

LIRO PROJECT REPORT

PR 83

1998/99

International Benchmarking - Transport

Geoff Manners

DANA Limited

PROPERTY OF
**NATIONAL FORESTRY
LIBRARY**

Sally Street
Private Bag 3020
Rongotea
New Zealand
Phone:
(07) 348 71683
Fax:
(07) 346 2886

Leading Edge Forestry Solutions

Copyright © 1999 by Liro Forestry Solutions

The form and content of this Project Report are copyright. No material, information or inclusions appearing in this Project Report may be used for advertising or other sales promotion purposes without prior written permission.

This Project Report is confidential to LIRA members and may not be communicated to non-members except with written permission of the General Manager of Liro Forestry Solutions.

For information, please contact Liro Forestry Solutions, Private Bag 3020, Rotorua, New Zealand.

PREFACE

DANA Limited was commissioned by LIRO Limited to undertake a Transport industry Benchmark survey in a range of identified countries. The purpose of the study was to compare in transport operations key inputs in a number of operations around the world.

The Assignment was undertaken during the first half of 1999. A questionnaire was sent out to a number of interested parties in the target countries. Follow up calls were made to obtain a response particularly those who had indicated a willingness to participate. Replies began to come in during May with the last response received in July.

The report presents the findings of the investigation

G. N. Manners
DANA Limited

DISCLAIMER:

DANA Limited has prepared this report for LIRO Limited. The purpose of this report is to provide information on key transport inputs in a range of countries. The results were based upon a survey questionnaire distributed to a number of respondents. The results are indicative of the operations represented by those respondents and may or may not reflect the industry at large.

While DANA Limited believes the statements contained in this report are valid, based on the information available, no representation or warranty as to the accuracy or completeness herein is given.

Nothing in this report shall be relied on as a promise or representation to the future.

Neither DANA Limited nor any members or employees of the company undertake responsibility arising from the valuation other than to LIRO Limited.

TABLE OF CONTENTS

1.0 INTRODUCTION	1
2.0 METHOD	2
3.0 GROSS VEHICLE WEIGHT AND PAYLOAD ANALYSIS	2
FIGURE: 3.01 PAYLOAD COMPARISON	2
TABLE: 3.03 AVERAGE SURVEY PAYLOADS	3
TABLE: 3.04 AVERAGE PAYLOADS OF COMMON CONFIGURATIONS IN FOREST PRODUCING COUNTRIES	3
4.0 LABOR COMPARISON	4
5.0 CAPITAL AND FINANCE COSTS	4
6.0 OPERATING COSTS	4
7.0 GOVERNMENT TAXES	5
FIGURE: 7.01 TAX COMPARISON	5
8.0 CONCLUSIONS	5
TABLES	6
TABLE: 3.01 SUMMARY OF GROSS VEHICLE WEIGHTS AND PAYLOADS BY COUNTRY (SOURCE METCALF PAYLOAD FOR COMMON TRUCK CONFIGURATIONS IN FOREST PRODUCING COUNTRIES)	6
TABLE: 3.02 SUMMARY OF GROSS VEHICLE WEIGHTS AND PAYLOADS BY REGION AND TRUCK TYPE	7
TABLE: 4.01 WAGE RATE AND WORK PATTERNS BY REGION	7
TABLE: 5.01 CAPITAL AND FINANCE COSTS	8
TABLE: 6.01 OPERATING COSTS	9

1.0 INTRODUCTION

LIRO Limited commissioned DANA Limited a Rotorua based Forest Industry consulting firm to undertake an international benchmarking survey of the log transportation costs of a number of countries.

The target countries/ regions were as follows:

New Zealand

Australia

New South Wales

Victoria/New South Wales

Tasmania

Queensland

Western Australia

South Africa

Chile

USA

Pacific North West

Southern states

Canada

British Colombia

Alberta

Ontario

Quebec

Maritime Provinces

We received replies from companies in:

New Zealand

Australia

Western Australia

Chile

South Africa

Canada

British Colombia

Alberta

Ontario

Quebec

Maritime Provinces

Time and cost constraints dictated that the survey would be undertaken by way of contacts and questionnaires in the target countries and regions. Telephone, fax and Email contacted a total of xxxxx organisations. A standard template was designed and all figures converted to NZ \$ and weights in tons and distances in kilometres.

This method has proven to be relatively ineffective where despite a positive response from over 80% of the organisations contacted only 20% actually responded with completed templates.

The objective of the study was to provide a base comparison of truck operating costs in countries that are either direct indirect competitors on New Zealand's forest industry. The survey was limited to log cartage, there are a number of other international surveys that focus on general goods cartage and these are a more appropriate mechanism to compare the cartage of finished product.

2.0 METHOD

A standard template was designed and used in the study, the template was designed to obtain information on the factors that contributed to truck running costs and profitability.

All cost figures were converted to NZ dollars using an exchange rate obtained from the BNZ on Friday June25th. The replies from each respondent were then averaged to give a representative cost for each country truck type covered in the survey. This enabled the average figure as well as a low and high figure to be obtained for each truck/trailer combination.

The information was broken down into three sections:

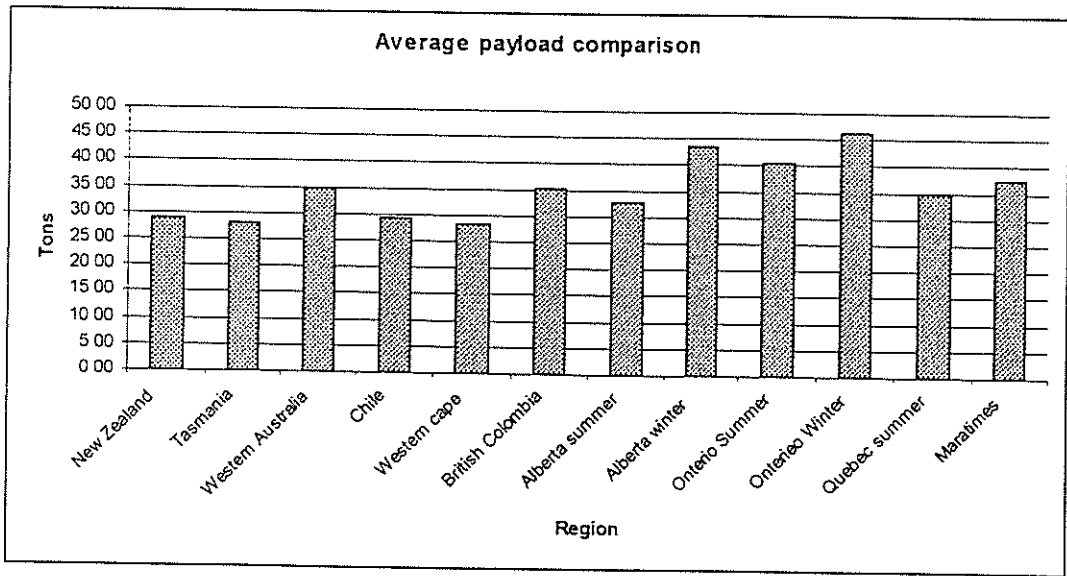
- Gross vehicle weight and payload analysis
- Road tax
- Salary and wages
- Operating costs
- Capital cost.

3.0 GROSS VEHICLE WEIGHT AND PAYLOAD ANALYSIS

Table 3.02 details the differences in payload analysis across countries and truck types. The regulations differ between countries and between regions. Appendix 1 details some of the axle weight groupings for Tasmania, Canada and Chile.

Some Canadian provinces allow an additional 10% gross vehicle weight when the roads are frozen in the winter. This goes straight to additional payload.

Figure: 3.01 Payload comparison



Whilst it is accepted that truck configurations are the major influence of payload, based on our study sample the Canadian transport operations have the ability to carry a higher payload than other countries in the study. In particular gross vehicle weights can be 10% higher in Alberta, Ontario and Quebec during the winter period when the roads are frozen. This increase is reflected in the higher payloads during these months.

Table: 3.03 Average Survey Payloads

	Payload (tonnes)
Onterio Winter	46.30
Alberta winter	43.57
Onterio Summer	40.50
Maratimes	37.25
British Colombia	35.30
Quebec summer	35.00
Western Australia	34.97
Average	34.90
Alberta summer	32.75
Chile	29.33
Western cape	28.29
Tasmania	28.00
New Zealand	27.50

New Zealand payloads were the lowest of those surveyed. Payloads in Canada are approximately 28% higher than in New Zealand, In Western Australia, they are 21% higher, and other countries are within 10% of New Zealand.

Table: 3.04 Average Payloads of Common Configurations in Forest Producing Countries

	Net payload (tonnes)
Mexico	46.50
Canada	36.38
Australia	36.17
Finland	35.64
Chile	32.50
Sweden	29.64
Average	28.00
New Zealand	26.63
European Union	25.48
Unted Kingdom	25.31
USA	21.78

Source Metcalf 1999

From the information gained in a desk to study undertaken in 1999, the average payload for all surveyed configurations was calculated. It must be stressed that these figures are not necessarily indicative of the actual payloads carried as that is dependent on the proportion of each truck and trailer configuration actually used. New Zealand's legal payloads are in the bottom half of the study countries. More importantly, they are 23% below those of Canada and Australia, and 14% below those in Chile. While the

order of magnitude may be different, the results are consistent with the findings of the operator survey. A breakdown of the findings is in table 3.01

4.0 LABOR COMPARISON

Labour costs make up approximately 30 % of the total truck operating cost. A breakdown is shown in Table 4.01

New Zealand Labor rates are low by international standards apart from South Africa and Chile, which have a different cost structure. The Canadian Labor costs are with the exception of the Maritime provinces in the low \$30/ hr. New Zealand costs are almost two thirds of these rates. A two-shift twenty four-hour truck operation is practiced in most Canadian states as well as parts of New Zealand. South Africa operates a two-shift operation of 9 hours each. In Alberta, some operations only operate during the winter months on a twenty-four hour seven day a week schedule. In this way, they can increase the utilisation of the equipment. The trucks try to undertake non-forestry-based work in the summer months.

The New Zealand trucks operating 175 days per year are consistent with parts of Canada and more than Western Australia. However, Chile with 260 operating days a year was the highest, followed by South Africa and parts of Canada. The lowest daily utilisation was naturally with the winter haul operations of Alberta. This figure excludes non-forestry work undertaken in the summer.

5.0 CAPITAL AND FINANCE COSTS

A comparison of the capital cost and finance charges can be found on Table 5.01.

There is remarkable consistency across all countries as to the finance period with all equipment surveyed financed over five years.

6.0 OPERATING COSTS

Table 6.01 provides a summary breakdown of the operating costs by configuration and country.

Fuel consumption varied greatly between regions more so than between configurations. This reflects the operating environment of the vehicles. British Colombia with its more difficult terrain had significantly higher fuel costs than all other regions. New Zealand had relatively low fuel consumption reflecting our easier terrain by comparison with other countries.

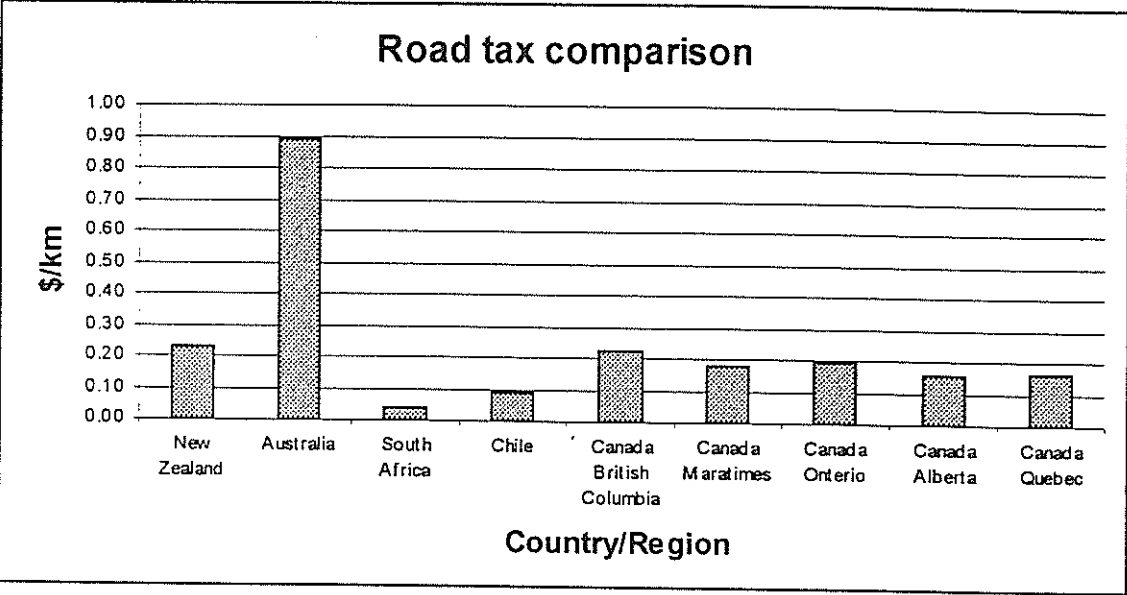
All trucks averaged between 90,000 and 100,000 km 100,000 km per year. The distance travelled by New Zealand trucks ranged from 90,000kms per year to 175,000 km per year the highest in the survey.

Fuel cost varied from a low of \$0.17/l in Western Australia to a high of \$0.64/liter in South Africa.

Tyre costs apart from Chile and South Africa is again similar across the remaining regions. Repairs and Maintenance costs vary between regions, with New Zealand's costs being towards the bottom of the range

7.0 GOVERNMENT TAXES

Figure: 7.01 Tax Comparison



New Zealand’s road tax regime is similar to that in Canada but higher than that in either Chile or South Africa. The western Australia figure is derived form an A\$0.52/litre fuel tax.

8.0 CONCLUSIONS

From the limited sample that the study is based upon, it would appear that inputs into New Zealand transport operations are Internationally competitive with both Australia and Canada. They are more expensive than either South Africa and Chile due to the lower wage cost structure in those countries. The depreciated value of the rand has also improved South Africa’s competitive position in world terms.

While New Zealand costs are similar to both Australia and Canada apart form the Labor cost they are not in the bottom quartile and there is no room for complacency.

New Zealand vehicle utilisation, distances travelled are amongst the highest in the survey reflecting the efficiency gains over the past five years.

Where New Zealand is at a competitive disadvantage however is in the allowable payload. It is amongst the lowest in the countries surveyed and in some cases significantly lower than our competitors.

The data provides information sufficient for a base comparison the real value will come in future studies which will enable trends to be established and competitiveness monitored.

To improve the database for future studies the cost should be sufficient to allow in country visits to particularly Australia and the USA. Despite a positive response when individuals were telephoned, the time to collate the information resulted in a very poor response. By visiting the individuals in person, the information could be obtained in an interview situation.

TABLES

Table: 3.01 Summary of Gross Vehicle Weights and Payloads by Country (source Metcalf payload for common truck configurations in forest producing countries)

	A train 7 axles (gross)	A train 7 axles (net)	A train 8 axles (gross)	A train 8 axles (net)	B train 7 axles (gross)	B train 7 axles (net)	B train 8 axles (gross)	B train 8 axles (net)	Logging Jinker (6 axle)(gross)	Logging Jinker (6 axle) (net)	
New Zealand	39	24.1	39	24.1	44	29.1	44	29.1	42.2	27.3	
Australia					65	50.1	65	50.1			
USA	36.3	21.4	36.3	20.8	36.3	21.4	36.3	20.8	36.3	22.6	
Canada	53.5	38.6	53.5	38	56.5	41.6	62.5	47			
United Kingdom	40	25.1	40	24.5	40	25.1	40	24.5			
Sweden							60	44.5			
Finland							56	40.5			
European Union	40	25.1	40	24.5	40	25.1	40	24.5	40	26.3	
Chile											
Mexico							62	46.5			
Average	42	27	42	26	47	32	52	36	40	25	
	Truck and full trailer (5 axle) (gross)	Truck and full trailer (5 axle) (net)	Truck and full trailer (6 axle) (gross)	Truck and full trailer (6 axle) (net)	Truck and full trailer (7 axle) (gross)	Truck and full trailer (7 axle) (net)	Truck and full trailer 8 axle (gross)	Truck and full trailer 8 axle (net)	Tractor/ semi trailer (5 axle) (gross)	Tractor/ semi trailer (5 axle) (net)	Tractor/se mi trailer (6 mi trailer (6 axle) (net)
New Zealand	37.4	22.5	42	27.1	44	29.1	44	29.1			39
Australia	45.5	30.6	45.5	30.6	45.5	30.6			45.5	30.6	45.5
USA	36.3	21.8	36.3	21.5	36.3	21.87	36.3	20.95	36.3	23.3	36.3
Canada			42.6	27.8	53.5	39.07			39.5	26.5	46.5
United Kingdom	40	25.5	40	25.2	40	25.57	40	24.65	40	27	40
Sweden	40	25.5	40	25.2					40	27	40
Finland	44	29.5	53	38.2					44	31	53
European Union	40	25.5	40	25.2	40	25.57	40	24.65	40	27	40
Chile	47	32.5									
Mexico											
Average	41	27	42	28	43	29	40	25	41	27	43
DATA LIMITED											
											6
						</					

Table: 3.02 Summary of Gross Vehicle Weights and Payloads by Region and Truck Type

Country Region	New Zealand		Australia		Chile		South Africa				British Columbia		Alberta	
	Gross	Payload	Tasmania	Western	Region VIII	Western cape	gross	payload	gross	payload	Gross	Payload	Gross	Payload
Tractor 5 axle Pole Trailer					43	28							56.1	41.6
Tractor tandem jeep pole											49.5	32.5	65	47
Tractor tandem semi													58.6	42.1
Tridem Tractor/Tridem Trailer											54.5	36.5		
Tractor jeep Triaxle Trlr											58.3	39.7		
Tractor jeep 6 axle pole											49.2	32.5		
B Train	44	29			45	30								
Six axle Semi														
Truck and two axle dog	44	29	42.5	28	45	30	43.9	28.29	46	31.2				
8x4 truck & 3 axle trailer				46.5	25.2									
6x4 truck & 3 axle trailer				42.5	23.92	40.44								
8x4 truck & 4 axle trailer	44	30		60.5	39.14	38.52								
8x4 truck & 5 axle trailer				64	39.46									
6x4 truck & 4 axle trailer	42	27		55.5	36.68									
6x4 truck & 2 axle trailer & 4 axle trailer				72	45.44									
Average	43.50	28.75	42.50	28.00	42.39	29.33	43.90	28.29	46.00	31.20	52.88	35.30	59.90	43.57

Table: 4.01 Wage Rate and Work Patterns by Region

Country Region	New Zealand		Australia		Chile	Canada				Quebec		Maratimes
	Tasmania	Western Australia	Region VIII	estern cap		British Columbia	lberta winte	erta year rou	Onterio Summer	Onterio Winter	Quebec summer	
Salary Cost/hr	22.75	27.92	10.37	5.39		31.68	32.9	30.38	32.9	32.9	30.38	27.85
Hours/shift	13	12	9	9		12	12	12	12	12	12	12
shifts/day	1	1	1	2		1	1	1	2	2	2	2
Days per year	220	150	260	230		190	90	170	200	200	175	175

Table: 5.01 Capital and Finance Costs

		Tractor tandem jeep pole	Tractor tandem semi	Tridem Tractor/Tandem Trailer	Tractor Jeep Triaxle Titr	Tractor jeep 6 axe pole	B Train	Bailey Bridge	Six axle Semi	Truck and two axe dog	8x4 truck & 3 axe trailer	6x4 truck & 3 axe trailer	8x4 truck & 4 axe trailer
New Zealand	Capital Cost							190000		266000	410000		
	Finance Cost							2,730		4033	5890		
	Finance period							3		3	3		
Australia	Capital Cost										276656	223920	247556
	Finance Cost										2833 333333	2500	3368
	Finance period										5	5	5
South Africa	Capital Cost												
	Finance Cost												
	Finance period												
Chile	Capital Cost						180000						
	Finance Cost						1800						
	Finance period						5						
Canada	Capital Cost	260755	219033	264000	277834	265919	180000		170000				
	Finance Cost	5269	4426	5335	5614	5373	3637		3435				
	Finance period	5	5	5	5	5	5		5				
	Capital Cost						190000						
	Finance Cost						3839						
	Finance period						5						
	Capital Cost			256939									
	Finance Cost			4767									
	Finance period			5									
	Capital Cost			230000									
	Finance Cost			4647									
Average	Capital Cost	130377 5	171243	132000	138917	132959 5	137500	95000	85000	133000	229552	111960	123778
	Finance Cost	5269	4613	5335	5614	5373	3092	2730	3435	4033	4356 666667	2500	3368
	Finance period	5	5	5	5	5	5	3	5	3	4	5	5

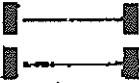
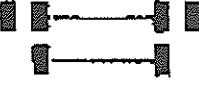
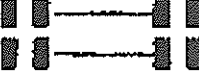
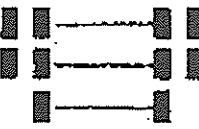
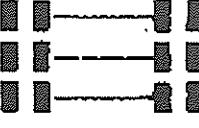
Table: 6.01 Operating Costs

		Tractor 5 axle pole trailer	Tractor tandem jump pole	Tractor tandem semi	Tridem Tractor/Tridem Trailer	Tractor Jeep Tireless Tr	Tractor Jeep 6 axle pole	B Train	Battery Bridge	Six axle Semi	Truck and two axle dog	Box truck & 3 axle trailer	Box truck & 4 axle trailer
New Zealand	Tyre Cost								12996		5403		18200
	RAM								24,200		7573		26000
	Fuel consumption V100km								16		50		18
	Fuel Cost \$4								0.32		0.45		0.32
Australia	Kms Run								110000		94616		130000
	Tyre Cost												12810
	RAM												37039
	Fuel consumption V100km												16
South Africa	Fuel Cost \$4												0.17
	Kms Run												0.17
	Tyre Cost												84100
	RAM												
Chile	Fuel consumption V100km												
	Fuel Cost \$4												
	Kms Run												
	Tyre Cost												
Canada British Columbia	RAM												
	Fuel consumption V100km												
	Fuel Cost \$4												
	Kms Run												
Canada Manitoba	Tyre Cost												
	RAM												
	Fuel consumption V100km												
	Fuel Cost \$4												
Canada Ontario	Kms Run												
	Tyre Cost												
	RAM												
	Fuel consumption V100km												
Canada Alberta	Fuel Cost \$4												
	Kms Run												
	Tyre Cost												
	RAM												
Canada Quebec	Fuel consumption V100km												
	Fuel Cost \$4												
	Kms Run												
	Tyre Cost												
Average	RAM												
	Fuel consumption V100km												
	Fuel Cost \$4												
	Kms Run												

APPENDIX 1

GROSS VEHICLE WEIGHTS CHILE

Distribution of legal weight by axle on public roads.

MAXIMUM LOAD ON PUBLIC ROADS	
Types of Axles	Tons
	7
	11
	14
	18
	18
	19
	23
	25
Total maximum weigh by truck.	48

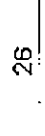
GROSS VEHICLE WEIGHTS TASMANIA

MASS LIMITS FOR SINGLE AXLES AND AXLE GROUPS

AXLES	TYRES	Maximum Axle or Axle Group Load (tonnes)	
	Steer (on a motor vehicle)	6.0	Includes all tyre widths
	Single 2 tyres (includes steer axle on dog trailers)	6.0	Tyre width less than 375 mm
		6.7	Tyre width from 375 mm minimum to less than 450 mm
		7.0	Tyre width 450 mm or greater
	Single 4 tyres	9.0	
		8.5	When fitted with a pig trailer
	Twin Steer	10.0	Fitted with a non load sharing suspension
		11.0	Fitted with a load sharing suspension
	Tandem 4 tyres	11.0	Tyre width less than 375 mm
		13.3	Tyre width from 375 mm minimum to less than 450 mm
		14.0	Tyre width 450 mm or greater
	Tandem 6 tyres	13.0	
		13.0	
	Tandem 8 tyres	16.5	
		15.0	When fitted to a pig trailer
		14.3	Fitted with a non load sharing suspension
	Tri-axle 6 tyres	20.0	Tyre width 375 mm or greater
		15.0	Tyre width less than 375 mm
		19.0	When fitted to a pig trailer with tyre width 375 mm or greater
	Tri-axle 12 tyres	20.0	
		18.0	When fitted to a pig trailer
		17.7	Fitted with a non load sharing suspension
	Tri-axle Combination of 2 and 4 tyres per axle	20.0	
		15.0	Tyre width on single tyres less than 375 mm
		16.0	When fitted to a pig trailer with tyre width 375 mm or greater
	Quad 8 tyres	20.0	Tyre width 375 mm or greater
		15.0	Tyre width less than 375 mm
	Quad 16 tyres	20.0	

CANADA LEGAL AXLE LOADS

Configuration	Axle group weight (tonnes)	Axle group weight (tonnes)	Axle group weight (tonnes)	Axle group weight (tonnes)	Comments
Tractor Jeep Tri axle Trailer British Columbia			  	 	
	8.1	17	9.1 9.1	17	
Tridem Tractor/Tridem Trailer British Columbia		 			
	6.5	24	24		
Tractor jeep 6 axle pole British Columbia		 		 	BC tolerances summer 15000kg winter 25000kg
	5.1	17	9.1	17	
8 Train Pulp Logs Maratimes		 	  	 	
	5.5	18	24	18	
8 Train Pulp Logs Ontario		 	  	 	+ 10% on frozen roads
	6	19	24	19	
8 Train Chip (In woods) Ontario		 	  	 	+10% on frozen roads
	6	19	24	19	

6 axle Semi Maratimes					
Tractor 5 axle Pole Trailer					
Alberta (winter Haul)	6.1	25	25		
7 Axle Semi Quebec					Tolerance 500kg/axle group Unofficial 15500kg GVW
8 axle semi Ontario					Plus 10% on frozen roads

APPENDIX 2

COUNTRY: Australia
REGION: Western Australia

Currency: A\$

Currency 1.244

NZD

	UNIT	A	B	C	C	D	D	E	F
Number of days worked per year	Days	150	150	150	150	150	150	150	150
Number of trips per day	Days	3	3	3	3	3	3	3	3
Number of hours worked per day	Hours	12	13	13	12	13	12	12	12
Annual distance travelled	Kilometres	85040	82984	96200	92600	90336	97088	97461	103530
Legal Axle Weight (see below)	Tonnes	46.5	42.5	60.5	60.5	64	64	55.5	72
Total Legal Payload	Tonnes	25.20	23.92	40.44	38.52	39.14	39.46	36.68	45.44
Government taxes	\$ Per Litre	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52
Capital cost	\$	278,656	223,920	226,408	268,704	344,588	344,588	174,160	155,500
Lease cost	\$ Per Year	0.00	0.00	36,051.12	44,784.00	44,784.00	59,712.00	0.00	0.00
Purchase Year	Year	1989	1989	1992	1995	1995	1995	1985	1987
Insurance	\$ Per Year	2488	2488	2488	2488	2488	2488	2488	2488
Fuel Consumption	Litre per Klim	1.62	1.75	1.59	1.54	1.38	1.57	1.83	2.00
Fuel and Oil cost	\$ Per Year	24376	23182	33126	28713	36926	34222	27790	25521
Tyres	\$ Per Year	4910	3753	14687	10934	7653	8258	8392	5970
Tyre life	Klim per Year	60000	63010	55530	58252	59673	67889	60000	68000
Wages	\$ Per Year	56707.74	58679.48	62851.856	62529.66	59270.38	54173.712	59461.956	66877.44
Repairs and Maintenance	\$ Per Year	14491.356	30861.152	48742.408	25337.792	9247.896	10700.888	44920.84	0
Other costs	\$ Per Year	3651.14	3651.14	3651.14	3651.14	3651.14	3651.14	3651.14	3651.14

- A8 X 4 TRUCK & 3 AXLE TRAILER (Axle weight 10.0 16.5 20.0)
- B6 X 4 TRUCK & 3 AXLE TRAILER (Axle weight 6.0 16.5 20.0)
- C8 X 4 TRUCK & 4 AXLE TRAILER (Axle weight 11.0 16.5 16.5 16.5)
- D8 X 4 TRUCK & 5 AXLE TRAILER (Axle weight 11.0 16.5 16.5 20.0)
- E6 X 4 TRUCK & 4 AXLE TRAILER (Axle weight 6.0 16.5 16.5 16.5)
- F6 X 4 TRUCK & 2 AXLE TRAILER & 4 AXLE TRAILER Axle weight 6.0 16.5 16.5 16.5)

COUNTRY: New Zealand

Currency: NZ\$

NZD

	UNIT	A	B	C	C	D
Number of days worked per year	Days	220	240	270	150	189
Number of trips per day	Days	3	5	8	3	3
Number of hours worked per day	Hours	10	13	24	13	13
Annual distance travelled	Kilometres	110000	135000	175000	84031.636	103217.45
Legal Axle Weight (see below)	Tonnes	F6.0 Oth 8	F6.0 Oth 8	F6.0 Oth 8	44	44
Total Legal Payload	Tonnes	24.00	27.00	30.00	29.00	29.00
Government taxes	\$ Per Year	38,216.00	36,899.00	43,565.00	17,562.00	21,792.00
Capital cost	\$	190,000	330,000	410,000	304,680	276,640
Finance cost	\$ Per month	2,730.00	4,830.00	5,880.00	2,745.00	4,033.00
Insurance	\$ Per Year	1900	3300	4100	8916	14964
Fuel Consumption	km/litre	1.80	1.80	1.80	1.84	1.72
Fuel and Oil cost	\$ Per Year	19653	24322	31530	14654	19194
Tyres	\$ Per Year	12980	14310	18200	11324	14000
Tyre life	Klm per Set	60000	60000	60000	77000	70000
Wages	\$ Per Year	46800	57460	118320	398101	36206
Repairs and Maintenance	\$ Per Year	24200	24300	28000	148335	90882
Other costs	\$ Per Year	22976	22976	44000	48301	60753

- A
- B
- C
- D
- E
- Bailey Bridge One Shift
- 6x4 +4 axle trailer One Shift
- 8x4 + 4 axle trailer
- 6x3 + 4 axle trailer
- 8x4 + 4 axle trailer

COUNTRY:Canada

CURRENCY: NZ\$

NZ\$/CDN\$

1.27

REGION: B.C

TRUCK/TRAILER TYPE:Tridem Tractor / Tridem TRLR

LBS/KG

1.00

	Description	Measurement Units	Low Cost	Med Cost	High Cost
Number of days worked per year		Days/Yr	180	190	210
Number of Trips per day	Number of deliveries made per day	Del/Day	1	3	4
Number of hours worked per day	Please note if one shift or two		10	12	14
Annual distance traveled	Include loaded and unloaded running	Km	60000	90000	120000
Legal axle weight	Legal allowable weight per axle. Note if different for different axles	Kg		54500	
Total legal payload	Total gross weight allowed minus truck tare weight	Kg		36,500 - 38,500	
Government taxes	Please note if a tax levied on distance traveled, or fuel, or road tolls. Does not include revenue or value added type taxes	Fuel Tax = 50%			
Capital cost	Cost of the truck and trailer less any government rebates or negotiated discounts. Excludes any trade in value.	Tractor		59549	
Finance/Lease cost	Total lease cost either /month or year or total finance interest cost/ month or year	Tractor		205254	
Insurance	Cost of insurance including public liability	Purchase Price Financed Over 5 Yrs @ ~ 8.5% / Yr			
Fuel Consumption	Expressed as a function of distance traveled	litres/hr	32	35	38
Fuel and oil cost	Expressed as a cost per distance or a monthly or annual figure	Lube and Oil	1.0136	1.108625	1.20365
Tyres	Total cost of tyres on an annual basis	\$/ Yr	7602	9882.6	10896.2
Tyre life	Life of tyres expressed as distance or time	/ Set / Year	Drives and Tractor and Steers		
Wages	For owner operators drawings or wages/salary paid to the driver (monthly/yearly)	\$/Hr	29.141	31.675	34.209
Repairs and maintenance	Monthly or annual figure	Annual \$	27874	31675	35476
Other costs	All other costs including administration but excluding revenue and value added tax.	Profit and Risk	12 - 15% Admin ~ 3 - 5%		

COUNTRY: Canada

CURRENCY: NZ\$

NZ\$-CDN\$

1.2658

REGION: B.C

TRUCK/TRAILER TYPE: Tractor/ Jeep/ Pole Trailer

	Description	Measurement Units	Low Cost	Med Cost	High Cost
Number of days worked per year			180	190	210
Number of Trips per day	Number of deliveries made per day		1	3	4
Number of hours worked per day	Please note if one shift or two	Hour / Shift	10	12	14
Annual distance traveled	Include loaded and unloaded running	KM	60,000	90,000	120,000
Legal axle weight	Legal allowable weight per axle. Note if different for different axles	Tonnes		49	
Total legal payload	Total gross weight allowed minus truck tare weight	Tonnes		33	
Government taxes	Please note if a tax levied on distance traveled, or fuel, or road tolls. Does not include revenue or value added type taxes	Fuel Tax ~ 50%			
Capital cost	Cost of the truck and trailer less any government rebates or negotiated discount. Excludes any trade in value.	Tractor \$ Trailer		174680 89239	
Finance/Lease cost	Total lease cost either /month or year or total finance interest cost/ month or year	Purchase Price Financed Over 5 Years ~ 8.5 % / Yr			
Insurance	Cost of insurance including public liability	\$		5696	
Fuel Consumption	Expressed as a function of distance traveled	litres/ Hr	28	31	34
Fuel and oil cost	Expressed as a cost per distance or a monthly or annual figure	Lube/ Oil	1	1	1
Tyres	Total cost of tyres on an annual basis	\$ / Year	5000	6000	7000
Tyre life	Life of tyres expressed as distance or time	/ SET DRIVERS / TRAILER / STEER			
Wages	For owner operators drawings or wages/salary paid to the driver (monthly/yearly)	\$ / Hr	28	30	33
Repairs and maintenance	Monthly or annual figure	\$	24050	27848	31645
Other costs	All other costs including administration but excluding revenue and value added tax.	PROFIT AND RISK ~ 12 - 15 % ADMIN ~ 3-5%			

COUNTRY:Canada

CURRENCY: NZ\$

NZ\$/CDN\$ 1.2658

REGION: Alderta winter haul TRUCK/TRAILER TYPE: Tractor Pole trailer

	Description	Measurement Units	Low Cost	Med Cost	High Cost
Number of days worked per year			70	80	90
Number of Trips per day	Number of deliveries made per day	Trips / day (2 shifts)	2	4	6
Number of hours worked per day	Please note if one shift or two	Hours / Day		24	
Annual distance traveled	Include loaded and unloaded running	Km	80000	100000	120000
Legal axle weight	Legal allowable weight per axle. Note if different for different axles	Tonne		56.1 Tonne	
Total legal payload	Total gross weight allowed minus truck tare weight	Tonne		41.6 Tonne	
Government taxes	Please note if a tax levied on distance traveled, or fuel, or road tolls. Does not include revenue or value added type taxes	\$		50%	
Capital cost	Cost of the truck and trailer less any government rebates or negotiated discounts. Excludes any trade in value.	\$	Tractor Trailer	174880.4 39239.8	
Finance/Lease cost	Total lease cost either /month or year or total finance interest cost/ month or year		Purchase Price Financed @ 8.5% / Year		
Insurance	Cost of insurance including public liability	\$		6329	
Fuel Consumption	Expressed as a function of distance traveled	L/Hr	32	35	38
Fuel and oil cost	Expressed as a cost per distance or a monthly or annual figure	Lube and Oil	1.01264	1.107575	1.20251
Tyres	Total cost of tyres on an annual basis	\$	5063.2	5696.1	6329
Tyre life	Life of tyres expressed as distance or time	1/2 Set / Year	3164.5	4050.56	5063.2
Wages	For owner operators drawings or wages/salary paid to the driver (monthly/yearly)	\$ / Hr	27.8476	30.3792	32.9108
Repairs and maintenance	Monthly or annual figure	\$/Year	12658	17721.2	22784.4
Other costs	All other costs including administration but excluding revenue and value added tax.	PROFIT AND RISK ~ 12 - 15% ADMIN ~ 3-5%			

COUNTRY: Canada

REGION: Ontario

CURRENCY: NZ\$

NZ\$/CDN\$

1.2658

TRUCK/TRAILER TYPE: In wood 8 axle B train chip van

	Description	Measurement Units	Low Cost	Med Cost	High Cost
Number of days worked per year		Days	180	200	220
Number of Trips per day	Number of deliveries made per day	Single shift	1	2	3
Number of hours worked per day	Please note if one shift or two	double shift	2	4	5
Number of hours worked per day	Please note if one shift or two	Hours	8	12	14
Annual distance traveled	Include loaded and unloaded running	Km	120000	175000	250000
Legal axle weight	Legal allowable weight per axle. Note if different for different axles	See original fax			
Total legal payload	Total gross weight allowed minus truck tare weight	Kg	38000	40000	41000
Government taxes	Please note if a tax levied on distance traveled, or fuel, or road tolls. Does not include revenue or value added type taxes				
Capital cost	Cost of the truck and trailer less any government rebates or negotiated discounts. Excludes any trade in value.	Truck Trailer	100000 100000	125000 0	140000 140000
Finance/Lease cost	Total lease cost either /month or year or total finance interest cost/ month or year	% Year	8	8.5	9
Insurance	Cost of insurance including public liability	\$ / Year	6329	8860.6	15189.6
Fuel Consumption	Expressed as a function of distance traveled	L/100km	82.277	94.935	113.922
Fuel and oil cost	Expressed as a cost per distance or a monthly or annual figure	\$ / Km	0.417714	0.50632	0.56961
Tyres	Total cost of tyres on an annual basis	\$/Year	8227.7	10126.4	12658
Tyre life	Life of tyres expressed as distance or time	Km Driver Trailer	60000 150,000	100000 180,000	140000 220,000
Wages	For owner operators drawings or wages/salary paid to the driver (monthly/yearly)	\$ / Hr	29,1134	32,9108	37,974
Repairs and maintenance	Monthly or annual figure	\$ / Yr	25316	35442.4	41771.4
Other costs	All other costs including administration but excluding revenue and value added tax.	\$	12658	25316	31645

COUNTRY:Canada

CURRENCY: NZ\$

REGION:B.C

TRUCK/TRAILER TYPE:Tractor/JEEP/Pole Trailer

NZ\$/CDN\$

1.2658

	Description	Measurement Units	Low Cost	Med Cost	High Cost
Number of days worked per year		Days	180	190	210
Number of Trips per day	Number of deliveries made per day		1	3	4
Number of hours worked per day	Please note if one shift or two	Hour / Shift	10	12	14
Annual distance traveled	Include loaded and unloaded running	KM	60000	90000	120000
Legal axle weight	Legal allowable weight per axle. Note if different for different axles	Tonnes		49.2	
Total legal payload	Total gross weight allowed minus truck tare weight	Tonnes		32.5	
Government taxes	Please note if a tax levied on distance traveled, or fuel, or road tolls. Does not include revenue or value added type taxes	Fuel Tax ~ 50%			
Capital cost	Cost of the truck and trailer less any government rebates or negotiated discount. Excludes any trade in value.	Tractor \$ Trailer .		174680.4 89238.9	
Finance/Lease cost	Total lease cost either /month or year or total finance interest cost/ month or year.	Purchase Price Financed Over 5 Years ~ 8.5 % / Yr			
Insurance	Cost of insurance including public liability	\$		6,329	
Fuel Consumption	Expressed as a function of distance traveled	litres/ Hr	28	31	34
Fuel and oil cost	Expressed as a cost per distance or a monthly or annual figure	Lube/ Oil	0.88606	0.980995	1.07593
Tyres	Total cost of tyres on an annual basis	\$ / Year	6329	7594.8	8860.6
Tyre life	Life of tyres expressed as distance or time	/ SET DRIVERS / TRAILER / STEER			
Wages	For owner operators drawings or wages/salary paid to the driver (monthly/yearly)	\$ / Hr	27.8476	30.3792	32.9108
Repairs and maintenance	Monthly or annual figure	\$	20252.8	22784.4	25316
Other costs	All other costs including administration but excluding revenue and value added tax.	PROFIT AND RISK ~ 12 - 15 % ADMIN ~ 3-5%			

COUNTRY:Canada

REGION: Ontario

TRUCK/TRAILER TYPE: B Train Logs /Pulp

CURRENCY: NZ\$
NZ\$/CDN\$

1.2658

	Description	Measurement Units	Low Cost	Med Cost	High Cost
Number of days worked per year		Days/Yr	160	180	220
Number of Trips per day	Number of deliveries made per day	Single	1	3	4
Number of hours worked per day	Please note if one shift or two	Double Hr / Shift	2 8	5 12	7 14
Annual distance traveled	Include loaded and unloaded running	Km / Yr	120000	180000	240000
Legal axle weight	Legal allowable weight per axle. Note if different for different axles	See Original Fax			
Total legal payload	Total gross weight allowed minus truck tare weight	Kg	40000	42000	44000
Government taxes	Please note if a tax levied on distance traveled, or fuel, or road tolls. Does not include revenue or value added type taxes				
Capital cost	Cost of the truck and trailer less any government rebates or negotiated discounts. Excludes any trade in value.	Truck \$ Trailer	100000 60000	125000 58000	140000 82000
Finance/Lease cost	Total lease cost either /month or year or total finance interest cost/ month or year	%	8	8.5	9
Insurance	Cost of insurance including public liability	\$/Yr	6329	8860.6	15189.6
Fuel Consumption	Expressed as a function of distance traveled	Litres / 100Km	62	72	84
Fuel and oil cost	Expressed as a cost per distance or a monthly or annual figure	\$/ Km	0.405056	0.481004	0.556952
Tyres	Total cost of tyres on an annual basis	\$/Yr	8227.7	9493.5	12658
Tyre life	Life of tyres expressed as distance or time	Truck Trailer	60000 150000	100000 180000	130000 220000
Wages	For owner operators drawings or wages/salary paid to the driver (monthly/yearly)	\$/Hr	29.1134	32.9108	37.974
Repairs and maintenance	Monthly or annual figure	\$/Yr	22784.4	32910.8	39239.8
Other costs	All other costs including administration but excluding revenue and value added tax.	Profit, Risk, Admin etc.	12658	25316	31645

COUNTRY:Canada

REGION: Alberta - Year Round

TRUCK/TRAILER TYPE: Tractor Tridem Semi Trailer

CURRENCY:NZ\$
NZ\$/CDN\$

1.2658

	Description	Measurement Units	Low Cost	Med Cost	High Cost
Number of days worked per year		Days/yr	150	170	200
Number of Trips per day	Number of deliveries made per day	Trips/ Day	1	3	4
Number of hours worked per day	Please note if one shift or two	Hours/ Shift	10	12	14
Annual distance traveled	Include loaded and unloaded running	Km	90000	120000	150000
Legal axle weight	Legal allowable weight per axle. Note if different for different axles	Kg	Summer: 43,500	Winter: 58,600	
Total legal payload	Total gross weight allowed minus truck tare weight	Kg	Summer: 27,000	Winter: 42,100	
Government taxes	Please note if a tax levied on distance traveled, or fuel, or road tolls. Does not include revenue or value added type taxes	%		~50% FUEL TAX	
Capital cost	Cost of the truck and trailer less any government rebates or negotiated discounts. Excludes any trade in value.	\$	Tractor Trailer	172,149 63,290	
Finance/Lease cost	Total lease cost either /month or year or total finance interest cost/ month or year	Purchased Price	Financed @ 8.5% Per Year		
Insurance	Cost of insurance including public liability	\$		10759.3	
Fuel Consumption	Expressed as a function of distance traveled	Litres/hr	31	34	37
Fuel and oil cost	Expressed as a cost per distance or a monthly or annual figure		0.980995	1.07593	1.170865
Tyres	Total cost of tyres on an annual basis	\$	5696.1	7594.8	8860.6
Tyre life	Life of tyres expressed as distance or time	3/4 Set / Year			
Wages	For owner operators drawings or wages/salary paid to the driver (monthly/yearly)	\$/Hr	27.8476	30.3792	32.9108
Repairs and maintenance	Monthly or annual figure	\$/Yr	22784.4	27847.6	30379.2
Other costs	All other costs including administration but excluding revenue and value added tax.	Profit and Risk = 12 - 15% ADMIN = 3-5%			

COUNTRY:Canada

CURRENCY: NZ\$

NZ\$/CDN\$ 1.2658

REGION: Alberta - Year round havl TRUCK/TRAILER TYPE:Tractor- Tandem Jeep- Pole TRLR

	Description	Measurement Units	Low Cost	Med Cost	High Cost
Number of days worked per year		Days/yr	150	170	200
Number of Trips per day	Number of deliveries made per day	Trips/ Day	1	3	4
Number of hours worked per day	Please note if one shift or two	Hours/ Shift	10	12	14
Annual distance traveled	Include loaded and unloaded running		90000	120000	150000
Legal axle weight	Legal allowable weight per axle. Note if different for different axles	Kg	Summer: 36,500 Winter: 65,000		
Total legal payload	Total gross weight allowed minus truck tare weight	Kg	Summer: 38,500 Winter: 47,000		
Government taxes	Please note if a tax levied on distance traveled, or fuel, or road tolls. Does not include revenue or value added type taxes			~50% FUEL TAX	
Capital cost	Cost of the truck and trailer less any government rebates or negotiated discounts. Excludes any trade in value.	\$	Tractor	172148.8	
Finance/Lease cost	Total lease cost either /month or year or total finance interest cost/ month or year		Trailer	88606	
Insurance	Cost of insurance including public liability	\$	Purchased Price Financed @ 8.5% Per Year		
Fuel Consumption	Expressed as a function of distance traveled	Litres/hr	32	35	38
Fuel and oil cost	Expressed as a cost per distance or a monthly or annual figure				
Tyres	Total cost of tyres on an annual basis	\$	1,01264	1,107575	1,20251
Tyre life	Life of tyres expressed as distance or time		6961.9	8860.6	10126.4
Wages	For owner operators drawings or wages/salary paid to the driver (monthly/yearly)	3/4 Set / Year			
Repairs and maintenance	Monthly or annual figure	\$/Hr	27,8476	30,3792	32,9108
Other costs	All other costs including administration but excluding revenue and value added tax.	\$/Yr	22784.4	27847.6	32910.8
		Profit and Risk = 12 - 15% ADMIN N = 3-5%			

COUNTRY:Canada

CURRENCY: NZ\$

REGION:Maritimes

TRUCK/TRAILER TYPE:B-Train Logs/Pulp

NZ\$/CDN\$

1.2658

	Description	Measurement Units	Low Cost	Med Cost
Number of days worked per year		Days	150	175
Number of Trips per day	Number of deliveries made per day	Single shift double shift	2 4	3 6
Number of hours worked per day	Please note if one shift or two	hours/shift	8	12
Annual distance traveled	Include loaded and unloaded running	Km/Yr	80000	150000
Legal axle weight	Legal allowable weight per axle. Note if different for different axles	see original fax		
Total legal payload	Total gross weight allowed minus truck tare weight	Kg		42500
Government taxes	Please note if a tax levied on distance traveled, or fuel, or road tolls. Does not include revenue or value added type taxes			
Capital cost	Cost of the truck and trailer less any government rebates or negotiated discount. Excludes any trade in value.	Truck Trailer	100000 60000	120000 70000

Finance/Lease cost

Insurance Total lease cost either /month or year or total finance interest cost/ month or year

Cost of insurance including public liability

Fuel Consumption

Expressed as a function of distance traveled

Fuel and oil cost

Expressed as a cost per distance or a monthly or annual figure

Tyres

Total cost of tyres on an annual basis

Tyre life

Life of tyres expressed as distance or time

Wages

For owner operators drawings or wages/salary paid to the driver (monthly/yearly)

Repairs and maintenance

Monthly or annual figure

Other costs

All other costs including administration but excluding revenue and value added tax.

%	8	9
\$/Yr	5063.2	6961.9
Litres / 100km	60	70
\$/Km	0.392398	0.455688
\$/yr	6961.9	8860.6
Drive(truck)	40000	80000
Trailer	150000	220000
\$/Hr	22.7844	27.8476
\$/yr	20252.8	31645
Profit/Risk/ Admin etc	12658	25316