

# Freight 21 — JR Freight Medium- and Long-Range Management Plan

Takakuni Masuda

## Introduction

Japan Freight Railway Co. (JR Freight) was the first Japan Railway (JR) group company to go into the red (in fiscal 1993). As a freight carrier and one of the seven companies established by the division and privatization of the Japanese National Railways (JNR) on 1 April 1987, we reached our seventh anniversary in fiscal 1994 facing difficulties in an uncertain economic environment.

Under these circumstances and to pave the way toward a better future, we are now making a company-wide effort to achieve the goals of *Freight 21*, our 10-year management plan formulated last November after more

than a year of discussion.

This article describes the planning process and the direction our company is taking, based on the plan.

## 1. Planning Process

### (1) Company profile

JR Freight is distinguished from the other JR companies by the fact that it is the only nationwide railway company, and the only company providing freight services. It is capitalized at ¥19 billion and is 100% owned by the government-owned JNR Settlement Corporation.

The company profile is given opposite.

### Number of employees:

11,800 (Average age: 44.1)

### Sales:

¥205.8 billion (in fiscal 1993), of which ¥180.6 billion from freight railway operation, and ¥25.1 billion from other operations

### Transport volume:

53,180,000 tons (in fiscal 1993), of which 19,630,000 tons from container-based transport, and 33,550,000 tons from freight car-based transport

### Operation-kilometers:

10,042

### JR Freight Owned Track:

73 km

### Number of stations dealing with freight:

353 (including stations belonging to passenger railways)

### Number of daily freight train services:

884

### Train-km per day:

252,000

### Number of rolling stock:

Engines: 914  
Freight cars: 15,993  
Freight cars owned by other firms: 11,217

### Number of containers:

Owned by JR group: 76,416  
Owned by other firms: 17,605

### Total assets:

¥256.9 billion including 1,626 hectares of land

### Subsidiaries:

47 companies

Table 1 Trends in Business Results

Profit and Loss Statement	(in ¥100 million)						
	(Fiscal year)						
	1987	1988	1989	1990	1991	1992	1993
Operating income	1,727	1,827	1,921	2,049	2,152	2,161	2,058
Operating expenses	1,615	1,721	1,822	1,936	2,085	2,105	2,039
Working expenses	1,492	1,567	1,662	1,765	1,913	1,913	1,864
Tax	19	17	34	37	38	53	42
Depreciation	103	136	126	133	133	138	133
Operating profit or loss	111	105	98	113	66	55	18
Non-operating profit or loss	-152	-39	-34	-38	-46	-53	-57
Ordinary profit or loss	59	66	64	74	19	2	-38
Extraordinary profit or loss	0	-4	1	-13	2	4	12
Pre-tax profit	59	61	65	61	22	6	-25
Corporate tax and others	41	30	35	32	16	5	2
Current-term profit or loss	18	31	29	28	6	1	-27

Capital investment	44	155	202	286	360	384	188
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### Transport volume

in million tons	56	57	57	59	58	56	54
in 100 million ton-km	201	231	248	268	268	263	251

**(2) Going into the red**

The trends in the business results and transport volume of JR Freight since its establishment are shown in Table 1 and Figure 1, respectively. We posted ¥6 billion to ¥7 billion in ordinary profit over 4 years immediately after our establishment, because of our efforts to improve management and reinforce sales activities. We also saw a 1.6-fold increase in the transport volume of containers (on a ton-km basis (4)) from the level at the company establishment.

However, our business results started deteriorating from fiscal 1991 when the Musashino Line was damaged by flooding. Our operating income (in particular, transport busi-

ness income) in fiscal 1993 dropped by about ¥10 billion from the previous year, far below the initial target, due to the prolonged recession, several disasters (such as floods) and the impact of the unusually cold summer (including a very poor rice crop).

In September 1993, when we were sure of seeing a decrease in the transport volume and income, we formed an emergency management measures task force at our head office and each regional office to secure new sources of income by enhanced sales efforts and to cut overall expenses. However, despite our efforts, we registered an ordinary loss of ¥3.8 billion and current-term loss of ¥2.7 billion in fiscal 1993 and became the first JR com-

pany to go into the red (Table 2).

In the process of discussing the emergency management measures, we became very aware that a long-term approach, in addition to our effort to balance the budget each year, would be required to drastically improve management of our company. Consequently, we started drafting a long-term management plan, in parallel with implementation of the emergency measures.

**(3) Challenges to overcome**

The most important motive for making a long-term plan was our strong recognition that the real cause of the deficit was not the recession but lay in fundamental and inherent problems in our company since its establishment. These problems include:

- a. High operation costs
  - Increase in capital cost to replace aging facilities. The increase was caused by the previous cut in capital investment by JNR to reduce its deficits.
  - High personnel costs resulting from above-average age of employees (44.1 years).
  - High costs due to inefficient transport system
- b. Lack of good-quality transport services and facilities
- c. Poor sales strategy and system

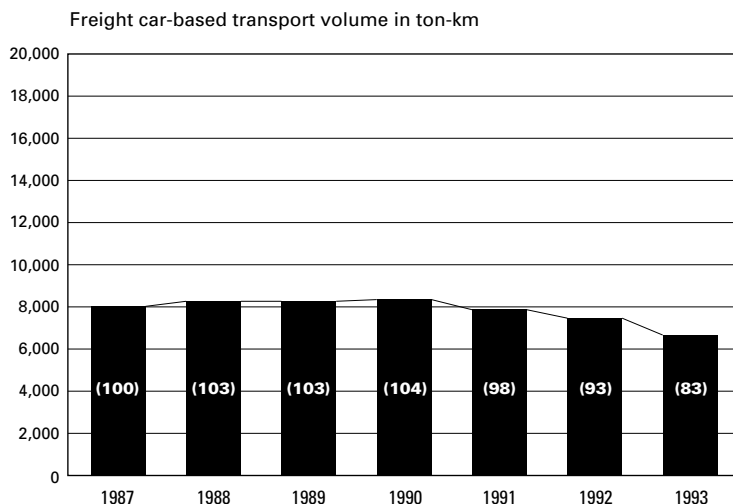
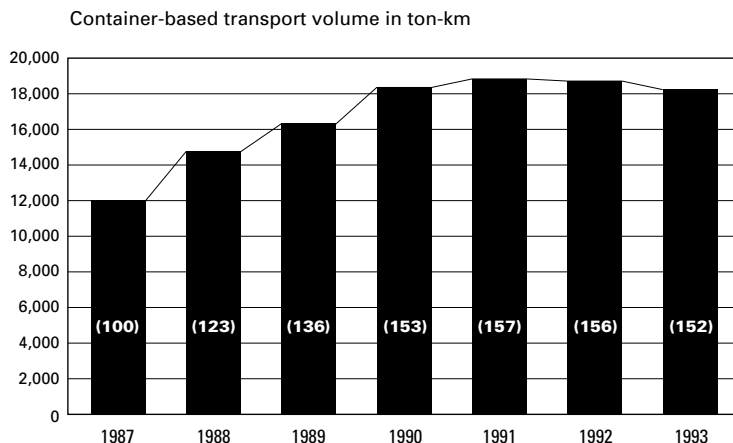
We started examining ways to solve these problems and bring our operation back into the black.

**(4) Measures to cope with potential demand**

While the Japanese distribution industry is still facing a severe management environment, the demand for transport services will grow further in the 21st century, and greater expectations will be placed on our role. The industry has been exposed to severe price competition as a result of industrialized restructuring and recession. However, we believe that demand for rail transport will grow as social problems, including labour shortages and, environmental issues become more serious.

Modes of transportation are compared from the perspective of these problems.

**Figure 1 Trends in Transport Volume**



Note: Figures in parentheses are indexes with the figure in fiscal 1987 defined as 100.

**Table 2 Japan Freight Railway's Settlement of Accounts in Fiscal 1993**  
(figures in ¥100 million, rounded to nearest whole number)

Income Statement				Balance Sheets (figures in ¥100 million, rounded to nearest whole number)			
(Fiscal year)							
	1992	1993	Increase/decrease		1992	1993	Increase/decrease
Operating income	2,161	2,058	103	Assets			
Transport income	1,914	1,806	108	Current assets	359	434	+ 75
Others	246	251	+ 5	Fixed assets	2,135	2,159	+ 24
Operating expenses	2,105	2,039	66	Deferred assets	1	1	0
Personnel expenses	901	861	40	Total assets	2,496	2,596	+ 100
Non-personnel expenses	1,012	1,002	10	Liabilities			
Taxes and public dues	53	42	11	Current liabilities	357	349	8
Depreciation	138	133	5	Fixed liabilities	1,679	1,815	+ 136
Operating profit	55	18	37	Total liabilities	2,037	2,165	+ 128
Non-operating profit	8	7	1	Shareholders' equity			
Non-operating expenses	62	64	+ 2	Capital stock	190	190	0
Ordinary profit or loss	2	-38	40	Legal reserve	153	153	0
Extraordinary profit	8	20	+ 12	Surplus	115	87	28
Extraordinary loss	3	7	+ 4	Total shareholders' equity	458	430	28
Pre-tax profit	6	-25	31	Total liabilities and shareholders' equity	2,496	2,596	+ 100
Corporate tax	5	2	3				
Current income	1	-27	28				

Currently, trucks are the most popular means of transport in the Japanese distribution industry, but based on the data, the government has been promoting a modal shift from trucks to railways and shipping,

and to expanding combined transport.

As shown in Table 3, JR Freight enjoys a bigger share as the transport distance increases. (The average distance of container-based transport is about 940 km.) Since our role will be more-and-more important in the context of the modal shift, we can boost future volume and income by taking the course outlined below.

tionalizing costs?

- How to balance sound finances against capital investment in infrastructure, and in development of new business and services, for better efficiency?
- How to secure a skilled workforce with streamlined management?

## Transport Modes and Social Issues

### ■ Labour Efficiency

#### Tonnage per person (1000 tons)

JR Freight	2,225
Coastal shipping	3,712
Truck	264

#### Tonnage per journey

JR Freight	500 to 600
Coastal shipping	3000 to 5000
Truck	5 to 10

### ■ Environment

#### Index of CO<sub>2</sub> exhaust per ton-km (Based on JR Freight as 100)

JR Freight	100
Coastal shipping	165
Truck	825

#### Energy consumption per ton-km

JR Freight	114 kcal
Coastal shipping	120 kcal
Truck	1,105 kcal

## 2. Basic Concept of *Freight 21*

### (1) Purpose

*Freight 21* aims to develop our business by focusing on the advantages of railways and by developing other non-railway business.

We examined the following points in great detail.

- How to expand business while ra-

### (2) Four major pillars

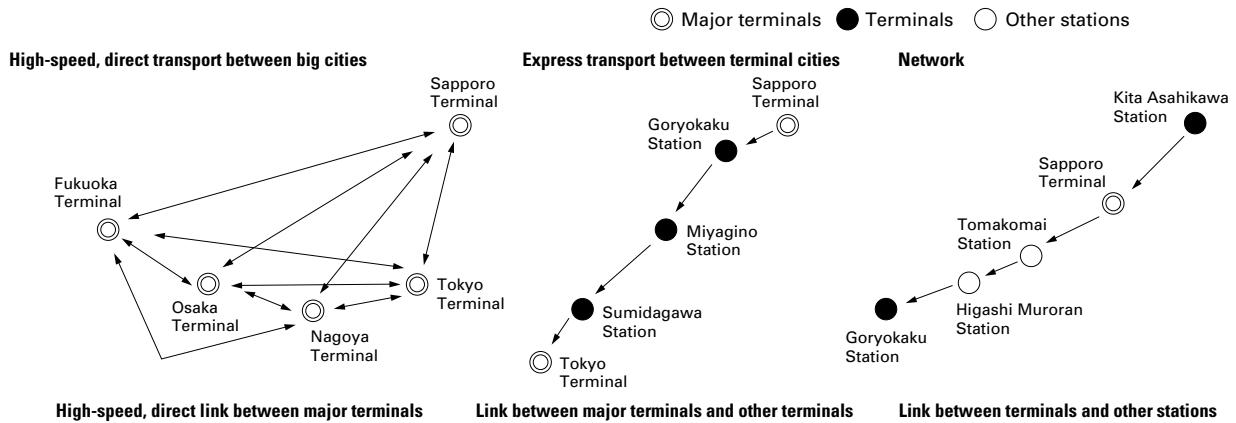
Based on the above questions, we calculated that the following four measures would be necessary.

- Enhance marketing.
  - Reconstruct transport systems.
  - Enhance sales capabilities.
- Improve cost competitiveness.
  - Streamline operations.
  - Reduce workforce while maintaining recruitment.
- Promote planned capital investment.

**Table 3 Modal Split by Distance (%)**

	JR Freight	Truck	Coastal shipping
Total	1	91	8
500 km and more	4	40	56
750 km and more	6	25	69
1,000 km and more	8	14	78

**Figure 2 Plan for Container Train Networks**



- Replace old freight cars and facilities.
  - Invest in modernization.
  - Raise low-cost funds.
- d. Expand and reinforce non-railway businesses

### 3. Outline of *Freight 21*

*Freight 21* is outlined below.

#### (1) Major action plans

##### 1) Reconstruction of transport systems

Focus will be placed on mass, fixed-form and medium-to-long-distance transport making full use of the advantage of railways.

##### a. Container-based transport

The transport systems will be reconstructed into systems centering on terminals to promote high-speed, direct transport. To this end, the train systems will be revised into three systems: 1. a high-speed, direct train system between big cities; 2. an express train system between terminal cities; and 3. a networked train system (Fig. 2). To improve the quality of transport services and expand the transport volume, efforts will be made to reduce the frequency of freight relay to other trains as much as possible (Fig. 3), introduce a parallel timetable (Fig. 4), increase the number of cars in a train and expand loading and unloading

operations at the stations where freight departs and arrives.

At the same time, a wide-area delivery system will be established to concentrate freight at terminals from small and medium-size stations dealing with only a small amount of freight by using trucks or delivery trains.

##### b. Freight car-based transport

A shift from freight car-based transport to container-based transport should be promoted to eliminate trains returning without freight. In addition, further restructuring measures should be taken to improve efficiency of train maintenance work.

For large-volume freight such as oil, a direct transport system using consignors' freight cars will be established and expanded. Figure 5 shows the major focuses of the plan for reconstruction of the transport systems mentioned above.

##### 2) Major revision of sales policies

##### a. Improvement of freight rates

The current system of determining freight rates based on agreements with customers will be drastically revised into a new easy-to-understand way to determine freight rates, according to market conditions and quality of trains; incentives will be introduced to fur-

ther expand use of railway transport. In addition, we will request related government agencies to promote deregulation to establish a flexible freight rate system to cope with competition in the distribution industry.

##### b. Reinforcement of sales

We will further reinforce sales activities through our sales offices by examining and understanding the trends in other transport firms and the demand for distribution services and by conducting advertising and publicity. We will also try to win the confidence of major consignors to secure stable and long-term customers, as well as actively explore new demand by promoting closer ties with transport firms using railways.

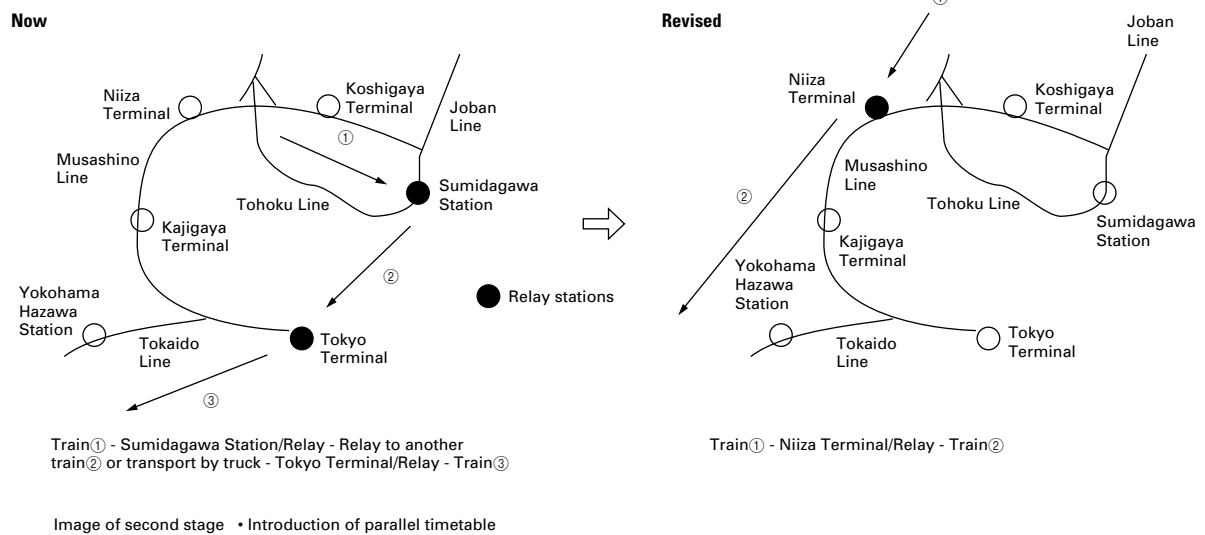
##### c. Development of new products

To boost sales, we will promote development of new products and new transport systems, such as car racks and diversified containers for the JR group satisfying customers' requirements and helping us compete with rivals (Fig. 6).

##### 3) Cut employee numbers to 7,000

We will actively promote cost cutting measures to improve competitiveness. To achieve the goal of 7,000 employees in the railway business division by the end of fiscal 2003, we will reduce the num-

**Figure 3 Plan to Cut Frequency of Relaying Freight**



ber of employees in administrative departments at the head office by streamlining business operations and further promoting measures to save labour and assign multiple functions to each employee. Such measures include:

- Revision of working systems, along with change in transport systems
  - Revision of working systems, along with decrease in work volume by cut in number of engines and freight cars
  - Revision of working systems by investment to promote efficiency
  - Integration of business departments
- 4) Expansion of early retirement system

To cope with the excessive work force generated by personnel cuts at the railway business division, we will expand and improve the early retirement system and the system to grant retiring employees leave of absence, as well as secure companies to which surplus personnel can be transferred. We hope to reduce the number of employees by 1,500 people through early retirement in four years from fiscal 1995.

5) Expansion and reinforcement of

related-business division

We will further expand and reinforce distribution-related businesses which we have already launched, as well as promote entry into new business fields. We aim to boost sales of related businesses from the current ¥13.5 billion, which accounts for a little more than 6% of our total sales, to ¥30 billion or more than 10% of total sales by fiscal 2003. The increase in sales will help boost our total sales, as well as create new employment.

6) Improvement of entire group's businesses

We will clearly define the roles and positioning of our affiliated firms in the Japan Freight Railway group to secure and expand the entire group's transport volume and establish an efficient business operation system.

7) Promotion of systematic capital investment

We will systematically replace old engines and freight cars and focus on investment to expand container-based transport, develop new products and modernize facilities. To this end, we will invest ¥330 billion in our railway business division and ¥130 billion in

**Figure 4 Introduction of Parallel Timetable**

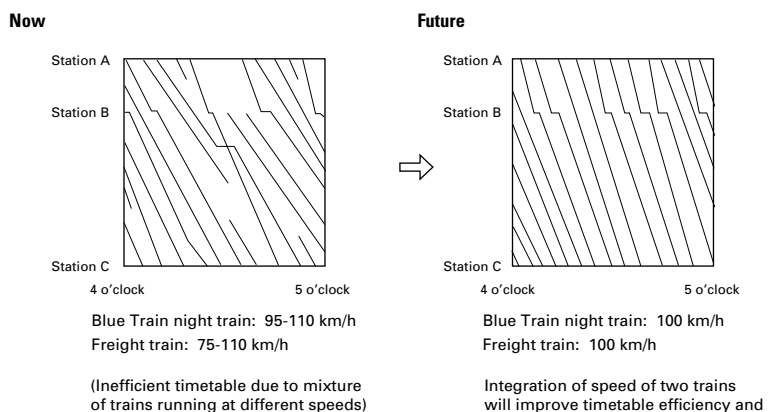
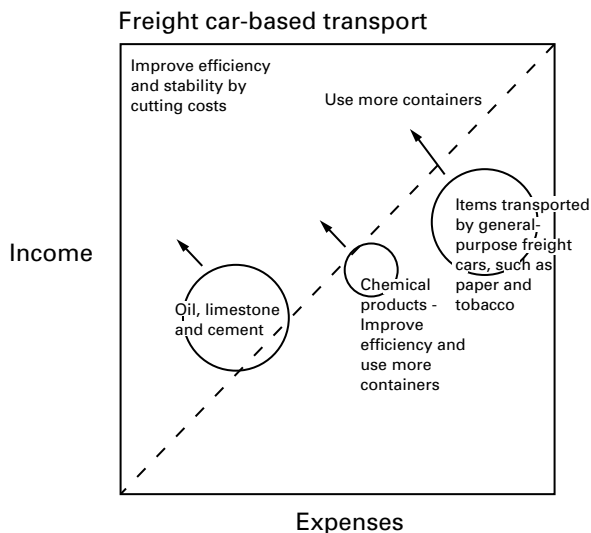
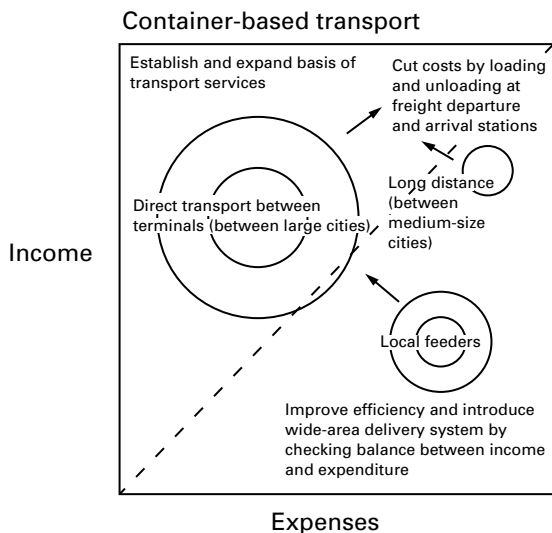


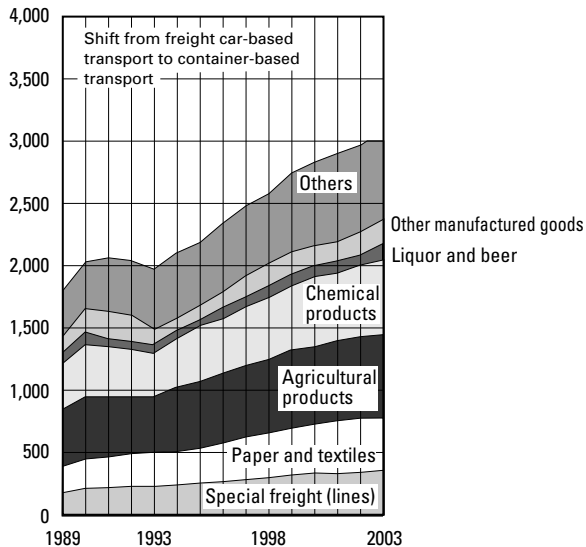
Figure 5 Major Focuses of Transport Reconstruction Plan

Direction



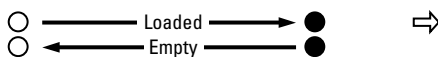
Trends of Transport Volume by Item

Container-based transport (in million tons)

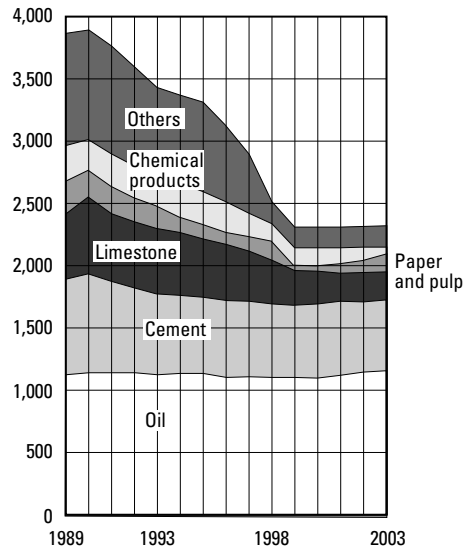


Fiscal 1993: 19.63 million tons - fiscal 2003: 30 million tons  
 (Shift from freight car-based transport to container-based transport - Efficient use of freight cars on return)

At present: inefficient transport by trains running at 75 km/h.

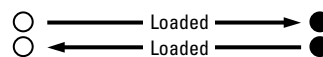


Freight car-based transport (in million tons)



Fiscal 1993: 34.28 million tons - Fiscal 2003: 23 million tons

After shifting to container-based transport - efficient transport by trains running at 100 km/h.



our related business division during the term of the plan.

**8) Maintenance of sound financial conditions**

In addition to the enormous funds required for the capital investment mentioned above, we will require a large retirement fund. However, we will reduce our dependence on externally-raised funds as much as possible by self-supporting efforts to make full use of our own assets generated through business restructuring (including sale of assets), as well as allocate internal funds generated through management streamlining. Moreover, we aim to achieve sound financial conditions by further cutting capital costs and promoting use of diversified fund sources, such as low-interest public funds.

**9) Personnel development and activation of organisation**

We will recruit new employees (200-300 people per year), based on our employment plan, and actively promote development of employees' potential. We will also try to activate our work place by putting the right person in the right place, rewarding good conduct and delegating authority to those who are doing the actual work.

In addition, we will provide fringe benefits and a working environment that helps our employees find life fulfilling and the company worth working for.

**4. Achieving plan and plan objectives**

**(1) Ways to achieve plan**

The plan term is 10 years, because some time will be required to solve all the challenges mentioned above. The term will be divided into three step-by-step phases to produce satisfactory results. A clear objective, which must

be achieved, is assigned to each phase.

**Phase I (Fiscal 1994 - 1996):**

Reconstructing railway business and expanding and reinforcing related businesses

This phase is viewed as the period of an emergency 3-year plan to drastically revise the timetable for container-based transport and promote direct transport between terminals to expand the transport volume. As far as goods that can be carried in containers are concerned, we will switch freight car-based transport to container-based transport, while promoting restructuring of freight car-based transport.

For the related business divisions, we will try to develop distribution-related businesses to help expand the railway business, and establish a new development promotion system to actively enter into new business fields.

**Phase II (Fiscal 1997 - 1999):**

Improving company-wide management foundation

The container transport capacity will be expanded by increasing the number of freight cars per train on the Tokaido Line. At the same time, new engines will be introduced to improve and speed up transport services. The restructuring of freight car-based transport will be completed, and the transport system for large-volume freight, such as oil, will be improved.

Through these efforts, we aim to turn the operation back into the black.

**Phase III (Fiscal 2000 - 2003):**

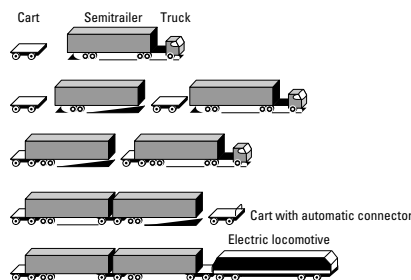
Solving challenges and establishing foundation of future growth

In this phase, management problems will be solved, and the foundation for stability and growth of our future businesses will be established. For container-based transport service, we will expand the system for direct transport between terminals, as well as improve the quality of services and boost the transport volume. For freight car-based transport service, a system for freight cars owned by consignors will be established.

Through these efforts, we aim to

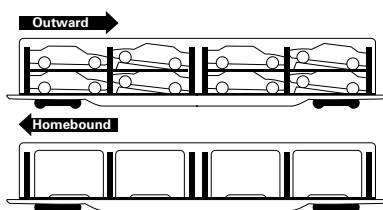
**Figure 6 New Products and New Transport Systems under Development**

**Bimodal system**



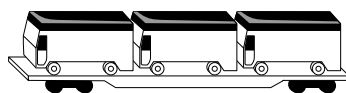
This is Japan's first transport method by which a semitrailer, towed by a truck on the road, is placed on railway carts and towed by an electric locomotive.

**Car rack system**



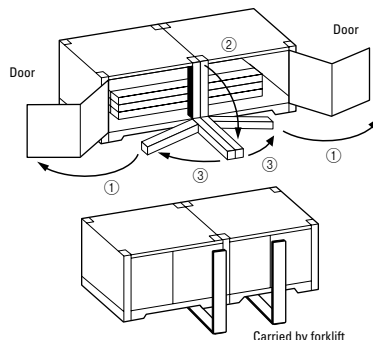
Freight cars can be used efficiently both ways. They load cars to a destination and backload containers as return cargo.

**Super piggyback**



Under this new system, three 4-ton trucks can be loaded on a freight car. The transport capacity is increased 1.5-fold over the existing level.

**Docking container**



Two 12-foot containers are connected horizontally. This is a convenient way to transport long goods, because the 24-foot side of the container can be fully opened.

achieve the goals of reducing employees in the railway business division to 7,000, as well as post ¥235 billion in revenues for the railway business division and ¥30 billion in revenues for related business divisions.

## (2) Objectives of plan

The numerical objectives of the plan are shown in Table 4.

## (3) Progress of plan

As mentioned earlier, *Freight 21* started from fiscal 1994. Although the plan was finally decided last November, individual action plans started earlier, because we spent more than 1 year determining the challenges each department at the head office and regional offices faces and discussing how to solve these challenges. We have set up the *Freight 21* promotion task forces at the head office and each regional office to take a company-wide approach to steadily carrying out the plan and achieving individual objectives.

We also had serious discussions about the plan with the Japan Freight Railway Worker's Union, and signed the "New Joint Declaration of Cooperation between Labour and Management" with the labour union prior to announcement of the plan. Under the declaration, both labour and management will join forces to 'view the *Freight 21* medium-to-long-range management plan as a starting point to reconstruct the company and suggest good ideas to secure employment and build a company that produces fulfillment for its employees through the process of achieving the goals set down in the plan.'

Last December, immediately after the announcement of *Freight 21*, we changed our train timetable. The move was the first step in reconstructing our transport system and promoting measures to drastically streamline operations. We also proposed that our retirement system should be revised to expand the choices for senior employees. We have already started recruiting people wanting to retire under the new system.

**Table 4 Objectives of Plan**

<b>Number of employees</b>			
	Now (at end of fiscal 1993)	3-year emergency period (at end of fiscal 1996)	Future (at end of fiscal 2003)
Railway	9,206	8,200	7,000
Related business	144	300	400
Transferred to other firms	2,436	2,800	2,300
<b>Total</b>	<b>11,786</b>	<b>11,300</b>	<b>9,700</b>

<b>Operating income</b> (in ¥100 million)			
	Now	3-year emergency period	Future
Railway	1,923	2,040	2,350
Related business	135	160	300
<b>Total</b>	<b>2,058</b>	<b>2,200</b>	<b>2,650</b>

<b>Factors of transport services</b>			
	Now	3-year emergency period	Future
<b>Transport volume in million tons</b>			
Container-based	1,963	2,300	3,000
Freight car-based	3,428	3,100	2,300
<b>Total</b>	<b>5,391</b>	<b>5,400</b>	<b>5,300</b>
<b>Transport volume in 100 million ton-km</b>			
Container-based	185	220	280
Freight car-based	66	55	40
<b>Total</b>	<b>251</b>	<b>275</b>	<b>320</b>
<b>Train mileage (in 1000 km/day)</b>			
Container-based	191	205	235
Freight car-based	79	50	30
<b>Total</b>	<b>270</b>	<b>255</b>	<b>265</b>
<b>Number of trains per day</b>			
Container-based	350	350	390
Freight car-based	630	390	290
<b>Total</b>	<b>980</b>	<b>740</b>	<b>680</b>
<b>Number of stations*</b>			
Container-based	139	140	100
Freight car-based	277	240	180

Note: The figures do not refer to the number of stations to be abolished. They represent the number of stations at which some measures must be taken to balance the budget.

## 5. Major challenges related to achieving plan

### (1) Raising required funds

As mentioned earlier, a large amount of funds is required to achieve the plan. We will do our best to appropriate internal funds, including assets generated by restructuring of our

business operations, but we will also request related governmental agencies to provide administrative and financial support, such as tax incentives, allocation of more funds from the Railway Development Fund, and increases in financing from the Japan Development Bank.





■ Freight Train Derailed in Great Hanshin Earthquake

(Transportation News)

## (2) Understanding and cooperation of JR passenger railways

It is indispensable to provide good-quality services to expand the transport volume of containers. Therefore, we will ask JR passenger railways for their understanding and cooperation concerning maintenance of rules on adjustment of timetables and rental fees for tracks underlying transport services. We will also examine the feasibility of jointly developing related businesses in the future.

## (3) New shinkansen projects

The existence of freight transport services appears to be overlooked in discussions on new shinkansen lines. We will ask the Japanese government to take concrete measures allowing us to provide stable services in railway sections where new shinkansen lines will be introduced.

## (4) Measures on narrow-gauge railway sections

The problems of narrow-gauge railway sections on trunk lines (for example, the Nagoya, Seikan and Keiyo districts) cannot be solved by us alone. Measures including administrative and financial measures, should be promoted based on the understanding and cooperation of all re-

lated parties.

## Conclusion

As discussed, the purpose of *Freight 21* is to establish a firm management foundation at Japan Freight Railway by quickly setting up a system to respond to demand for freight transport by rail in the future. To achieve the goal, we will take many new measures, including drastic reorganization of transport systems and expansion of the early retirement system. Implementation of these measures will require both company-wide efforts and understanding and cooperation by consignors, transport companies, passenger railways and related government agencies.

*Freight 21* has just started. All employees of Japan Freight Railway will try hard to achieve the goal of putting the company back into the black.

## Postscript

The Great Hanshin Earthquake occurred on 17 January 1995 when I was writing this article. The railways in the area have suffered unimaginably heavy damage, and it is difficult to say when they will be able to fully resume normal services. The Japanese economy has been heavily affected by direct damage from the quake itself but also by the hindrance to distribution in and through the Hanshin area.

The volume of transport by land passing through the area accounts for 25% of total transport volume in Japan, while that by rail forms 20% of the total volume. The break in the link between the Tokaido Line and the Sanyo Line at has stopped transportation between eastern and western Japan. Transportation has only been partially secured by using trucks and vessels between Himeji and Osaka and making a detour via the San-in district.

Our business operation will inevitably be damaged, and *Freight 21* is off to a rocky start. So far, we are doing our best to resume our normal transport services by securing as much transport capacity as possible.

We are sure the basic framework and direction of *Freight 21* will remain unchanged, but we may need to revise our risk management approach. ■



## Takakuni Masuda

Mr Masuda graduated from the Faculty of Law at Tokyo University in 1965. He joined JNR in the same year and obtained an MBA from UCLA in 1971. He has worked in the JNR finance and freight departments and joined JR Freight at privatization, where he is now a managing director.