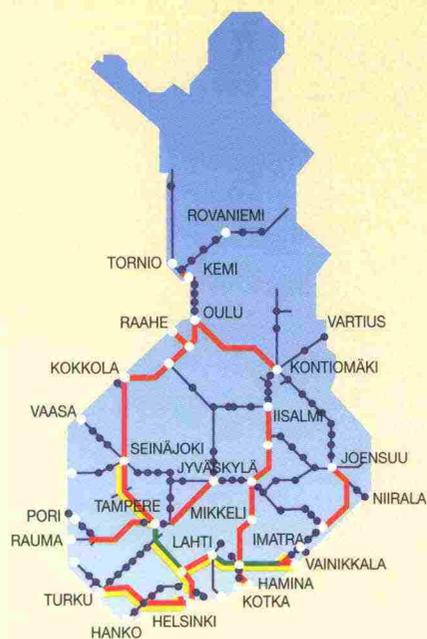
campaign aimed at educating school pupils on rules regarding access to railways. This time the focus was on Ostrobothnia, northern Finland and Savo.

**Total number of level crossings 1960-1998**



### Safety equipment systems

- Blocking and remote control
- Blocking
- Automatic train protection
- Individual safety equipment



# ENVIRONMENTAL ACTION PLAN PREPARED

---

*The Finnish Rail Administration completed an environmental action plan for the period 1999–2001 at the end of the year. The plan defines key measures in different categories related to the environment.*

The purpose of the environmental action plan is to prevent new damage to the environment, to reduce the present load on the environment and to eliminate environmental damage caused by previous activities.

## **An integral part of activities**

Environmental matters are an integral part of RHK's activities and environmental measures are carried out in connection with normal operations. RHK is respon-

sible for the environmental impact of infrastructure management in the rail sector. In providing type approval and issuing standards for rolling stock and equipment it also bears responsibility for the environmental impact of rail traffic.

The action plan covers the current state of key environmental matters, objectives for the three-year period and annual measures in specific categories. These categories include the transport system and land use, the analysis of the environmental impact of programmes and projects, traffic safety and ground water, material and service procurement, and energy consumption and emissions. The focus in 1999–2001 will be on conducting basic studies in a number of categories.

## **Surveys of emissions, noise and vibration**

Rail emissions and resulting external costs were surveyed in a research project which was conducted in 1998. This survey will be published in spring 1999.

A noise survey of the entire rail network was conducted during the year. The purpose of this survey, based on traffic volumes and speed restrictions on different line sections, is to obtain a picture of the number of persons who are exposed to noise from rail traffic in the country as a whole and to draw attention to areas where a more detailed calculation employing an accurate terrain model is required.

The noise survey is part of a noise control system which is now under development.



The next stage is a computer application which will allow environmental noise values to be examined cartographically.

Guidelines for measuring vibration and a method for surveying vibration areas were prepared and introduced in 1998.

### Recycling of old sleepers

Old wooden sleepers are replaced with concrete sleepers in connection with track renewal. In 1998 RHK developed a system for recycling wooden sleepers. About 10% of sleepers can be reused. Sleepers which cannot be reused are converted into fuel.

The handling and burning of old wooden sleepers takes place in Rauma and Kaajani. After metal parts have been removed, sleepers are chipped for use as fuel in power plants.

Between 500,000 and 700,000 wooden sleepers are taken out of service in different parts of the rail network each year. Most of these are replaced with concrete sleepers.

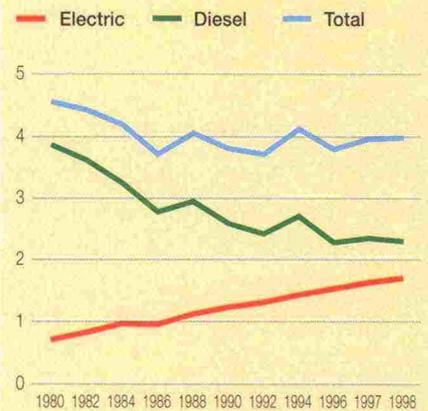
### Environmental impact analyses

As part of the development of the rail network and the planning of lines, studies have been conducted regarding Natura areas along the direct line from Kerava to Lahti and noise prevention along the Helsinki-Huopalahti-Leppävaara urban line and the Rekola-Korso passing track.

RHK has participated in a research project concerning environmentally friendly urban development and transport which is administered by the Ministry of Transport and Communications and the Ministry of the Environment, particularly with regard to the Helsinki-Hämeenlinna-Tampere zone.

RHK has also participated in updating a programme under the Ministry of Transport and Communications which is aimed at reducing the environmental impact of traffic.

### Development of energy consumption in Finnish rail traffic, petajoules



### Categories in the environmental action plan

- Transport system and land use
- Analysis of the environmental impact of programmes and projects
- Traffic safety and ground water
- Material and service procurement
- Energy consumption and emissions
- Waste
- Noise
- Vibration
- Land areas and buildings



The Finnish Rail Administration's activities are directed and supervised by the Rail Administration Board. The second Rail Administration Board was appointed for a three-year term from the beginning of 1998. The Rail Administration Board met ten times during the year. One of these meetings was a visit to Tampere and the Toijala-Turku line for a look at current rail projects in western Finland.

The Rail Administration Board decides on RHK's general operating lines, service and operational objectives, operational and financial plans, budget, the general arrangement of technical inspection, service pricing principles, the establishing and abolishing of permanent posts and the approval of collective bargaining agreements. It also approves significant plans concerning construction and maintenance of the rail network and traffic control and makes proposals concerning transport policy in the rail sector.

Last year the Rail Administration Board dealt with the following far-reaching matters: the scope and scheduling of further electrification, the adequacy of resources for track construction, computer systems in the rail sector and preparedness for the year 2000, measures to improve rail safety, the preparation of RHK's quality system, the revision of operating strategies, the environmental action plan and RHK's role as a real estate manager in the reform of state real estate activities.

## **RHK's resources and activities**

RHK recorded 95 person-years of work in 1998, including 60 person-years in actual activities and 35 person-years in ticket inspection activities. The increase over the previous year was one person-year. Personnel in actual activities take care of planning track maintenance and real estate

services, ordering maintenance and contracting work and traffic control work, official tasks related to technical standards and licences, and RHK's financial and administrative tasks. Ticket inspection personnel are responsible for activities under public law.

RHK's wages and salaries together with related personnel expenses amounted to FIM 24 million. Personnel expenses make up about 1% of RHK's operational expenses.

Personnel participated extensively in development work which started during the year on the basis of a job satisfaction survey. This work clarified internal work processes and the division of labour and responsibilities between units.

Activities focused on planning and ordering construction and maintenance work. Orders reached record proportions in 1998. RHK's gross expenses came to nearly FIM 2.5 billion. Projects proceeded on schedule. Construction got off to a good start in the first part of the year but progress was slowed later on by the early arrival of snow. Spending was right on budget.

The focusing of investments on track renewal for the second straight year is visible in improved track condition. Among performance indicators the length of track under speed restrictions and the track condition index reflect the result of work. At the beginning of the year 790 track-kilometres were under restrictions, at the end of the year 619 track-kilometres. The track condition index rose from 76% to 79% last year.

## **Available funds**

In 1998 FIM 2,642 million was available for RHK's gross expenses. This figure in-

cludes funds carried over from the previous year (FIM 428 million), regular budget funds (FIM 2,059 million) and funds appropriated in the autumn supplementary budget (FIM 153 million) plus financing from the EU structural fund under the heading of the Ministry of the Interior (FIM 2 million). In addition RHK received FIM 26.4 million in direct subsidies from the EU for track renewal projects, bringing available funds to FIM 2,668 million. This total was FIM 55 million less than the previous year. FIM 176 million was carried forward to 1999. This was roughly equal to the funds appropriated in the autumn supplementary budget plus direct subsidies from the EU.

## **Use of funds**

A total of FIM 2,492 million was spent in 1998, up FIM 178 million or 8% over the previous year. FIM 386 million was spent on development projects, FIM 3 million on land purchasing, FIM 1,164 million on basic infrastructure management investments and FIM 939 on operational expenses. Spending was higher than the previous year for the construction of the Helsinki-Leppävaara urban line, the upgrading of the Helsinki-Tampere line section, the construction of automatic train protection equipment, level crossing arrangements, replacement investments and building repairs. Spending on track maintenance and operational expenses was lower than the previous year.

The biggest track renewal projects were on the line sections Helsinki–Tampere (FIM 227 million), Riihimäki–Kouvola (FIM 131 million), Kouvola–Pieksämäki (FIM 83 million), Tampere–Seinäjoki (FIM 65 million), Laurila–Rovaniemi (FIM 54 million) and Karjaa–Hanko (FIM 46 million).

Among development investments FIM 109 million was spent on upgrading the Helsinki–Tampere line section, FIM 36 million on electrification of the Tampere–Pori/Rauma line section, FIM 44 million on electrification of the Turku–Toijala line section. FIM 57 million was spent on automatic train protection and FIM 41 million on level crossing arrangements. Construction of the Helsinki–Leppävaara urban line proceeded at a brisk pace. FIM 83 million was spent on this project.

### Statement of Income and Expenses

In the business accounts operational income includes fees, rents and other income. Operational income totalled FIM 443 million in 1998, with the largest item consisting of track fees (FIM 319 million) and ticket inspection income (FIM 8 million) plus income from licence fees. Rents amounted to FIM 67 million. Other income totalled FIM 48 million, including FIM 30 million in direct subsidies from the EU and FIM 18 million from the sale of assets taken out of use.

In RHK's accounts operational expenses include all cost with the exception of investment costs, which are booked with assets in the balance sheet. Operational expenses totalled FIM 2,112 million. The largest item was depreciation, which amounted to FIM 1,164 million. Track maintenance and traffic control are outsourced, as are real estate maintenance services and expert and research services. These are the largest items booked under purchased services, which totalled FIM 913 million. Personnel expenses came to FIM 24 million. Rents and other expenses totalled FIM 10 million. The largest items in these categories were property taxes, other taxes, office rents and other rents.

The deficit before financial and extraordinary items came to FIM 1,669 million. Extraordinary income and expenses mainly consist of the costs of unexpected delays resulting from track damage and track work and related compensation. The deficit after financial and extraordinary items came to FIM 1,678 million. According to the Statement of Income and Expenses, income covered 21% of expenses.

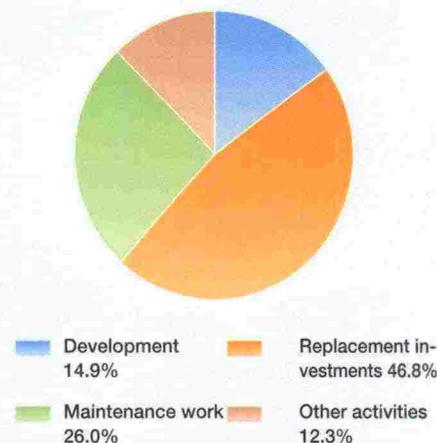
RHK booked FIM 28 million in VAT received and FIM 540 million in VAT paid. The deficit including VAT was FIM 2,190 million.

### Balance sheet

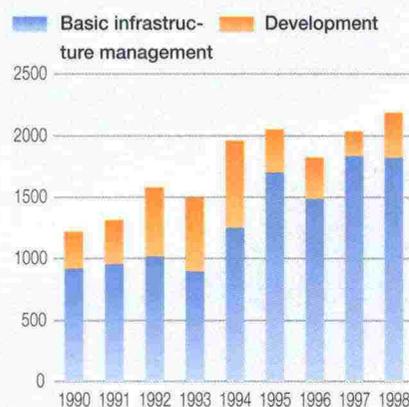
The Council of State approved agencies' starting balance sheets on 1 January 1998 on the basis of proposals which were under preparation during the previous three years. The point of departure was an inventory of fixed assets at market value according to the situation at the end of 1995. Increases in fixed assets and depreciation were calculated for 1996 and 1997. This formed the official starting balance sheet in the new state accounting system, in which straight-line depreciation is used.

The capital value of fixed assets amounted to FIM 14,879 million at the end of 1998. This value increased by FIM 366 million during the year. Increases in assets totalled FIM 1,548 million and decreases FIM 17 million. Replacement investments in the rail network totalled FIM 1,161 million. Depreciation according to plan totalled FIM 1,165 million. The capital value of fixed assets thus increased only by the amount of development investments. Annual replacement investments should be at least FIM 1,600 million so that the value of fixed assets can be increased to a level which corresponds to the amount of assets according to average economic life. The value of fixed assets should be about FIM 19,000 million for the rail network to be in the condition required by traffic.

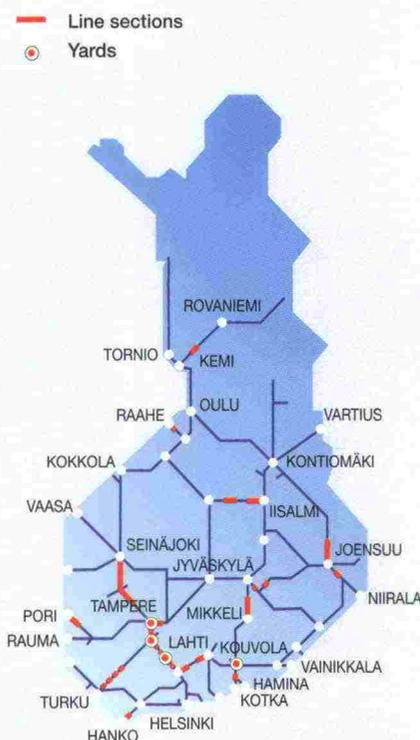
### Breakdown of expenditure on infrastructure management in 1998



### Expenditure on the rail network 1990–1998, FIM million



### Major track renewal projects in 1998



## Cost covering

RHK charges fees for issuing different types of licences, decisions and technical specifications under the Act on State Charges. In addition the Ministry of Transport and Communications has also made RHK responsible for certain real estate activities and ticket inspection activities. Under separate legislation RHK collects track fees, which are set so as to provide a cost structure which is comparable to other modes of transport.

Income from fees under the Act on State Charges and the Act on the Rail Network totalled FIM 328.4 million, including FIM 319.2 million in track fees. Ticket inspection income amounted to FIM 7.9 million and income from the issuing of statutory licences and decisions totalled FIM 0.3 million. Income from the issuing of non-statutory licences and decisions amounted to FIM 0.5 million and income from the sale of wood and aggregates totalled FIM 0.5 million. The costs of statutory performances were covered by income. Non-statutory performances yielded FIM 0.2 million.

Rent income totalled FIM 67.3 million, including FIM 65.1 million from real estate rentals. Other income from real estate amounted to FIM 0.8 million, bringing total income from real estate to FIM 65.9 million, down 6% from the previous year. This drop was due to a reduction in parking lots, as a result of which income from land rentals fell by 16%.

Separate expenses from real estate activities totalled FIM 49.4 million, up 9% over the previous year. This increase was due to the fact that the need to repair buildings was surveyed in 1995 and 1996 and work was postponed to the following years. Repair and maintenance expenses amounted to FIM 15.6 million in 1998.

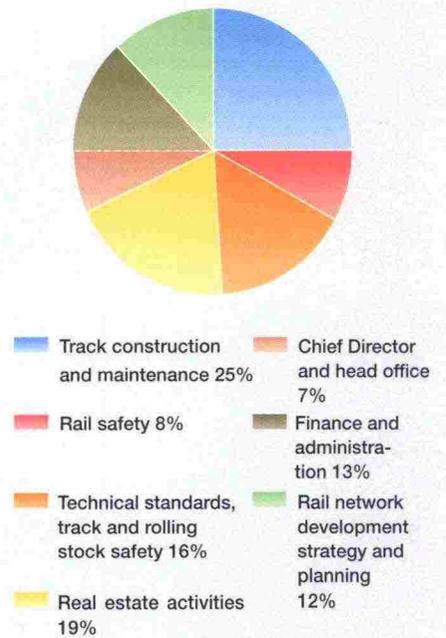
The capital value of income-producing real estate was FIM 516 million. The operational surplus after separate and social costs was FIM 15.2 million, so the return on invested capital was 2.9%. The operational deficit after depreciation was FIM 0.2 million, leaving a margin of -0.0%. According to state guidelines the nominal interest requirement in calculating cost covering is 6.7% on invested capital. RHK's real estate holdings did not produce the required margin.

Increasing income from real estate activities is difficult because of the age, condition and location of buildings. The bulk of rents come from buildings linked to rail traffic, whose rent has been set on a commercial basis, taking into account the level and purpose of facilities.

## Outlook for 1999

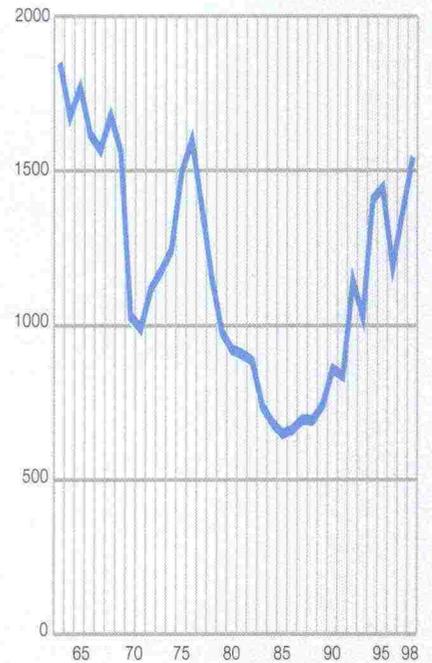
Upgrading of the rail network will continue on major line sections. Financing will be nearly the same as in 1998. Available funds will decline by about FIM 50 million. FIM 500 million will be available for development projects and FIM 1,950 million for basic infrastructure management, including nearly FIM 1,000 million for replacement investments.

## Person-years by type of activity in 1998



## Investments in the rail network 1963-98, FIM million

(At fixed 1998 prices)



# STATEMENT OF INCOME AND EXPENSES

---

FIM 1,000	1.1.-31.12.1998	
<b>OPERATIONAL INCOME</b>		
Fees	328,446	
Rents and user charges	67,278	
Other operational income	47,671	443,395
<b>OPERATIONAL EXPENSES</b>		
Materials, supplies and goods		
Purchases during the year	- 802	
Personal expenses	- 23,813	
Rents	- 3,104	
Purchased services	- 912,751	
Other expenses	- 7,162	
Production for own use	294	
Depreciation	- 1,164,907	- 2,112,245
<b>DEFICIT I</b>		<b>- 1,668,850</b>
<b>FINANCIAL INCOME AND EXPENSES</b>		
Financial income	139	
Financial expenses	- 220	- 81
<b>EXTRAORDINARY INCOME AND EXPENSES</b>		
Extraordinary income	2,223	
Extraordinary expenses	- 11,210	- 8,987
<b>DEFICIT II</b>		<b>- 1,677,918</b>
<b>INCOME FROM TAXES AND OTHER COMPULSORY CHARGES</b>		
VAT received	28,019	
VAT paid	- 539,636	- 511,617
<b>DEFICIT FOR THE YEAR</b>		<b>- 2,189,535</b>

# BALANCE SHEET 31.12.1998

---

FIM 1,000

## ASSETS

### FIXED ASSETS

#### Intangible assets

Intangible rights	1,003	1,003	
-------------------	-------	-------	--

#### Tangible assets

Land and water areas	29,650		
Building land and water areas	563,510		
Buildings	271,162		
Structures	13,121,219		
Machinery and equipment	8,364		
Furnishing	817		
Advances and projects in progress	883,710	14,878,432	14,879,435

### INVENTORIES AND FINANCIAL ASSETS

#### Current receivables

Accounts receivable	24,489		
Other current receivable	1,253		
Advance payments	3	25,745	25,745

### TOTAL ASSETS

14,905,180

---

## EQUITY AND LIABILITIES

### EQUITY

#### State's equity

State's equity at 1.1.1998	14,097,454		
Equity transfers	2,657,170		
Deficit for the year	- 2,189,535	14,565,089	14,565,089

### LIABILITIES

#### Current liabilities

Advances received	194		
Accounts payable	334,488		
Inter-agency transfers	558		
Payable items	725		
Accrued expenses	3,520		
Other current liabilities	606	340,091	340,091

### TOTAL EQUITY AND LIABILITIES

14,905,180

# THE FINNISH RAIL ADMINISTRATION'S FIXED ASSETS 31.12.1998

FIM 1,000	Capital value	Reductions	Increases	Depreciation	Capital value
TYPE OF ASSET	1.1.1998				31.12.1998
<b>INTANGIBLE ASSETS</b>					
Purchased computer programmes	1,313		78	388	1,003
<b>Total intangible assets</b>	<b>1,313</b>	<b>0</b>	<b>78</b>	<b>388</b>	<b>1,003</b>
<b>TANGIBLE ASSETS</b>					
Gravel and other aggregate areas	30,000	350			29,650
Building land	363,231	5,449	147		357,929
Railway beds	202,558	547	3,570		205,581
Housing	42,582	189	520	2,368	40,545
Other buildings	232,182	549	11,982	12,997	230,618
Buildings in progress	0		4,255		4,255
<b>Total real estate</b>	<b>870,553</b>	<b>7,084</b>	<b>20,474</b>	<b>15,365</b>	<b>868,578</b>
Railway substructure	5,336,883		24,965	284,094	5,077,754
Railway superstructure, bridges	5,444,472	88	1,086,246	688,683	5,841,947
Control and safety equipment	1,008,272		124,239	92,854	1,039,657
Fixed electrification equipment	1,054,028		25,634	69,422	1,010,240
Power current equipment	152,471		10,773	11,623	151,621
Advances	15,669	10,214	13,186		18,641
Railway structures in progress	622,092		238,722		860,814
<b>Total railway structures</b>	<b>13,633,887</b>	<b>10,302</b>	<b>1,523,765</b>	<b>1,146,676</b>	<b>14,000,674</b>
Computer hardware	209		301	280	230
Office machines	87		12	38	61
Traffic control communications equipment	6,166		3,684	1,777	8,073
Furnishing	1,149		51	383	817
<b>Total machinery, equipment and furnishing</b>	<b>7,611</b>	<b>0</b>	<b>4,048</b>	<b>2,478</b>	<b>9,181</b>
<b>TOTAL FIXED ASSETS</b>	<b>14,513,364</b>	<b>17,386</b>	<b>1,548,365</b>	<b>1,164,907</b>	<b>14,879,436</b>

## DEPRECIATION ACCORDING TO PLAN

RHK's depreciation rate and economic life

Type of asset	Economic life in years	Straight-line depreciation %	Type of asset	Economic life in years	Straight-line depreciation %
Purchased computer programmes	5	20.00	Control and safety equipment	20	5.00
Gravel and other aggregate areas		-	Fixed electrification equipment	30	3.33
Building land		-	Power current equipment	30	3.33
Railway beds		-	Computer hardware	3	33.33
Housing	50	2.00	Office machines	5	20.00
Other buildings	40	2.50	Traffic control communications equipment	10	10.00
Railway substructure	60	1.67	Office furnishing	5	20.00
Railway superstructure, bridges	30	3.33			

# USE OF BUDGET FUNDS

---

## FINNISH RAIL ADMINISTRATION'S INCOME AND EXPENSES IN 1996-1998

FIM 1,000,000	1996	1997	1998
<b>BASIC INFRASTRUCTURE MANAGEMENT</b>	<b>1,424</b>	<b>1,688</b>	<b>1,659</b>
Income	302	402	441
Track fees	200	300	319
Income from real estate activities	70	70	66
Other income	32	32	56
Expenses	1,726	2,090	2,100
Administration	28	31	33
Traffic control	194	200	210
Real estate maintenance and repairs	40	45	49
Track maintenance and use	660	671	630
Planning and research	19	27	17
Replacement investments	785	1,116	1,161
<b>DEVELOPMENT OF THE RAIL NETWORK</b>	<b>340</b>	<b>207</b>	<b>304</b>
<b>HELSINKI-LEPPÄVAARA LINE</b>		<b>2</b>	<b>83</b>
<b>RAIL NETWORK LAND AREAS</b>	<b>2</b>	<b>1</b>	<b>3</b>
<b>RHK'S GROSS EXPENSES</b>	<b>2,068</b>	<b>2,300</b>	<b>2,490</b>
<b>RHK'S NET EXPENSES</b>	<b>1,766</b>	<b>1,898</b>	<b>2,049</b>

# FACTS ABOUT FINLAND'S RAIL NETWORK

---

1 January 1999

First line: Helsinki–Hämeenlinna, 1862  
Gauge: 1,524 mm  
Total length of railway lines: 5,867 km  
Total track length including sidings: 8,864 km  
Lines with two or more tracks: 507 km  
Tracks with concrete sleepers: 2,204 km  
Sleepers/km: 1,640  
Long-welded tracks: 4,086 km  
Type of new rails on main lines: 60E1 (weight 60 kg/m)  
Electrified line: 2,197 km  
Electrification system: 25 kV 50 Hz  
Block-protected line: 1,900 km  
Centrally controlled line: 1,854 km  
Tunnels: 42  
Total length of tunnels: 25,284 m  
Railway bridges: 2,065  
Bridges over railway lines: 797  
Number of level crossings: 4,303, including 3,610 on main lines  
Land owned by the Finnish Rail Administration: 28,800 ha,  
of which 21,200 ha in line use  
Buildings owned by the Finnish Rail Administration: 4,106,  
with a total volume of 1.9 million m<sup>3</sup>

Original photos:

Simo Kariluoma, Risto Laine, Markku Nummelin, Kari Ojanperä

Layout an DTP production: Inklus Communications Oy

Printed by Kirjapaino Libris Oy, Helsinki 1999

# CONTACT INFORMATION

---

## **Finnish Rail Administration**

P.O. Box 185 (Kaivokatu 6)  
FIN-00101 Helsinki  
Tel: +358 9 5840 5111  
Fax: +358 9 5840 5100  
Internet: [www.rhk.fi](http://www.rhk.fi)  
E-mail: [info@rhk.fi](mailto:info@rhk.fi)

## **Chief Director**

### ***Ossi Niemimuukko***

Tel: +358 9 5840 5101  
E-mail: [ossi.niemimuukko@rhk.fi](mailto:ossi.niemimuukko@rhk.fi)

## **Secretary to the Chief Director**

### ***Annukka Heinonen***

Tel: +358 9 5840 5102  
E-mail: [anna-leena.heinonen@rhk.fi](mailto:anna-leena.heinonen@rhk.fi)

## **Strategy Unit**

### **Strategy Director *Martti Kerosuo***

Tel: +358 9 5840 5120  
E-mail: [martti.kerosuo@rhk.fi](mailto:martti.kerosuo@rhk.fi)

## **Contracting Unit**

### **Contracting Director *Juha-Heikki Pasanen***

Tel: +358 9 5840 5131  
E-mail: [juha-heikki.pasanen@rhk.fi](mailto:juha-heikki.pasanen@rhk.fi)

## **Safety Unit**

### **Safety Director *Kari Alppivuori***

Tel: +358 9 5840 5150  
E-mail: [kari.alppivuori@rhk.fi](mailto:kari.alppivuori@rhk.fi)

## **Technical Unit**

### **Technical Director *Markku Nummelin***

Tel: +358 9 5840 5180  
E-mail: [markku.nummelin@rhk.fi](mailto:markku.nummelin@rhk.fi)

## **Real Estate Unit**

### **Real Estate Director *Timo Välke***

Tel: +358 9 5840 5160  
E-mail: [timo.valke@rhk.fi](mailto:timo.valke@rhk.fi)

## **Finance Unit**

### **Head of Finance Unit *Airi Kivelä***

Tel: +358 9 5840 5110  
E-mail: [airi.kivela@rhk.fi](mailto:airi.kivela@rhk.fi)

## **Head of International Affairs**

### ***Kari Konsin***

Tel: +358 9 5840 5104  
E-mail: [kari.konsin@rhk.fi](mailto:kari.konsin@rhk.fi)

## **Chief Press Officer**

### ***Timo Saarinen***

Tel: +358 9 5840 5103  
E-mail: [timo.saarinen@rhk.fi](mailto:timo.saarinen@rhk.fi)

