The Current State of Railways in Korea and Reform Trends

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Introduction

The Korean transportation industry today is composed of the road, rail, air and shipping sectors. In 2002, these four sectors occupied 91.3%, 8.6%, 0.1%, 0.02%, respectively, in terms of passenger numbers and 73.6%, 21.3% 4.7% and 0.3%, respectively, in terms of passenger-km. By contrast, in the freight market, the road sector had 94.5% of the market, rail 1.2%, air 0.01% and shipping 4.3% in terms of straight tonnage and 47.9%, 11.3%, 0.2%, and 40.6%, respectively, in terms of tonne-km. These figures clearly show that the Korean passenger transportation system is centred on roads and automobiles, while railways and shipping play larger roles in long-distance freight transport.

The road-centric transportation system has yielded profits for Korean society but on the other hand has created large social costs, including pollution, healthcare, etc. However, there is increasing recent concern about the economic damage caused by traffic congestion, such as the rapidly rising costs of wasted time and gasoline in the freight distribution sector. For example, in 2000, freight distribution costs amounted to Won85.1 trillion (US$1 = Won1200) and comprised 16.3% of GDP. However, road-congestion-related costs in the same year are estimated at about Won19.4 trillion or 3.7% of GDP.

To overcome this problem, the government has proposed a National Basic Transportation Network Plan (2000–19) including plans for expanding the national railway network. A principal feature of this plan is the emphasis on railways. The basis of this investment plan is expanding the route-km of the Korean National Railroad (KNR) from the present 3129 km to 5164 km.

Four revolutionary railway-related trends are underway in relation to this.

First, a shinkansen plan is being promoted and the 444.3-km Seoul–Pusan High-speed Railway will open in April 2004 with operations at 300 km/h and a journey time of 2 hours 40 minutes. This new high-speed service will make the railway line between Seoul and Pusan competitive with air and express buses, offering a good possibility of moving large passenger volumes to rail over this sector.

Second, the Seoul–Shinuiju Line is being rebuilt and reconnected. The original 500-km line was opened between Seoul and Shinuiju in 1906, but through services were cut by the division of the Korean Peninsula at the end of the Korean War (1951–53). Based on the agreements concluded at the summit between the presidents of North and South Korea in June 2000, both sides started work on rebuilding their sections of the line in September 2000. By June 2003, about 12 km of track had been completed on the southern side and the all the track bed work had been completed on the northern side. When the rebuilt line is completed and connected, it will offer integrated operations from the Korean Peninsula to north-east China and the Trans-Siberian Railroad through Russia.

Third, there are plans to expand urban railway networks. In 2002, the urban railway network in S. Korean cities totalled about 401 km; the Seoul subway network only has a 36.5% share of all transport modes. The centre of Seoul suffers from severe traffic jams and the average speed of cars in the city is only 22 km/h. The aim of the plan is to expand the urban and subway railway networks to transfer passengers from road to rail and raise the average speed of cars in the city to better than 30 km/h. Plans are also being drawn up to expand Seoul's transport networks, including new transit systems, by threefold before 2020.

Fourth, there are plans to undertake structural reform of KNR. The government is planning vertical separation of KNR and to change its status to a public corporation. However, there is strong opposition by the railway unions and the struggle between the government and labour is ongoing.

KNR's high-speed HSR 350 (KRRI)

This article outlines the current status of and changes to railways in S. Korea and explains some themes in railway reform and government policies.

Current Conditions and New Changes in Railway Business

Outline of railway business

The railway is managed by the government's KNR. Railways in Korea have a 104-year history, starting with the opening of the 32.5-km Kyungin Line between Seoul and Inchon in 1899, and railways played a major role in the modernization of Korea. However, the rapid growth of private motor vehicles in the last 20 years has resulted in a rapid drop in railway passenger levels. Moreover, problems inherent to nationalized businesses, such as bureaucratic systems, insufficient investment in infrastructure, inefficient safety management systems, etc., have also been exposed. The worsening productivity of KNR has been in part due to government neglect of railways due to the focus on road-centric transportation policies, but the most important cause has been the continued existence until very recently of 1960s-style bureaucratic organizations that dominated policymaking and lost the competition with more modern systems.

Since KNR was managed by the Railway Agency it was basically under government control. In other words, the personnel department and organization are based on the Government Organization and National Public Service laws, while the budget planning and operations are based on the Budget Public Account and Business Budget Public Account laws. In addition, the labour organizations are controlled by the Basic Labour Law and fares are regulated by laws related to stabilization of the cost of living index. Moreover, associated business is controlled by laws specifically related to railway operations.

Due to serious under-investment in infrastructure, there are problems with securing safety. The number of route-km per 1000 people is very low at 0.06 km compared to 0.16 km in Japan, 0.46 km in Germany, and 0.54 km in France. The government's response to these types of problems aims at reforms to increase competitiveness and establish autonomous operations.

Not only do railway reforms and modernization of infrastructure offer a method for relieving road congestion, they also offer a method for re-affirming transport and social priorities from the aspects of environment, energy and safety. As an example, the proportion of double track in 2002 is 1.2 times that in 1993 and the proportion of electrified track in 2002 is 1.3 times that in 1993 (Table 1). In particular, the 161.5 route-km of subways in 1993 increased 2.49 times to 401.4 km in 2002.

The trend in railway investment is shown in Table 2; there has clearly been increasing investment in railways in recent years compared to other transport sectors. The recent growth of railways is reflected in trends in passenger market share. As shown in Table 3, the share of the road sector dropped slightly from 91.9% to

Table 1 Changes in Railway Infrastructure

	1993 (A)	2002 (B)	B/A
Route-km	3098.0	3129.0	1.0
Double track (km)	852.0	1003.0	1.2
Double-track ratio (%)	27.5	32.1	1.2
Electrified track-km	528.0	668.0	1.3
Electrified-track ratio (%)	16.9	21.4	1.3

Source: KNR Annual Statistics

Table 2 Investment Trends by Transport Sector

Investment (billion won)	1993 (A)	2002 (B)	B/A
Roads	2105	7860	3.7
Railways	706	3088	4.4
Shipping	351	1296	3.7
Airline	196	312	1.6

Source: Korean National Budget

Table 3 Passenger Share of Transport Market by Sector

Passenger share	1993 (%)	2002 (%)	Change (%)
Roads	91.9	91.3	–0.6
Railways	8.0	8.6	+0.6
Ships	0.0	0.02	+0.02
Airlines	0.1	0.1	0

Source: Ministry of Construction and Transport Annual Statistics

Table 4 Investment by Transport Sector (2000–19)

Investment (billion won)	2000–19	2010–19	Total	
Roads	93,691	92,561	186,252	(55.5%)
Railways	50,827	43,198	94,025	(28.1%)
Ships	17,921	18,912	36,833	(11.0%)
Airlines	4,228	9,441	13,669	(4.2%)
Distribution	2,414	1,444	3,858	(1.2%)
Total	169,081	165,556	334,637	(100%)

Source: Ministry of Construction and Transport

91.3% while that of railways increased slightly by 0.6%.

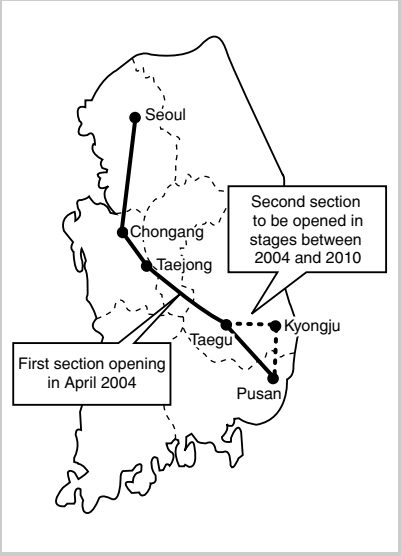
The National Basic Transportation Network Plan (2000–19) includes a positive approach towards railways. The total investment from 2000 to 2019 is expected to be Won335 trillion with some Won94 trillion (28.1%) targeted at railways (Table 4).

Comparison of investment in railways and roads (Table 2) shows that although roads received about 2.5 times more investment than railways in 2000, if the future investment materializes, this difference will drop to about 2 times. There is clear investment emphasis on rail and by 2020, the route-km should have increased to 5164 km with a double-track ratio of 78% and electrified-track ratio of 86% (Table 5).

High-speed railway plan

Currently, planning of a high-speed rail link between Seoul and Pusan using French TGV-style rolling stock is in progress. The start of high-speed rail operations will mark a revolutionary change in Korean transport systems.

Figure 1 Route of Seoul–Pusan High-speed Line



Construction of the planned high-speed railway will proceed in two stages.

The first stage starts in April 2004 when operations between Seoul and Pusan will begin using part of the existing conventional track for a journey time of 2 hours 40 minutes. Then, the second stage will start in 2010 with operations over a completely new dedicated high-speed track running between the two cities for a much reduced journey time of 1 hour 50 minutes (Table 6 and Fig. 1).

With the start of high-speed operations, the number of passengers travelling between Seoul and Pusan is expected to increase by a factor of four. Moreover, the operations over the completely new line will free up capacity on the old conventional line to permit more freight operations and possibly increasing by as much as 8 times. The high-speed services are also expected to facilitate regional development along the line while stimulating tourism and cutting social costs, etc.

Linking North and South Korea

Following the June 2000 summit between the presidents of North and South Korea, it was agreed to start examining plans to link the railways between north and south. Moreover, linking the railways on the Korean Peninsula would be one step towards facilitating railway links with continental Asia including China and Russia (Fig. 2).

At present, the large majority of freight between East Asia and Europe is carried by container ships, but linking these regions by transcontinental railway would have the very great advantage of reduced freight transit times. The greatest obstacle in achieving this goal is the problem of gauge change at several international borders in central Asia and Eastern Europe but recent technical advances have greatly reduced times required for freight transshipment and changing bogie trucks (Table 7). (Development of so-called free-gauge bogies is also advancing rapidly.) As a result, the share of transcontinental

Table 5 Railway Development Plans (2000–20)

	2002 (A)	2007	2012	2020 (B)	B/A
Route-km	3129	3592	4314	5164	1.6
Double-track ratio (%)	32.1	45	73	78	2.8
Electrified-track ratio (%)	21.4	56	76	86	5.0

Source: Ministry of Construction and Transport

Table 6 Comparison of Conventional and High-speed Lines

	Conventional line (A)	High-speed rail (B)	B/A
Maximum speed	140 km/h	300 km/h	2.2
Seoul–Pusan journey time	4 hours 10 minutes	1 hour 50 minutes	–45%
Fare	Won34,000	Won44,000	1.3
Passenger demand	35,000	140,000 (2004)	4.0

Source: Ministry of Construction and Transport
Note: The conventional line is served by *Saemaeul* express services. The fare is the basic fare between Seoul and Pusan.

Table 7 Comparison of Sea and Rail Freight (Pusan–Europe)

	Sea freight (A)	Rail freight (B)	B/A
Shipping time[1)]	35–45 days	25–30 days	–30%
Tariff (1 TEU)	$1,200	$1,200	Same
Freight volume (TEU)	1.2 million	200,000[2)]	

Source: Ministry of Construction and Transport
1) The average distance from Pusan to the main cities of Europe is 21,000 km by sea and 12,000 km by rail.
2) 2010 forecast

Figure 2 Future Trans-Asian Railway Network

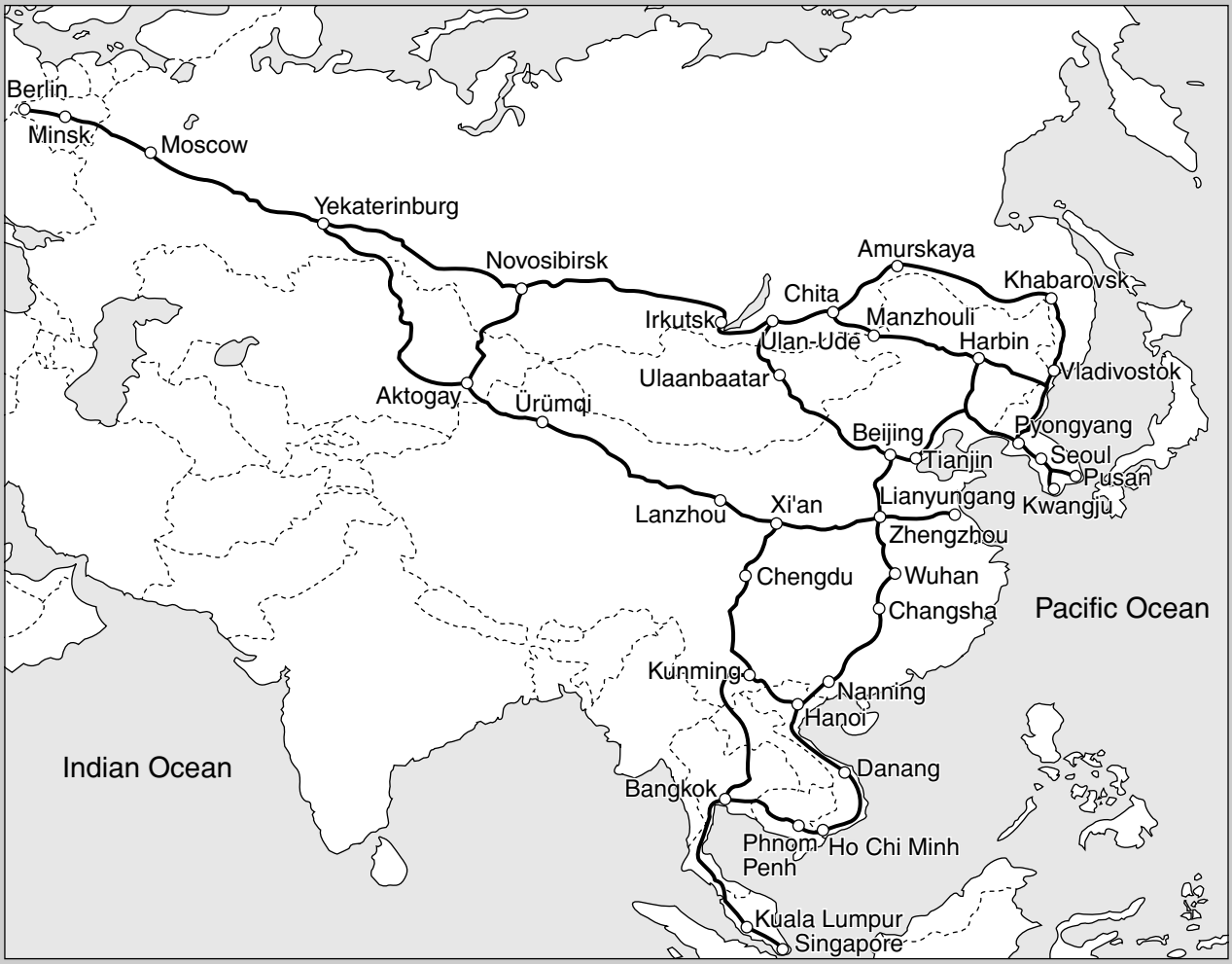


Table 8 Urban Railway Development Plans

	2003 (A)	2007 (B)	B/A
Route-km	401.4	545.0	1.3
Passenger share (Seoul)	36.5%	43.4%	1.2
Passenger share (outside Seoul)	10%	20%	2.0

Source: Ministry of Construction and Transport

railways in freight shipment is expected to increase to 14% by 2010.

Development of urban railways

One effective way of reducing the severe road congestion in Korean cities is to build urban railways and subways. At present, there are plans to extend the length of Seoul's urban railways and subways to 545 route-km by 2007 (Table 8).

Railway Reform Discussions

Questions have been raised about the necessity for railway reforms since the late 1980s; in 1989, the Korean Railroad Public Corporation Law was enacted to change KNR to a form of public corporation from 1993. However, it was soon realized that if a single public corporation had complete responsibility for the railway infrastructure and operations management, it would put the burden of the huge construction costs on

one body and there were fears that it could also lead to the formation of a powerful labour union, so the plan to create a single public corporation was soon abandoned. As an alternative solution, the Special Law for National Railway Management was enacted in December 1995. As a result of this legislation, to promote railway reform, the government proposed the Plan for National Railroad Management Improvement (1997–2001) in May 1996. Following this, the government of President Kim Daejung undertook a management evaluation of KNR from 1998 to 1999 and in May 1999 decided on a new policy. In July 2000, the Railway Reform Consultative Committee was established under the chairmanship of Seoul National University from Professor Kim Dong Kun; the committee presented its Railway Reform Proposals to the government in July 2001.

In line with this, the Railway Industry Reform Promotion Committee was formed under the chairmanship of the Vice Minister of Transport Policy in the Ministry of Construction and Transport (MOCT) in August 2001. On 4 December, a legislative bill was passed during the Ministry of State Committee and on 17 December of the same year, the Railway Industry Promotion and Reform Bill and the Korean National Railroad Infrastructure Public Corporation Bill were presented to the Korean parliament.

On 21 October 2002, the Korean National Railroad Corporation Bill was presented to the parliament but it was sent back for major revision due to the formation of a new government under President Roh Moo-hyun; it was resubmitted on 3 June 2003 as three bills (Railway Business Development Basic Bill, Korean National Railroad Public Corporation Bill, and Korean National Railroad Infrastructure Bill). The first two bills were passed on 28 June after heated parliamentary debate but the third bill remains under discussion (at September 2003). The labour union is vehemently opposed to the changes and called an ongoing series of strikes from 1 July 2003. In a severe government response, the union leaders were put under judicial restraining order.

Background Considerations

Strong influence of labour unions

An examination of the Korean manufacturing sector shows that industrial disputes in 2002 cost the economy Won1.717 trillion. Lost exports amounted to $680 million and a total of 1.58 million man days of labour were lost as well. These figures were a 45.9% increase over the previous year. As a result, according to the World Economic Forum (WEF), Korea slipped to 55th position in the WEF's ranking of labour–management relations in the top 80 countries.

The Cargo Handlers Chapter of the National Freight Forwarding Labour Union recently increased handling fees by 30% and strikes are still requesting to establish the labour–government nagotiators, etc. Against this background, the labour unions clearly still have a strong impact on Korean industrial planning and public-utility policies.

Enforced planning decisions without stakeholder interests

Stakeholders with interests in railway reform include railway employees, travelling public, government, parliament, and politicians. The political decision-making process must include dialogue through the participation of stakeholders, otherwise effective reforms will be very difficult.

Changes to privatization plans due to labour reforms and union power

The Kim government took an unbending stance on labour reform, but the new Roh government is endeavouring to be more appeasing to the labour unions, so there is a high possibility of revisions to the privatization plans.

Railway Reform Process

Proposed change to public corporation

In 1989, the government settled on the Korean National Railroad Public Corporation Bill, which proposed managing KNR as a public corporation from 1993. At that time (1989), the railway employed 37,807 people and had 3120 km of tracks in operation. However, despite having assets of Won3.76 trillion, the liabilities totalled Won1.602 trillion and operating revenues were Won61.26 billion in the red. To solve these very severe business conditions, the government of the day resolved to change the railway management from a national industry to a public corporation.

To promote the change of KNR into a public corporation from 1 January 1993, a Railroad Public Corporation Planning Group was established in the Transport Section of the then Ministry of Transport along with a Public Corporation Establishment Secretariat established in KNR; both organizations were charged with practical work responsibilities. In April 1992, the Railroad Public Corporation Planning Committee was established under the leadership of the Vice Minister of the Economic Planning Board.

First reform—public corporation

In late 1992, the first reform measures to create the public corporation were extended until 1 January 1996. The reason was to permit the passage of administrative reforms prior to the creation of the public corporation. In concrete terms, this meant transferring Won1.5 trillion in government funds from the railway account to the general account with government backing for repayment of the principal and interest;

in addition, the term for preparing for the changeover to a public corporation was extended to 3 years and it was decided to promote true-cost passenger fare and freight tariff structures.
The business was to be vertically divided in January 1995 with clearly separate responsibilities for infrastructure and operations; the proposals leading up to the creation of the public corporation in 1996 allowed for job losses of 2500 employees. To prepare for a smooth transition, the government appointed Mr Kim In Ho, a bureaucrat from the Ministry of the Economic Planning Board as the Director of KNR.

Second reform—abandonment of public corporation plans

In September 1995, the government suddenly decided to abandon the plan to create a public corporation because of financial problems, such as initial investment costs of Won2 trillion, the need to re-examine plans for unification of the Korean peninsula, and the worrying possibility of creating a large united labour bloc. As a consequence, all the preparatory works, including 69 legislative bills and 320 or so regulations were abandoned. Instead, management reforms to promote fare harmonization and vertical separation of the business were put into place along with special legislation related to railway management along with financial support totalling Won5 trillion up to 1999.
To promote the abandonment plan, Mr Choi Pyoung Uk, the Director of KNR at that time, made a request to Mr Choi Kak Ku, Minister of the Economic Planning Board, to delay the 1996 schedule for formation of the public corporation. This request was approved by the government. Subsequently, in 1996, the new Director of KNR, Mr Kim, expressed his agreement with Mr Han I Heon, the Chief of Staff in the Economics Agency of the President's Office to change the strategy from formation of a public corporation to full privatization.
During this period, Won1.5 trillion of KNR's debt was transferred to the general account, improving KNR financial condition. However, it was only a temporary respite and conditions soon worsened due to the heavy burden of infrastructure costs.

Repromotion of privatization railway reforms

In late 1998, the railway's assets totalled Won16 trillion but the 1999 business results were Won25.1 billion in the red. Realizing the severity of this situation, the Kim government decided to push for full privatization of the nation's railways. A management analysis of KNR was undertaken between 1998 and 1999 and based on this, it was decided to aim for full separation of operations and infrastructure as well as privatization by 2002.
However, the target date became delayed due to vehement opposition by the labour union. Gradually, a series of bills related to the plans was presented to parliament by December 2001—the main contents dealt with the vertical separation and public service obligations as well as reparations, etc.
However, the election of President Roh in December 2002 resulted in major changes to circumstances. The new President's Preparatory Committee announced a change in its philosophy on 28 January 2003—the body responsible for infrastructure would be organized as a public corporation, while operations, which had been managed as a company until that time, would also become a public corporation. Moreover, the changeover to a private company would be the subject of future examination.
Due to these events, the labour union publicly announced its opposition to vertical separation of operations and infrastructure and to the formation of a public corporation. Since the union had not formed a social consensus, it launched a 4-day strike between 21 and 24 February on the grounds of railway safety concerns. Another massive strike was planned for 20 April and negotiations were started with the government in an increasingly hostile environment.
Just before the expected 20 April strike, government–union negotiations reached a compromise—the current privatization plans for railway reform would be withdrawn and a new plan including measures for safety concerns would be proposed for vertical separation. In addition, the voice of stakeholders would be heard through the holding public hearings, etc., so as to reach some sort of social consensus. However, the contents of the agreement were extremely abstract and there were still differences of individual interpretation.

Public corporation proposals

As described above, based on the labour–management agreement reached on 20 April, three bills were resubmitted to the parliament and two were approved. As a result, the Korean National Railroad Infrastructure Public Corporation with responsibility for infrastructure was to be inaugurated on 1 January 2004 along with the Korean National Railroad Public Corporation on 1 July 2004. Moreover, since the liabilities of KNR are to be taken over by the government, the requests of the labour union regarding employment continuity, maintenance of government workers' pension rights, etc., have been accepted.
However, the labour union still remains opposed to the vertical separation and is requesting riders on the special bill regarding public corporations to be debated in the October session of parliament. Since only two of the three submitted bills passed parliament on 28 June, the labour union organized a strike for that day. To break the power of strikers, on 1 July, the government decided to take

disciplinary measures against 8048 of the 9888 people participating in the strike—the union has announced it opposition to this and the conflict continues!

Analysis and Evaluation of Political Process

Conditions at policy decisions

Next, I would like to compare the conditions when the various railway reforms were decided in 1989, 1995, 1999, and 2003.

First, railways are becoming increasingly important as a means of transport due to their lower environmental burdens against a background of deepening global environmental problems. This offers large potential for railway development.

Second, the government's policy procedure has been inconsistent.

Third, although the labour union did not show strong opposition in the early days of privatization plans, as the government plans became more concrete, the union took a clear stance against privatization.

Fourth, different successive governments have had different privatization policies (Table 9). The railway privatization proposals have been inherited from 1989 ideas about forming public corporations.

Table 9 Changes to Railway Reform Policies

	Reform proposal	Position of labour union
1989	Public corporation	Passive opposition
1995	Privatization	Active opposition
		2003 privatization
1999	Privatization	Privatization after management reforms
		(Passive opposition)
2003	Public corporation	Special public corporation

Features of privatization policies

Currently, the railway labour union has about 21,300 members. It was established on 18 January 1947 and has only held three major strikes in its 50-year history. The strikes in 1995 and 2003 caused major changes to the government's policies.

After 1993, the government recognized the importance of railway reforms but no active procedure was drawn up, explaining the delays in formation of the public corporation in 1995. Since there were no political measures, the argument that reform was difficult due to the operating deficits is not persuasive.

Before May 2001, the railway labour union was affiliated with the moderate Federation of Korean Trade Unions, but the union became more confrontational after the appointment of a new general secretary in 2002. In addition, affiliated organizations also joined Federation of Korean Democratic Union. As a result, the nature of the labour union became tougher. Finally, the Roh government seemed to adopt a friendly posture towards the union and the step was taken back towards a privatization policy.

Rational privatization policy

First, the government requires a firm will to promote privatization. This needs expansion of organizations to promote privatization as well as promotion bodies inside government organizations. Second, the post-privatization plans require a blueprint. Third, it is necessary to construct a network for supporting privatization policies that is linked with stakeholders, opinion leaders, consumers, and venture companies. Finally, a political system must be established that permits participation by the labour union in the decision-making process.

Conclusion

Railways in Korea have been in a static condition for many years, but there has been a recent trend towards expansion and development. In the future, the role of railways in the nation's transport systems is likely to grow. Korean railway reforms have been planned for more than 14 years but a concrete whole and integrated strategy is still needed. ■

Further Reading

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Collection of legislation data of railway industrial development and reform

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