

Provincial Railway Policy and the Third Sector Railways in Japan

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1. Introduction

The two major causes of the losses of the Japanese National Railways (JNR) were its freight service and the passenger service in provincial lines. From 1968 JNR had been trying to close 83 provincial lines which had a small quantity of traffic and to substitute bus services which need less operating costs. Nevertheless there were huge protests from rural residents and politicians against the closure of railway services, so that JNR was able to close only 120 kilometres of out of 2600 kilometres of planned line closures.

After 12 years, in 1980, the central government succeeded in getting the final approval of the JNR Rehabilitation Act in the Diet with the

intention of improving the financial situation of JNR and began to advance the closure of provincial lines. The targets of this closure plan was 83 lines, coincidentally the same number as 12 years previously. The government and JNR deliberated with local government on each line and all management of these lines was removed from JNR, and from JR, which were born after the privatisation of JNR.

Many local governments were against the closures, but they had to accept that JNR would no longer manage them. Where there was a strong wish for railway services to be maintained, they transferred them to the third sector railways, but the local governments must pay their share in accordance with the new policy. In other cases it was private bus service were substituted for the closed railway lines.

While this policy was coming into force, in April, 1987, JNR was privatised and broken up into six railway companies, the JR's. The transition policy to the third sector railways or buses and the privatisation policy are completely different policies, although they have two things in common in that they occurred in the same time, and they are both in corporate privatisation and regionalisation.

Provincial Railways in Japan have been managed not only by JNR but also by private railway companies. Now there are small private railway companies which run a total of 2600 kilometres of local lines, although some of them had been closed rapidly from 1965 to 1975, and the existing companies were rationalised to reduce expenses.

The reason for the loss on operating account of provincial lines is fundamentally the expansion of private car ownership. At the same time I should point out the population has been moving from the countryside to big cities during the time of high economic growth in Japan. In many rural areas the railway market has shrunk and a strong enemy, the car has appeared. Of course there are many

different reasons in individual rural lines, for example, competition with bus services, and the reduction of freight traffic according to changes in the industrial structure, and changes in the route of passenger traffic as the result of newly built railways or roads. This paper examines the provincial railway policy of JNR which has been completed now.

In November, 1980 the JNR Rehabilitation Act (Nihon Kokuyuu Tetsudo Keiei Saiken Sokushin Tokubetsu Sochihou) was concluded. The main point of this Act was measures to deal with rural lines. After the proclamation of that Act, the proclamation of the Ordinance and the Notice of the Transport Ministry were published and all the process was completed.

2. The rural line policies in The JNR Rehabilitation Act (1980)

The policies had five points as follows ;

The first is that it defined what constituted rural lines (Figure - 1). Up to that point, the government and Japan National Railway (JNR) had used some different means of distinction such as "rural line system" / 6,000 kilometres (1968), "provincial lines" / 11,200 kilometres (1970), "rural low density lines" / 3,400 kilometres (1972), "provincial lines" / 9,200 kilometres (1976). In particular, JNR had separated its lines into two; the trunk line system and the rural lines. It had managed them in divisional accounting separately. Therefore the division by this Act was an epoch making affair.

The Ordinance of the JNR Rehabilitation Act decided on the definitions of the Trunk Line Network, Provincial Lines, and Selected Provincial Lines. "Trunk Line Network" consists of the lines connecting large cities (population over 100,000), which have more than

30 passenger route kilometres and over 4000 daily passenger traffic density. The lines which branch off from these are included in the Trunk Line Network. Also these lines which have a density of freight traffic of more than 4000 tons are included in it.

Provincial Lines have a density of passenger traffic of less than 8000 and are not included in the Trunk Line Network. There are 175 Provincial Lines (10160 kilometres).

Secondly the Ordinance formulated the standard for the closure of Provincial Lines. It decided the "Selected Provincial Lines" which should be closed as they have density of passenger traffic of less than 4000. However if any such line had one of these requirements, it would be exempted :

- 1) passenger numbers at peak times (between two stations) were more than 1000 per hour in one direction,
- 2) there was no existing road, on which to run a substitution bus service,
- 3) the substitution road for the railways would be closed for more than ten days a year because of heavy snow,
- 4) average passenger kilometre per person was more than 30 kilometres and the density of passenger traffic was more than 1000.

From 1 to 3 are the cases where it is difficult to substitute bus services. The standard of 1000 passengers at peak times was decided by a calculation in which using a bus with the capacity of 80 people, it would need 13 buses at 5 minute intervals and it would be difficult to do. 4 was decided considering the specific requirements of e.g. Hokkaido Development Agency etc. in cases where it was not suitable to substitute bus service where the density of passenger traffics low

but where the distance of the service is long. As a result many lines were exempted from Selected Provincial Lines.

The reason why the standard of closure was decided at the density point of 4000 persons is that below this point railways probably will be inefficient compared with buses. The standard was decided by the report of the Council for Transport Policy (un - sei - shin) in January, 1979.

The third point was the closure plan (substitution of bus service) would be done gradually. The standard of "Selected Provincial Line" was decided as a fundamental standard, and within the 175 lines in this category there were two further pertinent conditions forming the "Selected Lines" (the First Selection) :

- 1) lines with passenger route kilometres shorter than 30 kilometres and density of passenger traffic of less than 2000 persons, although linking lines and coal transport lines were not included. As a result the Ise, Itoda, Kamiyamada, Saga, Utashinai and Horonai lines were excluded.
- 2) except for those in 1), lines which have passenger route kilometres less than 50 kilometres, and density of passenger traffic of less than 500.

As a result of this First Selection 40 lines, totalling a length of 729 kilometres were identified. Those lines were expected to be closed by the summer of 1983. In December, 1979, the Cabinet agreed about "the Rehabilitation of JNR", and it was further decided that those lines in which the density of passenger traffic has less than 2000 would be closed by 1985. This is the Second Selection, involving over 30 lines in the closure plan. In table - 1 and figure - 1, the outline of the division of lines concerning density of traffic and route kilometres is shown.

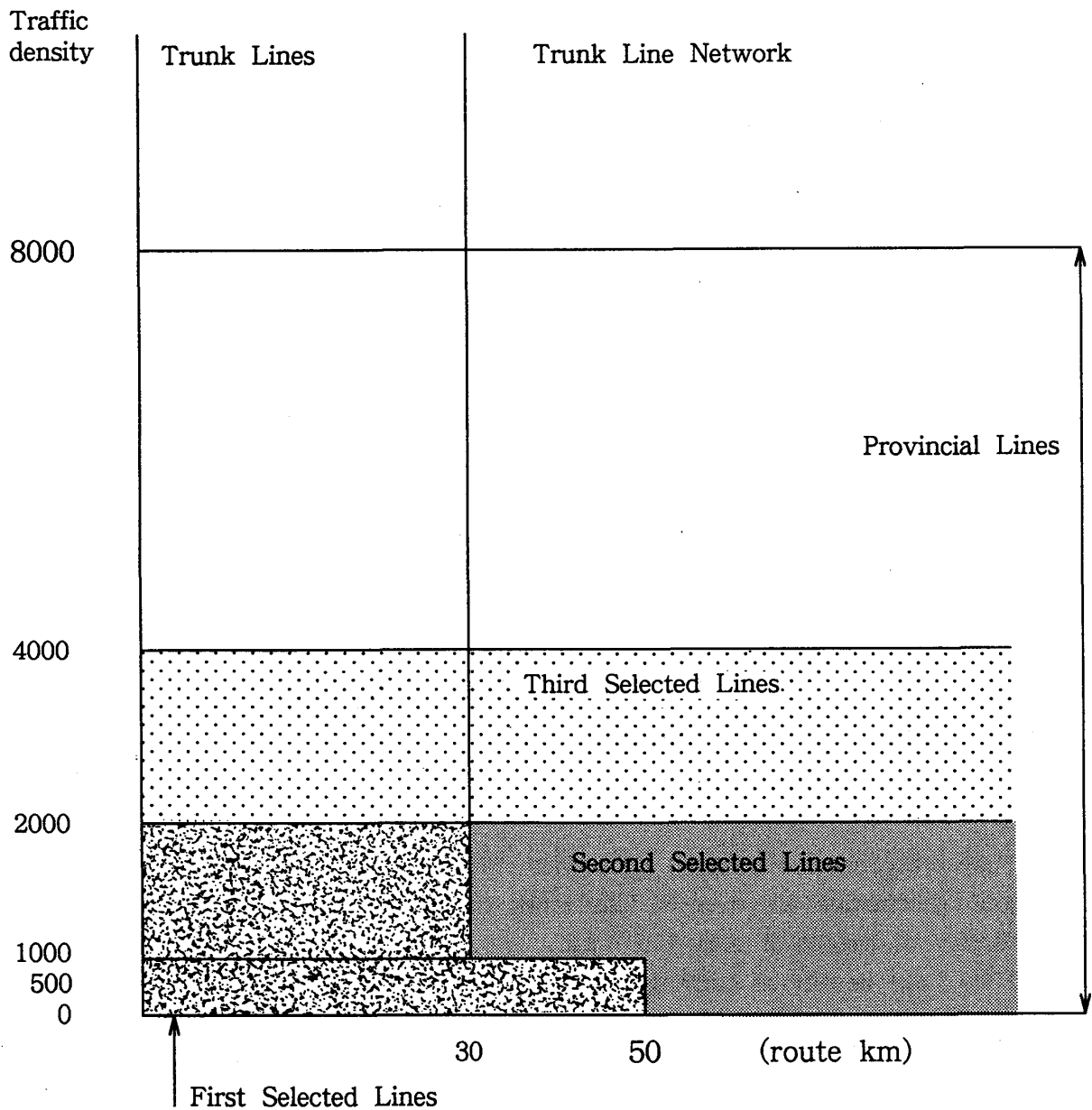
Table -1 separation of lines and line names

separation		lines	notes
Trunk Lines	Trunk Line Network ¹⁾ (51 lines 11,687 km)	Hakodate, Chitose, Muroran, Touhoku, Joban, Ouu, Uetsu, Banetsusai, Sengoku, Senzan, Jyoetsu, Shinetsu, Takasaki, Ryumou, Soubu, Uchibou, Tokaido, Musashino, Nanbu, Yokohama, Sagami, Gotenba, Chuo, Shinonoi, Hokuriku, Sanyo, Kansai, Hanwa, Hakubi, San - in, Yosan, Koutoku, Kagoshima, Nippo, Nagasaki, Fukuchi - yama, Nemuro, Mito, Kosei, Nara, Kisei, Kure, Dosan, Saseho, Yubari, Hakushin, Yamanote, Oume, Uno, Ube, Mine	
	others (15 lines 600 km)	Akabane, Itsukaichi, Tsurumi, Negishi, Yokosuka, Kawagoe, Sotobou, Narita, Itou, Kusatsu, Ousakakanjyo, Sakurajimo, Katamachi, Sasaguri, Chikui,	traffic density over 8,000
Provincial lines ²⁾ (175 lines, 10,166.5 km)		Senmou, Rumoi, Hidaka, Oominato, Kesenuma, Aterazawa, Ojika, Rikuuhigashi, Ishinomaki, Tadami, Yahiko, Echigo, Agatsuma, Hakko, Kururi, Tougane, Nikko, Ooito, Iiyama, Iida, Minobu, Oota, Taketoyo, Takayama, Jyohana, Toyamakou, Himi, Nanao, Kakogawa, Akou, Bantan, Wakayama, Maizuru, Kisugi, Sankou, Kibi, Tsuyama, Tokoshima, Naruto, Mugi, Yodo, Gantoku, Chihuhou, Oomura, Kyudai, Ibusuki - makurazaki, Houhi, Sekihoku, Souya, Furano, Sassyo, Esashi, Tsugaru, Hachinohe, Tazawako, Oofunato, Kamaishi, Kitakami, Hanawa, Yamada, Gonou, Yonezaka, Rikousai, Aterazawa, Banetsuhigashi, Suigun, Kashima, Karasuyama, Koumi, Obama, Kishin, Sanguu, Sakurai, Sakai, Inbi, Fukuen, Geibi, Uchiko, Kabe, Yamaguchi, Onoda, Karatsu, Kashii, Gotouji, Hitahikoyama, Misumi, Hisatsu, Kittsu, Nichinan, Shinmei, Iwashimizu, Meisyo,	175 lines have extra charges : They had traffic density less than 4000, but were exempt - ed from closure because of 1) -4) (p.4).
Third		Ita, Tagawa, Miyata, Yunomae, Kajiya, Nagai,	

Selected Lines ³⁾ (12 lines, 338.9 km)	Okata, Noto, Miyazu, Taisya, Nakamura,	
Second Selected Lines ⁴⁾ (31 lines, 2,089.2 km)	Shibetsu, Chihoku, Shihoro, Hiroo, Yuno, Nayoro, Uhoru, Tenhoku, Utashinai, Horonai, Funai, Iburi, Sedana, Matsumae, Aniai, Aizu, Ashio, Mooka, Futamata, Ise, Etsuminan, Etsumihoku, Gannichi, Itoda, Kamiyamada, Saga, Matsuura, Takachiho, Miyanojyo, Yamano, Oosumi, Shibushi, Urushio.	planned to be closed from 1983 to 1985
First Selected Lines ⁵⁾ (40 lines 729.1 km)	Shiranui, Aioi, Syokotsu, Bikou, Kouhinnan, Kouhinhoku, Manji, Iwanai, Oohata, Kuji, Miyako, Sakari, Kakunodate, Kuroishi, Yajima, Niccyu, Marumiri, Akatani, Uonuma, Kihara, Shimizukou, Akechi, Tarumi, Kamioka, Takasago, Miki, Houjyo, Shigaraki, Kurayoshi, Wakasa, omatsujima, Kagetsu, Soeda, Muroki, Katsuta, Amagi, Miyahara, Takamori, Yabe, Tsuma.	planned to be closed by Summer, 1983
others (4 lines, 20 km)	Temiya, Shiogama, Keiyou, Shinminato.	Freight Lines

- 1) They are connected between cities with 100,000 population of (main cities), passenger route kilometres are over 30 kilometres, density of passengers of over 4,000, and density of freight of over 4,000 tons.
- 2) They have density of passenger traffic of less than 8,000 (average per line), and are not included in the trunk line network.
- 3) They are from the provincial lines which have density of passenger traffic of less than 4,000 (average per line), and have the possibility of substitution by bus services.
- 4) They are from the Selected Provincial lines, have passenger route kilometre shorter than 30 kilometres, and traffic density of passenger of less than 2,000, except linking lines and coal transport lines.
- 5) They are from the Selected Provincial Lines, which have passenger route kilometre less than 30 kilometres, and density of passenger traffic of less than 2,000 (average per line), excluding connecting lines and coal transport lines, and which have route kilometre of less than 50 kilometres, and density of passenger traffic of less than 500.

Figure – 1 Outline of division of lines



The calculation of density of traffic is the following :

passenger kilometre in a standard time period (1977–1979) ÷
 (operating days in the standard time period × passenger route
 kilometres).

If there was some possibility of increasing traffic in the future (for example, a plan for the development of residential areas or the

foundation of schools etc.), some estimated addition could be included. As a result the Kajiya, and Urushio lines were excluded from the First Selection.

The fourth point was that it decided how to close rural line, consisting of three steps.

- 1) Selection of the closure lines ; JNR selects and the Minister of Transport approves it. The prefecture governor can comment on it.
- 2) Establishment of a conference about transport in the selected rural area. ; How to maintain the necessary public transport after the closure of rural lines. Such a conference would include the government public safety commissioner, the Hokkaido Development Board (in the case where the closure is in Hokkaido), the Ministry of Transport, the Ministry of Construction, JNR, Prefectures, municipalities (where the stations are.) and prefecture police.
- 3) Closure with the agreement of conference. However JNR would apply for the closure without the agreement of conference after the passing of two years. This was a major new difference.

The fifth point was that it decided substitution transport (by bus service or other rural lines) after the closure of JNR lines. This will be mention later.

3. History of the rural line policies

I would like to mention about the history of the rural line policies up to the Rehabilitation Act. The concept of rationalisation of rural lines began in 1953 when "Upon a plan of rationalisation management

of each line" simplified the means of decisions on the maintenance of rural lines and jobs. The policy was led by the decentralised system of management centre (Kanrisho, Unyuku, Kanricyo) which manage each line on a unified basis. Attempts were made to use railcars on rural lines as well. However these policies, which had had a purpose of continuity of lines, reached their limits soon.

It was the view "What should we do on the traffic of rural lines?" of the JNR Consultative Committee which showed the way for the policy of the closure of rural lines (substitution bus services) in September, 1968.(Table - 2)

Table -2 History of the policy of rural lines

month/year	
Sep. / 1968	JNR Consultative Committee decided "What should we do on the traffic of rural lines?" in which they insisted on the separation of 145 lines of rural lines (6,000 km) and asked for the closure of 83 of those lines (2,600 km).
Dec. / 1969	Koubukuro line (10.1 km) was closed. 11 lines (121.2 km) had been closed by June of 1972.
Dec. / 1970	JNR Consultative Committee decided "How should we manage JNR?" and JNR Account System Survey Committee answered with the separation of trunk lines (10,200 km) and provincial lines (11,200 km).
April / 1971	Separation of management of trunk and provincial lines according to these answers was begun.
Jun. / 1972	The government decided "the Outline of JNR Finance Rehabilitation" in which was proposed the closure of low density lines (3,400 km) within five years.
March / 1972	JNR bills which would have enforced "the Outline of JNR Finance Rehabilitation" were discarded in the 86th Diet.
March / 1974	The Cabinet decided "the fundamental policies on JNR Finance Rehabilitation" which promoted the closure of low density provincial lines (with the agreements of local authorities).
Dec. / 1975	The Cabinet agreed the new "Outlines of JNR Finance Rehabilitation Policies" in which the provincial lines were examined on JNR's responsibility.

April / 1976	JNR amended the selection of lines and the total route kilometre of the provincial lines was 9,200 kilometres.
Oct. / 1976	The Committee of JNR Provincial Line Problems (CJPLP) was set up in the Deliberative Council of Traffic Policy which was a public advisory body.
Jan. / 1977	CJPLP made an interim report about the choice of provincial line policies for the local.
Jan. / 1979	CJPLP made the final report.
Dec. / 1979	The Cabinet agreed about "the JNR Rehabilitation", and decided the outline of "the Rehabilitation Act" which was based on CJPLP's report and JNR's intention.
Feb. / 1980	The government introduced the bill of the JNR Rehabilitation Act to the Diet. The contents were an extra charge system for the Provincial Lines and the closure of the Selected Provincial Lines.
May / 1980	The bill was voted down, because the Diet was dissolved.
July / 1980	The government introduced the same bill to the Diet.
Nov. / 1980	"The JNR Rehabilitation Act" was given final approval by the 93-rd Diet.
Dec. / 1980	"The JNR Rehabilitation Act" was promulgated and enforced.
March / 1981	The Ordinance of Rehabilitation Act was promulgated and enforced. The minister notified it. The definition of the Provincial Lines and the Selected Provincial Lines (the standard of closure) were cleared by it.
April / 1981	The government approved the selection of The Provincial Lines, 175 lines (10,160 km).
June / 1981	JNR applied to approve the Selected Provincial Lines.
Sep. / 1981	The Cabinet agreed the closure of rural lines which JNR applied.
Oct. / 1983	Shiranui line in Hokkaido was closed after substitution by a bus service. This was the first closed line under the Rehabilitation Act.
April / 1984	Kuji, Miyako, and Sakari lines in the Tohoku Region were changed into the third sector railway Sanriku Railway which was the first case of the third sector railway in rural areas.
April / 1987	JNR was privatised and passenger traffic was left to six passenger railway companies.
April / 1990	All rural lines which were the objects of closures had been closed (substituted by buses or the third sector railways).

Overall, the substitution bus services were proposed for 83 lines (total length 2,600 kilometres) out of 145 rural lines (total length 6,000 km). Afterwards the term "83 lines" became a synonym for

unprofitable lines. The policy set the standard for unprofitable railways compared to bus services, and examined the possibility of substitute transport for each line. Moreover it referred to construction of new lines and suggested the fundamental idea of the Rehabilitation Act.

In fact 11 lines (121.2 km) out of these 83 lines were closed from December, 1969 to June, 1972. A summary of them shows in table -3.

Table -3 Closure of the rural lines (from Dec., 1969 to Jan., 1976)

line	section	route km	month, year
Koubukuro	Kotake - Futase, Koubukuro -	10.1	Dec. 1969
Konhoku	Ikisu	12.8	Dec. 1970
Karatsu	Syari - Koshikawa	4.1	Aug. 1971
Sechibaru	Yamamoto - Kisidake	6.7	Dec. 1971
Usunoura	Hizenyoshii - Sechibaru	3.8	Dec. 1971
Kajiyabara	Sasa - Usunobara	6.9	Jan. 1972
Mikuni	Itano - Kajiyabara	9.7	March 1972
Sasayama	Kanatsu - Mikunikou	17.6	March 1972
Ujina	Sasayamaguchi - Fukuzumi	2.4	April 1972
Kawamata	Hiroshima - Kamiouoka	12.2	May 1972
Sassyo	Matsukawa - Iwashirokawamata Shintozugawa - Ishikarinumata	34.9	June 1972
Subtotal	11 lines (of 83 lines)	121.2	
Others	11 lines (not included in the 83)	35.1	
Total	22 lines	156.3	

* Ihuri line (Kyogoku - Wakikata, 7.5 km), Agatsuma line (Naganohara - Taishi, 5.8 km) etc.

The closure of these 11 lines had been in preparation for a long time and at great expenses, but the share of these lines was only 4.6% of JNR's total route kilometres.

From 1971 JNR lines were separated into the Trunk Lines, 10,200

kilometres and the Provincial Lines, 11,200 kilometres (later corrected to 9,200 kilometres), and they were then managed separately. The separated accounting overcame the shortcoming of divided accounting of each line which was used in JNR, and improved its precision as a public material. Afterward it was possible for JNR to publish accounting results (statements of profit and loss) in three parts ; Trunk Lines, Provincial Lines and Motorcars. As a result people's understanding of rural line problems had advanced very rapidly. This would be an effect of "the disclosure of management". It was recognized by everybody that the rural line problem was that there was a structural loss, that is to say there were problems beyond JNR's manegemental endeavour, and the rate of loss onrural lines was not the highest category of JNR's losses. It was 31% from 1971 to 1975. (Table -4)

Table -4 Change of separated accounting (profit and loss)
(¥ billion)

Financial year	Trunk Lines	Provincial Lines	Motorcars	Total
1971/72	-107.0	-117.2	-10.0	-234.2
1972/73	-196.7	-133.8	-11.0	-341.5
1973/74	-286.6	-154.4	-13.4	-454.4
1974/75	-451.4	-182.3	-17.1	-650.8
1975/76	-667.2	-225.5	-22.0	-914.7
Total	-1708.9	-813.2	-73.5	-2595.6
(%)	(66)	(31)	(3)	(100)

Source : JNR Audit Reports.

In the first half of 1970s the government proposed the closure of provincial low density lines (3,400 km) , but it was voted down at the Diet andthe government could not close them. Although it was

decided in the Cabinet on condition that local authorities agreement was needed, it proved to be of no effect. In the late 70s' the Committee of JNR Provincial Line Problems was set up in the Deliberative Council of Traffic Policy which was a public advisory body, and began to deliberate on those problems. The plan of "the JNR Rehabilitation Act" was prepared on the basis of this Committee's report.

The bill of "the Rehabilitation Act" was proposed to the 91-st Diet in Feb., 1980, but the Diet was dissolved and the bill was voted down in May. After the joint election of representatives of the Lower and Upper houses the bill was proposed again to the Diet in July, 1980 and in the 93rd Diet it was under deliberation in September and was approved in November, 1980. In that Diet, the LDP was the majority party and it was in favour of this bill together with the New Liberal Club. The other parties were against it. In fact the details of the Act were left to the government Ordinances. Therefore the negotiations between the Transport Ministry and other ministries attained great significance in the terms decided for the Act. As result it was said that the intention of the Transport Ministry were carried out very well, even though other ministries' intentions were taken into consideration.

After the proposal of "83 lines", and contrary to the closure of rural lines, the construction of new rural lines was still being carried out. From 1968 to 1975 there were 16 rural lines (267.6 km) was opened or extended, such as the Marumori, Sakari, Kakunodate, Tadami, Takachiho, Kuji, and Sankou lines. During that time some rural lines were closed totalling 156.3 kilometres (table -2), but the amount of construction kilometres was higher than the closed kilometres. "The Rehabilitation Act" forbade that JNR should build rural lines in actual fact and this problem came to an end. Here in table -5 are shown the

names of the lines whose construction stopped by JNR.

Table -5 Constructing rural lines

lines	km	lines	km	lines	km
Iwanai	44	Yagan	50	Ihara	41
Ashibetsu	31	Hokuetsuhoku	67	Sugumo	82
Kitatokachi	72	Sakuma	35	Asa	113
Meiu	56	Nakatsugawa	37	Imafuku	54
Bikou	58	Himi	25	Ganjitsuhoku	41
Kouhin	51	Gero	48	Yusubaru	8
Shiranuka	43	Tarumi	12	Yobuko	60
Konpoku	44	Kojuru	57	Okuni	44
Kuji	32	Miyahuku	31	Hokusyo	13
Sakari	15	Sakamoto	23	Takachiho	23
Omoto	10	Chiju	54	Etsumi	24
Youkaku	35	Nansyo	43		
				Total 35 lines 1,471 km	

4. Substitute Policies

What is the idea of "the JNR Rehabilitation Act" to substitute other transport for closed rural railway lines? The answer is shown in Figure -2. In the case of Selected Provincial Lines for which closures are the only one principle of JNR lines (Figure -2②), selection was allowed for the substitution of bus services or that other railway companies except JNR (private railway companies). When bus services were selected as the substitution, those bus services should be managed by the other private bus companies. The government would give a grant for transition to the bus company, and subsidise the complete loss of operation cost for five years.

When it was selected to be continued as a Selected Provincial

Figure – 2 Choice and outlines of subsidisation

① In the case of the Provincial Lines except Selected Provincial Lines

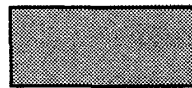
	1 JNR	2 Others
I Railway	I - 1	I - 2
II Bus		

② In the case of the Selected Provincial Lines

	1 JNR	2 Others
I Railway		I - 2'
II Bus	II - 1	II - 2

③ In the case of line construction (equivalent to the Selected Provincial Lines)

	1 JNR	2 Others
I Railway		I - 2''
II Bus		



This shows the area of possible choice.

Note ; I - 1 Subsidy for Provincial Lines operation cost. Set up extra fare

I - 2 Transition or loan to private railway companies (including the Third Sector) (acquisition for value)

I - 2' ① Transition or loan to private railway companies (including the Third Sector) (gratuitous transaction)

② Subsidy for railway operation cost (half of loss, for five years)

③ Grants for transition

I - 2'' ① Reopen construction (lifting frozen budget)

② Transition or loan to private railway companies (including the Third Sector)

③ Grants for transition

II - 1 ① Subsidy for bus operation cost (all of loss, for five years)

② Grants for transition

railway, it is possible to give or lend it free to a private railway company. In that case the subsidy for loss of operation cost is decided at half of the actual figure for five years. This difference shows the propensity to prefer bus to railway.

It is possible to give or lend other provincial lines except Selected

companies do not have any intention to manage bus services for profit, local governments can manage them as if there had been a "disaster" from the closure of JNR lines.

For bus companies the substitution bus services are not particularly attractive but at least they are not unprofitable.

6. The essence of "the Third Sector"

If local groups insist on keeping railway services, the JNR line is substituted by a private railway company. When a private railway company does not want to manage that line, the local area must establish a new private company. Typically these new railway companies do not have enough profit, and tend to need public money to support them. The Regulation Authority leads to the same conclusion, and lets them establish "the Third Sector" company.

In other words, the Third Sector can be both a public and private joint company. In general the kinds of enterprises are separated into three: private company, public company, and public-private joint owned company, depending on the character of the ownership. Usually the profit companies are private companies. JNR and TITP (Eidan) provide the public corporation. The public-private joint owned companies are Rinkai Railways, Senboku Railway, and Hokuso Railway. Despite the variations in ownership, they are all joint stock companies and have no differences in legal statute.

Here is a table of the lines which are managed as railway companies after the First Decision. (Table -7) There are two lines which have substituted private companies, and the others are all the third sectors, joint companies of public and private. These are in conjunction with local governments such as prefectures, cities, towns, villages, and

Table -7 Lines which became the selected railway mode from the first selected lines

Kinds of enterprises		Substitution for selected Provincial lines		Line Construction	
		company	JNR line name	company	planed name
The Third Sector	Semi - public Corporation	Sanriku	Kuji, Sakari	Sanriku	Kuji, Sakari
		Miki	Miki		
		Hojyo	Hojyo		
		Akita - Nairiku - Jyukan	Kakunodate, Aniai	Akita - Nairiku - Jyukan	Youkaku
	Yurikougen	Yajima			
	Minamiaso	Takamori			
	Akechi	Akechi			
	Amagi	Amagi			
				Yagan Miyahuku Hokuetsu - Express	Yagan Miyahuku Hokuetsuhoku
				Kashima - Rinkai, Aichi - Kanjyo	Kashima Okata Seto
	Semi - private company	Tarumi Kamioka Abukuma Express	Tarumi Kamioka Marumori	Abukuma Exp.	Marumori
	private company	Kounan Railway Shimokita Kotsu	Kuroishi Oohata		

note ; From the name of the railway companies the word "Railway" has been omitted. Aniai line is a Second Selected Line.

private companies.

However the rates of investment are different, and we must pay attention as to which body is the main shareholder or bigger shareholder. From this point of view Kamioka Railway, Tarumi

Railway, and Abukuma Express have a main shareholder. For example, Kamioka Railway's main shareholder is Mitsui Kinzoku Kougyo (Mitsui Materials) which has 51% of all shares, while the local authorities – 2 prefectures and 4 towns and villages – have 49%. Seino Railway has 51% of all shares of Tarumi Railway, and Sumitomo Cement Company, the main user, and local authorities (one prefecture and 9 towns and villages) each have 24%. Fukushima Kotsu has 51% of all shares of Abukuma Express and local authorities (2 prefectures and 22 cities, towns, and villages) have 49%.

These three companies are the third sectors which have a private character. It is worthy of attention that some established private companies such as Kounan Railway, Shimokita Kotsu, Seino Railway, and Fukushima Kothu, showed their desire to manage those railways. Especially Kounan Railway wanted to substitute the Kuroishi line and Yazima line, but this plan was not realised. It was said that Shimokita Kotsu decided to substitute the Oohata line, because another company, Nanbu – Jyukan Railway had a desire to get it, and Shimokita Kotsu wanted to save its bus network. Fukushima Kotsu stressed its railway over bus services.

Sanriku, Miki, Houzyo, Yuri – Kougen, Akita – Nairiku – Jyukan Railways are the third sector railways in which local governments invested more than half of the shares. Sanriku Railways was established by Iwate prefecture (48% of investment), and other 28 cities, towns, and villages (totalling 27%). These local authorities therefore have 75% of all shares. For Akita – Nairiku – Jyukan Railways 77% of its shares are held by local authorities, for Yurikougen – 75%, for Miki and Hojyo – 51%. Therefore they are in nature all public enterprises. Public and private joint owned enterprises are often actually public enterprises, as those enterprises have only a small

amount of investment from private sector. In the case of Akechi, Takamori and Amagi lines are also such third sector railways. Especially for Takamori and Amagi lines the prefectures did not invest, and only cities, towns and villages did. This fact shows the difficulty of their situation clearly.

There are thus two sorts of third sector: semi-public enterprises and semi-private ones. They will, however, hardly develop their "strong points of joint enterprises". And, reality, there are only two different kinds of enterprises; public and private enterprises.

The capital of those third sectors are all 100 million yen, but Sanriku Railways has 300 million yen of capital and Kamioka Railways has 200 million yen. The amount of investment by private companies is 50 million yen on average, and the largest is 100 million yen by Mitsui Kinzuko Kougyo. They are not large sums of investment, because the fundamental capital cost, the construction cost, is paid out of the national treasury. Each enterprise borrowed all infrastructure without cost. Therefore the nature of these are one kind of operating companies. It happens that unoperating service dichotomy between infrastructure and operation has occurred. Although, of course the depreciation expense will be paid by each enterprise. Unless it pays this expense, it will have to write off its asset in the future and will have to close the services.

In principle, the third sector is a corporation created by a 50-50 partner-ship between local government and the private sector - in some cases railway users can become shareholders. Government and JNR did not become involved in the investment - if funds were insufficient from private subscribers then the local government share was increased.

considering speeding their trains up. Despite an initial increase in train usage because of these measures the longer term view is still not optimistic, since it is felt the private car will continue to be a threat to rail travel.

Each new third sector company starting up bought "rail buses" and small rail cars to replace the heavy rolling stock operated by JNR. These new units use half the power of the old ones and in addition their repair costs are estimated to be a third of the equipment they replaced. This replacement also gave an opportunity to re-design to be attractive to tourists and sightseers.

This situation reflects the enthusiasm of the local communities involved who did not want to lose their rail link. Decision-making on the future of each line which has been retained is the responsibility of local authority and the residents. They must decide whether to turn to bus operation if costs become too great, or bear the losses. Since passenger volume on these lines is at a level more appropriate for buses rather than trains, the likelihood of financial viability is small. Even so, out of the 28 companies who had been trading long enough to register annual accounts in 1989, 8 of them had actually turned in a profit.

Compared with the JNR era, overall revenue for these lines had increased considerably. Sanriku Railway, the first of the third sector companies in this case, started in 1984, is a shining example, having recorded profits in all five years of operation. It operates 107 kilometers of line, linking places on a north/south route along the east coast in the Tohoku Region. Transport was not well developed here and the local residents had been campaigning for 50 years to get their own rail link. Some of the families living in the area had three generations of campaigners in them!

The success here was surprising since construction of the line had been slow and the partially completed section, taken over by Sanriku Railways in 1984, was in a sparsely populated area. Despite this inauspicious start, after the central government completed the unfinished sections of the line, Sanriku started providing a service. Despite the fact that provision of a good road network had changed travel potential in the area significantly since campaigning for a rail link had started 50 years previously, the local residents welcomed this new facility with open arms. The first year's usage was much better than estimated, a large volume of this resulting from student users, who found the rail link between homes near to the line and their school convenient. The second year of trading was not so good, with passenger traffic falling off due to severe competition with the private car. To combat this, Sanriku Railway introduced a number of innovative measures to attract people back to the trains. These included special services for daytime shoppers, services for those needing hospital treatment and a "Ride - the - Railways" campaign aimed at those people who lived close to the line.

Although not providing an answer to all the problems of rural rail networks, this model does show that it is possible to revive interest in a local service facing closure. In this instance it also provides a benefit to JR by helping to reduce its deficits by it giving up local lines losing money.

As mentioned before, the third sector railways are based roughly on an operating services dichotomy, in which central government should bear the infrastructure cost of the project, with the local authority looking after the day to day management. Using this framework, unprofitable regional railway services can be operated¹⁾.

7. "Expectation" of Line Construction

The rural lines of JNR were built according to the Railway Building Act (1922). The budget for constructing lines which came under the Selected Provincial Lines was frozen when the Rehabilitation Act was decided. Some of them were frozen just before the construction was completed. The Rehabilitation Act found a way to save them. It means in cases where the rural residents decide to manage the line as the third sector or so on, the central government will enable construction to start again, and there after it the line, when completed, would be lent without cost. Some sections of Kuzi and Sakari lines which were transferred to the Sanriku Railway used to be such unfinished sections.

There were also some lines constructed so as to be opened as the third sector railways. Yagan, Miyafuku Railways and Hokuetsu Express are such examples. Abukuma Express and Akita - Nairiku - Jyukan Railways have part of their lines as those formerly unfinished sections of lines.

Yagan, Miyahuku, Hokuetsu are third sector railways which are led by local governments. The investment rates by local governments are very high; for Yagan - 85%, and for Miyafuku - 84%. Especially they transformed Yagan railways by electrification, since it connected with Toubu Railways. The investment rates of Toubu Railway Company and Aizu Omnibus Company are not significant. Miyafuku Railway also wanted to be transformed by electrification.

1) Mitsuhide Imashiro, Public and Private Commuter Railways in Japan, Erich Staisch, Suburban Railways - a chance for our cities, UITP. Nov. International Conference in Berlin, 1989.

Abukuma Express had a plan that the Marumori line would be completed and opened totally after its electrification. It uses the same line from Fukushima to Sendai as JNR – JR. Akita – Nairiku – Jyukan Railway connects with three lines, Kakunodate line (the First Selected line), Aniai line (the Second Selected line) and Youkaku line (line being constructed). It is open now, but the traffic density is at a very low level. In the Sanriku railway case the government paid the grant for the transition of the constructed line to the third sector railway. The amount was one third of that of the Selected Provincial Lines, 10 million yen per 1 kilometre. I think it had no good reason to pay such a grant, because there was no line to be transferred. There was only a plan to build a line whose budget had been frozen and after it was built it did not become a JNR line.

In addition to these, the Kashima line was opened by Kashima – Rinkai Railway. This line had been expected to be in greater demand than the Selected Provincial line, and JNR did not freeze its construction. Although in line with the Emergency Proposals of the JNR Restructuring Supervisory Committee, JNR refused to have it, and its management was left to the Kashima – Rinkai Railway. This is a third sector company which was built with JNR, local government and consignor company investment. JNR's investment share being 36%. JNR also refused to take the Okata – Seto line on the same basis and asked the locals to manage it.

There are many movements to transfer lines to be constructed lines to the third sector railways, but not all have been realised. Some of the unfinished lines have been left after the construction of their tunnels was completed without any chance to use them at all. The central government should take the responsibility for building such useless lines.

8. Conclusion

The policies of closure and substitution for the Selected Provincial Lines of JNR – JRs were carried out according to the original plans. Since the closures none of the bus services or the third sector railways have closed up to now. The substitution grants succeeded in securing local governments' agreements for closure and the government subsidies for operating cost have had direct effect on decisions to manage buses or the third sector railways. The final time limit for the supplied subsidies is, however coming soon, and it is easy to imagine their management difficulties in the future.

At the beginning of the third sector railways the traffic volume increased in many lines, because they increased the frequency of railway services after JNR's poor service. The fares of the third sector railways are higher than JNR fares, but they are still cheaper than private bus services, so that passengers have moved from private buses to the new railways. Thus in the case of the third sector railways there are some benefits for users in spite of the higher cost, although the traffic volume has reached a turning point and has fallen off several years after their opening. This situation is explained in the appendix statistics.

In general the rate of decrease of passengers according to the increase of fare is high in rural railways, and this is a cause of difficulties in rising fares. The cost of management of the third sector railways for local governments will increase. The increase of passengers when JNR lines were substituted by third sector railways was a only transitory phenomenon, and could not stop the trend of the long term traffic volume decrease. At the time when the third sector railways were opened, there were some opinions that the

problems of rural public transport had already been solved, or that the substance of the problems was the JNR management system itself. However, as we pointed out, the effect of the substitution of the third sector railways was only transitory.

New problems of the third sector railway managements are occurring now. On the 14th of May, 1991, the JR trains which were using the same rail lines of the third sector railway, Shigaraki – Kougen Railway, full of passengers crashed into the Shigaraki – Kougen Railcars head – on, and 42 were killed, and 614 injured. There had been few such serious accidents as this in Japan in recent times.

The ignoraning of a traffic signal by the Shigaraki railcars led to the accident directly, but I suppose there were also at least two hidden causes of it. The first was that the Shigaraki – Kougen Railway had to carry an unprecedented number of passengers, as the local government was holding a world exhibition. One of the purposes of the exhibition was increase the income of the Shigaraki – Kougen Railway. The railway company had suffered physical and mental pressure in carrying so many passengers, because it had had very low traffic capacity. The second was that there were not any engineers who were skilled in operating a new automatic signal system. That automatic traffic signal system itself had no intrinsic faults, but, since its installation the railway company had had some troubles operating it and they had not been able to cope with them.

How to keep staff is a hard task for the third sector railways. In many cases the depend upon the employment of the retired staff of JNR, but they are already older and it is difficult for them to learn new skills. It is also predicted that in the future the number of the retired available will decrease as a result of the age – structure of the former JNR employees . These staffing problems are caused

fundamentally by the low level of the Third Sector Railways' wages.

The decrease or the stagnation of the traffic volume of rural railways in these five years has been caused by the plural car ownership in many households. As a result housewives can use cars daily, for shopping, for picking up high – school children, and for driving the elderly to hospitals. It became usual to drive transportation poors by cars. Of course this trend has been accentuated by the good maintenance of the road networks.

In many cases rural residents had been against closures of railways and had desired that services be continued by the third sector railways. However, after the initial boom of the third sector, they have not continued to use these rail services. In the case of bus services substituted for railways, the bus services are not used by rural residents either. No public transport is more convenient than cars, despite how much they try to improve their services. If it is to be recognised that public transport has a social value and had better be continued, it should be kept not by train but by bus service which has lower costs. And rules must be established for sharing the cost of the social value.

Some local governments were against the closure of railways, because if railways had been closed, the names of towns would have disappeared from the JNR time table and it would have caused their decline. However, in fact after the closures there have been few such influences. Contrary to expectations, it has been the railways that have easily disappeared from their memory.

Are there any possibilities to substitute bus services after the closure of the third sector railways when the traffic volume will fall? This might be very difficult to do. Even if the traffic is going down, the pride of governors of local governments or members of assemblies

may prevent the closing of the third sector railways. It might also be unfavourable to their election results to close them. Therefore the subsidies for the third sector railways might tend to increase, because the traffic volume is falling, fares cannot be raised any more, and costs may not be cut because rationalisation has reached its limit.

The policy for provincial railways is the transfer of responsibilities from the central government to local. This is the policy of "regionalisation" of railways and fundamentally is proper and appropriate. We can find the same policies widely practised in EC countries, although in Japan it has been insufficient as local governments do not have enough financial resources.

Of course this policy has had an effect on the JNR - JRs in saving costs. However the closed lines were less than half of the total of provincial lines so that the effect has been not significant. In addition while the overall traffic volume is falling, the policy resulted in an outbreak of new lines with traffic density less than 4000. These lines now have no grounds on which to be closed. The JNR Rehabilitation Act decided on the standard of closure at that time, so it was a temporary policy. How to maintain unprofitable lines which will increase in the future or how to close these lines following the correct legal procedure is a new task. The principles should be established as to how to share the cost of lines with traffic density of less than 4000, which have certain social reasons to be continued and to be managed as JNR - JRs line.

APPENDIX 1 PASSENGER DENSITY OF JNR PROVINCIAL LINES/THIRD
SECTOR LINES

Unit ; Passengers/Kilometre/Day

	1965	1975	Std.	1983	1984	1985	1986	1987	1988	1989	1990
Chihoku/											
Hokkaido Chihoku Kogen	1799	1107	943	...	...	726	677	...	...	516	476
Ohata/Shmokita	2490	1667	1524	1081	1090	1162	811	717	...	537	513
Kuroishi/Konan	1999	2176	1904	1297	1165	711	685	648	...	565	592
Aniai/ANJ North line	2562	1587	1524	1039	982	927	845	728	693	-	-
Kakunodate/ANJ South line	-	372	284	182	176	170	193	199	227	-	-
Akita Nairiku Jyukan	-	-	-	-	-	-	-	-	-	567	515
Yashima/Yuri Kogen	3958	2201	1876	1310	1151	1153	982	901	884	886	869
Nagai/Yamagata	3935	2395	2151	1589	1555	1445	1377	...	1466	1286	1298
Kuji/Sanriku North line	-	530	762	684	1224	1123	1009	944	936	957	981
Miyako/ (Sanriku North)	-	692	605	831	-	-	-	-	-	-	-
Sakari/Sanriku South line	-	928	971	865	1158	1075	991	892	858	846	866
Sanriku (Total)	-	-	-	-	1202	1107	1003	926	910	920	942
Marumori/Abukuma Kyuko	-	1270	1082	906	926	870	1207	1391	1753	1804	2049
Aizu/Aizu	2195	1562	1333	1101	1016	960	971	1390	1317	1248	1258
Ashio/Watarase Keikoku	2491	1732	1315	858	884	886	851	626	1271	828	892
Moka/Moka	3205	1820	1620	1427	2024	2066	1943	...	1406	1398	1443
Kihara/Isumi	3286	1680	1815	2256	2248	2307	1930	2015	1339	1267	1266
Akechi/Akechi	2124	1525	1623	1119	1132	1354	1221	1178	1171	1161	1134
Hutamata/Tenryu Hamanako	3320	1904	1518	1077	1022	959	1466	955	1057	1090	1163
Okata/Aichi Kanryo	-	-	2757	...	...	2951	2930	3049	3298	3756	4162
Ise/Ise	-	2007	1508	...	...	1354	2634	1268	1332	1480	1876
Etsuminan/Nagaragawa	2948	1620	1392	1058	993	976	907	896	798	745	812
Tarumi/Tarumi	2049	1192	951	652	864	798	869	876	1110	1026	1088
Shigaraki/Shigaraki Kogen	2452	1667	1574	2079	2079	2078	1529	1372	1328	1318	1413

	1965	1975	Std.	1983	1984	1985	1986	1987	1988	1989	1990
Miki/ Miki	2268	1496	1384	1088	1027	822	631	514	548	545	519
Noto/ Noto	2139	2542	2045	1581	1500	1454	1392	2197	1267	1193	1194
Kamioka/ Kamioka	—	477	445	255	394	265	239	194	161	138	167
Miyazu/ Kitakinki Tango	5600	3659	3120	...	...	2365	2164	...	...	1060	1467
Hojo/ Hojo	3599	1957	1609	973	883	667	637	643	616	647	690
Wakasa/ Wakasa	3268	1781	1555	2058	2028	2023	1768	1138	1099	1009	1009
Gan - nichi/ Nishikigawa	2201	1398	1420	1231	1155	981	874	1030	997	971	971
Nakamura/ Tosa Kuroshio	1801	2583	2289	...	...	1689	1629	...	1543	1509	1623
Ita/	7959	3399	2872	...	...	1959	1883	...	...	—	—
Itoda/	1805	1561	1489	...	...	1049	907	...	...	—	—
Tagawa/	4621	2594	2132	...	...	1362	1230	...	...	—	—
Heisei Chikuhou	—	—	—	—	—	—	—	—	—	1543	1601
Amagi/ Amagi	2002	868	653	389	397	397	1238	1498	1892	1917	1993
Matsuura/ Matsuura	3383	2235	1741	1303	1266	1228	1170	...	1166	1145	1181
Yunomae/ Kumagawa	3998	3475	3292	...	...	2310	2129	...	...	2190	2196
Takachiho/ Takachiho	1958	1593	1350	934	1042	939	846	727	...	785	750
Takamori/ Minami Aso	1687	1280	1093	748	692	715	780	694	700	699	682

JNR lines/~~Third sector railways~~

— No date

... Unknown

Std. Standard Time Period 1977–1979

Sources ; Unyusho (MoT), Chiho Kotu Sen Jittai Chosa, Unyu Chosa Kyoku (ITE) 1977.3, Mintetsu Tokei Nenpo 1984–1986 (MoT), Tetsudo Tokei Nenpo 1987–1990 (MoT)

APPENDIX 2 DETAILS OF 83 PROVINCIAL LINES

JNR - JRs Lines	Route kms	Closing date as a JNR - JRs line	Section, Prefectures/ Substitution
Tenpoku	148.9	1989. 5. 1	Otoineppu - Minami Wakkanai, Hokkaido/ Bus
Kohin Hoku	30.4	1985. 7. 1	Hama Tonbetsu - Kitami Esashi, Hokkaido/ Bus
Biko	21.2	1985. 9. 17	Bifika - Niupu, Hokkaido/ Bus
Kohin Man	19.9	1985. 7. 15	Okkope - Omu, Hokkaido/ Bus
Nayoro	143.0	1989. 5. 1	Nayoro - Engaru, Naka Yubetsu - Yubetsu, Hokkaido/ Bus
Shokotsu	34.3	1985. 4. 1	Shokotsu - Kitami, Hokkaido/ Bus
Yumo	89.8	1987. 3. 20	Naka Yubetsu - Abashiri, Hokkaido/ Bus
Aioi	36.8	1985. 4. 1	Bihoro - Kitami Aioi, Hokkaido/ Bus
Shibetsu	116.9	1989. 4. 30	Shibechea - Nemuro Shibetsu, Naka Shibetsu - Attoku, Hokkaido/ Bus
Shiranuka	33.1	1983. 10. 23	Shiranuka - Hokushin, Hokkaido/ Bus
Chihoku	140.0	1989. 6. 4	Ikeda - Kitami, Hokkaido/ Third sector railway
Hiroo	84.0	1987. 2. 2	Obihiro - Hiroo, Hokkaido/ Bus
Tomiuchi	82.5	1986. 11. 1	Mukawa - Hldakacho, Hokkaido/ Bus
Manji	23.8	1985. 4. 1	Shibun - Manji Tanzan, Hokkaido/ Bus
Iburi	83.0	1986. 11. 1	Date Monbetsu - Kuchan, Hokkaido/ Bus
Matsumae	50.8	1988. 2. 1	Kikonai - Matsumae, Hokkaido/ Bus
Setana	48.4	1987. 3. 16	Kunnui - Setana, Hokkaido/ Bus
Iwanai	14.9	1985. 7. 1	Kozawa - Iwanai, Hokkaido/ Bus
Horonai	20.8	1987. 7. 13	Iwamizawa - Ikushunbetsu, Mikasa - Horonai, Hokkaido/ Bus
Utashinai	14.5	1988. 4. 25	Sunagawa - Utashinai, Hokkaido/ Bus

Haboro	141.1	1987. 3. 30	Rumoi – Horonobe, Hokkaido/ Bus
Ohata	18.0	1985. 7. 1	Shimokita – Ohata, Aomori/ Private railway company
Kuroishi	6.6	1984. 11. 1	Kawabe – Kuroishi, Aomori/ Private railway company
Aniai	46.1	1984. 6. 22	Takanosu – Hitachinai, Akita/ Third sector railway
Kakunodate	19.2	1986. 11. 1	Kakunodate – Matsuba, Akita/ Third sector railway
Yashima	23.0	1985. 10. 1	Ugo Honjyo – Ugo Yashima, Akita/ Third sector railway
Nagai	30.5	1988. 10. 25	Akayu – Arato, Yamagata/ Third sector railway
Akatani	18.9	1984. 4. 1	Shibata – Higashi Akatani, Niigata/ Bus
Uonuma	12.6	1984. 4. 1	Raikoji – Nishi Ojiya Niigata Bus
Kuji	26.0	1984. 4. 1	Kuji – Fudai, Iwate/ Third sector railway
Miyako	12.8	1984. 4. 1	Miyako – Taro, Iwate/ Third sector railway
Sakari	21.5	1984. 4. 1	Sakari – Yoshihama, Iwate/ Third sector railway
Marumori	17.4	1986. 7. 1	Tsukinoki – Marumori, Fukushima, Miyagi/ Third sector railway
Nichu	11.6	1984. 4. 1	Kitakata – Atsushio, Fukushima/ Third sector railway
Aizu	57.4	1987. 7. 16	Nishi Wakamatsu – Aizu Kogen, Fukushima/ Third sector railway
Ashio	46.0	1989. 3. 29	Kiryu – Ashio Honzan, Gunma, Tochigi/ Third sector railway
Moka	42.0	1988. 4. 11	Shimodate – Motegi, Tochigi/ Third sector railway
Kihara	26.9	1988. 3. 24	Ohara – Kazusa Nakano, Chiba/ Third sector railway
Shimizuko	8.3	1984. 4. 1	Shimizu – Miho, Shizuoka/ Bus
Akechi	25.2	1985. 11. 16	Ena – Akechi, Gifu/ Third sector railway
Futamata	67.7	1987. 3. 15	Takegawa – Shinjohara, Shizuoka/ Third sector railway
Okata	19.5	1988. 1. 31	Okazaki – Shin Toyota, Aichi/ Third sector railway
Ise	26.0	1987. 3. 27	Minami Yokkaichi – Tsu, Mie/ Third sector railway
Etsuminan	72.2	1986. 12. 11	Mino Ota – Hokuno, Gifu/ Third sector railway
Tarumi	24.0	1984. 10. 6	Ogaki – Mino Komi, Gifu/ Third sector railway

Shigaraki	14.8	1987.	7.13	Kibukawa – Shigaraki, Shiga/	Third sector railway
Miki	6.8	1985.	4.1	Yakujin – Miki, Hyogo/	Third sector railway
Takasago	6.3	1984.	12.1	Kakogawa – Takasago, Hyogo/	Bus
Noto	61.1	1988.	3.25	Anamizu – Takojima, Ishikawa/	Third sector railway
Kamioka	20.3	1984.	10.1	Inotani – Kamioka, Gifu/	Third sector railway
Miyazu	84.0	1990.	4.1	Nishi Maizuru – Toyooka, Kyoto/	Third sector railway
Kajiya	13.2	1990.	4.1	Nomura – Kajiya, Hyogo/	Bus
Hojo	13.8	1985.	4.1	Ao – hojocho, Hyogo/	Third sector railway
Wakasa	19.2	1987.	10.14	Koge – Wakasa, Tottori/	Third sector railway
Kurayoshi	20.0	1985.	4.1	Kurayoshi – Yamamori, Tottori/	Bus
Taisha	7.5	1990.	4.1	Izumoshi – Taisha, Shimane/	Bus
Gannichi	32.7	1987.	7.25	Kawanishi – Nishikicho, Yamaguchi/	Third sector railway
Komatsushima	1.9	1985.	3.14	Chuden – Komatsushima, Tokushima/	Bus
Nakamura	43.4	1988.	4.1	Kubokawa – Nakamura, Kohchi/	Third sector railway
Katsuki	3.5	1985.	4.1	Nakama – Katsuki, Fukuoka/	Bus
Muroki	11.2	1985.	4.1	Ongagawa – Muroki, Fukuoka/	Bus
Miyada	5.3	1989.	12.23	Katsuno – Chikuzen Miyada, Fukuoka/	Bus
Ita	16.2	1989.	10.1	Nogata – Tagawa Ita, Fukuoka/	Third sector railway
Itoda	6.9	1989.	10.1	Kanada – Tagawa Gotoji, Fukuoka/	Third sector railway
Tagawa	26.3	1989.	10.1	Yukuhashi – Tagawa Ita, Fukuoka/	Third sector railway
Soeda	12.1	1985.	4.1	Kawara – Soeda, Fukuoka/	Bus
Urushio	7.9	1986.	4.1	Shimokamoo – shimoyamada, Fukuoka/	Bus
Kamiyamada	25.9	1988.	9.1	Iizuka – Buzen Kawasaki, Fukuoka/	Bus
Katsuta	13.8	1985.	4.1	Yoshizuka – Chikuzen Katsuta, Fukuoka/	Bus
Amagi	14.0	1986.	4.1	Kiyama – Amagi, Fukuoka/	Third sector railway
Matsuura	93.9	1988.	4.1	Arita – Sasebo, Nagasaki, Saga/	Third sector railway
Saga	24.1	1987.	3.28	Saga – Setaka, Saga, Fukuoka/	Bus

Yabe	19.7	1985. 4. 1	Hainuzuka – Kuroki, Fukuoka/ Bus
Yunomae	24.9	1989. 10. 1	Hitoyoshi – Yunomae, Kumamoto/ Third sector railway
Yamano	55.7	1988. 2. 1	Minamata – Kurino, Kumamoto,Kagoshima/ Bus
Miyanojo	66.1	1987. 1. 10	Sendai – Satsuma Okuchi, Kagoshima/ Bus
Osumi	98.3	1987. 3. 14	Shibushi – Kokubu, Kagoshoma/ Bus
Shibushi	38.6	1987. 3. 28	Nishi Miyakonojo – Shibushi, Kagoshima,Miyazaki/ Bus
Tsuma	19.3	1984. 12. 1	Sadowara – Sugiyasu, Miyazaki/ Bus
Takachiho	50.1	1989. 4. 28	Nobeoka – Takachiho, Miyazaki/ Third sector railway
Takamori	17.7	1986. 4. 1	Tateno – Takamori, Kumamoto/ Third sector railway
Miyanoharu	26.6	1984. 12. 1	Era – Higo Oguni, Oita,Kumamoto/ Third sector railway

Sources ; Unyusho (MoT), Kotsu Tokei Kenkyujyo (ITS)

