16.2 Financial Evaluation

16.2.1 Lao Cai Line

(1) Methodology

(a) Preconditions

Seen in the long run, there is a possibility that the Hanoi - Lao Cai Line might take on international traffic in the future, however, for the present time, in view of the existing international environment and international trade conditions, and so on, this is not a realistic issue. Border trade must not be confused with international trade.

For this reason, this line shall basically be regarded as a local line running between Hanoi and Lao Cai. It is most appropriate to consider concrete methods for improving business management within this perspective, and the financial analysis shall also comply with such methodology.

If, due to some development or other, this line does come to serve international traffic in the near future, it will be possible to simply append the resulting benefits and costs as a supplement to the draft plan.

(b) Analysis methodology

The methodology to be employed in the financial analysis is dependent on the quantity and quality of the available materials. As it was not possible to obtain hardly any written materials concerning the current business situation of the Hanoi - Lao Cai Line during the Study, the overall Result of Business for 1993-94 of Union No. 1, which is mainly responsible for the direct operation of the line, was used as a base. This was further supplemented with the information gained in the site hearings and work was started on composing a picture of the present and future conditions of the line.

A financial analysis that is conducted under such circumstances will inevitably be sparse in content. However, the financial analysis in this case is described in outline form as follows.

- Regarding the transportation volume, based on the 1994 Result of Business of Union No. 1, future increase rates were applied using the demand forecast to perform the calculation.

- Income shall be calculated by assessing the rates for both passenger-kilometers and freight-kilometers. In this case, regarding the passenger fare, partial fare increases shall be included as a necessary condition for business management improvement.

- With regard to expenditure, because there are no materials, it is not possible to divide costs into objective-separate management and operation costs and subsequently investigate each unit. As an alternative method, costs shall first be roughly divided into personnel cost and non-personnel cost, and with regard to non-personnel cost, the cost rates per passenger-kilometer and freight- kilometer shall be assessed, and with regard to personnel cost, this shall be calculated separately by setting a target with the emphasis placed on improving labor productivity through carrying out improvement investment.

- With regard to investment cost, the only element to be included in the calculation shall be the investment cost for rolling stock to be newly purchased for the business improvement of the Hanoi - Lao Cai Line. Because the cost of maintenance of infrastructure, except for rolling stock, is to be shifted to the government account in line with the reorganization of VNR, the only maintenance cost to be counted for such infrastructure will be the rental charge consisting of 10% of annual revenue.

Table 16.2.1 Basic Figures Supplied by VNR Union No. 1 (for 1994)

	Lao Cai Line	Union No. 1	Share Ratio
Passenger Transport	230 mil. P-km	840 mil. P-km	27.38%
Freight Transport	167 mil. T-km	776 mil. T-km	21.52%
P-km + T-km	397 mil. PT-km	1,616 mil. TP-km	24.57%
Passenger Income (per 1 P-km)	36,000 mil. Dong (D. 156.5)	135,550 mil. Dong	26.56%
Freight Income (per 1 T-km)	41,000 mil. Dong (D. 245.5)	185,480 mil. Dong	22.10%
Total Income	77,000 mil. Dong	321,030 mil. Dong	24.00%
Expenditure	90,000 mil Dong	395,700 mil. Dong	22.74%
Loss	▲ 13,000 mil. Dong	▲ 74,670 mil. Dong	17.41%
No. of Staff	4,830	21,000	23.0%

Passenger Transport includes Luggage Service

(2) Items composing cash flow statement

1) Revenue from train fares

(a) Passenger fares

Through carrying out analysis of the tariffs actually applied to each train running between Hanoi and Ho Chi Minh, the per passenger-kilometer rate of the basic fare and additional service charge was calculated as follows.

Basic fare (hard seat):	132.10 Dong/km
Soft seat charge:	+ 11.01 Dong
Sleeper charge:	+ 86.90 Dong
Total:	230.10 Dong (in the case of an S 5/6 train)

Concerning the basic fare, this is almost the same level as on other lines and, incidentally, there is no system of fare diminishment over distance.

The average passenger revenue rate of Lao Cai Line can be broken down in the following manner:

Basic fare:	132.0 Dong/km
Service charge:	24.5 Dong
Total:	156.5 Dong

Because the introduction of a large number of high-class trains is envisaged in the improvement plan for between Hanoi and Ho Chi Minh, it is recommended that the average revenue rate of the service charge be raised from the present 20 Dong/km to around 85 Dong/km. (Reference Vol. II Part I, Clause 11.2).

However, in the case of the Lao Cai Line, even if the service charge were to be set at the same level as on the United Line, assuming that the proportion of local trains compared to high-class trains is greater, it is inevitable that the effect on revenue of an average increase in the service charge rate will not be as high.

In the operation plan for the Lao Cai Line, it is imagined that around six return local trains and four return high-class (express) trains will operate. Here, a trial calculation of revenue was carried out based on the assumption that the rate of increase of the service charge in average is 40% of the same increase on the United Line.

(85 – 20) Dong × 0.40 = 26 Dong

24.5 + 26 = 50.5 Dong .....(This rate is applied to revenue from 1997)

132 + 50.5 = 182.5.....(Average revenue rate after charge revision)

(b) Freight charges

Freight charge revenue on the Lao Cai Line is 245.5 Dong per ton-kilometer on average, and this is quite a lot higher than the all VNR average rate of between 231 and 235 Dong (*).

(*) All VNR freight revenue ÷ Freight total transportation volume

1993-94 = 235.14 Dong per ton-kilometer

1994 = 231.34 Dong per ton-kilometer

Moreover, in the Master Plan, it was envisaged that the large proportion of freight transportation would take place over distances in the range of 20 km to 600 km, and that the average charge rate would be 240 Dong per ton-kilometer.

In VNR's official tariffs, the charges for transportation of the main items of freight on the Lao Cai Line (apatite, coal, grain, etc.) are almost totally within the range of 200 - 220 Dong per ton-kilometer (500 km or less).

The high level of the revenue average rate is considered to be the result of some special factor. It is imagined that the entrusted operation changes of the private lines held by the apatite companies are included, or that a high tariff (270 - 300 Dong per ton-kilometer) is being applied for the transportation of miscellaneous freight.

For the purposes of this analysis, the aforementioned average charge rate of 245.5 Dong per ton-kilometer shall be applied as it is.

(2) Cost analysis

Using the Union No. 1 cost analysis (Table 16.2.2) and the previous Table 16.2.1, the passenger and freight-separate expenses and each base unit shall be calculated.

Table 16.2.2 Cost Analysis of Union No. 1 (1994)

Expense	Indicator	Passenger		Freight		Total
Personnel	Revenue	64,602	(42.2%)	88,483	(57.8%)	153,085
Material	Train-km	49,358	(68.3%)	22,909	(31.7%)	72,267
Fuel	Ton-km	23,316	(52.0%)	21,523	(48.0%)	44,839
Electricity	Train-km	2,324	(68.3%)	1,079	(31.7%)	3,403
Others	(Average)	20,218	(54.2%)	17,085	(45.8%)	37,303
Total Operating Cost		159,818	(51.4%)	151,079	(48.6%)	310,897
Non-Personnel		95,216	(60.3%)	62,596	(39.7%)	157,812
Depreciation	Ton-km	34,445	(52.0%)	31,795	(48.0%)	66,240
Sales Tax	Rev. x rates	5,338	(59.4%)	3,654	(40.6%)	8,992
Ordinary Expense		199,601	(51.7%)	186,528	(48.3%)	386,129
Capital Tax						9,532
Total Expense						395,661

For Lao Cai Line

- Personnel Expense: 153,085 mil Dong × 23% = 35,210 mil. Dong .....a

  35,210 mil. Dong ÷ 4,830 = 7,290 Thou. Dong per head

- Non Personnel Expense:

  Passenger Service 95,216 × 27.38% = 26,076 mil. Dong..... b

  Freight Service 62,596 × 21.52% = 13,471 mil. Dong.....c

- Sales Tax 8,992 × 24.57% = 2,209 mil. Dong ..... d

- a + b + c + d = 76,966

- Depreciation (Repair Cost) 90,000 – 76,966 ≒ 13,000 mil. Dong

Table 16.2.3 Cost Analysis of Lao Cai Line (1994)

Expense	Passenger		Freight		Total
Personnel*	16,461	(46.75%)	18,749	(53.25%)	35,210 mil. Dong
Non-Personnel	26,076	(65.94%)	13,471	(34.06%)	39,547
Sales Tax	1,408	(63.74%)	801	(36.26%)	2,209
Depreciation	7,540	(58.00%)	5,460	(42.00%)	13,000
Non-Personnel Total	35,024		19,732		54,756
Total Expenditure	51,485		38,481		89,966
Transport Distance	230 mil. P-km		157 mil. T-km		
Unit Cost:					
Non-Personnel Base	152.28 Dong/1 P-km		118.16 Dong/1 T-km		
Total Cost Base	223.85 Dong/1 P-km		230.43 Dong/1 T-km		

* Income Ratio:

Passenger	36,000	(46.75%) mil. Dong
Freight	41,000	(53.25%)
	77,000	(100.00%)

The following shall be used as the base unit for the non-personnel cost forecast calculation.

Passenger	152.3 Dong per P-km
Freight	118.2 Dong pe T-km

3) Labor productivity and personnel expense

Labor productivity is the indicator used in comparing labor efficiency levels, and it is expressed as transportation volume per worker, obtained by dividing the total passenger and ton-kilometers by the number of staff.

The labor productivity level on the Lao Cai Line is slightly lower than the all VNR average.

All VNR : 3,215 mil. PT-km ÷ 34,800 = 92.4 Thou. PT-km

Lao Cai Line : 397 mil. PT-km ÷ 4,830 = 82.2 Thou. PT-km (89%)

As was stated in the section on the United Line (Vol.. II Part 1, Chapter 10), assuming that railway improvement investment is carried out on a continued basis in future, labor productivity can be expected to increase by around four times its present value by 2010. It is hoped that improvements advance on the Lao Cai Line, too, in line with the national average rates of productivity improvement.

	Transportation Volume (PT-km)	Staff	Labor Productivity (1000 PT-km)	Index	Personnel Cost (mil. Dong)
1994	397.0	4,830	82.2	100.0	35,210
2000	501.3	3,530	142.0	172.8	25,734
2005	613.6	2,754	222.8	271.1	20,077
2010	703.5	2,060	341.5	415.4	15,017

However, as with the case of the United Line, because the maintenance cost for infrastructure except for rolling stock will be transferred to the government account in line with the reorganization of VNR after 1995, the salary burden of track and bridge maintenance staff, etc. will gradually decrease.

However, as it is still uncertain as to when and on what scale such a shift will occur, for the time being, personnel expenses will have to be estimated in accordance with the above labor productivity framework.

4) Cost estimation in without case

(a) Management and operation costs will rise due to the increase in passenger-ton km.

	PT-km Total (PT-km)		Operating Cost (mil. Dong)	Increase (mil. Dong)
1994	397.0	(100.00)	77,000	-
2000	403.8	(101.71)	78,320	1,320
2005	449.3	(113.17)	87,140	10,140
2010	430.5	(108.44)	83,500	6,500

(b) When no investment is made, it is estimated that the repair cost of rolling stocks will increase as follows:

(Re: Vol. II, Chapter 11 - Financial Evaluation of the United Lines)

	Repair Costs (mil. Dong)		Increase (mil. Dong)
1994	13,000	(100.0)	
2000	17,330	(133.3)	4,330
2005	20,580	(158.3)	7,580
2010	22,750	(175.0)	9,750

(c) Management and operation costs in total in case of no investment

	Repair Costs (mil. Dong)
1994	90,000
2000	95,650
2005	107,720
2010	106,250

5) Investment and depreciation

The Investment on the Rolling Stock (newly procured and rehabilitated) is as shown in the foregoing Clause 9.8.4.

As for the succeeding investment cost on the Rolling Stock after 2001, we curtailed the amounts in calculation to a level as far as suitable for the present and forthcoming financial conditions of this part of the National Railway.

In this analysis the service life of all rolling stock is set at uniform 25 years to give a straight line depreciation of the initial investment. (Refer to Vol. II, Part 1, Chapter 11. – Financial Evaluation on the Ha Noi - H.C.M. Line Studies)

There are no items of investment other than rolling stock to be calculated in the financial cash flow evaluation of Ha Noi – Lao Cai Line, as VNR's proper or direct investment costs.

(3) Results of cash flow analysis and evaluation

Cash Flow and FIRR

From the Start of Investment	FIRR
15 Years	0.23 %
25 Years	▲ 0.01 %
35 Years	0.94 %

as per Appendix 16.2.1 Cash Flow Chart.

The extreme low value of FIRR above mentioned is chiefly due to the imbalance between the projected amount of investment on Rolling Stock and the financial standings of the railway line on which they operate. Though weak as it is, we may say the Lao Cai line will have a bright prospect to be a profitable business unit, if only well managed with all its might, as it

seems outward conditions are relatively favorable. Because no other developed means of transport to compete with that railway line, its importance as a regional means of transport is extremely high.

However, a care should be used to the fact that the demand for local transportation will not necessarily rise in line with Vietnam's rapid economic development. If one looks at the experience of other countries, it can be often seen that large-scale depopulation occurs in areas around large urban centers during the period of rapid economic growth.

Consequently, the advancement of positive regional development along the line can determine the future outcome of the railway. It is considered that the following two points hold the key to solving this problem.

1. The development of small and medium manufacturing sector enterprises in a way that utilizes local features in the cities along the line.
2. The promotion of tourism (in particular, in Lao Cai and Sapa).

In view of the low value of FIRR, the sensibility analysis is left out.

16.2.2 Cai Lan Line

(1) Methodology

(a) Preconditions

The building of a projection for the Cai Lan Line is extremely difficult. Regarding the question of gauge, there is a choice of either standard gauge, meter gauge and mixed gauge, and the same problem exists in the laying of the new extension between Ha Long and Cai Lan. Regarding the selection of the route, the question of whether to continue using the conventional route via Kep or to lay a short line via Pha Lai and use this as the main line in the future, plus the issue of what time to schedule the changeover for, are yet to be decided issues. Moreover, such decisions cannot be made through simple consideration of just the economic effect over a set period of time and the degree of ease in terms of technology. This is because this line was originally established for non economic reasons.

In such a case, even if the viewpoint was limited to solely economic efficiency, there is a whole host of potential combinations of such factors as gauge, route, track and time schedule, etc. to be considered.

To carry out a realistic financial analysis on all of these potential cases would not be possible. It has thus been decided to arrange all the problem points and design the scenario for the following two cases.

The First Case involves the rehabilitation and continued use of the existing line (Hanoi - Ha Long). The main contents of the rehabilitation in this case are renewal of gauge between Kep and Ha Long and the laying of a line extension up to Cai Lan. In this case, the increase in the amount of rolling stock in line with the changed conditions is the main point of interest in the financial analysis. However, as the transportation volume on the existing line is, as will be described later, extremely small, it cannot be imagined that any immediate and dramatic changes in passenger movement patterns will arise as a result of these rehabilitation works. (The situation would, however, differ greatly if commercial usage of the line was to rapidly increase following 2000). Even if a high rate of growth were to be assumed, the relevance of past performance cannot be ignored.

The Second Case involves the new laying of short cut line and rehabilitation of a consistent meter gauge line between Ha Noi and Ha Long and then on to Cai Lan. In this case, a new means of transportation that would directly link Ha Noi to Quang Ninh Province within 2 and half hours would appear, and a form of demand attraction that would differ totally from that in the First Case would be a possibility. In this case the past demand performance on the conventional line could be ignored, and it would be possible to directly estimate the benefit and costs for the new line from the transportation demand forecast for between 2000 and 2010.

Regarding any other possibilities except for the above two base cases, they shall only be considered as variations or alternatives on the base cases.

Despite the presentation stated above, the Second Case will be left out of this financial analysis, as the construction of the short cut line could not be taken up before 2010 and come not within the scope of the present feasibility study, following the conclusion of the Economic Analysis thereof.

(b) Methodology

From information provided by Union No. 1, the following outline data has been obtained on the state of the business running of each of the lines under the management of the said union.

Table 16.2.5 Million Dong

1994 Performance	Transportation Volume		Revenue		Expenses	Balance	Staff Distribution (%)
Section	Freight T-km	Passengers P-km	Freightt T-km	Passengers P-km			
Kep - Ha Long	29	2	6,510	930	14,700	▲ 7,260	4.1
Ha Noi - Lang Son	34	59	8,700	8,400	39,000	▲ 29,700	12.9
Union No. 1	778	842	185.6	135.4	397.0	▲ 74.5	100.0

In order to know the past business performance of the Cai Lan Line, one must add the income and expenses for the Hanoi - Kep section of the Hanoi - Lang Son Line (which really goes as far as Dong Dang), which jointly uses the same route as the Cai Lan Line. However, as the necessary data for this is not available, the distance comparison for the sections between Hanoi and Lang Son and Hanoi and Kep were obtained, the transport volume for the latter was estimated by using the above figures, and this was further multiplied by 1/3 and added onto the transport performance on the Cai Lan Line. *

However, even in this case, the annual transport volume figures are still very low at 10.8 million passenger-km and 33.8 million freight ton-km and cannot be used as standards for estimating future levels.

* Hanoi - Kep 69 km (42.3%)

Hanoi - Dong Dang 163 km (109.0%)

There will be one return passenger train to Ha Long and two return passenger trains to Dong Dang each day. Moreover, the Dong Dang Line plays an important role in the transportation of border trade goods.

The given volume of transport demand forecast is based on the use of the existing line via Kep, and as aforesaid, which has a great disparity with the actual business showings. If not on the supposition that the line will be entirely reformed to attract a fresh demand, irrespective of the past experience, upon completion of the work, we are unable to attempt a financial analysis based on the demand forecast.

(2) Items composing cash flow statement

1) Revenue from train fares

Passenger fare average rate per kilometer:

Both basic fare and extra charges shall be the same as those in the case of the Lao Cai Line.

Basic fare : 132 Dong per km

Extra Charge for soft seat : Average 50.5 Dong per km (40% of the United Line)

Freight average rate per ton-km:

As a matter of fact, up until 2000, coal is the only freight. However, as the types of freight in future cannot be defined at present, a rate of 240 Dong per ton-kilometer shall be assumed in line with the Master Plan.

2) Unit cost of operation

The overall cost per passenger and ton-kilometer on the Ha Long and Dong Dang Lines is extremely high compared to the other lines and is not appropriate for use as a standard for forecasting future situation.

Table 16.2.6 Income and Expense per Passenger Ton-km by Lines

	P.T. - km mil.	Income mil. D.	Expense mil. D.	Income P.T. km	Expense P.T. km
Hanoi - Dong Hoi	960	193,500	204,000	201.6 D	212.5 D
Hanoi - Hai Phong	126	23,000	38,000	182.5	301.6
Hanoi - Lao Cai	397	77,000	90,000	194.0	226.7
Hanoi - Lang Son	93	17,100	39,000	182.8	419.4
Kep - Ha Long	31	7,440	14,700	240.0	474.2

The Unit cost figures for the Lao Cai Line as stated in the previous portion shall be applied to the Cai Lan Line too.

Non-personnel Expense : Passenger 152.3 Dong per P.-km
Freight 118.2 Dong per T.-km

3) Labor productivity and personal expense

Assessment of personnel required will be made as follows.

	Transport Volume expected		Productivity Target per Person*		
2000	260.4 mil P.T-km	÷	142.0 Thou. P.T-km	= 1,834	
2005	442.9	÷	222.8	= 1,988	≒ 1,990
2010	620.9	÷	341.4	= 1,819	≒ 1,820
2015	869.7	÷	522.9	= 1,663	≒ 1,660

* Same level as Lao Cai Line, starting at 82.2 Thou. P.T-km in 1994.

A salary standard of Union No. 1, 7,290 Thou. Dong per year, is also applied to the staff of the Cai Lan Line.

4) Investment and depreciation

Upon completion of the railway remodelling, from standard gauge to meter gauge, 7 Locomotives and 41 passenger coaches are newly required for the improved service of the line at the stage of 2000, the cost of which is estimated at 11.8 million U.S. Dollars.

As for the investment cost after 2000, the projected amount on Rolling Stock will be duly adjusted to a reasonable level as far as possible in consideration of weak financial structure of the line in an early stage.

The same method of drawing down and depreciation as stated in the foregoing pages on the united Line is to be applied to the Cai Lan Line too.

(3) Results of cash flow analysis and evaluation

Cash Flow and FIRR

– Meter Gauge line through existing route via Kep –

From the Start of Investment	FIRR
15 Years	▲ 4.77%
25 Years	▲ 1.41%
35 Years	3.19%

The Existence of the railway line, with an unique standard gauge of 180 km between Kep and Ha Long, has been a heavy burden for the VNR's management and sometimes considered to be scrapped, as it carried very little traffic. It could not be left alive until now, unless the Cai Lan Port Project has been on the rise.

We expect the railway will awake to new life, along with the development of the Cai Lan port after 2000, through the new rail link between Ha Long and the port. But, for these years, its profitability totally depends on the promotion of tourism, as it has no established relations with the local people, except for some peddlers, as an usual means of transportation.

We may say the project will not be financially feasible for the time being, so long as the rise of actual demand of railway traffic is not yet confirmed.

Chapter 17 Environmental Impact Assessment

17.1 Targets of EIA Study

Environmental impact study comprises the whole environmental elements. Environmental impact is very important tool for development project, because results of environmental impact study can be used information on change or modification of projects from environmental view point, if significant negative impact is predicted by the study.

Viet Nam Government has an environmental impact assessment system, Government Decree No. 175/CP, October, 1994, named Guidance for the Implementation of the Law on the Environmental Protection. The JICA Study Team will provide result of environmental impact study that can be used as materials for legal environmental impact assessment report prepared by Viet Nam side.

The Projects which occur impacts on environment require environmental impact study. When EIA study is carried out , we need detail information on location and layout of sites, contents of project, project activities and others. In the feasibility study phase, sub-projects that require environmental impact study are selected from Program 2000. Selected sub-projects are based on type, size and activities of sub-projects and accomplished level of feasibility study. Sub-projects of Program 2000 are screened by the following procedure (Fig. 17.1.1).

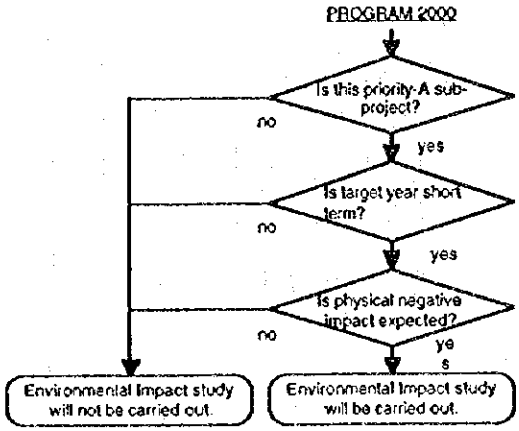

Fig. 17.1.1 Screening Procedure for Environmental Impact Study

As a result, the following sub-projects will be selected for environmental impact study:

- Ha Long - Cai Lan section rail installation
- Installation of tower for microwave communication

An outline of above projects is as follows:

17.1.1 Ha Long - Cai Lan Section rail installation

Objectives : commencement of Cai Lan port cargo transport by rail

Implementation schedule:

1996

Project components:

- installation of track (4 km) and signaling
- adjustment of the road bed constructed in the past
- construction of Cai Lan Station
- installation of tower for microwave communication

17.1.2 Installation of tower for microwave communication

Objectives : transfer of information on operation of trains

Implementation schedule:

2000

Project components:

- construction of steel tower for microwave communication

17.2 Project Activities

Project activities can be divided into two phases, Construction Phase and Operation and Maintenance Phase. Environmental impact will be evaluated each phase. Expected project activities in each phase are as follows:

17.2.1 Ha Long - Cai Lan Section rail installation

Construction Phase

- site exploratory survey
- resettlement of residents
- utility network removal and installed (if necessary)
- employment of labor for construction
- mobilization of heavy equipment and construction materials
- general haulage
- operation of construction heavy equipment
- demolition of existing structures and houses
- banking
- installation of rail

- installation of signal
- excavation of hilly area
- construction of Cai Lan Station

Operation and Maintenance Phase

- existence of railway
- traveling of trains
- operation of station service
- operation and maintenance of railway
- operation and maintenance of facilities

17.2.2 Installation of tower for microwave communication

Construction Phase

- mobilization of heavy equipment and construction materials
- operation of construction heavy equipment
- construction of foundation
- building of steel tower

Operation and Maintenance Phase

- telecommunications
- maintenance of tower

17.3 Sources of environmental impact

Railway development projects have positive impacts as well as negative impact on the environment. Environmental impact assessment study provides identification of environmental impact by project activities.

These impacts depend on location and size and shape of structures, conditions of train service, work schedule and others. Sources of environmental impact are listed below. Possible environmental impact matrix is shown in Table 17.3.1.

17.3.1 Halong - Cai Lan Section rail installation

Construction Phase

- increasing employment opportunity
- occupying land for construction
- increasing traffic volume around the access roads by transportation of construction equipment and materials
- generating noise and vibration by operation of heavy equipment and transportation of construction materials

Table 17.3.1 Possible Environmental Impact Matrix of Ha Long - Cai Lan Rail Installation

Environmental Elements / Project Components	Airsheres/Hydrosphere				Ecosystem		Physical Environment and Natural Resources										People living quality											
	Climate	Air quality	Water quality	Hydrological situation	Terrestrial ecosystem	Aquatic ecosystem	Slope stability	Soil erosion	Land subsidence	Groundwater level and quality	Water resources	Forest resources	Noise	Vibration	Offensive odor	Aesthetic	Land use	Resettlement	Split of community	Local economic activities	Employment	Traffic	Public facilities	Cultural property/Archaeology sites	Public health / Safety	Waste	Recreation
Construction Phase																												
installation of track (4 km) and signaling																		C-			B+	B-					
adjustment of the road bed constructed in the past		C-											C-	C-								B-					
construction of Cai Lan Station					U		A-						B-	C-							B+					B-	
construction of the steel tower for microwave communication																						C-					
Operation & Maintenance Phase																												
installation of track (4 km) and signaling		C-											B-	B-					B-	A+		B-			B-		
adjustment of the road bed constructed in the past																B-											
construction of Cai Lan Station																C-	C-										
construction of the steel tower for microwave communication																											

A+: Significant positive impact
B+: Moderately positive impact
C+: Negligible positive impact
U : Unclear

A-: Significant negative impact
B-: Moderately negative impact
C-: Negligible negative impact

- hindering traffic around construction sites
- temporary occupation of road and space for construction work

Operation and Maintenance Phase

- increasing number of passenger
- changing existing land use
- generating noise and vibration by traveling trains
- increasing sewage from passengers
- discharging of sewage from stations and passenger cars

17.3.2 Installation of tower for microwave communication

Construction Phase

- occupying land for construction
- generating noise, vibration, and air pollutants by operation of heavy equipment and traveling construction vehicles

Operation and Maintenance Phase

- existence of structures

17.4 Environmental Impact Prediction

Environmental negative impact which may be caused by the proposed plan was observed in environmental impact matrix of preceding section. These impacts are examined in more detail in this section.

(1) Air quality

Construction Phase

There is road bed on the proposed railway line. However, the existing proposed railway line requires to construct road bed and install ballast, sleeper before installation of rail.

Heavy equipment will be needed for construction so that operation of heavy equipment generates air pollutants. It may be possible that the ambient air quality will be influenced. The dispersion of emission gas is influenced by operation of conditions such as type and load of equipment, wind speed, and others.

Heavy equipment will generate CO_2 and NO_X. However, generated air pollutants are not expected to influence the ambient air quality, because operation of heavy equipment will last only for a short period. Furthermore, most parts of installation section are not residential and commercial areas.

Operation and Maintenance Phase

There is not railway between Ha Long and Cai Lan at the present. Therefore, load of air pollution will increase along the proposed line. Although we do not have a detail information on emission factor of locomotive, it can be predicted from the experience of the present railway situation in Viet Nam. It is expected that air quality will not be polluted by travelling locomotive.

(2) Terrestrial ecosystem

Construction Phase

Mountain area requires to excavate for construction of propsed Cai Lan Station. Excavation volume of soil is estimated about 20,000 m^3. Environmental value of this area is unknown at the present. However, it can be said that a part of mountaine area will disappear by excavation of hills, so that flora and habitat of animals will be lost. Therefore, terrestrial ecosystem will be deteriolated.

(3) Slope stability

Construction Phase

Mountain areas require to excavate for constuction of Cai Lan Station. It is estimated that 20,000 m3 of soil be excavated. If reinforcement work on cutting faces is not carried out, slope of mountaine will be eroded.

(4) Noise

Construction Phase

In term of rail installation, noise will be generated from operation of heavy equipment and construction vehicles for haulage of construction materials. However, operation of heavy equipment and construction vehicles will last only for a short period, and most of the installation section is used as forest and space. Therefore, environmental impact by generated noise will not be serious.

Excavation of mountaine areas need heavy equipment that generates noise. It is estimated that the noise level will be raised by heavy equipment in case of back hoe as follows:

Noise levels are calculated by the following formula which represents a hemisphere for sound.

$$Lr = Lw - 8 - 20\log r$$

where,

Lr	: noise level at (r) m from the noise source	dB(A)
Lw	: average power level of the noise source	dB(A)
r	: distance between the noise source and receiver	m

Conditions for calculation of the noise level by heavy equipment are set in Table 17.4.1. As a result of field survey in August, 1995, background noise level of 57 dB was obtained from St. 2 where is located on the proposed Cai Lan Station (see Table 13.11.4).

Table 17.4.1 Condition of Noise Calculation for Heavy Equipment

Items		Conditions
Power level	Back hoe	Lw = 118 dB
Background noise		57 dB

The predicted noise level caused by heavy equipment is shown in Table 17.4.2. Provided that there is not any obstacle, noise of a back hoe is similar to the background noise level at 400 - 500 m from the source of noise. It is recognized from the above results that there will be some influence in the area near the work site. However, there is not residential area at the present so that generated noise will not influence to people.

Table 17.4.2 Predicted Noise Level Caused by the Heavy Equipment

Unit : dB(A)

Equipment	Distance from source of noise (m)										
	5	10	20	50	100	150	200	250	300	400	500
Back hoe	96	90	84	76	70	67	64	62	60	58	56

Operation and Maintenance Phase

There is not railway line between Ha Long and Cai Lan at the present so that the ambient noise level will be increased by traveling trains. The east part of this section is used as forest area and space, and this area is sparsely settled so that impact on residents by generated noise from traveling trains will not be serious.

Noise sources from train consist of:

- fricative sound of rail and wheels
- engine noise
- aerodynamics noise by train

Major noise sources are fricative noise between rail and wheels and engine noise in case of diesel train. Type of the former is liner noise source, the latter is point source. Noise level during travelling of train is predicted as follows:

At the present, D8H with seven or eight passenger cars goes on Hanoi - Ha Long section.

According to field survey of noise level around Ha Long Station, noise level under service of train is about 40 dB higher than background noise level. Therefore, background noise can be ignored to make calculate noise level.

Power level by trains can be obtained by the following formula:

$$LA=LW - 8 - 10\log_{10}r + 10\log_{10}[(L/2r)/(1 + (L/2r)^2) + \tan^{-1}(L/2r)] \text{ ------ (1)}$$

where,

LA	: noise level at received point	(dB)
LW	: Power level (limited liner noise source)	(dB)
r	: distance between noise source and received	(m)
L	: length of train	(m)

Power level is calculated based on field survey of August 2, 1995. Calculation conditions are shown in Table 17.4.3.

Table 17.4.3 Calculation Conditions for Power of Train on Ha Long - Cai Lan Section

Length of train	134 m locomotive D8H = 14 m Passenger cars = 20m/car X 6 cars = 120 m			
Distance (r)	5.7	10.7	20.7	40.7 m
Noise level (LA)	87	84	80	72 dB
Power level (LW)	83.3	83.2	82.5	78.4 dB

(r) is distance between the center of railway and received point. This railway is standard gage which is 1.475m. Therefore, distance from railway on Table 13.11.2 is added to 0.7 m.

Average power level is obtained the following formula:

$$\text{Average sound level (dB)} = 10 \log [(10^{L1/10} + 10^{L2/10} + 10^{L3/10} + \text{----} + 10^{Ln/10})/n]$$

Average power level of D8H with passenger cars is 82 dB based on the filed survey (see Table 17.4.3).

Noise level from train on proposed Ha Long - Cai Lan section is calculated by formula (1). Conditions for calculation of noise level are set in Table 17.4.4.

Table 17.4.4 Calculation Condition for Noise Level of Train on Ha Long - Cai Lan Section

Items	Conditions
Power level	LW = 82 dB
Length of train	L = 134 m locomotive D8H = 14 m passenger car = 6 cars X 20 m

Predicted noise level is shown in Table 17.4.5.

Table 17.4.5 Predicted Noise Level Caused by Travelling Train

Distance from center of railway (m)	5	10	15	20	30	40	50	75	100
Noise level (dB)	86	83	81	80	77	76	74	72	69

Background noise level that was surveyed by JICA Study Team is smaller than the calculated noise level (background noise: 44 - 63 dB). Therefore, background noise level can be ignored so that we can regard calculated number as noise level at receive point.

(5) Vibration

Construction Phase

Vibration will be generated from operation of heavy equipment and construction vehicles. However, it is expected that generated noise will not be serious, because impact-generating period will be short.

Operation and Maintenance Phase

There is not railway in this area at the present so that ambient vibration level should be increase by travelling train. However, the east part of the section is used as forest area and space. Although the west part of the section is residential area, frequency of exposure to vibration will not be for long. Provided that the same type and number of train as Hanoi - Ha Long section are used on Ha Long - Cai Lan section.

(6) Aesthetic

Operation and Maintenance Phase

Proposed Cai Lan Station is space area at the present. Hinterland of proposed station is hilly area with forest. Construction of railway station includes excavation of hilly area for extension of project site. After construction, landscape will be changed from semi-natural view to artificial structures, and topographic conditions will be changed.

The steel tower for microwave communication will be built around Ha Long Station. It is not clear where is location of the tower at the present. It can be said that 60 m tower will be built from the existing microwave towers. Outline of possible microwave tower is shown in Fig. 17.4.1. The tower consists of three steel pipes. Existence of the tower causes changing landscape.

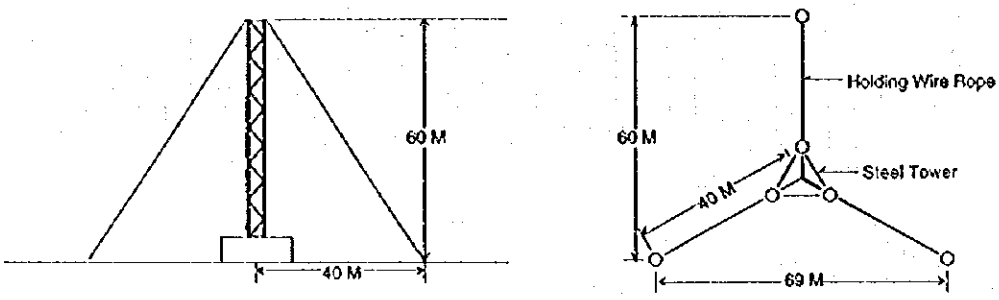

Fig. 17.4.1 Outline of Microwave Communication Tower

(7) Land use

Operation and Maintenance Phase

The steel tower of microwave communication will be built around Ha Long Station. Holding wire ropes are extended as triangle with size of 69 m (area: approximately 2,000 m^2). The location of the tower is not clear. Provided that the tower will be built in space, area under holding wire ropes can not be made use of another purpose.

(8) Resettlement

Construction Phase

According to VRDI, project site for installation of rail has been occupied so that there is not so much demand for resettlement. However, two houses may be resettled for construction of railway as follows:

- small houses where is located on the proposed railway line between crossing with Road No. 18
- a house where will be located proposed marshaling yard in the east of the proposed Cai Lan Station

The former is an illegal resident, and the latter may be required to be resettled.

(9) Split of community

Operation and Maintenance Phase

There is residential area between Ha Long Station and at 1 km from the east of Ha Long Station. It is difficult that residents can be walk across the railway due to existence of railway.

(10) Local economic activities

Operation and Maintenance Phase

It is expected that development of railway in this section will contribute regional and national economy.

(11) Employment

Construction Phase

Installation of railway will require workers. Therefore, employment opportunity will increase.

(12) Traffic

Construction Phase

Number of traffic volume will be increase on the Road No. 18, when construction materials and waste are carried by construction vehicles. There is not so much demand for construction vehicles. Therefore, impact of traffic on access roads will not be serious.

Operation and Maintenance Phase

Proposed railway runs across road at three points as follows (see Fig. 17.4.1):

- the east of Ha Long Station
- Road No. 18 between the Bay Chay Peninsula and Ha Long Station
- Road No. 18 between proposed Cai Lan Station and marshaling yard

It is predictable that traveling train will obstruct road transportation around above three level crossings.

(13) Public health and Safety

Operation and Maintenance Phase

There are lots of traffic accidents by trains on the existing railway lines. It is possible that traffic accidents will be occurred from the experience of other lines.

(14) Waste

Construction Phase

A part of hilly area requires to excavate for construction of Cai Lan Station. Excavated soil will become construction waste. It is estimated that 20,000 m3 of soil will be excavated. This amount of soil should be disposed, or used for other purposes.

17.5 Environmental Impact Evaluation

(1) Construction Phase

Positive Impact

Construction new line requires lots of worker so that positive impact in construction phase may be increasing employment opportunity.

Negative Impact

Project site for installation of rail has been occupied. However, two houses are on project site. Small house where is located on proposed line is illegal so that this house can be resettled easy. However, a house is located in proposed marshaling yard may be legal resident. VNR should carry out resettlement of this resident by appropriate method.

Construction activities such as mobilization of heavy equipment and construction materials, and operation of heavy equipment will generate air pollutants, noise, vibration and traffic congestion. It is expected that its impact will not be serious from view of land use and construction period.

Excavation of hilly area for construction of Cai Lan Station, a part of hilly area will disappear, and as a result, ecosystem will be deteriorated.

(2) Operation and Maintenance Phase

Positive Impact

It is predictable that amount of freight will be increase due to extension of railway from Ha Long Station. Extension of Ha Long - Cai Lan section may contribute to national and regional economy.

Negative Impact

There is not railway line at the present. Therefore, noise level will be increase due to traveling train, and traveling vehicles on Road No. 18 will be obstructed at level crossings during passing train. Furthermore, it is possible that traffic accident by trains may increase after construction.

Construction of Cai Lan Station may cause changing semi-natural landscape.

17.6 Environmental Consideration

As a result of environmental impact study, we should notice about environmental impact on the project sites and the suburb area such as socio-economic environment, and natural and physical environment. It is necessary that we choose considered deciding location of proposed routes and sites, appropriate structure design, construction method and schedule. We should consider the following items for implementation of the project.

(1) Construction Phase

- land acquisition and resettlement will be minimized.
- traffic on roads that cross and along railway will not be hindered.
- appropriate construction methods and schedule should be chosen.
- generating air pollutants, noise and vibration by construction activities will be

minimaized.

- construction waste should be recycled and minimaized
- generated turbid water will not be discharged into river.

(2) Operation and Maintenance Phase

- traffic safety should be secured.
- landscape will not be gotten worse.
- land use conditions will not be changed rapidly

17.7 Environmental Monitoring

The aims of environmental monitoring are:

- to obtain information on the existing environmental conditions
- to evaluate and confirm this environmental impact assessment
- to obtain information on changes in environmental conditions as a result of implementation of the project
- to optimize positive environmental impact and to minimize negative impact by the project
- to use environmental consideration for new railway development project in the future

Environmental monitoring can be used for not only understanding the environmental conditions, but also for judging if measures of environmental impact are required. Environmental monitoring flow is shown in Fig. 17.7.1.

Environmental monitoring covers Construction Phase and Operation and Maintenance Phase. Monitoring elements are selected from possible impact elements. The proposed environmental monitoring plan is shown in Table 17.7.1.

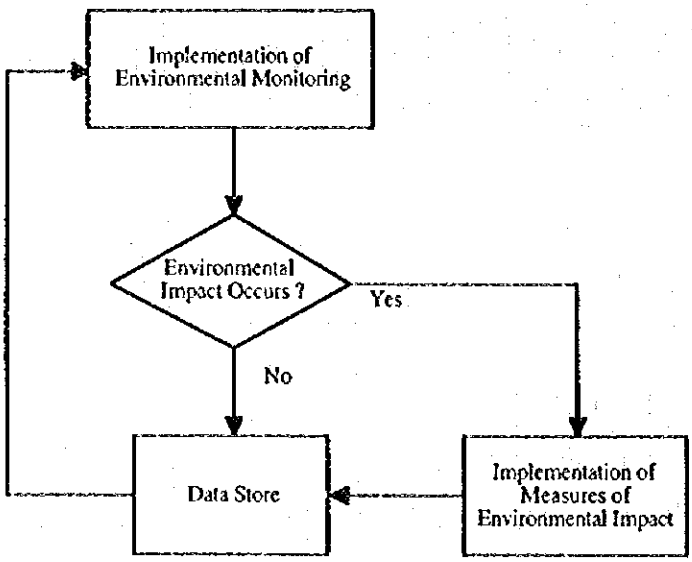

Fig. 17.7.1 Environmental Monitoring Flow

Table 17.7.1 Environmental Monitoring Plan for Ha Long - Cai Lan Section

[Construction Phase]

Targets	Indicators	Monitoring Area	Methods	Frequency	Proposed Implementation Sectors
Complain from Residents	Number of complain Type of complain	Whole line	Checking record book based on telephones, letters, hearing and others from residents	To take proper measures	Each Union
Traffic Congestion	Conditions of congestion	Around construction sites	Watching	During construction work	Contractor

[Operation and Maintenance Phase]

Targets	Indicators	Monitoring Area	Methods	Frequency	Proposed Implementation Sectors
Complain from Residents	Number of complain Type of complain	Whole line	Checking record book based on telephones, letters, hearing and others from residents	To take proper measures	Each Union
Noise Level	Noise level	Along railway in residential area	Measurement by noise level meter	To take proper measures	Union
Traffic Safety	Number of accident	Whole line	Recording type, number of accident	Receiving report each accident	Union and VNR

Chapter 18 Conclusions and Recommendations

(1) Economic analysis of Lao Cai line shows that investment to rehabilitation and improvement of Lao Cai line can be justified from the national economic point of view, under the condition of GDP forecast as the SPC sets.

(2) In carrying out a feasibility study on Cai Lan line, it has been preconditioned that extension of track between Ha Long and Cai Lan is to be made by 2000 in Meter gauge or Dual gauge.

Given this condition, many measures to convert the gauge to the meter gauge on the Kep - Ha Long Section were compared and the overall evaluation including economic analysis suggests that a plan to convert into meter gauge by 2000 is the optimum measure.

However, this conclusion is dependent on the Cai Lan Port development and the GDP growth rates as the SPC sets.

In addition to the projects considered for cost benefit analysis, two other recommendations as indicated in 15.3 and 15.4 are significant for effective improvement of Cai Lan line.

(3) Construction of optimum short cut line connecting Yien Vien and Pha Lai can be judged to be implemented after 2010 from the national economic point of view.

(4) Environmental evaluation of rehabilitation and improvement of Lao Cai and Cai Lan lines indicates that there will be no significant problems if the appropriate countermeasures as recommended in the Report are implemented, because the projects are rehabilitation and improvement of the existing lines.

(5) If the priority should be given on Lao Cai and Cai Lan lines, Cai Lan line should be given more priority with due consideration on the fact that development of Cai Lan Port, one of the most significant national project, is closely related with development of Cai Lan line. Priority on other recommendations as indicated in the Clause 15.3 and Clause 15.4 is given in Project 2000 in Chapter 2.

(6) Total cost for rehabilitation and improvement of Lao Cai and Cai Lan lines amounts to US$ 77 million. Total cost for rehabilitation and improvement of Hanoi - Ho Chi Minh line and Lao Cai - Cai Lan line sums up to US$ 610 million. This means that Viet Nam government should allocate 22% of investment to transport sector to railway sector by 2000.

(7) The rehabilitation and improvement of Lao Cai line and Cai Lan line should be implemented with adequate financial support of the government, so that the railway can play fully its role in supporting socio-economic development of the country.

APPENDIX

Appendix 4 Traffic Survey

1. Traffic Count Survey on the Hanoi Cordon Line

In order to confirm the volume and distribution pattern of dominant traffic generation zones, traffic count and roadside interview survey was conducted in the end of June, 1995 on the Hanoi cordon line. The survey locations are presented in Figure 1.1.

Total volume of traffic generation and attraction of Hanoi account for 74,000 in non-motorized-vehicle (NMV), 90,000 in motor cycle (MC), and 24,000 in motorized vehicles of more than four wheels (MV). More than 80% of traffic is made by NMV and MC, while only 13% of traffic is made by MV.

Table 1.1 Traffic Volume on the Hanoi Cordon Line

(1) 16 Hours Ttraffic Volume (Vehicles)

	From Hanoi			To Hanoi			Both direction			Both direction share		
Location	NMV	MC	MV	NMV	MC	MV	NMV	MC	MV	NMV	MC	MV
(1)	2,046	2,138	793	2,100	2,305	737	4,146	4,443	1,530	5.6	5.0	6.4
(2)	972	637	335	896	589	71	1,868	1,226	406	2.5	1.4	1.7
(3)	3,476	6,566	1,544	3,159	5,885	1,447	6,635	12,451	2,991	8.9	13.9	12.5
(4)	2,326	4,982	2,249	2,138	4,433	2,365	4,464	9,415	4,614	6.0	10.5	19.4
(5)	2,373	3,645	2,660	2,547	4,903	2,699	4,920	8,548	5,359	6.6	9.5	22.5
(6)	17,916	17,819	2,097	18,717	20.864	2,533	36,633	38,683	4,630	49.3	43.2	19.4
(7)	7,049	5,142	961	4,753	4,567	995	11,802	9,709	1,956	15.9	10.8	8.2
(8)	177	80	16	169	127	20	346	207	36	0.5	0.2	0.2
(9)	1,833	2,607	1,139	1,619	2,335	1,174	3,452	4,942	2,313	4.6	5.5	9.7
Total	38,168	43,616	11,794	36,098	46,008	12,041	74,266	89,624	23,835	100.0	100.0	100.0

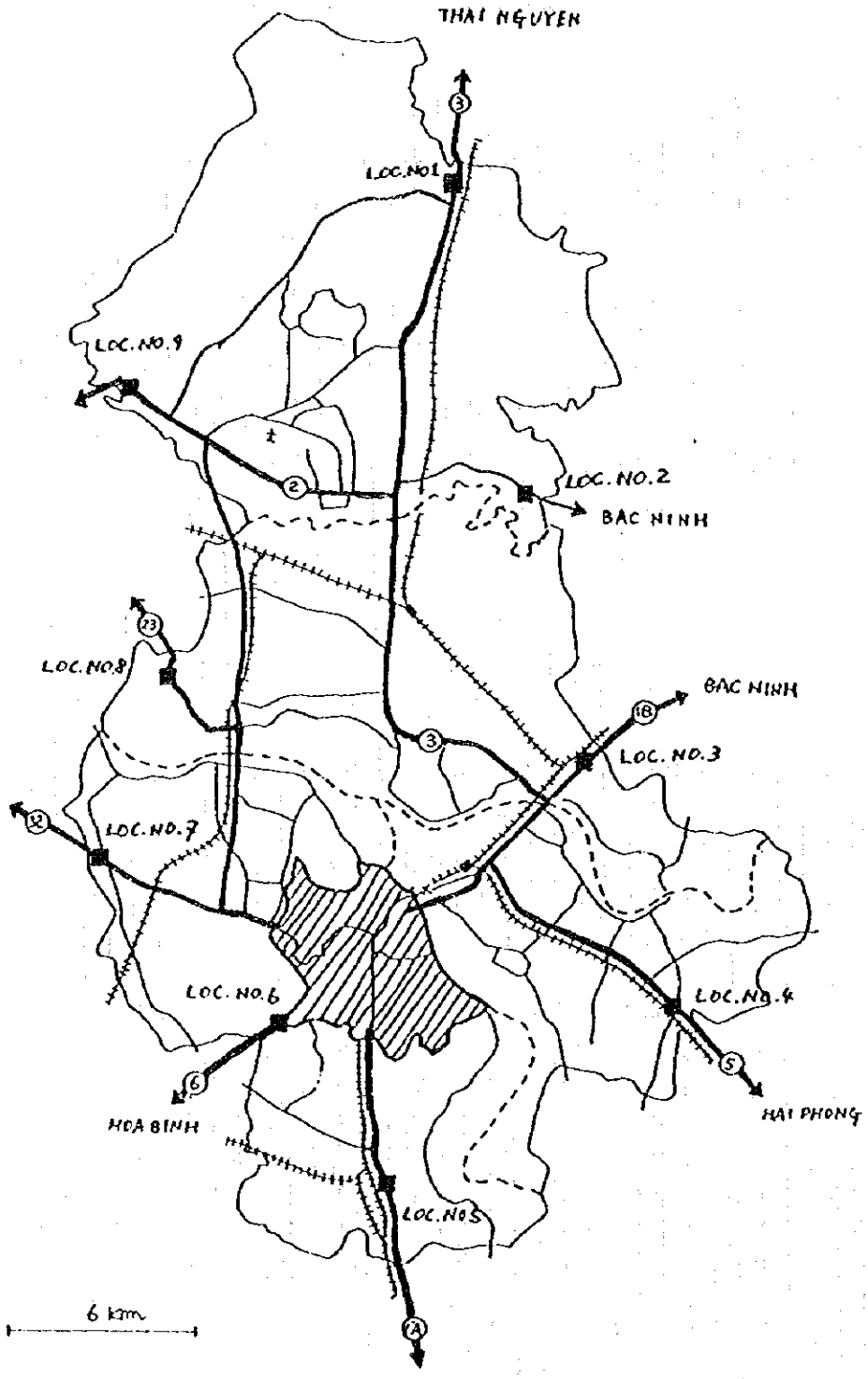

Figure 1.1 Survey Locations

(2) Share by Vehicle Type

Location	From Hanoi			To Hanoi			Both direction		
	NMV	MC	MV	NMV	MC	MV	NMV	MC	MV
(1)	41.1	43.0	15.9	40.8	44.8	14.3	41.0	43.9	15.1
(2)	50.0	32.8	17.2	57.6	37.9	4.6	53.4	35.0	11.6
(3)	30.0	56.7	13.3	30.1	56.1	13.8	30.1	56.4	13.5
(4)	24.3	52.1	23.5	23.9	49.6	26.5	24.1	50.9	24.9
(5)	27.3	42.0	30.7	25.1	48.3	26.6	26.1	45.4	28.5
(6)	47.4	47.1	5.5	44.4	49.5	6.0	45.8	48.4	5.8
(7)	53.6	39.1	7.3	46.1	44.3	9.6	50.3	41.4	8.3
(8)	64.8	29.3	5.9	53.5	40.2	6.3	58.7	35.1	6.1
(9)	32.9	46.7	20.4	31.6	45.5	22.9	32.2	46.2	21.6
Total	40.8	46.6	12.6	38.3	48.9	12.8	39.6	47.7	12.7

(3) 24 Hours Traffic Volume

Location	From Hanoi			To Hanoi			Both direction		
	NMV	MC	MV	NMV	MC	MV	NMV	MC	MV
(3)	3,591	6,857	1,701	3,297	6,062	1,678	6,888	12,919	3,379
(4)	2,359	5,177	2,526	2,294	4,559	2,672	4,653	9,736	5,198
(5)	2,431	3,830	2,918	3,033	5,072	3,144	5,464	8,902	6,062
(9)	1,908	2,676	1,255	1,824	2,404	1,275	3,732	5,080	2,530

(4) 42/16 Ratio

Location	From Hanoi			To Hanoi			Both direction		
	NMV	MC	MV	NMV	MC	MV	NMV	MC	MV
(3)	1.033	1.044	1.102	1.044	1.030	1.160	1.038	1.038	1.130
(4)	1.014	1.039	1.123	1.073	1.028	1.130	1.042	1.034	1.127
(5)	1.024	1.051	1.097	1.191	1.034	1.165	1.111	1.041	1.131
(9)	1.041	1.026	1.102	1.127	1.030	1.086	1.081	1.028	1.094
Average	1.028	1.042	1.106	1.104	1.031	1.141	1.065	1.036	1.124

2 Traffic Characteristics of Passengers of Long-Distance Trip

Three transport modes are available for a long-distance person trip in Viet Nam, those are railways, buses, and air. Motor vehicles are scarcely used for long-distance trips of Vietnamese people since private vehicle ownership is very limited at present.

Questionnaire surveys were conducted in order to find the traffic characteristics of long-distance passengers in Viet Nam. The survey forms presented in the appendix are translated into Vietnamese and the trained survey staffs from TEDI and VRDI asked domestic passengers (Vietnamese) to answer the questions at the Noi Bai airport, the three bus terminals in Hanoi, the three railway sections of the Hanoi - Ho Chi Minh line, the Hanoi-Lao Cai line and the Hanoi-Ha Long line.

Table 2.1 Survey Performance

Survey Location	No. of Samples	
Noi Bai Airport	Hanoi - Ho Chi Minh	404
	Hanoi - Da Nang	122
	Hanoi - Hue	15
	Hanoi - Vinh	34
Railways	Hanoi - Vinh	243
	Da Nang - Hue	204
	Ho Chi Minh - Muong Man	273
	Hanoi - Lao Cai Line	177
	Hanoi - Ha Long Line	219
Bus Terminals	Giap Bat	280
	Gia Lam	171
	Kim Ma	170

In the questionnaire survey, nationality, age, sex, type of job, personal income, household income and permanent address were inquired as a personal profile. Since there have been no such the survey in Viet Nam, it provide very valuable information to understand the characteristics of travelers by each mode.

As a traffic characteristics, trip origin and destination places, available stations or terminals for the trip, trip purpose, travel cost, travel time, departure frequency, access mode and its cost and time. Besides the above mentioned questions which are described in a numeric variables, each passenger's evaluation on the cost, time, frequency, comfortableness and safety is inquired in a form of ordering of five steps. Since, this information directly indicates people's awareness to the transport systems, it must be useful to developing a principle of improvement of LOS (level of service).

(1) Age

Age is widely distributed from one to eighty years old. The average ages by the type of transport mode are slightly different. The average age of air transport user is 42 years old. The average age of the others are middle of thirty's.

Survey Location	Average Age
Noi Bai Airport	42.0
HN-HCM Line	38.0
HN-Lao Cai Line	34.6
HN-Ha Long Line	36.8
Giap Bat Bus Terminal	34.0
Gia Lam Bus Terminal	35.0
Kim Ma Bus Terminal	29.0

(2) Sex

More than half of the passengers of every transport mode are male. Rather good occupation by female (40% of total passenger) was observed on the Hanoi - Ho Chi Minh line and Hanoi - Ha Long line. On the contrary, about 70% of passenger are male in the other modes.

(3) Job

There are significant difference in type of job between the modes. About 30% of air passenger and 20% of Hanoi-Ho Chi Minh line are government officials, which are the most dominant passenger for the two transport modes. On the Hanoi - Lao Cai line, about 20% of passenger belong to tertiary industry, which is followed by peddler (16.6%) and farmer / fishermen

(12.9%). On the Hanoi - Ha Long line, about half of the passengers are the employee of secondary and tertiary industry, which is followed by peddler. It is generally observed that employee and peddler have rather high proportion in the East - West lines in Northern part of Viet Nam, which indicates that the lines have an important role for the regional economy. In the bus passenger, it is noted that rather good proportion was occupied by students.

Major Users by Type of Job

Survey Location	Ranking		
	1	2	3
Noi Bai Airport	Government(27.9)	Employee II(22.5)	Employee III(15.6)
HN-HCM Line	Government(18.2)	Self-business(18.2)	Employee II(12.9)
HN-Lao Cai Line	Employee III(22.9)	Self-business(16.6)	Farmer(13.7)
HN-Ha Long Line	Employee II(29.2)	Employee III(21.5)	Self-business(16.4)
Giap Bat Bus Terminal	Student(21.1)	Self-business(20.4)	Employee(16.1)
Gia Lam Bus Terminal	Farmer(27.3)	Employee II(13.3)	Student(12.7)
Kim Ma Bus Terminal	Employee II(13.9)	Self-business(12.7)	Student(10.3)

(4) Personal and Household Income

There is a significant difference among the modes in level of passenger's income. It is generally observed that income level of passenger in the North - South direction is higher than that of the East - West direction.

Survey Location	Private Income	Household Income
Noi Bai Airport	981,939 Dong	1,918,489 Dong
HN-HCM Line	489,781 Dong	898,299 Dong
HN-Lao Cai Line	447,725 Dong	845,417 Dong
HN-Ha Long Line	268,673 Dong	479,904 Dong
Giap Bat Bus Terminal	373,939 Dong	1,210,435 Dong
Gia Lam Bus Terminal	394,429 Dong	501,434 Dong
Kim Ma Bus Terminal	306,893 Dong	476,364 Dong

(5) Trip Purpose

About half of the air passengers and 13.9 % of the Hanoi - Ho Chi Minh railway passengers have "official" purpose for their trips. On the contrary, "official" purpose passengers are scarcely observed in the other transport modes. It is safely stated that there is almost no possibility that half of the air passenger who have the "official" purpose use other modes for their trip. The other transport mode except the air are mainly used by the passenger whose trip purpose is "self-business", which account about 30 to 40 % of total.

Major Trip Purpose

Survey Location	Ranking		
	1	2	3
Noi Bai Airport	Official(52.4)	Self-business(22.5)	Recreational(14.6)
HN-HCM Line	Self-business(25.8)	Recreational(17.7)	Official(13.9)
HN-Lao Cai Line	Self-business(41.8)	Employer's-business(12.4)	Others(11.3)
HN-Ha Long Line	Self-business(35.2)	Recreational(20.1)	Other to home(14.6)
Giap Bat Bus Terminal	Self-business(25.7)	School to home(13.9)	Recreational(12.9)
Gia Lam Bus Terminal	Self-business(34.3)	Other to home(21.5)	Home to work(10.5)
Kim Ma Bus Terminal	Self-business(58.2)	Others(12.1)	Shopping(9.7)

(6) Decision Making Factors for Selection of Transport Mode

Five items| cost, time, frequency, comfortableness and safety are presented in the questionnaire as factors which make effect on decision making for selection of transport mode. Each interviewee was asked to select one factors which have the most dominant effect in selection of transport mode.

There observed significant difference between the modes. Almost all the air passenger selected "time" for their dominant decision making factor. The railway passenger of significant proportion selected the "Safety" and "Comfortableness" and the major bus passenger selected the "Frequency" and "Time". It may say that since there is not significant difference in travel cost between the railway and the buses, these two transport modes are substitution for each

other in terms of the other four factors.

Major Decision Making Factors for Selection of Transport Mode

	Ranking (%)		
Survey Location	1	2	3
Noi Bai Airport	Time(82.3)	Comfortableness(6.7)	Cost(6.3)
HN-HCM Line	Safety(49.2)	Comfortableness(31.5)	Cost(9.8)
HN-Lao Cai Line	Comfortableness(74.0)	Safety(16.9)	Others(4.0)
HN-Ha Long Line	Safty(64.8)	Comfortableness(30.1)	Cost/Time(1.8)
Giap Bat Bus Terminal	Frequency(49.4)	Time(29.6)	Cost(16.6)
Gia Lam Bus Terminal	Time(36.1)	Frequency(34.9)	Cost(19.9)
Kim Ma Bus Terminal	Frequency(48.2)	Time(31.0)	Cost/Comfort(8.9)

(7-1) Evaluation on Travel Cost

The most frequent answer for the cost evaluation is "Reasonable" , which well exceed 50 % of total passengers by each mode except the Hanoi - Ho Chi Minh line passenger. More than half of the passengers on the Hanoi - Ho Chi Minh line answered "Rather expensive", which indicates that there exist other important factors to select the railway such as "Safety" and "Comfortableness".

Survey Location	Mode (%)
Noi Bai Airport	Reasonable (64.4)
HN-HCM Line	Rather expensive (54.3)
HN-Lao Cai Line	Reasonable (65.3)
HN-Ha Long Line	Reasonable (70.3)
Giap Bat Bus Terminal	Reasonable (57.3)
Gia Lam Bus Terminal	Reasonable (69.4)
Kim Ma Bus Terminal	Reasonable (67.3)

(7-2) Evaluation on Travel Time

The most frequent answer for the cost evaluation in the air passengers is "Rather short" , which coincides with the fact that the dominant decision making factor for the air passengers is "Time". There are variations in the railway passengers' responses. Major part of the railway passengers on the Hanoi - Ho Chi Minh line and the Hanoi - Ha Long line responded "Rather long", on the contrary the passengers on the Lao Cai line responded "Rather short". The bus passengers at the Giap Bat bus terminal which is used for the south direction bus services responded "Reasonable", that seems to be a contrast with the responses of the Hanoi - Ho Chi Minh railway passengers.

Survey Location	Mode (%)
Noi Bai Airport	Rather short (51.7)
HN-HCM Line	Rather long (54.3)
HN-Lao Cai Line	Rather short (47.5)
HN-Ha Long Line	Rather long (53.0)
Giap Bat Bus Terminal	Reasonable (40.6)
Gia Lam Bus Terminal	Reasonable (53.2)
Kim Ma Bus Terminal	Rather short (46.4)

(7-3) Evaluation on Departure Frequency

The most frequent answer for the frequency evaluation common to all the passenger except at the Kim Ma bus terminal is "About Average" or "Convenient". The average occupancy ratio against the maximum available seats are 27.0% at the Giap Bat terminal, 68.3% at the Gia Lam terminal and 90.9% at the Kim Ma terminal. This fact indicates that supply of bus services at the Kim Ma is very close to its maximum capacity, which may lead to the major responses of "Inconvenient" at the Kim Ma bus terminal.

Survey Location	Mode (%)
Noi Bai Airport	Convenient (46.2)
HN-HCM Line	About average (78.6)
HN-Lao Cai Line	Convenient (48.6)
HN-Ha Long Line	About Average (42.9)
Giap Bat Bus Terminal	Convenient (57.7)
Gia Lam Bus Terminal	About Average (62.0)
Kim Ma Bus Terminal	Inconvenient (52.4)

(7-4) Evaluation on Comfort of Travel

The most frequent answer for the comfortableness evaluation common to all the passenger except at the Giap Bat bus terminal is "About Average" or "Satisfied". Even the passengers at the Giap Bat bus terminal responded "Dissatisfied", they used the buses, that indicates that they valued other factors such as "Frequency" and "Time" in comparison with the Hanoi - Ho Chi Minh railway..

Survey Location	Mode (%)
Noi Bai Airport	Satisfied (66.7)
HN-HCM Line	About average (55.2)
HN-Lao Cai Line	Satisfied (79.1)
HN-Ha Long Line	Satisfied (47.5)
Giap Bat Bus Terminal	Dissatisfied (43.8)
Gia Lam Bus Terminal	About average (43.6)
Kim Ma Bus Terminal	Satisfied (49.4)

(7-5) Evaluation on Comfortableness of Travel

The most frequent answer for the safety evaluation common to all the passenger is "Rather safe" or "About average". However, it should be noted that about 20 % of the Giap Bat bus terminal passengers and about 10 % of the Gia Lam bus terminal passengers responded "Rather dangerous".

Survey Location	Mode (%)
Noi Bai Airport	Rather safe (85.3)
HN-HCM Line	Rather safe (73.3)
HN-Lao Cai Line	Rather safe (80.7)
HN-Ha Long Line	Rather safe (47.3)
Giap Bat Bus Terminal	Rather safe (48.1)
Gia Lam Bus Terminal	Rather safe (58.1)
Kim Ma Bus Terminal	Very safe (39.9)

Appendix 5.2.1 Profitability Analysis(Transport Division:1)

[Excluding Depreciation Cost of Infrastructure:Case 1] (Unit: Mil. Dong)

Items	Formula	1992	1993	1994	Annual Average Growth Rate(%) (1992/94)
1.Operating Revenue					
(1) Main Business	(A)	400,129	469,835	607,115	23.18
(2) Subsidiary Business	(B)	29,860	63,969	56,681	37.78
(3) Main+ Subsidiary Business	(C)	429,989	533,804	663,796	24.25
2.Current Profit					
(1) Main Business *1)	(D)	11,637	4,133	-53,767	137.08
(2) Subsidiary Business	(E)	1,720	1,928	2,272	14.93
(3) Total of Current Profit *1), *2)	(F)	14,846	4,437	-53,147	89.21
3.Total Assets *3)	(G)	800,861	841,367	902,837	6.18
4.Rate of Return on Total Assets(%)					
(1) Main Business	{(D)/(G)} x 100	1.45	0.49	-5.96	102.45
(2) Subsidiary Business	{(E)/(G)} x 100	0.21	0.23	0.25	8.25
(3) Main+ Subsidiary Business	{(F)/(G)} x 100	1.85	0.53	-5.89	78.20
5.Rate of Return on Sales (%)					
(1) Main Business (a)	{(D)/(A)} x 100	2.91	0.88	-8.86	74.51
(b)	{(F)/(A)} x 100	3.71	0.94	-8.75	53.61
(2) Subsidiary Business	{(E)/(B)} x 100	5.76	3.01	4.01	-16.58
(3) Main+ Subsidiary Business	{(F)/(C)} x 100	3.45	0.83	-8.01	52.28
6.Rate of Sales on Total Assets Turnover					
(1) Main Business	(A)/(G)	0.50	0.56	0.67	16.01
(2) Subsidiary Business	(B)/(G)	0.04	0.08	0.06	29.76
(3) Main+ Subsidiary Business	(C)/(G)	0.54	0.63	0.74	17.02

Source: "Income and Expenditure" and "Balance Sheet" of Transport Division (1992-1994), The Department of Financial and Accounting of VNR Head Quarter.

Note: *1) Depreciation and repairs for infrastructure are excluded. The rate of them to the total depreciation and repai are assumed to be 60.4% in1992 and 1993, and 76.0% in 1994 which is based on "The Report; Roads, Rails, Vehicles, Bridges, Tax System, and Traffic Forecasts", MOTC, April,1994.

*2) It does not include other expenses and special expenses for items of expenses and other incomes for item item of income. Then total of current profit is not equal to total of main business and subsidiary business.

*3) The assets of infrastructure is excluded by the same rates of depreciation and repairs for infrastructure already mentioned in Note *1).

Appendix 5.2.2 Profitability Analysis(Transport Division:2)

[Excluding Infrastructure:Case 2] (UNit: Mil. Dong)

Items	Formula	1992	1993	1994	Annual Average Growth Rate(%) (1992/94)
1.Operating Revenue					
(1) Main Business	(A)	400,129	469,835	607,115	23.18
(2) Subsidiary Business	(B)	29,860	63,969	56,681	37.78
(3) Main+ Subsidiary Business	(C)	429,989	533,804	663,796	24.25
2.Current Profit					
(1) Main Business *1)	(D)	19,113	14,501	-44,898	53.27
(2) Subsidiary Business	(E)	1,720	1,928	2,272	14.93
(3) Total of Current Profit *1), *2)	(F)	22,322	14,805	-44,278	40.84
3.Total Assets *3)	(G)	606,713	637,399	639,510	2.67
4.Rate of Return on Total Assets(%)					
(1) Main Business	{(D)/(G)} x 100	3.15	2.28	-7.02	49.29
(2) Subsidiary Business	{(E)/(G)} x 100	0.28	0.30	0.36	11.95
(3) Main+ Subsidiary Business	{(F)/(G)} x 100	3.68	2.32	-6.92	37.18
5.Rate of Return on Sales (%)					
(1) Main Business (a)	{(D)/(A)} x 100	4.78	3.09	-7.40	24.43
(b)	{(F)/(A)} x 100	5.58	3.15	-7.29	14.34
(2) Subsidiary Business	{(E)/(B)} x 100	5.76	3.01	4.01	-16.58
(3) Main+ Subsidiary Business	{(F)/(C)} x 100	5.19	2.77	-6.67	13.36
6.Rate of Sales on Total Assets Turnover					
(1) Main Business	(A)/(G)	0.66	0.74	0.95	19.98
(2) Subsidiary Business	(B)/(G)	0.05	0.10	0.09	34.20
(3) Main+ Subsidiary Business	(C)/(G)	0.71	0.84	1.04	21.02

Source: "Income and Expenditure" and "Balance Sheet" of Transport Division (1992-1994), The Department of Financial and Accounting of VNR Head Quarter.

Note: *1) Depreciation and repairs for infrastructure are excluded. The rate of them to the total depreciation and repai are assumed to be 70% in1992 and 1993, and 83% in 1994 which is based on "The Report; Roads, Rails, Vehicles, Bridges, Tax System, and Traffic Forecasts", MOTC, April,1994.

*2) It does not include other expenses and special expenses for items of expenses and other incomes for item item of income. Then total of current profit is not equal to total of main business and subsidiary business.

*3) The assets of infrastructure is excluded by the same rates of depreciation and repairs for infrastructure already mentioned in Note *1).

Appendix 5.2.3 Profitability Analysis[Unions (1):1994]

[Excluding Depreciation Cost of Infrastructure:Case 1] (Unit: Mil. Dong)

Items	Formula	Union1	Union2	Union3	Total
1.Operating Revenue					
(1) Main Business	(A)	321,027	141,119	144,968	607,114
(2) Subsidiary Business	(B)	15,987	26,241	10,215	52,443
(3) Main+ Subsidiary Business	(C)	337,014	167,360	155,183	659,557
2.Current Profit					
(1) Main Business *1)	(D)	-24,291	-4,241	-23,860	-52,392
(2) Subsidiary Business	(E)	533	319	1,272	2,124
(3) Total of Current Profit *1),*2)	(F)	-23,900	-4,560	-24,985	-53,445
3.Total Assets *3)	(G)	596,499	139,730	151,046	887,274
4.Rate of Return on Total Assets(%)					
(1) Main Business	{(D)/(G)} x 100	-4.07	-3.04	-15.80	-5.90
(2) Subsidiary Business	{(E)/(G)} x 100	0.09	0.23	0.84	0.24
(3) Main+ Subsidiary Business	{(F)/(G)} x 100	-4.01	-3.26	-16.54	-6.02
5.Rate of Return on Sales (%)					
(1) Main Business (a)	{(D)/(A)} x 100	-7.57	-3.01	-16.46	-8.63
(b)	{(F)/(A)} x 100	-7.44	-3.23	-17.23	-8.80
(2) Subsidiary Business	{(E)/(B)} x 100	3.33	1.22	12.45	4.05
(3) Main+ Subsidiary Business	{(F)/(C)} x 100	-7.09	-2.72	-16.10	-8.10
6.Rate of Sales on Total Assets Turnover					
(1) Main Business	(A)/(G)	0.54	1.01	0.96	0.68
(2) Subsidiary Business	(B)/(G)	0.03	0.19	0.07	0.06
(3) Main+ Subsidiary Business	(C)/(G)	0.56	1.20	1.03	0.74

Source: "Income and Expenditure" and "Balance Sheet" for each Union (1994), The Department of Financial and Accounting of VNR Head Quarter.

Note: *1) Depreciation and repairs for infrastructure are excluded. The rate of them to the total depreciation and repairs, are assumed to be 60.4% in1992 and 1993, and 76.0% in 1994 which is based on "The Report; Roads, Rails, Vehicles, Bridges, Tax System, and Traffic Forecasts", MOTC, April,1994.

*2) It does not include other expenses and special expenses for items of expenses and other incomes for item of income. Then total of current profit is not equal to total of main business and subsidiary business

*3) The assets of infrastructure is excluded by the same rates of depreciation and repairs for infrastructure already mentioned in Note *1).

Appendix 5.2.4 Profitability Analysis[Unions (2):1994]

[Excluding Depreciation Cost of Infrastructure:Case 2] (Unit: Mil. Dong)

Items	Formula	Union1	Union2	Union3	Total
1.Operating Revenue					
(1) Main Business	(A)	321,027	141,119	144,968	607,114
(2) Subsidiary Business	(B)	15,987	26,241	10,215	52,443
(3) Main+ Subsidiary Business	(C)	337,014	167,360	155,183	659,557
2.Current Profit					
(1) Main Business *1)	(D)	-19,654	-2,396	-21,395	-43,444
(2) Subsidiary Business	(E)	533	319	1,272	2,124
(3) Total of Current Profit *1),*2)	(F)	-19,263	-2,715	-22,520	-44,497
3.Total Assets *3)	(G)	422,520	98,975	106,991	628,486
4.Rate of Return on Total Assets(%)					
(1) Main Business	{(D)/(G)} x 100	-4.65	-2.42	-20.00	-6.91
(2) Subsidiary Business	{(E)/(G)} x 100	0.13	0.32	1.19	0.34
(3) Main+ Subsidiary Business	{(F)/(G)} x 100	-4.56	-2.74	-21.05	-7.08
5.Rate of Return on Sales (%)					
(1) Main Business (a)	{(D)/(A)} x 100	-6.12	-1.70	-14.76	-7.16
(b)	{(F)/(A)} x 100	-6.00	-1.92	-15.53	-7.33
(2) Subsidiary Business	{(E)/(B)} x 100	3.33	1.22	12.45	4.05
(3) Main+ Subsidiary Business	{(F)/(C)} x 100	-5.72	-1.62	-14.51	-6.75
6.Rate of Sales on Total Assets Turnover					
(1) Main Business	(A)/(G)	0.76	1.43	1.35	0.97
(2) Subsidiary Business	(B)/(G)	0.04	0.27	0.10	0.08
(3) Main+ Subsidiary Business	(C)/(G)	0.80	1.69	1.45	1.05

Source: "Income and Expenditure" and "Balance Sheet" for each Union (1994), The Department of Financial and Accounting of VNR Head Quarter.

Note: *1) Depreciation and repairs for infrastructure are excluded. The rate of them to the total depreciation and repairs, are assumed to be 70.0% in1992 and 1993, and 83.0% in 1994 which is based on "The Report; Roads, Rails, Vehicles, Bridges, Tax System, and Traffic Forecasts", MOTC, April,1994.

*2) It does not include other expenses and special expenses for items of expenses and other incomes for item of income. Then total of current profit is not equal to total of main business and subsidiary business

*3) The assets of infrastructure is excluded by the same rates of depreciation and repairs for infrastructure already mentioned in Note *1).

Appendix 5.2.5 Break Even Analysis(Transport Division;Total:1)

[Excluding Depreciation Cost of Infrastructure:Case1] (Unit: Mil. Dong)

Items	Formula	1992	1993	1994	Annual Average Growth Rate(%) 1992/94
1.Operating Revenue					
(1) Main Business	(A)	400,129	469,835	607,115	23.18
(2) Subsidiary Business	(B)	29,860	63,969	56,681	37.78
(3) Main+ Subsidiary Business	(C)	429,989	533,804	663,796	24.25
2. Traffic Volume(Mil. Pass. Ton km.)	(D)	2,883	2,747	3,215	5.60
3. Average Revenue	(D)/(A)=(E)	139	171	189	16.65
4.Operating Cost					
(1) Main Business	(F)	377,964	454,779	669,176	33.06
(2) Subsidiary Business	(G)	28,140	62,042	54,408	39.05
(3) Main+ Subsidiary Business	(H)	406,104	516,821	723,584	33.48
5. Fixed Cost					
(1) Main Business	(I)	92,087	115,689	159,057	31.42
(2) Susidiary Business	(J)	14,070	31,021	27,204	39.05
(3) Main+ Susidiary Business	(K)	106,157	146,710	186,261	32.46
6. Rate of Fixed Cost to Operating Revenue(%)					
(1) Main Business	(I)/(A)X100	23.0	24.6	26.2	6.69
(2) Subsidiary Business	(J)/(B)X100	47.1	48.5	48.0	0.92
(3) Main+ Subsidiary Business	(K)/(C)X100	24.7	27.5	28.1	6.61
7. Rate of Fixed Cost to Operating Cost(%)					
(1) Main Business	(I)/(F)X100	24.4	25.4	23.8	-1.23
(2) Subsidiary Business	(J)/(G)X100	50.0	50.0	50.0	0.00
(3) Main+ Subsidiary Business	(K)/(H)X100	26.1	28.4	25.7	-0.77
8. Variable Cost					
(1) Main Business	(L)	285,482	339,089	487,388	30.66
(2) Subsidiary Business	(M)	14,070	31,021	27,204	39.05
(3) Main+ Subsidiary Business	(N)	299,552	370,110	514,592	31.07
9. Rate of Variable Cost to Operating Revenue(%)					
(1) Main Business	(L)/(A)X100	71.3	72.2	80.3	6.07
(2) Subsidiary Business	(M)/(B)X100	47.1	48.5	48.0	0.92
(3) Main+ Subsidiary Business	(N)/(C)X100	69.7	69.3	77.5	5.49
10. Rate of Variable Cost to Operating Cost(%)					
(1) Main Business	(L)/(F)X100	75.5	74.6	72.8	-1.80
(2) Subsidiary Business	(M)/(G)X100	50.0	50.0	50.0	0.00
(3) Main+ Subsidiary Business	(N)/(H)X100	73.8	71.6	71.1	-1.81
11. Rate of Marginal Profit(%)					
(1) Main Business	{(A)-(L)}/(A)x100=(O)	28.7	27.8	19.7	-17.04
(2) Subsidiary Business	{(B)-(M)}/(B)x100=(P)	52.9	51.5	52.0	-0.83
(3) Main+ Subsidiary Business	{(C)-(N)}/(C)x100=(Q)	30.3	30.7	22.5	-13.92
12. Break Even Point					
(1) Operating Revenue(Mil. Dong)					
a. Main Business	(I)/{(O)/100}=(R)	321,393	415,730	806,555	58.42
b. Subsidiary Business	(J)/{(P)/100}=(S)	26,607	60,228	52,310	40.21
c. Main+ Subsidiary Business	(K)/{(Q)/100}=(T)	349,950	478,421	828,663	53.88
(2) Transport Volume(Mil. Pass.Ton km.)	(R)/(E)=(U)	2,316	2,431	4,271	35.81
13. Rate of Break Even Point(%)					
(1) Operating Revenue					
a. Main Business	(R)/(A)x100=(V)	80.32	88.48	132.85	28.61
b. Subsidiary Business	(S)/(B)x100=(W)	89.11	94.15	92.29	1.77
c. Main+ Subsidiary Business	(T)/(C)x100=(X)	81.39	89.62	124.84	23.85
(2) Traffic Volume(Mil. Pass. Ton km.)	(U)/(D)x100=(Y)	80.32	88.48	132.85	28.61
14. Rate of Management Safety(%)					
(1) Operating Revenue					
a. Main Business	100-(V)	19.68	11.52	-32.85	63.38
b. Subsidiary Business	100-(W)	10.89	5.85	7.71	-15.86
c. Main+ Subsidiary Business	100-(X)	18.61	10.38	-24.84	52.78
(2) Traffic Volume(Mil. Pass. Ton km.)	100-(Y)	19.68	11.52	-32.85	63.38

Source: "Income and Expenditure" and "Balance Sheet" of Transport Division (1992-1994), Department of Finance and Accounting of VNR Head Quarter.

Note: *1) Depreciation and repairs for infrastructure are excluded. The rate of them to the tota depreciation and repairs are assumed to be 60.4% in1992 and 1993, and 76.0% in 1994 which is based on "The Report: Roads, Rails, Vehicles, Bridges, Tax System, and Traffic Forecasts", MOTC, April.1994.

Appendix 5.2.6 Break Even Analysis(Transport Division;Total:2)

[Excluding Depreciation Cost of Infrastructure:Case2] (Unit: Mil. Dong)

Items	Formula	1992	1993	1994	Annual Average Growth Rate(%) 1992-94
1.Operating Revenue					
(1) Main Business	(A)	400,129	469,835	607,115	23.18
(2) Subsidiary Business	(B)	29,860	63,969	56,681	37.78
(3) Main+ Subsidiary Business	(C)	429,989	533,804	663,796	24.25
2. Traffic Volume(Mil. Pass. Ton km.)	(D)	2,883	2,747	3,215	5.60
3. Average Revenue	(D)/(A)=(E)	139	171	189	16.65
4.Operating Cost					
(1) Main Business	(F)	377,964	442,675	647,906	30.93
(2) Subsidiary Business	(G)	28,140	62,042	54,408	39.05
(3) Main+ Subsidiary Business	(H)	406,104	504,717	702,314	31.51
5. Fixed Cost					
(1) Main Business	(I)	82,938	103,585	148,858	33.97
(2) Susidiary Business	(J)	14,070	31,021	27,204	39.05
(3) Main+ Susidiary Business	(K)	97,008	134,606	176,062	34.72
6. Rate of Fixed Cost to Operating Revenue(%)					
(1) Main Business	(I)/(A)X100	20.7	22.0	24.5	8.76
(2) Subsidiary Business	(J)/(B)X100	47.1	48.5	48.0	0.92
(3) Main+ Subsidiary Business	(K)/(C)X100	22.6	25.2	26.5	8.43
7. Rate of Fixed Cost to Operating Cost(%)					
(1) Main Business	(I)/(F)X100	21.9	23.4	23.0	2.32
(2) Subsidiary Business	(J)/(G)X100	50.0	50.0	50.0	0.00
(3) Main+ Subsidiary Business	(K)/(H)X100	23.9	26.7	25.1	2.44
8. Variable Cost					
(1) Main Business	(L)	285,482	339,089	487,388	30.66
(2) Subsidiary Business	(M)	14,070	31,021	27,204	39.05
(3) Main+ Subsidiary Business	(N)	299,552	370,110	514,592	31.07
9. Rate of Variable Cost to Operating Revenue(%)					
(1) Main Business	(L)/(A)X100	71.3	72.2	80.3	6.07
(2) Subsidiary Business	(M)/(B)X100	47.1	48.5	48.0	0.92
(3) Main+ Subsidiary Business	(N)/(C)X100	69.7	69.3	77.5	5.49
10. Rate of Variable Cost to Operating Cost(%)					
(1) Main Business	(L)/(F)X100	75.5	76.6	75.2	-0.20
(2) Subsidiary Business	(M)/(G)X100	50.0	50.0	50.0	0.00
(3) Main+ Subsidiary Business	(N)/(H)X100	73.8	73.3	73.3	-0.33
11. Rate of Marginal Profit(%)					
(1) Main Business	{(A)-(L)}/(A)x100=(O)	28.7	27.8	19.7	-17.04
(2) Subsidiary Business	{(B)-(M)}/(B)x100=(P)	52.9	51.5	52.0	-0.83
(3) Main+ Subsidiary Business	{(C)-(N)}/(C)x100=(Q)	30.3	30.7	22.5	-13.92
12. Break Even Point					
(1) Operating Revenue(Mil. Dong)					
a. Main Business	(I)/{(O)/100}=(R)	289,461	372,234	754,838	61.48
b. Subsidiary Business	(J)/{(P)/100}=(S)	26,607	60,228	52,310	40.21
c. Main+ Subsidiary Business	(K)/{(Q)/100}=(T)	319,789	438,950	783,289	56.51
(2) Transport Volume(Mil. Pass.Ton km.)	(R)/(E)=(U)	2,086	2,176	3,997	38.41
13. Rate of Break Even Point(%)					
(1) Operating Revenue					
a. Main Business	(R)/(A)x100=(V)	72.34	79.23	124.33	31.10
b. Subsidiary Business	(S)/(B)x100=(W)	89.11	94.15	92.29	1.77
c. Main+ Subsidiary Business	(T)/(C)x100=(X)	74.37	82.23	118.00	25.96
(2) Traffic Volume(Mil. Pass. Ton km.)	(U)/(D)x100=(Y)	72.34	79.23	124.33	31.10
14. Rate of Management Safety(%)					
(1) Operating Revenue					
a. Main Business	100-(V)	27.66	20.77	-24.33	37.10
b. Subsidiary Business	100-(W)	10.89	5.85	7.71	-15.86
c. Main+ Subsidiary Business	100-(X)	25.63	17.77	-18.00	-16.19
(2) Traffic Volume(Mil. Pass. Ton km.)	100-(Y)	27.66	20.77	-24.33	37.10

Source: "Income and Expenditure" and "Balance Sheet" of Transport Division (1992-1994), Department of Finance and Accounting of VNR Head Quarter.

Note: *1) Depreciation and repairs for infrastructure are excluded. The rate of them to the tota depreciation and repairs are assumed to be 70% in1992 and 1993, and 83% in 1994 which is based on "The Report: Roads, Rails, Vehicles, Bridges, Tax System, and Traffic Forecasts", MOTC, April,1994.

Appendix 5.2.7 Structural Shares of Oprating Cost of Transport Division (Main Business)

(Unit:%)

Items	Rolling Stocks	Civil Works, Signal & Telecommunication	Station and Staffs	Total
Personnel Cost	29.2	46.7	24.1	100.0
Materials	40.2	48.6	11.2	100.0
Fuels	95.1	2.2	2.7	100.0
Electricity	42.1	27.5	30.4	100.0
Others	39.1	17.7	43.2	100.0
Depreciation Cost	39.6	60.4		100.0

Appendix 5.2.8 Structure of Operating Cost of Transport Division (1992) (Main Business)

(Unit:Mil. Dong)

Items	Rolling Stocks	Civil Works, Signal & Telecommunication	Station and Staffs	Total
Personnel Cost	40,796	65,246	33,671	139,713
Materials	30,633	37,034	8,535	76,202
Fuels	61,835	1,430	1,756	65,021
Electricity	1,819	1,188	1,313	4,320
Others	16,866	7,635	18,635	43,136
Total	151,949	112,534	63,909	328,392
Depreciation Cost	30,839	47,037		77,875

Appendix 5.2.9 Structure of Operating Cost of Transport Division (1993) (Main Business)

(Unit:Mil. Dong)

Items	Rolling Stocks	Civil Works, Signal & Telecommunication	Station and Staffs	Total
Personnel Cost	46,764	74,790	38,596	160,150
Materials	41,708	50,423	11,620	103,752
Fuels	58,453	1,352	1,660	61,465
Electricity	2,204	1,440	1,592	5,236
Others	23,576	10,673	26,048	60,297
Total	172,706	138,678	79,516	390,900
Depreciation Cost	42,768	65,232		108,000

Appendix 5.2.10 Structure of Operating Cost of Transport Division (1994) (Main Business)

(Unit:Mil. Dong)

Items	Rolling Stocks	Civil Works, Signal & Telecommunication	Station and Staffs	Total
Personnel Cost	77,574	124,066	64,025	265,665
Materials	63,188	76,391	17,604	157,183
Fuels	67,822	1,569	1,926	71,316
Electricity	2,644	1,727	1,909	6,281
Others	36,420	16,487	40,240	93,147
Total	247,648	220,240	125,704	593,592
Depreciation Cost	50,173	76,527		126,700

Appendix 5.2.11 Division of Operating Cost into the Fixed & Variable (Transport Division:1992)

(Unit:Mil. Dong)

Fixed Cost		Variable Cost		Total
Items	Amounts	Items	Amounts	
Depreciation Cost Except Rolling Stocks	47,037	Depreciation Cost of Rolling Stocks	30,839	77,875
40% of Total os Civil Works, Signal & Telecom.	45,013	60% of Total of Civil Works, Signal & Telecom.	67,520	112,534
50% of Station and Personnel Cost	16,835	50% of Station and Personnel Cost	16,835	33,671
Cost Except Station and Personnel	30,238			30,238
		Cost for Rolling Stocks	151,949	151,949
		Turnover Tax and etc.	11,436	11,436
60.4% of Repayment of Capital Debt (Except Rolling Stocks)	10,528	39.6% of Repayment of Capital Debt	6,903	17,431
Total	149,652	Total	285,482	435,134

Appendix 5.2.12 Division of Operating Cost into the Fixed & Variable (Transport Division:1993)

(Unit:Mil. Dong)

Fixed Cost		Variable Cost		Total
Items	Amounts	Items	Amounts	
Depreciation Cost Except Rolling Stocks	65,232	Depreciation Cost of Rolling Stocks	42,768	108,000
40% of Total os Civil Works, Signal & Telecom.	55,471	60% of Total of Civil Works, Signal & Telecom.	83,207	138,678
50% of Station and Personnel Cost	19,298	50% of Station and Personnel Cost	19,298	38,596
Cost Except Station and Personnel	40,920			40,920
		Cost for Rolling Stocks	172,706	172,706
		Turnover Tax and etc.	13,949	13,949
60.4% of Repayment of Capital Debt (Except Rolling Stocks)	10,923	39.6% of Repayment of Capital Debt	7,162	18,085
Total	191,845	Total	339,089	530,934

Appendix 5.2.13 Division of Operating Cost into the Fixed & Variable (Transport Division:1994)

(Unit:Mil. Dong)

Fixed Cost		Variable Cost		Total
Items	Amounts	Items	Amounts	
Depreciation Cost Except Rolling Stocks	76,527	Depreciation Cost of Rolling Stocks	50,173	126,700
40% of Total os Civil Works, Signal & Telecom.	88,096	60% of Total of Civil Works, Signal & Telecom.	132,144	220,240
50% of Station and Personnel Cost	32,013	50% of Station and Personnel Cost	32,013	64,025
Cost Except Station and Personnel	61,679			61,679
		Cost for Rolling Stocks	247,648	247,648
		Turnover Tax and etc.	17,892	17,892
60.4% of Repayment of Capital Debt (Except Rolling Stocks)	11,470	39.6% of Repayment of Capital Debt	7,520	18,990
Total	269,784	Total	487,390	757,174

Appendix 5.2.14 Break Even Analysis(Unions;Total:1,1994)

(Excluding Infrastructure:Case1) (Unit: Mil. Dong)

Items	Formula	Union1	Union2	Union3	Total
1.Operating Revenue					
(1) Main Business	(A)	321,027	141,119	144,968	607,114
(2) Susidiary Business	(B)	15,987	26,241	10,215	52,443
(3) Main+ Susidiary Business	(C)	337,014	167,360	155,183	659,557
2. Traffic Volume(Mil. Pass. Ton km.)	(D)	1,616	822	776	3,215
3. Average Revenue	(D)/(A)=(E)	199	172	187	189
4.Operating Cost					
(1) Main Business	(F)	338,073	142,515	165,860	646,448
(2) Susidiary Business	(G)	15,454	25,922	8,943	50,319
(3) Main+ Susidiary Business	(H)	353,527	168,437	174,803	696,767
5. Fixed Cost					
(1) Main Business *1)	(I)	79,134	37,398	42,526	159,058
(2) Susidiary Business	(J)	7,727	12,961	4,472	25,160
(3) Main+ Susidiary Business	(K)	86,861	50,359	46,997	184,217
6. Rate of Fixed Cost to Operating Revenue(%)					
(1) Main Business	(I)/(A)X100	24.7	26.5	29.3	26.2
(2) Subsidiary Business	(J)/(B)X100	48.3	49.4	43.8	48.0
(3) Main+ Subsidiary Business	(K)/(C)X100	25.8	30.1	30.3	27.9
7. Rate of Fixed Cost to Operating Cost(%)					
(1) Main Business	(I)/(F)X100	23.4	26.2	25.6	24.6
(2) Subsidiary Business	(J)/(G)X100	50.0	50.0	50.0	50.0
(3) Main+ Subsidiary Business	(K)/(H)X100	24.6	29.9	26.9	26.4
8. Variable Cost					
(1) Main Business	(L)	258,939	105,117	123,334	487,390
(2) Subsidiary Business	(M)	7,727	12,961	4,472	25,160
(3) Main+ Subsidiary Business	(N)	266,666	118,078	127,805	512,550
9. Rate of Variable Cost to Operating Revenue(%)					
(1) Main Business	(L)/(A)X100	80.7	74.5	85.1	80.3
(2) Subsidiary Business	(M)/(B)X100	48.3	49.4	43.8	48.0
(3) Main+ Subsidiary Business	(N)/(C)X100	79.1	70.6	82.4	77.7
10. Rate of Variable Cost to Operating Cost(%)					
(1) Main Business	(L)/(F)X100	76.6	73.8	74.4	75.4
(2) Subsidiary Business	(M)/(G)X100	50.0	50.0	50.0	50.0
(3) Main+ Subsidiary Business	(N)/(H)X100	75.4	70.1	73.1	73.6
11. Rate of Marginal Profit(%)					
(1) Main Business	{(A)-(L)}/(A)x100=(O)	19.3	25.5	14.9	19.7
(2) Subsidiary Business	{(B)-(M)}/(B)x100=(P)	51.7	50.6	56.2	52.0
(3) Main+ Subsidiary Business	{(C)-(N)}/(C)x100=(Q)	20.9	29.4	17.6	22.3
12. Break Even Point					
(1) Operating Revenue(Mil. Dong)					
a. Main Business	(I)/{(O)/100}=(R)	409,165	146,591	284,960	806,574
b. Subsidiary Business	(J)/{(P)/100}=(S)	14,955	25,611	7,953	48,360
c. Main+ Subsidiary Business	(K)/{(Q)/100}=(T)	416,121	171,018	266,391	826,501
(2) Transport Volume(Mil. Pass.Ton km.)	(R)/(E)=(U)	2,060	851	1,526	4,271
13. Rate of Break Even Point(%)					
(1) Operating Revenue					
a. Main Business	(R)/(A)x100=(V)	127.46	103.88	196.57	132.85
b. Subsidiary Business	(S)/(B)x100=(W)	93.55	97.60	77.85	92.22
c. Main+ Subsidiary Business	(T)/(C)x100=(X)	123.47	102.19	171.66	125.31
(2) Traffic Volume(Mil. Pass. Ton km.)	(U)/(D)x100=(Y)	127.46	103.88	196.57	132.85
14. Rate of Management Safety(%)					
(1) Operating Revenue					
a. Main Business	100-(V)	-27.46	-3.88	-96.57	-32.85
b. Subsidiary Business	100-(W)	6.45	2.40	22.15	7.78
c. Main+ Subsidiary Business	100-(X)	-23.47	-2.19	-71.66	-25.31
(2) Traffic Volume(Mil. Pass. Ton km.)	100-(Y)	-27.46	-3.88	-96.57	-32.85

Source: "Income and Expenditure" and "Balance Sheet" for each Union (1994). The Department of Financial and Accounting of VNR Head Quarter.

Note: *1) Depreciation and repairs for infrastructure are excluded. The rate of them to the total depreciation and repairs are assumed to be 60.4% in1992 and 1993, and 76.0% in 1994 which is based on "The Report: Roads, Rails, Vehicles, Bridges, Tax System, and Traffic Forecasts", MOTC, April,1994.

Appendix 5.2.15 Break Even Analysis(Unions;Total:2,1994)

[Excluding Infrastructure:Case2] (Unit: Mil. Dong)

Items	Formula	Union1	Union2	Union3	Total
1.Operating Revenue					
(1) Main Business	(A)	321,027	141,119	144,968	607,114
(2) Susidiary Business	(B)	15,987	26,241	10,215	52,443
(3) Main+ Susidiary Business	(C)	337,014	167,360	155,183	659,557
2. Traffic Volume(Mil. Pass. Ton km.)	(D)	1,616	822	776	3,215
3. Average Revenue	(D)/(A)=(E)	199	172	187	189
4.Operating Cost					
(1) Main Business	(F)	333,995	140,378	163,102	637,475
b. Subsidiary Business	(G)	15,454	25,922	8,943	50,319
c. Main+ Subsidiary Business	(H)	349,449	166,300	172,045	687,794
5. Fixed Cost					
(1) Main Business *1)	(I)	73,830	35,261	39,768	148,859
(2) Susidiary Business	(J)	7,727	12,961	4,472	25,160
(3) Main+ Susidiary Business	(K)	81,557	48,222	44,239	174,018
6. Rate of Fixed Cost to Operating Revenue(%)					
(1) Main Business	(I)/(A)X100	23.0	25.0	27.4	24.5
(2) Subsidiary Business	(J)/(B)X100	48.3	49.4	43.8	48.0
(3) Main+ Subsidiary Business	(K)/(C)X100	24.2	28.8	28.5	26.4
7. Rate of Fixed Cost to Operating Cost(%)					
(1) Main Business	(I)/(F)X100	22.1	25.1	24.4	23.4
(2) Subsidiary Business	(J)/(G)X100	50.0	50.0	50.0	50.0
(3) Main+ Subsidiary Business	(K)/(H)X100	23.3	29.0	25.7	25.3
8. Variable Cost					
(1) Main Business	(L)	258,939	105,117	123,334	487,390
(2) Subsidiary Business	(M)	7,727	12,961	4,472	25,160
(3) Main+ Subsidiary Business	(N)	266,666	118,078	127,805	512,550
9. Rate of Variable Cost to Operating Revenue(%)					
(1) Main Business	(L)/(A)X100	80.7	74.5	85.1	80.3
(2) Subsidiary Business	(M)/(B)X100	48.3	49.4	43.8	48.0
(3) Main+ Subsidiary Business	(N)/(C)X100	79.1	70.6	82.4	77.7
10. Rate of Variable Cost to Operating Cost(%)					
(1) Main Business	(L)/(F)X100	77.5	74.9	75.6	76.5
(2) Subsidiary Business	(M)/(G)X100	50.0	50.0	50.0	50.0
(3) Main+ Subsidiary Business	(N)/(H)X100	76.3	71.0	74.3	74.5
11. Rate of Marginal Profit(%)					
(1) Main Business	{(A)-(L)}/(A)x100=(O)	19.3	25.5	14.9	19.7
(2) Subsidiary Business	{(B)-(M)}/(B)x100=(P)	51.7	50.6	56.2	52.0
(3) Main+ Subsidiary Business	{(C)-(N)}/(C)x100=(Q)	20.9	29.4	17.6	22.3
12. Break Even Point					
(1) Operating Revenue(Mil. Dong)					
a. Main Business	(I)/{(O)/100}=(R)	381,739	138,216	266,480	754,856
b. Subsidiary Business	(J)/{(P)/100}=(S)	14,955	25,611	7,953	48,360
c. Main+ Subsidiary Business	(K)/{(Q)/100}=(T)	390,712	163,762	250,759	780,744
(2) Transport Volume(Mil. Pass.Ton km.)	(R)/(E)=(U)	1,922	805	1,427	3,997
13. Rate of Break Even Point(%)					
(1) Operating Revenue					
a. Main Business	(R)/(A)x100=(V)	118.91	97.94	183.82	124.34
b. Subsidiary Business	(S)/(B)x100=(W)	93.55	97.60	77.85	92.22
c. Main+ Subsidiary Business	(T)/(C)x100=(X)	115.93	97.85	161.59	118.37
(2) Traffic Volume(Mil. Pass. Ton km.)	(U)/(D)x100=(Y)	118.91	97.94	183.82	124.34
14. Rate of Management Safety(%)					
(1) Operating Revenue					
a. Main Business	100-(V)	-18.91	2.06	-83.82	-24.34
b. Subsidiary Business	100-(W)	6.45	2.40	22.15	7.78
c. Main+ Subsidiary Business	100-(X)	-15.93	2.15	-61.59	-18.37
(2) Traffic Volume(Mil. Pass. Ton km.)	100-(Y)	-18.91	2.06	-83.82	-24.34

Source: "Income and Expenditure" and "Balance Sheet" for each Union (1994). The Department of Financial and Accounting of VNR Head Quarter.

Note: *1) Depreciation and repairs for infrastructure are excluded. The rate of them to the total depreciation and repairs are assumed to be 70% in1992 and 1993, and 83% in 1994 which is based on "The Report; Roads, Rails, Vehicles, Bridges, Tax System, and Traffic Forecasts", MOTC, April,1994.

Appendix 5.2.16 Structure of Operating Cost of Union1 (1994)
(Main Business)

(Unit:Mil. Dong)

Items	Rolling Stocks	Civil Works, Signal & Telecommunication	Station and Staffs	Total
Personnel Cost	44,701	71,491	36,893	153,085
Materials	29,051	35,122	8,094	72,267
Fuels	42,642	986	1,211	44,839
Electricity	1,433	936	1,035	3,403
Others	14,585	6,603	16,115	37,303
Total	132,412	115,137	63,347	310,897
Depreciation Cost	26,231	40,009		66,240

Appendix 5.2.17 Structure of Operating Cost of Union2 (1994)
(Main Business)

(Unit:Mil. Dong)

Items	Rolling Stocks	Civil Works, Signal & Telecommunication	Station and Staffs	Total
Personnel Cost	15,250	24,390	12,586	52,226
Materials	13,863	16,760	3,862	34,486
Fuels	13,329	308	378	14,016
Electricity	385	251	278	914
Others	11,404	5,162	12,599	29,165
Total	54,231	46,872	29,704	130,807
Depreciation Cost	10,438	15,921		26,359

Appendix 5.2.18 Structure of Operating Cost of Union 3 (1994)
(Main Business)

(Unit:Mil. Dong)

Items	Rolling Stocks	Civil Works, Signal & Telecommunication	Station and Staffs	Total
Personnel Cost	17,623	28,185	14,345	60,353
Materials	20,273	24,509	5,648	50,431
Fuels	11,850	274	336	12,461
Electricity	827	540	597	1,964
Others	10,431	4,722	11,525	26,679
Total	61,005	58,231	32,652	151,888
Depreciation Cost	13,504	20,597		34,101

Appendix 5.2.19 Division of Operating Cost into the Fixed & Variable (Union1:1994)

(Unit:Mil. Dong)

Fixed Cost		Variable Cost		Total
Items	Amounts	Items	Amounts	
Depreciation Cost Except Rolling Stocks	40,009	Depreciation Cost of Rolling Stocks	26,231	66,240
40% of Total os Civil Works, Signal & Telecom.	46,055	60% of Total os Civil Works, Signal & Telecom.	69,082	115,137
50% of Station and Personnel Cost	18,447	50% of Station and Personnel Cost	18,447	36,893
Cost Except Station and Personnel	26,454			26,454
		Cost for Rolling Stocks	132,412	132,412
		Turnover Tax and etc.	8,992	8,992
60.4% of Repayment of Capital Debt (Except Rolling Stocks)	5,757	39.6% of Repayment of Capital Debt	3,775	9,532
Total	136,722	Total	258,939	395,661

Appendix 5.2.20 Division of Operating Cost into the Fixed & Variable (Union2:1994)

(Unit:Mil. Dong)

Fixed Cost		Variable Cost		Total
Items	Amounts	Items	Amounts	
Depreciation Cost Except Rolling Stocks	13,921	Depreciation Cost of Rolling Stocks	10,438	26,359
40% of Total os Civil Works, Signal & Telecom.	18,749	60% of Total os Civil Works, Signal & Telecom.	28,123	46,872
50% of Station and Personnel Cost	6,293	50% of Station and Personnel Cost	6,293	12,586
Cost Except Station and Personnel	17,118			17,118
		Cost for Rolling Stocks	54,231	54,231
		Turnover Tax and etc.	4,383	4,383
60.4% of Repayment of Capital Debt (Except Rolling Stocks)	2,515	39.6% of Repayment of Capital Debt	1,649	4,164
Total	60,596	Total	105,117	165,713

Appendix 5.2.21 Division of Operating Cost into the Fixed & Variable (Union3:1994)

(Unit:Mil. Dong)

Fixed Cost		Variable Cost		Total
Items	Amounts	Items	Amounts	
Depreciation Cost Except Rolling Stocks	20,597	Depreciation Cost of Rolling Stocks	13,504	34,101
40% of Total os Civil Works, Signal & Telecom.	23,292	60% of Total os Civil Works, Signal & Telecom.	34,938	58,231
50% of Station and Personnel Cost	7,273	50% of Station and Personnel Cost	7,273	14,545
Cost Except Station and Personnel	18,107			18,107
		Cost for Rolling Stocks	61,005	61,005
		Turnover Tax and etc.	4,517	4,517
60.4% of Repayment of Capital Debt (Except Rolling Stocks)	3,198	39.6% of Repayment of Capital Debt	2,097	5,295
Total	72,467	Total	123,334	195,801

Appendix 5.2.22 Forecast of Income Statement of Transport Division of VNR(Without:1)

(Unit:Mil.Dong)

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
1. Income											
1) Passenger											
(1) Passenger	272,899	301,793	333,632	368,830	407,741	450,758	523,229	528,984	534,803	540,686	546,634
(2) Other Revenue	2,968	3,282	3,628	4,011	4,434	4,902	5,690	5,752	5,815	5,879	5,944
Sub-Total(A)	275,867	305,074	337,260	372,841	412,175	455,660	528,918	534,737	540,619	546,566	552,578
2) Freight											
(1) Freight	301,330	309,141	317,179	325,425	333,886	342,567	362,018	362,018	391,875	424,195	459,180
(2) Percels	26,936	29,779	32,921	36,394	40,233	44,478	51,629	52,197	52,771	53,351	53,938
(3) Other Revenue	2,982	3,060	3,139	3,221	3,305	3,391	3,583	3,583	3,879	4,198	4,545
Sub-Total(B)	331,248	341,980	353,239	365,040	377,424	390,436	417,230	417,798	448,525	481,745	517,663
Total(C)	607,115	647,054	690,498	737,881	789,600	846,096	946,149	952,535	989,144	1,028,310	1,070,240
2. Expenditure											
1) Passenger											
(1) Operating Cost											
a. Personnel Cost	120,045	112,621	117,486	115,463	113,320	117,728	116,095	116,095	120,315	120,315	120,315
b. Rental Fee for Infrastructure	-	30,507	33,726	37,284	41,218	45,566	52,892	53,474	54,062	54,657	55,258
c.Materials	99,374	112,051	126,345	142,463	160,636	181,128	204,234	220,081	237,159	255,561	275,392
d. Fuels	33,373	38,461	44,314	51,057	58,827	67,779	78,094	84,170	90,719	97,778	105,386
e. Electricity	4,971	4,477	5,049	5,693	6,419	7,238	8,161	8,794	9,477	10,212	11,004
f. Depreciation Cost(D)	24,118	27,978	32,428	37,587	43,566	50,496	58,528	60,511	62,561	64,681	66,872
Sub-Total	281,881	326,096	359,348	389,547	423,985	469,935	518,003	543,125	574,293	603,204	634,227
(2) Non-Operating Cost											
a. Others	47,791	55,841	61,597	66,925	72,989	80,951	89,488	88,326	93,326	98,014	103,044
b. Tax											
a) Revenue Tax	7,227	12,203	13,490	14,914	16,487	18,226	21,157	21,389	21,625	21,863	22,103
b) Capital Tax	12,006	13,537	15,264	17,211	19,407	21,882	24,674	26,588	28,652	30,875	33,271
Sub-Total	67,024	81,581	90,352	99,050	108,883	121,060	135,319	136,304	143,603	150,752	158,417
Total(E)	348,905	407,678	449,700	488,597	532,868	590,995	653,321	679,428	717,895	753,955	792,645
2) Freight											
(1) Operating Cost											
a. Personnel Cost	145,620	126,476	123,285	113,269	103,976	101,088	91,781	91,781	100,033	100,033	100,033
b. Rental Fee for Infrastructure	-	34,198	35,324	36,504	37,742	39,044	41,723	41,780	44,852	48,174	51,766
c.Materials	57,809	63,996	70,845	78,427	86,820	96,112	106,398	113,197	120,430	128,126	136,313
d. Fuels	37,943	41,967	46,418	51,341	56,786	62,809	69,471	73,910	78,633	83,657	89,003
e. Electricity	2,310	2,557	2,831	3,134	3,469	3,841	4,252	4,523	4,812	5,120	5,447
f. Depreciation Cost(F)	26,056	29,017	32,314	35,986	40,076	44,630	49,701	50,722	51,764	52,827	53,912
Sub-Total	269,738	298,211	311,017	318,661	328,869	347,523	363,325	375,912	400,524	417,937	436,475
(2) Non-Operating Cost											
a. Others	45,356	49,364	51,551	52,939	54,750	57,912	60,686	59,463	63,363	66,203	69,228
b. Tax											
a) Revenue Tax	10,665	6,840	7,065	7,301	7,548	7,809	8,345	8,356	8,970	9,635	10,353
b) Capital Cost	6,984	7,731	8,559	9,475	10,489	11,611	12,854	13,675	14,549	15,479	16,468
Sub-Total	63,005	63,935	67,175	69,715	72,787	77,332	81,885	81,494	86,883	91,317	96,050
Total(G)	332,743	362,146	378,191	388,376	401,656	424,854	445,210	457,407	487,407	509,254	532,524
Grand Total(H)	681,648	769,824	827,891	876,973	934,524	1,015,849	1,098,531	1,136,835	1,205,303	1,263,210	1,325,169

[Without] (Unit:Mil.Dong)

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
3. Net Profit of Passenger											
1) Before Depreciation[(A)-(E)+(D)=(I)]	-48,920	-74,625	-80,012	-78,170	-77,127	-84,839	-65,875	-84,181	-114,716	-142,709	-173,195
2) After Depreciation[(A)-(E)=(J)]	-73,038	-102,604	-112,440	-115,757	-120,693	-135,335	-124,403	-144,692	-177,277	-207,390	-240,067
4. Accumulated Net Profit of Passenger											
1) Before Depreciation	-48,920	-123,546	-203,558	-281,727	-358,854	-443,694	-509,569	-593,750	-708,466	-851,175	-1,024,370
2) After Depreciation	-73,038	-175,642	-288,082	-403,839	-524,531	-659,866	-784,269	-928,961	-1,106,238	-1,313,628	-1,553,695
5. Net Profit of Freight											
1) Before Depreciation[(B)-(G)+(F)=(K)]	24,561	8,851	7,361	12,651	15,844	10,211	21,721	11,113	12,882	25,317	39,051
2) After Depreciation[(B)-(G)=(L)]	-1,495	-20,166	-24,953	-23,336	-24,232	-34,418	-27,980	-39,608	-38,882	-27,510	-14,862
6. Accumulated Net Profit of Freight											
1) Before Depreciation	24,561	33,412	40,774	53,424	69,268	79,479	101,200	112,314	125,195	150,513	189,564
2) After Depreciation	-1,495	-21,661	-46,613	-69,949	-94,181	-128,600	-156,579	-196,188	-235,070	-262,579	-277,441
7. Total Net Profit											
1) Before Depreciation[(I)+(K)]	-24,359	-65,775	-72,650	-65,519	-61,284	-74,628	-44,154	-73,068	-101,834	-117,392	-134,144
2) After Deprecition[(J)+(L)]	-74,533	-122,770	-137,393	-139,092	-144,925	-169,753	-152,382	-184,300	-216,159	-234,900	-254,929
8. Accumulated Total Net Profit											
1) Before Depreciation	-24,359	-90,134	-162,784	-228,303	-289,587	-364,215	-408,369	-481,436	-583,270	-700,662	-834,806
2) After Depreciation	-74,533	-197,303	-334,696	-473,788	-618,712	-788,466	-940,848	-1,125,148	-1,341,307	-1,576,207	-1,831,136
9. Working Ratio(%)											
1) Passenger											
(1) Excluding Percels	126.5	133.6	133.3	131.0	129.3	129.7	123.5	127.1	132.8	137.9	143.4
(2) Including Percels	115.2	121.7	121.5	119.4	117.8	118.2	112.5	115.8	121.0	125.7	130.7
2) Freight											
(1) Excluding Percels	109.3	116.0	118.1	118.2	119.1	122.8	121.8	125.1	123.2	118.9	114.8
(2) Including Percels	100.5	105.9	107.1	106.4	106.4	108.8	106.7	109.5	108.7	105.7	102.9
3) Total	112.3	119.0	119.9	118.9	118.4	120.1	116.1	119.3	121.9	122.8	123.8

Appendix 5.2.23 Forecast of Income Statement of Transport Division of VNR(Without:2)

(Unit:Mil.Dong)

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
1. Income										
1) Passenger										
(1) Passenger	580,279	586,662	593,115	599,640	606,236	643,549	650,628	657,785	665,021	672,336
(2) Other Revenue	6,310	6,379	6,450	6,521	6,592	6,998	7,075	7,153	7,231	7,311
Sub-Total(A)	586,589	593,041	599,565	606,160	612,828	650,547	657,703	664,938	672,252	679,647
2) Freight										
(1) Freight	554,185	568,014	582,189	596,718	611,609	645,678	658,562	671,704	685,108	698,779
(2) Percels	57,258	57,888	58,525	59,169	59,819	63,501	64,200	64,906	65,620	66,342
(3) Other Revenue	5,485	5,622	5,762	5,906	6,053	6,391	6,518	6,648	6,781	6,916
Sub-Total(B)	616,928	631,524	646,476	661,792	677,482	715,570	729,280	743,258	757,509	772,037
Total(C)	1,203,517	1,224,566	1,246,041	1,267,952	1,290,309	1,366,117	1,386,984	1,408,196	1,429,761	1,451,684
2. Expenditure										
1) Passenger										
(1) Operating Cost										
a. Personnel Cost	113,730	113,730	113,730	118,246	118,246	118,246	124,327	124,327	124,327	130,114
b. Rental Fee for Infrastructure	58,659	59,304	59,956	60,616	61,283	65,055	65,770	66,494	67,225	67,965
c.Materials	296,761	316,772	338,132	360,932	385,270	411,248	437,545	465,524	495,291	526,962
d. Fuels	113,585	121,268	129,471	138,228	147,578	157,560	167,662	178,411	189,849	202,021
e. Electricity	11,858	12,658	13,511	14,423	15,395	16,433	17,484	18,602	19,791	21,057
f. Depreciation Cost	69,138	71,481	73,902	76,406	78,995	81,672	83,882	86,152	88,483	90,878
Sub-Total	663,732	695,213	728,704	768,851	806,767	850,214	896,670	939,509	984,967	1,038,996
(2) Non-Operating Cost										
a. Others	108,042	103,255	108,210	114,096	119,703	126,262	120,609	126,358	132,457	139,644
b. Tax										
a) Revenue Tax	23,464	23,722	23,983	24,246	24,513	26,022	26,308	26,598	26,890	27,186
b) Capital Tax	35,852	38,270	40,850	43,605	46,545	49,684	52,861	56,241	59,837	63,663
Sub-Total	167,357	165,247	173,042	181,947	190,762	201,967	199,778	209,196	219,184	230,493
Total(D)	831,090	860,460	901,746	950,798	997,528	1,052,181	1,096,448	1,148,705	1,204,151	1,269,489
2) Freight										
(1) Operating Cost										
a. Personnel Cost	119,838	119,838	119,838	129,337	129,337	129,337	138,111	138,111	138,111	148,070
b. Rental Fee for Infrastructure	61,693	63,152	64,648	66,179	67,748	71,557	72,928	74,326	75,751	77,204
c.Materials	145,024	152,835	161,067	169,743	178,886	188,522	198,676	209,378	220,656	232,541
d. Fuels	94,691	99,791	105,166	110,831	116,801	123,092	129,627	136,509	143,757	151,389
e. Electricity	5,795	6,107	6,436	6,783	7,148	7,533	7,939	8,367	8,817	9,292
f. Depreciation Cost	55,020	56,150	57,303	58,481	59,682	60,908	61,908	62,925	63,958	65,009
Sub-Total	482,060	497,874	514,459	541,354	559,602	580,949	609,190	629,615	651,050	683,505
(2) Non-Operating Cost										
a. Others	76,494	72,132	74,570	78,422	81,104	84,278	80,062	82,781	85,634	89,859
b. Tax										
a) Turnover Tax	12,339	12,630	12,930	13,236	13,550	14,311	14,586	14,865	15,150	15,441
b) Capital Cost	17,521	18,464	19,459	20,507	21,612	22,776	24,002	25,295	26,658	28,094
Sub-Total	106,353	103,227	106,958	112,165	116,265	121,365	118,650	122,942	127,442	133,393
Total(E)	588,413	601,101	621,418	653,519	675,868	702,314	727,840	752,557	778,492	816,898
Grand Total(F)	1,419,503	1,461,561	1,523,164	1,604,317	1,673,396	1,754,495	1,824,288	1,901,262	1,982,643	2,086,387

[Without] (Unit:Mil.Dong)

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
3. Net Profit of Passenger										
1) Before Depreciation[(A)-(E)=(D)=(I)]	-175,363	-195,938	-228,279	-268,232	-305,705	-319,962	-354,863	-397,615	-443,415	-498,964
2) After Depreciation[(A)-(E)=(J)]	-244,501	-267,419	-302,181	-344,638	-384,700	-401,634	-438,745	-483,767	-531,898	-589,842
4. Accumulated Net Profit of Passenger										
1) Before Depreciation	-1,199,733	-1,395,671	-1,623,950	-1,892,181	-2,197,886	-2,517,849	-2,872,712	-3,270,327	-3,713,742	-4,212,706
2) After Depreciation	-1,798,196	-2,065,614	-2,367,796	-2,712,434	-3,097,134	-3,498,768	-3,937,513	-4,421,280	-4,953,179	-5,543,020
5. Net Profit of Freight										
1) Before Depreciation[(B)-(G)=(F)=(K)]	83,535	86,573	82,362	66,754	61,296	74,164	63,348	53,626	42,975	20,148
2) After Depreciation[(B)-(G)=(L)]	28,515	30,423	25,058	8,273	1,614	13,256	1,440	-9,299	-20,983	-44,861
6. Accumulated Net Profit of Freight										
1) Before Depreciation	273,099	359,672	442,034	508,788	570,083	644,247	707,596	761,222	804,197	824,344
2) After Depreciation	-248,926	-218,503	-193,444	-185,171	-183,557	-170,301	-168,861	-178,160	-199,143	-244,004
7. Total Net Profit										
1) Before Depreciation[(I)+(K)]	-91,828	-109,365	-145,917	-201,478	-244,409	-245,799	-291,515	-343,989	-400,440	-478,817
2) After Depreciation[(J)+(L)]	-215,986	-236,995	-277,123	-336,365	-383,086	-388,378	-437,305	-493,066	-552,882	-634,703
8. Accumulated Total Net Profit										
1) Before Depreciation	-91,828	-201,193	-347,110	-548,588	-792,997	-1,038,795	-1,330,310	-1,674,299	-2,074,740	-2,553,556
2) After Depreciation	-2,047,122	-2,284,117	-2,561,240	-2,897,605	-3,280,691	-3,669,069	-4,106,374	-4,599,440	-5,152,322	-5,787,024
9. Working Ratio(%)										
1) Passenger										
(1) Excluding Percels	141.7	145.1	150.4	156.9	162.8	161.7	166.7	172.8	179.1	186.8
(2) Including Percels	129.1	132.2	137.0	142.9	148.3	147.4	151.9	157.4	163.2	170.2
2) Freight										
(1) Excluding Percels	105.1	104.8	105.7	108.4	109.4	107.7	109.4	110.9	112.5	115.8
(2) Including Percels	95.4	95.2	96.1	98.7	99.8	98.1	99.8	101.3	102.8	105.8
3) Total	117.9	119.4	122.2	126.5	129.7	128.4	131.5	135.0	138.7	143.7

Appendix 5.2.24 Forecast of Income Statement of Transport Division of VNR(Without:3)

(Unit:Mil.Dong)

	2015	2016	2017	2018	2019	2020
1. Income						
1) Passenger						
(1) Passenger	713,718	721,569	729,507	737,531	745,644	791,538
(2) Other Revenue	7,761	7,846	7,933	8,020	8,108	8,607
Sub-Total(A)	721,479	729,416	737,439	745,551	753,752	800,146
2) Freight						
(1) Freight	734,105	748,754	763,695	778,935	794,478	834,642
(2) Percels	70,425	71,200	71,983	72,775	73,575	78,104
(3) Other Revenue	7,266	7,411	7,559	7,709	7,863	8,261
Sub-Total(B)	811,796	827,365	843,237	859,419	875,917	921,007
Total(C)	1,533,275	1,556,780	1,580,676	1,604,970	1,629,669	1,721,153
2. Expenditure						
1) Passenger						
(1) Operating Cost						
a. Personnel Cost	130,114	130,114	137,437	137,437	137,437	145,169
b. Rental Fee for Infrastructure	72,148	72,942	73,744	74,555	75,375	80,015
c.Materials	560,658	596,509	634,652	675,234	718,411	764,349
d. Fuels	214,973	228,755	243,421	259,027	275,634	293,305
e. Electricity	22,403	23,836	25,360	26,982	28,707	30,543
f. Depreciation Cost	93,337	95,863	98,457	101,121	103,857	106,668
Sub-Total	1,093,633	1,148,018	1,213,070	1,274,356	1,339,422	1,420,049
(2) Non-Operating Cost						
a. Others	147,107	138,807	146,582	153,973	161,818	171,600
b. Tax						
a) Revenue Tax	28,859	29,177	29,498	29,822	30,150	32,006
b) Capital Tax	67,734	72,065	76,673	81,576	86,792	92,342
Sub-Total	243,700	240,048	252,753	265,371	278,761	295,948
Total(D)	1,337,333	1,388,067	1,465,824	1,539,727	1,618,182	1,715,997
2) Freight						
(1) Operating Cost						
a. Personnel Cost	148,070	148,070	157,439	157,439	157,439	167,399
b. Rental Fee for Infrastructure	81,180	82,736	84,324	85,942	87,592	92,101
c.Materials	245,067	258,267	272,178	286,839	302,289	318,572
d. Fuels	159,426	167,890	176,804	186,191	196,076	206,486
e. Electricity	9,793	10,320	10,876	11,462	12,079	12,730
f. Depreciation Cost	66,076	67,162	68,265	69,386	70,525	71,684
Sub-Total	709,612	734,446	769,885	797,258	826,000	868,970
(2) Non-Operating Cost						
a. Others	93,371	86,911	91,070	94,344	97,782	102,875
b. Tax						
a) Turnover Tax	16,236	16,547	16,865	17,188	17,518	18,420
b) Capital Cost	29,607	31,202	32,882	34,653	36,520	38,487
Sub-Total	139,214	134,659	140,817	146,186	151,820	159,783
Total(E)	848,826	869,105	910,703	943,444	977,821	1,028,753
Grand Total(F)	2,186,159	2,257,172	2,376,526	2,483,171	2,596,003	2,744,750

[Without] (Unit:Mil.Dong)

	2015	2016	2017	2018	2019	2020
3. Net Profit of Passenger						
1) Before Depreciation[(A)-(E)+(D)=(I)]	-522,517	-562,788	-629,928	-693,055	-760,573	-809,184
2) After Depreciation[(A)-(E)=(J)]	-615,853	-658,651	-728,384	-794,175	-864,430	-915,851
4. Accumulated Net Profit of Passenger						
1) Before Depreciation	-4,735,223	-5,298,011	-5,927,939	-6,620,994	-7,381,566	-8,190,750
2) After Depreciation	-6,158,874	-6,817,525	-7,545,909	-8,340,084	-9,204,514	-10,120,366
5. Net Profit of Freight						
1) Before Depreciation[(B)-(G)+(F)=(K)]	29,047	25,421	799	-14,639	-31,378	-36,062
2) After Depreciation[(B)-(G)=(L)]	-37,030	-41,741	-67,466	-84,025	-101,903	-107,746
6. Accumulated Net Profit of Freight						
1) Before Depreciation	853,391	878,812	879,611	864,971	833,593	797,531
2) After Depreciation	-281,034	-322,775	-390,241	-474,266	-576,169	-683,915
7. Total Net Profit						
1) Before Depreciation[(I)+(K)]	-493,470	-537,368	-629,129	-707,694	-791,951	-845,246
2) After Depreciation[(J)+(L)]	-652,883	-700,392	-795,850	-878,201	-966,334	-1,023,597
8. Accumulated Total Net Profit						
1) Before Depreciation	-493,470	-1,030,838	-1,659,966	-2,367,660	-3,159,611	-4,004,857
2) After Depreciation	-6,439,908	-7,140,299	-7,936,149	-8,814,350	-9,780,684	-10,804,281
9. Working Ratio(%)						
1) Passenger						
(1) Excluding Percels	185.4	190.3	198.8	206.5	214.7	214.5
(2) Including Percels	168.9	173.4	181.1	188.2	195.6	195.4
2) Freight						
(1) Excluding Percels	114.5	114.9	118.1	119.9	121.9	122.0
(2) Including Percels	104.6	105.0	108.0	109.8	111.6	111.7
3) Total	142.6	145.0	150.3	154.7	159.3	159.5

Appendix 5.1.2S Basic Assumptions for Forecasting of Income Statement of Transport Division of VNR(Without:1)

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
I. Income											
1) Passenger											
(1) Average Revenue											
a. Passenger(dong/pass.km.)	152.0	152.0	152.0	152.0	152.0	152.0	159.6	159.6	159.6	159.6	159.6
b. Percels(dong/ton.k.)	554.5	554.5	554.5	554.5	554.5	554.5	582.2	582.2	582.2	582.2	582.2
c. The Ratio of ton km. of Percel to Pass. km.(ton km.)	0.027	0.027	0.027	0.027	0.027	0.027	0.027	0.027	0.027	0.027	0.027
d. Growth Rate(%)		0.00%	0.00%	0.00%	0.00%	0.00%	5.00%	0.00%	0.00%	0.00%	0.00%
e. Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.05	1.05	1.05	1.05	1.05
(2) Passenger km.(mil pass.km.)	1,796	1,985	2,195	2,427	2,683	2,966	3,278	3,314	3,351	3,388	3,425
a. Average Growth Rate(%)		10.55%	10.55%	10.55%	10.55%	10.55%	10.55%	1.10%	1.10%	1.10%	1.10%
b. Growth Factor	1.00	1.11	1.22	1.35	1.49	1.65	1.83	1.85	1.87	1.89	1.91
2) Freight											
(1) Average Revenue(dong/ton km.)	219.9	220	220	220	220	220	226	226	226	226	226
a. Growth Rate(%)		0.00%	0.00%	0.00%	0.00%	0.00%	3.00%	0.00%	0.00%	0.00%	0.00%
b. Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.03	1.03	1.03	1.03	1.03
(2) Million Ton Km.	1,370	1,406	1,442	1,480	1,518	1,558	1,598	1,730	1,873	2,027	2,195
a. Growth Rate(%)		2.60%	2.60%	2.60%	2.60%	2.60%	2.60%	8.25%	8.25%	8.25%	8.25%
b. Growth Factor	1.00	1.03	1.05	1.08	1.11	1.14	1.17	1.26	1.37	1.48	1.60
3) Total Other Revenue(mil.dong)	5,950	6,347	6,767	7,232	7,738	8,292	9,273	9,335	9,694	10,078	10,489
a. Share of Other Revenue in Total Revenue	0.98%	0.98%	0.98%	0.98%	0.98%	0.98%	0.98%	0.98%	0.98%	0.98%	0.98%
2. Expenditure											
(1) Operating Cost											
a. Total Personnel Cost	265,663	239,097	240,770	228,732	217,295	218,816	207,876	207,876	220,348	220,348	220,348
a) Number of Staffs	34,800	31,320	29,754	28,266	26,853	25,510	24,235	24,235	24,235	24,235	24,235
(a) Growth Rate of Staff(%)		-10.00%	-5.00%	-5.00%	-5.00%	-5.00%	-5.00%	0.00%	0.00%	0.00%	0.00%
(b) Growth Factor	1.00	0.90	0.86	0.81	0.77	0.73	0.70	0.70	0.70	0.70	0.70
a) Average Personnel Cost(mil.dong)	7.634	7.634	8.092	8.092	8.092	8.578	8.578	8.578	9.092	9.092	9.092
(a) Growth Rate (%)		0.00%	6.00%	0.00%	0.00%	6.00%	0.00%	0.00%	6.00%	0.00%	0.00%
(b) Growth Factor	1.00	1.00	1.06	1.06	1.06	1.12	1.12	1.12	1.19	1.19	1.19
b. Rental Fee for Infrastructure	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%
a) Growth Rate (%)	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
b) Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
c.Materials, Electricity & Capital Tax											
a) Train Km.(Mil.km.)											
(a).Passenger	8.461	8.916	9.396	9.901	10.434	10.995	11.587	11.779	11.975	12.174	12.376
i. Growth Rate (%)		5.38%	5.38%	5.38%	5.38%	5.38%	5.38%	1.66%	1.66%	1.66%	1.66%
ii. Growth Factor	1.00	1.05	1.11	1.17	1.23	1.30	1.37	1.39	1.42	1.44	1.46
(b) Freight	4.922	5.092	5.268	5.451	5.639	5.835	6.036	6.059	6.081	6.103	6.126
i. Growth Rate (%)		3.46%	3.46%	3.46%	3.46%	3.46%	3.46%	0.37%	0.37%	0.37%	0.37%
ii. Growth Factor	1.00	1.03	1.07	1.11	1.15	1.19	1.23	1.23	1.24	1.24	1.24
d. Cost per Train km.(dong/km.)											
a) Materials	11,745.0	12,567.2	13,446.9	14,388.2	15,395.3	16,473.0	17,626.1	18,683.7	19,804.7	20,993.0	22,252.6
b) Electricity	469.3	502.2	537.3	574.9	615.2	658.2	704.3	746.6	791.4	838.9	889.2
c) Capital Tax	1,418.9	1,518.3	1,624.5	1,738.3	1,859.9	1,990.1	2,129.4	2,257.2	2,392.6	2,536.2	2,688.4

[Without]

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
e. Price Level											
a) Growth Rate(%)		7.00%	7.00%	7.00%	7.00%	7.00%	7.00%	6.00%	6.00%	6.00%	6.00%
b) Growth Factor	1.00	1.07	1.14	1.23	1.31	1.40	1.50	1.59	1.69	1.79	1.89
f. Fuels											
a) Ton km.(mil.ton km.)											
(a) Passenger	2,488	2,679	2,885	3,106	3,345	3,602	3,878	3,944	4,010	4,077	4,146
i. Growth Rate(%)		7.68%	7.68%	7.68%	7.68%	7.68%	7.68%	1.68%	1.68%	1.68%	1.68%
ii. Growth Factor	1.00	1.08	1.16	1.25	1.34	1.45	1.56	1.59	1.61	1.64	1.67
(b) Freight	2,828	2,923	3,022	3,124	3,229	3,338	3,450	3,463	3,476	3,488	3,501
i. Growth Rate(%)		3.37%	3.37%	3.37%	3.37%	3.37%	3.37%	0.37%	0.37%	0.37%	0.37%
ii. Growth Factor	1.00	1.03	1.07	1.10	1.14	1.18	1.22	1.22	1.23	1.23	1.24
(c) Cost per Ton km.(dong/ton km.)	13.4	14.4	15.4	16.4	17.6	18.8	20.1	21.3	22.6	24.0	25.4
g. Depreciation											
a) Car Km.(mil.km.)											
(a) Passenger(mil.km.)	59.3	63.8	68.7	74.0	79.6	85.7	92.3	93.9	95.4	97.0	98.7
i. Growth Rate(%)		7.66%	7.66%	7.66%	7.66%	7.66%	7.66%	1.68%	1.68%	1.68%	1.68%
ii. Growth Factor	1.00	1.08	1.16	1.25	1.34	1.45	1.56	1.58	1.61	1.64	1.66
(b) Freight(mil.km.)	64.0	66.2	68.5	70.8	73.3	75.8	78.4	78.7	79.0	79.3	79.5
i. Growth Rate(%)		3.44%	3.44%	3.44%	3.44%	3.44%	3.44%	0.37%	0.37%	0.37%	0.37%
ii. Growth Factor	1.00	1.03	1.07	1.11	1.14	1.18	1.22	1.23	1.23	1.24	1.24
(c) Cost per Car km.(dong/car km.)	407.2	438.4	472.0	508.1	547.1	589.0	634.1	644.7	655.6	666.6	677.8
h. Others											
a) Passenger											
Ratio on Total Operating Cost	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.13	0.13	0.13	0.13
b) Freight											
Ratio on Total Operating Cost	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.13	0.13	0.13	0.13

Appendix 5.1.26 Basic Assumptions for Forecasting of Income Statement of Transport Division of VNR(Without:2)

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
1. Income										
1) Passenger										
(1) Average Revenue										
a. Passenger(dong/pass.km.)	167.6	167.6	167.6	167.6	167.6	176.0	176.0	176.0	176.0	176.0
b. Percels(doong/ton.k.)	611.3	611.3	611.3	611.3	611.3	641.9	641.9	641.9	641.9	641.9
c. The Ratio of ton km. of Percel to Pass. km.(ton km.)	0.027	0.027	0.027	0.027	0.027	0.027	0.027	0.027	0.027	0.027
d. Growth Rate(%)	5.00%	0.00%	0.00%	0.00%	0.00%	5.00%	0.00%	0.00%	0.00%	0.00%
e. Growth Factor	1.10	1.10	1.10	1.10	1.10	1.16	1.16	1.16	1.16	1.16
(2) Passenger km.(mil pass.Km.)	3,463	3,501	3,539	3,578	3,618	3,657	3,698	3,738	3,779	3,821
a. Average Growth Rate(%)	1.10%	1.10%	1.10%	1.10%	1.10%	1.10%	1.10%	1.10%	1.10%	1.10%
b. Growth Factor	1.93	1.95	1.97	1.99	2.01	2.04	2.06	2.08	2.10	2.13
2) Freight										
(1) Average Revenue(dong/ton km.)	233	233	233	233	233	240	240	240	240	240
a. Growth Rate(%)	3.00%	0.00%	0.00%	0.00%	0.00%	3.00%	0.00%	0.00%	0.00%	0.00%
b. Growth Factor	1.06	1.06	1.06	1.06	1.06	1.09	1.09	1.09	1.09	1.09
(2) Million Ton Km.	2,375	2,435	2,496	2,558	2,622	2,687	2,741	2,795	2,851	2,908
a. Growth Rate(%)	8.25%	2.50%	2.50%	2.50%	2.50%	2.50%	2.00%	2.00%	2.00%	2.00%
b. Growth Factor	1.73	1.78	1.82	1.87	1.91	1.96	2.00	2.04	2.08	2.12
3) Total Other Revenue(mil.dong)	11,795	12,001	12,212	12,427	12,646	13,389	13,593	13,801	14,012	14,227
a. Share of Other Revenue in Total Revenue	0.98%	0.98%	0.98%	0.98%	0.98%	0.98%	0.98%	0.98%	0.98%	0.98%
2. Expenditure										
(1) Operating Cost										
a. Total Personnel Cost	233,569	233,569	233,569	247,583	247,583	247,583	262,438	262,438	262,438	278,184
a) Number of Staffs	24,235	24,235	24,235	24,235	24,235	24,235	24,235	24,235	24,235	24,235
(a) Growth Rate of Staff(%)	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
(b) Growth Factor	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
a) Average Personnel Cost(mil.dong)	9.638	9.638	9.638	10.216	10.216	10.216	10.829	10.829	10.829	11.479
(a) Growth Rate (%)	6.00%	0.00%	0.00%	6.00%	0.00%	0.00%	6.00%	0.00%	0.00%	6.00%
(b) Growth Factor	1.26	1.26	1.26	1.34	1.34	1.34	1.42	1.42	1.42	1.50
b. Rental Fee for Infrastructure	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%
a) Growth Rate (%)	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
b) Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
c.Materials, Electricity & Capital Tax										
a) Train Km.(Mil.km.)										
(a) Passenger	12,581	12,790	13,002	13,218	13,438	13,661	13,842	14,026	14,212	14,401
i. Growth Rate (%)	1.66%	1.66%	1.66%	1.66%	1.66%	1.66%	1.33%	1.33%	1.33%	1.33%
ii. Growth Factor	1.49	1.51	1.54	1.56	1.59	1.61	1.64	1.66	1.68	1.70
(b) Freight	6,148	6,171	6,194	6,216	6,239	6,262	6,285	6,308	6,332	6,355
i. Growth Rate (%)	0.37%	0.37%	0.37%	0.37%	0.37%	0.37%	0.37%	0.37%	0.37%	0.37%
ii. Growth Factor	1.25	1.25	1.26	1.26	1.27	1.27	1.28	1.28	1.29	1.29
d. Cost per Train km.(dong/km.)										
a) Materials	23,587.7	24,767.1	26,005.5	27,305.7	28,671.0	30,104.6	31,609.8	33,190.3	34,849.8	36,592.3
b) Electricity	942.5	989.7	1,039.2	1,091.1	1,145.7	1,203.0	1,263.1	1,326.3	1,392.6	1,462.2
c) Capital Tax	2,849.7	2,992.2	3,141.8	3,298.8	3,463.8	3,637.0	3,818.8	4,009.8	4,210.3	4,420.8

[Without]

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
e. Price Level										
a) Growth Rate(%)	6.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%
b) Growth Factor	2.01	2.11	2.21	2.32	2.44	2.56	2.69	2.83	2.97	3.12
f. Fuels										
a) Ton km.(mil.ton km.)										
(a) Passenger	4,215	4,286	4,358	4,431	4,506	4,582	4,643	4,706	4,769	4,833
i. Growth Rate(%)	1.68%	1.68%	1.68%	1.68%	1.68%	1.68%	1.34%	1.34%	1.34%	1.34%
ii. Growth Factor	1.69	1.72	1.75	1.78	1.81	1.84	1.87	1.89	1.92	1.94
(b) Freight	3,514	3,527	3,540	3,553	3,566	3,579	3,590	3,600	3,611	3,622
i. Growth Rate(%)	0.37%	0.37%	0.37%	0.37%	0.37%	0.37%	0.29%	0.29%	0.29%	0.29%
ii. Growth Factor	1.24	1.25	1.25	1.26	1.26	1.27	1.27	1.27	1.28	1.28
(c) Cost per Ton km.(dong/ton km.)	26.9	28.3	29.7	31.2	32.8	34.4	36.1	37.9	39.8	41.8
g. Depreciation										
a) Car Km.(mil.km.)										
(a) Passenger(mil.km.)	100.3	102.0	103.7	105.5	107.2	109.0	110.5	112.0	113.5	115.0
i. Growth Rate(%)	1.68%	1.68%	1.68%	1.68%	1.68%	1.68%	1.34%	1.34%	1.34%	1.34%
ii. Growth Factor	1.69	1.72	1.75	1.78	1.81	1.84	1.86	1.89	1.91	1.94
(b) Freight(mil.km.)	79.8	80.1	80.4	80.7	81.0	81.3	81.6	81.8	82.0	82.3
i. Growth Rate(%)	0.37%	0.37%	0.37%	0.37%	0.37%	0.37%	0.29%	0.29%	0.29%	0.29%
ii. Growth Factor	1.25	1.25	1.26	1.26	1.27	1.27	1.27	1.28	1.28	1.29
(c) Cost per Car km.(dong/car km.)	689.2	700.7	712.5	724.5	736.7	749.0	759.1	769.3	779.6	790.1
h. Others										
a) Passenger										
Ratio on Total Operatng Cost	0.13	0.12	0.12	0.12	0.12	0.12	0.11	0.11	0.11	0.11
b) Freight										
Ratio on Total Operatng Cost	0.13	0.12	0.12	0.12	0.12	0.12	0.11	0.11	0.11	0.11

Appendix 5.1.27 Basic Assumptions for Forecasting of Income Statement of Transport Division of VNR(Without:3)

	2015	2016	2017	2018	2019	2020
1. Income						
1) Passenger						
(1) Average Revenue						
a. Passenger(dong/pass.km.)	184.8	184.8	184.8	184.8	184.8	194.0
b. Percels(dong/ton.k.)	674.0	674.0	674.0	674.0	674.0	707.7
c. The Ratio of ton km. of Percel to Pass. km.(ton km.)	0.027	0.027	0.027	0.027	0.027	0.027
d. Growth Rate(%)	5.00%	0.00%	0.00%	0.00%	0.00%	5.00%
e. Growth Factor	1.22	1.22	1.22	1.22	1.22	1.28
(2) Passenger km.(mil pass.km.)	3,863	3,906	3,948	3,992	4,036	4,080
a. Average Growth Rate(%)	1.10%	1.10%	1.10%	1.10%	1.10%	1.10%
b. Growth Factor	2.15	2.17	2.20	2.22	2.25	2.27
2) Freight						
(1) Average Revenue(dong/ton km.)	247	247	247	247	247	255
a. Growth Rate(%)	3.00%	0.00%	0.00%	0.00%	0.00%	3.00%
b. Growth Factor	1.13	1.13	1.13	1.13	1.13	1.16
(2) Million Ton Km.	2,966	3,025	3,086	3,147	3,210	3,274
a. Growth Rate(%)	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%
b. Growth Factor	2.16	2.21	2.25	2.30	2.34	2.39
3) Total Other Revenue(mil.dong)	15,027	15,257	15,491	15,729	15,971	16,868
a. Share of Other Revenue in Total Revenue	0.98%	0.98%	0.98%	0.98%	0.98%	0.98%
2. Expenditure						
(1) Operating Cost						
a. Total Personnel Cost	278,184	278,184	294,875	294,875	294,875	312,568
a) Number of Staffs	24,235	24,235	24,235	24,235	24,235	24,235
(a) Growth Rate of Staff(%)	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
(b) Growth Factor	0.70	0.70	0.70	0.70	0.70	0.70
a) Average Personnel Cost(mil.dong)	11.479	11.479	12.167	12.167	12.167	12.897
(a) Growth Rate (%)	0.00%	0.00%	6.00%	0.00%	0.00%	6.00%
(b) Growth Factor	1.50	1.50	1.59	1.59	1.59	1.69
b. Rental Fee for Infrastructure	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%
a) Growth Rate (%)	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
b) Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00
c.Materials, Electricity & Capital Tax						
a) Train Km.(Mil.km.)						
(a) Passenger	14.592	14.786	14.982	15.181	15.383	15.587
i. Growth Rate (%)	1.33%	1.33%	1.33%	1.33%	1.33%	1.33%
ii. Growth Factor	1.72	1.75	1.77	1.79	1.82	1.84
(b) Freight	6.378	6.402	6.425	6.449	6.473	6.497
i. Growth Rate (%)	0.37%	0.37%	0.37%	0.37%	0.37%	0.37%
ii. Growth Factor	1.30	1.30	1.31	1.31	1.32	1.32
d. Cost per Train km.(dong/km.)						
a) Materials	38,421.9	40,343.0	42,360.1	44,478.2	46,702.1	49,037.2
b) Electricity	1,535.3	1,612.1	1,692.7	1,777.3	1,866.2	1,959.5
c) Capital Tax	4,641.8	4,873.9	5,117.6	5,373.5	5,642.2	5,924.3

{Without}

	2015	2016	2017	2018	2019	2020
e. Price Level						
a) Growth Rate(%)	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%
b) Growth Factor	3.27	3.43	3.61	3.79	3.98	4.18
f. Fuels						
a) Ton km.(mil.ton km.)						
(a) Passenger	4,898	4,964	5,030	5,098	5,167	5,236
i. Growth Rate(%)	1.34%	1.34%	1.34%	1.34%	1.34%	1.34%
ii. Growth Factor	1.97	2.00	2.02	2.05	2.08	2.10
(b) Freight	3,632	3,643	3,654	3,664	3,675	3,686
i. Growth Rate(%)	0.29%	0.29%	0.29%	0.29%	0.29%	0.29%
ii. Growth Factor	1.28	1.29	1.29	1.30	1.30	1.30
(c) Cost per Ton km.(dong/ton km.)	43.9	46.1	48.4	50.8	53.4	56.0
g. Depreciation						
a) Car Km.(mil.km.)						
(a) Passenger(mil.km.)	116.6	118.1	119.7	121.3	123.0	124.6
i. Growth Rate(%)	1.34%	1.34%	1.34%	1.34%	1.34%	1.34%
ii. Growth Factor	1.97	1.99	2.02	2.05	2.07	2.10
(b) Freight(mil.km.)	82.5	82.8	83.0	83.2	83.5	83.7
i. Growth Rate(%)	0.29%	0.29%	0.29%	0.29%	0.29%	0.29%
ii. Growth Factor	1.29	1.29	1.30	1.30	1.30	1.31
(c) Cost per Car km.(dong/car km.)	800.7	811.5	822.4	833.5	844.7	856.0
h. Others						
a) Passenger						
Ratio on Total Operatng Cost	0.11	0.10	0.10	0.10	0.10	0.10
b) Freight						
Ratio on Total Operatng Cost	0.11	0.10	0.10	0.10	0.10	0.10

Appendix 5.2.28 Forecast of Income Statement of Transport Division of VNR(With:1)

(Unit:Mil.Dong)

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
1. Income											
1) Passenger											
(1) Passenger	272,899	301,793	333,632	368,830	407,741	450,758	782,743	827,124	874,022	923,579	975,946
(2) Other Revenue	2,968	3,282	3,628	4,011	4,434	4,902	8,512	8,994	9,504	10,043	10,613
Sub-Total(A)	275,867	305,074	337,260	372,841	412,175	455,660	791,254	836,118	883,526	933,622	986,559
2) Freight											
(1) Freight	301,330	309,141	317,179	325,425	333,886	342,567	539,591	572,050	606,463	642,945	681,622
(2) Percels	26,936	29,779	32,921	36,394	40,233	44,478	77,236	81,615	86,243	91,133	96,300
(3) Other Revenue	2,982	3,060	3,139	3,221	3,305	3,391	5,341	5,662	6,002	6,364	6,746
Sub-Total(B)	331,248	341,980	353,239	365,040	377,424	390,436	622,168	659,328	698,708	740,442	784,669
Total(C)	607,115	647,054	690,498	737,881	789,600	846,096	1,413,422	1,495,446	1,582,234	1,674,064	1,771,227
2. Expenditure											
1) Passenger											
(1) Operating Cost											
a. Personnel Cost	120,045	112,621	117,486	115,463	113,320	117,728	107,436	107,436	113,595	113,595	113,595
b. Rental Fee for Infrastructure	-	30,507	33,726	37,284	41,218	45,566	79,125	83,612	88,353	93,362	98,656
c.Materials	99,374	112,051	126,345	142,463	160,636	181,128	277,439	303,496	332,000	363,182	397,292
d. Fuels	33,373	38,461	44,314	51,057	58,827	67,779	106,477	116,477	127,416	139,383	152,474
e. Electricity	4,971	4,477	5,049	5,693	6,419	7,238	11,086	12,127	13,266	14,512	15,875
f. Depreciation Cost	24,118	27,978	42,638	56,662	71,507	87,314	102,668	104,651	105,157	105,733	106,370
Sub-Total	281,881	326,096	369,558	408,622	451,926	506,753	684,231	727,799	779,788	829,768	884,262
(2) Non-Operating Cost											
a. Others	47,791	55,841	63,218	69,953	77,424	86,795	118,940	119,228	127,794	136,125	145,200
b. Tax											
a) Revenue Tax	7,227	12,203	13,490	14,914	16,487	18,226	31,650	33,445	35,341	37,345	39,462
b) Capital Tax	12,006	13,537	15,264	17,211	19,407	21,882	33,518	36,666	40,110	43,877	47,997
Sub-Total	67,024	81,581	91,972	102,078	113,318	126,903	184,108	189,338	203,245	217,346	232,660
Total(D)	348,905	407,678	461,530	510,700	565,244	633,656	868,339	917,137	983,033	1,047,114	1,116,922
2) Freight											
(1) Operating Cost											
a. Personnel Cost	145,620	126,476	123,285	113,269	103,976	101,088	84,663	84,663	90,030	90,030	90,030
b. Rental Fee for Infrastructure	-	34,198	35,324	36,504	37,742	39,044	62,217	65,933	69,871	74,044	78,467
c.Materials	57,809	63,996	70,845	78,427	86,820	96,112	158,620	174,493	191,954	211,162	232,293
d. Fuels	37,943	41,967	46,418	51,341	56,786	62,809	104,110	114,528	125,989	138,597	152,466
e. Electricity	2,310	2,557	2,831	3,134	3,469	3,841	6,338	6,973	7,670	8,438	9,282
f. Depreciation Cost	26,056	29,017	43,344	56,594	70,261	84,406	97,387	98,408	97,782	97,177	96,583
Sub-Total	269,738	298,211	322,047	339,269	359,055	387,299	513,336	544,998	583,296	619,448	659,120
(2) Non-Operating Cost											
a. Others	45,356	49,364	53,292	56,192	59,514	64,189	86,004	86,557	92,712	98,586	105,028
b. Tax											
a) Revenue Tax	10,665	6,840	7,065	7,301	7,548	7,809	12,443	13,187	13,974	14,809	15,693
b) Capital Cost	6,984	7,731	8,559	9,475	10,489	11,611	19,163	21,081	23,190	25,511	28,064
Sub-Total	63,005	63,935	68,915	72,967	77,551	83,609	117,610	120,824	129,877	138,906	148,785
Total(E)	332,743	362,146	390,962	412,236	436,606	470,908	630,946	665,822	713,173	758,354	807,905
Grand Total(F)	681,648	769,824	852,492	922,936	1,001,850	1,104,565	1,499,285	1,582,959	1,696,205	1,805,468	1,924,827

(With) (Unit:Mil.Dong)

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
3. Net Profit of Passenger											
1) Before Depreciation[(A)-(E)+(D)=(I)]	-48,920	-74,625	-81,632	-81,197	-81,562	-90,683	25,583	23,632	5,651	-7,759	-23,993
2) After Depreciation[(A)-(E)=(J)]	-73,038	-102,604	-124,270	-137,859	-153,068	-177,596	-77,084	-81,019	-99,506	-113,492	-130,363
4. Accumulated Net Profit of Passenger											
1) Before Depreciation	-48,920	-123,546	-205,178	-286,375	-367,937	-458,620	-433,037	-409,405	-403,754	-411,513	-435,506
2) After Depreciation	-73,038	-175,642	-299,912	-437,771	-590,840	-768,436	-845,921	-926,939	-1,026,446	-1,139,937	-1,270,300
5. Net Profit of Freight											
1) Before Depreciation[(B)-(G)+(F)=(K)]	24,561	8,851	5,621	9,398	11,080	3,933	88,609	91,914	83,318	79,265	73,347
2) After Depreciation[(B)-(G)=(L)]	-1,495	-20,166	-37,723	-47,196	-59,182	-80,472	-8,778	-6,494	-14,465	-17,912	-23,237
6. Accumulated Net Profit of Freight											
1) Before Depreciation	24,561	33,412	39,033	48,431	59,511	63,444	152,053	243,967	327,285	406,550	479,897
2) After Depreciation	-1,495	-21,661	-59,384	-106,580	-165,762	-246,234	-255,013	-261,507	-275,971	-293,883	-317,120
7. Total Net Profit											
1) Before Depreciation[(I)+(K)]	-24,359	-65,775	-76,011	-71,799	-70,482	-86,749	114,192	115,546	88,968	71,507	49,353
2) After Depreciation[(J)+(L)]	-74,533	-122,770	-161,994	-185,055	-212,250	-258,469	-85,863	-87,513	-113,971	-131,404	-153,600
8. Accumulated Total Net Profit											
1) Before Depreciation	-24,359	-90,134	-166,145	-237,944	-308,426	-395,176	-280,984	-165,437	-76,469	-4,963	44,391
2) After Depreciation	-74,533	-197,303	-359,296	-544,352	-756,602	-1,015,071	-1,100,933	-1,188,446	-1,302,417	-1,433,821	-1,587,420
9. Working Ratio(%)											
1) Passenger											
(1) Excluding Percels	126.5	133.6	136.8	137.0	137.1	139.1	109.7	109.7	111.3	112.2	113.2
(2) Including Percels	115.2	121.7	124.7	124.8	124.9	126.7	100.0	99.9	101.4	102.2	103.1
2) Freight											
(1) Excluding Percels	109.3	116.0	122.1	125.4	129.5	136.1	115.8	115.3	116.4	116.8	117.4
(2) Including Percels	100.5	105.9	110.7	112.9	115.7	120.6	101.4	101.0	102.1	102.4	103.0
3) Total	112.3	119.0	123.5	125.1	126.9	130.5	106.1	105.9	107.2	107.8	108.7

Appendix 5.2.29 Forecast of Income Statement of Transport Division of VNR(With:2)

(Unit:Mil.Dong)

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
1. Income										
1) Passenger										
(1) Passenger	1,082,846	1,145,327	1,211,412	1,281,311	1,355,242	1,505,112	1,587,614	1,674,639	1,766,435	1,863,262
(2) Other Revenue	11,775	12,454	13,173	13,933	14,737	16,367	17,264	18,210	19,208	20,261
Sub-Total(A)	1,094,621	1,157,781	1,224,585	1,295,244	1,369,979	1,521,478	1,604,878	1,692,849	1,785,643	1,883,523
2) Freight										
(1) Freight	744,305	773,553	803,950	835,542	868,375	929,574	966,102	1,004,066	1,043,521	1,084,527
(2) Perceels	106,848	113,014	119,534	126,432	133,727	148,515	156,656	165,243	174,301	183,855
(3) Other Revenue	7,367	7,656	7,957	8,270	8,595	9,200	9,562	9,938	10,328	10,734
Sub-Total(B)	858,520	894,222	931,441	970,243	1,010,696	1,087,289	1,132,320	1,179,246	1,228,150	1,279,116
Total(C)	1,953,141	2,052,003	2,156,026	2,265,487	2,380,676	2,608,767	2,737,198	2,872,096	3,013,793	3,162,639
2. Expenditure										
1) Passenger										
(1) Operating Cost										
a. Personnel Cost	120,850	120,850	120,850	130,681	130,681	130,681	142,058	142,058	142,058	152,952
b. Rental Fee for Infrastructure	109,462	115,778	122,459	129,524	136,998	152,148	160,488	169,285	178,564	188,352
c.Materials	434,606	470,939	510,309	552,971	599,199	649,292	699,210	752,965	810,853	873,192
d. Fuels	166,794	180,738	195,848	212,221	229,963	249,188	268,345	288,976	311,192	335,117
e. Electricity	17,366	18,818	20,392	22,096	23,944	25,945	27,940	30,088	32,401	34,892
f. Depreciation Cost	108,635	110,977	113,399	115,903	118,492	121,168	123,379	125,648	127,980	130,374
Sub-Total	957,713	1,018,101	1,083,257	1,163,397	1,239,276	1,328,423	1,421,419	1,509,020	1,603,048	1,714,879
(2) Non-Operating Cost										
a. Others	157,495	152,905	162,803	174,820	186,336	200,144	194,056	206,120	219,065	234,301
b. Tax										
a) Revenue Tax	43,785	46,311	48,983	51,810	54,799	60,859	64,195	67,714	71,426	75,341
b) Capital Tax	52,505	56,895	61,651	66,805	72,390	78,442	84,473	90,967	97,960	105,492
Sub-Total	253,785	256,112	273,438	293,435	313,526	339,445	342,723	364,801	388,451	415,134
Total(D)	1,211,499	1,274,212	1,356,695	1,456,832	1,552,802	1,667,868	1,764,142	1,873,821	1,991,499	2,130,013
2) Freight										
(1) Operating Cost										
a. Personnel Cost	94,992	94,992	94,992	98,112	98,112	98,112	100,463	100,463	100,463	104,119
b. Rental Fee for Infrastructure	85,852	89,422	93,144	97,024	101,070	108,729	113,232	117,925	122,815	127,912
c.Materials	255,538	278,457	303,432	330,647	360,302	392,618	420,040	449,378	480,765	514,344
d. Fuels	167,723	182,766	199,158	217,020	236,485	257,695	275,694	294,950	315,551	337,590
e. Electricity	10,211	11,127	12,125	13,212	14,397	15,689	16,784	17,957	19,211	20,553
f. Depreciation Cost	97,691	98,821	99,974	101,151	102,353	103,579	104,579	105,596	106,629	107,680
Sub-Total	712,006	755,585	802,825	857,167	912,719	976,421	1,030,793	1,086,268	1,145,433	1,212,198
(2) Non-Operating Cost										
a. Others	113,570	110,060	117,015	124,980	133,154	142,582	136,472	143,883	151,785	160,664
b. Tax										
a) Turnover Tax	17,170	17,884	18,629	19,405	20,214	21,746	22,646	23,585	24,563	25,582
b) Capital Cost	30,872	33,641	36,658	39,946	43,529	47,433	50,746	54,290	58,082	62,139
Sub-Total	161,613	161,586	172,302	184,331	196,896	211,760	209,864	221,758	234,430	248,385
Total(E)	873,619	917,171	975,128	1,041,497	1,109,615	1,188,182	1,240,657	1,308,026	1,379,863	1,460,583
Grand Total(F)	2,085,118	2,191,383	2,331,822	2,498,329	2,662,417	2,856,050	3,004,799	3,181,847	3,371,362	3,590,595

[With] (Unit:Mil.Dong)

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
3. Net Profit of Passenger										
1) Before Depreciation[(A)-(E)+(D)=(I)]	-8,242	-5,454	-18,710	-45,685	-64,331	-25,221	-35,886	-55,323	-77,876	-116,116
2) After Depreciation[(A)-(E)=(J)]	-116,877	-116,431	-132,110	-161,588	-182,823	-146,390	-159,264	-180,971	-205,856	-246,490
4. Accumulated Net Profit of Passenger										
1) Before Depreciation	-443,749	-449,203	-467,913	-513,598	-577,929	-603,151	-639,036	-694,359	-772,236	-888,351
2) After Depreciation	-1,387,177	-1,503,609	-1,635,718	-1,797,307	-1,980,130	-2,126,519	-2,285,784	-2,466,755	-2,672,611	-2,919,101
5. Net Profit of Freight										
1) Before Depreciation[(B)-(G)+(F)=(K)]	82,591	75,873	56,288	29,897	3,434	2,686	-3,758	-23,184	-45,084	-73,787
2) After Depreciation[(B)-(G)=(L)]	-15,100	-22,948	-43,686	-71,254	-98,919	-100,893	-108,337	-128,780	-151,713	-181,467
6. Accumulated Net Profit of Freight										
1) Before Depreciation	562,488	638,360	694,649	724,546	727,980	730,666	726,907	703,724	658,639	584,853
2) After Depreciation	-332,220	-355,168	-398,854	-470,108	-569,027	-669,920	-778,257	-907,037	-1,058,750	-1,240,217
7. Total Net Profit										
1) Before Depreciation[(I)+(K)]	74,349	70,418	37,578	-15,788	-60,897	-22,535	-39,644	-78,507	-122,960	-189,902
2) After Depreciation[(J)+(L)]	-131,977	-139,380	-175,796	-232,842	-281,742	-247,282	-267,602	-309,751	-357,569	-427,956
8. Accumulated Total Net Profit										
1) Before Depreciation	74,349	144,767	182,345	166,557	105,660	83,125	43,480	-35,026	-157,987	-347,889
2) After Depreciation	-1,719,397	-1,858,777	-2,034,572	-2,267,415	-2,549,157	-2,796,439	-3,064,041	-3,373,792	-3,731,361	-4,159,318
9. Working Ratio(%)										
1) Passenger										
(1) Excluding Percels	110.7	110.1	110.8	112.5	113.3	109.6	109.9	110.7	111.5	113.1
(2) Including Percels	100.8	100.3	100.9	102.5	103.3	99.9	100.1	100.8	101.6	103.0
2) Freight										
(1) Excluding Percels	116.2	117.4	120.1	123.4	126.5	126.6	127.2	129.0	130.9	133.4
(2) Including Percels	101.8	102.6	104.7	107.3	109.8	109.3	109.6	110.9	112.4	114.2
3) Total	106.8	106.8	108.2	110.3	111.8	109.5	109.8	110.8	111.9	113.5

Appendix 5.2.30 Forecast of Income Statement of Transport Division of VNR(With:3)

(Unit:Mil.Dong)

	2015	2016	2017	2018	2019	2020
1. Income						
1) Passenger						
(1) Passenger	2,063,666	2,176,786	2,296,107	2,421,968	2,554,728	2,829,504
(2) Other Revenue	22,440	23,671	24,968	26,337	27,780	30,768
Sub-Total(A)	2,086,107	2,200,457	2,321,075	2,448,304	2,582,508	2,860,272
2) Freight						
(1) Freight	1,160,959	1,206,580	1,253,993	1,303,270	1,354,483	1,449,940
(2) Percels	203,629	214,791	226,565	238,984	252,084	279,197
(3) Other Revenue	11,491	11,942	12,411	12,899	13,406	14,351
Sub-Total(B)	1,376,079	1,433,313	1,492,970	1,555,153	1,619,973	1,743,488
Total(C)	3,462,186	3,633,770	3,814,045	4,003,458	4,202,481	4,603,760
2. Expenditure						
1) Passenger						
(1) Operating Cost						
a. Personnel Cost	152,952	152,952	165,670	165,670	165,670	179,284
b. Rental Fee for Infrastructure	208,611	220,046	232,107	244,830	258,251	286,027
c.Materials	940,323	1,012,615	1,090,464	1,174,299	1,264,579	1,361,800
d. Fuels	360,880	388,625	418,502	450,677	485,325	522,637
e. Electricity	37,575	40,463	43,574	46,924	50,532	54,416
f. Depreciation Cost	132,833	135,359	137,953	140,618	143,354	146,164
Sub-Total	1,833,174	1,950,060	2,088,271	2,223,018	2,367,710	2,550,328
(2) Non-Operating Cost						
a. Others	225,580	240,046	256,984	273,647	291,532	314,362
b. Tax						
a) Revenue Tax	83,444	88,018	92,843	97,932	103,300	114,411
b) Capital Tax	113,602	122,336	131,741	141,869	152,776	164,521
Sub-Total	422,626	450,400	481,568	513,448	547,608	593,294
Total(D)	2,255,800	2,400,459	2,569,839	2,736,466	2,915,318	3,143,623
2) Freight						
(1) Operating Cost						
a. Personnel Cost	104,119	104,119	106,826	106,826	106,826	109,562
b. Rental Fee for Infrastructure	137,608	143,331	149,297	155,515	161,997	174,349
c.Materials	550,268	588,702	629,820	673,809	720,872	771,221
d. Fuels	361,169	386,395	413,383	442,255	473,145	506,192
e. Electricity	21,988	23,524	25,167	26,925	28,805	30,817
f. Depreciation Cost	108,747	109,833	110,936	112,057	113,196	114,355
Sub-Total	1,283,900	1,355,904	1,435,428	1,517,388	1,604,841	1,706,495
(2) Non-Operating Cost						
a. Others	153,100	161,744	171,264	181,099	191,592	203,837
b. Tax						
a) Turnover Tax	27,522	28,666	29,859	31,103	32,399	34,870
b) Capital Cost	66,479	71,122	76,090	81,404	87,090	93,172
Sub-Total	247,100	261,532	277,213	293,607	311,081	331,880
Total(E)	1,531,001	1,617,436	1,712,641	1,810,994	1,915,923	2,038,375
Grand Total(F)	3,786,800	4,017,895	4,282,480	4,547,460	4,831,241	5,181,998

(With) (Unit:Mil.Dong)

	2015	2016	2017	2018	2019	2020
3. Net Profit of Passenger						
1) Before Depreciation[(A)-(E)+(D)=(I)]	-36,860	-64,643	-110,811	-147,544	-189,456	-137,187
2) After Depreciation[(A)-(E)=(J)]	-169,693	-200,003	-248,764	-288,161	-332,810	-283,351
4. Accumulated Net Profit of Passenger						
1) Before Depreciation	-925,211	-989,854	-1,100,665	-1,248,209	-1,437,665	-1,574,851
2) After Depreciation	-3,088,794	-3,288,797	-3,537,561	-3,825,722	-4,158,532	-4,441,883
5. Net Profit of Freight						
1) Before Depreciation[(B)-(G)+(F)=(K)]	-46,174	-74,290	-108,736	-143,784	-182,753	-180,532
2) After Depreciation[(B)-(G)=(L)]	-154,922	-184,123	-219,671	-255,841	-295,950	-294,887
6. Accumulated Net Profit of Freight						
1) Before Depreciation	538,678	464,388	355,652	211,868	29,115	-151,418
2) After Depreciation	-1,395,139	-1,579,261	-1,798,932	-2,054,773	-2,350,723	-2,645,610
7. Total Net Profit						
1) Before Depreciation[(I)+(K)]	-83,034	-138,934	-219,547	-291,328	-372,209	-317,719
2) After Depreciation[(J)+(L)]	-324,615	-384,125	-468,435	-544,002	-628,760	-578,238
8. Accumulated Total Net Profit						
1) Before Depreciation	-83,034	-221,968	-441,514	-732,842	-1,105,051	-1,422,770
2) After Depreciation	-4,483,932	-4,868,058	-5,336,493	-5,880,495	-6,509,255	-7,087,493
9. Working Ratio(%)						
1) Passenger						
(1) Excluding Percels	108.1	109.1	110.7	111.8	112.9	109.9
(2) Including Percels	98.5	99.4	100.9	101.8	102.8	100.1
2) Freight						
(1) Excluding Percels	130.6	132.7	135.2	137.6	140.1	139.2
(2) Including Percels	111.3	112.8	114.7	116.5	118.3	116.9
3) Total	109.4	110.6	112.3	113.6	115.0	112.6

Appendix 5.1.31 Basic Assumptions for Forecasting of Income Statement of Transport Division of VNR(Witht:1)

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
1. Income											
1) Passenger											
(1) Average Revenue											
a. Passenger(dong/pass.km.)	152.0	152.0	152.0	152.0	152.0	152.0	190.0	190.0	190.0	190.0	190.0
b. Percels(dong/ton.k.)	554.5	554.5	554.5	554.5	554.5	554.5	693.1	693.1	693.1	693.1	693.1
c. The Ratio of ton km. of Percel to Pass. km.(ton km.)	0.027	0.027	0.027	0.027	0.027	0.027	0.027	0.027	0.027	0.027	0.027
d. Growth Rate(%)		0.00%	0.00%	0.00%	0.00%	0.00%	25.00%	0.00%	0.00%	0.00%	0.00%
e. Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.25	1.25	1.25	1.25	1.25
(2) Passenger km.(mil pass.km.)	1,796	1,985	2,195	2,427	2,683	2,966	4,420	4,353	4,600	4,861	5,137
a. Average Growth Rate(%)		10.55%	10.55%	10.55%	10.55%	10.55%	14.84%	5.67%	5.67%	5.67%	5.67%
b. Growth Factor	1.00	1.11	1.22	1.35	1.49	1.65	2.29	2.42	2.56	2.71	2.86
2) Freight											
(1) Average Revenue(dong/ton km.)	219.9	220	220	220	220	220	226	226	226	226	226
a. Growth Rate(%)		0.00%	0.00%	0.00%	0.00%	0.00%	3.00%	0.00%	0.00%	0.00%	0.00%
b. Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.03	1.03	1.03	1.03	1.03
(2) Million Ton Km.	1,370	1,406	1,442	1,480	1,518	1,558	2,382	2,526	2,678	2,839	3,009
a. Growth Rate(%)		2.60%	2.60%	2.60%	2.60%	2.60%	9.66%	6.02%	6.02%	6.02%	6.02%
b. Growth Factor	1.00	1.03	1.05	1.08	1.11	1.14	1.74	1.84	1.95	2.07	2.20
3) Total Other Revenue(mil.dong)	5,950	6,341	6,767	7,232	7,738	8,292	13,852	14,656	15,507	16,407	17,359
a. Share of Other Revenue in Total Revenue	0.98%	0.98%	0.98%	0.98%	0.98%	0.98%	0.98%	0.98%	0.98%	0.98%	0.98%
2. Expenditure											
(1) Operating Cost											
a. Total Personnel Cost	265,663	239,097	240,770	228,732	217,295	218,816	192,099	192,099	203,625	203,625	203,625
a) Number of Staffs	34,800	31,320	29,754	28,266	26,853	25,510	22,396	22,396	22,396	22,396	22,396
(a) Growth Rate of Staff(%)		-10.00%	-5.00%	-5.00%	-5.00%	-5.00%	-12.21%	0.00%	0.00%	0.00%	0.00%
(b) Growth Factor	1.00	0.90	0.86	0.81	0.77	0.73	0.64	0.64	0.64	0.64	0.64
a) Average Personnel Cost(mil.dong)	7.634	7.634	8.092	8.092	8.092	8.578	8.578	8.578	9.092	9.092	9.092
(a) Growth Rate (%)		0.00%	6.00%	0.00%	0.00%	6.00%	0.00%	0.00%	6.00%	0.00%	0.00%
(b) Growth Factor	1.00	1.00	1.06	1.06	1.06	1.12	1.12	1.12	1.19	1.19	1.19
b. Rental Fee for Infrastructure	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%
a) Growth Rate (%)	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
b) Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
c.Materials, Electricity & Capital Tax											
a) Train Km.(Mil.km.)											
(a) Passenger	8.461	8.916	9.396	9.901	10.434	10.995	15.740	16.244	16.764	17.300	17.854
i. Growth Rate (%)		5.38%	5.38%	5.38%	5.38%	5.38%	10.90%	3.20%	3.20%	3.20%	3.20%
ii. Growth Factor	1.00	1.05	1.11	1.17	1.23	1.30	1.86	1.92	1.98	2.04	2.11
(b) Freight	4.922	5.092	5.268	5.451	5.639	5.835	8.999	9.339	9.692	10.059	10.439
i. Growth Rate (%)		3.46%	3.46%	3.46%	3.46%	3.46%	10.58%	3.78%	3.78%	3.78%	3.78%
ii. Growth Factor	1.00	1.03	1.07	1.11	1.15	1.19	1.83	1.90	1.97	2.04	2.12
d. Cost per Train km.(dong/km.)											
a) Materials	11,745.0	12,567.2	13,446.9	14,388.2	15,395.3	16,473.0	17,626.1	18,683.7	19,804.7	20,993.0	22,252.6
b) Electricity	469.3	502.2	537.3	574.9	615.2	658.2	704.3	746.6	791.4	838.9	889.2
c) Capital Tax	1,418.9	1,518.3	1,624.5	1,738.3	1,859.9	1,990.1	2,129.4	2,257.2	2,392.6	2,536.2	2,688.4

(With)

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
e. Price Level										
a) Growth Rate(%)	6.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%
b) Growth Factor	2.01	2.11	2.21	2.32	2.44	2.56	2.69	2.83	2.97	3.12
f. Fuels										
a) Ton km.(million km.)										
(a) Passenger	6,190	6,388	6,593	6,804	7,021	7,246	7,431	7,622	7,817	8,017
i. Growth Rate(%)	3.20%	3.20%	3.20%	3.20%	3.20%	3.20%	2.56%	2.56%	2.56%	2.56%
ii. Growth Factor	2.49	2.57	2.65	2.73	2.82	2.91	2.99	3.06	3.14	3.22
(b) Freight	6,225	6,460	6,704	6,957	7,220	7,493	7,635	7,779	7,926	8,076
i. Growth Rate(%)	3.78%	3.78%	3.78%	3.78%	3.78%	3.78%	1.89%	1.89%	1.89%	1.89%
ii. Growth Factor	2.20	2.28	2.37	2.46	2.55	2.65	2.70	2.75	2.80	2.86
(c) Cost per Ton km.(dong/ton km.)	26.9	28.3	29.7	31.2	32.8	34.4	36.1	37.9	39.8	41.8
g. Depreciation										
a) Car Km.(mil.km.)										
(a) Passenger(mil.km.)	147.1	151.8	156.7	161.7	166.8	172.2	176.6	181.1	185.7	190.5
i. Growth Rate(%)	3.20%	3.20%	3.20%	3.20%	3.20%	3.20%	2.56%	2.56%	2.56%	2.56%
ii. Growth Factor	2.48	2.56	2.64	2.73	2.81	2.90	2.98	3.06	3.13	3.21
(b) Freight(mil.km.)	140.8	146.2	151.7	157.4	163.4	169.5	172.7	176.0	179.3	182.7
i. Growth Rate(%)	3.78%	3.78%	3.78%	3.78%	3.78%	3.78%	1.89%	1.89%	1.89%	1.89%
ii. Growth Factor	2.20	2.28	2.37	2.46	2.55	2.65	2.70	2.75	2.80	2.86
(c) Cost per Car km.(dong/car km.)	1,010.5	1,042.8	1,076.2	1,110.6	1,146.1	1,182.8	1,213.1	1,244.2	1,276.0	1,308.7
h. Others										
a) Passenger										
Ratio on Total Operating Cost	0.13	0.12	0.12	0.12	0.12	0.12	0.11	0.11	0.11	0.11
b) Freight										
Ratio on Total Operating Cost	0.13	0.12	0.12	0.12	0.12	0.12	0.11	0.11	0.11	0.11

Appendix 5.1.32 Basic Assumptions for Forecasting of Income Statement of Transport Division of VNR(With:2)

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
I. Income										
1) Passenger										
(1) Average Revenue										
a. Passenger(dong/pass.km.)	199.5	199.5	199.5	199.5	199.5	209.5	209.5	209.5	209.5	209.5
b. Percels(dong/ton.k.)	727.8	727.8	727.8	727.8	727.8	764.2	764.2	764.2	764.2	764.2
c. The Ratio of ton km. of Percel to Pass. km.(ton km.)	0.027	0.027	0.027	0.027	0.027	0.027	0.027	0.027	0.027	0.027
d. Growth Rate(%)	5.00%	0.00%	0.00%	0.00%	0.00%	5.00%	0.00%	0.00%	0.00%	0.00%
e. Growth Factor	1.31	1.31	1.31	1.31	1.31	1.38	1.38	1.38	1.38	1.38
(2) Passenger km.(mil pass.km.)	5,428	5,741	6,072	6,423	6,793	7,185	7,579	7,994	8,433	8,895
a. Average Growth Rate(%)	5.67%	5.77%	5.77%	5.77%	5.77%	5.77%	5.48%	5.48%	5.48%	5.48%
b. Growth Factor	3.02	3.20	3.38	3.58	3.78	4.00	4.22	4.45	4.70	4.95
2) Freight										
(1) Average Revenue(dong/ton km.)	233	233	233	233	233	240	240	240	240	240
a. Growth Rate(%)	3.00%	0.00%	0.00%	0.00%	0.00%	3.00%	0.00%	0.00%	0.00%	0.00%
b. Growth Factor	1.06	1.06	1.06	1.06	1.06	1.09	1.09	1.09	1.09	1.09
(2) Million Ton Km.	3,190	3,316	3,446	3,582	3,722	3,869	4,021	4,179	4,343	4,513
a. Growth Rate(%)	6.02%	3.93%	3.93%	3.93%	3.93%	3.93%	3.93%	3.93%	3.93%	3.93%
b. Growth Factor	2.33	2.42	2.52	2.61	2.72	2.82	2.93	3.05	3.17	3.29
3) Total Other Revenue(mil.dong)	19,142	20,111	21,130	22,203	23,332	25,567	26,826	28,148	29,537	30,995
a. Share of Other Revenue in Total Revenue	0.98%	0.98%	0.98%	0.98%	0.98%	0.98%	0.98%	0.98%	0.98%	0.98%
2. Expenditure										
(1) Operating Cost										
a. Total Personnel Cost	215,842	215,842	215,842	228,793	228,793	228,793	242,520	242,520	242,520	257,072
a) Number of Staffs	22,396	22,396	22,396	22,396	22,396	22,396	22,396	22,396	22,396	22,396
(a) Growth Rate of Staff(%)	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
(b) Growth Factor	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64
a) Average Personnel Cost(mil.dong)	9.638	9.638	9.638	10.216	10.216	10.216	10.829	10.829	10.829	11.479
(a) Growth Rate (%)	6.00%	0.00%	0.00%	6.00%	0.00%	0.00%	6.00%	0.00%	0.00%	6.00%
(b) Growth Factor	1.26	1.26	1.26	1.34	1.34	1.34	1.42	1.42	1.42	1.50
b. Rental Fee for Infrastructure	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%
a) Growth Rate (%)	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
b) Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
c.Materials, Electricity & Capital Tax										
a) Train Km.(Mil.km.)										
(a) Passenger	18.425	19.015	19.623	20.251	20.899	21.568	22.120	22.686	23.267	23.863
i. Growth Rate (%)	3.20%	3.20%	3.20%	3.20%	3.20%	3.20%	2.56%	2.56%	2.56%	2.56%
ii. Growth Factor	2.18	2.25	2.32	2.39	2.47	2.55	2.61	2.68	2.75	2.82
(b) Freight	10.834	11.243	11.668	12.109	12.567	13.042	13.288	13.539	13.795	14.056
i. Growth Rate (%)	3.78%	3.78%	3.78%	3.78%	3.78%	3.78%	1.89%	1.89%	1.89%	1.89%
ii. Growth Factor	2.20	2.28	2.37	2.46	2.55	2.65	2.70	2.75	2.80	2.86
d. Cost per Train km.(dong/km.)										
a) Materials	23,587.7	24,767.1	26,005.5	27,305.7	28,671.0	30,104.6	31,609.8	33,190.3	34,849.8	36,592.3
b) Electricity	942.5	989.7	1,039.2	1,091.1	1,145.7	1,203.0	1,263.1	1,326.3	1,392.6	1,462.2
c) Capital Tax	2,849.7	2,992.2	3,141.8	3,298.8	3,463.8	3,637.0	3,818.8	4,009.8	4,210.3	4,420.8

[With]

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
e. Price Level										
a) Growth Rate(%)	6.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%
b) Growth Factor	2.01	2.11	2.21	2.32	2.44	2.56	2.69	2.83	2.97	3.12
f. Fucis										
a) Ton km.(mil.ton km.)										
(a) Passenger	6,190	6,388	6,593	6,804	7,021	7,246	7,431	7,622	7,817	8,017
i. Growth Rate(%)	3.20%	3.20%	3.20%	3.20%	3.20%	3.20%	2.56%	2.56%	2.56%	2.56%
ii. Growth Factor	2.49	2.57	2.65	2.73	2.82	2.91	2.99	3.06	3.14	3.22
(b) Freight	6,225	6,460	6,704	6,957	7,220	7,493	7,635	7,779	7,926	8,076
i. Growth Rate(%)	3.78%	3.78%	3.78%	3.78%	3.78%	3.78%	1.89%	1.89%	1.89%	1.89%
ii. Growth Factor	2.20	2.28	2.37	2.46	2.55	2.65	2.70	2.75	2.80	2.86
(c) Cost per Ton km.(dong/ton km.)	26.9	28.3	29.7	31.2	32.8	34.4	36.1	37.9	39.8	41.8
g. Depreciation										
a) Car Km.(mil.km.)										
(a) Passenger(mil.km.)	147.1	151.8	156.7	161.7	166.8	172.2	176.6	181.1	185.7	190.5
i. Growth Rate(%)	3.20%	3.20%	3.20%	3.20%	3.20%	3.20%	2.56%	2.56%	2.56%	2.56%
ii. Growth Factor	2.48	2.56	2.64	2.73	2.81	2.90	2.98	3.06	3.13	3.21
(b) Freight(mil.km.)	140.8	146.2	151.7	157.4	163.4	169.5	172.7	176.0	179.3	182.7
i. Growth Rate(%)	3.78%	3.78%	3.78%	3.78%	3.78%	3.78%	1.89%	1.89%	1.89%	1.89%
ii. Growth Factor	2.20	2.28	2.37	2.46	2.55	2.65	2.70	2.75	2.80	2.86
(c) Cost per Car km.(dong/car km.)	1,010.5	1,042.8	1,076.2	1,110.6	1,146.1	1,182.8	1,213.1	1,244.2	1,276.0	1,308.7
h. Others										
a) Passenger										
Ratio on Total Operatng Cost	0.13	0.12	0.12	0.12	0.12	0.12	0.11	0.11	0.11	0.11
b) Freight										
Ratio on Total Operatng Cost	0.13	0.12	0.12	0.12	0.12	0.12	0.11	0.11	0.11	0.11

Appendix 5.1.33 Basic Assumptions for Forecasting of Income Statement of Transport Division of VNR(Witht:3)

	2015	2016	2017	2018	2019	2020
I. Income						
1) Passenger						
(1) Average Revenue						
a. Passenger(dong/pass.km.)	219.9	219.9	219.9	219.9	219.9	230.9
b. Percels(dong/ton.k.)	802.4	802.4	802.4	802.4	802.4	842.5
c. The Ratio of ton km. of Percel to Pass. km.(ton km.)	0.027	0.027	0.027	0.027	0.027	0.027
d. Growth Rate(%)	5.00%	0.00%	0.00%	0.00%	0.00%	5.00%
e. Growth Factor	1.45	1.45	1.45	1.45	1.45	1.52
(2) Passenger km.(mil pass.km.)	9,382	9,897	10,439	11,012	11,615	12,252
a. Average Growth Rate(%)	5.48%	5.48%	5.48%	5.48%	5.48%	5.48%
b. Growth Factor	5.22	5.51	5.81	6.13	6.47	6.82
2) Freight						
(1) Average Revenue(dong/ton km.)	247	247	247	247	247	255
a. Growth Rate(%)	3.00%	0.00%	0.00%	0.00%	0.00%	3.00%
b. Growth Factor	1.13	1.13	1.13	1.13	1.13	1.16
(2) Million Ton Km.	4,691	4,875	5,067	5,266	5,473	5,688
a. Growth Rate(%)	3.93%	3.93%	3.93%	3.93%	3.93%	3.93%
b. Growth Factor	3.42	3.56	3.70	3.84	3.99	4.15
3) Total Other Revenue(mil.dong)	33,931	35,613	37,379	39,236	41,186	45,119
a. Share of Other Revenue in Total Revenue	0.98%	0.98%	0.98%	0.98%	0.98%	0.98%
2. Expenditure						
(1) Operating Cost						
a. Total Personnel Cost	257,072	257,072	272,496	272,496	272,496	288,846
a) Number of Staffs	22,396	22,396	22,396	22,396	22,396	22,396
(a) Growth Rate of Staff(%)	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
(b) Growth Factor	0.64	0.64	0.64	0.64	0.64	0.64
a) Average Personnel Cost(mil.dong)	11.479	11.479	12.167	12.167	12.167	12.897
(a) Growth Rate (%)	0.00%	0.00%	6.00%	0.00%	0.00%	6.00%
(b) Growth Factor	1.50	1.50	1.59	1.59	1.59	1.69
b. Rental Fee for Infrastructure	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%
a) Growth Rate (%)	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
b) Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00
c.Materials, Electricity & Capital Tax						
a) Train Km.(Mil.km.)						
(a) Passenger	24.474	25.100	25.743	26.402	27.078	27.771
i. Growth Rate (%)	2.56%	2.56%	2.56%	2.56%	2.56%	2.56%
ii. Growth Factor	2.89	2.97	3.04	3.12	3.20	3.28
(b) Freight	14.322	14.592	14.868	15.149	15.436	15.727
i. Growth Rate (%)	1.89%	1.89%	1.89%	1.89%	1.89%	1.89%
ii. Growth Factor	2.91	2.96	3.02	3.08	3.14	3.20
d. Cost per Train km.(dong/km.)						
a) Materials	38,421.9	40,343.0	42,360.1	44,478.2	46,702.1	49,037.2
b) Electricity	1,535.3	1,612.1	1,692.7	1,777.3	1,866.2	1,959.5
c) Capital Tax	4,641.8	4,873.9	5,117.6	5,373.5	5,642.2	5,924.3

[With]

	2015	2016	2017	2018	2019	2020
e. Price Level						
a) Growth Rate(%)	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%
b) Growth Factor	3.27	3.43	3.61	3.79	3.98	4.18
f. Fuels						
a) Ton km.(mil.ton km.)						
(a) Passenger	8,222	8,433	8,649	8,870	9,097	9,330
i. Growth Rate(%)	2.56%	2.56%	2.56%	2.56%	2.56%	2.56%
ii. Growth Factor	3.30	3.39	3.48	3.57	3.66	3.75
(b) Freight	8,229	8,384	8,543	8,704	8,869	9,036
i. Growth Rate(%)	1.89%	1.89%	1.89%	1.89%	1.89%	1.89%
ii. Growth Factor	2.91	2.96	3.02	3.08	3.14	3.20
(c) Cost per Ton km.(dong/ton km.)	43.9	46.1	48.4	50.8	53.4	56.0
g. Depreciation						
a) Car Km.(mil.km.)						
(a) Passenger(mil.km.)	195.4	200.4	205.5	210.8	216.2	221.7
i. Growth Rate(%)	2.56%	2.56%	2.56%	2.56%	2.56%	2.56%
ii. Growth Factor	3.30	3.38	3.47	3.56	3.65	3.74
(b) Freight(mil.km.)	186.2	189.7	193.3	196.9	200.7	204.5
i. Growth Rate(%)	1.89%	1.89%	1.89%	1.89%	1.89%	1.89%
ii. Growth Factor	2.91	2.96	3.02	3.08	3.14	3.20
(c) Cost per Car km.(dong/car km.)	1,342.2	1,376.5	1,411.8	1,447.9	1,485.0	1,523.0
h. Others						
a) Passenger						
Ratio on Total Operatng Cost	0.10	0.10	0.10	0.10	0.10	0.10
b) Freight						
Ratio on Total Operatng Cost	0.10	0.10	0.10	0.10	0.10	0.10