



Annual Report 2000

Jernbaneverket Biblioteket

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Director General's review

2000 was an unhappy and difficult year for Jernbaneverket and the Norwegian railways. The train crash at Åsta in January, in which 19 people lost their lives, was the most tragic event, but the year was also marred by a number of other accidents and unfortunate incidents.



The train crash at Åsta on the Røros line was investigated by a Government-appointed commission headed by Ms Vibecke Groth, a Justice of the Court of Appeal. On 6 November 2000 the commission published its report, which failed to identify the immediate cause of the accident, but drew attention to a number of background measures which, in the commission's view, might have helped prevent the accident. In conclusion, the commission was thoroughly critical of Jernbaneverket's safety culture and its management of safety issues.

Jernbaneverket's safety procedures have been undergoing restructuring over the past few years. Traditionally, railway safety procedures have developed on the basis of many years' experience, with the lessons learned from unfortunate incidents contributing to improvements in systems and regulations. Modern safety management, as defined in the regulatory framework for railway operations, necessitates a move from an incident-based to a risk-based safety culture.

This restructuring, which got fully under way in the second half of 1999, is a demanding and wide-ranging process for Jernbaneverket.

In this connection, it is important to point out that the object of criticism and restructuring has not been the attitude of individual employees to safety, but rather the principles underpinning safety management and documentation. The restructuring process dominated the year 2000, during which time a solid basis for introduction of a new safety management system was put in place. Following the report by the Åsta commission, a specific action plan for safety-related improvements has also been finalised.

Work on the action plan has been conducted as a dedicated project in the first half of 2001, with a view to securing a quicker start to the process of improve-

ment that will dominate Jernbaneverket's activities in the years ahead.

The largest train operator on the Norwegian network, NSB BA, also suffered a difficult year in 2000 - a fact reflected in traffic figures, which show a decline. During the year, NSB BA reduced or withdrew passenger services on several lines, including some lines which have seen substantial infrastructure upgrades in recent years. For Jernbaneverket this raises a number of questions of principle concerning priorities in the deployment of resources, as well as illustrating the serious situation faced by Norwegian railways at present, owing to the lack of competing operators on the network. At the moment, utilisation of Jernbaneverket's publicly owned infrastructure depends, by and large, on the calculations and financial strength of a single operator.

Jernbaneverket's capital expenditure priorities are safety improvements and the elimination of bottlenecks on heavily trafficked lines. The new Nationaltheatret station in Oslo opened in 1999, with the final works being completed in 2000. On the Østfold line, the double-track section between Såstad and Haug opened in June 2000, while upgrading of the Vestfold line also continued. On the longdistance routes, the focus of the modifications for tilting trains switched to safety-related measures, with particular emphasis on the elimination and securing of level crossings.

The same priorities were reflected in Jernbaneverket's submissions regarding the National Transport Plan for the years 2002–11. The plan, as presented by the Government and subsequently considered by Parliament, supports an investment programme in line with Jernbaneverket's proposals. However, the plan will not produce any major redistribution of traffic between different transport modes in Norway. Provided that Parliament adheres to the annual budget allocations set out in the plan, the plan may help the

railways remain competitive. In the associated action plans, Jernbaneverket has given priority to an intensive maintenance programme, coupled with initiatives relating to safety, station redevelopment and the largest capital expenditure project: double-tracking between Skøyen and Asker.

Jernbaneverket's finances are under control. In relation to the funds allocated by Parliament and additional income, the cash accounts show an underspend in 2000 of NOK 23.9m (excluding payments resulting from takeover of the Gardermoen airport line), or 0.7% of the sum allocated by Parliament.

At 31 December 2000, Jernbaneverket had 3 589 permanent employees. With the hiving off of Railway Production into a separate business unit from 1 January 2000, a complete separation of Jernbaneverket's administrative and commercial/production roles was achieved during the year. Around 39% of staff are employed on the administrative side, roughly half of them in traffic management.

Throughout a difficult year, the staff of Jernbaneverket have shown a great deal of loyalty to their employer, and I should like to thank them all for their efforts during 2000.

Hunarlik!

Steinar Killi

What is Jernbaneverket?

Jernbaneverket (the Norwegian National Rail Administration) was formed on 1

December 1996, when the former public enterprise NSB (Norwegian State Railways)

was split into NSB BA, a limited-liability company established by special Act of

Parliament, and Jernbaneverket, a public body.







Initially Jernbaneverket and NSB BA shared the same chief executive and board, but a complete separation of the organisations took effect from 1 July 1999. The board of Jernbaneverket was abolished, and Steinar Killi was appointed as Director General, in overall charge of Jernbaneverket.

Railway operations involve interaction between infrastructure, traffic management and rolling-stock. Jernbaneverket's infrastructure management remit also includes responsibility for systemwide safety on the railways. This responsibility is exercised by Jernbaneverket itself taking charge of infrastructure and traffic management while ensuring, through track access agreements, that train operators are in a position to comply with infrastructure and traffic management requirements in terms of rolling-stock and staff competence.

Jernbaneverket is responsible for:

Developing and operating a rail network that meets the requirements of society and the market in terms of safety, accessibility, speed, axleload, train frequency, loading gauge, comfort/ambience, the environment and public information

- Railway stations and terminals, including public spaces, access, car parks and other public facilities necessary for users of rail services
- Timetabling, i.e. allocating train paths to operators
- Traffic management, i.e. operational control of traffic on the rail network
- Regulation of the public rail network, e.g. setting technical standards for the infrastructure, requirements regarding rolling-stock, traffic and traffic safety, and skills requirements for key personnel
- Studies and planning in the rail sector

The public rail network is a vital part of the infrastructure of society. Development and operation of the network is therefore a socioeconomic task, which has to be viewed in the same context as other socioeconomic activities.

Jernbaneverket aims to help the country achieve its transport policy objectives and to promote rail as a safe, competitive form of transport, forming part of an integrated network.

Organisational structure

Jernbaneverket reports directly to the Ministry of Transport and Communications. The Ministry monitors the activities of Jernbaneverket through regular departmental meetings and four-monthly reports from Jernbaneverket.





The Director General is responsible for the management of Jernbaneverket.

The Head Office is in overall charge of coordinating Jernbaneverket's operations, and sets the conditions for use of the public rail network, train services and associated activities.

The four regions play the role of owner in managing the public rail network and are responsible for traffic management at operational level.

The Infrastructure Construction department acts as developer for railway construction projects, from the detailed planning stage through to completion of the new infrastructure.

The supplier units, which supply goods and services to Jernbaneverket and external clients alike, are:

- Railway Production, which supplies rail-related contracting services using light machinery
- Railway Contractors, which supplies rail-related contracting services using specialised equipment and heavy machinery
- Railway Consulting, Jernbaneverket's consulting engineers
- Electric Power Supplier, Jernbaneverket's electricity supplier
- Telecommunication Services,
 Jernbaneverket's telecommunications provider

The Norwegian Railway Museum is in charge of historical documentation and promoting Norwegian railway history.

Organisational chart, 31 December 2000



From 1 June 2001, the organisation will be restructured, with the establishment of an executive management team comprising the Director General, four Executive Directors plus the Director of Safety and the Director of International and Administrative Affairs.

The Norwegian railway network

The Norwegian railway network is a first-generation network, most lines having been built between 100 and 150 years ago. There are few sections that allow the high-speed potential of modern rolling-stock to be exploited to the full.

Capacity

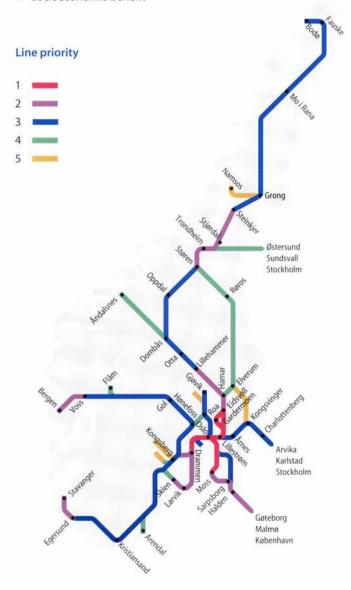
Potential train density depends primarily on the number, frequency and length of operational passing loops, the number of route-kilometres with double track and the electricity supply. Other factors are the number of tracks and capacity at the end stations and terminals.

Oslo central station (Oslo S) and the Skøyen–Asker and Oslo S–Ski sections are the main bottlenecks in the network. Elsewhere, capacity is well utilised at certain times of day on most lines in eastern Norway and on local lines around Stavanger, Bergen and Trondheim.

No major capacity enhancement schemes were completed in 2000, though work continues on many such projects. The most important improvement during the year was completion of the double-track section between Rygge (Såstad) and Haug, which has improved traffic flow and slightly reduced journey times on the Østfold line. In addition, a number of extended passing loops and renewed interlockings were completed and commissioned on the Bergen line and on the Dovre line south of Hamar.

The rail network is classified on a scale of five priorities, based primarily on:

- current use of the network
- expected traffic growth
- socioeconomic benefit



On the other hand, numerous and extensive reductions in capacity were a dominant feature of 2000, partly as a result of the accidents at Asta and Lillestrøm, and partly owing to documentation requirements associated with the signal installation at Brumunddal and the platform at Stange. These capacity reductions had a negative impact on punctuality and service frequency (cancellations). Following its reopening after the Asta crash, the Røros line has been operating at reduced capacity, and with reduced flexibility in the event of train delays, owing to a shortage of personnel qualified to perform manual dispatching.

In addition, 2000 saw a comparatively high number of temporary capacity reductions in the form of speed restrictions, line possessions and train cancellations, largely owing to various trackworks, including construction of underpasses in preparation for the introduction of tilting trains. Other causes were an increase in the accumulated backlog of maintenance, and the increased time taken to rectify faults not deemed safety-critical. In 2001, Jernbaneverket intends to focus more carefully on the planning of maintenance possessions.

Loading gauge

Loading gauge is one of the key capacity parameters, especially for freight traffic. The various loading gauges for different lines indicate the maximum permissible height and width of loaded rolling-stock.

Work on loading gauge modifications has been a high priority for Jernbaneverket, in part to bring Norway into line with international standards and to match popular load formats used in road transport. This applies in particular to

loading gauge UIC P407, which allows higher loads and hence more efficient container traffic, and above all enables semitrailers to travel by rail. Piggyback traffic, which has shown enormous potential on national and especially international routes, is now growing rapidly. To a large extent, this involves temperature-controlled consignments with a high goods value, a segment in which rail previously found it hard to complete. What is more, such traffic is largely won over from the roads. The lines now cleared for this type of traffic are the Kongsvinger, Ofoten (temporarily P403), Dovre, Sørland, Østfold and Rauma lines.

Upgrading to P407 standard will continue, with the Nordland line scheduled for completion in 2002 and the Bergen and Ofoten lines in 2003.

Additionally, parts of the network are being adapted to the international loading gauge RIV-3.2, which allows the use of larger, more modern wagons – particularly important in international traffic. For the time being, this loading gauge is permitted only on the Kongsvinger line, where it has already generated increased rail freight traffic, including car shipments. RIV-3.2 traffic is expected to start on the Østfold line in 2001.



Bergen line



Røros line



Nordland line



Airport line



Østfold line



Sørland line

Key figures for the Norwegian public rail network

		Route-km	Double track km	Passing loops > 600 m	Bridges	Tunnels	Level crossings
100	Nordland line (Trondheim-Bodø)	729	0	24	361	156	852
	Sørland line (Drammen-Stavanger)	545	0	17	495	190	207
-	Dovre line (Eidsvoll-Trondheim)	485	0	36	384	42	445
88	Røros line (Hamar-Støren)	383	0	7	291	6	503
	Bergen line (Hønefoss-Bergen)	372	0	18	192	155	337
	Østfold line, west	170	63	8	190	16	124
-	Vestfold line (Drammen-Skien)	149	5	0	117	16	240
	Gjøvik line (Oslo S-Gjøvik)	124	3	2	102	7	180
	Kongsvinger line	115	0	7	49	0	155
101	Rauma line	114	0	1	100	6	247
8	Valdres line (Eina-Leira)	104	0	0	14	2	91
101	Solør line	94	0	0	31	0	232
100	Numedal line (Kongsberg-Rødberg)	92	0	0	22	18	272
	Østfold line, east	80	0	1	42	2	140
	Bratsberg line (Skien-Nordagutu)	74	0	0	69	29	48
闘	Meråker line (Hell-Storlien)	71	0	0	64	1	61
	Main line (Oslo S-Eidsvoll)	68	21	6	62	2	9
-	Randsfjord line (Hokksund-Hønefoss)	54	0	0	27	0	127
118	Namsos line	51	0	0	22	5	113
	Airport line (Etterstad-Gardermoen)	49	49	0	25	1	0
-	Drammen line (Oslo S-Drammen)	42	42	0	58	11	1
	Ofoten line	42	0	1	6	20	43
	Arendal line	37	0	0	16	3	74
	Roa-Hønefoss line	32	0	0	25	3	47
	Flåm line	20	0	0	2	21	41
	Airport line (Gardermoen-Eidsvoll)	17	13	0	12	2	0
101	Randsfjord line (north of Hønefoss)	16	0	0	5	0	0
	Spikkestad line	14	0	0	12	0	9
	Brevik line (Eidanger-Brevik)	10	0	0	0	1	13
	Horten line (Skoppum-Horten)	7	0	0	0	0	24
	Alnabru-Loenga	7	0	0	3	0	0
100	Stavne-Leangen	6	0	0	2	1	2
	Alnabru-Grefsen	5	0	0	5	0	11
	Dalane-Suldal	1	0	0	0	0	0
	Total 1)	4 179	196	128	2 805	716	4 805

electrified lines





non-electrified lines

¹⁾ Total does not include sidings, harbour lines and private railways

Safety

The year 2000 was overshadowed by a number of serious accidents and incidents on the Norwegian rail network. The collision on 4 January between two trains at Åsta on the Røros line was Norway's worst railway accident for 25 years.

In April, two freight trains collided at Lillestrøm station. No-one was injured in the accident, but the resulting gas leak led to the evacuation of several thousand local residents.

The number of people killed in level crossing accidents was also higher in 2000 than in previous years, whereas the number of freight train derailments showed a significant decline.

In all, 30 people lost their lives on the railways during the year, 19 of them in the Åsta crash.

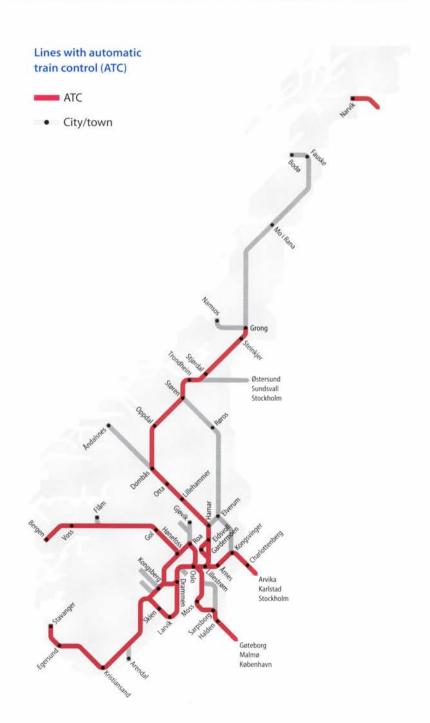
New safety philosophy

In autumn 1999, the process of introducing a safety management system based on risk analysis got under way at Jernbaneverket. This process placed safety and safety management under a new spotlight. The safety philosophy and overall safety targets for Jernbaneverket were approved by the Director General on 30 November 1999, heralding the start of the process of revising and updating the governing documents for the control system. At the same time, the process of documenting the safety of individual lines and an extensive programme of in-service safety training for staff got under way.

Dedicated project

The Åsta crash on 4 January 2000 intensified the focus on safety. Jernbaneverket's own investigations after the accident and the work of the Groth commission revealed a need for higher priority to be given to systematic safety management within Jernbaneverket.

	No. of incidents per year		No. of fatalities per year		
	1980-99	2000	1980-99	2000	
Collisions	6	18	0.6	19	
Derailments	16	9	0.1	0	
Level crossing accidents	17	16	4.0	10	
Other accidents/incidents	19	6	1.9	1	
Total	58	49	6.6	30	



Since spring 2000, Jernbaneverket's safety activities have been coordinated and collated in an overall plan, overseen by the Safety department. This plan has been gradually expanded in scope as new measures and activities are identified and implemented.

The Director General has decided that ongoing monitoring of these activities is to be conducted as a dedicated project by Jernbaneverket. Through a specific action plan, the project is intended to deliver comprehensive coordination and reporting of all ongoing activities designed to improve safety. The activities covered by the action plan can be divided into two categories:

- Investment in technical solutions, e.g. audible alarms, event logs
- Studies, conducted partly in-house and partly using external consultants, aimed at improving control systems and devising new procedures

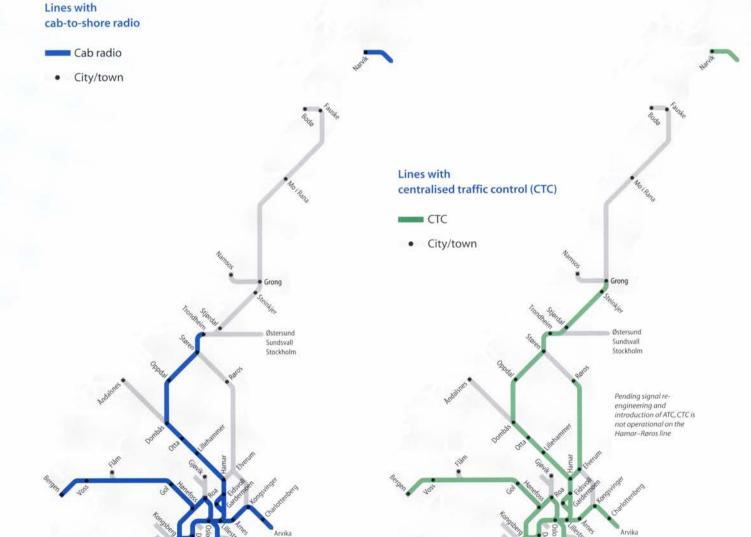
New safety culture

The process of documenting the safety of individual lines is almost complete, and this documentation is now being developed as a basis for all major decisions concerning the operational, maintenance and capital expenditure priorities of Jernbaneverket.

The year 2000 was one of change for Jernbaneverket's safety activities. By developing a new control system and expertise, we have now laid firm foundations for a new approach to safety management and a new safety culture in the years ahead.

Stockholm

Malmø



Stockholm

Malmø København



Punctuality

The punctuality of train services is indicated as the percentage of trains arriving at their destination on time. For regional, suburban and airport services, a margin of three minutes is allowed; for all other trains, the margin is five minutes.

Punctuality					
	Long- distance	Regional	Oslo suburban	Airport Express	Time- guaranteed freight
1990	76	85	85		
1991	78	76	82		
1992	80	75	81		67
1993	79	79	85		60
1994	80	85	84		63
1995	83	84	88		77
1996	80	79	83		71
1997	78	78	75		74
1998	82	82	80		75
1999	84	87	87	97	81
2000	68	81	89	94	74

With the exception of suburban services, punctuality in 2000 showed a general decline on most routes and service types. This was due to problems with the Signatur long-distance and Airport Express rolling-stock, the major accidents at Åsta and Lillestrøm, weather conditions during the autumn and staff shortages at NSB BA. The number of delayed trains directly attributable to infrastructure factors showed a small increase of 3% on the 1999 figure.

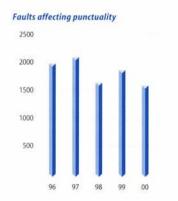
Faults affecting punctuality

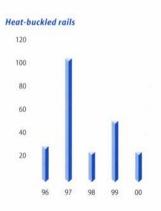
Jernbaneverket defines faults affecting punctuality as catenary and signal faults that disrupt train services. The number of faults of this kind fell by 16% from 1999 to 2000 and was 4.4% better than the target figure.

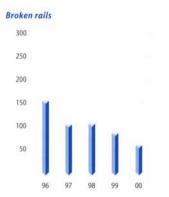
Temporary speed restrictions (TSRs)

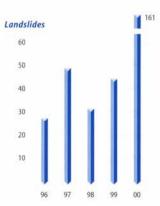
TSRs are imposed for safety reasons owing to the quality of the infrastructure or planned trackworks. Timetables make allowance for planned TSRs, which do not therefore affect the punctuality of train services.

However, delays may ensue from unplanned TSRs imposed in unforeseen circumstances, such as heat-buckling, broken rails or landslides, or as a result of the general condition of the track. The number of unplanned TSRs rose by 11% from 1999 to 2000. Compared with 1999, the number of heat-buckled and broken rails declined, while the number of reported landslides increased, mainly on account of revised reporting procedures.









Traffic volumes on the public rail network

Compared with 1999, the year 2000 saw a fall in passenger traffic. Freight traffic operated by NSB BA also declined.

Train operations

January 2000 brought an increase in the number of services operated with tilt-body (Signatur) rolling-stock on the Sørland line and the introduction of this stock on the Dovre line. Signatur services were stepped up further following the timetable change in June.

However, the derailment of a Signatur trainset at Nelaug on 17 June led to a reduction in operating speed and a cut in services on the Sørland line. Moreover, throughout the summer and autumn, NSB BA experienced difficulties in recruiting sufficient drivers to maintain the intended level of service. Temporary cuts in services were introduced on 20 October and maintained following a timetable change in January 2001. For passengers, this had the greatest impact on the Bratsberg and Arendal lines, where all services were cancelled until further notice.

There were increases in the frequency of local services between Bergen and Arna, and in and around Trondheim. On the Rauma line, new diesel-powered tilt-body stock was introduced on 5 November, doubling the number of daytime services, while the overnight service was withdrawn. As a result of increased track capacity in the Oslo city tunnel, following the opening of the new Nationaltheatret station in December 1999, local services from Mysen, Eidsvoll and subsequently also the Gjøvik line were again extended to Skøyen.

On the freight side, the general trend is for the number of trains providing inter-

modal transport to increase, while conventional wagonload traffic stagnates. This is particularly true of domestic traffic. New train pairs dedicated to piggyback traffic were introduced to link Oslo with Åndalsnes and Sweden. A direct service to Maschen in Germany was launched, primarily for wagonload traffic. Iron ore traffic on the Ofoten line increased by an average of two daily train pairs.

Market conditions

A number of highly exceptional situations in 2000 resulted in a slight reduction in passenger traffic compared with 1999. This was due partly to cuts in services by NSB BA, and partly to lower passenger numbers on account of problems with service quality. The Røros and Sørland lines suffered the largest drop in passengers, but there was also a smaller decline on the Bergen and Dovre lines. Most other lines saw a slight decline, although there was growth on Nordland line regional services and on the Bergen-Arna and Stavanger-Egersund local services. Traffic between Oslo and Hamar/Lillehammer also increased, despite operational problems and a reduction in train services through Gudbrandsdalen.

Owing to a reduction in air traffic volumes at Oslo Gardermoen, the Airport Express saw a comparatively large drop of 7% in traffic during 2000.

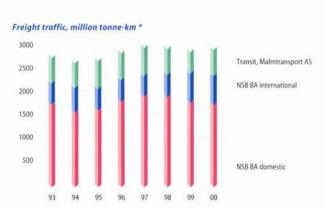
As far as NSB BA's freight traffic is concerned, there was a marginal decline in traffic volumes as a result of reductions in wagonload traffic and a switch to road

transport for some of the shortest transits in eastern Norway. Intermodal transport between regions is growing, and a record 240 000 units were handled by the Alnabru terminal in Oslo. Piggyback traffic is expected to increase, especially once the remaining national main lines have been cleared for this type of traffic, and as hauliers take delivery of new, hoistable semitrailers.

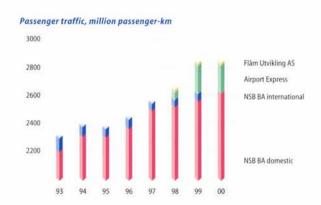
Iron ore traffic on the Ofoten line, operated by Malmtrafikk AS, increased substantially from 11.6m tonnes in 1999 to 13.7m tonnes in 2000, as world steel markets picked up again after the Asian economic crisis of 1999. A further increase is expected in 2001.

Improved reliability and quality (frequency and punctuality) are important prerequisites for all types of traffic if rail is to maintain and increase its market share. Together with improved traffic information and safety initiatives, this will be a core focus area for Jernbaneverket in 2001.











Operations and maintenance

Infrastructure operations and maintenance are vital to maintaining reliable train services. Railway infrastructure operations primarily involve tasks such as track inspections, contingency planning, fault repairs, snow clearance, monitoring, audits and administration.

Jernbaneverket's total operating costs in 2000 were around NOK 1.9bn, the bulk of which was accounted for by staff costs and the purchasing of goods and services required in the course of operations.

To maintain a safe and reliable train service, Jernbaneverket carried out infrastructure maintenance works costing some NOK 850m in 2000. Maintenance operations involve the renewal of assets following deterioration caused by traffic and weather. Examples include rerailing, sleeper replacement, ballast cleaning, bridge maintenance, landslide prevention and new interlockings. Long-term maintenance requirements are assessed on the basis of projected lifespans, and short-term maintenance requirements on the basis of status inspections. An adequate level of maintenance is a prerequisite for maintaining safety and availability in the long term.

Jernbaneverket is engaged in numerous maintenance projects, which vary in both scope and cost. These projects are crucial to maintaining current technical standards and improving safety. Some of the largest maintenance projects are described below.

Tilting trains on the Østfold line

The objective of this project is to reduce journey times between Oslo and Halden/Kornsjø. The main activities to be carried out in pursuit of this objective are renewal of the catenary, modernisation of level crossings, moving of signals, track optimisation, ballast cleaning, and replacement of points, bridges and worn rails and sleepers.

The project got under way on 1 January 1999 and is scheduled for completion in 2003. The total budget for the project is NOK 490m, NOK 195m of which is to be taken from the normal maintenance budget. The remaining amount will come from the capital expenditure budget. The expected end cost of the project is NOK 435m.

Catenary renewal Kristiansand-Moi

The objective of this project is to renew the catenary system, shorten block sections and strengthen the components of the return current circuit on the Kristiansand–Moi section.

The project has a budget of NOK 122m and is scheduled for completion by 1 December 2003.

Lillestrøm staff building

The objective of this project is to upgrade the engineers' yard at Nystallen, to enable it to serve as a new base for the Lillestrøm production unit. The project includes a new staff building, refurbishment of the premises used by track maintenance gangs and a number of external works.

The project commenced in 1998 and is scheduled for completion in spring 2001. The budget for the project is NOK 33.9m, and the end cost is expected to be on budget.

Track renewal on Meråker line

The objective of this project is to upgrade the Meråker line to allow 22.5 tonnes axleload as standard, and to raise line speed to normal levels on several sections.

The project got under way in 1998 and is scheduled for completion by 31 December 2002. The project's budget of NOK 100m is in line with the expected end cost.



Development of the rail network

Parliamentary Bill no. 1 (1999–2000) sets out the major capital expenditure projects. The table below shows the total budgeted cost, the sum allocated for the year and the cost charged to the accounts for those projects listed in the Parliamentary Bill.

Østfold line, Såstad-Haug

This project forms part of the modernisation scheme for the Østfold line and involves the construction of a 7 km passing loop, enhancing the opportunities for trains to pass and thereby improving punctuality on the Østfold line. Construction was completed on schedule in June 2000, in so far as trains started running over the section at full speed from that date.

New Nationaltheatret station

This project involved extension of the previous station to four tracks, through construction of a new tunnel and new public spaces. The extension was necessary to cope with expected increases in rail traffic in the Oslo area in the immediate future. The new station officially opened to traffic on 16 December 1999, but a number of finishing works continued into 2000. The final funding instalment for the project was allocated in 2000.

Drammen line, Skøyen station

This project involved construction of a new track (no. 4) south of the existing line, modernisation of the existing tracks (nos. 1, 2 and 3), new bridges over Drammensveien (road) and construction of 250-metre platforms serving all four tracks. The project opened to traffic, as planned, in 1998, and finishing works were completed in 2000.

n-t-a			
Project (NOK million)	Budgeted cost at 2000-prises	Allocated 2000 *	Accounting cost 2000
Østfold line, Ski–Sandbukta	1 610,0	5,0	8,1
Østfold line, Såstad-Haug	497,0	75,0	44,1
New Nationaltheatret station	897,0	90,0	59,3
Drammen line, Skøyen station	266,0	2,0	-0,1
Vestfold line, Skoger-Äshaugen	447,1	110,0	55,1
Vestfold line, Åshaugen-Sande-Holm	511,8	34,0	40,2
Bergen line, Gråskallen	250,0	60,0	13,7
Bergen line, Tunga-Finse	188,4	3,0	1,3
Modifications for tilting trains, Sørland, Bergen and Dovre lines	1 741,8	500,0	503,0
Nykirke passing loop **	120,0	10,0	46,9
Total specified projects	6 529,1	889,0	771,5
Detailed planning ***		125,1	166,0
Investment in existing infrastructure ****		175,0	277,4
Reduction from amendments to State Budget and change in sick pa	y arrangements	- 31,1	
Total item 30		1 158,0	1214,9

- Gross allocation including Ofoten line, which is financed via a contribution to infrastructure works (under investment in existing infrastructure)
- ** Nykirke passing loop is under construction project included in detailed planning at time funding was allocated
- *** Reduced by NOK 20m in the course of the parliamentary process, and excluding Nykirke passing loop
- **** Reduced by NOK 10m in the course of the parliamentary process, and including project to upgrade Ofoten line for 30 tonnes axleload.

Vestfold line, Åshaugen-Sande-Holm and Skoger-Åshaugen

The Åshaugen–Sande–Holm and Skoger–Åshaugen projects involve construction of double-track sections of 6.9 km and 5.8 km respectively on the Vestfold line. Taken together, the projects will increase capacity, improve punctuality and reduce journey times on one of Norway's busiest lines. The long-term objective is continuous double track all the way from Drammen to Larvik. The two sections were scheduled to open to traffic in October 2000, but owing to delays in completing signal installations and interlockings, were not operational by year-end.

Bergen line, Gråskallen

At 27 km, the section between Haugastøl and Finse was the longest section of the Bergen line with no passing loops. The new passing loop constructed in tunnel at Gråskallen will improve punctuality and cut journey times, while reducing operating and maintenance costs on the line in winter. The project opened to traffic, as planned, in October 1999, and the final funding instalment is due to be allocated in 2001.

Modifications for tilting trains, Sørland, Bergen and Dovre lines

This project, which will reduce journey times and increase capacity, is being undertaken to coincide with the introduction of tilt-body stock on the Sørland, Bergen and Dovre lines.

Measures include:

- Improving track standard through track adjustment, ballast cleaning and rail grinding
- Eliminating/securing level crossings
- Moving signals
- Replacing bridges without ballast
- Constructing new passing loops and extending existing ones
- Improving electricity supply and renewing catenary

Investment in modifications for tilting trains is of great benefit to public transport in rural areas along the Stavanger–Oslo, Bergen–Oslo and Trondheim–Oslo lines, in that journey times between centres of population can be reduced, while the frequency of services can be increased. These modifications have the potential to facilitate improvements in both passenger and freight services on the lines in question.

Tilting trains entered service in autumn 1999 on the Sørland line between Oslo and Kristiansand, reaching Stavanger and the Dovre line during 2000. Work will continue in 2001 to complete the projects in hand on the three lines.

Tilting trains on the Kongsvinger and Østfold lines

NSB BA and Jernbaneverket have signed an agreement on advance payment, to allow modifications for tilting trains on the Kongsvinger line to get under way. Under this agreement, NSB BA advanced NOK 70m in 2000. In return, Jernbaneverket has undertaken to provide full complementary funding for the measures necessary to achieve the target journey time before the end of 2001.

With a view to the possible introduction of tilt-body stock on the Østfold line, Jernbaneverket received confirmation from NSB BA in June 2000 that the advance of NOK 70m could be used for both the Kongsvinger line and the Østfold line.

Nykirke passing loop

This project consists of a new passing loop 500 metres in length (effective length), forming part of a new doubletrack section at the southern end of block five of the Vestfold line. The scheme extends for over 1 000 metres and is designed to the standards of a future high-speed line. The line of route runs through very hilly, wooded countryside, with tunnels, deep cuttings and large embankments across areas of clayey mud. The location of the loop was chosen as the most effective in terms of train operations, in that it breaks up what is currently the longest block section on the Vestfold line. The loop is scheduled to enter service in autumn 2001.

National Transport Plan

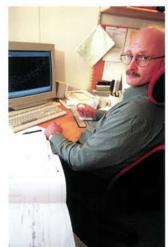
Work on the National Transport Plan for the years 2002–11 was ongoing throughout 2000. This is the first time that an integrated, interdepartmental transport plan has been prepared for the whole of Norway.

The plan, as presented by the Government, supports an investment programme in line with Jernbaneverket's proposals. However, it is unlikely that the plan will produce any major redistribution of traffic between different transport modes, which was one of the intentions set out in the policy guidelines.

Provided that Parliament adheres to the annual budget allocations set out in the plan, the plan may help the railways remain competitive.

In its action plan, Jernbaneverket has set out the following priorities:

- An intensive maintenance programme, coupled with a streamlining of operations
- Increases in capacity around the major cities, especially in the Oslo area
- Wide-ranging initiatives in certain key areas such as traffic safety, increased freight capacity, stations/interchanges and the environment.





Railways and the environment

The transport sector faces a wide variety of environmental challenges, particularly in the areas of biodiversity, cultural heritage, climate change, air pollution and noise. A commitment to rail and other forms of public transport provides travellers with an alternative that is less environmentally damaging, and hence helps reduce the adverse environmental impact of the transport sector.

Environmental management

Reinforcing the environmental advantages of rail is vitally important to Jernbaneverket. Environmental management forms an integral part of Jernbaneverket's management system. The purpose of an environmental management system is to put in place a systematic process for addressing the environmental policies and issues regarded as priorities by Jernbaneverket. During 2001, Jernbaneverket's environmental management system is to be revised and brought into line with national key indicators for environmental policy and Jernbaneverket's strategic objectives.

As part of a wider audit in the area of management and control, the Head Office conducted an audit of the regions and the Railway Contractors business in 2000. Environmental management was one of the component subjects of this audit.

Environmentally friendly purchasing

Jernbaneverket's purchasing manual was revised in 2000. The new edition includes guidelines on considering environmental factors when purchasing.

Grønn Stat

Jernbaneverket is one of ten agencies involved in the Government-sponsored Grønn Stat ("Green State") project, which aims to make green thinking an integral part of public administration in Norway. The project got under way in summer 1998 and is expected to end in 2001. Most departments within Jernbaneverket have produced a Grønn Stat action plan and begun implementing the planned initiatives.

At central level, Jernbaneverket carried out a joint project with Statsbygg (the Directorate of Public Construction and Property) on environmentally friendly purchasing during 2000. This project assessed the potential for a combined campaign aimed at our mutual suppliers. The pilot project is now complete, and both organisations are considering further action.

Jernbaneverket has also been involved in the interdepartmental Grønn Stat working group studying initiatives and incentives for environmentally friendly transport in the public sector.

Reporting system

Access to environmental information is a precondition for involvement by individuals in the drive for a better environment, both through personal choices and as participants in decision-making. The authorities in charge of environmental protection aim to provide easily understandable information on environmental status and developments in fields affecting the environment.

During 2000, together with other transport sector agencies and the environmental authorities, Jernbaneverket was involved in work to devise a reporting system intended to provide a basis for the annual report to Parliament on Government environmental policy and the environmental status of the nation.

Better utilisation

If investment is to be targeted at the areas in which rail enjoys an advantage, the transport of freight over long distances should be a priority area. Increased tunnel clearances, efficient terminal facilities, more passing loops and improved timetabling will increase capacity and flexibility, and bolster the

competitive position of rail through transport and transit times that reflect market demand.

Increased tunnel clearances allow semitrailers to be transported by rail, facilitating intermodal solutions involving rail and major hauliers. As a result, long-distance freight movements can be transferred from road to rail.

The transfer of freight from road to rail brings major safety and environmental benefits to society. For example, upgrading of the Rauma line, completed in August 2000, allowed the equivalent of 18 large articulated lorries a day to switch from road to rail for the journey between Åndalsnes and Alnabru.

Cultural heritage

For some time, Jernbaneverket has been working on comprehensive proposals for a plan to conserve Norway's railway infrastructure heritage. The proposals involve the conservation of lines and objects alike. The project commenced during the 1997 Year of Cultural Heritage, and all regions of Jernbaneverket have been involved. A draft conservation plan had been produced by 1 January 2001.

After consultation, the plan will be submitted to Jernbaneverket's senior management for approval. The plan will then be sent to Riksantikvaren (the Directorate for Cultural Heritage) for further evaluation of the lines and objects to be conserved. At the same time as the plan is reviewed by senior management, administrative and financial arrangements for implementing the plan will be put in place.







The visual environment

The pioneers who built the first railways placed great emphasis on landscaping and the design of buildings, settings and structures. Nowadays we still want new facilities, and the upgrading of existing ones, to reflect both aesthetic and functional considerations. The process of devising a comprehensive design programme for the visual environment at stations began in autumn 1999. Development of station furniture is well advanced, and a number of the activities have now been completed. During 2000, Jernbaneverket signed an outline agreement for the supply of signs, platform seating, litter bins and bicycle racks. Development of platform shelters and lighting systems is also under way, and work on a design manual for station environment has started. At a number of stations on the Sørland and Dovre lines, the regions have begun implementing the new designs.

On open sections of line too, it is important that the railway be harmonised with the landscape and surroundings to the maximum possible extent, through the choice of structures, components and design solutions. For 2001, funding has been set aside for a pilot project aimed at charting the current situation and requirements regarding the visual impact of railway lines, which is intended to produce clear recommendations for action.

Waste

A large proportion of the materials removed during upgrading of the rail network are reused on other parts of the network. Waste metal and wood which cannot be reused are sold for recycling, thereby yielding a source of income.

In 2000 Jernbaneverket introduced new procedures for monthly reporting of controlled waste. The objective is to ensure better monitoring and control of the production and management of controlled waste, and to reduce the output of controlled waste.

Energy consumption

Although efficient use of energy is one of rail's environmental advantages, there is potential for further improvement. One of our goals is to reduce energy consumption. The Electric Power Supplier business has embarked on a project to install hotair transmission systems at transformer stations, which will help reduce energy consumption.

Soil pollution

Herbicides are used to control lineside vegetation for safety reasons. Since the start of 2000, there has been a ban on the import into Norway of Imazapyr (Arsenal 250), which used to be the most widely used herbicide. Jernbaneverket is testing new, less environmentally harmful weedkillers and drawing up procedures to obtain maximum effect from those permitted. We are also committed to developing alternative methods of vegetation control. The clean-up of creosote contamination from previous years continues. In 2000 we completed a major study on the biodegrading of creosote using natural organisms found in the soil. The project was funded by Jernbaneverket and the Research Council of Norway, and was conducted by the Norwegian Geotechnical Institute.

Collisions with animals

A total of 1 396 collisions with animals were reported on the Norwegian railways in 2000. Jernbaneverket is working with the Public Roads Administration, landowners, Hedmark University College and Stor-Elvdal council to reduce the high number of collisions with elk in the Østerdalen area.

During the year, Jernbaneverket and the Directorate for Nature Management worked to formulate an agreement on game run over by trains. One of the aims is to clarify the responsibilities of the various parties involved.

Noise, vibrations and structural disturbance

Noise is the main form of environmental pollution suffered by people living and working beside the railway. A survey conducted in 1999 showed that approx. 3 400 residences were subject to levels of noise higher than 42 decibels (dBA) indoors. Noise abatement measures were included as a separate programme in Jernbaneverket's contribution to Parliamentary Report no. 46 (2000–01) on the National Transport Plan. The main objective is compliance with the regulatory limits.

During 2000, Jernbaneverket began charting low-frequency vibrations and structural disturbance along the rail network, with both projects scheduled for completion in 2001. Jernbaneverket is also involved in an interdepartmental project on transport noise and sleep disturbance being conducted by the National Institute of Public Health (Folkehelsa).

Skills development

Jernbaneverket has set up a number of specialist forums to encourage the exchange of information and improve the expertise of staff. The focus of these groups, includes noise, vegetation control, landscape management and the environment. In addition, all principal departments within Jernbaneverket are running a training programme designed to increase environmental awareness.

Environmental Report for 2000

Details of Jernbaneverket's environmental policies and the status of environmental programmes can be found in the Environmental Report for 2000, available online (in Norwegian) at www.jernbaneverket.no under "Miljørapport 2000".

International activities

Jernbaneverket is a member of several international forums. In 2000, the Community of European Railways (CER) and the European Infrastructure Managers (EIM) continued to focus on reviewing and submitting alternatives to the proposals of the European Commission for amending or replacing the three directives that make up the EU's "infrastructure package".

Adoption of these directives will promote increased competition between rail operators, and further deregulation of the market for transport services and products. Another priority for Jernbaneverket has been to establish a Norwegian network for freight transport that meets the standards necessary for inclusion in the EU's Trans-European Rail Freight Network (TERFN).

Railway safety

In 2000, Jernbaneverket prepared its responses both to the European Commission's proposed directive on interoperability on conventional railways and to the proposed council regulation on the public purchasing of passenger transport services. The process of evaluating the forthcoming draft directive on railway safety also commenced. Work on these latter proposals in particular will be a high priority in 2001.

The European Commission has announced its intention to table proposals for a "Railway Package II" during 2001, and Jernbaneverket is determined to follow developments closely, and to seek to influence the proposals from within CER and EIM.

In autumn 2000, CER adopted a series of specific organisational changes, one of which was the formation of a permanent working group dedicated to infrastructure issues. Jernbaneverket will be a member of this working group.

Pan-Nordic approach

The two expert groups on traffic and technology issues set up by the Nordic Infrastructure Managers (NIM) have concentrated on projects with a Nordic dimension, while considering the underlying political and technological aspects in a European context. The objective of NIM is to enhance Nordic cooperation on international issues, to ensure that technical systems encourage cross-border traffic, and to contribute to the ongoing standardisation of processes. NIM also serves as a network for exchanging experience and promoting skills development.

The directors general of NIM carried out a review of the current model for cooperation during 2000. Their conclusion was that the present arrangements should be maintained, but with a sharper focus on overall strategic considerations in the work of NIM.

In autumn 2000, NIM opened a joint office in Brussels to represent the interests of the four Nordic infrastructure managers vis-à-vis the principal EU bodies, and to monitor EU initiatives affecting the rail industry. Another key task of the office is to promote the views of the Nordic infrastructure managers by attending CER working groups and other meetings. The office has a staff of one.

Improved project management

In 2000, as in previous years, most of Jernbaneverket's work within the UIC related to the Infrastructure Commission. This commission conducts projects using the in-house resources of the railway

undertakings, or by hiring expertise from the European Rail Research Institute (ERRI), external research institutions or consultancy firms.

During the year, Jernbaneverket played an active role in the drive to improve project management within the UIC, by proposing a number of organisational changes that were later adopted. Jernbaneverket is also a member of the UIC working group on legal issues, and participates in the work of the European standards organisations CEN and CENELEC.

As part of the restructuring of Jernbaneverket's Head Office, an international section reporting to the Director General came into being on 1 January 2000, with a staff of three.

Personnel and working environment

At 31 December 2000, Jernbaneverket has 3 589 permanent employees.

The permanent workforce was reduced by 16 people during the year.

Injuries leading to absence

There were 68 injuries to leading to absence in 2000, giving an H-value (number of injuries leading to absence per million working hours) of 10.0, an increase of around 10% on the 1999 figure.

Overtime

Overtime payments accounted for 9.7% of permanent salaries in 2000, a slight increase on the previous year.

Sick leave

The number of working days lost through illness rose from 6.2% in 1999 to 6.5% in 2000, mainly owing to an increase in long-term sick leave. The drive to reduce sick leave at Jernbaneverket enjoys strong support from management, and in 1999 a project designed to reduce absenteeism got under way. There are very large variations between the principal departments, indicating that local factors play a major role.

The drive to reduce absenteeism will continue in 2001, focusing on three areas: monitoring by management of employees on long-term sick leave, the support functions provided by the personnel department, and the consulting role played by the occupational health service.

Synergi

Since 1995, Jernbaneverket has used the Synergi database for recording and processing data on accidents and unforeseen incidents in the working environment, general environment and traffic safety fields. Introduction of a new version of Synergi got under way in January 2000, and in the period from February to May a total of 240 people from all departments of Jernbaneverket received training in using the new system. In addition, information material was produced and motivational meetings were held for staff of the principal departments.

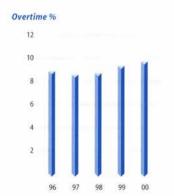
The basic concept of Synergi is that individual members of staff involved in unforeseen incidents and near-accidents should report these incidents. Collecting this data from every member of staff enables Jernbaneverket to tackle the underlying causes, with the aim of preventing a similar situation in future. Synergy makes it easier for Jernbaneverket management to see what the priorities should be, and where action should be targeted to achieve the desired improvements.

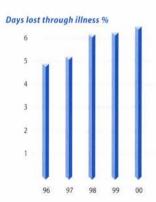
Staff survey

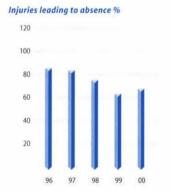
In autumn 2000, Jernbaneverket conducted a major survey in the form of a questionnaire, in which all members of staff were asked for their views on job satisfaction, the working environment and management within the organisation. The survey was a follow-up to a similar exercise four years previously, and the main objective was to chart the strengths and key areas for improvement within Jernbaneverket.

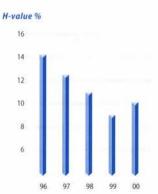
The initial overall impression is that the results are consistently better than four years ago. Employees are generally happy, they are satisfied with their line manager, but major challenges remain with regard to increasing the level of information, participation and involvement.

The survey results will be reviewed in detail during 2001, and all departments will embark on a development programme based on local feedback.











Organisational development

Establishment of Railway Production

Since 1997, Jernbaneverket has maintained an organisational distinction between infrastructure production and management in the regions, with the new structure being put fully in place during 1998. This process continued in 1999, when the four regional production units were separated from the regional organisation and combined into a single unit under the name of Railway Production. The shape of this new business unit was finalised during 2000. As a result, the regions have become dedicated management units, sharing responsibility for infrastructure and traffic management on Norway's public railway network.

Operating framework for Telecommunication Services

Jernbaneverket recommended to the Ministry of Transport and Communications in 1999 that the Telecommunication Services business unit should be reconstituted as a separate limited-liability company, wholly owned by Jernbaneverket. This recommendation has been under consideration by the Ministry, and the Government has announced that the question of reconstituting the Telecommunication Services business as a limited company will be considered by Parliament in spring 2001.

Information and communications technology (ICT)

ICT is an important strategic tool for Jernbaneverket in achieving its objectives. Jernbaneverket adopted a new ICT strategy in 2000. The most significant ICT initiatives during 2000 were:

- Introduction of a new intranet solution ("Banenettet").
- Start of the "New Railway Databank" project. This system provides an overview of Jernbaneverket's infrastructure and takes care of maintenance
- The move to a new computer system for finance, payroll and personnel was completed.
- A pilot project on "Document management within Jernbaneverket" was carried out.
- The pilot project for TIOS, the Traffic Information and Monitoring System, got underway. TIOS is intended to be a formal, network-based information interface that will act as a support system for train operations, support staff, the public, administrative and operational players, and Jernbaneverket management. The user interface is to employ web technology.

Strategy for Jernbaneverket

In autumn 2000, Jernbaneverket management embarked on the substantial task of formulating the principal objectives and strategies for Jernbaneverket in the years ahead. This process will continue into 2001, when the work will be completed and the implementation phase will begin.







State Accounts for 2000

In the "Blue Book" (State Budget) for 2000, Jernbaneverket was granted the following authority: "Jernbaneverket may exceed its allocations for 2000 under section 1350, item 23 'Operations and maintenance' and item 30 'Investment in railway lines', by an amount equivalent to book income under section 4350, item 02 'Sale of equipment, services, etc.' and item 06, 'Resale of electricity for train operations:"

Jernbaneverket was also granted the following authority in the "Blue Book" for 2000: "Jernbaneverket may, during the year, exceed its allocation under section 1350, item 30 'Investment in railway lines', by an amount equivalent to additional income under section 4350, item 37, 'Contribution to infrastructure works'."

In Recommendation to Parliament no. 246 (1999–2000), Jernbaneverket was granted the following authority: "Jernbaneverket may exceed its allocations for 2000 under section 1350, item 23 'Operations and maintenance' and item 30 'Investment in railway lines', by an amount equivalent to additional book income under section 4350, item 08, 'For payment of outstanding liabilities relating to Gardermoen line'."

In calculating overspend or underspend in relation to allocations, section 4350, item 01 "Track charges" and item 04 "Leasing income" are not included. Jernbaneverket has no authority to exceed its allocations with reference to these items.

Section 1350, Expenditure

In the "Blue Book" for 2000, Jernbaneverket was allocated NOK 2 727.0m under section 1350, item 23 "Operations and maintenance". In a letter from the Ministry of Transport and Communications dated 25 February 2000, the allocation under item 23 was reduced by NOK 30.88m, following the introduction of direct reimbursement of sick pay.

In Recommendation to Parliament no. 237 (1999–2000), Jernbaneverket was allocated NOK 81.0m, following its takeover of the infrastructure on the Gardermoen line.

In the "Blue Book" for 2000, Jernbaneverket was allocated NOK 1 189.1m under section 1350, item 30 "Investment in railway lines". In a letter from the Ministry of Transport and Communications dated 25 February 2000, the allocation under item 30 was reduced by NOK 1.12m, following the introduction of direct reimbursement of sick pay. In addition, following Recommendation to Parliament no. 246 (1999–2000), there was a further reduction of NOK 30m in the allocation under item 30.

Under Recommendation to Parliament no. 246 (1999–2000), Jernbaneverket was granted authority to set up limited-liability companies with a share capital equivalent to the minimum amount specified in the Companies Act (Norway), NOK 100 000.

Section 4350, Income

Jernbaneverket's budgeted income according to section 4350 of the "Blue Book" for 2000 was as follows:

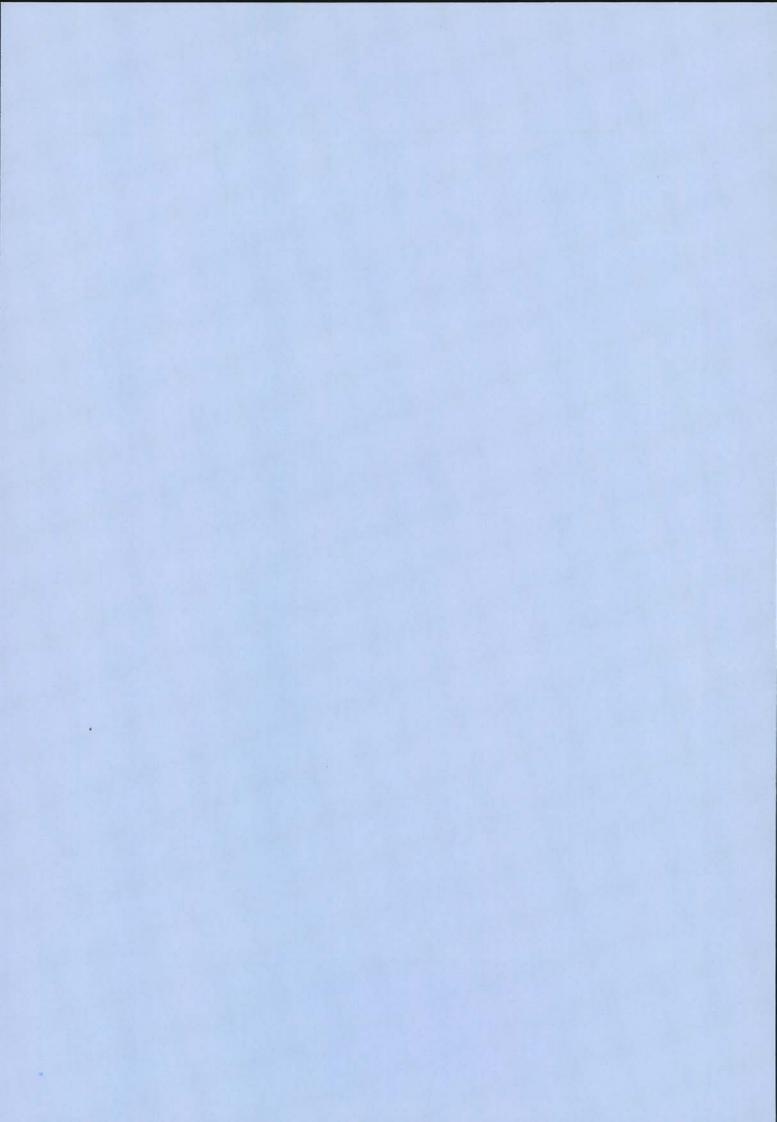
- Item 01, "Track charges", NOK 58.3m
- Item 02, "Sale of equipment, services, etc.", NOK 130.0m
- Item 04, "Leasing income", NOK 20.0m
- Item 06, "Resale of electricity for train operations", NOK 150.0m

Following Jernbaneverket's takeover of the infrastructure on the Gardermoen line, Recommendation to Parliament no. 237 (1999–2000) introduced two new items under section 4350: item 07, "Payment for use of Gardermoen line" and item 08, "For payment of outstanding liabilities relating to Gardermoen line". Under item 07, budgeted income from train operators for 2000 was NOK 81.0m. Budgeted income under item 08 was nil.

Jernbaneverket's budgeted income under section 4350, items 15–18, "Reimbursements" was nil.

The "Blue Book" for 2000 budgeted for income of NOK 29.0m under section 4350, item 37 "Contribution to infrastructure works".

Description	"Blue book" for 2000	Adjustments/ transfers	Approved budget	Accounts
Operations and maintenance	2 727,0	- 30,9	2 696,1	2 735,2
Operations and maintenance, Gardermoen line	0,0	81,0	81,0	62,5
Investment in railway lines	1 189,1	- 31,1	1 158,0	1 214,8
Capital injection to subsidiary companies	0,0	0,1	0,1	0,1
section 1350	3 916,1	19,1	3 935,2	4 012,6
on 4350, Jernbaneverket				
Description	"Blue book" for 2000	Adjustments/ transfers	Approved budget	Accounts
Track charges	58,3	0,0	58,3	40,3
Sale of equipment, services, etc.	130,0	0,0	130,0	230,7
Leasing income	20,0	0,0	20,0	13,6
Resale of electricity for train operations	150,0	0,0	150,0	120,7
Payment for use of Gardermoen line	0,0	81,0	81,0	80,6
For payment of outstanding liab. relating to Gardermoen lin	e 0,0	0,0	0,0	300,4
Reimbursement for employment creation schemes	0,0	0,0	0,0	0,1
Reimbursement of salaries	0,0	0,0	0,0	7,3
Reimbursement of employer contributions	0,0	0,0	0,0	1,0
Reimbursement for apprentices	0,0	0,0	0,0	2,3
Reimbursement of sick pay	0,0	0,0	0,0	28,9
Reimbursement of employer contributions on sick pay	0,0	0,0	0,0	3,8
Contribution to infrastructure works	29,0	0,0	29,0	34,0
section 4350	387,3	81,0	468,3	863,7
	Operations and maintenance, Gardermoen line Investment in railway lines Capital injection to subsidiary companies ection 1350 on 4350, Jernbaneverket Description Track charges Sale of equipment, services, etc. Leasing income Resale of electricity for train operations Payment for use of Gardermoen line For payment of outstanding liab. relating to Gardermoen line Reimbursement for employment creation schemes Reimbursement of salaries Reimbursement of employer contributions Reimbursement of employer contributions Reimbursement of sick pay Reimbursement of employer contributions on sick pay Contribution to infrastructure works	Operations and maintenance, Gardermoen line 0,0 Investment in railway lines 1 1 189,1 Capital injection to subsidiary companies 0,0 ection 1350 3 916,1 Operations of Salvines 5 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Operations and maintenance, Gardermoen line 0,0 81,0 Investment in railway lines 1189,1 -31,1 Capital injection to subsidiary companies 0,0 0,1 ection 1350 3916,1 19,1 Operation 1350 3916,1 Operation 1	Operations and maintenance, Gardermoen line 0,0 81,0 81,0 Investment in railway lines 1189,1 -31,1 1158,0 Capital injection to subsidiary companies 0,0 0,1 0,1 ection 1350 3916,1 19,1 3935,2 Operation 1350 3916,1 19,1 3935,2 Operation 1350 3916,1 19,1 3935,2 Operation 1350 81,0 19,1 3935,2 Operation 1350 81,0 19,1 3935,2 Operation 81,0 19,1 19,1 19,1 3935,2 Operation 81,0 19,1 19,1 19,1 19,1 19,1 19,1 19,1 1



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