



# Annual Report 2005



Jernbaneverket

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## Delivering the railway

**2005 was an eventful year in more ways than one. Jernbaneverket completed the project for a new Sandvika–Asker line within the budget of NOK 3.7 billion.**



Steinar Killi, Director General

*Norway and Jernbaneverket led Europe in installing the GSM-R rail communications system. What was more, punctuality in 2005 broke the record set the previous year, proving that the 2004 figures were no fluke but the product of determined efforts by Jernbaneverket and the train operating companies. The result has been continued growth in freight and passenger traffic. Meanwhile, Jernbaneverket can look back on a year of demanding changes on both the operational and the administrative side. I am therefore pleased to report that the restructuring processes were carried out without affecting the product we delivered to our train operating customers and the travelling public.*

*For Jernbaneverket, it is important to have a reasonably sized in-house production business, so that we have the necessary control over day-to-day maintenance of the rail network. When the newly elected Norwegian Parliament decided last autumn to halt active down-sizing and outsourcing of production activities, this gave us an opportunity to examine our own resources and the external contractor market in context, in order to achieve the most productive and effective maintenance arrangements. The upshot is that we shall continue to put projects out to tender where it makes financial sense to do so, while taking care of day-to-day essential maintenance ourselves. It was therefore a cause for concern that the majority of the employees who opted to leave Jernbaneverket with a severance package in 2005 did not move into rail-related activities – which was one of the assumptions underpinning Parliament's earlier decision in 2004 to contract out the entire production business. In the longer term, this could have created a very difficult situation for the rail industry.*

*However, the fact that Parliament has called a halt to active reductions in the workforce does not mean that Jernbaneverket is facing reduced demands from our owner – quite the opposite. Our owner has very clear expectations of what we must deliver. We must undertake to make efficient use of our own resources and demonstrate that we are doing so. What this means is that we now have a business model where the owner sets out the requirements but largely lets Jernbaneverket decide which tools to use. This model is commonly described as freedom with responsibility, and we in Jernbaneverket must prove that we can be trusted. I am confident that we can, but, going forward, an ability to think outside the box and a willingness to change will continue to be required.*



*In 2006, the senior management of Jernbaneverket will reach a decision on the future structure of our operations and maintenance activities. The future organizational structure will be designed to promote good productivity and effective use of skills and resources. Inherent in this will be initiatives to enhance the working environment and the opportunities for individual employees to play their part. The ultimate objective, of course, is to provide train operating companies with an even better rail system in terms of safety, punctuality and public information.*

*The city of Hamar, a long-established railway centre, saw the arrival of new rail-related activity in 2005 when Jernbaneverket relocated its Shared Administrative Services unit. The co-location of these services will ensure greater operational efficiency while creating new public-sector jobs outside of Oslo, as does the decision to locate the GSM-R operations centre in Trondheim. However, we must not overlook the fact that restructuring processes such as the relocation to Hamar also cause difficulties for those affected. I believe nevertheless that Jernbaneverket deserves credit for its restructuring process and the measures that were put in place to protect the interests of employees.*

*The new majority in the Norwegian Parliament has given clear signals that it wishes to follow up Parliament's decision of July 2004, when a majority voted to increase the capital expenditure ceiling in the National Transport Plan by NOK 1 billion annually until 2015. It is crucial that this decision is followed up, given that the current rail infrastructure lacks the capacity to meet the future requirements of growing passenger and freight traffic. The national budget to be presented this autumn will therefore be absolutely critical.*

*In the meantime, a number of important projects are under way. Jernbaneverket has started construction work in connection with a new freight terminal at Ganddal and a new station at Lysaker. The freight terminal is the first stage in developing a new double-track line between Sandnes and Stavanger, while starting work on the new Lysaker station is pivotal in ensuring that upgrading of the western corridor into Oslo is not delayed. It is also vital that the new station, a key hub for businesses in the Lysaker area, is designed to be user-friendly and meet the expectations of train operators and passengers. A great deal of resources have been devoted to studies of this project, and many stakeholders have been*



Hamar station.  
Photo: Sven Goll



The Oslo–Eidsvoll main line crosses the Gardermoen airport line.  
Photo: Øystein Grue



Level crossing at Stange station.  
Photo: Sven Goll

*involved in the consultation process. I am therefore confident that the finished project will meet current regulatory standards and satisfy the underlying intentions. The fact that the scheme has been the subject of debate is, I believe, a positive expression of involvement that we can put to constructive use in our ongoing work on the project.*

*Jernbaneverket's safety record is consistently improving. Unfortunately we again failed to avoid accidents at level crossings in 2005, which serves as a reminder that we must, in the years ahead, continue to pursue a program of physical improvements and public education in connection with railway crossings. Meanwhile, improved analysis tools and technology are constantly providing us with new insights into the human and technological factors that can cause accidents. Jernbaneverket has a zero-tolerance policy on accidents – in other words, a contract with rail users that we are not allowed to breach.*

*We are excited about the prospects for 2006, and I am looking forward to tackling the challenges we face along with our owner, our staff and the train operating companies. We can and must improve, not least in delivering our day-to-day product in terms of station environment, public information and train punctuality. Both Jernbaneverket and the train companies have shown over the past few years that we can deliver results. In autumn 2006, we shall see whether this is rewarded with a change of track in the national budget.*

Steinar Killi

Director General

# About Jernbaneverket

## Who are we?

Jernbaneverket, the Norwegian National Rail Administration, reports to the Ministry of Transport and Communications. Jernbaneverket's operations are funded through annual grant allocations in the national budget. The Ministry monitors Jernbaneverket's activities through regular departmental meetings and periodic reports from Jernbaneverket. The longer-term financial parameters are set by the Norwegian Parliament in the National Transport Plan.

The former Norwegian state railway undertaking, NSB, was split with effect from 1 December 1996 into a train operating company, NSB BA, and a national rail administration, Jernbaneverket. Jernbaneverket comprises a central Directorate reporting to the Director General and two divisions, Infrastructure Management and Traffic Management, each of which has regional units.

## What do we do?

Jernbaneverket's mission is to help the country achieve its transport policy objectives and to promote rail as a safe, competitive mode of transport, forming part of an integrated network.

Jernbaneverket owns and operates a complete railway system comprising infrastructure, traffic management and public information. This railway system is made available to train operating companies and their customers.

### Jernbaneverket is responsible for:

- Developing, operating and maintaining Norway's national rail network so that it

meets social and market requirements in terms of safety and quality (punctuality, train frequency, public information, etc.)

- Railway stations and terminals, including public spaces, information facilities, access, car parks and other public facilities necessary for users of rail services
- Entering into track access agreements with train companies running services on the national rail network
- Allocation of infrastructure capacity (train paths) to train operating companies
- Traffic management on the national rail network
- Studies and planning in the rail sector
- Training railway staff, including locomotive drivers

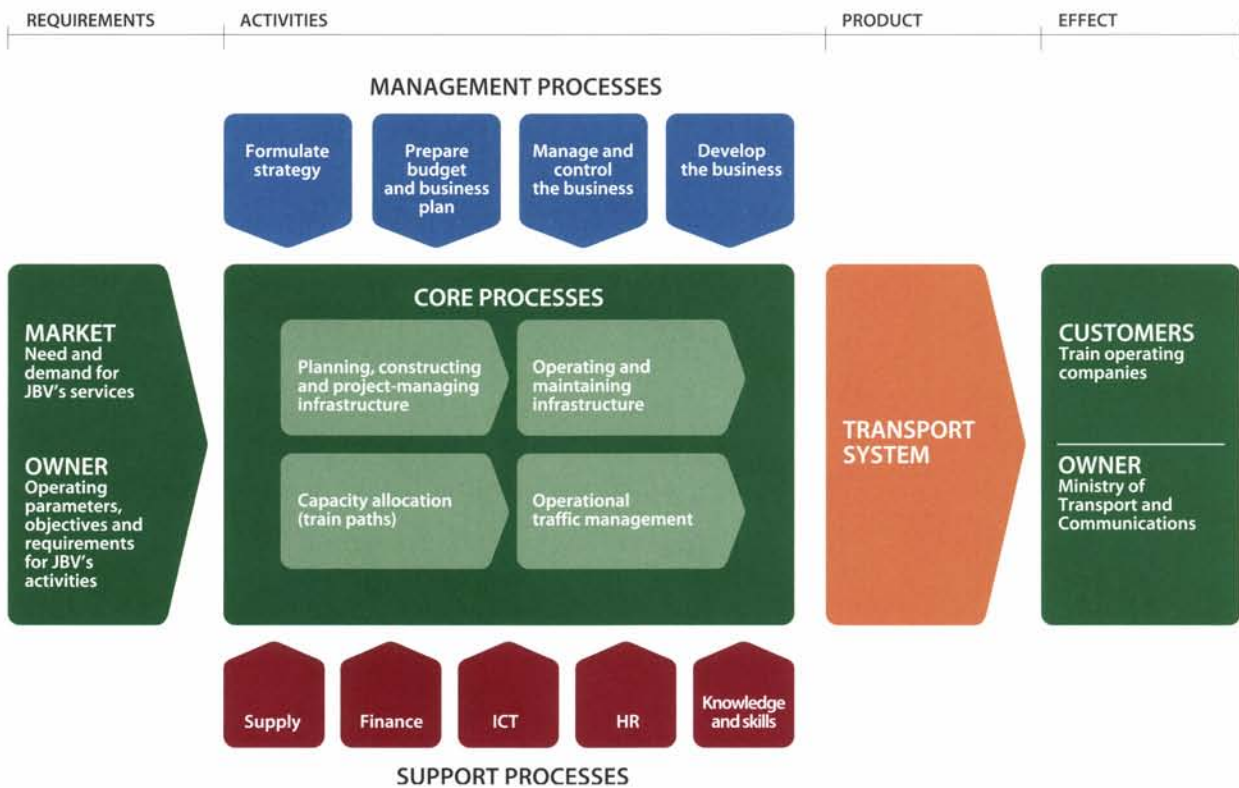
Jernbaneverket's product is described in detail in the Network Statement, available on Jernbaneverket's website: [www.jernbaneverket.no](http://www.jernbaneverket.no)

The table below summarizes the scope of the infrastructure.

### Key figures for the Norwegian rail network, 31 December 2005

Track gauge	1 435 mm
Route kilometres	4 087 km
Electrified lines	2 528 km
Continuous welded rail	95 %
Single track	3 863 km
Double track	224 km
Tunnels	704
Bridges	2 804
Level crossings	4 111
on public roads	382
on private roads	3 729





## How do we operate?

The above process model shows Jernbaneverket's core processes and the principal management and support processes. The model illustrates how all the activities of Jernbaneverket should interact to ensure we deliver a comprehensive transport system.

The main requirements and expectations of our owner, the Ministry of Transport and Communications, and our customers, the train operating companies, were laid down in 2005 when Jernbaneverket focused its principal objectives and strategies on four core areas. See figure on page eight. These core areas are intended to ensure balance in the requirements and expectations applicable to Jernbaneverket's activities.

Core areas and interim targets are designed to provide a basis for all

Jernbaneverket's business planning. Within the core areas, the management has to set specific targets and ambitions each year. Benchmarks have been formulated for each principal objective, enabling Jernbaneverket to monitor and quantify its efforts and results. Reporting and monitoring is to be in accordance with set targets and benchmarks.

Jernbaneverket's business plan for 2006 incorporates a new performance and target regime for the relationship between Jernbaneverket and the Ministry. Specific targets have been set for improvements in safety, punctuality (uptime) and information at stations, based on the financial framework agreed by the Norwegian Parliament in respect of the National Transport Plan 2006–15. Jernbaneverket has also assessed the scope for improved productivity in the shape of reduced unit costs.

## Core areas



*This Annual Report 2005 is structured around the four core areas and associated interim targets.*

### **Organizational structure**

At 31 December 2005, Jernbaneverket had 2 931 permanent employees, 221 fewer than at the previous year end. The reduction was due to workforce reductions on the production side.

#### **The Director General**

is the chief executive of Jernbaneverket.

#### **The Directorate**

with 111 full-time equivalent employees, comprises the following departments:

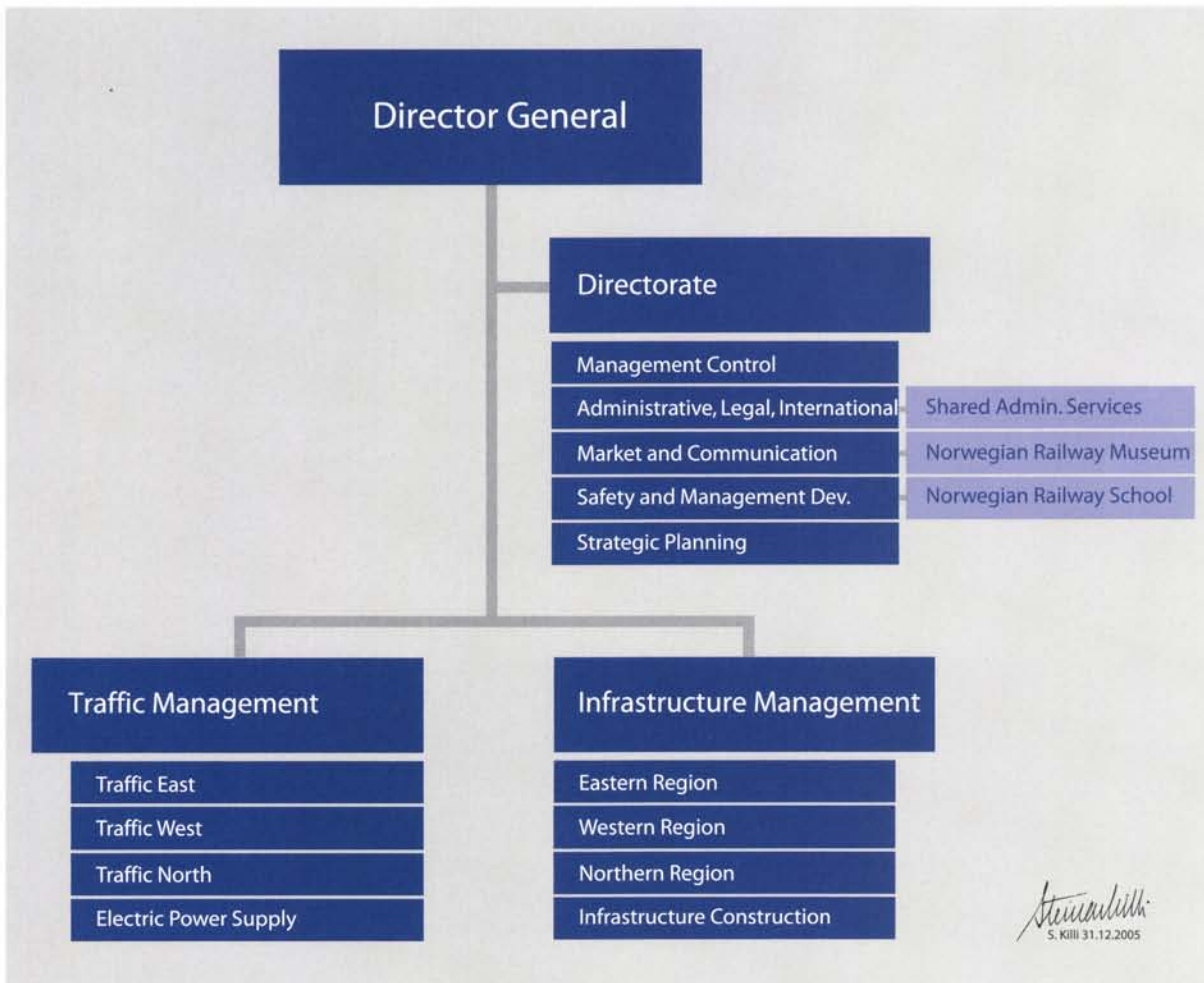
- Market and Communication, including allocation of infrastructure capacity to train operating companies.

- Safety and Management Development, including ICT
- Strategic Planning, including studies relating to new infrastructure
- Management Control, responsible for budgeting, business planning, financial control and accounting
- Administrative, Legal and International Affairs

#### **Infrastructure Management**

with 1 869 full-time equivalent employees, is responsible for constructing, operating and maintaining all rail infrastructure, and for managing real estate, stations and terminals. The division comprises three regional units, each with overall responsibility within its respective region. A separate unit is in charge of constructing new infrastructure.





**Traffic Management**

with 729 full-time equivalent employees, is responsible for operational traffic management and passenger information services. The division comprises three traffic regions, which are subdivided into a total of eight train control areas. BaneEnergi operates the transformer stations, selling on electrical power to the train operating companies.

**Shared Administrative Services**

with 120 full-time equivalent employees, provides administrative support functions to all parts of Jernbaneverket. 55 of the FTE employees are based in Hamar, with the remaining 65 distributed between Oslo/Drammen, Bergen and Trondheim. The unit reports to the Administrative, Legal and International Affairs department.

**The Norwegian Railway School**

with eight full-time equivalent employees based at Grorud in Oslo, is a training centre for the rail sector responsible for training locomotive drivers and rail safety training. The school reports to the Safety and Management Development department.

**The Norwegian Railway Museum**

with 19 full-time equivalent employees based in Hamar, is responsible for documenting and presenting Norwegian railway history, reporting to the Market and Communication department.

# Key events in 2005



**18 January**  
Official opening of Norwegian Railway School.  
Photo: Øystein Grue

**15 February**  
All production staff receive notice of possible redundancy between 2005 and 2009 as a result of the Norwegian Parliament's decision to open up Jernbaneverket's production activities to competitive tendering.



**April**  
Jernbaneverket saves time and money by using a helicopter to install overhead line equipment on the Ofoten line.  
Photo: Carl Næsje, Fremover

**30 April**  
NSB's punctuality in 2004 was third best in Europe. In the first four months of 2005, the punctuality rate increased further to 92.9% for passenger services.



**12 June**  
Overnight trains between Oslo and Malmö/Stockholm make a comeback after an absence of several years.  
Photo: Njål Svingheim

January

February

April

June



**19 January**  
Torild Skogsholm, Minister of Transport, launches the railway's new digital communications system (GSM-R) at Marienborg operations centre in Trondheim.  
Photo: Ned Alle

**February**  
Eastern Norway: Punctuality target of 90% of trains arriving at destination on time achieved on Østfold, Vestfold, Dovre, Gjøvik and Drammen lines.

**23 April**  
40 special trains transported 11 000 competitors to Skarverennet, the world's biggest cross-country ski race, without any problems.



**30 May**  
The Ministry of Transport and Communications announces that NSB Anbud AS has won the contract to operate passenger services on the Gjøvik line for 10 years from June 2006.  
Photo: Øystein Grue

May





**1 August**

The new double track between Sandvika and Asker enters service. The photo shows Torgeir Døvre, driver of Jernbaneverket's track recording train, releasing the points prior to the first test run on the new line. Photo: Njål Svingheim

**24 October**

Open house at the Norwegian Railway School's refurbished premises.

**28 October**

Ground-breaking ceremony for the transport interchange at Strømmen. Jernbaneverket is contributing NOK 28m to this joint project with Statens vegvesen (the Public Roads Administration).



**1 November**

Jernbaneverkets service guarantee is expanded to include good information and clean and tidy stations.

August

October

November

December

**30 June**

Train punctuality reaches a record high in the first six months of the year. Punctuality target of 90% of trains arriving at destination on time achieved on long-distance, regional and suburban services.



**27 August**

Torild Skogsholm, Minister of Transport, officially opens the new double track between Sandvika and Asker – Norway's biggest onshore construction project. Photo: Olav Nordli



**27 October**

Steinar Killi, Director General, sends a letter to 1 136 employees in Jernbaneverket's production business revoking the notice of redundancy. The Ministry sets out requirements for Jernbaneverket to operate efficiently and manage its resources effectively. Photo: Njål Svingheim



**1 November**

The GSM-R mobile communications system comes into use on the northern part of the Gjøvik line and the eastern Østfold line. 45% of the Norwegian rail network now has full radio coverage on the track and in tunnels. Photo: Njål Svingheim

**13 December**

Opening of a new children's nursery, built by Jernbaneverket to replace an older building demolished to make way for the Lysaker double-track bypass.



## **Competitiveness and Socioeconomic Benefit**

emphasizes the owner's and the customers' requirements and expectations of Jernbaneverket – and the outcomes designed to add value for customers and society.



# Competitiveness and Socioeconomic Benefit

**Jernbaneverket has the following objectives in this core area:**

- To create the conditions for more rail freight traffic
- To help local and regional passenger services win increased market share
- To ensure capacity is efficiently utilized
- To be an impartial and efficient infrastructure manager and capacity allocator
- To improve Jernbaneverket's image

The first four of these objectives relate directly to Jernbaneverket's core product: a transport system comprising infrastructure capacity (space on the rail network that can be used for running trains) and traffic management.

Increasing rail freight traffic and the market share of local and regional passenger services is conditional on Jernbaneverket having spare capacity, or capacity being increased where insufficient, or existing capacity being utilized more efficiently.

The quantity and quality of track capacity determines the network's ability not only to handle current traffic but also to accommodate traffic increases.

A number of businesses considering starting up rail operations were in contact with Jernbaneverket during the year. Jernbaneverket also provided advice to freight shippers and forwarders.

## **Capacity and utilization of the national rail network**

All Jernbaneverket's activities relating to infrastructure operations, maintenance and investment are undertaken with a view to maintaining quality or enhancing track capacity. The track capacity of a line section is an expression of the number of trains that can pass through in each direction over a period of one hour or 24 hours.

Along with high infrastructure availability (high uptime on the technical systems), track capacity is crucial to rail's ability to compete in the transport market.

The International Union of Railways (UIC) issues recommendations on how capacity should be calculated, and how much capacity should be utilized. Excessive utilization may have adverse effects on punctuality and running speeds. However, on some parts of the Norwegian rail network, demand for capacity is so high that utilization is far in excess of UIC recommendations.

*A train passes a tailback of traffic leaving Oslo on the E18 highway at Lysaker. Photo: Øystein Grue.*



**Freight traffic**

Jernbaneverket is finding that competition in rail freight is making train operating companies more innovative, and allocated track capacity is being better utilized. Jernbaneverket regularly receives proposals for new measures – often with extensive socioeconomic benefits – designed to increase track capacity, and hence the profitability of train companies and rail’s ability to compete. A number of such measures were implemented in 2005.

The number of train operating companies was unchanged from 2004. Freight operators expanded their activities in 2005. In the course of the year, newly established train operating companies primarily focused on conventional trainload freight, including timber and paper.

**Passenger services**

Within Norway, NSB AS, NSB Anbud AS (from 2006) and Flytoget AS have a monopoly on passenger services, which are not open to competition.

Express trains = Passenger trains serving the two stations at each end of the line but calling at none or few of the intermediate stations.

Stopping trains = Passenger trains serving the two stations at each end of the line and calling at intermediate stations.

Total number of trains on line = Sum of all express and stopping trains plus all other freight and passenger trains serving only part of the route. For the Oslo–Drammen line, this figure includes all Airport Express trains running between Oslo and Asker.

Theoretical running time of express/stopping trains = Time trains would have taken if they had been able to run at line speed.

**An example of growth – and how high capacity utilization can affect running speeds**

The Oslo–Drammen line is the Norwegian railway that has seen the most growth. It opened in 1872 as a narrow-gauge, single-track line with four steam trains a day. Today, the Drammen line is a standard-gauge, double-track line (the benefits of the four-track section between Asker and Sandvika will not be seen until 2006), electrically operated and 11 kilometres shorter than when it opened. The number of trains running on the line 133 years after its opening has increased almost a hundredfold. In 2005, 359 scheduled trains operated over the line each day, not counting special trains, empty stock and light locomotives. The diagram shows an increase in running times coinciding with the doubling of the number of trains on the line between 1980 and 1998.

The difference between theoretical and actual running times, as shown in the graph below, illustrates the time losses that occur as a result of high track capacity utilization.

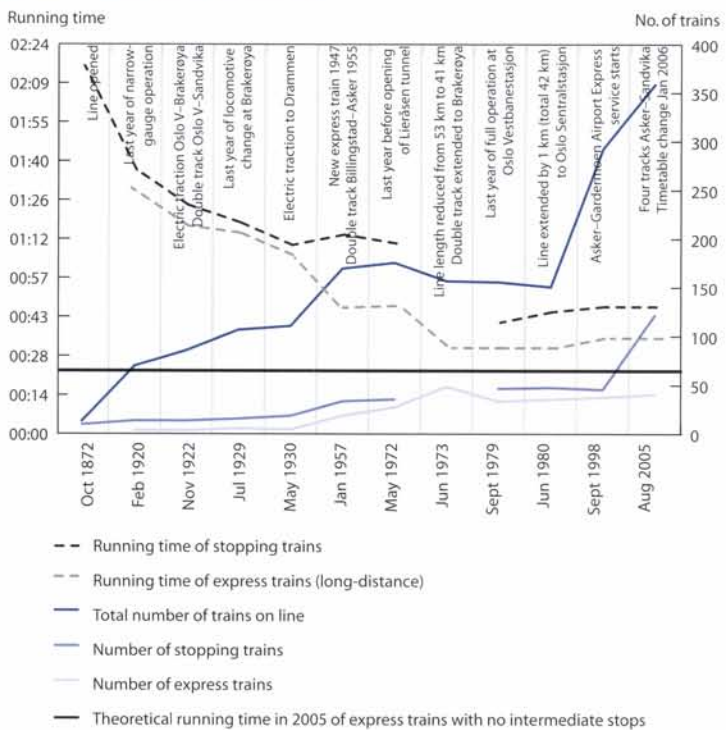
**Can the national rail network accommodate more traffic?**

The two maps on pages 16 and 17 both show how many trains there is capacity for on various parts of the national rail network in each 24-hour period. The first map shows how much of this capacity is actually utilized in the course of a day. The map identified four line sections as overloaded:

**– Drammen line, Asker–Lysaker**

Jernbaneverket is increasing capacity by expanding the Asker–Lysaker section from two to four tracks. The Asker–Sandvika part opened in 2005.

**Drammen line (Oslo–Drammen)**







Construction work at Asker station, summer 2005. Photo: Olaf Bjerknes



The old and new double tracks side by side at Solstad, Asker. Photo: Øystein Grue



Passengers at Drammen station. Photo: Rune Fossum

**– Bergen line, Bergen–Arna**

Jernbaneverket plans to increase capacity by constructing a double-track line in tunnel under Mount Ulriken.

**– Sørland line, Stavanger–Nærbo**

Jernbaneverket plans to increase capacity by constructing a double-track line on the Stavanger–Sandnes section. A freight terminal is being built south of Ganddal. When this is complete, freight trains will no longer run between Stavanger and Sandnes, relieving the pressure on this section.

**– Dovre line, Trondheim–Heimdal**

Jernbaneverket has conducted several studies covering the entire section from Marienborg in the south to Leangen in the north, in order to identify which measures would be most effective in increasing capacity. The process is not yet complete.

**Fluctuating capacity utilization throughout the day**

The railway's traffic load is unevenly distributed throughout the day. In simplified terms, there is a peak during the morning and evening rush hours, similar to the situation on the roads. At night there are few passenger trains but

more freight trains. However, on current trends, the number of daytime freight trains is increasing.

The map on page 17 shows capacity utilization at peak times, i.e. the times of day when the most trains operate. The difference between the two maps is evident, with the four overloaded sections being joined by:

- Nordland line, Bodø–Dunderland and Hell–Trondheim
- Røros line, Røros–Hamar
- Gjøvik line, Grefsen–Roa
- Østfold line, Oslo S–Ski

Of the sections listed above, extensive planning work has taken place on the Østfold line, which it is proposed to expand from two to four tracks between Oslo S and Ski. On the other sections, smaller-scale capacity enhancements are proposed, including a number of new or extended passing loops

The two maps show free capacity on most of the rail network – if trains can be run outside peak times. The quality of the free capacity varies somewhat.

**Train operating companies on the national rail network**

In 2005, the following train companies held licences to operate on all or part of Norway's national rail network:

*F = freight*

*P = passenger services*

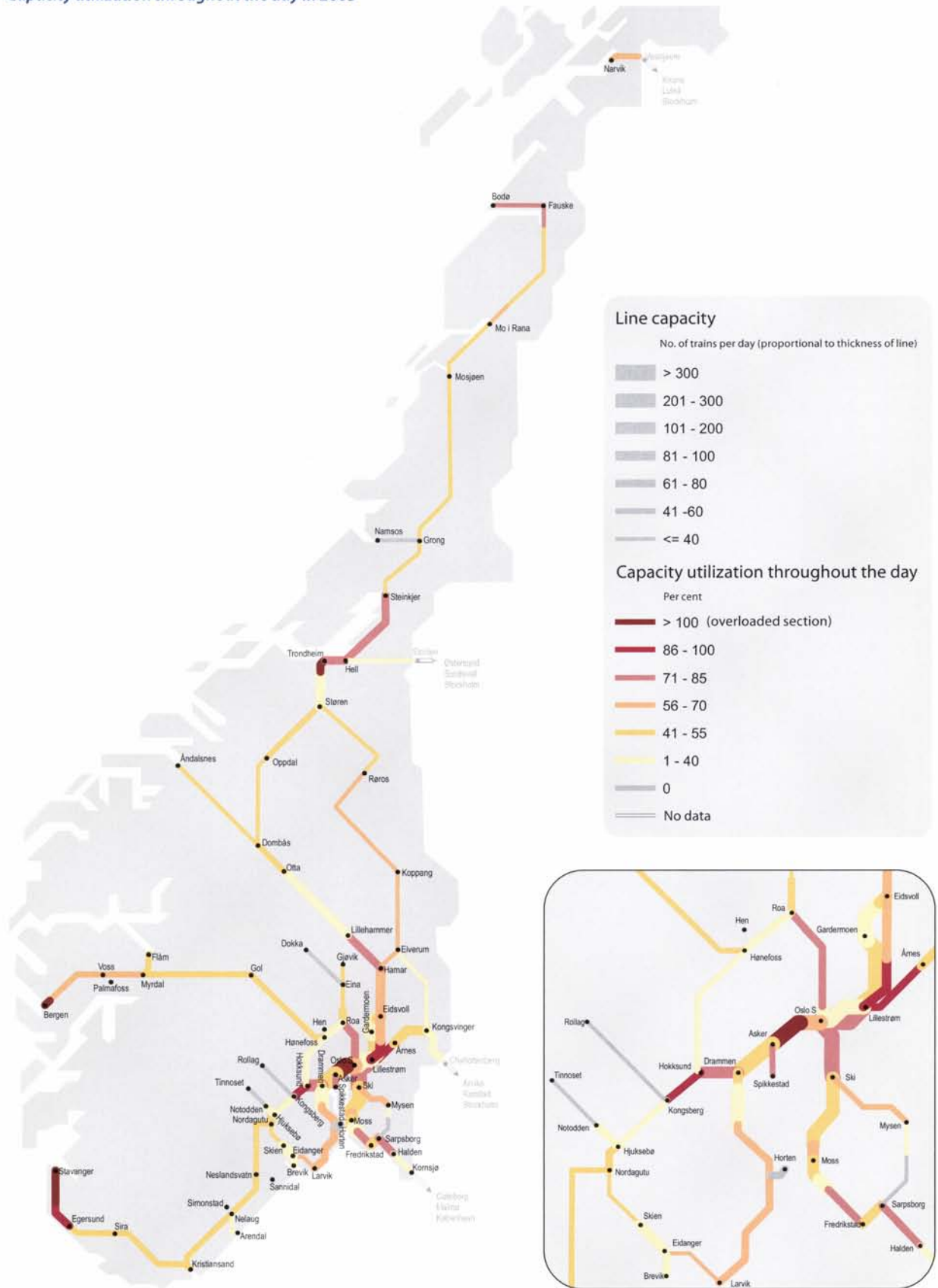
*M = museums and preservation societies (passenger)*

- CargoNet AS G
- Connex Tog AS P
- Flytoget AS P
- GM-gruppen M
- GreenCargo AB G
- Hector Rail AB G
- Malmtrafikk AS G
- NSB AS P
- Ofotbanen AS G/P
- Tågakeriet i Bergslagen G
- Valdresbanen AS M

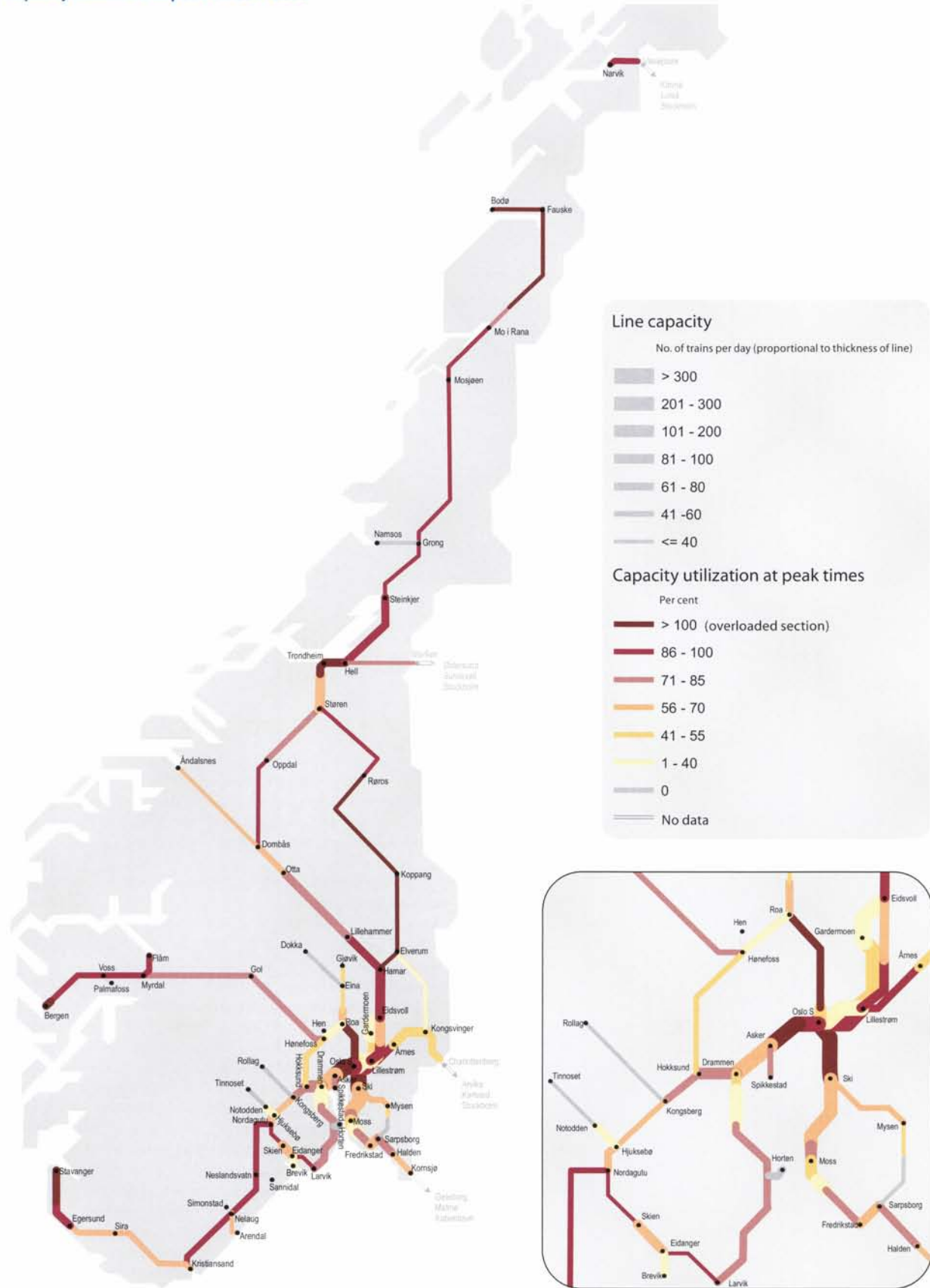
Some of these train companies are licensed to operate only on specific parts of the network. For a summary, please see the website of the Norwegian Railway Inspectorate:

[www.sjt.no](http://www.sjt.no)

Capacity utilization throughout the day in 2005



Capacity utilization at peak times in 2005





**Passing loop intervals and length – the principal capacity parameter**

The Norwegian rail network consists mainly of single-track lines where the same track is used by trains in both directions. On a single-track rail network, running time between passing loops determines how many trains there is capacity for. However, capacity calculations do not take account of the length of the passing loops, which is the key parameter determining the length of trains that can be operated. This matters to rail freight operating companies, who generally wish to run trains of the maximum length their locomotives are capable of hauling. Free capacity for operating long freight trains is currently limited.

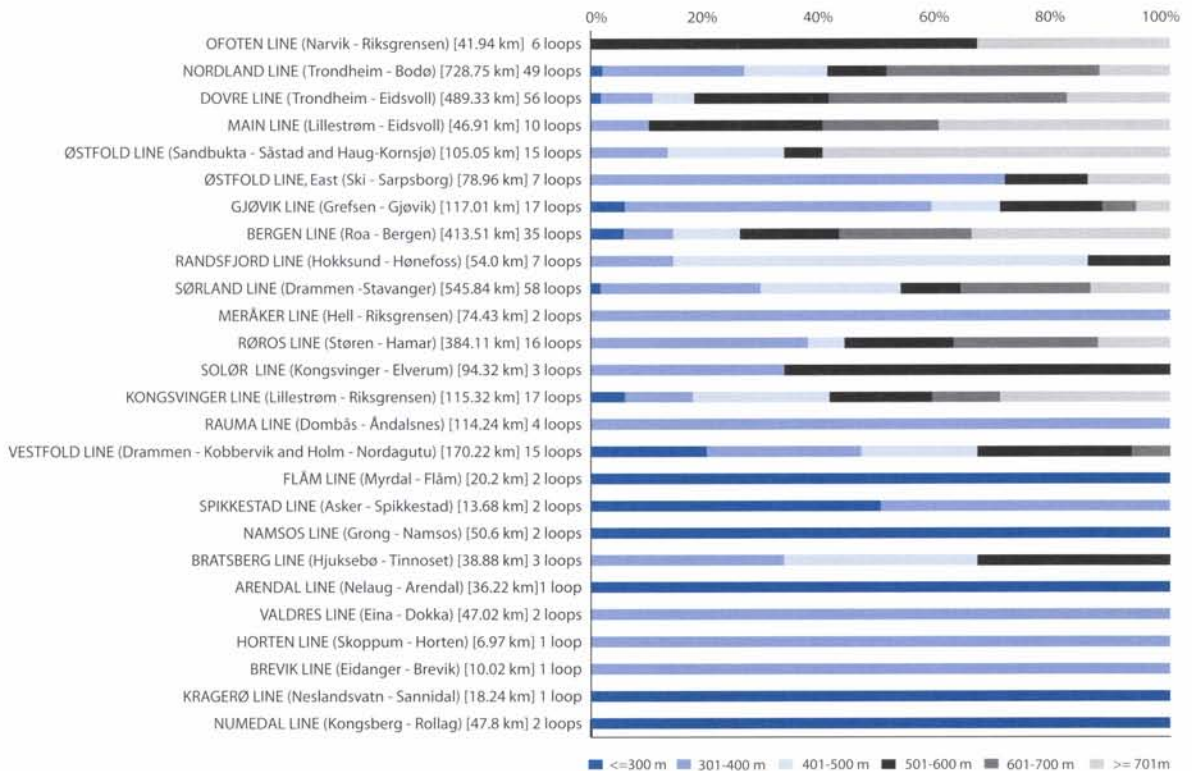
**Terminal capacity**

Trains need not only to run but also to be loaded and unloaded. In railway terminology, passenger terminals are known as stations and halts. Freight trains are loaded and unloaded at freight terminals of various kinds.

Like the national rail network, terminals have a quantifiable capacity, which – like network capacity – can be stretched. This creates space for more trains but makes the terminal operate less efficiently.

For freight traffic, lack of terminal capacity is a greater obstacle to growth than lack of network capacity. For this reason, Jernbaneverket is pursuing capacity enhancements at a number of freight terminals, including Alnabru (Oslo) and Ganddal (near Stavanger).

*Length of passing loops by line (single-track lines only)*



## **Operating parameters of the rail sector**

A distinctive feature of the rail sector is the far greater number of technical interfaces than in other transport modes. Historically, development of the railways was controlled by national governments, and consequently each country ended up with its own national standards. This is different from the aviation sector, for example, which has been governed by international arrangements from the outset.

This absence of international control has resulted in the railways possessing an innumerable variety of solutions, which individually and in combination undermine rail's ability to compete. Since 1991, the European Union (EU) has been driving a long and costly process intended to achieve interoperability within the rail sector in Europe. The first international legal requirements were implemented in the early 1990s. The first international technical requirement with implications for Norway is the GSM-R communications system, currently being installed on the national rail network.

Changing rail's technical parameters is often costly and time-consuming, especially since the nature of rail systems is such that gradual modifications may be difficult or impossible. Over time, new, internationally harmonized operating parameters will result in a less cost-intensive rail sector. The removal of specific national requirements will, in time, lead to a more globalized market for suppliers, with more series production and larger production runs of everything from individual components to locomotives and rolling stock. In relative terms, a small railway nation like Norway stands to gain more from being able to purchase "off-the-shelf" solutions rather than continuing with costly "tailor-made" production of small batches.

### **Economic parameters**

*The ownership of freight terminals, passenger stations and downtown sites used*

*for rail operations may have implications for rail's ability to compete.*

New train operating companies are now demanding terminal capacity and access to facilities directly or indirectly owned or managed by NSB AS and its subsidiaries, in order that they can load and unload their own trains. In spring 2005, the Ministry of Transport and Communications set up a working group with representatives from Jernbaneverket and NSB AS to look into these issues. At year end, the group had yet to complete its work.

Urban redevelopment presents a further challenge to rail's future competitive position, since the desire to acquire rail sites in prime locations often conflicts with the needs of the rail industry.

### **Legal parameters**

Norwegian rail legislation currently comprises an ever increasing number of regulations laid down by the EU with a view to enhancing rail's competitiveness, coupled with specific national requirements. At national level, Jernbaneverket seeks to promote improvements in rail's competitive position when responding to consultation exercises on new legislation.

### **Loading gauge**

The loading gauge for each line indicates the maximum permissible height and width of loaded or unloaded rolling stock on that line.

Jernbaneverket regularly receives requests to operate vehicles or loads that exceed the standard loading gauge. Often, only minor and relatively inexpensive measures are needed to clear long sections for larger vehicles and loads, so loading gauge expansion is the cheapest and fastest way of increasing rail's transport capacity.

### **Network Statement**

– Jernbaneverket's product description  
Jernbaneverket's Network Statement contains information on the type of



infrastructure available to companies wishing to run train services on the national network, the terms and conditions of access, charging principles and rates, planned changes to track charges, and the principles and criteria for capacity allocation.

The Network Statement is available online at [www.jernbaneverket.no](http://www.jernbaneverket.no)

All European rail administrations publish their own Network Statement annually. The period of validity is the same across national borders, as is the structure of the product description.

### Railways and the environment

Compared with other modes of transport, rail is environmentally friendly. The biggest contribution that the rail sector can make to the environment is therefore to increase both its market share in relative terms and its transport volumes in absolute terms. In a free market, rail's market share will increase if customers perceive the rail offering as better than the alternatives.

As well as helping to improve the environment by increasing rail's market share, Jernbaneverket is working systematically to improve its own environmental profile.

### Biodiesel

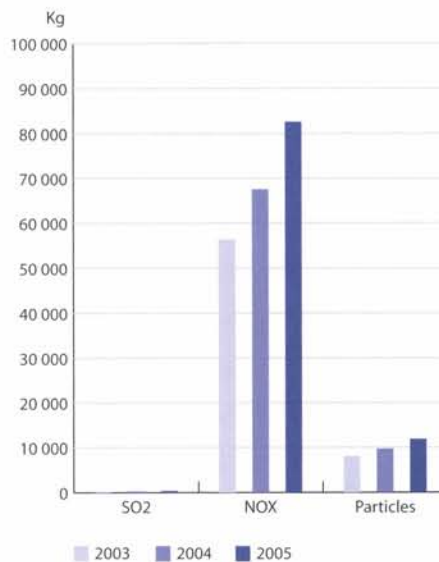
The transport sector emits large quantities of greenhouse gases and erodes the world's stocks of fossil fuels. Achieving a sustainable transport system requires a reduction in fossil fuel consumption. Rail is the least energy-intensive mode of transport. Most Norwegian trains are electrically powered, but some passenger units and freight locomotives and most track maintenance machines have diesel engines. In 2005, a project to investigate the potential for using biodiesel on Norwegian railways got under way.

### Energy efficiency

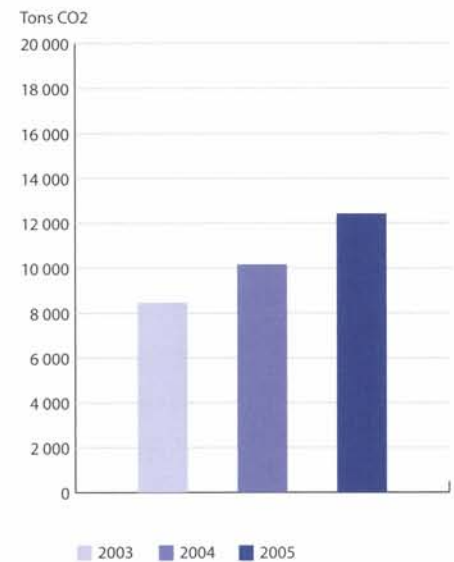
Jernbaneverket has pursued an energy efficiency program since 2003, achieving annual cost savings of NOK 16.5m. We are now pushing ahead with an energy efficiency project covering the period from 2006 to 2008.

*The transfer of freight from road to rail has major environmental and safety benefits. On the Bergen line, expansion of the loading gauge in 2003 led to growth in freight traffic, which continued in 2004–05. The graphs show the reduction in emissions of CO<sub>2</sub>, SO<sub>2</sub> and NO<sub>x</sub> as a result of freight transfers from road to rail.*

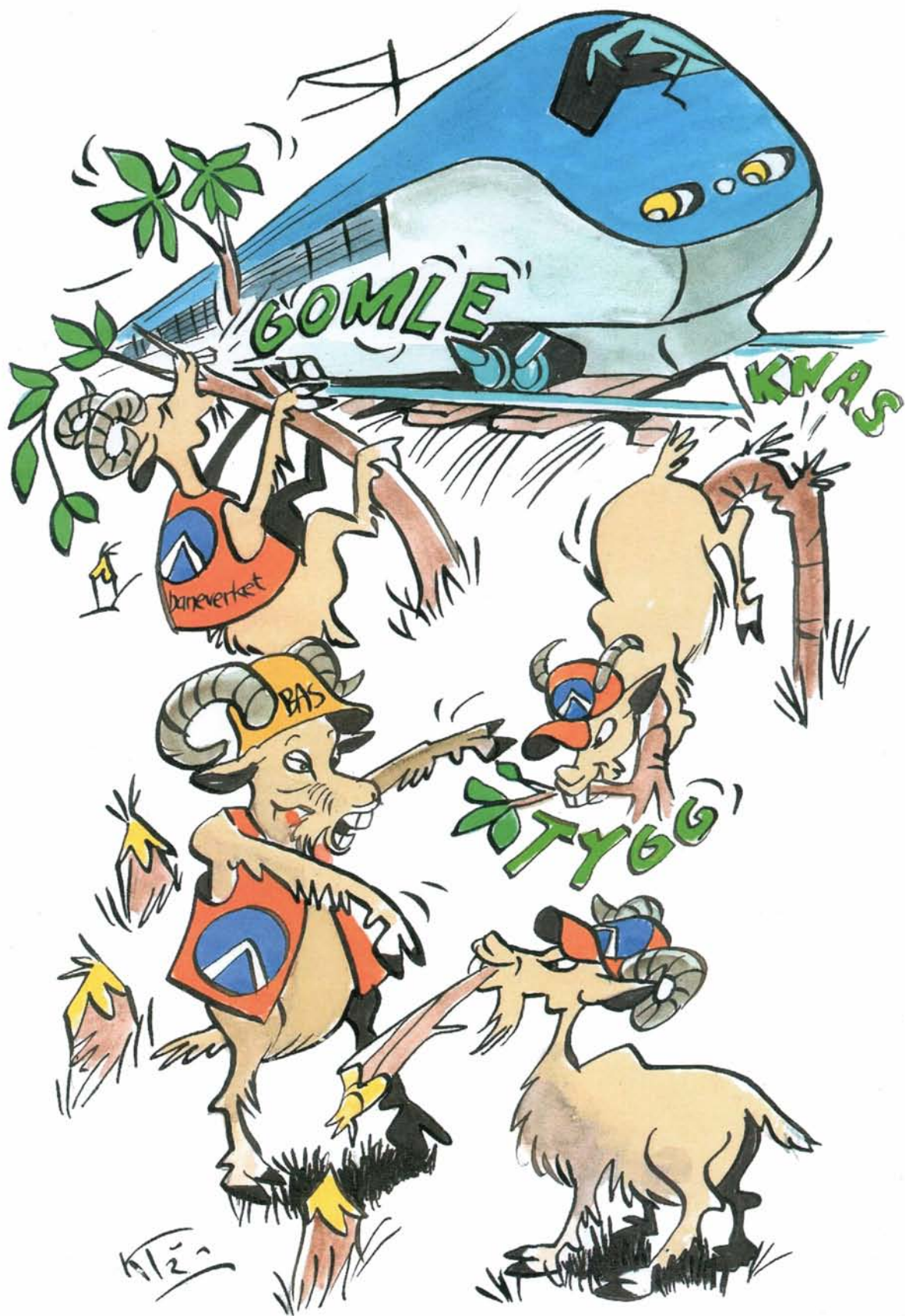
**Reduction in toxic and environmentally hazardous emissions**



**Reduction in CO<sub>2</sub> greenhouse gas emissions following freight transfers from road to rail <sup>1)</sup>**



<sup>1)</sup> On the basis of a 22% increase in freight traffic on the Bergen line in 2004–05, equivalent to 6 000 trucks.



Goats at work for Jernbaneverket in summer 2005 – as effective as herbicides. Illustration: Ola Bersvein Klåpbakken



### **Vegetation control and animal collisions**

A combination of measures over the past two years has resulted in the lowest number of collisions between trains and animals since 1998. In 2005, 1 279 animals were hit by trains, a reduction of more than 30% on the record number of collisions in 2003.

Vegetation along the lineside needs to be kept under control. In 2005, Jernbaneverket experimented with using cashmere goats to graze on lineside vegetation. The initial results after one year are promising, but this method is not suitable for use in all trackside locations.

### **Visual environment**

In November 2005, Jernbaneverket's service guarantee to passengers was expanded to include a right to clean and tidy stations in addition to good information. The service guarantee is displayed at stations, and internal procedures are in place to handle any complaints.

### **Noise**

Noise is the main form of environmental pollution suffered by people living and working beside the railway. By the end of 2005, Jernbaneverket had complied with the statutory requirements concerning maximum indoor noise levels in homes close to the railway. During the year, Jernbaneverket took part in a directorate-level working group reviewing national noise-abatement targets and the statutory requirements.

Details of Jernbaneverket's environmental policies and the status of environmental programs can be found in the Environmental Report for 2005, available online (in Norwegian) at [www.jernbaneverket.no](http://www.jernbaneverket.no) under "Miljørapport 2005".

### **International activities**

A key objective of Jernbaneverket's international activities is to influence the EU's harmonization process in a direction

that benefits the rail sector. Although harmonization is primarily motivated by international traffic, it will also have benefits for domestic traffic, since both share the same tracks. Jernbaneverket is working with fellow infrastructure managers to simplify and streamline cross-border traffic. In the Nordic countries, a joint project is under way to develop a single Nordic supplier market for infrastructure operation and maintenance.

In 2005, Jernbaneverket assisted the Ministry of Transport and Communications in its dealings with the EFTA Surveillance Authority (ESA) concerning implementation of the First Railway Package in Norway. The outcome of this process also had implications for the ongoing implementation of the Second Railway Package.

Jernbaneverket's international activities take place on various fronts, through a number of organizations:

### **Rail Net Europe (RNE)**

is based in Vienna, Austria, and is a forum for practical cooperation between all European rail infrastructure managers. RNE is now in charge of allocating infrastructure capacity for all international passenger and freight services. RNE is represented in all European countries with a rail network through a "One Stop Shop" (OSS) associated with each country's infrastructure manager.

Since 2005, train operating companies wishing to run cross-border services can approach a single OSS to request capacity for the entire route. The OSS will assist the train operating companies in drawing up a complete schedule for the whole route.

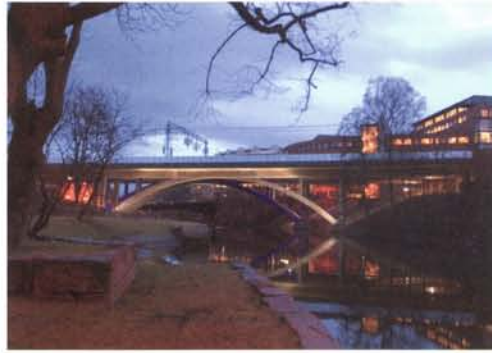
Website: [www.railneteurope.com](http://www.railneteurope.com)

### **European Rail Infrastructure Managers (EIM)**

EIM's principal tasks fall into two main areas:



A timber train can carry as much as 20 articulated trucks. Photo: Sven Goll



The new railway bridges over the Sandvikselva river in downtown Sandvika. Photo: Rune Fossum



The new pedestrian tunnel at Asker station, decorated by Sven Pålsson and Erik Wøllo. Photo: Anne Siri Haugen

– Lobbying of the EU's legislative bodies. To promote its members' views on developments in European transport policy, EIM issues position papers and press statements. The organization works to influence the European Commission and the Transport Committee of the European Parliament. The main issues in 2005 included the Third Railway Package, the Eurovignette directive and the planned revision of the EU's White Paper on transport policy. The work of EIM is especially important because Jernbaneverket thereby has the opportunity to play a part in influencing EU legislation at an early stage. EIM is an organization where Jernbaneverket has voting rights on the same terms as other members and hence a real possibility of influence.

– Participation in EU efforts to harmonize technical standards. EIM is one of the organizations that have been granted the right to nominate experts to the European Railway Agency (ERA). Experts from Jernbaneverket are heavily involved in preparatory work through EIM's "shadow" working groups, and a number of them have also been chosen to serve on ERA's working groups.

Website: [www.eimrail.org](http://www.eimrail.org)

#### **The International Union of Railways (UIC)**

has its headquarters in Paris, France. In recent years, the focus of the organiza-

tion's work has been on technical and research-related issues. Experts from Jernbaneverket are involved in various expert and project working groups.

Website: [www.uic.asso.fr](http://www.uic.asso.fr)

#### **Nordic Infrastructure Managers (NIM)**

comprises the national rail infrastructure managers of Norway, Sweden and Finland. On the technical side, the Nordic infrastructure managers have a very active working relationship, and a number of working groups and projects are under way.

Together with the other members of NIM and the national roads administrations of the Nordic countries, Jernbaneverket is involved in the Single Nordic Infrastructure Market project set up by the Nordic Council of Ministers. This project is intended to promote greater cooperation and a longer-term approach in the Nordic infrastructure sector for both road and rail.

#### **Jernbaneverket's image**

Jernbaneverket has formulated a strategy for image building, which is to be implemented during the first six months of 2006. The market research company MMI's annual corporate image survey will provide a basis for measuring the organization's public standing.





## **Safety, Punctuality and Information**

emphasizes the three principal features of the product delivered by Jernbaneverket to its customers.

# Safety, Punctuality and Information

**Jernbaneverket has the following objectives in this core area:**

- To maintain existing safety standards for rail transport and ensure that any changes represent an improvement
- To ensure that all trains are able to keep to the timetable
- To ensure that traffic information is readily available and correct

## **Safety**

2005 was one of the best years ever for Norwegian railways in terms of safety. Nevertheless, safety is not something we can take for granted. Safety is something we have to create – and recreate every single day.

Transport contributes to society's wealth creation. The value of rail transport is created in a value chain consisting of infrastructure, traffic management and train operations. The risk of harm to people, the environment and rolling stock is the sum of the risk factors from each of these three components and the interaction between them and between transport modes. It is important to control this sum of the risk factors in the rail system if we are to create and maintain a railway with acceptable levels of safety. By virtue of its responsibility for capacity allocation on the network, Jernbaneverket is in a position to monitor the overall risk on an ongoing basis.

Jernbaneverket sets out the risk profile for the national rail network by conducting line-by-line risk surveys, supplemented by specific risk analysis of any modifications that may affect network safety.

Small and large-scale risk assessments of technical systems, human-machine interfaces and organizational changes, coupled with the line-by-line surveys, provide control and an overview of the risk profile.

In the light of analysis findings and past events, Jernbaneverket is focusing particularly on preventing major accidents and on reducing the scope for collisions at level crossings and along the line.

## **From manual to automated traffic control**

Jernbaneverket works on the single-failure principle, which means that no one failure on its own should be enough to cause an accident. Interlockings and technical barriers such as automatic train control (ATC) comply with this principle and help increase the safety of the rail network. ATC is a technological system for transmitting signalling instructions from the signal to the train. If the train accidentally passes a stop signal, the brakes are automatically applied. ATC provides an additional safety barrier and makes train operations less dependent on human factors.

Coinciding with the opening of the new line between Sandvika and Asker in 2005, centralized traffic control (CTC) was introduced at Asker station.

Planning and installation of new interlockings and CTC on the Nordland line continued throughout 2005. The aim



is to bring CTC into operation on the Grong–Mosjøen section by the beginning of 2007 and all the way to Bodø in 2008.

#### **GSM-R – communications system for rail**

In December 2004, Jernbaneverket introduced GSM for Rail (GSM-R) as an emergency communication system on 40% of the Norwegian rail network. GSM-R is a Europe-wide standard for railway communications, and 11 European countries are in the process of installing the system.

GSM-R is based on the GSM standard for mobile telephony, but additionally meets a range of requirements on safety and accessibility that are specific to rail operations. GSM-R features include emergency calling, call prioritization, fast connection and group calling.

The principal function of GSM-R is secure communication between train driver and controller. Controllers can quickly contact the correct train at all times. GSM-R also brings efficiency savings to rail operations in Norway, replacing both the old analogue radio systems and standard GSM phones among railway staff.

GSM-R provides full radio coverage along railway lines and in all rail tunnels. The first priority for installation was those

lines that previously lacked an emergency communication system. By the end of 2005, GSM-R was in use for emergency communication on the Ofoten, Nordland, Meråker, Røros, Rauma, Flåm and Østfold East lines, and on parts of the Dovre line (Dombås–Trondheim) and the Gjøvik line (Roa–Gjøvik). The introduction of GSM-R as a train radio system in Norway is scheduled for completion in 2007, replacing the present Scanet train radio.

#### **Tunnel safety**

The Norwegian rail network has more than 700 tunnels, 48 of which are over 1 000 metres in length. In the 150-year history of the railways, there have been no major tunnel accidents in Norway. Jernbaneverket is improving tunnel safety through a variety of measures in the longest tunnels, the aim being to provide better chances of escape and rescue. In 2005, the Kvineshei tunnel on the Sørland line, Gravhalsen and Kvålås on the Bergen line, and the Skien tunnel were equipped with emergency lighting and signage.

#### **Level crossings**

Level crossings have traditionally presented one of the largest risk factors associated with the rail network in Norway, so this has long been a priority area.

In addition to general operational and

#### **Level crossing accidents 1957–2005**



maintenance work, Jernbaneverket made around 254 major and minor safety improvements at level crossings in 2005. A total of 136 crossings were eliminated during the year.

As well as eliminating crossings with the highest accident risk, Jernbaneverket is committed to devising and implementing a range of measures to improve safety at level crossings, including:

- Improving visibility and road geometry
- Working with the Directorate of Public Roads to improve road signage
- Fencing, locking and temporary closure
- Telephone arrangements for lightly trafficked crossings (trial scheme)
- Installing simple warning lights and related signs at farm crossings
- Measures to reduce high-risk traffic over level crossings, for instance by downgrading the crossing to pedestrian-only use
- Producing an information film about level crossings targeted at learner drivers and others

**Safety culture**

The three-way split between infrastructure, traffic management and train operating companies, resulting in the presence of a larger number of players within the rail system, requires a safety management system based on understanding and expertise. Risk-based safety management centres on greater

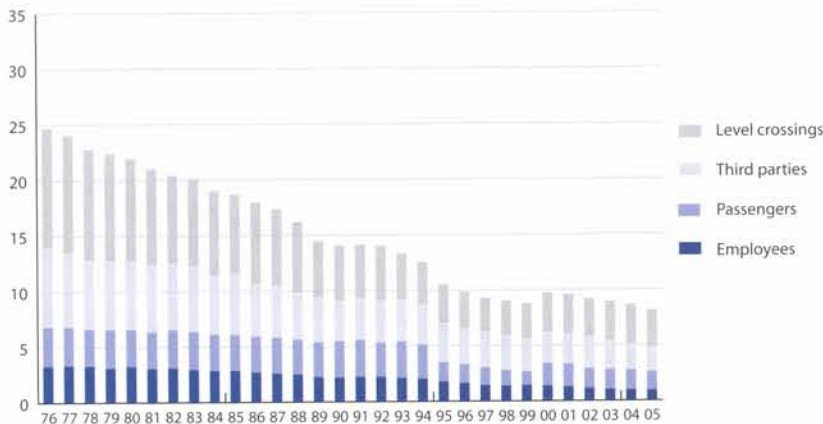
involvement of specialist staff in carrying out safety reviews. This will not only ensure that safety increasingly becomes an integral factor in all decision making, but also result in greater understanding and better analysis.

In January 2005, the Norwegian Railway School was officially opened by the Minister of Transport and Communications. The school is an officially recognized vocational training centre for locomotive drivers and other railway personnel. The first intake of student drivers underwent training in 2005 and took their final examinations in January 2006. The first course for controllers and dispatchers started in autumn 2005, and a number of courses on signalling and safety were also held. The school seeks to foster a shared understanding, shared concepts and improved knowledge of the various specialisms within the rail system, with the aim of ensuring that railway expertise is maintained and developed.

**Rail safety**

Rail ranks among the safest forms of transport, and the safety trend over the past 20 years has been positive. In 2005, three people died in accidents on the Norwegian rail network, the same number as in 2004. No passengers were killed in 2005. One Jernbaneverket employee died after being hit by a train while working on the track.

*Average number of fatalities over past 20 years*





## Safety on the rail network

- Lines with CTC and ATC
- Lines without CTC and ATC



- Lines with GSM-R
- Lines with train radio (Scanet)
- Lines without GSM-R or train radio

GSM-R = Global System for Mobile Communication for Rail



\* CTC (centralized traffic control) means that station interlockings communicate with and are controlled remotely from a control centre.

\*\* ATC (automatic train control) is a collective terms for the systems known in Norway as DATC (partial ATC) and FATC (full ATC). Partial ATC is a system that applies the brakes if a train accidentally passes a stop signal. It also monitors train speed on entering and leaving stations. Full ATC incorporates speed monitoring between stations as well.

### Operating accidents in 2005 <sup>(1)</sup>

Type of accident	Incidents	Fatalities	Serious injuries <sup>(2)</sup>
<b>Collisions</b>	<b>1</b>	<b>0</b>	<b>0</b>
• Train operations (train/train)	0	0	0
• Train operations (train/object)	1	0	0
• Shunting	0	0	0
<b>Derailments</b>	<b>1</b>	<b>0</b>	<b>0</b>
• Train operations	1	0	0
• Shunting	0	0	0
<b>Level crossing accidents <sup>(3)</sup></b>	<b>1</b>	<b>0</b>	<b>1</b>
• Crossings with barriers, lights and claxons	0	0	0
• Crossings with gates	1	0	1
<b>Other level crossing accidents</b>	<b>1</b>	<b>1</b>	<b>0</b>
<b>Rolling-stock fires</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Other accidents <sup>(4)</sup></b>	<b>3</b>	<b>2</b>	<b>1</b>
<b>Total</b>	<b>7</b>	<b>3</b>	<b>2</b>

<sup>(1)</sup> Using the UIC Safety Database definition where the incident entails costs > EUR 150 000 (> EUR 10 000 in previous years), death or serious injury.

<sup>(2)</sup> Serious injuries are defined as people deemed unfit to work for more than 14 days after the accident.

<sup>(3)</sup> Collisions between road vehicles and railway rolling stock.

<sup>(4)</sup> Other accidents resulting in death or serious injury.

### Punctuality

The improvement in punctuality seen in 2004 continued on most passenger services in 2005, while freight saw a slight deterioration.

Jernbaneverket's overall punctuality target is that at least 90% of trains must arrive at their destination on time.

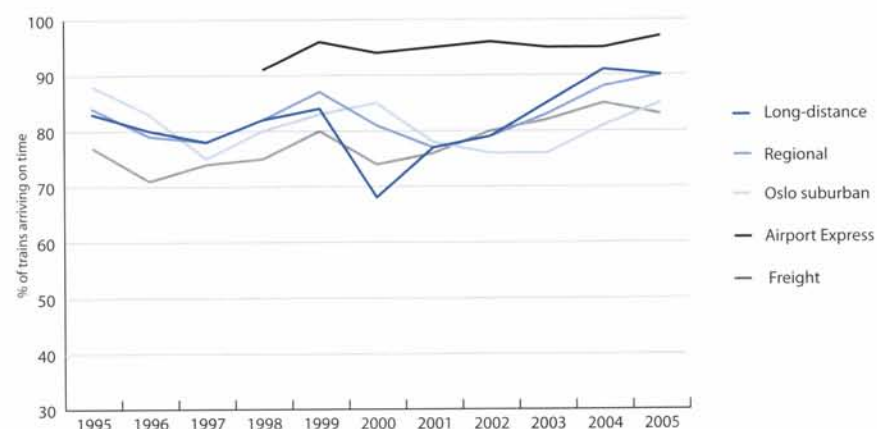
of 90% on a round-the-clock basis. The exceptions were the Kongsvinger line, where 83% of trains were on time, and peak-hour services on the Oslo–Eidsvoll main line (87%) and the Drammen (81%) and Østfold (86%) lines. Apart from the Flåm line, local services in other parts of Norway met the target. Regional services too made progress, with the Østfold and Gjøvik lines meeting the target.

### Passenger services

The improved performance seen in 2004 continued in 2005. Passenger services to and from Oslo central station (Oslo S) met the punctuality target, while Oslo suburban services also met the overall target

Airport Express services improved their already good timekeeping, with the punctuality rate increasing from 95% to 97%. Long-distance services met the punctuality target on all routes.

### Train punctuality 1995–2005





### **Freight**

All lines and products saw a slight deterioration in timekeeping in 2005. Only the Nordland line and the Randsfjord line to Hønefoss met the punctuality target, with the Sørland line coming close at 88%. On other lines, the punctuality rate was generally 80–85%.

### **Causes of late running**

Timekeeping is poorest on Oslo suburban services, owing to the fact that some sections are overloaded, especially at peak times, causing knock-on delays. What is more, major engineering works have been under way for a long time on the Drammen line, which carries trains to and from destinations throughout the east of Norway, as well as the south and west. The Drammen line is therefore the key to better punctuality on Norwegian railways. On the Kongsvinger line too, construction work on a new passing loop has led to speed restrictions and poor timekeeping.

Large-scale engineering works were carried out by closing the sections in question to all traffic over some weekends, with passengers being transported by bus. The Drammen line was closed for three weeks in the summer owing to construction work on the new double-track section.

Technical systems (especially interlockings) on some sections suffered from a disproportionate number of faults, particularly in the Oslo area. Faults of this kind adversely affect punctuality, as do rolling-stock faults, which were also prevalent at times. In the course of the year, bad weather caused a number of operating problems, including overhead line damage and power outages, flooding, landslides and avalanches (causing derailments). The Bergen line was particularly badly affected.

### **Punctuality Report 2005**

Jernbaneverket's Punctuality Report for 2005 is available online at [www.jernbaneverket.no](http://www.jernbaneverket.no) under "Om Jernbaneverket".

### **Information**

Jernbaneverket has set out its responsibility for providing public information in its service guarantee.

With effect from 1 November 2005, Jernbaneverket's service guarantee to passengers was expanded to include a right to clean and tidy stations in addition to good train information.

The aim of the service guarantee is to highlight Jernbaneverket's services to the consumer while encouraging continuous improvement of products and services.

This is achieved by inviting consumers to send complaints and feedback to Jernbaneverket's handling centre. The issues raised are then passed to investigators, who produce summaries of the various categories of complaint, trends, etc. These reports are used as a basis for prioritizing action. Consumers are entitled to receive a response from Jernbaneverket if they so wish.

The recording procedures for complaints have been changed so that "platform/track changes", "passing trains", "station cleanliness and tidiness" and "adequate lighting" are now recorded as separate categories.

The total number of complaints was higher than in 2004. The summaries show that complaints increased in November but then fell back. This may be because, from 1 November 2005, consumers were able to send feedback directly to Jernbaneverket's handling centre by SMS text message or email.

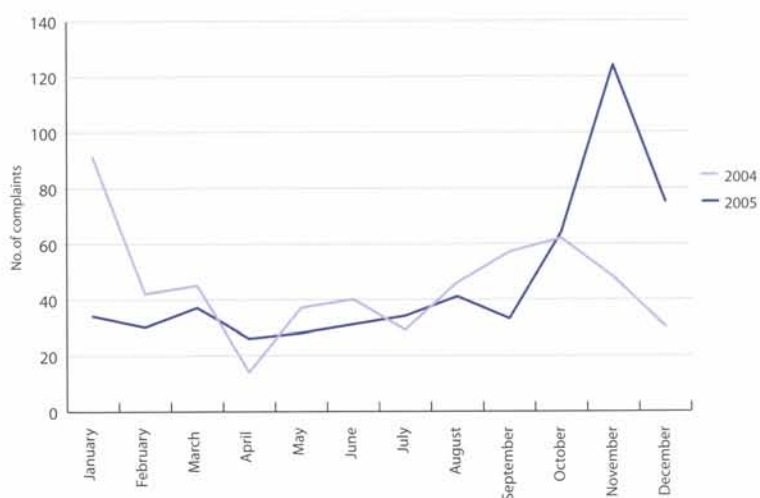
"Miscellaneous" includes complaints and requests regarding signage, public address systems, information screens, public waiting rooms, etc. This heading also covers complaints from visually or aurally impaired consumers who found the information inadequate for their needs.

### Annual number of complaints by category

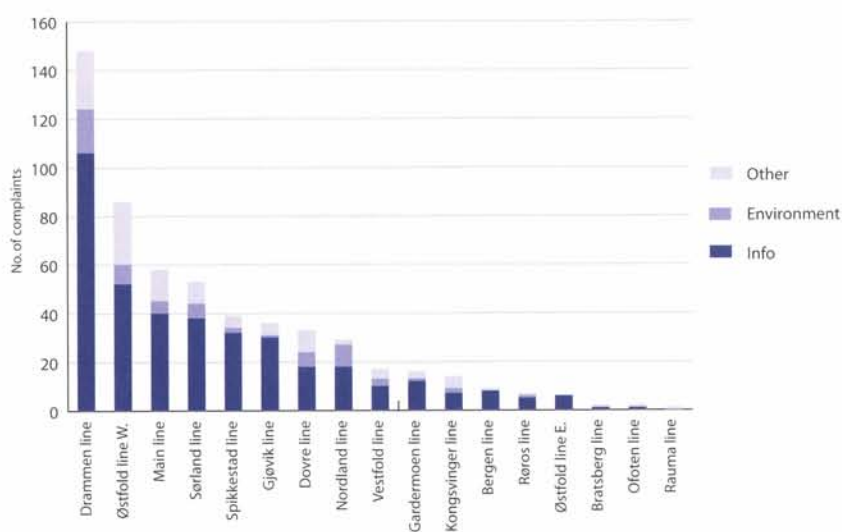
	2005	2004
1. Lack of up-to-date timetable information	44	(71)
2. Lack of information on platform/track changes	40	(34)
3. Lack of information on passing trains	9	(*)
4. Lack of information on delays	290	(344)
5. Miscellaneous	109	(89)
<b>Total</b>	<b>492</b>	<b>538</b>
6. Station cleanliness and tidiness	42	-
7. Adequate lighting	23	-
<b>Total</b>	<b>557</b>	<b>538</b>

\* In 2004, items 2 and 3 were combined and items 6 and 7 recorded under "miscellaneous".

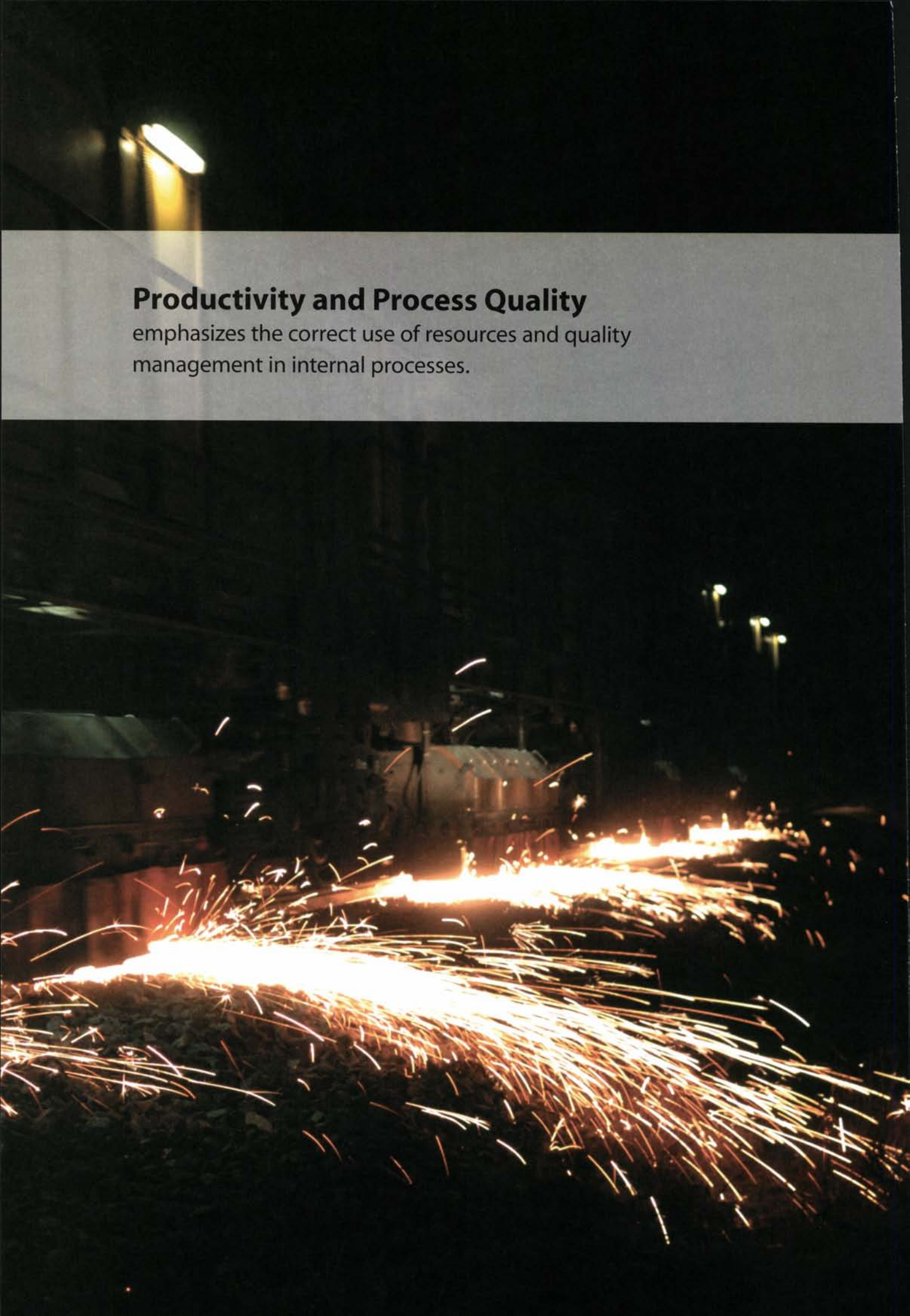
### Number of complaints per month



### Number of complaints by line





A dark industrial scene, likely a factory or workshop, with bright sparks flying from a welding process. The sparks are concentrated in the lower half of the image, creating a bright, glowing trail. In the background, there are faint lights and the silhouette of a large industrial machine or structure. The overall atmosphere is one of intense industrial activity.

## **Productivity and Process Quality**

emphasizes the correct use of resources and quality management in internal processes.

# Productivity and Process Quality

Jernbaneverket has the following objectives in this core area:

- To improve productivity at all stages
- To improve and rationalize our capability for dealing with faults
- To improve planning

## Improved productivity

Jernbaneverket provides a rail transport system that meets social and market requirements in terms of capacity, safety, access, speed, axle loads, loading gauge, comfort/ambience, environmental impact and public information. This requires Jernbaneverket to manage its financial resources in the best possible way through good housekeeping and productivity.

The graph below shows a comparison of Jernbaneverket's operations and maintenance costs for the period 1996–2005. Before 1997, as part of the former state railway undertaking NSB, Jernbaneverket was subject to a lower rate of value added

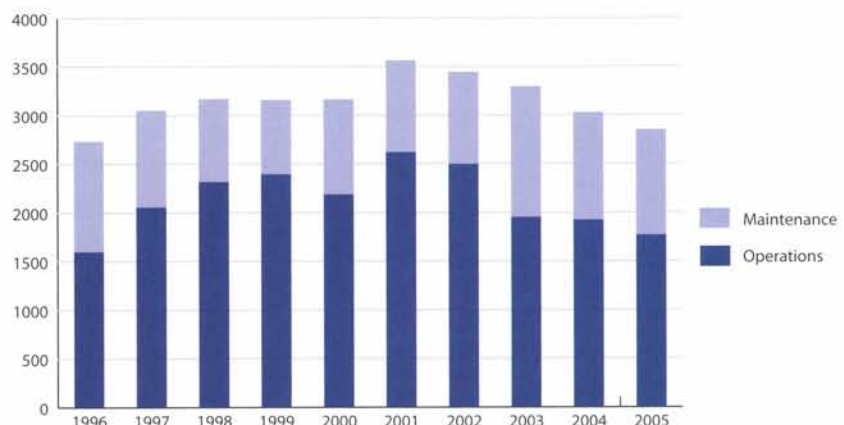
tax (VAT). Since 1997, Jernbaneverket has had to pay input VAT at the full rate. In 1998, Jernbaneverket assumed responsibility for train control from NSB BA (now NSB AS). Jernbaneverket renewed the CTC system on the Røros line, adding to the financial burden in 2001 especially.

## Traffic management

Expenditure on traffic management in 2005 amounted to NOK 335m. Traffic management involves the following main tasks:

- Train control and dispatching
- Capacity allocation and timetabling
- Provision of services and information to passengers, the general public, train operators and the media (platform indicators, information screens, signage, notice boards, public address systems, online information, etc.)
- Control of the overhead power supply to electric trains

**Operations and maintenance costs 1996–2005 (at 2005 prices in NOK million)**



The rail grinding train in action on the Solør line at night. Photo: Øystein Grue



## Infrastructure operations

Expenditure on infrastructure operations in 2005 totalled NOK 3 100m.

Infrastructure operations costs cover:

- Administration
- Snow clearance
- Station management (rent, cleaning, etc. of public spaces at stations and freight terminals)
- Real-estate management
- Electricity for low-voltage equipment in the infrastructure (not for train operations)
- Telecommunications rental (for train radio, CTC, etc.)

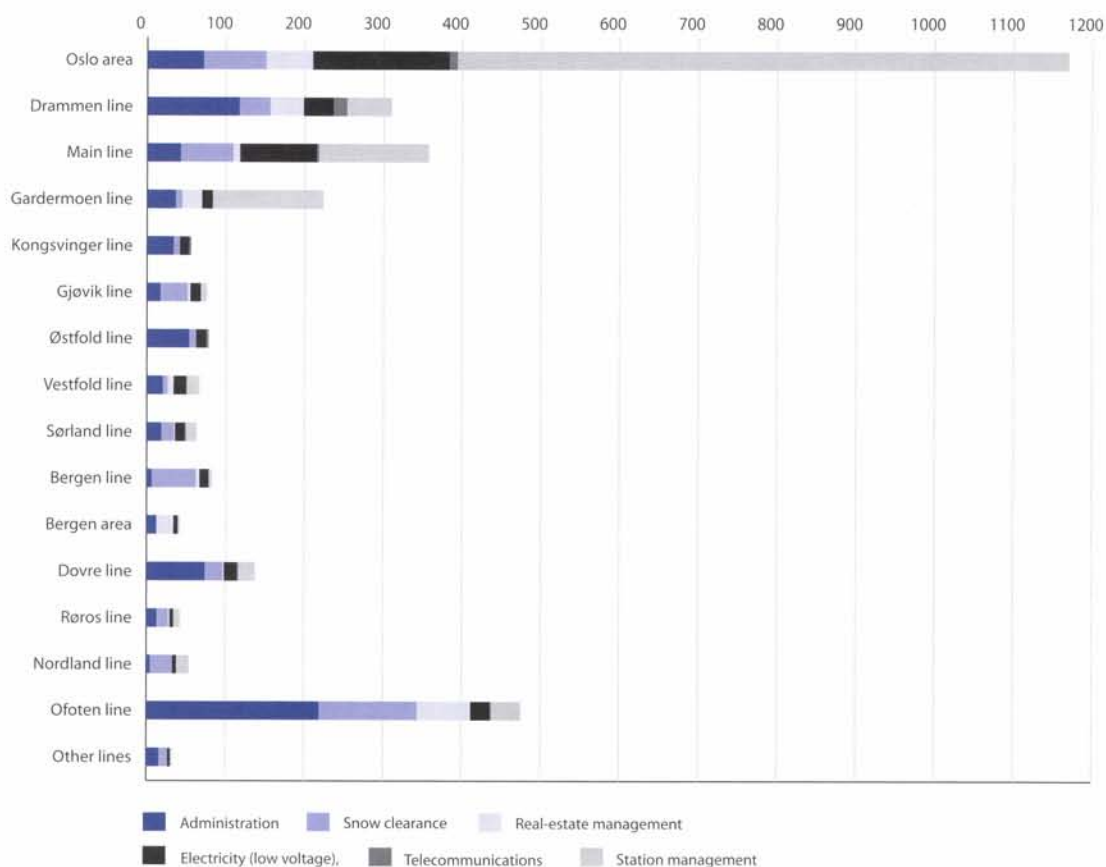
## Infrastructure maintenance

Maintenance is defined as activities to maintain established levels of safety and operational reliability, and to maintain the value of technical installations and infrastructure.

Maintenance falls into three categories:

- Corrective maintenance: fault repairs and emergency call-outs
- Preventive maintenance: inspections, examinations, checks, scheduled preventive repairs, overhauls, replacement of components
- Infrastructure renewal: most commonly, replacement of overhead line equipment and signalling systems, or complete renewal of sleepers and rails plus ballast cleaning.

*Unit costs for infrastructure operations by line (NOK million)*



Lines are prioritized according to expected use of the rail network, expected traffic volumes and socioeconomic benefit. The cost structure is revealed by breaking down the unit costs (key product figures) for the various infrastructure components by line. Key product figures of this kind provide a basis for comparing the costs of lines catering for similar types of traffic, and hence for identifying the lines with the best practice in terms of infrastructure operations and maintenance.

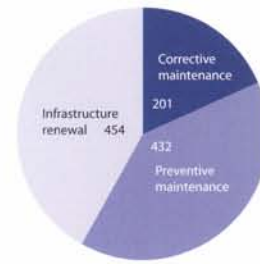
Jernbaneverket has adopted overall maintenance strategies for its infrastructure. The process of drawing up maintenance strategies for individual lines is under way. The definitions of "good infrastructure" provide guidelines for formulating line-by-line strategies based on the principle of reliability

-driven maintenance. The objectives and principles described in the maintenance management manual will bring a shift in focus from corrective to preventive maintenance and renewal, while improving the condition of the infrastructure.

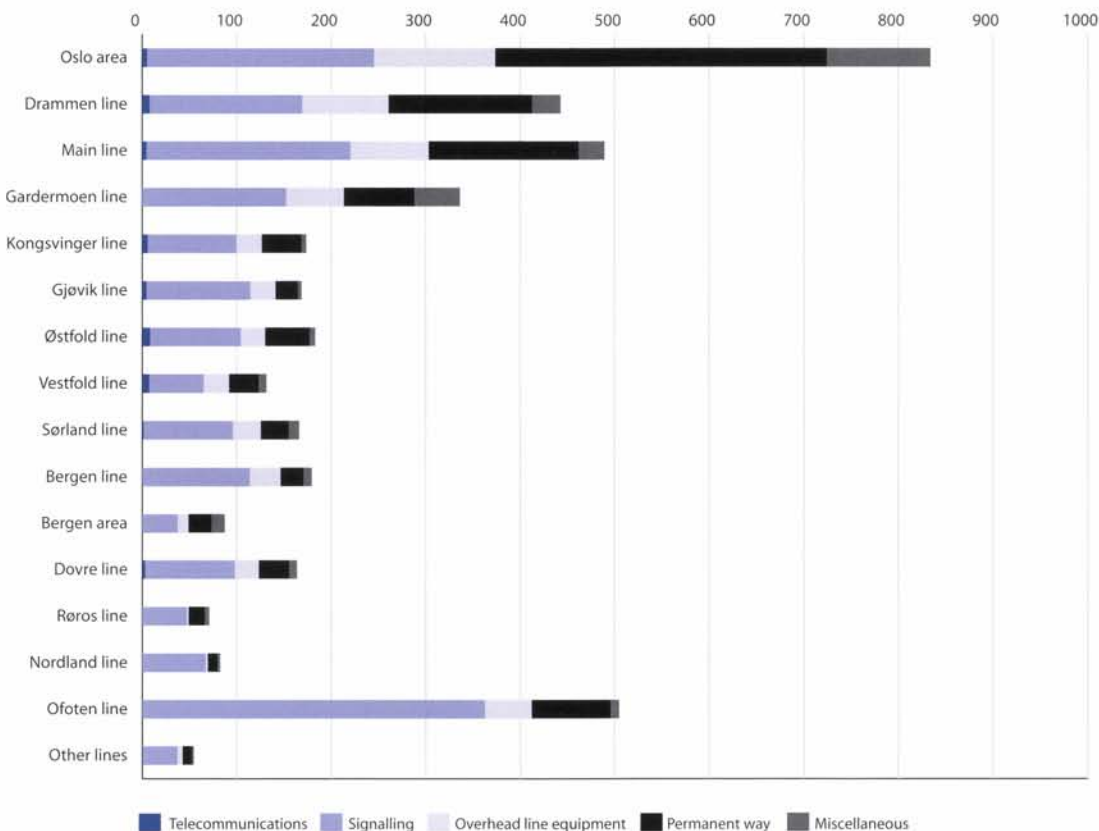
The following figures are an estimate for the annual renewal of core infrastructure components based on the averages for 2002–05:

Replacement of rails	30 km per year
Replacement of sleepers	36 000 per year
Replacement of points	20 sets per year
Ballast cleaning	65 km per year
Renewal of cabling	60 km per year
Renewal of overhead line equipment	40 km per year
Renewal of signalling	2.5 stations per year

**Maintenance costs 2005 (NOK million)**



**Unit costs for infrastructure maintenance by line (NOK million)**





## Efficient use of capital expenditure

The table below shows the financial status of capital expenditure funded through grant allocations in the national budget (section 1350, item 30

"Investment in railway lines"). The figures are based on the cash accounts submitted by Jernbaneverket to the Ministry of Transport and Communications and the Ministry of Finance.

### Capital expenditure in 2005 (at 2005 prices in NOK million – excluding VAT)

	Totalt 2005				Project total		
	Budgeted cost exc. tax	Cash cost exc. tax	Discrepancy	Grant allocation inc. tax.	Budgeted cost	Expected final cost	Discrepancy
Sandvika–Asker	669.5	670.9	-1.4	760.0	3 708.9	3 708.9	0.0
Gaddal freight terminal	56.8	45.2	11.6	75.0	333.0	333.0	0.0
Lieråsen tunnel	22.3	5.7	16.5	53.0	196.3	176.3	20.0
GSM-R	315.6	313.8	1.8	285.0	1 695.9	1 695.9	0.0
Grong–Mosjøen CTC	43.1	46.3	-3.2	63.0	144.7	147.9	-3.2
Mosjøen–Bodø CTC	27.4	27.8	-0.4	30.0	347.4	347.4	0.0
Trondheim control centre	11.5	9.6	1.9	15.0	14.3	12.8	1.6
<b>NEW INFRASTRUCTURE</b>	<b>1 146.1</b>	<b>1 119.3</b>	<b>26.9</b>	<b>1 281.0</b>	<b>6 440.5</b>	<b>6 406.6</b>	<b>33.9</b>
Lysaker–Sandvika	47.3	52.5	-5.2	49.0	2 104.4	2 250.0	-145.6
Lysaker station	91.0	126.4	-35.3	92.5	779.0	764.7	14.3
Sandnes–Stavanger	43.3	18.5	24.8	65.0	1 177.7	1 177.7	0.0
Alnabru freight terminal	8.5	3.1	5.4	10.0	194.0	194.0	0.0
Bergen–Fløen	9.8	2.0	7.7	10.0	108.3	108.3	0.0
<b>DETAILED PLANNING / LAND ACQUISITION</b>	<b>199.8</b>	<b>202.5</b>	<b>-2.7</b>	<b>226.5</b>	<b>4 363.3</b>	<b>4 494.6</b>	<b>-131.3</b>
Safety	103.6	97.5	6.1	70.0			
Capacity enhancements	66.6	61.5	5.1	50.0			
Environmental protection	8.0	6.2	1.8	2.0			
Stations and interchanges	54.2	47.5	6.7	80.0			
Miscellaneous projects	22.7	10.7	12.0	0.0			
<b>FOCUS AREAS</b>	<b>255.0</b>	<b>223.3</b>	<b>31.7</b>	<b>202.0</b>			
<b>CAPITAL EXPENDITURE</b>	<b>1 601.0</b>	<b>1 545.1</b>	<b>55.9</b>	<b>1 709.5</b>			

Notes:

- 1) The budgeted total shown for 2005 is the balanced budget, including reallocations within the portfolio and to renewals, plus additional allocations in the revised national budget.

#### Sandvika – Asker

The new section of line opened to traffic on 1 August 2005. Construction costs were around NOK 30m below budget. The new double-track line has improved train punctuality throughout the east of Norway and reduced journey times, especially for passenger services on the Bergen line. The only outstanding accounts are the final payments to contractors.

#### Lysaker station

A total of NOK 126.4m was spent in 2005, as against a budget of NOK 91.0m. The discrepancy was due chiefly to a higher level of activity than planned on the project management side, and to an increase in the scope of the preparatory works. After year end, Siemens was contracted to supply a new interlocking system for the station.

### Lysaker – Sandvika

A total of NOK 52.5m was spent in 2005, as against a budget of NOK 47.3m. The discrepancy was due chiefly to the compulsory purchase of a property earlier than planned, and to an overspend on consultancy contracts owing to the increased scope of investigations. The forecast final cost is currently around NOK 145m higher than the budgeted cost in the detailed plan. The project will undergo external quality assurance in 2006.

### Lieråsen tunnel

A total of NOK 5.7m was spent in 2005, as against a budget of NOK 22.3m. The discrepancy was due to a reduced need for capital expenditure resulting from simplified proposals for securing the rock inside the tunnel. The forecast final cost has been reduced from NOK 196m to NOK 176m.

### Sandnes–Stavanger double track

A total of NOK 18.5m was spent in 2005, as against a budget of NOK 43.3m. The discrepancy was due chiefly to the fact that the hiring of contractors for the

construction planning phase has taken longer than planned. The final report from the external quality audit of the project has now been received.

The recommended cost ceiling is NOK 1 750m, and the expected/target cost is NOK 1 500m.

### Ganddal freight terminal

A total of NOK 45.2m was spent in 2005, as against a budget of NOK 56.7m. The value of production for the year was NOK 29.0m, as against a budget of NOK 82.6m. The discrepancy was due to a three-month delay in project management of the construction plan, and to delays in signing contracts to acquire land and in hiring contractors for the groundworks.

### Alnabru freight terminal

A total of NOK 3.1m was spent in 2005, as against a budget of NOK 8.5m. The discrepancy was due to a lack of clarity regarding the proposals, and to a need to revise the overall plan before proceeding with detailed planning and construction planning

### Financial results

The financial statements of Jernbaneverket prepared using accrual accounting show a deficit of NOK 46m, which is to be allocated as follows:

	<i>NOK million</i>
Depreciation offset against capital grant, with associated reduction in liability to central government	525 512
Portion of operating subsidy used for renewals offset against capital grant, with associated increase in liability to central government	483 384
Offset against payable to State Treasury	3 963
<b>Total allocated</b>	<b>46 091</b>

Jernbaneverket also underspent its grant allocation by NOK 96m. The discrepancy was due to the following factors:

- An underspend of NOK 56m on the capital grant allocation was not included in the income statement but appears on the balance sheet.

- Backdated payments of NOK 48m from BaneTele AS for the rental of fibreoptic cables in 2003 and 2004 had no effect on results in 2005, only on cash flow.
- The difference between depreciation and renewal works was NOK 42m.
- Other accruals had a negative effect of NOK 4m.

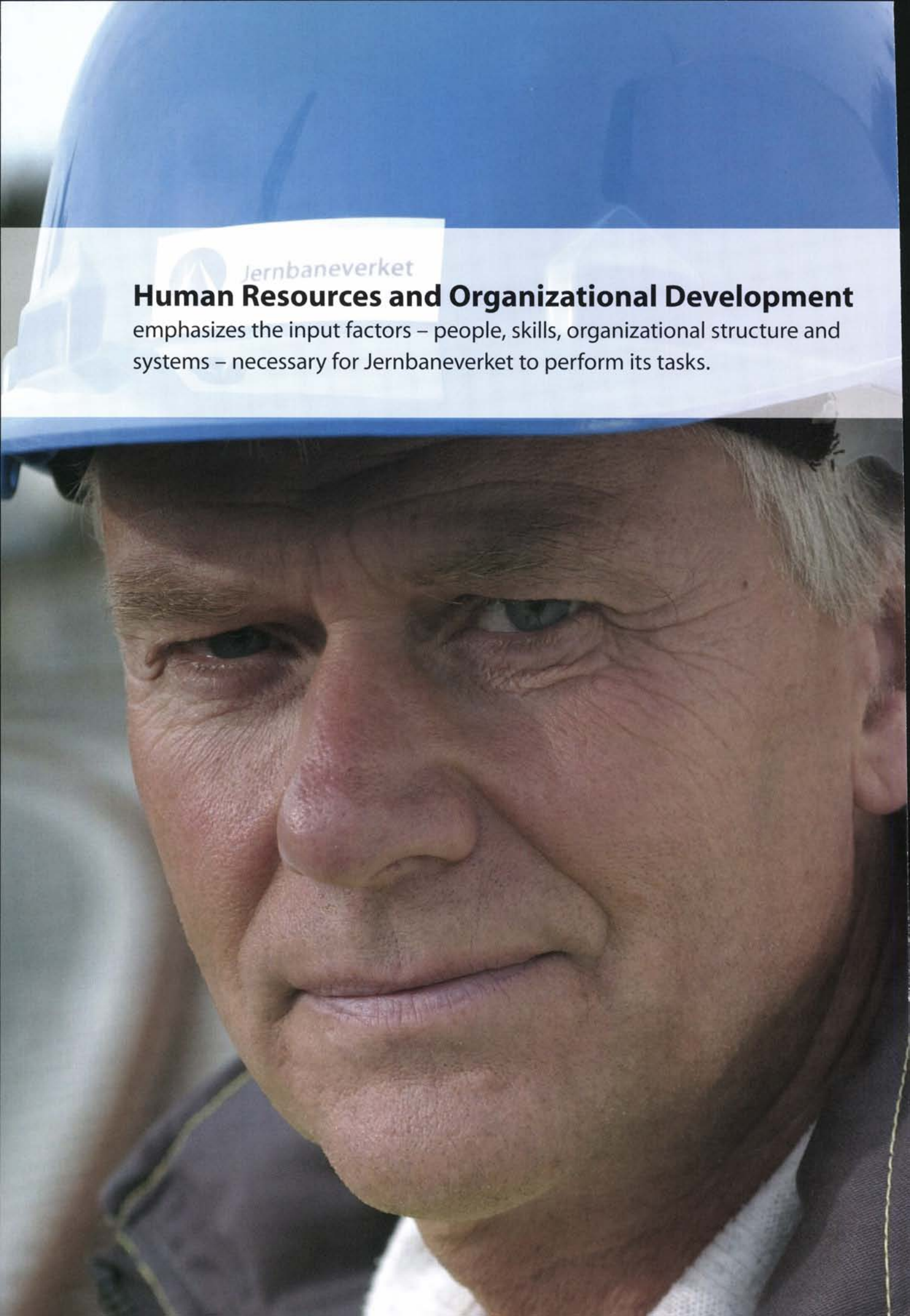




Jernbaneverket

## **Human Resources and Organizational Development**

emphasizes the input factors – people, skills, organizational structure and systems – necessary for Jernbaneverket to perform its tasks.





# Human Resources and Organizational Development

**Jernbaneverket's objective is to be an attractive workplace – which means a good working environment, good opportunities for career development, meaningful duties, and responsible and inspirational colleagues and managers.**

Jernbaneverket has the following objectives in the core area of Human Resources and Organizational Development:

- To ensure sound and adequate expertise exists within the rail sector
- To improve leadership at all levels
- To consider human factors during restructuring
- To improve and simplify management and monitoring systems

## **Skills development in the rail sector**

The Norwegian Railway School at Grorud in Oslo was officially opened by the Minister of Transport and Communications on 18 January 2005. The school and its vocational training program for locomotive drivers were set up in 2004. The first intake of student drivers took their final examinations in January 2006. The school also offers basic training for controllers, lookout training, professional courses for the entire rail sector (Jernbaneverket, train operators and external contractors) and courses for tutors and instructors. In the longer term, the school will offer apprenticeship programs in a variety of rail-related disciplines.

A major challenge for Jernbaneverket is to maintain and renew key rail operating skills, in the light of workforce reductions in 2005 and the organization's age

profile. The process of drawing up skills development plans for all employees is under way, and the skills deficit in the relevant areas is being charted and defined.

The Traffic Management division holds an annual staff conference for employees involved in operational traffic management and monitoring the overhead line equipment. The 2005 staff conference, focusing on individual skills development, took place in the first quarter.

## **Management development**

One of Jernbaneverket's priorities in 2005 was developing and educating its managers in line with current organizational challenges. Workforce reductions presented the main challenge in 2005, so the management development program focused on how to handle this. Accordingly, six workshops for managers in Jernbaneverket's production business were held in the spring.

The departure of many managers on the production side as part of the workforce reductions led to new managers taking up new roles. Two tailor-made management development programs were therefore started, aimed at operational managers in production and administration. The first program, comprising nine workshops, began in November 2005.

*John W. Sæther, a project planning manager with Jernbaneverket.  
Photo: Ole Walter Jacobsen*

A management development program for potential managers is also under way and will end in 2006. This is the third time we have undertaken such a program.

Jernbaneverket held a management conference for 120 managers in May 2005. The subject was the organization's principal objectives and strategies, and the business plan for 2006. At system level, work was under way during the year to establish an overall structure for management development covering all levels of management.

### **Human aspects of restructuring**

#### **Competitive tendering**

On 7 December 2004, the Norwegian Parliament decided that all Jernbaneverket's production activities apart from signalling and telecommunications would be opened up to competitive tendering between 2005 and 2009. The ensuing reduction in the workforce was estimated at 980 full-time equivalent posts (source: Parliamentary Bill No. 1, Supplement No. 2, 2004–05).

#### **JBV Ressurs and support system**

To ensure the best possible treatment of the affected employees, Jernbaneverket set up a restructuring unit, JBV Ressurs, in November 2004. JBV Ressurs had a dual role:

- Providing advice, support and guidance in the redundancy process

- Assuming employer responsibility for redundant employees and actively helping them find new work

In spring 2005, Jernbaneverket ran a management training program in managing workforce reductions. Coaching was also provided for the Infrastructure Management division's HR staff so that they were in a position to support line managers.

#### **Workforce reductions in 2005**

Between 1 February and 1 May 2005, employees of Jernbaneverket's production business were offered voluntary redundancy with a severance payment (up to two years' salary, depending on length of service), a study allowance (up to two thirds of salary for a maximum of three years) or funding to set up their own business (up to one year's salary on top of the severance payment). JBV Ressurs held four business start-up seminars to encourage the establishment of new suppliers to the rail industry.

In all, 207 employees opted for voluntary redundancy with a severance package. Three of these received a study allowance, 100 received a severance payment, and 104 received a severance payment combined with start-up funding. Applications from 23 employees for assisted redundancy were rejected on



Overnight work on the overhead lines.  
Photo: Øystein Grue



Marie Svensli, former head of JBV Ressurs, and Hans Knut Otterstad, senior occupational physician.  
Photo: Tore Holtet



Snow clearance on the Bergen line, winter 2005.  
Photo: Øystein Grue

the grounds that they possessed critical skills. Three of these employees chose to leave without assistance.

The average age of employees in Jernbaneverket's production business was 46 at year end 2004 and 47 at year end 2005.

Jernbaneverket has already been adversely affected by the workforce reductions, chiefly in that it is taking longer to rectify faults.

#### Further redundancies halted

Owing to the large number of employees who opted for voluntary assisted redundancy, the Director General decided in

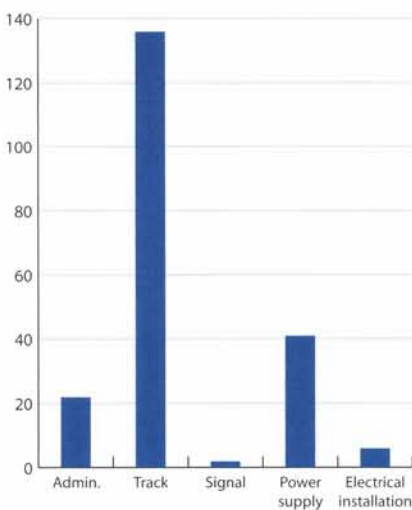
May 2005 to halt any further redundancies for the rest of the year. The Ministry of Transport and Communications agreed. In October 2005, Jernbaneverket received a letter from the new Minister of Transport stating that further workforce reductions would be halted and competitive tendering restricted. JBV Ressurs was formally wound up in December 2005.

#### Management and monitoring systems

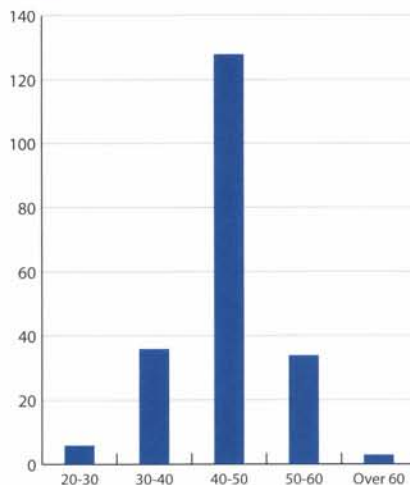
To simplify its management system, Jernbaneverket has developed a process-based system. An interdisciplinary process model has been devised for all core and support processes. We have

#### Employees who left with severance package

By job



By age







Ørn Gaute Fjeld at work in Oslo train control centre. Photo: Øystein Grue



Photo: Øystein Grue



Photo: Øystein Grue

acquired the necessary IT systems so that all our previous management manuals can be incorporated into the process-based system.

### **Personnel and working environment**

#### **Overtime**

Overtime payments in 2005 accounted for 7.2% of permanent salaries, a drop of 0.8 percentage points from the previous year. Jernbaneverket has seen a reduction in overtime payments every year since 2002.

#### **Sick leave**

The proportion of working days lost through illness in 2005 was 6.1%, almost the same as the previous year's figure (6.0%). Jernbaneverket has seen a steady drop in absenteeism every year since 2002, owing to a number of factors. Since 2003, we have been involved in a multi-agency project designed to promote inclusion in the workplace. Through the "inclusive workplace" scheme, we have focused on managing absenteeism. Managers attend annual training and update sessions, and trends in absenteeism and the use of available remedies are closely monitored. Absenteeism in Jernbaneverket's production business increased in the first four months of 2005, probably as a result of the redundancy program. In the last four months of the year, when

a final halt had been called to further redundancies, absenteeism was lower than in the same period in previous years. Consequently, the absenteeism rate for 2005 ended up on a similar level to 2004, despite the considerable stress that production staff were under owing to redundancies and competitive tendering.

#### **Injuries leading to absence**

The number of injuries leading to absence recorded in 2005 was 29, the lowest figure for many years and 19 less than in 2004. It should be noted that the BaneService contracting business was hived off into a separate limited company with effect from 1 January 2005 and is therefore no longer included in Jernbaneverket's statistics. There was one death in 2005.

#### **Staff surveys – Human Capital Index (HCI)**

Since 2004, Jernbaneverket has conducted six-monthly staff surveys designed to measure job satisfaction. The idea behind HCI is that, by following up the survey findings, we can improve employees' job satisfaction and hence their performance and wellbeing. We enjoyed a high response rate of 80% to both our spring and our autumn survey in 2005, and the HCI showed a positive trend. Jernbaneverket's production business is

not included in the HCI surveys because these are currently conducted online and large parts of the production business do not use PCs.

**Working environment survey in Jernbaneverket's production business**

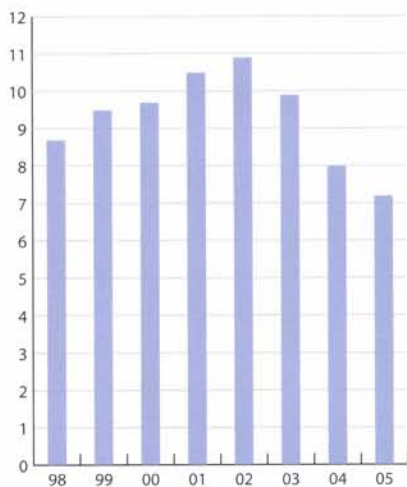
In the light of workforce reductions on the production side, a working environment survey was conducted in November 2005. The process was planned and undertaken in consultation with the trade unions and the occupational health service. The findings have now been issued, and work is under way on local improvement initiatives with central support.

**Equal opportunities**

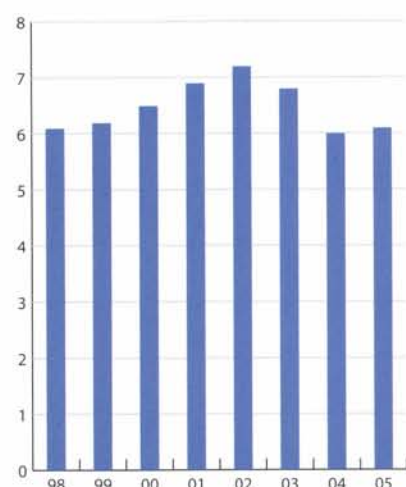
In 2005, Jernbaneverket continued its efforts to obtain a better overview of pay increases relative to gender. Further work in 2006 will involve preparing an improved survey, not only showing pay increases, but also indicating the number of women and men in each category and any differences between genders in terms of pay.

At 31 December 2005, 13.2% of Jernbaneverket's managers were female. Our aim is to raise the proportion of female managers to 20%.

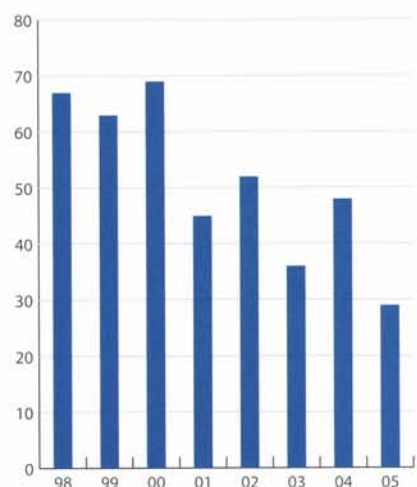
*Overtime as % of permanent salaries*



*Days lost through illness*



*Number of injuries leading to absence*





# Accounting Policies

As the financial statements of a central government agency, the accounts of Jernbaneverket form an integral part of the State Accounts. Jernbaneverket likewise has no board of directors to propose allocation of the result.

The annual accounts have been prepared in accordance with Norwegian State Accounting Standards (SRS) and guidance notes issued by the Ministry of Finance in connection with its trial of the accrual principle in selected government agencies. However, the presentation here differs in some respects. The notes are numbered in accordance with SRS, but those notes not relevant to Jernbaneverket have been omitted. The numbering of the notes is therefore not continuous.

Unless otherwise specified, all figures are in thousand kroner (NOK 1000).

## **OPENING BALANCE SHEET, 1 JANUARY 2005**

Like the other agencies participating in the Accrual Accounting project, Jernbaneverket established an opening balance sheet based on the guidelines issued by the Ministry of Finance. In preparing the opening balance sheet, actual or estimated acquisition costs were used. In determining book values as at 1 January 2005, account was taken of wear and age, functional standard, etc. Where specific information was available on the acquisition cost, mainly from the accounting system Agresso and the Infrastructure Construction department's project management system, this was used. Where such figures were not available, a report from 1997 entitled "Actual costs, prices per metre of main processes for rail projects" was used. Indexation was applied using the "Building cost indices for national and county road construction projects" produced by Statistics Norway. For the years not directly covered by the index, the changes were

calculated on the basis of the average for the first 10 years covered by the index.

Properties covered by agreements with NSB and land are not included in the opening balance sheet. Their inclusion has been deferred until a definitive ownership split has taken place. In addition, the following are not included:

- Infrastructure upgrading and renewal
- Capital expenditure by regional business units (owing to changes in accounting system and organizational structure)
- Lines on which there is no traffic, or which are run as museums or preserved railways
- Fibreoptic cable (leasing agreement with BaneTele)

The opening balance sheet reflects the value of properties of national significance, cultural heritage, art and books belonging to Jernbaneverket. Such assets are included only to the extent that there is actual utility value for the business.

The financing of fixed assets (excluding investments) included in the opening balance sheet for the first time is classified as a long-term liability. This liability will be reduced in line with the depreciation of the fixed assets covered by the financing. Certain developments are not wholly financed through central government grants to Jernbaneverket. Other government departments, counties, municipalities and companies contribute, for example, to the financing of new stations, level crossing projects and capacity enhancements. In cases where Jernbaneverket owns all of the completed project, the total acquisition cost is included in the balance sheet, but the financing is split between liabilities to central government and liabilities to others. These liabilities are reduced in line with depreciation of the facility. Where



others own part of the facility, only Jernbaneverket's portion is reflected.

In the case of current assets, short-term liabilities and other liabilities included in the opening balance sheet, fair value is used as the basis of valuation. The net financing requirement that technically arises as a result of establishing the opening balance sheet is classified as an accrued payable to the State Treasury.

#### **Long-term liabilities**

The balance sheet of Flytoget AS (the Airport Express train operating company) includes a right to operational priority on the Gardermoen line with a value of NOK 343.7m and a depreciation period of 30 years. Jernbaneverket therefore has a corresponding liability recorded in the opening balance sheet but reduced to the outstanding amount at that date.

Other long-term liabilities are not included in the balance sheet, either because it is uncertain whether they will occur or because the value of the liability is impossible to calculate (see SRS 19, uncertain liabilities and contingent assets). These are referred to in Note 21.

Integrity of the opening balance sheet is suspect, as comparison with the closing balance sheet revealed errors and unresolved items. Therefore only the closing balance sheet for 2005 is shown, and not the opening balance sheet.

#### **COSTS**

Costs are recognized in the period in which the work is carried out. Costs on capital projects are initially recorded as "facilities under construction" and subsequently reclassified as depreciable facilities in the relevant categories when the facility is brought into use.

#### **Pensions**

As a general rule, employees of government agencies are members of the

Norwegian Public Service Pension Fund (SPK). The SPK scheme is a defined benefits scheme. The scheme is not funded, but SPK operates with a notional fund, calculated on the basis of set guidelines. The size of the fund corresponds at the outset to the estimated pension liability as calculated by SPK.

Under the Accrual Accounting project, a simplified accounting approach for pensions has been adopted. Accordingly, no calculation or provision for any surplus or shortfall in the pension scheme (as defined in Norwegian Accounting Standard NRS 6) has been made. The pension cost for the year therefore represents the annual premium cost, calculated as 12% of pensionable income. See also Note 2 for a more detailed description of the method used.

#### **INCOME**

##### **Sales income**

Sales income is recognized in the period in which the associated costs are recorded.

##### **Income from government grants**

Subsidies for operations and maintenance are recognized in the period when the activity that the subsidy is intended to finance is performed, i.e. the period when costs are incurred. Subsidies of this kind are intended to cover operations and maintenance in the budget year corresponding to the accounting period. These liabilities are reduced in line with depreciation of the facility. Subsidies for operations and maintenance are, apart from the portion used for renewals/upgrading, credited to income in the accounting year. The latter portion is accounted for in the same way as capital grants.

Capital grants are recognized in the same period as the capital project is undertaken, increasing Jernbaneverket's liabilities to central government.



## ALLOCATION OF RESULT

Jernbaneverket's financial result is allocated as follows:

	<i>NOK million</i>
Depreciation offset against capital grant, with associated reduction in liability to central government	525 512
Portion of operating subsidy used for renewals offset against capital grant, with associated increase in liability to central government	483 384
Offset against payable to State Treasury	3 963
<b>Total allocated</b>	<b>46 091</b>

NOK 14 493m was carried forward to capital expenditure from 2004. From 2005, NOK 367 286m of unexpended capital grant has been carried forward.

## CLASSIFICATION AND VALUATION OF BALANCE SHEET ITEMS

Current assets and short-term liabilities include items falling due for payment within one year. Other items are classified as fixed assets or long-term liabilities. Current assets are valued at acquisition cost or fair value, whichever is the lower.

### Property, plant and equipment

Property, plant and equipment are capitalized and depreciated over the expected life of the asset. The portion of the result represented by depreciation is offset against capital grant.

Direct maintenance of property, plant and equipment is expensed on an on-going basis under operating costs, while renewals/upgrading are added to the asset's cost price and depreciated in line with the asset.

### Intangible assets

Jernbaneverket has capitalized two IT systems under this heading. One is a specially developed system for operating and maintaining track-mounted and trackside technical equipment. Only the value of goods and services from external suppliers is included in the capitalized value. The other system is an IT system for inventory management. Here, the depreciation method used is amortization of the licence cost over three years. User rights to other IT systems are covered by annual licence costs.

## FINANCING

Current assets and short-term liabilities

The net financing requirement arising from current assets will have a contra item under "Reconciliation to State Treasury".

### Fixed assets

The balance sheet value of intangible assets and property, plant and equipment has a contra item, liabilities relating to fixed assets, which represents the financing of these fixed assets. When intangible assets and property, plant and equipment are acquired, the acquisition cost is capitalized.

Depreciation of fixed assets is expensed. The portion of the result that represents depreciation is allocated in line with depreciation charged, resulting in gradual reduction of liabilities relating to fixed assets. As a consequence, the sum of intangible assets and property, plant and equipment will always be fully financed by liabilities relating to fixed assets.

On realization/disposal of operating assets, the accounting gain/loss is recognized in the income statement. Gains/losses are calculated as the difference between the sale proceeds and the balance sheet value at the date of realization. The remaining book value of the liability relating to the fixed asset at the date of realization is shown as reversed deferred income on fixed asset disposals in the financial statements.

### Inventories

Inventories of purchased goods are valued at acquisition cost or fair value,

whichever is the lower. Depending on location, two different valuation methods are used. The main warehouse is valued at purchase cost including freight and insurance (CIF). Regional warehouses are valued on the basis of average cost of goods per article per warehouse. Freight between the main warehouse and regional warehouses is expensed. A uniform valuation policy is to be introduced in 2006. From 1 January 2006, all the activities of Jernbaneverket are VAT deductible. The value of inventories in the opening balance sheet as at 1 January 2005 therefore does not include VAT. No assessment of obsolescence has been made.

### Receivables

Trade receivables and other receivables are included in the balance sheet at face value.

## SELF-INSURANCE POLICY

Norwegian central government operates a self-insurance policy. Accordingly, there are no items in the balance sheet or income statement that seek to reflect alternative net insurance costs or liabilities.

## STATE GROUP ACCOUNT SCHEME

Central government agencies are covered by the state group account scheme. All bank deposits and payments are reconciled daily against Jernbaneverket's settlement accounts in Norges Bank (the Central Bank of Norway).

Jernbaneverket is not provided with cash in the course of the year, but has drawing rights on its group account equivalent to net operating subsidy and capital grant. The difference between income from government grants and net drawings on the group account is shown under "Reconciliation to State Treasury". At year end, special rules apply to settlement/carryforward of payables. In the event of carryforward to a new accounting year, the balance of the individual settlement account in Norges Bank is reset to zero.

# Income Statement

(NOK 1000)

	Note	2005
<b>Operating income</b>		
Net income from government grants	1	2 635 984
Fees and licences	1	1 699
Grants and transfers from other public bodies	1	7 000
Gains on the sale of property, plant and equipment	1	12 686
Sales and rental income	1	483 874
Other operating income	1	45 195
<b>Total operating income</b>		<b>3 186 438</b>
<b>Operating costs</b>		
Employment costs	2	1 644 724
Cost of goods		350 648
Other operating costs	3	713 554
Depreciation	4,5	525 512
Writedowns	4,5	0
<b>Total operating costs</b>		<b>3 234 439</b>
<b>Operating deficit</b>		<b>-48 000</b>
<b>Financial income and costs</b>		
Financial income	21	3 986
Financial costs	6	2 077
<b>Net financial costs</b>		<b>-1 909</b>
<b>Deficit on ordinary activities</b>		<b>-46 091</b>
<b>Extraordinary income and costs</b>		
Errors in recording income in opening balance sheet	7	0
Extraordinary costs	7	0
<b>Total extraordinary income and costs</b>		<b>0</b>
<b>Deficit for the year</b>		<b>-46 091</b>
<b>Allocations</b>		
To liability to central government		483 384
From liability to central government		525 512
Reconciliation to State Treasury		3 963
<b>Total allocation</b>		<b>46 091</b>



## Balance Sheet – Assets

	Note	31 Dec 2005
<b>ASSETS</b>		
<b>A. Fixed assets</b>		
<b>I Intangible assets</b>		
Research and development	4	
Rights and similar intangible assets	4	34 684
<b>Total intangible assets</b>		<b>34 684</b>
<b>II Property, plant and equipment</b>		
Infrastructure	5	16 483 474
Buildings, land and other real estate	5	1 716 789
Machinery, plant and vehicles	5	290 054
Office equipment, fixtures and fittings, tools, etc.	5	49 540
Facilities under construction	5	2 365 138
Emergency equipment	5	
<b>Total property, plant and equipment</b>		<b>20 904 995</b>
<b>III Investments</b>		
Investments in subsidiaries	13	100
Investments in associated companies	21	
Investments in shares and business interests	13	
Long-term receivables		
<b>Total investments</b>		<b>100</b>
<b>Total fixed assets</b>		<b>20 939 779</b>
<b>B. Current assets</b>		
<b>I Inventories and prepaid expenses</b>		
Inventories	14	191 849
Prepaid expenses	18	39 994
<b>Total inventories, etc.</b>		<b>231 843</b>
<b>II Receivables</b>		
Trade receivables	16	67 483
Other receivables	17	17 485
Accrued income	18	0
Other income	18	
<b>Total receivables</b>		<b>84 968</b>
<b>III Cash and bank</b>		
Bank deposits	19	18 544
Other cash and cash equivalents	19	127
<b>Total cash and bank</b>		<b>18 671</b>
<b>Total current assets</b>		<b>335 482</b>
<b>Total assets</b>		<b>21 275 260</b>

## Balance Sheet – Equity and liabilities

	Note	31 Dec 2005
<b>EQUITY AND LIABILITIES</b>		
<b>C. Equity</b>		
<b>I Paid-up equity</b>		
Paid-up equity	13	0
<b>Total paid-up equity</b>		<b>0</b>
<b>II Retained earnings</b>		
Share in profits of subsidiaries and associated companies		0
Retained earnings		0
<b>Total retained earnings</b>		<b>0</b>
<b>Total equity</b>		<b>0</b>
<b>D. Liabilities</b>		
<b>I Provision for long-term liabilities</b>		
Liabilities relating to fixed assets	4, 5	20 794 707
Liabilities relating to external financing of fixed assets	21	144 972
Liability Flytoget AS	21	329 923
<b>Total provision for long-term liabilities</b>		<b>21 269 602</b>
<b>II Other long-term liabilities</b>		
Other long-term liabilities	21	0
<b>Total other long-term liabilities</b>		<b>0</b>
<b>III Short-term liabilities</b>		
Accounts payable		109 716
Employee withholdings		52 353
Tax and duties payable		-110 356
Provision for holiday pay		121 832
Payable to employees		119
Prepaid income less accrued costs		-126 251
Severance provision not covered by specific allocation		4 207
Advances from customers	18	140
Other short-term liabilities	20	4 330
<b>Total short-term liabilities</b>		<b>56 091</b>
<b>IV Reconciliation to State Treasury/Provision for liabilities</b>		
Reconciliation to State Treasury (gross budgeted)	8	-50 432
<b>Total</b>		<b>-50 432</b>
<b>Total liabilities</b>		<b>21 275 260</b>
<b>Total equity and liabilities</b>		<b>21 275 260</b>

# Cash Flow

## Cash Flow Statement using the direct method

	2005
<b>Cash flow from operating activities</b>	
<b>Receipts</b>	
Subsidies and grants (net budgeted)	
Taxes, duties and fees to State Treasury	
From State Treasury for grants to others	
Sale of goods and services	512 871
Duties, fees and licences	
Grants and transfers from other public bodies	
Dividends	
Interest	
Refunds	41 812
Other receipts	
<b>Total receipts</b>	<b>554 683</b>
<b>Payments</b>	
Employment costs	-1 426 430
Capital expenditure (item 23)	483 384
Goods and services for onward sale and own use	-1 811 414
Interest	
Tax and government duties	397 322
Other payments (net VAT, electricity standing charges, other prepayments, etc.)	-118 713
<b>Total payments</b>	<b>-2 475 851</b>
<b>Net cash flow from operating activities</b>	<b>-1 921 168</b>
<b>Cash flow from investing activities</b>	
Payments on purchase of property, plant and equipment (item 30)	-1 545 547
Payments on purchase of property, plant and equipment (item 23)	-483 384
Receipts on sale of shares and interests in other businesses	
Payments on purchase of shares and interests in other businesses	
Payments on purchase of other investments	
Receipts on sale of other investments	
<b>Net cash flow from investing activities</b>	<b>-2 028 931</b>
<b>Cash flow from financing activities (net budgeted)</b>	
Receipts of equity	
Repayments of equity	
Payments of dividends to State Treasury	
<b>Net cash flow from financing activities</b>	<b>0</b>
<b>Effect of exchange rate fluctuations on cash and cash equivalents</b>	<b>0</b>
Net change in cash and cash equivalents	-3 950 098
Cash balance at 1 Jan 2005	0
<b>Cash balance at 31 Dec 2005</b>	<b>-3 950 098</b>



## State financial reporting for gross budgeted enterprises

<i>NOK</i>	<i>Account No.</i>	<i>Budget</i>	<i>Accounts</i>
<b>I Operating expenditure</b>	<b>135022</b>	105 000 000	101 586 299
	<b>135023</b>	2 808 000 000	2 850 836 483
	<b>135025</b>	74 000 000	68 096 300
<b>II Capital expenditure</b>	<b>135030</b>	1 570 114 000	1 545 546 539
<b>III Income</b>	<b>435001</b>	-42 800 000	-30 539 880
	<b>435002</b>	-190 500 000	-240 935 177
	<b>435006</b>	-173 500 000	-171 884 779
	<b>435007</b>	-46 500 000	-69 511 305
	<b>4350**</b>		-41 812 749
<b>IV Transfers</b>			<b>-161 147 468</b>
<b>V Receipts – Norges Bank</b>	60040101		2 925 308 637
<b>VI Payments – Norges Bank</b>	60040102		-6 875 407 592
<b>VII Change in payables</b>			<b>-99 864 692</b>
		<i>Budget</i>	<i>Accounts</i>
Payables 1 Jan 2005	21		32 418 417
Change in payables			-99 864 692
<b>Payables 31 Dec 2005</b>			<b>-67 446 275</b>



# Notes

## Note 1 Breakdown of operating income

	2005
<b>Income from government grants</b>	
Grant allocation carried forward from previous year (gross budgeted enterprises)	
Annual grant allocation from Ministry of Transport and Communications (see also note 1B)	
Operating subsidy, items 23 and 25	2 896 493
Income appropriation, items 01-07	-483 300
Restructuring fund, item 22	105 000
Capital grant, item 30	1 570 114
Capital expenditure, item 30	-1 231 100
Accounting adjustment of capital grant	-168 353
Investment in fixed assets	-170 661
Authorized annual grant allocation from other government departments	299
Income for pensions	177 492
<b>Total income from government grants</b>	<b>2 695 984</b>
<b>Fees and licences</b>	
Commission on ticket sales	1 689
Other commission income	10
Fees/licences	
<b>Total fees and licences</b>	<b>1 699</b>
<b>Grants and transfers from other public bodies</b>	
Grants earmarked for special purposes	7 000
<b>Total grants and transfers from other public bodies</b>	<b>7 000</b>
<b>Gains on sale of property, plant and equipment</b>	
Sale of non-capitalized real estate	3 359
Sale of non-capitalized machinery/office equipment	2 761
Sale of other operating assets	6 566
<b>Gains on sale of property, plant and equipment</b>	<b>12 686</b>
<b>Sales and rental income</b>	
Sales income from consultancy/contracting services	5 922
Sales income from rolling stock etc.	27 596
Sales income from energy and grid rental	218 765
Sales income from track charges	34 240
Sales income from track charges on Gardermoen line	74 306
Sales and rental income from buildings, land, etc.	123 045
<b>Total sales and rental income</b>	<b>483 874</b>

	2005
<b>Other income</b>	
Other income	9 615
Compensation payments	21 833
Writedown of liability to Flytoget AS	13 747
<b>Total other income</b>	<b>45 195</b>
<b>Total operating income</b>	<b>3 246 438</b>

## Note 1B Government grants

<i>Mandate from central government</i>					<i>NOK 1000</i>
	<i>Original allocation<sup>(1)</sup></i>	<i>Carried forward from 2004<sup>(2)</sup></i>	<i>Revised national budget<sup>(3)</sup></i>	<i>Revised balance<sup>(4)</sup></i>	<i>Adjusted allocation</i>
<b>Operating subsidy</b>					
Item 23 Operations and maintenance	2 773 000		35 000		2 808 000
Item 25 Operations and maintenance, Gardermoen line	74 000	14 493			88 493
<b>Total subsidy for operations and maintenance: A</b>	<b>2 847 000</b>	<b>14 493</b>	<b>35 000</b>	<b>0</b>	<b>2 896 493</b>
<b>Income appropriation</b>					
Item 01 Track charges	42 800				42 800
Item 02 Sale of equipment, services, etc.	190 500				190 500
Item 06 Resale of electricity for train operations	173 500				173 500
Item 07 Payment for use of Gardermoen line	76 500				76 500
<b>Total income appropriation: B</b>	<b>483 300</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>483 300</b>
<b>Grant allocation under mandate from central government: C = A - B</b>	<b>2 363 700</b>	<b>14 493</b>	<b>35 000</b>	<b>0</b>	<b>2 413 193</b>
<b>Other government grants</b>					
Item 22 Restructuring fund	35 000		40 000	30 000	105 000
Item 30 Capital projects	1 388 000		184 839	-2 725	1 570 114

### Footnotes:

(1) Confirmed by Ministry of Transport and Communications in letter of 23 December 2004

(2) Confirmed by Ministry of Transport and Communications in letter of 15 March 2005

(3) Confirmed by Ministry of Transport and Communications in letter of 8 July 2005

(4) Confirmed by Ministry of Transport and Communications in letter of 11 January 2006

Grant allocations under Jernbaneverket's mandate from central government are recognized on a straight-line basis over the year, since Jernbaneverket's deliverable remains the same throughout the year. Neither the operating subsidy nor the income appropriation is shown in the income statement – only the net amount. Otherwise, sales income and costs are set out in the accounts – see other notes.

The grant allocation for capital projects is capitalized in full, debited to "bank and cash equivalents" and credited to "liability to central government".



## Note 2 Employment costs

	(NOK 1000)
	2005
Wages and salaries	1 174 086
Holiday pay	127 666
Employer contributions	213 720
Pension costs	117 492
Sick pay and other reimbursements	-46 627
Other benefits	58 387
<b>Total employment costs</b>	<b>1 644 724</b>
<b>Total employees at 15 Jan 2006</b>	<b>3 030</b>

Jernbaneverket does not pay pension premiums to the Norwegian Public Service Pension Fund (SPK), and accordingly its grant allocations do not cover premium costs. Premiums are covered in accordance with the central government scheme. In the accounts, a notional rate is used to calculate the pension cost. The estimated premium rate for 2005 is 12.0%.

Only salaries on scales A and B are included in the basis for calculating pension costs. Pensions are expensed on the basis of this rate multiplied by the accrued pension base in the organization. See also the policy note on pensions and Note 1 regarding inclusion in the income statement of imputed income for pensions.

## Note 3 Other operating costs

	2005
Lease, operation and maintenance of public premises	45 525
Electric power, grid rental	77 103
Lease and maintenance of premises	137 694
Rolling stock	137 574
Operation, repairs and maintenance of machinery	94 976
Minor equipment purchases	4 783
Contractors and other externally purchased services	1 116 596
Travel, subsistence and accommodation	33 682
Telecommunications	36 704
Administrative costs	25 481
Accrued provision for costs	646 143
Transferred to renewals/capitalization	-1 642 707
<b>Total other operating costs</b>	<b>713 554</b>

## Note 4 Intangible assets

	<i>IT software</i>	<i>Total</i>
Acquisition cost 1 Jan 2005	52 416	52 416
Additions in 2005	0	0
Disposals at acquisition cost in 2005	0	0
Acquisition cost 31 Dec 2005	52 416	52 416
Accumulated writedowns 1 Jan 2005	0	0
Writedowns in 2005		0
Accumulated depreciation 1 Jan 2005	0	0
Ordinary depreciation in 2005	17 732	17 732
Accumulated depreciation on disposals in 2005	0	0
<b>Balance sheet value 31 Dec 2005</b>	<b>34 684</b>	<b>34 684</b>

Depreciation period (useful life) 5 years straight line

## Note 5 Property, plant and equipment

<i>Intangible assets</i>	<i>Land</i>	<i>Operating buildings</i>	<i>Buildings</i>	<i>Facilities under construction</i>	<i>Infrastructure assets</i>	<i>Emergency equipment</i>	<i>Machinery and vehicles</i>	<i>Other fittings and equipment</i>	<i>Total</i>	
Acquisition cost inc. BaneService										
Acquisition cost										
1 Jan 2005	52 416	289 393	0	1 533 590	4 570 285	13 102 641	0	1 336 235	93 897	20 978 457
Additions in 2005, item 23		5 700	0		463 574	0	0	13 694	415	483 383
Additions in 2005, item 30					1 231 000					1 231 000
Additions in 2005, supplementary (net)					170 660		0		2 992	173 652
From facilities under construction to other categories		171 316	0	106 606	-4 070 381	3 792 460	0	0	0	1
Disposals 2005, acquisition cost		0	0	-6 688	0	0	0	-607 989	-11 420	-626 097
<b>Acquisition cost</b>										
<b>31 Dec 2005</b>	<b>52 416</b>	<b>466 409</b>	<b>0</b>	<b>1 633 508</b>	<b>2 365 138</b>	<b>16 895 101</b>	<b>0</b>	<b>741 940</b>	<b>85 884</b>	<b>22 240 396</b>
<b>Accumulated writedowns 1 Jan 2005</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
Writedowns in 2005	0	0	0	0	0	0	0	0	0	0
Accumulated depreciation inc. BaneService 1 Jan 2005	0	0	343 710	0	0	0	928 373	39 088	1 311 171	
Ordinary depreciation in 2005	17 732	0	0	46 032	0	411 627	0	44 259	5 861	525 511
Accumulated depreciation on disposals in 2005	0	0	0	-6 614	0	0	0	-520 746	-8 605	-535 965
<b>Balance sheet value</b>										
<b>31 Dec 2005</b>	<b>34 684</b>	<b>466 409</b>	<b>0</b>	<b>1 250 380</b>	<b>2 365 138</b>	<b>16 483 474</b>	<b>0</b>	<b>290 054</b>	<b>49 540</b>	<b>20 939 679</b>

Depreciation period (useful life)

No depreciation

10-60 years straight line

20-60 years straight line

No depreciation

Business specific

Business specific

3-15 years straight line

3-15 years straight line

## Note 6 Financial income and costs

NOK	2005
<b>Financial income</b>	
Interest receivable	-3 986 058
Currency gains	
Other financial income	
<b>Total financial income</b>	<b>-3 986 058</b>
<b>Financial costs</b>	
Interest payable	2 077 023
Writedown of shares	0
Currency losses	0
Other financial costs	0
<b>Total financial costs</b>	<b>2 077 023</b>
<b>Dividends from companies, etc.</b>	
Dividends received	0
<b>Total dividends received</b>	<b>0</b>

**Estimated interest payable on invested capital (NOK)** **792 247 842**

### Basis for calculation of interest payable on invested capital (NOK)

	31 Dec 2005	Average for the period
Balance sheet value of intangible assets	52 416	52 416
Balance sheet value of property, plant and equipment	19 614 870	20 261 631
<b>Total</b>	<b>19 667 286</b>	<b>20 314 047</b>

Average tied-up capital in 2005 20 314 047  
 Fixed interest rate for 2005 3.90%

## Note 7 Extraordinary items

	2005
Extraordinary income	0
<b>Total extraordinary income</b>	<b>0</b>
Extraordinary costs	0
<b>Total extraordinary costs</b>	<b>0</b>

BaneService was demerged from Jernbaneverket in 2005.

The transaction had no bearing on Jernbaneverket's operations, operating subsidy and capital grant.

No compensation was given for the demerger.

For accounting purposes, the transaction was treated as an owner's withdrawal of net assets.



## Note 8 Net reconciliation to State Treasury for grant-financed enterprises (gross budgeted)

		31 Dec 2005	1 Jan 2005	Change	
<b>Current assets</b>	Cash and bank	18 671	32 560	-13 889	
	Trade and other receivables	94 240	170 826	-76 586	
	Investments	100	100	0	
	Inventories	222 571	194 947	27 624	
	<b>Subtotal</b>	<b>A1</b>	<b>335 582</b>	<b>398 433</b>	<b>-62 851</b>
<b>Short-term liabilities</b>	Accounts payable	-109 716	-212 318	102 602	
	Holiday pay provision	-121 832	-127 782	5 950	
	Other pay-related provisions	53 555	-49 092	102 647	
	Accrued liabilities	126 268	-214 691	340 959	
	Other short-term liabilities	-4 329		-4 329	
	<b>Subtotal</b>	<b>A2</b>	<b>-56 054</b>	<b>-603 883</b>	<b>547 829</b>
<b>Long-term liabilities</b>	Unallocated amount	-67 483	4 002	-71 485	
	Other items			0	
	Other liabilities	-329 923	-343 670	13 747	
	<b>Subtotal</b>	<b>A3</b>	<b>-397 406</b>	<b>-339 668</b>	<b>-57 738</b>
<b>Net accrual items</b>		<b>A</b>	<b>-117 878</b>	<b>-545 118</b>	<b>427 240</b>
<b>Major reconciling items to State Treasury cash-based payables</b>					
<b>Current assets</b>	Cash account (own bank accounts, cash holdings) <sup>126</sup>	141	-15		
	Advances to employees	0	0	0	
	Other receivables	144 216	46 757	97 459	
<b>Short-term liabilities</b>	Employee withholdings	-53 011	-62 055	9 044	
	Deposits	0	0	0	
	Other liabilities	-23 885	-17 261	-6 624	
<b>Reconciling items</b>		<b>B</b>	<b>67 446</b>	<b>-32 418</b>	<b>99 864</b>
<b>Balance per State Treasury</b>		<b>A+B</b>	<b>-50 432</b>	<b>-577 536</b>	<b>527 104</b>

## Note 9 Reversal of deferred income on fixed asset disposals

	2005
Sale/writedown of property	0
Sale/writedown of machinery, equipment, etc.	
Sale/writedown of other operating assets	584
<b>Reversal of deferred income on fixed asset disposals</b>	<b>584</b>
<b>Withdrawal of fixed assets on demerger of BaneService AS</b>	<b>89 548</b>

## Note 13 Investments in shares and business interests

	<i>Registered office</i>	<i>Acquisition date</i>	<i>No. of shares</i>	<i>Voting interest</i>	<i>Result for year</i>	<i>Balance sheet equity</i>	<i>Bal. sheet value capital a/c</i>	<i>Bal. sheet value revenue a/c</i>
Shares included in central government capital accounts (Shares Category 1 - higher education and research sector)								
BaneServiceProsjekt AS	Oslo			100.0%	0	0	100	100
<b>Balance sheet value 31 Dec 2005</b>					<b>0</b>	<b>0</b>	<b>100</b>	<b>100</b>

## Note 14 Inventories

	2005
<b>Acquisition value</b>	
Inventory acquired for internal use	191 849
Inventory intended for onward sale	0
<b>Total acquisition cost</b>	<b>191 849</b>
<b>Obsolescence</b>	
Inventory valued at acquisition cost	0
Inventory valued at actual value (written-down value)	0
<b>Total obsolescence</b>	<b>0</b>
<b>Total inventories</b>	<b>191 849</b>

At 31 December 2005, no writedown had been made for obsolescence or discrepancies between the inventory management system and actual inventory. Procedures adapted to the accrual principle are under development and scheduled for implementation in 2006.

## Note 16 Trade receivables

	2005	2004
Trade receivables at face value	26 259	70 829
Provision for bad debts	-4 686	0
<b>Total trade receivables</b>	<b>21 573</b>	<b>70 829</b>

Trade receivables were valued during 2005. Receivables older than 90 days where two reminders have been sent are deemed bad debts. Cases referred to the Ministry of Transport and Communications for a decision are not included.

## Note 18 Accrued income/Prepaid expenses

	2005
Prepaid expenses	39 994
<b>Total receivable</b>	<b>39 994</b>
Accrued income	7 608
Provision due to/from Directorate	2 038
Provision due to/from BaneEnergi	24 648
Provision due to/from Infrastructure Construction*	-212 484
Provision due to/from Traffic Management	422
Provision due to/from Infrastructure Management	51 658
<b>Total payable</b>	<b>-126 110</b>

\* At 31 December 2005, Infrastructure Construction had a net receivable in projects under construction, relating to projects that have been brought forward.

## Note 19 Bank deposits, cash, etc.

	2005
Deposits in state group account scheme (net budgeted enterprises)	0
Other bank accounts	18 544
Petty cash and other cash holdings	127
<b>Total bank deposits and cash</b>	<b>18 671</b>



## Note 20 Other short-term liabilities

	2005
Payable to employees	119
Advances from customers	140
Severance provision	4 207
Miscellaneous short-term liabilities	4 190
<b>Total other short-term liabilities</b>	<b>8 656</b>

## Note 21 Liabilities

	2005	2004	
<b>Flytoget AS right to operational priority</b>	<b>329 923</b>	<b>343 670</b>	
External financing of fixed assets			<b>Contributor</b>
Jærbanen	815	815	Municipality
Ofofbanen	145 286	145 286	LKAB
Lademoen	1 500	1 500	Municipality
Level crossings, Eastern Region	1 632	1 632	Various
Combined change in liability	-4 261		
<b>Total long-term liabilities relating to external financing</b>	<b>144 972</b>	<b>149 233</b>	

Flytoget AS har en prioritetsavtale med Jernbaneverket for kjøring på Gardermobanen. Denne rettigheten ble etablert på det tidspunkt hvor Gardermobanen ble overført fra Flytoget AS til Jernbaneverket.

Flytoget AS has a priority agreement with Jernbaneverket for train operation on Gardermoen line. This right was established at the time the Gardermoen line was transferred from Flytoget AS to Jernbaneverket.

Long-term liabilities relating to external financing are treated for accounting purposes in parallel with liabilities relating to fixed assets (see policy note). These liabilities are not payable, but Jernbaneverket has an obligation to the contributors to keep this part of the infrastructure in operation.

In addition Jernbaneverket has the following liabilities or contingent assets that are either uncertain or impossible to value:

- Rental of surplus capacity on the fibreoptic cable network
- Clean-up of contaminated land, particularly creosote pollution
- Maintenance/protection of infrastructure that has historical value

These are not capitalized.





