

**Enhancing Financial and  
Economic Yield  
in Tourism:**

**Yield Associated with  
Different Tourist Types**

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**Yield Report 12**



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## Summary

The programme “Enhancing Financial and Economic Yield in Tourism” has completed a range of investigations into various dimensions of private sector yield of tourism businesses, as well as public sector yield of tourism at local and national levels. Results from the earlier studies raised the question whether there different types of tourists would differ with respect to their yield generated in the private sector and their costs posed to the public sector. Yield in this report is understood as *net benefit* – financial, economic, environmental or social. For the private sector yield, the measures of Value Added, Free Financial Cash Flow and Economic Value Added will be used, and for public sector yield the ratios between costs and revenue will be derived as a yield measure.

The research objectives were to:

1. Understand tourist activity patterns in relation to impacts on the private and public sectors;
2. Derive yields for different types of visitors; and
3. Assess visitor satisfaction as one aspect of (social) yield.

A case-study approach was taken and data on tourist behaviour were collected in Christchurch and Rotorua. Both destinations were already analysed with respect to public sector yield. The tourist survey in Christchurch resulted in a sample size of 1,028 and Rotorua yielded 452 usable surveys.

The samples were biased towards English-speaking international visitors; in particular visitors from Australia, the UK, and the US are well represented. The sample under-represented domestic visitors and those from non-English speaking countries, in particular Asian visitors. Coach tourists are only representative of non-Asian markets. The sample bias is only problematic if there is an assumption that different markets would behave quite differently in relation to yield-relevant parameters. The under-sampling of Asian tourists is likely to be a bigger issue than the low representation of domestic visitors.

For the purpose of this study, five tourist types have been derived, namely coach tourists, free independent travelers (FIT), backpackers, camping tourists and home visitors. The tourist types differ significantly with respect to key parameters such as transport modes, accommodation, length of stay, purpose of visit and age.

Tourists were interviewed about their activities over the preceding 24 hours or from the point in time when they arrived in Christchurch or Rotorua, whichever was the shorter time. The expenditure by tourists is analysed through the “24-hour activity budget”, which is every activity a tourist had engaged in within the last 24 hours in the case study area. These activities typically include time spent at the accommodation, eating, visiting or exploring the destination, transport and engaging in recreational activities such as a walk through the park. A summary assessment of yield across the categories of

- Financial yield
- Economic yield
- Sustainable yield

is provided in a synthesis table at the end of this Summary.

Both case studies, Christchurch and Rotorua, revealed very different spending patterns for the five tourist types: coach, FIT, backpacker, camping tourist and home visitor. Differences

between the types were, however, very consistent for the two case studies. Results showed that the coach tourist was the highest spending type when measured on a 24-hour basis; FITs were the second highest spender. Home visitors spent least, while camping and backpacker tourists were medium spenders.

This ranking remains the same for the measurement of Value Added. For example, 30 percent of a coach tourist's expenditure in Christchurch is VA (28% in Rotorua), compared to only 23 percent for a home visitor (20% in Rotorua). The ranking changes when the measures of Free Financial Cashflow and Economic Value Added are derived. These measures have a focus on the capital deployed by tourism firms. FCF (i.e. the net profit after tax but before interest) generation is highest for coach tourists and FITs, but backpackers generate more FCF than camping tourists, at least in the Rotorua sample.

When EVA is considered, that is the residual income after accounting for the cost of capital, the backpackers are the tourist type that generates the highest positive EVA in Rotorua under the assumption of a 5.7 percent cost of capital and the second highest (after the camping tourist) EVA in Christchurch. The reason for this is that backpackers spend their money in industries (following the ANZSIC codes) that are characterised by higher-than-average financial yield, for example youth hostels and the retail sector. As a result of the sampling, expenditure by all tourist types was dominated by accommodation, which – except for youth hostels – is associated with low financial yield. This results in a negative EVA for coach tourists who spent most of their money on accommodation and also the low-yielding long-distance coach transport. It is possible that an analysis of tourist spending at a national scale provides slightly higher EVAs for each tourist type.

Public sector yield (or cost) was analysed by tourists' visitation to public sector attractions such as the Botanic Gardens, the Canterbury Museum, the Cathedral, the Art Gallery and the Arts Centre in Christchurch and the Rotorua Museum in Rotorua. In Christchurch, coach tourists generated the largest cost to the council because of their frequent visitation to the above public attractions. Other tourist types, especially camping and home visitors were less likely to visit those attractions and were therefore benefiting less from publicly available services. In the case of the Rotorua Museum, no differences in visitation could be found between tourist types. The information centre, which is mostly frequented by backpacker tourists constitutes only a minor cost in Rotorua (it is a net earner in Christchurch). All other public sector costs (e.g. amenities) and benefits (e.g. revenue from events) were assumed to be spread evenly across types.

**Table 1**  
**Summary Assessment of the Yield Indicators by Tourist Type**

	Indicators	Coach tourist	FIT	Backpacker	Camper	“Home” visitor	
Financial yield	Value Added	+++	++	++	++	+	Driven largely by volume of expenditure
	Free Financial Cashflow	++	+++	++	+++	+	Driven by the spending pattern across industries, e.g. a large amount spent on hotels (financial yield of 4%) results in less FCF
	Economic Value Added	+/- depends on location	++	+++	+++	+/- depends on location	See above comment
Economic yield	Cost to council	- - -	-	--	--	-	Based on Christchurch, visitation of public attractions
	Cost to Central Government	--	--	--- Visitation of free entry sites	--- Visitation of national parks	- Low visitation levels	Based on IVS visits to natural attractions, tramping (assumed to be in a national park) and visits to museums/historic sites
Sustainable yield	Regional dispersion	+	+	+++	+++	Possibly not sufficient data	Based on travel distance
	Environmental impact	--- (substantial air travel)	--	--	--- (substantial road travel)	-	Based on travel distance and importance of air travel
	Satisfaction	+++	++	++	+ mixed results	+++	

The IVS analysis in this report showed that backpacker and camping tourists were most likely to go tramping (probably in a National Park) and visit natural sites; it is therefore plausible that these two types are contributing more to Department of Conservation's cost (net cost of \$79 million per annum) than other types. However, further analysis of the cost structure of different kinds of DOC facilities – for example front versus backcountry – might be useful. More frequent visitation of backcountry areas is also likely to be associated with a higher contribution to costs incurred by Search and Rescue. Home visitors and coach tourists visit natural places least often and are therefore likely to be contributing less to these costs.

- Sustainable yield includes costs and benefits to society that are not captured by economic transactions. Travel distance can be used as one proxy for environmental costs from transport. Camping and backpacker tourists travel the greatest distance, but coach tourists are the most frequent user of air travel with implications for greenhouse gas emissions. Road transport also contributes to external costs such as congestion, local pollution and accidents. Another aspect of sustainable yield is visitor satisfaction. Responses to the questions on satisfaction and expectations provided a very positive picture in both case study areas, as well as for New Zealand as a whole (IVS). In both case study areas, coach tourists were the most satisfied both in general and with specific aspects of the location; whereas camping tourists were the least satisfied. The IVS shows that all tourist types are likely to recommend New Zealand as a destination; however, coach tourists are less likely to return, whereas home visitors and backpackers are most likely to return.

The analysis shows that each tourist type is associated with certain benefits and costs and it is difficult to identify one that performs highly across all dimensions. The analysis indicates, however, that the backpacker tourist provides an overall benefit to New Zealand.

# Chapter 1

## Introduction

Tourists allocate their time and resources to a wide range of activities involving both public and private sectors. Typically, tourists require some form of transport, accommodation and hospitality services. They also engage in a wide range of other activities that may involve private sector companies (operators) or draw on services and amenities provided by the public sector (e.g. National Parks, publicly supported events). Furthermore, tourists inevitably draw on public facilities in satisfying their basic everyday needs. This is particularly true of public spaces and urban infrastructure such as water and sewage systems.

The programme “Enhancing Financial and Economic Yield in Tourism” has completed a range of investigations into various dimensions of private sector yield of tourism businesses, as well as public sector yield of tourism at local and national levels. The earlier studies showed that the performance of tourism with respect to yield varies across different components of tourism. This raises the question whether there are types of tourists that systematically consume those components of the tourism product that are high yielding, whereas there are others that through their consumption pattern support lower yielding businesses and also constitute a greater cost to the public sector than others. The idea of comparing different types of tourists is akin to the concept of the “interactive traveller” (Tourism New Zealand), which assumes that those tourists who meet the criteria of interactivity are higher-yielding than non-interactive travellers<sup>1</sup>.

Yield in this report is understood as *net benefit* – financial, economic, environmental or social. For the private sector yield, the measures of Value Added, Free Financial Cash Flow and Economic Value Added will be used, and for public sector yield the ratios between costs and revenue will be derived as a yield measure. Understanding and enhancing ‘tourism yield’ in the private and/or public (local or national) sectors requires quantitative information on the outputs (income and positive externalities) and inputs (costs and negative externalities) associated with different individual tourists or tourist types.

The research to date has provided information on many of the inputs and outputs for different industry sub-sectors and different levels of Government. Additional information has now been obtained through a tourist survey. The survey presented in this report collected detailed information on tourists’ behaviour (commercial and non-commercial) over a twenty-four hour period. The survey also assessed satisfaction in general and in relation to services offered in the case-study regions.

The research objectives were to:

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1 According to Tourism New Zealand, the ‘Interactive Traveller’ is someone who:

- Consumes a wide range of tourism products and services
- Seeks out new experiences where they can engage and interact with natural, social and cultural environments
- Is keen to share these experiences with others
- Respects the environment, cultural and societal values of others
- Is considered a leader by his/her peers
- Uses technology to enhance their lives
- Values authentic products/experiences.

1. Understand tourist activity patterns in relation to impacts on the private and public sectors;
2. Derive yields for different types of visitors; and
3. Assess visitor satisfaction as one aspect of (sustainable) yield;

The report presents comparative analyses of tourist types with respect to yield for two case study areas, Christchurch and Rotorua. It is mainly written for stakeholders in those case study areas, but should also be relevant to those who are generally interested in travel behaviour and resulting yield associated with different types of tourists.



## **Chapter 2**

### **Methods**

In this research, yield will be analysed in three broad categories: financial, economic and sustainable yield. The analysis will be based on two case study regions (Yield Tourist Survey) and data from the International Visitor Survey (IVS). The IVS was used to compare the local surveys with national data and to provide some national measures that could not be extracted from the local data.

The indicators within each category are listed below.

#### **1. Financial yield**

- Value Added derived from expenditure (Yield Tourist Survey)
- Free Financial Cashflow derived from expenditure (Yield Tourist Survey)
- Economic Value Added derived from expenditure (Yield Tourist Survey)

#### **2. Economic yield**

- Cost to council derived from activity profile and councils' cost structure (Yield Tourist Survey)
- Cost to Central Government derived from natural area visitation (IVS)

#### **3. Sustainable yield**

- Regional dispersion derived from travel distance (IVS)
- Environmental impact derived from travel distance (IVS)
- Satisfaction (derived from Yield Tourist Survey and IVS)

Social impacts associated with different types of tourists will not be addressed in this study.

### **2.1 Case Study Description**

The primary purpose of the tourist survey was to provide information on the activity patterns of tourists that could be linked to information gathered in the public and private sector studies in the larger research programme. For this reason, we continued the regional case studies approach in the tourist survey, but for pragmatic reasons, restricted the survey to two of the four original case study regions. Christchurch and Rotorua were chosen because:

Christchurch is a main gateway and destination and is likely to represent a wide range of visitor types and a diverse range of activity patterns. In 2005, 2,647,000 international tourists spent 6,497,000 visitor nights in the Canterbury Regional Tourism Organisation (RTO) area. In addition there were 2,389,000 domestic tourists who spent 6,125,000 nights and there were also 5,987,000 domestic day-trips (Ministry of Tourism, 2006).

Rotorua is a major tourist resort town with high visitation by both international and domestic visitors. It also offers a wide spectrum of attractions ranging from cultural to natural. In Rotorua RTO, 894,000 international tourists spent 1,341,000 nights, 709,000 domestic tourists spent 1,404,000 nights and there were 1,130,000 domestic day-trips (Ministry of Tourism, 2006).

To provide a national context the International Visitor Survey (IVS) will be used to analyse selected travel behaviour by tourist type for the sub group of international tourists. These results will enhance the information gained in the case study approach.

## 2.2 Survey Design

The sample population for the tourist survey was considered to comprise all visitors to the case study area. A visitor was defined as someone who:

- a) lived more than 40km away from the boundary of the case study area; and
- b) was outside their usual daily environment when in the case study area<sup>2</sup>.

The principle tool of the tourist survey was a detailed questionnaire administered by trained surveyors. Use of a questionnaire in the case study areas balanced the need for a high number of respondents with a low cost. Using an administered (rather than self-completion) questionnaire was intended to maximise response rates and minimise self-selection bias. Surveyors were trained to read the questions exactly as they appeared on the questionnaire, thus minimising reflexivity and subjectivity. Surveyors were also trained in topics relating to effective surveying and ethics.

The questionnaire was developed through an iterative process including pilot testing by the researchers and practice testing by the surveyors. The questionnaire was also revised slightly between the different survey periods in response to difficulties experienced by the surveyors and issues identified by the researchers during initial data validation exercises. The revisions do not affect the comparability of the data collected in the different survey periods.

The survey was administered in the case study areas during three different time periods. The time periods were selected deliberately to maximise both the number of tourists present during survey periods and the variety of different tourist types covered by the total sample. The survey periods included two different New Zealand school holidays (Christmas and Easter), four public holiday days (Waitangi Day, Good Friday, Easter Monday and Anzac Day) and a mixture of week and weekend days. The periods also included peak and shoulder seasons for international tourism (January, February and April).

Survey locations within each case study area were selected purposefully to include some locations expected to yield high numbers of 'holiday visitors' and others expected to yield more visitors who were not visiting tourist attractions but were visiting friends and relatives or on business or educational trips. Surveyors were instructed to randomly select potential respondents by approaching each  $N$ th<sup>3</sup> person to pass a chosen landmark.

Tourists were considered to belong to two main groups, domestic visitors and international visitors. A random sample of a large population with a 95 percent confidence level and a confidence interval of 5 percent should be at least 384 tourists<sup>4</sup>. A sample of 96 tourists

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2 Long distance commuters were excluded, even if they came from more than 40 km away.

3 Where  $N$  was determined by the surveyor according to how busy the location was.

4 The confidence level is expressed as a percentage and represents how often the true percentage of the population who would pick an answer lies within the confidence interval. The 95% confidence level means you can be 95% certain. The confidence interval is the plus-or-minus figure within which a variable lies given a selected confidence level.

would produce a confidence interval of 10 percent. To be able to compare five types of tourists at a confidence level of between 5 and 10 percent it was decided that the minimum sample size should be 1,000 in each case study area.

In Christchurch, a total of 1,028 surveys were completed<sup>5</sup>. However, only 145 domestic tourists were interviewed (of whom 51 were day visitors), even though they make up about half of the tourist population (assuming a similar breakdown as for Canterbury RTO). In Rotorua, only 452 surveys were completed. This total is well below the target number of 1,000, due mainly to the difficulty of intercepting sufficient tourists given the resource constraints of the project. As in the Christchurch sample, domestic visitors were under-represented compared to their share of visitor nights. In Rotorua, only 102 domestic visitors (including 50 day visitors) were surveyed. The under-sampling of domestic tourists is only problematic if domestic tourists within a tourist type behave very differently from international tourist types (for example the free independent traveller type, see further below).

Reasons for the low proportion of domestic tourists surveyed in both Christchurch and Rotorua may include different travel patterns and different time availability of different groups of tourists. Domestic tourists are more likely to be visiting friends and family or engaging in business travel than are international tourists. Motivations for travel influence the activities a person undertakes and the free time they have available, and therefore their presence in survey locations and their willingness to participate in the survey. It is also possible that the sample has been biased towards those sorts of people who are more willing to talk to surveyors, but we do not know if such people have different activity and spending patterns to those who are unwilling to talk to surveyors.

The low total number of surveys completed in Rotorua can be attributed to several factors. Although Rotorua has a high proportion of visitors to population, it is a small town and the absolute numbers of visitor-nights are much lower than in Christchurch. Furthermore, repeat interception of same visitors was more of a problem in Rotorua than in Christchurch, because Rotorua surveys had to be carried out over periods of several consecutive days to reduce surveyor travel costs<sup>6</sup>. The nature of the destination may also have made surveying more difficult. Rotorua has a high percentage of international coach visitors, who are very difficult to intercept. Even independent travellers may be more difficult to encounter, due to the greater geographic spread and commercialisation of key attractions in Rotorua, compared to Christchurch. These problems were mitigated to some extent by obtaining permission to survey directly outside a number of attractions.

During the survey, researchers identified a problem with obtaining responses from individuals of Asian origin. Language difficulties may be the reason that Asian visitors are under-represented in this tourist survey. In an attempt to mitigate this, a Mandarin-speaking researcher was employed in Christchurch. While he had some success in speaking to Chinese tourists, this strategy was not considered sufficiently cost-effective to justify employing other surveyors with Asian language skills.

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5 This includes a small number that were terminated mid survey, but contain a substantial proportion of the information sought.

6 Surveyors working in Christchurch were local residents and able to be flexible in their working hours.

## 2.3 Yield Calculations

Our intention is to derive the average yield for different tourist types. ‘Yield’ here refers to the net revenue (dollars) per tourist day in the local public sector, and to the financial measures of Value Added (VA), Free Financial Cash Flow (FCF) and Economic Value Added (EVA) (dollars) per tourist day in the private sector. Table 2 below reads as follows: for every dollar spent in a supermarket, 11 cents are VA from tourism, 2 cents are FCF and the EVA is 1 cent. Similarly, for every dollar spent on recreational services (i.e. many tourist activities), 31 cents are VA and the FCF and EVA are 13 and 8 cents, respectively. These figures relate to direct effects only.

**Table 2**  
**Value Added, Free Financial Cash Flow and Economic Value Added per Dollar Spent**

ANZSIC	Activity	VA (\$)	FCF (\$)	EVA (\$) <sup>1</sup>
G511010	Supermarkets	0.11	0.02	0.01
G5125xx	Takeaway Food	0.20	0.04	0.01
G521000	Department Stores	0.19	0.04	0.02
G525900	Retailing nec	0.17	0.03	0.01
G532100	Automotive Fuel Retailing	0.09	0.01	0.00
H571010	Hotels (Accommodation)	0.35	0.06	-0.03
H571020	Motels and Motor Inns	0.30	0.10	-0.03
H571030	Hosted Accommodation	0.29	0.09	-0.15
H571040	Backpacker and Youth Hostels	0.36	0.14	0.01
H571050	Caravan Parks and Camping Grounds	0.33	0.12	-0.08
H571090	Accommodation not elsewhere specified	0.39	0.09	-0.05
H572000	Pubs/ Taverns and Bars	0.27	0.04	0.01
H573000	Cafes and Restaurants	0.32	0.04	0.01
I612100	Long Distance Bus & Rail Transport	0.30	0.04	-0.04
I612200	Short Distance Bus Transport (inc. Tramway)	0.50	0.09	0.03
I612300	Taxi and Other Road Passenger Transport	0.39	0.12	0.02
I664100	Travel Agency Services	0.43	0.05	0.01
L774100	Motor Vehicle Hiring	0.29	0.16	0.05
P921000	Libraries	0.44	0.04	-0.07
P922000	Museums	0.25	-0.07	-0.81
P923x00	Zoos, Botanic Gardens, Recreational Parks and Gardens	0.47	0.02	-0.09
P93xxxx	Racing, Gaming, Gambling, Sports and All Other Recreation Service	0.31	0.13	0.08

Value Added is commonly reported in Tourism Satellite Accounts, where total output (which is broadly equivalent to tourist expenditure<sup>7</sup>) is broken down into intermediate input from other industries and value added by the tourism industry (e.g., Statistics New Zealand, 2006). FCF is the free cash flow arising from trading. It equals the Net Operating Profit after Tax but with financial expenses<sup>8</sup> added back to give, in effect, the after-tax returns to total assets. Depreciation is deemed a true economic expense as are all wages including wages/salaries to working proprietors. EVA deducts from FCF the opportunity cost of capital (assessed at 5.7

<sup>7</sup> GST (Goods and Service Tax) is excluded, because values are expressed in ‘approximate basic prices.

<sup>8</sup> Interest and lease payments (where identifiable)

percent of total asset value per annum for the purposes of this analysis<sup>9</sup>). EVA is in a sense the net benefit, or dis-benefit in the case of a negative EVA, of investing capital in tourism rather than in some other typical average sector of the economy. A further implication of negative EVA in a business is that in the long term it may not be sustainable. Alternatively, and provided that the business has positive cashflow, negative EVA implies that the returns to equity are less than could be achieved in an alternative investment. Provided that the business owners understand the true returns to equity and are satisfied with this and the returns to their labour having taken into account any other non-financial benefits that the business generates from them, then the business is sustainable.

Of course differences in spending between tourist types will lead to differences in yield by tourist types, because the yield coefficient is applied to the value of expenditure in each industry. This means, a tourist type spending a lot of money in the industries of retail and recreational activities is likely to display a higher yield than a type that largely spends their money on the lower yielding accommodation subcategory of hotels.

While private sector activities are measured by via expenditure over the last 24 hours, public sector activities are measured by incidence, i.e. per visit. For example, a visit to the Christchurch Botanic Gardens has a yield coefficient of \$3.43 per visit. The yield coefficient is assumed not to vary between tourist types, primarily because data to calculate any such variance does not exist. Yield coefficients for local public sector activities in Christchurch are derived from the public sector report by Cullen et al. (2005). All of these coefficients assume the same cost per user for both tourist and local users, and are computed by dividing the net annual cost of an activity to Christchurch City Council by the known or estimated total number of user-days per annum. It should be noted that these values are expressed as costs, and hence contribute negatively to yield.

A further, qualitative assessment of parameters that influence national level public sector yield will be undertaken by using the International Visitor Survey data (see section 5). It should be noted that the public and private sector yields cannot legitimately be combined into a single 'overall' yield function, because some of the accounting conventions applied to estimate yield in each of these sectors differ.

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9 One could argue about an appropriate alternative WACC (Weighted Average Cost of Capital). We have chosen to use the average after tax returns to assets across all sectors of the economy, using the same definitions of FCF and assets as have been used in our calculations for tourism (see J Moriarty 2006).



## Chapter 3

### Christchurch Case Study

### 3.1 Survey Results

#### 3.1.1 Sample Description

Eight major survey locations were used in Christchurch, as well as several minor locations (fewer than ten surveys, see Appendix A). The most productive site was Cathedral Square, followed by the Botanic Gardens. The gender split was very even.

A breakdown of the sample by age and international (first-time and repeat) versus domestic visitors to Christchurch is given in Table 2. Domestic visitors were substantially under-represented by comparison with international visitors. This trend persisted, despite attempts to correct it by trying several new sampling locations in the latter part of the survey.

**Table 3**  
**Christchurch Sample by Age and by Repeat Visitation (for international visitors)**

Age Group	International Visitors			Domestic Visitors
	N/A	First-Time Visitors	Repeat Visitors	
0-19	0	33	8	11
20-29	3	242	41	32
30-39	1	78	42	22
40-49	0	42	35	23
50-59	0	78	48	32
60+	0	140	91	25
Total	4	613	265	145

Most tourists interviewed were from the UK/Ireland (290), other Europe (194), USA/Canada (152), New Zealand (145) and Australia (144).

Holiday or leisure was by far the most important reason for travelling to, or in, New Zealand. Most international visitors (78%) sampled reported that their main purpose for their trip was holiday/leisure. Nine percent travelled to New Zealand to visit friends and relatives. For domestic visitors there were 55 percent holiday/leisure tourists and 22 percent VFR tourists.

In the whole sample, most tourists travelled as a couple; 13.8 percent of visitors were on a group tour, and 31.3 percent travelled on their own. Only 5.6 percent of interviewed tourists travelled with children. More detail is provided in the Appendix A.

Average lengths of stay were calculated for visitors broken down by their main purpose of stay. These statistics appeared to be significantly skewed by a likely over-sampling of long-stay visitors. Sample statistics differed substantially from the Ministry of Tourism statistics in



some cases<sup>10</sup>. Australians stayed 21 nights (average) in New Zealand compared to 12 in the IVS 2005. For North Americans our survey average was 44 nights compared to 19 nights (for USA visitors) reported in the IVS. The average over all nationalities was 58 days in our sample, compared to 21 nights in the IVS 2005. In addition to the sampling difficulties discussed, it is likely that international visitors to Christchurch do have longer average stays compared with the national average.

Because of the skewed distribution (towards a small number of longer staying tourists) it will at times be more useful to use the median length of stay (see Tables 3 and 4). The overall median length of stay in Canterbury was 5 days for domestic visitors (3 days in Christchurch) and 28 days for international visitors (3 days in Christchurch).

**Table 4**  
**Average Length of Stay in Christchurch by Purpose of Stay**

Purpose	N	Mean LOS in NZ	Median LOS in NZ	N	Mean S in CHC	Median S in CHC
Holiday	746	45	24	772	7	3
VFR	103	43	21	109	13	4
Education /study	54	154	135	54	63	14
Business /conference	57	37	7	28	16	4
Other	24	66	14	65	24	3

**Table 5**  
**Average Length of Stay in Christchurch by Origin**

Origin	N	Mean LOS in NZ	Median LOS in NZ	N	Mean LOS in CHC	Median LOS in CHC
New Zealand*	107	18	4	145	13	3
Australia	144	21	14	145	7	3
USA/Canada	151	40	18	152	8	3
UK/Ireland	288	50	28	290	9	3
Europe	193	86	42	195	10	3
Asia	56	73	30	58	49	12
Other	44		55	44	13	3

\* For visitors from New Zealand "length of stay" means length of trip away from home.

### 3.1.2 Limitations

The sample size of 1,028 results in a maximum sample error of 3.1 percent at a 95 percent confidence level when variables are analysed for the whole sample without further disaggregation into sub-groups. Since the tourist type analysis requires further segmentation, the sample error will increase depending on the sample size within each segment.

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<sup>10</sup> Note that the IVS statistics include visitors on student visas, who have long average stays.

The sample is biased towards English-speaking international visitors; in particular visitors from Australia, the UK, and the US are well represented. The sample under-represents domestic visitors and those from non-English speaking countries, in particular Asian visitors. A substantial proportion of Asian visitors in the sample came to New Zealand for educational purposes or to visit friends and relatives. In contrast, the segment of Asian coach tourists is under-represented. The reasons for this bias include tourists' time constraints, language barriers and willingness to undertake a tourist survey. The employment of a Mandarin speaking interviewer did not improve the response rate significantly.

The age and gender representation of the sample is good. Also, the sample is diverse in terms of transport and accommodation choices (see Appendix A) to reflect a good spread of possible tourist behaviour. The sample includes a number of long-staying tourists; probably because the likelihood of intercepting a tourist who stays a long time compared to a short-term visitor is much higher. Also tourists who stay for longer are likely to have more time on any given day to participate in a survey. Since longer staying tourists also have a greater influence on yield than shorter staying ones, the overrepresentation of these kinds of tourists is not considered a bias<sup>11</sup>.

The survey will give robust results for the key international markets to Christchurch, except the Asian markets. It will give an indication of travel behaviour and yield for domestic tourists, but will not allow for further segmentation. The FIT and backpacker tourist types are well represented and results will be associated with a sample error of around 5 percent. The "home visitors" market has an adequate sample size, but is very diverse and contains different sub-groups ranging from those who visit a friend or relative to those who visit for educational reasons and others who rent their own accommodation (e.g. student flat). Coach tourists are only representative of non-Asian markets within the limitations of a larger sample error due to a relatively small sample size.

The data allow a comparison between tourist types, but estimates for the population of all visitors to Christchurch should be treated with caution. Weighting procedures would improve those kinds of analysis but need to be chosen carefully according to what is analysed. For example estimates for the energy footprint may require a weighting (up-scaling) by nights spent in different accommodation types.

The information on visitors' activities and expenditure is very detailed but also required substantial data cleaning. This has improved the accuracy of data, but the overall quality is still only medium. This is a result of the very complex and multi-dimensional activity patterns by tourists and the difficulty of recording them in a consistent way. Also it is likely that tourists could not fully remember their 24-hour activities and the costs associated with different activities or attractions. A large number of missing values confirm this. Expenditure data will be imputed on the basis of average expenditure for a given activity. Since the focus is on the analysis of tourist types and no evidence for systematic errors across types could be found, the omissions and inaccuracies should not hinder the comparison of tourist types. The lack of completeness and accuracy is more problematic when estimating total impacts on Christchurch as a destination.

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11 Consider a tourist with yield  $x$ /day who stays one day and another tourist with yield  $y$ /day who stays for 365 days. The latter will influence Christchurch's yield by  $365*y$ /day compared to a contribution of only  $x$  by the other tourist. Having more tourists of the longer staying type in the sample gives more weight to them, which actually reflects their real impact at a destination over time.

## 3.2 Tourist Type Analysis in Christchurch

### 3.2.1 Deriving Types

The concept of tourist types based on their transport and accommodation choices has been developed earlier in the context of energy use and other travel behaviour (Becken et al., 2003; Becken & Gnoth, 2004). For the purpose of this study, five tourist types have been defined, namely coach tourists, free independent travelers (FIT), backpackers, camping tourists and home<sup>12</sup> visitors. Based on the rules shown in Table 6 each individual tourist was allocated to a type. Eleven cases remained where it was not possible to identify a type. The tourist types include both international and domestic visitors.

**Table 6**  
**Deriving Tourist Types**

Tourist Type	Decision Rule	Sample Size	Proportion
Coach tourist	Package tour = yes, Transport to/in Christchurch = tour coach, train or air Accommodation = hotel or cruise ship	99	9.6%
FIT	Package tour = no Transport to/in Christchurch = rental car, bus, air, or train Accommodation = hotel, motel, B&B, or apartment	396	38.5%
Backpacker	Accommodation = Backpacker hostel Transport = rental car, private car, bus, or air	287	27.9%
Camping tourist	Accommodation = Camping Transport to/in Christchurch = campervan, rental car or air	71	6.9%
Home visitor	Accommodation = private home, rented flat, student accommodation, hosted accommodation Transport to/in Christchurch = private car, bus or air Purpose = VFR or education	164	16.0%

### 3.2.2 Profiling Tourist Types

#### *Origin*

The Coach tourists represented in this sample are largely from Australia, North America or the UK and Ireland (Table 7). Earlier analysis showed that these coach tourists differ quite significantly from each other, as well as from Asian tourists (Becken, 2005). The latter are underrepresented in this sample. FITs were largely from the UK / Ireland, USA / Canada and Australia. Domestic visitors are also represented in the FIT group (16%). Most backpackers came from Europe and the UK or Ireland. A smaller number is from North America. Camping tourists were largely from Europe (mainly Germany) and the UK/ Ireland. The most important origin among home visitors was New Zealand followed by the UK / Ireland. Most Asian tourists in this sample were also in this category, mainly reflecting the purpose of educational visits.

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<sup>12</sup> This definition of a home visitor is different from the commonly used travel purpose segmentation of VFR visitors. This current one is based on the tourist behaviour, in particular their stay at non-commercial accommodation. For this reason, both VFR and education (and others) can fall into this category.

**Table 7**  
**Tourist Types by Region of Origin**

	NZ	Australia	USA / Canada	UK / Ireland	Europe	Asia	Other
Coach tourist	2.0%	20.2%	29.3%	39.4%	6.1%	3.0%	
FIT	16.9%	20.5%	16.9%	26.0%	9.6%	5.8%	4.3%
Backpacker	5.9%	6.3%	13.2%	30.3%	32.4%	5.2%	6.6%
Camping tourist	8.6%	12.9%	4.3%	30.0%	44.3%		
Home visitor	28.7%	9.8%	7.9%	24.4%	15.2%	9.8%	4.3%
Total	13.7%	14.2%	14.8%	28.5%	19.0%	5.6%	4.2%

### ***Purpose***

The main purpose for visiting Christchurch overall was holiday, except for the home visitor where the main purpose was to visit friend or relatives (by definition). Business travellers were mostly represented in the FIT type. The coach tourist and the camping tourist were most clearly related to holiday as main purpose (Table 8).

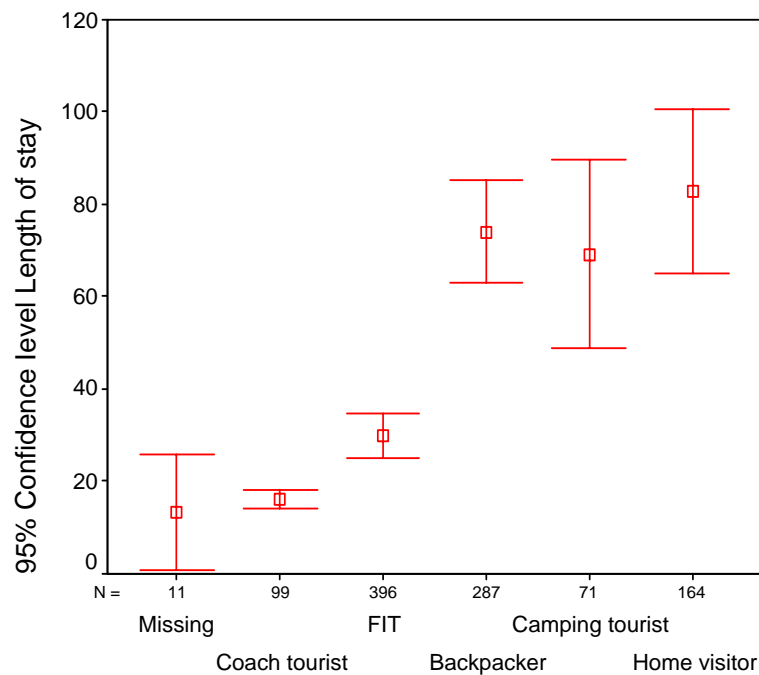
**Table 8**  
**Main Purpose for Visiting Christchurch by Tourist Type**

	Holiday	VFR	Education / study	Other	Business / conference / work
Coach tourist	98.0%	1.0%			1.0%
FIT	72.7%	7.1%	6.1%	2.3%	11.9%
Backpacker	88.5%	3.1%	3.5%	2.1%	2.8%
Camping tourist	94.4%	1.4%		4.2%	
Home visitor	37.2%	42.7%	12.2%	3.0%	4.9%
Total	75.4%	10.7%	5.3%	2.3%	6.3%

### ***Length of stay in NZ and Christchurch***

The length of stay in New Zealand is strongly skewed towards longer stays for all visitor types except for coach tourists. The mean and median length of stay for all tourist types can be seen in Figures 1 and 2. The coach tourists and FITs stayed shortest, whereas backpackers stayed longest. The median length of stay for the different tourist types was 16 days for coach tourist, 18 days for FITs, 36 days for backpackers, 31 days for camping tourists and 30 days for home visitors.

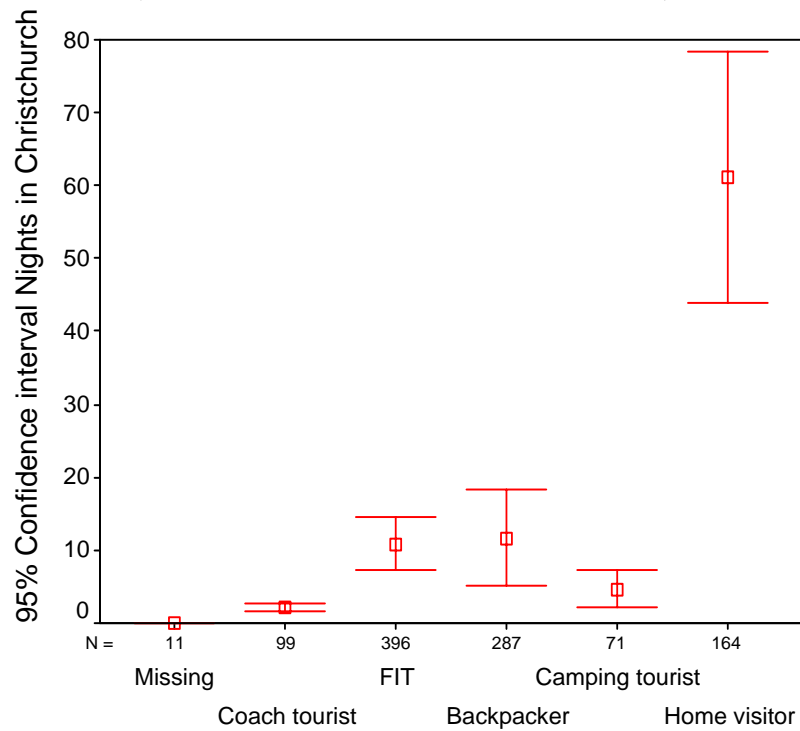
**Figure 1**  
**Length of Stay in New Zealand by Tourist Type**  
**(estimate and 95 % confidence interval)**



The average length of stay in Christchurch was similarly biased towards long staying visitors.

Most coach tourists were first-time visitors to Christchurch (84%). This compares to 66 percent for FITs and home visitors, 75 percent for camping tourists and 82 percent for backpackers. The differences in repeat visitation are statistically significant ( $X^2= 110.06$ ,  $df= 8$ ,  $p< 0.001$ ).

**Figure 2**  
**Number of Nights Spent in Christchurch by Tourist Type**  
**(estimate and 95 % confidence interval)**



### ***Age Distribution***

As is consistent with the literature, coach tourists in our survey tend to be older. In this sample, 64 percent of coach tourists were over 60 years old. Similarly, backpackers are young and more than 60 percent are in the 20 to 29 age bracket. The other tourist types were characterized by a more dispersed age distribution, although FITs tended to be older and camping tourists younger. Home visitors were represented in all age groups but most prevalent in the 20 to 29 bracket and over 60 years old (Table 9).

**Table 9**  
**Age Distribution by Tourist Type**

	0-19	20-29	30-39	40-49	50-59	60+
Coach tourist		5.1%	5.1%	7.1%	19.2%	63.6%
FIT	2.8%	14.7%	12.9%	11.9%	24.4%	33.2%
Backpacker	7.7%	60.5%	16.1%	5.2%	4.2%	6.3%
Camping tourist	2.8%	32.4%	15.5%	18.3%	14.1%	16.9%
Home visitor	9.2%	32.5%	16.6%	9.8%	12.3%	19.6%
Total	4.9%	30.8%	13.8%	9.7%	15.5%	25.3%

### 3.2.3 Spending Behaviour

Tourists were interviewed about their activities over the preceding 24 hours or from the point in time when they arrived in Christchurch, whichever was the shorter time. The expenditure by tourists is analysed through the “24-hour budget”, which is every activity a tourist had engaged in within the last 24 hours in the case study area. These activities typically include time spent at the accommodation, eating, visiting or exploring Christchurch, transport and engaging in recreational activities such as a walk through the Botanic Gardens. For the purpose of the financial analysis, accommodation and transport are analysed in separate sections following the 24-hour activity analysis.

#### 24-hour Activities

The analysis of the 24-hour budget data required significant processing before the results could be relied upon. Difficulties in interpretation remain because of ambiguity of some of the categories provided in the questionnaire. For example, “eating out” was distinguished from having a “take away” meal; however, some tourists who ate at McDonalds reported this activity as “eating out” rather than “take-away”. Even though the surveyors were trained to spot such inconsistencies there were still a number of inaccurately reported or coded activities in the final database. Similarly the distinction between “buying souvenirs” and “shopping” may not always have been recognised. The data are probably most reliable for visits to major attractions (e.g. Botanic Gardens, Art Gallery) and least reliable for more mundane and routine activities (e.g. meals, sleeping, organising). Inconsistencies in coding of responses were corrected where possible.

Tourist reported between 7 (coach tourists and camping tourists) and 8 (FIT, backpacker and home visitors) distinct 24-hour activities per day. Some of those were of a commercial nature and others did not involve financial transaction, for example “exploring” the city. However, some tourists had not spent 24 hours and could therefore provide only information on activities in whatever time they had spent in Christchurch. The average time reported for by each tourist type is:

- Coach tourist: 16.3 hours
- FIT: 18.9 hours
- Backpacker: 19.8 hours
- Camping tourist: 18.1 hours
- Home visitor: 22.1 hours.

The following analysis refers to the average behaviour across the average time spent in Christchurch. It was decided not to extrapolate behaviour of tourist types to a 24-hour time budget as this procedure would introduce bias on its own. One day for a coach tourist (who only spends one or two days) is very different to a day by a home visitor who may spend up to one year. It is therefore not appropriate to assume the same activity density per time for the different tourist types.

All tourist types reported that they “explored” the city, but coach tourists<sup>13</sup> and backpacker tourists did this more often than other types (Table 10). Coach tourists also spent time in their accommodation having a catered meal (65%), and went souvenir shopping (38%). In

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<sup>13</sup> Table 14 shows that, for example, 100 coach tourists reported 103 incidences of ‘exploring’ Christchurch. This means that on average every coach has done it at least once, and a few have ‘explored’ more than one time during the preceding 24 hours.



contrast, a large proportion of FITs went out for a meal (59%), but they also catered for themselves (39%). This partly explains why a substantial proportion of FITs went shopping (38%). Backpacker tourists also catered for themselves (68%) and were quite likely to have a take-away meal (37%). Self catering was most prevalent among camping tourists (80%) and home visitors (88%).

The Botanic Garden was the most visited public sector attraction, especially by coach tourists (30%). The Arts Centre was particularly popular among FITs (16%), and the Canterbury Museum and Cathedral were visited most by camping and coach tourists (16% and 12%, respectively). Private sector attractions were rarely visited by more than 10 percent of tourists within each type. The Antarctic centre was the most popular attraction, especially among camping tourists (13%). Backpackers were most likely to visit the information centre (i-site, 14%).

**Table 10**  
**Probability of Having Undertaken Activities in the Last 24 Hours in Christchurch**

	<b>Coach Tourist</b>	<b>FIT</b>	<b>Backpacker</b>	<b>Camping</b>	<b>Home Visitor</b>
Adventure experience	0%	0%	1%	0%	0%
Antarctic Centre	9%	10%	5%	13%	4%
Art Gallery	7%	4%	8%	7%	5%
Arts Centre	13%	16%	10%	7%	4%
Beach	0%	4%	0%	7%	6%
Biking	0%	2%	1%	11%	2%
Boat	0%	1%	0%	0%	0%
Botanic garden	30%	19%	18%	16%	16%
Bus (public)	57%	31%	22%	23%	33%
Buying souvenirs	38%	20%	17%	15%	13%
Cafe	29%	20%	28%	18%	23%
Canterbury Museum	12%	4%	8%	7%	4%
Car	2%	44%	6%	46%	73%
Catered meal	65%	31%	6%	8%	8%
Cathedral	16%	9%	9%	10%	3%
Drinks	14%	15%	24%	7%	16%
Eating out	54%	59%	44%	30%	27%
Entertainment	5%	3%	4%	0%	5%
Exploring	103%	83%	109%	62%	56%
Gondola	6%	7%	3%	6%	2%
Internet	4%	6%	28%	8%	12%
i-site	11%	11%	14%	10%	6%
Maori	0%	1%	0%	0%	0%

Movie	0%	2%	4%	3%	3%
Museum	3%	3%	2%	7%	2%
Organising	4%	4%	8%	6%	2%
Phone	2%	2%	6%	4%	2%
Port hills	3%	2%	1%	0%	4%
Post	2%	2%	3%	1%	1%
Avon punting	3%	2%	1%	0%	1%
Relaxing	31%	39%	62%	39%	65%
Pick up vehicle	1%	4%	3%	17%	1%
School	0%	7%	1%	0%	2%
Self catering	9%	39%	68%	80%	88%
Shopping	10%	38%	43%	49%	52%
Shuttle	13%	8%	12%	3%	1%
Socialising	0%	6%	6%	7%	18%
Sport	2%	5%	5%	1%	12%
Take-away	25%	29%	37%	32%	36%
Taxi	5%	13%	4%	11%	5%
On tour coach	10%	3%	1%	1%	1%
Tram	16%	16%	3%	15%	5%
Trip outside Christchurch	2%	4%	2%	3%	4%
Visiting	5%	14%	14%	17%	22%
Walking	37%	31%	39%	31%	31%
Working	1%	7%	5%	3%	9%

For the analysis of yield, average spending for different activities needs to be estimated. The following Table 11 provides average costs per activity derived from the information that tourists provided for those activities that typically involve some financial transaction. As can be seen in Table 10 not every tourist who reported a particular activity reported the associated expenditure. In the analysis, average costs per activity are imputed to each activity and tourist.

**Table 11**  
**Average Cost Per Activity Undertaken in Christchurch**

Activity Type	Mean Cost	Maximum	Tourists Who Provided Costs	Tourists Who Reported Activity
Adventure	\$187.00	\$240.00	3	3
Antarctic Centre	\$29.68	\$60.00	64	75
Boat trip	\$49.00	\$49.00	1	1
Buying souvenirs	\$62.22	\$400.00	175	201
Café	\$6.37	\$45.00	225	242
Bus (travelled by)	\$5.50	\$55.00	209	315
Car (travelled by)	\$18.31	\$65.00	26	346
Catered meal	\$18.75	\$70.00	80	223
Drinks	\$18.44	\$150.00	143	173
Eating out	\$26.23	\$160.00	450	480
Entertainment	\$20.20	\$55.00	23	37
Gondola	\$21.52	\$59.00	36	49
Internet	\$3.77	\$20.00	117	134
I-Site	\$111.41	\$1,400.00	32	85
Maori experience	\$82.50	\$82.50	1	2
Movie	\$12.67	\$21.00	23	25
Museum	\$10.25	\$25.00	17	29
Phone calls / cards	\$15.24	\$105.00	23	32
Post	\$14.62	\$46.70	18	20
Avon punting	\$16.35	\$20.00	13	16
School	\$140.00	\$280.00	4	33
Self catering	\$8.32	\$15.00	11	559
Shopping	\$54.78	\$1,000.00	354	409
Sport*	\$6.78	\$15.00	21	57
Shuttle bus	\$13.39	\$68.00	63	83
Take-away	\$8.71	\$60.00	319	332
Taxi	\$18.26	\$50.00	79	86
Tram	\$14.19	\$25.00	71	107
Trips outside CHC	\$62.89	\$185.00	16	31

\* Many sport facilities are provided by the Council, and therefore a substantial proportion of this expenditure could be allocated as income for the public sector. However, there are also private sector sport facilities (e.g. fitness studios) and for this reason, the expenditure will be allocated to the private sector.

In addition to the activities that are related to a commercial operation, tourists reported expenditure in relation to activities that do not necessarily involve a cost, for example visiting the Arts Centre or the Botanic Gardens (Table 12). Both of those attractions are provided by the council free of charge. Expenditure that has been reported in relation to non-commercial

activities could, for example, relate to donations, souvenir shopping or some form of catering (e.g. ice cream). The proportion of tourists who reported expenditure for the activities listed in Table 12 is small, indicating that the typical behaviour might not involve any expenditure. For example, only 11 tourists out of 348 reported that they spent money when they were “walking” (on average about \$13). Respondents who did not report costs were assumed to have spent zero dollars for that particular activity. For some public sector attractions it is assumed for the yield analysis that expenditure reported related to retail (see comment column for more detail).

**Table 12**  
**Expenditure for Activities at Non-commercial Tourist Attractions (or activities)**

Activity Type	Mean cost	Maximum	N provided costs	N reported activity	Comment
Art Gallery	\$8.27	\$16.00	11	61	Mostly donations
Arts Centre	\$47.41	\$250.00	11	88	Assumed to be retail
Beach	\$3.94	\$5.00	4	31	Assumed to be retail
Canterbury Museum	\$4.79	\$10.00	14	63	Mostly donations
Botanic Gardens	\$4.90	\$10.00	6	203	Negligible
Cathedral	\$4.74	\$13.00	33	89	Mostly flower show \$5
Exploring	\$21.01	\$200.00	55	886	Assumed to be retail
Organising	\$89.14	\$670.00	14	52	Assumed to be retail
Relaxing	\$5.00	\$12.50	6	503	Negligible
Sleeping	\$20.29	\$25.00	3	202	Unidentified
Socialising	\$10.90	\$18.00	5	74	Assumed to be drinks
Visiting	\$36.86	\$400.00	36	147	Often zoos
Walking	\$13.14	\$55.00	11	348	Assumed to be retail
Working	\$150.00	\$1,500.00	4	58	Negligible

The total expenditure for the 24-hour activities per tourist was calculated by adding up a tourists’ expenditure on commercial activities and that related to non-commercial activities. The average per tourist type was calculated based on this, both for the reported time budget and normalized per hour (Table 13). FIT tourists spent most in total (\$102.5). However, as this refers to a period of 19 hours on average the hourly spending is less than that of coach tourists (\$8.2 per hour). On an hourly basis, backpacker tourists spent least on activities in Christchurch. The differences in spending both in total and per hour between tourist types are statistically significant (ANOVA test,  $F = 3.44$ ,  $df = 1012, 4$ ,  $p = 0.008$  and  $F = 3.45$ ,  $df = 1012, 4$ ,  $p = 0.008$ ).

**Table 13**  
**Activity Expenditure by Tourist Type**

<b>Tourist Type</b>	<b>Activity Expenditure</b>	<b>Tourists</b>	<b>Mean (\$)</b>	<b>Std. Deviation (\$)</b>
Coach tourist	Total in 24 hrs or part thereof	99	86.6	61.0
	Per hour	99	8.2	14.2
FIT	Total in 24 hrs or part thereof	396	102.5	71.2
	Per hour	396	7.5	8.6
Backpacker	Total in 24 hrs or part thereof	287	86.5	64.2
	Per hour	287	5.4	6.7
Camping	Total in 24 hrs or part thereof	71	87.8	58.9
	Per hour	71	7.2	8.4
Home visitor	Total in 24 hrs or part thereof	164	91.1	57.0
	Per hour	164	6.1	8.5

### ***Accommodation***

Tourists who had been in Christchurch for 24 hours typically reported where they stayed and how much they paid per person. By definition, coach tourists are largely staying in hotels, FITs use hotels and motels, and backpacker tourists stay in backpacker or hostel accommodation. Camping tourists stay at campgrounds but also use other accommodation types in Christchurch (see Table 14), probably because it is either the first or the last stop where more comfortable accommodation (e.g. hotel) might be preferred. Home visitors stay with friends or relatives in homes or rent their own accommodation. For accommodation choices across the whole sample refer to Appendix A.

Out of the 1,028 survey respondents, 486 provided cost data for their accommodation. The average spending by tourist type in each category is shown in Table 13 below. The average spending for hotels reported by coach tourists was \$80 per person-night (\$83.3 for FITs and \$88.1 for camping tourists). The cheapest commercial accommodation category was camping with \$16.0 per person-night for camping tourists. Tourists who provided costs (\$12.7 on average) for staying at a home probably related this to rent or homestay-like arrangements. The average cost per night in a backpacker hostel by backpacker tourists was \$25.4 per person.

The reported costs on accommodation could be slightly inflated when tourists did not report that they paid for more than one person, i.e. they shared a room with someone and should have divided the cost by the number of people in this room. Respondents could list several types of accommodation used whilst in Christchurch and only the first mention has been used to in this analysis.

The differences in accommodation expenditure between the tourist types are highly significant (ANOVA:  $F=68.5$ ;  $df=4, 483$ ,  $p<0.001$ ).

**Table 14**  
**Accommodation and Average Spend (\$/night) by Tourist Type in Christchurch**

	Coach tourist		FIT		Backpacker		Camping		Home	
	Frequency	Mean spending	Frequency	Mean spending	Frequency	Mean spending	Frequency	Mean spending	Frequency	Mean spending
B & B	1.0%	n.a.	8.6%	\$75.60						
Backpacker					99.3%	\$25.4	14.1%	\$18.90		
Camping							57.7%	\$16.00		
Cruise ship	11.1%	n.a.	0.5%	n.a.						
Home			0.3%	n.a.					87.1%	\$12.70
Homestay / Farmstay			6.6%	\$37.50					0.6%	n.a.
Hotel	68.7%	\$80.0	37.5%	\$83.30			16.9%	\$88.1		
Motel	7.1%	n.a.	37.5%	\$64.90			4.2%	n.a.		
Apartment			5.8%	\$51.60					2.4%	n.a.
Other			1.3%		0.3%	n.a.	2.8%		2.5%	\$13.0
n.a.	12.1%	n.a.	2.0%	n.a.	0.3%	n.a.	4.2%		7.4%	n.a.
Sum/ Average	100%	\$80	100%	\$70.60	100%	\$25.4	100%	\$32.8	100%	\$14.2

### ***Transport***

Tourists were asked what their main transport mode to Christchurch was, as well as what transport they used mainly within Christchurch. These two questions were asked independently of the 24-hour budget question to provide some more contextual information on the different tourist types, and also to be able to verify the transport-related activities reported in the 24-hour question.

The mode of transport to Christchurch differed substantially between the five tourist types (Table 15). International air travel was the most important transport mode of arrival into Christchurch for FITs, backpackers and home visitors. The rental car was the second most prevalent mode among FITs; whereas the private car was important for home visitors. This reflects the large share of domestic visitors within this tourist type and the fact that a large proportion of those who stay long enough to buy their own car stay in private homes. By definition, camping tourists often use a campervan and coach tourists travel by tour coach. There is also a strong representation of cruise ship tourists among coach tourists. Appendix A contains information on transport choices across the whole sample.

**Table 15**  
**Transport Modes Used to Travel to Christchurch by Tourist Types**

	<b>Coach Tourist</b>	<b>FIT</b>	<b>Backpacker</b>	<b>Camping Tourist</b>	<b>Home Visitor</b>
International air	24.2%	42.4%	35.5%	7.0%	46.3%
Rental car	3.0%	24.2%	12.5%	7.0%	4.9%
Domestic air	4.0%	14.4%	4.2%	2.8%	16.5%
Private car		8.6%	10.8%	14.1%	23.8%
Scheduled/ shuttle bus	4.0%	2.5%	25.1%		6.1%
Tour coach	34.3%	1.0%	6.6%		0.6%
Campervan				66.2%	
Train	7.1%	5.6%	3.5%	1.4%	1.8%
Cruise ship	23.2%	0.5%			
Other		0.8%	1.7%	1.4%	

Most tourists within Christchurch, and backpackers in particular, walk to get around town (Table 16). Coach tourists also travel on their tour coach, FITs use their rental car and camping tourists travel by campervan. Home visitors are most likely to use local buses or shuttle buses but they also make use of private motor vehicles.

Transport costs comprise two components. First, tourists may have rented a vehicle or purchased a metro card for the local buses in Christchurch. These costs are ‘running’ costs and a cost per day has been estimated. For example, a tourist who picked up a campervan at the airport and rented it for 2 weeks at \$1,000 (and 2 persons) was allocated a transport cost of \$36 per day for transport. Second, tourists may have used one-off transport within Christchurch, for example a taxi or a scheduled bus. In this case, transport cost was reported as a 24-hour activity and has been analysed in the activity section. Table 16 provides information on the main transport mode used within Christchurch and the estimated daily (running) cost of transport.



**Table 16**  
**Transport Modes within Christchurch and Running Cost Per Day by Tourist Type**

	<b>Coach Tourist</b>	<b>FIT</b>	<b>Backpacker</b>	<b>Camping Tourist</b>	<b>Home Visitor</b>
Walking	45.5%	43.2%	69.3%	40.8%	20.1%
Scheduled/ shuttle bus	25.3%	19.7%	15.7%	15.5%	25.0%
Rental car	2.0%	23.0%	6.3%	11.3%	8.5%
Private car	1.0%	7.3%	4.2%	8.5%	41.5%
Tour coach	19.2%	0.8%	0.3%		
Campervan		1.3%	0.7%	18.3%	1.2%
Other	1.0%	2.5%	0.3%	1.4%	0.6%
Bicycle		0.3%	1.4%	2.8%	1.8%
n.a.	6.1%	2.0%	1.7%	1.4%	1.2%
Mean daily cost	\$89.1*	\$32.9	\$22.0	\$53.2	\$22.3

\* This price has been derived through an analysis of package tour prices and may in some cases contain costs for accommodation and other services; it is therefore likely to be inflated.

### 3.3 Calculating Yield

#### 3.3.1 Private Sector Yield - Definition

To derive yield the expenditure categories from the tourist survey had to be matched with ANZSIC<sup>14</sup> codes for which yield coefficients were available (Table 1 earlier, based on Moriarty, 2006). Three measures for yield have been chosen: Value Added (VA) Free Financial Cash Flow (FCF) and Economic Value Added (EVA) (see also section 2.3 for more detail). Private sector yield from tourist spending

Several assumptions had to be made to be able to allocate tourists' spending behaviour to an ANSZIC code and these are detailed in Table 16 in the comments column. Table 17 shows the average spending per tourist type in each of the appropriate ANZSIC codes. Some allocations are crude. For example, all shopping had to be aggregated into the category of "retail not elsewhere specified"<sup>15</sup> because no finer detail on the form of retail expenditure was available from the survey. Souvenir shopping has been identified as a separate category and was matched with the code of 'department stores'. Spending in the I-Site information centre was included in recreational spending, as typically tourists would book tours and attractions. It is acknowledged that many tourists also book transport and accommodation in the visitor centre.

Table 17 also provides information on total expenditure, Value Added, Free Cash Flow and EVA by tourist type.

<sup>14</sup> Australian/New Zealand Standard Industry Classification

<sup>15</sup> The FCF per dollar of visitor expenditure for the average of all retail sectors is 3% higher than for retail nec, while the EVA per dollar of visitor expenditure is almost 60% higher. Hence this assumption leads to a potential understatement of tourism yield.

From the perspective of the commercial sector, the highest income (\$174 expenditure and \$54 of value added per day) is earned from coach tourists, who provide almost twice as much as Backpackers and home visitors. However, a substantial part of coach tourists' spending is on hotel accommodation and coach transport, both of which generate negative EVA<sup>16</sup>, and for this reason coach tourists have the lowest EVA per day of -\$1.58. We also noticed that the coach tourist spent comparatively little in the retail sector (14%) of all spending compared with 22.3 percent across all tourists and for their whole trip, as reported in the Satellite Account (Statistics New Zealand, 2006) Higher spending in the high-yielding retails sector would increase the coach tourist's EVA. We do not know if the low reported expenditure on retail reflects the true consumption pattern by coach tourists in Christchurch or whether it is a result of underreporting by the sampled tourists.

While the FIT has the second highest spend and value added per day, the EVA is the second lowest. Again, this is associated with spending in the lower yielding sectors of hotels and motels; this is not offset by the higher yield associated with the rental vehicle and automotive fuel industries. The home visitors have the lowest spend and value added per day and also generate a negative EVA. This is largely driven by the stay in hosted accommodation that is associated with negative EVA.

Backpackers and camping tourists generate the highest and second highest EVA respectively. The good EVA ranking for camping tourists is due almost entirely to their spending on rental motor vehicles. For backpackers, the spending on accommodation results in a positive EVA; backpacker hostels are the only form of accommodation to have positive EVA.

We do not wish to over-emphasise the fact that some tourist types generate negative EVA partly because the EVA calculations are open to considerable debate and partly because the calculations relate to 1999-2003 and results may have changed since then. Nonetheless, the figures do suggest that coach tourism may not be sustainable in the medium term if the performance of the hotel, motel and long distance bus travel industries does not improve from the level it was at in 1999-2003.

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16 The coach businesses may not actually reside in Christchurch, but merely be passing through. Also, expenditure on long-distance coach was allocated according to information provided on "package price", so this estimate has a level of uncertainty.

**Table 17**  
**Average Expenditure and Yield per Day by Tourist Type in Christchurch for Different ANZSIC Codes**

Code from the Survey	ANZSIC	Industry	Coach	FIT*	Back-packer	Camping	Home Visitor**	Comments
Arts Centre, Beach, Exploring, Organising, Internet, Phone, Post, School, Shopping, Walking	G511010	Retail not elsewhere specified	\$9.30	\$30.80	\$30.30	\$30.30	\$33.90	Surrogate for all shopping activities
Take away	G5125xx	Takeaway Food	\$2.20	\$2.50	\$3.20	\$2.80	\$3.10	
Souvenir shopping	G521000	Department Stores	\$23.90	\$12.30	\$10.80	\$9.60	\$8.30	Department stores: surrogate for other souvenir shopping
Car usage	G532100	Automotive Fuel Retailing	\$0.40	\$8.00	\$1.10	\$8.50	\$13.40	Some of the expenditure for “car” refers to parking, most of which is income for the Council
Hotel	H571010	Hotels (Accommodation)	\$80.00	\$31.24		\$14.87		It was assumed that all coach tourists stayed at hotels
Motel	H571020	Motels and Motor Inns		\$24.38		\$2.80		The average cost for motel from coach tourists was also used for camping tourists
B&B, farmstay/ hosted accommodation, private homes	H571030	Hosted Accommodation		\$6.54			\$11.32	
Backpacker	H571040	Backpacker and Youth Hostels			\$25.00	\$2.66		It was assumed that all backpackers stayed at hostels
Camping	H571050	Caravan Parks and Camping Grounds				\$9.12		
Apartment	H571090	Accommodation nec		\$3.02			\$0.33	
Drinks	H572000	Pubs/ Taverns and Bars	\$2.60	\$2.70	\$4.40	\$1.30	\$2.90	
Café and Eating out, Socialising, Catered meal	H573000	Cafes and Restaurants	\$28.00	\$22.50	\$14.60	\$10.60	\$10.30	
Tour coach, bus	I612100	Long Distance Bus & Rail Transport	\$11.87					
Tram	I612200	Short Distance Bus Transport (incl. Tramway)	\$2.30	\$2.20	\$0.50	\$2.20	\$0.70	Local buses were excluded as they are operated by the Council

Code from the survey	ANZSIC	Industry	Coach	FIT*	Back-packer	Camping	Home visitor**	Comments
Taxi and shuttle bus	I612300	Taxi and Other Road Passenger Transport	\$2.70	\$3.40	\$2.40	\$2.40	\$1.10	
Campervan and rental car	L774100	Motor Vehicle Hiring		\$7.95	\$1.65	\$16.89	\$3.43	Used for those who were allocated 'running costs' for a rented vehicle
Museum	P922000	Museums	\$0.10	\$0.10	\$0.10	\$0.10	\$0.00	
Visit	P923x00	Zoos, Botanic Gardens, Recreational Parks and Gardens	\$0.50	\$1.20	\$1.20	\$1.50	\$2.00	In some cases visits referred to visiting a person or an unidentified attraction
Antarctic Centre, Adventure activity, Boat, Entertainment, Gondola, Maori, I-site, Punting, Sport, Movies	P93xxxx	Racing, Gaming, Gambling, Sports nec and All Other Recreation Service	\$10.50	\$11.50	\$10.70	\$9.50	\$6.00	
<i>TOTAL average Expenditure/day (\$)</i>			174.40	170.26	105.93	125.11	96.82	
<i>Value Added (\$)</i>			54.01	47.22	28.49	32.85	21.21	
<i>Free Financial Cash Flow(\$)</i>			9.43	111.09	7.95	9.12	4.92	
<i>Economic Value Added / day (\$)</i>			-1.58	-0.89	1.66	0.76	- 0.72	

\* For 7% of FITs it was not possible to allocate accommodation categories and costs and zero spending was assumed; hence the yield is underestimated by an unknown amount.

\*\* For 10.4% of FITs it was not possible to allocate accommodation categories and costs and zero spending was assumed; hence the yield is underestimated by an unknown amount.

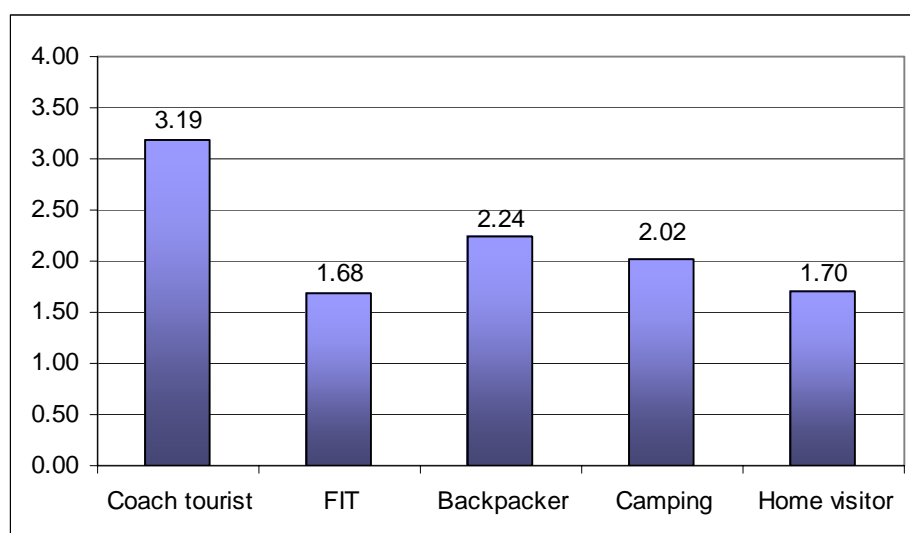
### 3.3.2 Public Sector Yield

The public sector costs and benefits associated with tourism in Christchurch have been reported elsewhere (Cullen et al., 2005). There are a number of costs that apply to each tourist, for example the use of the road network, environmental management, and marketing. While it is acknowledged that different types of tourists may make different use of these general services (e.g. home visitors are more likely to use local roads), it is not possible to estimate differentiated use levels. It is pragmatic to focus the analysis of public sector services on those activities for which differences in levels of use can be clearly distinguished between tourist types (see Appendix A). These public sector activities/ services and their per capita (per visit) net costs to Christchurch City Council are:

- Art Gallery: \$11.15
- Botanic Gardens: \$3.43
- Public bus: \$1.08
- Canterbury Museum: \$ 6.07
- Cathedral: \$ 0.36
- I-Site: -\$0.21<sup>17</sup>

Based on the likelihood of visitation within 24 hrs (e.g. 30% of coach tourists visited the Botanic Garden, Table 15) and the average cost per visit, the costs of public sector services have been calculated for each tourist type (Figure 1). Coach tourists, with their high levels of visitation of attractions such as the Botanic Gardens and Canterbury Museum, are the highest user of Council-operated attractions and generate the highest local government costs. FITs caused the least costs due to low visitation of these key attractions. Over time – due to their long stay – home visitors are probably higher users of public sector attractions than the other tourist types.

**Figure 3**  
**Daily Costs for Public Sector Attractions by Tourist Type**



<sup>17</sup> The i-site is a revenue generator through commission and advertisement income, with a net contribution of \$0.21 per visitor. The Regional Tourism Organisation as a whole is subsidised, but these costs apply to every tourist equally and are not included in the yield calculations.

### 3.4 Satisfaction and Motivation

If we consider tourism as a process involving the production of more or less satisfactory visits through the use of various market (e.g. travel, commercial accommodation) and non-market (e.g. natural areas, city parks) inputs, and if we recognise that many tourists are repeat visitors and also influence the decisions of acquaintances, then visitor satisfaction is clearly linked to sustainable tourism yield. It is also essential to understand the motivations for international tourists to visit New Zealand in order to effectively target marketing campaigns. In the following sections, overall satisfaction and also satisfaction with particular attributes of Christchurch are analysed by tourist type. The importance of various drivers for tourists visiting New Zealand is also analysed. These drivers were developed in cooperation with Tourism New Zealand.

#### 3.4.1 Overall Satisfaction

The level of satisfaction actually experienced is likely to depend on the type, quantity and quality of inputs, as well as on personal attributes, some of which might be related to tourist type. Tourists were asked two questions relating to their overall experience of Christchurch.

- Q16: On a scale of 1 to 7, how satisfied are you with the time you have spent in Christchurch? 1 indicates that you are not satisfied at all and 7 indicates that you are very satisfied.
- Q17: On a scale of 1 to 7, have your experiences in Christchurch been better or worse than you expected? 1 indicates that your experiences have been much worse than you expected and 7 indicates that your experiences have been much better than you expected.

Overall, tourists were very satisfied with their time spent in Christchurch; most tourists also reported that their expectations were approximately met or somewhat exceeded (mode of 4 and means around 5) (see Appendix A). Coach tourists were the most highly satisfied tourist type and experiences were very likely to exceed expectations. In contrast, camping tourists were relatively least satisfied (Table 18).

**Table 18**  
**Satisfaction Ratings by Different Tourist Types**

	N	Satisfaction			Comparison to Expectation		
		Mean	Minimum	Maximum	Mean	Minimum	Maximum
Coach tourist	98	6.21	4	7	5.52	4	7
FIT	389	6.06	2	7	5.09	2	7
Backpacker	286	5.78	2	7	5.10	1	7
Camping tourist	70	5.73	2	7	4.80	3	7
Home visitor	163	6.09	4	7	5.19	1	7
Total	1006	5.98	2	7	5.13	1	7

This same pattern became apparent when tourists were questioned on their satisfaction with individual services, attractions and other aspects of their experience in Christchurch.

- Q21: Please use the table below to rank the services in Christchurch on a scale from 1 to 7, where 1 is not satisfying at all and 7 is very satisfying. Please use a '0' if you have not used the service or done the activity described.

The Botanic Gardens (6.4) and the friendliness of local people (6.3) received the highest rankings, whereas road signage (5.5) and shopping opportunities (5.6) were ranked lowest. The tourist types showed different satisfaction levels with various aspects of Christchurch (Table 19). Camping tourists, for example perceived Christchurch to be more crowded than coach tourists. Camping tourists (as well as backpacker tourists) also criticised the lack of parking. Home visitors – i.e. those staying in non-commercial accommodation – were most satisfied with accommodation, possibly reflecting the importance of personal interaction through private hosting. Coach tourists were most satisfied with the rural landscape.

**Table 19**  
**Satisfaction with Aspects of Christchurch by Tourist Type**

<b>Satisfier</b>	<b>Coach Tourist</b>	<b>FIT</b>	<b>Back-packer</b>	<b>Camping Tourist</b>	<b>Home Visitor</b>	<b>Total</b>
Uncrowdedness	6.0	5.8	5.6	5.4	5.5	5.7
Information centres	6.1	6.2	5.9	6.0	6.1	6.1
Restaurants	5.7	5.7	5.6	5.9	5.8	5.7
Quality of accommodation	6.0	5.8	5.4	5.7	6.2	5.8
Conference facilities	5.0	5.7	5.4	4.0	5.6	5.6
Attractiveness of the city	6.2	6.1	5.9	5.8	6.1	6.0
Variety of rural landscape	6.2	6.0	5.5	5.6	6.0	5.9
Quality of road signage	6.0	5.5	5.5	5.3	5.5	5.5
Availability of parking	5.9	5.2	4.7	4.9	5.1	5.1
Quality of public transport services	6.3	6.0	6.0	6.0	5.8	6.0
Friendliness of locals	6.5	6.3	6.2	6.2	6.2	6.3
Public toilets	5.8	5.7	5.5	5.6	5.8	5.7
Environmental management	6.0	5.9	5.8	5.6	5.7	5.8
Safety from crime	6.2	6.0	5.9	6.0	5.6	5.9
Quality of airport facilities	5.6	5.6	5.7	5.6	5.6	5.6
Arts Centre	6.2	6.2	5.9	6.0	6.2	6.1
Canterbury Museum	6.6	6.2	6.0	6.0	6.0	6.1
Botanic Gardens	6.4	6.5	6.4	6.4	6.4	6.4
Cathedral	6.3	6.2	5.7	6.0	5.9	6.0
Art Gallery	6.1	6.1	5.6	5.8	6.0	5.9
Maori performance	6.4	5.7	5.4	5.8	5.4	5.6
Nature walks	6.2	6.1	6.0	5.8	6.2	6.1
Shopping opportunities	5.7	5.7	5.4	5.6	5.7	5.6

### 3.4.2 Motivations to visit

International visitors were questioned on the strength of nine possible motivations for visiting New Zealand (Table 20):

- Q22 For international visitors only... Please rank the following statements on a scale of 1 to 7 according to how well they reflect why you chose New Zealand as a holiday destination. 1 is for statements which least reflect the reasons you chose to holiday in New Zealand and 7 is for statements which most reflect the reasons you chose to holiday in New Zealand.

**Table 20**  
**Motivations: ‘I chose to holiday in New Zealand ...’**

<b>Code</b>	<b>Full Question</b>
Activity	... to undertake a specific activity: What was that activity?
Cuisine	... to stay in its distinctive accommodation and to enjoy its excellent cuisine.
Culture	... to experience the country’s modern cultures and to interact with its friendly people.
Freedom	... for freedom of movement and activity.
Maori	... to experience the country’s Maori and Polynesian heritage.
Nature	... to enjoy the country’s physical landscape and natural features.
Pure	... to take a break from my commercialised life to relax in a clean and pure country.
Safety	... as a result of its perceived safety.
Value	... because of its good value for money.

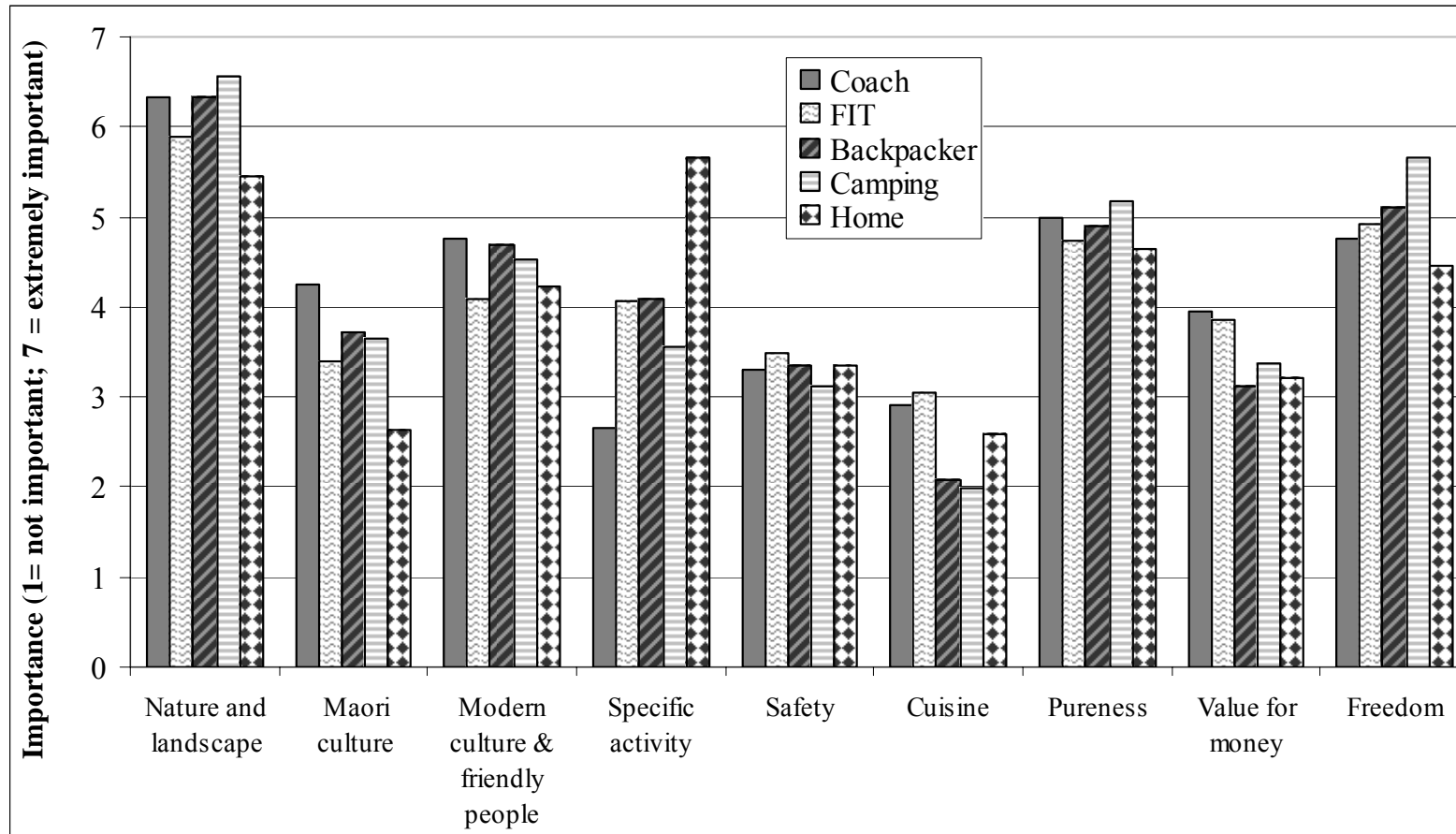
There was a significant but evenly spread number of non-responses to the nine parts of the question (between 170 and 190 non-responses to the various questions). Responses to Nature (‘physical landscape and natural features’), and to a lesser extent Pure (‘clean and pure country’) and Freedom (‘freedom of movement and activity’) were considered very important to a large number of tourists. ‘Activity’ has a strongly bimodal distribution, being either very important or unimportant. Visiting New Zealand for a specific activity was most important for backpacker tourists and least important for coach tourists. ‘Cuisine’ and to a lesser extents ‘Safety’ were not so important to many visitors.

Figure 4 shows the rankings by tourist type. While there are similarities across the types, such as the importance of Nature and landscape, pureness and freedom, there are also differences. For example home visitors come to New Zealand for a specific activity (mostly education); coach tourists were more motivated to experience Maori culture than other types, and freedom was particularly important for camping tourists, though not more important than nature. Cuisine was generally a less important driver, particularly for backpacker and camping tourists.

“Value for money” seems to play a secondary role as a driver for visiting New Zealand; it ranks comparatively low across all the tourist types, but slightly higher for coach and FIT tourists than other types.



**Figure 4**  
**Drivers to Visit New Zealand by Tourist Type**  
**(1 = not important, 7 = extremely important)**



## Chapter 4

### Rotorua Case Study

#### 4.1 Survey Results

##### 4.1.1 Sample Description

Most sampling occurred at the I-Site, which is a busy place, especially around times of the InterCity coach departure or arrival. Most sampling locations in Rotorua were of a commercial nature, primarily because public sites yielded comparatively low numbers of respondents (see Appendix B). Female visitors are slightly over-represented in this sample compared with male respondents.

The highest proportion of tourists interviewed in this survey was from the UK / Ireland (27% of the sample) while domestic tourists were the second largest group (23%). Of all international visitors, 24% had been to New Zealand before. More Australians were on a return than on a first-time visit (Table 21).

Holiday and leisure (78% of sample) was the main purpose for travel, while visiting friends or relatives (VFR) was only 12%. Education as a travel purpose was almost absent, although Rotorua is actually increasingly known for providing educational opportunities. The travel purpose 'other' includes stop-overs on the way to another destination within New Zealand.

**Table 21**  
**Rotorua Sample by Origin and Repeat Visitation to New Zealand**

	Repeat Visit			Total
	n/a	no	yes	
New Zealand	102	-	-	102
Australia	0	22	28	50
USA / Canada	0	44	10	54
UK / Ireland	0	103	21	124
Europe	0	67	13	80
Asia	1	14	8	23
Other	1	12	5	18
Total	93	263	95	451

Average length of stay was calculated for visitors to Rotorua (Table 22). The sample includes a substantial number of day visitors (11.1%), and in contrast to the Christchurch case the sample was not overly biased towards long-staying (educational) visitors. The resulting average of 2.44 nights for international visitors is close to the (IVS 2005) figure of 2.6 nights. However, as in the Christchurch study, there are some differences between the average nights in New Zealand spent by our Rotorua and the IVS 2005 sample<sup>18</sup>. Our average 31.7 nights for all international visitors is higher than the average of 21 in the IVS 2005. Australians in Rotorua in our sample spent 13.8 nights in NZ and UK/Ireland visitors spent 32.3 nights.

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<sup>18</sup> This is expected because a long-staying tourist is more likely than a short-staying one to be captured in a sample over a given survey period.

These statistics are reasonably close to the figures of 12 and 30 days respectively, reported in the IVS 2005.

**Table 22**  
**Average Lengths of Stay for Visitors to Rotorua by Purpose**

<b>Purpose</b>	<b>N</b>	<b>Mean LOS in NZ</b>	<b>Median LOS in NZ</b>	<b>Mean LOS in Rotorua</b>	<b>Median LOS in Rotorua</b>
Holiday	356	30.5	19	2.2	2
VFR	53	42.2	1	3.6	2
Education /study	4	104.3	26	7	3
Business /conference	13	9.1	7	4.7	2
Other	24	27.0	5	2.0	0

In total, the Rotorua sample included 57 package tourists. Most of them were from the USA/ Canada, Australia and Asia (see Appendix B). It could have been expected that visitors on package tours would be more common in Rotorua than in Christchurch (10%). Package tourists are more difficult to intercept and as a result are likely to be under-sampled. This difficulty may have been greater in Rotorua than in Christchurch because of the wide-spread nature of attractions and the greater likelihood of language barriers as a large proportion of package tourists are from Asia. About one third of the visitors from Australia, USA / Canada and Asia were on a package tour, whereas tourists from the UK / Ireland, other Europe and other destinations were travelling independently.

#### **4.1.2 Limitations**

Similar limitations apply to the sample as those already discussed for the Christchurch sample, especially the under-representation of non-English speaking nationalities and package tourists. The representation of domestic visitors is better compared with the Christchurch case study. While the Rotorua sample is biased towards female visitors, the implications of this for survey results are not known.

The sample size of 452 results in a maximum sample error of 4.6% when variables are analysed for the whole sample without further disaggregation into sub-groups (confidence level of 95%). Since the tourist type analysis requires further segmentation, the sample error will increase depending on the sample size within each segment.

The dominance of the I-site as a sampling location means that a large number of tourists travelling on the InterCity coach were interviewed (the coach stops right outside the visitor centre); this may introduce some bias towards independent travellers, who chose to travel by bus (rather than rental car or any other mode).

## **4.2 Tourist Type Analysis in Rotorua**

Tourist types were derived by applying the same rules that were already discussed for the Christchurch case study. All tourists were successfully categorized into one of the five types: coach tourist, FIT, backpacker, camping tourist or home visitor.

### 4.2.1 Profiling Tourist Types

#### *Origin*

About half of the coach tourists were either from Australia or USA / Canada (Table 23). Only 13.3 % of the sampled coach tourists were from Asia, which means that this group is likely to be under-represented. FITs were largely from the UK or Ireland, and also from New Zealand. Domestic day visitors who traveled by private car and who were not clearly linked with visiting friends or relatives as a purpose were categorized as FITs (in the absence of information on accommodation behaviour)<sup>19</sup>. Most backpacker tourists came from ‘other Europe’ (45%) with the remainder largely being from the UK or Ireland. A similar profile applies to the camping tourist, although a substantial number of domestic visitors were also classified as camping tourists. Home visitors were largely domestic travelers; the largest international origin within this type was from the UK / Ireland.

**Table 23**  
**Tourist Types Sample Size and Region of Origin (proportion)**

	Total Sample	NZ	Australia	USA / Canada	UK/ Ireland	Europe	Asia	Other
Coach tourist	45	11.1%	24.4%	33.3%	17.8%		13.3%	
FIT	211	28.9%	9.5%	10.0%	34.1%	8.5%	3.8%	5.2%
Backpacker	94	1.1%	8.5%	7.4%	24.5%	44.7%	8.5%	5.3%
Camping tourist	44	15.9%	9.1%	9.1%	29.5%	34.1%		2.3%
Home visitor	57	49.1%	12.3%	12.3%	14.0%	8.8%	1.8%	1.8%
Total	451	22.6%	11.1%	12.0%	27.5%	17.7%	5.1%	4.0%

#### *Purpose*

Holiday or leisure was the dominant purpose of travel for all tourist types except the home visitor, who mainly traveled to visit friends or relatives. All coach tourists traveled for holiday or leisure, and almost all backpackers and camping tourists reported holiday as their main purpose of stay. The purpose for FIT travel were slightly more diverse (Table 24), with ‘other’ and ‘business/ conference/ work’ also being common reasons.

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<sup>19</sup> This may lead to an understatement of the average stay of FITs

**Table 24**  
**Main Purpose for Visiting Rotorua by Tourist Type**

	<b>Holiday / Leisure</b>	<b>VFR</b>	<b>Education / Study</b>	<b>Other</b>	<b>Business / Conference / Work</b>
Coach tourist	100.0%	-	-	-	-
FIT	79.2%	4.2%	1.4%	9.4%	5.7%
Backpacker	94.7%	2.1%	1.1%	1.1%	-
Camping tourist	93.2%	2.3%	-	2.3%	2.3%
Home visitor	22.8%	71.9%	-	3.5%	-
Total	78.8%	11.7%	.9%	5.3%	2.9%

***Length of stay in NZ and Rotorua***

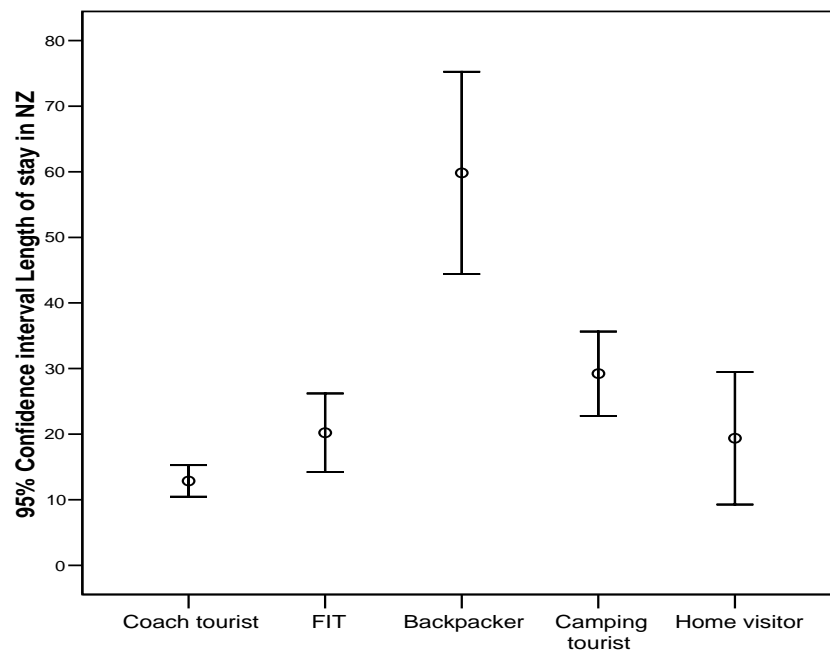
Length of stay in New Zealand varies significantly between tourist types (ANOVA  $F=13.12$ ,  $df=446, 4$ ,  $p<0.001$ ). Backpackers stay the longest with a mean of 60 days (median of 30 nights) and coach tourists stay the shortest with a mean of 13 days and a median of 12 days (Table 25). The average (mean) length of stay is strongly influenced by a small number of long-staying tourists, especially in the backpackers and home visitor segments. For this reason, it is more useful to use median length of stay as a measure.

**Table 25**  
**Length of Stay in New Zealand and Rotorua by tourist types**

	<b>N</b>	<b>Nights in NZ (mean)</b>	<b>Nights in NZ (median)</b>	<b>Nights in Rotorua (mean)</b>	<b>Nights in Rotorua (median)</b>
Coach tourist	45	12.87	17	1.78	2
FIT	212	20.21	14	1.95	2
Backpacker	94	59.82	30	2.69	2
Camping tourist	44	29.23	27	2.27	2
Home visitor	56	19.38	8	4.46	3
Total	451	28.51	17	2.44	2

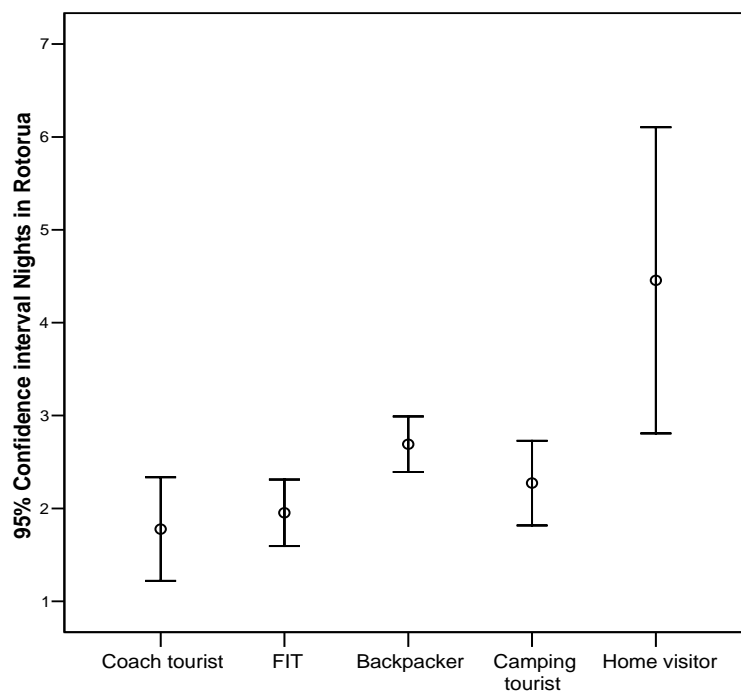
The average length of stay is strongly influenced by a small number of long-staying tourists, especially in the backpackers and home visitor segments. This can be seen in Figure 5, where the confidence interval for length of stay of those types is larger than that of other types (tourists with lengths of stay over 80 days are not visualized in Figure 5 but taken into account into the calculation of the confidence interval).

**Figure 5**  
**Length of Stay in New Zealand by Tourist Type**  
**(estimate and 95 % confidence interval)**



The confidence intervals for length of stay in Rotorua can be seen in Figure 6. Home visitors are the longest staying tourists (4.5 nights on average, median of 8), while coach tourists stay shortest (mean of 1.8 nights, median of 2).

**Figure 6**  
**Length of Stay in Rotorua by Tourist Type**  
**(estimate and 95 % confidence interval)**



### ***Age Distribution***

As in the Christchurch sample, coach tourists tended to be the oldest tourists (Table 26). In the Rotorua sample, 40% of coach tourists were over 60 years old. For the other tourist types only around 20% were over 60 years old, except in the backpacker type, where only 5% were over 60 and 68% were in the 20 to 29 age bracket. FITs, camping tourists and home visitors all had a reasonably even spread across the different age brackets, although home visitors in the Rotorua sample tended to be somewhat younger.

**Table 26**  
**Age Distribution by Tourist Type**

	<b>0-19</b>	<b>20-29</b>	<b>30-39</b>	<b>40-49</b>	<b>50-59</b>	<b>60+</b>
Coach tourist		13.3%	8.9%	4.4%	33.3%	40.0%
FIT	6.6%	23.1%	18.4%	15.6%	13.2%	23.1%
Backpacker	4.3%	68.1%	20.2%		2.1%	5.3%
Camping tourist	2.3%	27.3%	20.5%	13.6%	15.9%	20.5%
Home visitor	5.3%	35.1%	12.3%	14.0%	15.8%	17.5%
Total	4.9%	33.4%	17.3%	10.8%	13.5%	20.1%

### **4.2.2 Spending Behaviour**

The spending behaviour will be analysed in the same way as has been earlier described for the Christchurch sample (see section 3.2.3). The 24-hour activity mix will be analysed first followed by the analysis of expenditure for accommodation and transport.

#### 24-hour Activities

The 24-hour time budget reported by tourists did not cover 24 hours for tourists who had just arrived in Rotorua. The average actual length of the 24-hour budget differed for the five tourist types and was shortest for home visitors and FITs. This is probably a reflection of the larger proportion of day visitors among those types. In contrast, coach tourists stayed for a comparatively long time, as Rotorua is normally one of the key destinations where coach tours stop for at least one night if not two. The average times for which expenditure is reported for different tourist types are:

- Coach tourist: 19.0 hours
- FIT: 16.9 hours
- Backpacker: 21.9 hours
- Camping tourist: 20.2 hours
- Home visitor: 16.4 hours.

The activity profile differs substantially among tourist types (Table 27). Coach tourists are very likely to have visited Agrodome and a thermal activity. They are also the most frequent visitors of Maori experiences and Rainbow Springs because these attractions are often part of the tour package. Coach tourists either ate out or had a catered meal at their accommodation. FITs and camping tourists were the most likely to visit a thermal activity while backpacker tourists engaged in activities such as having drinks, internet, relaxing, and exploring. Camping tourists are the least likely type to go out for a meal and instead they go shopping to the supermarket and cater for themselves. They were also the most likely type to visit the

information centre (i-Site). Home visitors were the most frequent type to report ‘socialising’ as an activity.

**Table 27**  
**Probability of Having Undertaken Activities in the Last 24 hours in Rotorua**

	<b>Coach</b>	<b>FIT</b>	<b>Back-packer</b>	<b>Camping</b>	<b>Home</b>
Adventure experience	7%	7%	13%	2%	5%
Agrodome	40%	9%	12%	0%	4%
Blue Lake	0%	2%	0%	2%	2%
Boat trip	0%	2%	2%	2%	4%
Bus	2%	1%	2%	0%	2%
Buying souvenirs	9%	2%	2%	0%	12%
Café	13%	10%	9%	9%	14%
Car	9%	14%	11%	23%	14%
Catered meal	31%	13%	4%	2%	2%
Drinks	4%	4%	12%	5%	7%
Eating out	42%	46%	41%	20%	35%
Entertainment	2%	2%	5%	0%	7%
Exploring	22%	21%	35%	25%	23%
Gondola	2%	3%	0%	0%	0%
Internet	0%	3%	10%	5%	5%
I-Site	2%	16%	41%	23%	23%
Maori experience	33%	15%	15%	5%	12%
Movie	0%	1%	2%	0%	2%
Museum	16%	14%	13%	18%	12%
Organising	4%	2%	10%	7%	0%
Other	11%	6%	16%	7%	12%
Paradise Valley	4%	1%	0%	0%	4%
Phone calls	0%	0%	2%	2%	0%
Polynesian Spa	2%	5%	2%	5%	0%
Rainbow Springs	24%	11%	4%	11%	12%
Relaxing	27%	37%	83%	39%	39%
Self catering	7%	20%	68%	75%	37%
Shopping (general)	4%	11%	15%	7%	19%
Socialising	0%	1%	14%	0%	18%
Sport	0%	5%	6%	9%	11%
Supermarket	0%	4%	24%	18%	9%
Takeaways	11%	6%	15%	20%	14%
Taxi	4%	3%	2%	0%	0%
Thermal activity	49%	63%	59%	77%	37%
Tour coach	9%	0%	0%	2%	0%
Visiting	2%	9%	9%	11%	11%
Waitomo Caves	0%	3%	4%	0%	0%
Walking	22%	21%	28%	23%	11%

The average expenditure for each activity that involves some commercial operation is shown in Table 28. This information is derived from the information that tourists provided. As can be seen in Table 27 not every tourist who reported a particular activity reported the



expenditure associated with this. For the yield analysis, average costs per activity will be imputed for each activity.

**Table 28**  
**Average Cost per Activity Undertaken in Rotorua**

Activity Type	Mean	Maximum	Tourists Who Provided Costs	Tourists Who Reported Activity
Adventure experience	\$87.48	\$650.00	31	34
Agrodome	\$40.65	\$265.00	36	50
Boat trip	\$80.50	\$200.00	6	10
Buying souvenirs	\$82.19	\$200.00	16	18
Café	\$9.92	\$28.00	46	47
Car (petrol/parking)	\$32.96	\$70.00	13	62
Catered meal	\$21.67	\$84.00	11	48
Drinks	\$16.50	\$50.00	27	28
Eating out	\$21.00	\$120.00	172	184
Entertainment	\$56.00	\$250.00	7	15
Gondola	\$34.86	\$120.00	7	8
Internet	\$7.32	\$33.00	19	20
Maori experience	\$68.35	\$89.00	49	70
Movie	\$20.17	\$40.00	6	6
Museum	\$11.23	\$25.00	53	64
Paradise Valley	\$30.25	\$55.00	4	6
Phone calls	\$7.90	\$20.00	3	4
Polynesian Spa	\$27.00	\$50.00	14	16
Post	\$5.00	\$5.00	1	1
Rainbow Springs	\$24.49	\$37.50	39	50
Self catering	\$18.41	\$70.00	14	163
Shopping	\$60.23	\$300.00	44	53
Sport*	\$9.73	\$20.00	11	27
Supermarket	\$22.49	\$60.00	43	45
Takeaways	\$11.99	\$40.00	48	48
Taxi	\$11.30	\$17.00	8	10
Thermal activity	\$25.45	\$112.00	212	266
Visiting	\$36.67	\$80.00	9	40
Waitomo Caves	\$52.43	\$95.00	7	10

\* Many sport facilities are provided by the council, and therefore a substantial proportion of this expenditure could be allocated as income for the public sector. However, there are also private sector sport facilities (e.g. fitness studios) and for this reason, the expenditure will be allocated to the private sector.

In addition, tourists reported expenditure for non-commercial activities, such as “socializing” (\$26 on average), “other” (\$56), “organizing” (\$24), and “exploring” (\$18). These are all activities that are difficult to be categorized by industry sector. For the purpose of the yield analysis it will be assumed that expenditure related to socializing is part of the food and drink industry, whereas the other activities listed above are part of “shopping”.

The average expenditure per day and per hour (Table 29) can be calculated for each tourist type by using the average costs as shown in Table 34.

**Table 29**  
**Activity Expenditure by Tourist Type**

<b>Tourist Type</b>	<b>Activity Expenditure</b>	<b>N</b>	<b>Mean (\$)</b>	<b>Std. Deviation (\$)</b>
Coach tourist	Total in 24 hrs or part thereof	45	105.02	61.80
	Per hour	45	9.1	16.92
FIT	Total in 24 hrs or part thereof	212	79.83	70.48
	Per hour	210	7.83	11.24
Backpacker	Total in 24 hrs or part thereof	94	98.10	62.36
	Per hour	94	4.25	2.56
Camping	Total in 24 hrs or part thereof	44	70.12	49.91
	Per hour	44	4.45	3.75
Home visitor	Total in 24 hrs or part thereof	57	84.26	75.73
	Per hour	57	13.20	27.21

### ***Accommodation***

The accommodation expenditure data for the Rotorua sample is sparse with only 127 tourists providing sufficient information to derive costs per person per night. All coach tourists who provided costs were only able to do this in the form of a total package price, of which accommodation (and transport) is part. It was not possible to extract hotel costs for Rotorua. In the yield analysis further below the Christchurch data for accommodation will be used as a proxy where necessary. It is also important to remember that 50 tourists in the Rotorua sample were day visitors without the need for accommodation.

Where spending data for accommodation was available (see Table 30), it was broadly consistent with the Christchurch data, although it seemed generally that accommodation in Rotorua is more costly than in Christchurch. For example, the average spending on hotels is about \$50 higher in Rotorua compared with Christchurch. There is a possibility that surveyors failed to ensure that accommodation costs were reported per person and not per travel party.

**Table 30**  
**Accommodation and Average Spend (\$/night) by Tourist Type in Rotorua**

	Coach Tourist		FIT		Backpacker		Camping		Home	
	Frequency	Mean spending	Frequency	Mean spending	Frequency	Mean spending	Frequency	Mean spending	Frequency	Mean spending
B & B			5.2%	\$75.0						
Backpacker					100%	\$25.4				
Camping							100%	\$25.9		
Cruise ship			0.5%	n.a.						
Home				n.a.					84.2%	n.a.
Homestay / Farmstay				n.a.						
Hotel	68.9%	n.a.	29.7%	\$132.0						
Motel	8.9%	n.a.	36.8%	\$94.7						
Apartment			1.4%	n.a.						
Other			1.9%	\$86.0						
n.a.	22.2%	n.a.	24.5%	n.a.					14.0%	n.a.
Sum/ Average	100%	n.a.	100%	\$108.1	100%	\$25.4	100%	\$25.9	98.2%	n.a.

### ***Transport***

Overall, the most common transport modes to travel to Rotorua were the rental or private car, and tour coach. Since tourist types are derived (partially) on the basis of transport mode, it is obvious that transport choices differ among types (Table 31). The rental car was by far the dominant transport mode for FITs. The private car was prevalent among home visitors, but it was also an important transport mode among FITs and Camping tourists. The latter were also frequent users of campervans (by definition).

**Table 31**  
**Transport Modes Used to Travel to Rotorua by Tourist Types**

	Coach Tourist	FIT	Backpacker	Camping Tourist	Home Visitor
Rental car	-	44.3%	19.1%	22.7%	10.5%
Private car	6.7%	25.9%	10.6%	20.5%	59.6%
Tour coach	80.0%	9.4%	27.7%	2.3%	15.8%
Scheduled/ shuttle bus	4.4%	11.3%	35.1%	4.5%	5.3%
Campervan	-	.9%	-	50.0%	3.5%
Domestic air	4.4%	4.7%	4.3%	-	5.3%
Other	-	2.4%	3.2%	-	-

Similarly to the Christchurch case study it is useful to distinguish between transport costs on a daily basis, for example for a rental vehicle, and those that occur specifically in Rotorua such as a taxi ride. The latter had been recorded as distinct activities in the 24-hour budget. In the case of Rotorua it was somewhat difficult to distinguish local buses from InterCity buses, when tourists reported “bus” as an activity within Rotorua. When tourists reported that they used a bus and the cost was substantial (e.g. \$40) it was assumed that this was more likely related to travel costs to or from Rotorua (rather than within Rotorua). These costs were treated as a daily, ‘running’ cost, just as in the case of rental vehicles or coach passes.

The transport behaviour in Rotorua is shown in Table 32, and daily ‘running’ transport costs are presented in a row at the bottom of the table.

In contrast to Christchurch, most tourists used some form of motorized transport in Rotorua while only 17% of all tourists reported walking as an activity.

**Table 32**  
**Transport Modes within Rotorua and Running Cost per Day by Tourist Type**

	<b>Coach Tourist</b>	<b>FIT</b>	<b>Backpacker</b>	<b>Camping Tourist</b>	<b>Home Visitor</b>	<b>Total</b>
Walking	-	12.7%	47.9%	2.3%	8.8%	17.3%
Scheduled/ shuttle bus	-	3.8%	12.8%	-	1.8%	4.6%
Private car	6.7%	25.9%	7.4%	20.5%	70.2%	25.2%
Rental car	-	45.3%	19.1%	20.5%	12.3%	28.8%
Tour coach	82.2%	2.8%	4.3%	-	1.8%	10.6%
Campervan	-	.9%	1.1%	50.0%	-	5.5%
Other	2.2%	2.4%	-	-	-	1.3%
Bicycle	-	-	1.1%	2.3%	-	.4%
n.a.	4.4%	1.4%	1.1%	-	-	1.3%
Mean daily cost	\$63.5*	\$26.1	\$33.5	\$45.9	\$12.6	-

\* In a few instances this price has been derived through package tour prices and may in some cases contain costs for accommodation and other services; it is therefore likely to be inflated.

## **4.3 Calculating Yield**

### **4.3.1 Private Sector Yield**

As in the Christchurch case study, expenditure categories from the tourist survey were matched with ANZSIC codes and specific yield coefficients (see that section for more detail). Table 33 shows the average spending per tourist type in each of the ANZSIC codes as well as the total spending per day. Three indicators are used to assess the yield of different tourist types. These are Value Added (VA), Free Financial Cash Flow (FCF) and Economic Value Added (EVA).

Coach tourists were the greatest spenders on a daily basis (\$234), whereas home visitors spent least (\$99). The other three tourist types were comparatively similar in their overall daily expenditure.

From the perspective of the commercial sector, by far the highest income ((\$75.53 value added) per day is earned from coach tourists, who provide 25 per cent more value added than FITs (\$59.82), almost twice as much as campers (\$38.44) and backpackers (\$35.49) and more than three times as much as home visitors.

When FCF is calculated for the tourist types, it turns out that the FITs generated most FCF (\$18.22 per day), just slightly more than the other tourist types (around \$16 per day), except the home visitor who only generates a FCF of \$9 per day. This reversal of rankings between coach visitors and FITs when shifting from VA to FCF is due to FITs using accommodation with lower operating costs and better net returns to capital. It is also positively influenced by

FIT's spending on rental motor vehicles, compared with coach tourists' spending on long distance coaches.

The EVA differs substantially among the tourist types. In all cases, the EVA is positive, which means that the revenue generated by tourist expenditure does provide sufficient net income to cover the opportunity cost of assets, assessed at 5.7 percent of total asset costs per annum. This differs from Christchurch where the coach tourist and the home visitor generated a negative EVA. The key difference is tourists' high spending on recreational activities, which are associated with a high yield and therefore lift the overall EVA of each tourist type. The largest EVA is generated by backpackers (\$4.47) as a result of their high spending on recreational activities, medium spending on rental motor vehicles and also their stay at the higher yielding backpackers accommodation.



**Table 33**  
**Average Expenditure and Yield Per Day in Rotorua by Tourist Type for Different ANZSIC Codes**

Code from the Survey	ANZSIC	Industry	Coach	FIT*	Back- packer	Camping	Home Visitor**	Comments
Supermarket, self catering	G511010	Supermarkets	\$1.23	\$4.81	\$19.26	\$18.80	\$9.19	
Take away	G5125xx	Takeaway Food	\$1.33	\$0.68	\$1.79	\$2.45	\$1.68	
Souvenir shopping	G521000	Department Stores	\$7.31	\$1.94	\$1.75	\$0.00	\$10.09	Department stores: surrogate for other souvenir shopping
Shopping, Exploring, Organising, Phone, Post, Internet, Other		Retail not elsewhere specified	\$2.88	\$6.89	\$10.17	\$4.80	\$12.17	
Car usage	G532100	Automotive Fuel Retailing	\$2.93	\$4.20	\$2.80	\$3.75	\$4.05	Some of the expenditure for "car" refers to parking, most of which is income for the Council
Hotel	H571010	Hotels (Accommodation)	\$80.00	\$51.48				It was assumed that all coach tourists stayed at hotels, costs were taken from the Christchurch sample
Motel	H571020	Motels and Motor Inns		\$46.21				
B&B, farmstay/ hosted accommodation, private homes	H571030	Hosted Accommodation		\$5.18			\$11.32	
Backpacker	H571040	Backpacker and Youth Hostels			\$25.42			It was assumed that all backpackers stayed at hostels
Camping	H571050	Caravan Parks and Camping Grounds				\$25.90		
Apartment	H571090	Accommodation nec		\$24.34				
Drinks	H572000	Pubs/ Taverns and Bars	\$0.73	\$0.70	\$1.93	\$0.75	\$1.16	
Café and Eating out, Socialising	H573000	Cafes and Restaurants	\$8.07	\$3.86	\$1.87	\$1.39	\$1.90	
Tour coach, bus	I612100	Long Distance Bus & Rail Transport	\$63.50	\$4.87	\$11.66			Assumed for coach tourists
<b>Code from the survey</b>	<b>ANZSIC</b>	<b>Industry</b>	<b>Coach</b>	<b>FIT*</b>	<b>Back-</b>	<b>Camping</b>	<b>Home</b>	<b>Comments</b>



					<b>packer</b>		<b>visitor**</b>	
Taxi and shuttle bus	I612300	Taxi and Other Road Passenger Transport	\$0.50	\$0.32	\$0.24	\$0.00	\$0.00	
Campervan and rental car	L774100	Motor Vehicle Hiring		\$21.97	\$6.01	\$53.98	\$10.93	Used for those who were allocated 'running costs' for a rented vehicle
Visiting	P923x00	Zoos, Botanic Gardens, Recreational Parks and Gardens	\$0.02	\$0.07	\$0.06	\$0.09	\$0.08	In some cases visits referred to visiting a person or an unidentified attraction
Adventure experience, Agrodome, Boat trip, Entertainment, Gondola, Maori experience, Movies, Rainbow Springs, Polynesian Spa, Paradise Valley, Sports, Thermal activities	P93xxxx	Racing, Gaming, Gambling, Sports nec and All Other Recreation Service	\$65.72	\$45.17	\$48.06	\$30.81	\$35.18	
<i>TOTAL average Expenditure/day (\$)</i>			234.21	198.35	131.02	142.73	97.76	
<i>Value Added (\$)</i>			75.53	59.82	35.49	38.44	23.99	
<i>Free Financial Cash Flow (\$)</i>			16.80	18.22	12.61	16.52	8.72	
<i>Economic Value Added (\$)</i>			0.64	1.04	4.47	3.40	2.15	

### 4.3.2 Public Sector Yield

Tourist attractions in Rotorua are largely of a commercial nature and the most significant public sector attraction is the Rotorua Museum of Art and History. Total visitor numbers in 2006 were 101,286 (Rotorua District Council, 2006: 93). Of these, 86,147 or 85 percent were non-residential (i.e. paying) visitors (Donovan, 2006). The gross ‘visitor cost’ is estimated to be \$2,009,000 per year (figures rounded). Dividing the latter figure by 86,147 non-local museum visitors gives \$23.33 per visit. The gross cost is partially offset by admission fees of \$11 per adult, \$5 per child, \$25 per 2 adult family or \$15 per 1 adult family<sup>20</sup>. In 2006, total admission fees accounted for \$610,937 of revenue, or \$7.09 per paying entrant (Rotorua District Council, 2006: 93). It appears logical to attribute 100 percent of admission fees and 85 percent of other revenues to tourists (those include e.g. revenue from café). That gives gross tourism revenue of \$878,000 (figures rounded). Hence, the net tourist cost is \$1,131,000. Disregarding the admission fee price structure, this equates to a net cost of \$13.13 per tourist. We do not have information on average group size or price for group entries.

Although the likelihood of visitation per day to the Rotorua Museum differs by tourist type<sup>21</sup> the difference is not significant (ANOVA has not been significant:  $F = 0.241$ ,  $df = 447, 4$ ,  $p = 0.915$ ). For this reason no further analysis of museum yield by tourist type is undertaken.

The Rotorua information centre (I-Site) is sponsored by the Council at a net cost of \$200,000 per year. In 2005, 950,000 people visited the visitor centre (Rotorua District Council, 2006: 103). Consequently, an average cost of \$0.21 per visit can be derived. Backpacker tourists were the most likely to visit the I-Site in Rotorua (40% of backpackers visited); whereas coach tourists were the least likely (2%). Camping tourists and home visitors were slightly more likely (23% each) to visit than FITs (16%). These differences are statistically significant (ANOVA  $F = 8.478$ ,  $df = 447, 4$ ,  $p < 0.001$ ). The resulting cost to the council per tourist-day is as follows:

- Coach tourist: negligible
- FIT: \$ 0.04
- Backpacker: \$ 0.08
- Camping tourist: \$ 0.05
- Home visitor: \$ 0.05

## 4.4 Satisfaction and Motivation

### 4.4.1 Overall Satisfaction

Coach tourists were the most satisfied tourist types, whereas backpackers and camping tourists were the least satisfied with their stay in Rotorua (Table 34). The differences, however, are small and not statistically significant (ANOVA:  $F = 1.288$ ,  $df = 431, 4$ ,  $p = 0.274$ ). The same pattern applies to the measurement of “satisfaction exceeded expectations”. Here the differences between tourist types are statistically significant (ANOVA:  $F = 3.764$ ,  $df = 429, 4$ ,  $p = 0.005$ ).

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<sup>20</sup> [http://www.rotoruanz.com/rotorua\\_museum/admission.htm](http://www.rotoruanz.com/rotorua_museum/admission.htm)

<sup>21</sup> On average, out of 100 visitors of each type, 16 coach tourists, 14 FITs, 13 backpackers, 18 camping tourists and 12 home visitors would visit the museum.

**Table 34**  
**Satisfaction Ratings by Different Tourist Types**

	N	Satisfaction			Exceeded Satisfaction		
		Mean	Min	Max	Mean	Min	Max
Coach Tourist	98	6.23	5	7	6.14	4	7
FIT	389	6.21	3	7	5.91	3	7
Backpacker	286	6.01	4	7	5.70	4	7
Camping Tourist	70	6.02	3	7	5.41	2	7
Home Visitor	163	6.09	4	7	6.04	2	7
Total	1006	6.14	3	7	5.86	2	7

The friendliness of the people in Rotorua received the highest satisfaction ranking (see Appendix B), followed by Maori experiences in general and Te Puia in particular. The geothermal reserves and the information centre were also ranked highly. Public transport services, the range of shopping opportunities, the quality of restaurants and parking facilities were the least satisfying attributes in Rotorua.

The differences in satisfaction ranking between tourist types were not large (Table 35). Statistically significant differences ( $p < 0.05$ ) were found for the quality of accommodation, attractiveness of the city, safety from crime, Rotorua Museum, lakefront and shopping opportunities. Camping tourists seemed the one tourist type that tended to be less satisfied with Rotorua's attractions and services compared with other types. For example, camping tourists were less satisfied than other types with the Rotorua Museum, the lakefront and accommodation. They also felt least safe from crime. Coach tourists, in contrast, were most satisfied with the general attractiveness of Rotorua (along with home visitors) and with its shopping opportunities.

As in Christchurch, camping tourists appeared to be the most sensitive towards crowding, and coach tourists felt least crowded.

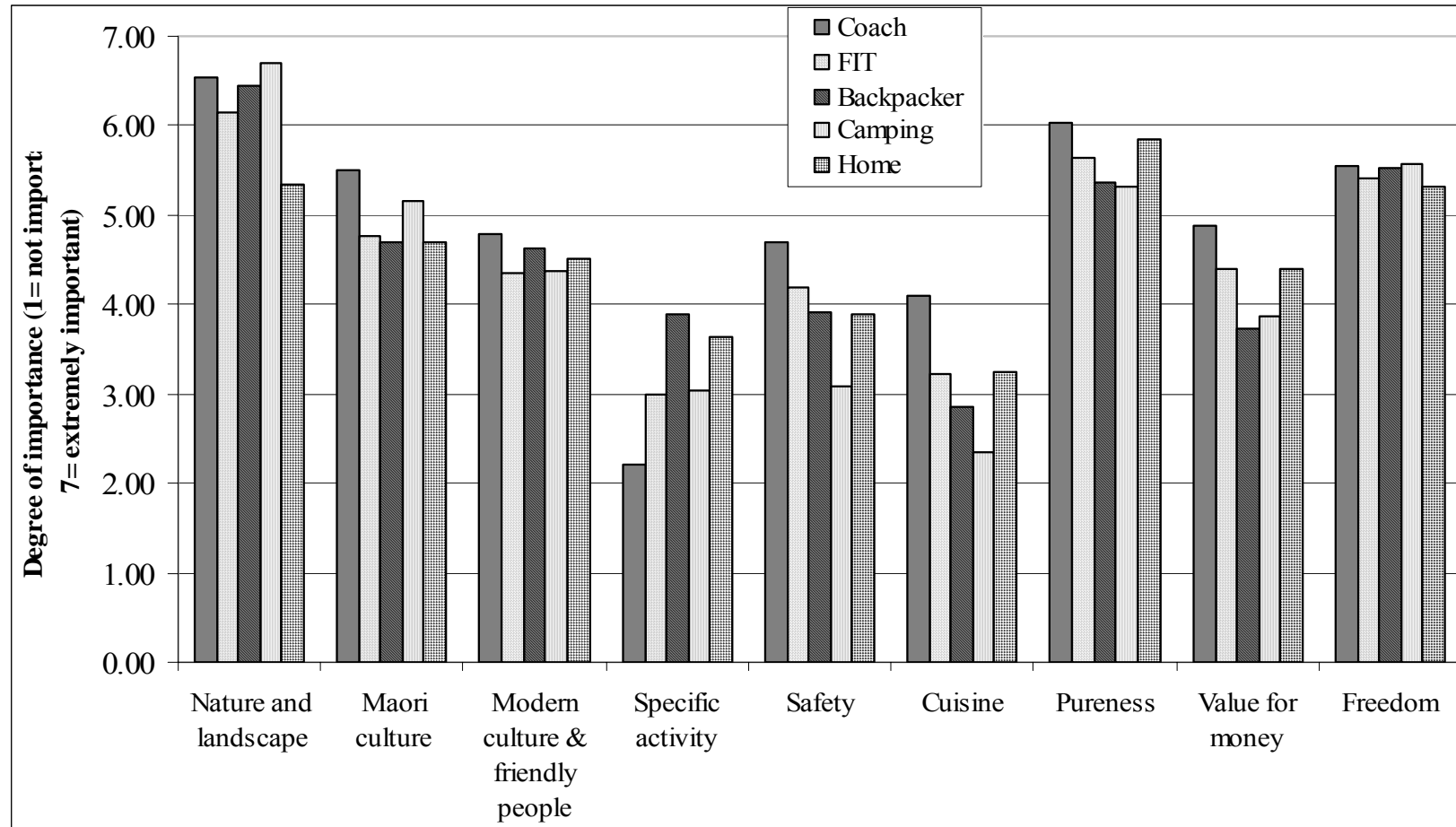
**Table 35**  
**Satisfaction with Aspects of Rotorua by Tourist Type**

Satisficer	Coach Tourist	FIT	Back-packer	Camping Tourist	Home Visitor	Total
Uncrowdedness	6.0	5.9	5.8	5.4	6.0	5.9
Information centres	6.3	6.4	6.2	5.9	6.3	6.3
Restaurants	5.8	5.5	5.8	5.8	5.9	5.7
Quality of accommodation	6.4	6.0	5.4	5.4	6.5	5.8
Conference facilities	6.0	5.9	5.3	.	6.5	5.9
Attractiveness of the city	6.4	5.8	5.5	5.7	6.3	5.8
Variety of rural landscape	6.5	6.2	6.1	6.2	6.3	6.2
Quality of road signage	6.1	5.9	5.5	5.7	5.7	5.8
Availability of parking	5.7	5.7	5.7	6.0	5.4	5.7
Quality of public transport services	6.0	5.8	5.4	.	5.3	5.6
Friendliness of locals	6.7	6.4	6.3	6.5	6.4	6.4
Public toilets	5.8	6.1	5.9	6.2	5.9	6.0
Environmental management	6.2	6.1	6.1	6.0	6.2	6.1
Safety from crime	6.6	6.3	6.1	6.0	6.1	6.2
Quality of airport facilities	5.7	6.1	6.2	6.0	5.4	5.9
Maori Te Puia	6.4	6.4	6.0	6.7	6.3	6.3
Rotorua Museum	6.2	6.4	6.1	5.3	6.5	6.2
Lakefront	6.0	6.0	6.0	5.6	6.6	6.1
Thermal Pools	6.0	6.4	5.9	5.9	6.3	6.2
Geothermal Reserves	6.3	6.3	6.0	6.7	6.4	6.3
Maori experience	6.5	6.3	6.4	6.0	6.2	6.3
Nature walks	5.8	6.2	6.0	6.3	6.3	6.1
Shopping opportunities	6.4	5.4	5.6	6.0	5.8	5.6

#### 4.4.2 Motivations to Visit

As in the case of the Christchurch sample, the motivations to visit New Zealand were quite different for the five tourist types (Figure 3). This information was only collected from international tourists. Camping tourists were most driven by experiencing New Zealand's nature, whereas home visitors considered this less important as a driver. Backpacker tourists were the type that was most likely to be driven by undertaking a specific activity, whereas coach tourists stood out in that they considered safety and experiencing local cuisine as more important drivers than other types. Value for money was also more important to coach tourists than to other tourist types. The freedom to travel was a very important driver to all tourist types.

**Figure 7**  
**Drivers to Visit New Zealand by Tourist Type for Visitors to Rotorua**



## **Chapter 5**

### **International Visitor Survey – Tourist Type Analysis**

It was considered useful to analyze tourist behaviour at a national level that is likely to have ramifications for private and public sector yield. This includes, for example, expenditure, transport behaviour and visitation to natural assets. No detailed yield analysis will be undertaken, mainly because more detailed data on public sector yield would be required to provide valid estimates of yield associated with different types. The national level analysis will therefore mainly provide background information that allows a qualitative assessment of yield dimensions.

#### **5.1 Deriving Tourist Types**

The International Visitor Survey is compiled in two databases. One provides information on each tourist and their trip (trip database), for example length of stay, date of arrival, expenditure and so forth. The other database compiles detailed information on the tourist itinerary (itinerary database); that is travel from the airport of arrival to the point of departure, whereby each overnight stop-over and stops longer than one hour are recorded as a separate data entry. For each data entry, transport and activities are recorded and for over-night stops accommodation is reported as well. Tourist types were derived from the itinerary database as information on transport and accommodation is required to determine the tourist type.

Several recoding steps were undertaken. First, all data entries that contained “coach” as transport mode were coded as coach tourist. Because some tourist reported coach even though they had used the transport modes “backpacker bus” or “intercity bus”, this variable was checked against travel style (i.e. fully packaged). Second, rental car users were coded as free independent travelers (FITs) and users of campervan tourists were coded as “camping tourists”. Following this, tourists who stayed in backpacker accommodation were classified as backpacker tourist. This overrode the earlier coding, which means that someone who had used a rental car but stayed in backpacker hostels was classified as a backpacker. Similarly, tourists who stayed at camping grounds (or similar accommodation) were classified as camping tourists. Finally, those who stayed at non-commercial accommodation and who used a private car were classified home visitors. This process is rather crude and misclassifications are possible, especially when a tourist type displays heterogeneous travel behaviour.

The above procedure classified each travel sector into a tourist type, which means that one individual tourist itinerary – made up of many travel sectors – could yield different types of tourists. For example, someone staying at a relative’s home for a few days would have been classified a home visitor, but if this same person continued to travel by rental car then they were coded as a FIT. Such cases were not rare, but most tourists (about 80%) showed relatively homogenous behaviour and classification was not ambiguous. It is also important to note that those travel sectors that contained no transport mode or where the transport mode was not a tourist-type-specific one (e.g. ferry), were not classified into tourist types. This does not matter in cases where a tourist had sufficient other travel sectors that could be used to identify a particular type, but it does matter where no other information was available and therefore the tourist could not be categorized. This is the case for tourists who visited only one location (for example Auckland), and who reported an unspecified transport mode such as taxi. These cases have been excluded from the tourist type analysis.

Overall, the classification into tourist types should be seen as a proxy with some degree of uncertainty and possibly blurred overlaps between tourist types. A post-survey classification into tourist types would be much easier if tourists had reported their *main transport mode* and their *main accommodation type* (as shown in Becken & Gnoth, 2004), as this leaves the judgment to the tourist as to which of their (multiple) travel styles was the dominant one. The following analysis should be interpreted against those cautionary remarks, but is still considered worthwhile as it enhances the local analyses of Christchurch and Rotorua with a national dimension of tourist behaviour. Table 36 shows the number of travel sectors that were categorized into a type. About one quarter of sectors was not classified; the second largest type of travel is FIT (20.7%) and camping travel sectors are the smallest in number.

**Table 36**  
**Classification of Travel Sectors into Tourist Types**

	Frequency	Percent
Coach	5919	12.4
FIT	9896	20.7
Backpacker	7648	16.0
Camping Tourist	3684	7.7
Home Visitor	8838	18.5
Total	35985	75.3
Missing System	11820	24.7
Total	47805	100.0

The information on tourist type travel sectors was used to classify tourists in the trip database. Depending on the travel sectors, each individual tourist was categorized into at type. As mentioned above, cases that displayed more than one type resulted in an ambiguous classification. The results are shown in Table 37; 14 percent of tourists were not classified as a tourist type.

**Table 37**  
**Classification of Tourists into Types**

	Frequency	Percent
Coach	1140	21.3
FIT	1216	22.8
Backpacker	593	11.1
Camping tourist	157	2.9
Home visitor	1490	27.9
Total	4596	86.0
Missing System	746	14.0
Total	5342	100.0

## 5.2 Comparison of Tourist Types

The five tourist types differ significantly in their travel behaviour. As in the study of tourists in Christchurch and Rotorua, backpacker tourists were the longest staying tourist type, while

coach tourists stayed shortest (Table 38). The means are biased by a smaller number of very long staying tourists. The average length of stay of all tourists was 27 days in 2005.

The average total spending for the trip in New Zealand by all tourist types was NZ\$3754. There were no statistical differences between tourist types. Home visitors have a higher average spending, but the large standard deviation shows that this is due to a few outliers with extremely high spending.

Coach tourists have the largest amount of pre-paid spending, followed by camping tourists (probably typically for the rental fee of a campervan). The more money is prepaid in tourists' country of origin, the lower the benefit to New Zealand, as prepaid money usually involves commission (between 10 and 35%) paid to agents operating overseas. The other tourist types, FITs, backpackers and home visitors are more characterized by high spending whilst in New Zealand. This is considered more beneficial. The differences between the tourist types in terms of pre-paid spending and spending in New Zealand are statistically significant.

On a daily basis, coach tourists are the highest spenders with \$421 per day. This national average confirms the results of the two case studies, where coach tourists were coach tourists spent most among the tourist types. The spending by home visitors' in the IVS is strongly influenced by some extreme spenders. In fact, in the 2005 IVS sample, there were 10 tourists who reported expenditure over \$100,000; all of them were classified as home visitors. It is likely that this expenditure is associated with the purchase of property.

**Table 38**  
**Length of Stay and Spending Behaviour by Tourist Types**

	Nights in NZ from IVS (Mean)	Total spend for Trip to NZ (excl. airfare) Mean	Pre paid Spend for Trip to NZ	NZ Spend	Night (Total/ Nights)*
Coach	16	3577	1851	1726	421
FIT	24	3311	843	2468	234
Backpacker	51	3581	729	2852	127
Camping tourist	27	3336	1366	1970	175
Home visitor	29	4363	466	3898	285
Total		3754	974	2780	281

\* Spend per night is derived for each individual tourist and then averaged, this is different from the volumetric average that would be obtained if dividing the second column by the first.

ANOVA test for significance:

- Nights in NZ number:  $F = 65.775$ ,  $df = 4591, 4$ ,  $p < 0.001$
- Total spend:  $F = 0.778$ ,  $df = 4591, 4$ ,  $p = 0.540$
- Pre paid spend:  $F = 56.071$ ,  $df = 4591, 4$ ,  $p < 0.001$
- NZ spend:  $F = 3.065$ ,  $df = 4591, 4$ ,  $p < 0.016$
- Spend per night (Total/Nights):  $F = 4.363$ ,  $df = 4591, 4$ ,  $p < 0.002$

### 5.2.1 Travel Distance

Travel distance was calculated for each tourist type by adding up travel sector distances (tourist type coded sectors) for different transport modes. The values presented in Table 39 show average distances per tourist trip. These values are an underestimate of the true travel distance, as only those travel sectors could be used in the analysis that were classified as a tourist type.



Coach tourists are by far the largest user of air transport; whereas camping tourists clearly dominate road travel. Home visitors travel the least distance. Transport modes other than air and road (most notably train and ferry) are most important for backpacker tourists with 137 km on average per trip.

Information on travel distance can be used to assess environmental costs associated with each tourist type. The more travel the greater the energy use and the amount of greenhouse gases emitted. Air travel has a greater impact than road transport. There are other external costs associated with road transport, such as local air pollution, traffic congestion and accidents.

**Table 39**  
**Travel Distance per Visit by Air, Road and Other for Different Tourist Types**

	<b>Flight Distance</b>	<b>Road Distance</b>	<b>Other Distance</b>	<b>Total</b>
Coach	513	1921	77	2511
FIT	254	2144	50	2448
Backpacker	267	2495	137	2899
Camping tourist	139	2966	13	3118
Home visitors	204	701	10	915
Total	300	1694	54	2048

### 5.2.2 Interactivity

The propensity of being an “interactive traveler” differs significantly for the five tourist types (Chi-Square Tests:  $X^2=180.54$ ,  $df=4$ ,  $p<0.001$ ). Coach tourists are the least interactive, whereas FITs, backpackers and camping tourists tend to be quite interactive, according to Tourism New Zealand’s measurement (Table 40). This is largely driven by the fact that coach tourists like everything to be organized, which relates to one of the measures of interactivity.

**Table 40**  
**Interactivity by Tourist Type**

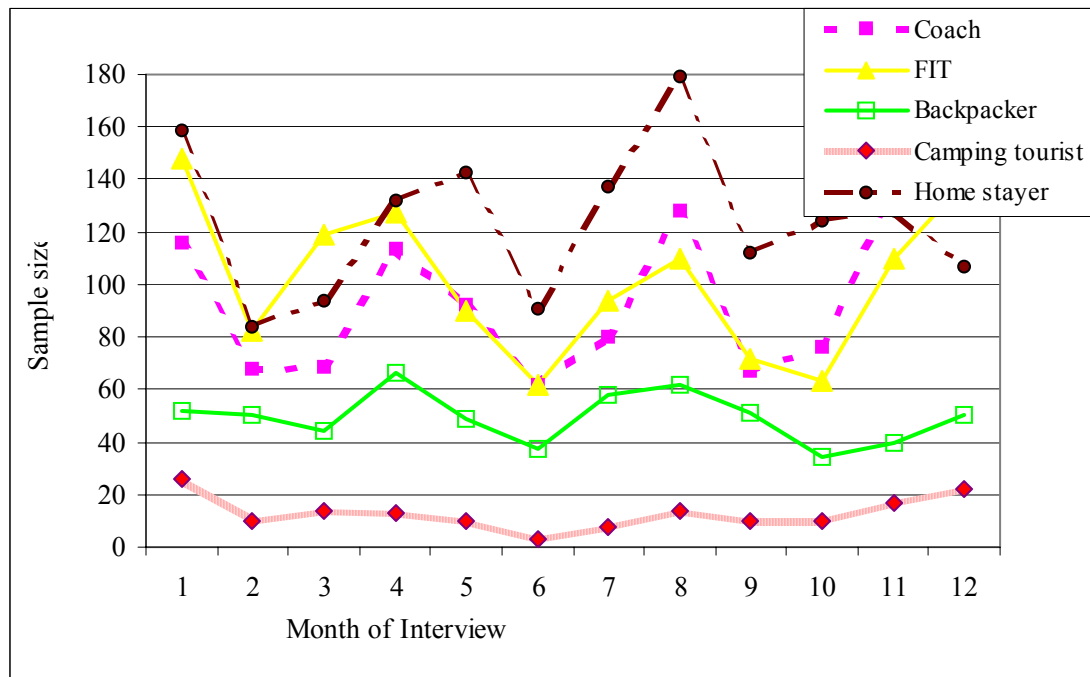
	<b>Not Interactive</b>	<b>Is Interactive</b>
Coach	590	550
FIT	372	844
Backpacker	179	414
Camping tourist	36	121
Home stayer	699	791
Total	1876	2720

### 5.2.3 Seasonality

The departure numbers (sample size) for each month were compared for the five tourist types to assess whether differences occur in terms of seasonal visitation. A Chi-Square Test proved to be statistically significant ( $X^2 = 111.26$ ,  $df= 44$ ,  $p< 0.001$ ), which means that there are seasonal departure patterns. Note that for long-staying tourists, the departure month is less meaningful as they may have stayed for many months before this date. This assessment of seasonality is very crude and should only be interpreted as a first attempt to compare tourist types arrival patterns. Further more detailed analysis into seasonality is recommended.

As can be seen in Figure 4, backpacker tourists' seasonality is less pronounced than that of other types. Home visitor's departures are strongly peaked around January and August. Camping tourists' peak travel time are the summer months of November, December and January. Coach tourism is characterized by a number of peaks, particularly around Christmas, Easter and in August. This correlates with holiday periods in the source countries.

**Figure 8**  
**Sample Sizes for Each Departure Month by Tourist Type**



#### 5.2.4 Satisfaction Measures

The satisfaction with New Zealand is measured through the likelihood to visit again, recommendation of New Zealand to other potential visitors, and through satisfaction ranking directly. The likelihood of repeat visitation differs significantly between tourist types (Chi-Square Tests:  $X^2=331.35$ ,  $df= 8$ ,  $p<0.001$ ), with home visitors being most likely to visit again and coach tourists being least likely (Table 41). This supports the results from the case study areas, where coach tourists were most likely to be first-time visitors compared with the other tourist types.

**Table 41**  
**Likelihood to Visit New Zealand Again by Tourist Type**

	Visit to NZ Again Likelihood		
	Yes	No	Don't Know
Coach	69.3%	11.7%	19.0%
FIT	80.7%	7.5%	11.8%
Backpacker	84.5%	5.1%	10.5%
Camping tourist	76.4%	5.7%	17.8%
Home visitor	95.4%	1.2%	3.4%
Total	83.0%	6.1%	10.9%

All tourists are very likely to recommend New Zealand as a destination, irrespective of tourist type (Table 42).

**Table 42**  
**Recommendation of New Zealand by Tourist Type**

	Recommendation of NZ (only quarters 1 and 2, 2005)		
	Yes	No	Maybe
Coach	94.2%	1.0%	4.8%
FIT	97.3%	0.8%	1.9%
Backpacker	95.6%	1.3%	3.0%
Camping tourist	98.7%	1.3%	
Home visitor	96.6%	0.4%	3.0%
	96.2%	0.8%	3.0%

The ranking of satisfaction was measured on a 5-point scale in the first two quarters of 2005 (with 1 being highly satisfied) and on a 10-point scale for the quarters 3 and 4 in 2005 (with 10 being extremely satisfied). Coach tourists and home visitors were the most satisfied in the first two quarters, but seem less satisfied than average in the second half of 2005 (Table 43). In contrast camping tourists are the most satisfied in quarters 3 and 4. Data from other years would be useful to further assess whether there are differences in satisfaction between tourist types.

**Table 43**  
**Satisfaction Rating by Tourist Type in 2005 for the Quarters 1, 2 and 3, 4**

	Mean Quarters 1, 2 1 = highly satisfied	Mean Quarters 3, 4 10 = extremely satisfied
Coach	1.86	8.33
FIT	1.73	8.66
Backpacker	1.80	8.69
Camping tourist	1.55	9.00
Home visitors	1.86	8.60
Total	1.81	8.57

ANOVA test results:

Q 1,2:  $F=6.05$ ,  $df= 2214, 4$ ;  $p < 0.001$

Q 3,4:  $F=7.07$ ,  $df= 2356, 4$ ;  $p<0.001$

### 5.2.5 Selected Activities Reported in the IVS

Three activities were chosen as relevant in the context of yield analyses for tourist types: tramping, visit to natural attraction and visit to a museum or historical site. These activities are of interest as they are probably in many cases run or managed by the public sector, for example the Department of Conservation.

The tourist types differ in their likelihood of visitation to each of those activities/attractions (Table 44). Backpacker tourists are the most active type with respect to the three selected

activities: out of 100 backpackers, 10 engage in tramping, 11 visit a natural attraction and 14 visit a museum or historic place. Camping tourists are similarly active, but less interested in museums/ historic sites. Home visitors are least likely to engage in any of the three activities. Coach tourists rarely go tramping, but are relatively frequent visitors to natural attractions (9 out of 100).

**Table 44**  
**Number of Participations Among 100 tourists in Tramping,**  
**Visitation to Natural Areas or Museum/Historic Sites by Tourist Type**

	<b>Coach Tourist</b>	<b>FIT</b>	<b>Backpacker</b>	<b>Camper</b>	<b>Home Visitor</b>
Tramping	2.7	4.2	9.7	9.5	2.4
Natural attraction	9.4	8.3	11.0	10.1	4.4
Museum/ Historic site	8.8	8.3	14.1	7.5	8.7



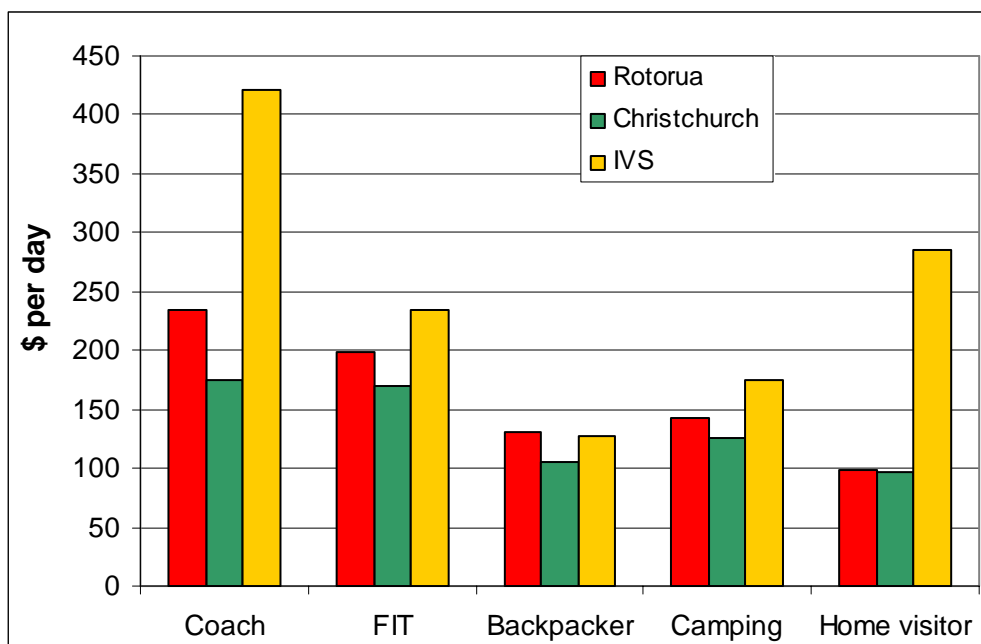
## Chapter 6

### Discussion

#### 6.1 Financial Yield

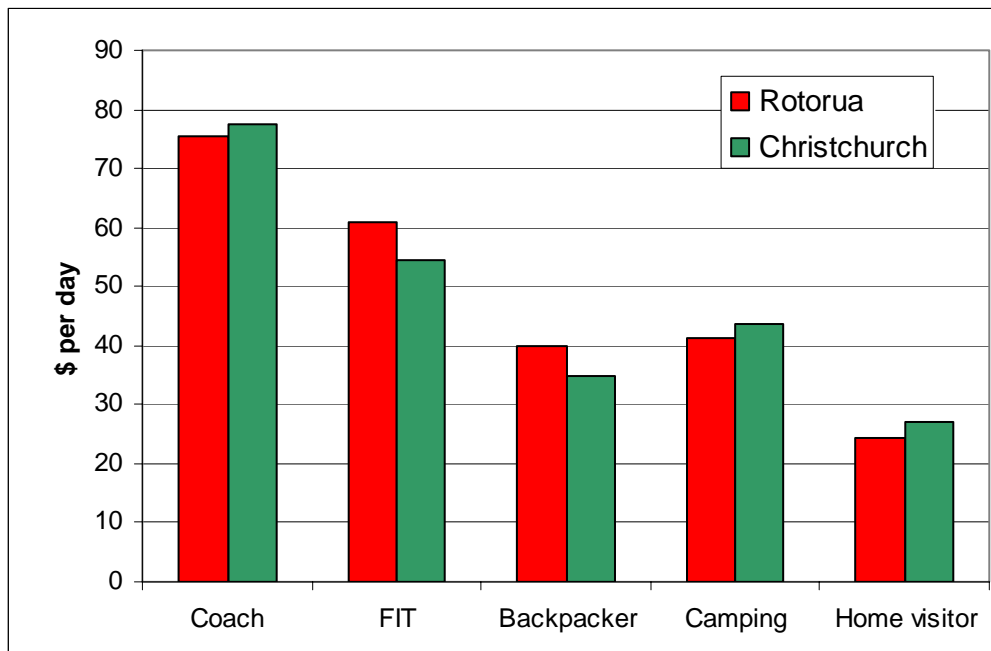
Both case studies, Christchurch and Rotorua, revealed very different spending patterns for the five tourist types: coach, FIT, backpacker, camping tourist and home visitor. Differences between the types were, however, broadly consistent for the two case studies. Results showed that the coach tourist is the highest spending type when measured on a 24-hour basis; FITs are the second highest spender (Figure 5). Home visitors spent least, while camping and backpacker tourists were medium spenders. The average daily spending as measured in the IVS is substantially higher for the coach and home visitors compared with the case study analyses. This is likely to be related to trip-related spending that occurs before arriving in New Zealand, for example package costs for coach tourists or educational fees for home visitors. The spending of the other three tourist types is consistent between the IVS and the case studies.

**Figure 9**  
**Expenditure per Day Based on the Yield Visitor Surveys in Christchurch and Rotorua, and on the IVS data.**



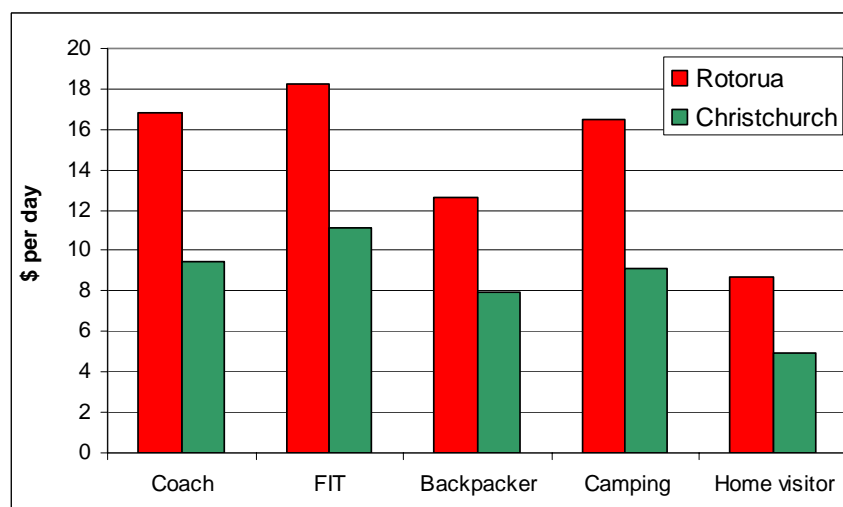
The above ranking of tourist types remains the same for the measurement of Value Added (Figure 6). There are differences in the proportion of a tourist's expenditure that is value added to tourism. For example, 31 percent of a coach tourist's expenditure in Christchurch is VA (32% in Rotorua), compared to only 22 percent for a home visitor (25% in Rotorua).

**Figure 10**  
**Value Added per Day for the Different Tourist Types in Rotorua and Christchurch**



The ranking changes, however, when the measures of Free Financial Cashflow (Figure 11) and Economic Value Added (Figure 7) are derived. These measures have a focus on the capital deployed by tourism firms. FCF (i.e. the net profit after tax but before interest) generation is highest for FITs, followed by coach tourists. Camping tourists generate more FCF than Backpackers in both case studies. The differences between Rotorua and Christchurch are substantial. This is largely driven by spending in the recreational sector. In both case studies, home visitors only generate modest amounts of FCF.

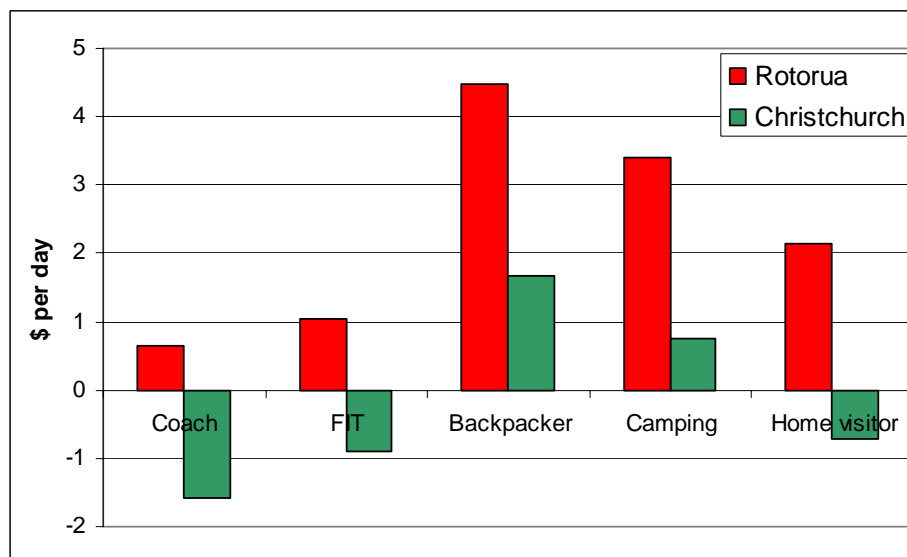
**Figure 11**  
**Free Financial Cashflow Generated by Tourist Types in Rotorua and Christchurch**



The ranking changes again when EVA is considered, that is the residual income after accounting for the cost of capital (at 5.7%). Here, backpackers stand out as very high-

yielding in Rotorua and they also generate a positive EVA in Christchurch (Figure 8). The reason for this is that backpackers spend their money in industries (following the ANZSIC codes) that are characterised by higher-than-average financial yield, for example youth hostels, recreational activities, pubs and taverns and also the retail sector. The positive EVA associated with camping tourists is consistent across the two case study areas. Camping tourists spend a substantial amount on rental vehicles, which are associated with a comparatively high yield. The picture is more mixed for coach tourists, FITs and home visitors, who generate positive EVA in Rotorua and negative EVA in Christchurch. Much of coach tourists' spending in Christchurch is on hotels and coaches, both of which result in a negative EVA. In Rotorua, however, coach tourists spend on average \$66 on recreational activities, which influences their EVA positively. This compares to a spending on recreational activities of only \$10.50 in Christchurch.

**Figure 12**  
**Economic Value Added Generated by Tourist Types in Rotorua and Christchurch**



It becomes clear that financial yield in a specific destination is strongly associated with tourist consumption patterns. For example, more expenditure was directed towards shopping (i.e. the retail sector) in Christchurch than in Rotorua, possibly because tourists in Rotorua did not have time left to engage in shopping in addition to all the activities they have undertaken. The allocation of spending has significant impacts on EVA. Both retail and recreational activities have comparatively high financial yield. This means that destinations that extract money from tourists in those categories will generate higher EVA. However, destinations that largely rely on the accommodation, long-distance coach transport and air travel industries will be characterised by lower EVA across all types. In this context, it would be interesting to study EVA by tourist types in Auckland.

Expenditure data from the 2005 IVS shows that there are no differences in total spending per trip for the tourist types; however, given the above case study analyses it is likely that FCF and EVA generated by tourist types are different (as a result of tourists' allocation of money to different industries), following the same patterns as discussed for Christchurch and Rotorua.



## **6.2 Public Sector Yield**

Christchurch offers a range of tourist attractions that are financed by the council. These are the Botanic Gardens, the Canterbury Museum, the Cathedral, the Art Gallery and the Arts Centre. The Christchurch i-site provides a net contribution to the regions Regional Tourism Organisation. In Christchurch, coach tourists generate the largest cost to the council because of their frequent visitation to the above public attractions. Other tourist types, especially camping and home visitors are less likely to visit those attractions and are therefore benefiting less from publicly available services. In Rotoura, there are not many public attractions that are frequented by tourists. In the case of the Rotorua Museum, no differences could be found between tourist types. The information centre, which is mostly frequented by backpacker tourists constitutes only a minor cost. All other public sector costs (e.g. amenities) and benefits (e.g. revenue from events) are assumed to be spread evenly across types.

The earlier public sector report (Cullen et al., 2005) discussed a range of services provided by central government free of (direct) charge. The visitor facilities and services provided by the Department of Conservation (net cost of \$79 million per annum) constituted the largest cost factor for government agencies. The IVS analysis showed that backpacker and camping tourists are most likely to go tramping (probably in a National Park) and visit natural sites; it is therefore plausible that these two types are contributing more to DOC's cost than other types. However, further analysis of the cost structure of different kinds of DOC facilities – for example front versus backcountry – might be useful. It is possible that certain tourist types systematically visit higher-cost facilities. More frequent visitation of backcountry areas is also likely to be associated with a higher contribution to costs incurred by Search and Rescue. Home visitors and coach tourists visit natural places least often and are therefore likely to be contributing less to these costs.

Museums are often associated with costs to the public sector. Backpackers are by far the most frequent visitors to museums and historic sites (not in Christchurch though) and are likely to have a higher share of costs than other types. Again, more detailed analysis would be useful, for example by studying the visitor profile of visitors to Te Papa, the National Museum (financed by the public sector).

Other public sector costs (e.g. for research or marketing) were treated as being evenly spread across tourist types, although it is likely that there are systematic differences between tourist types.

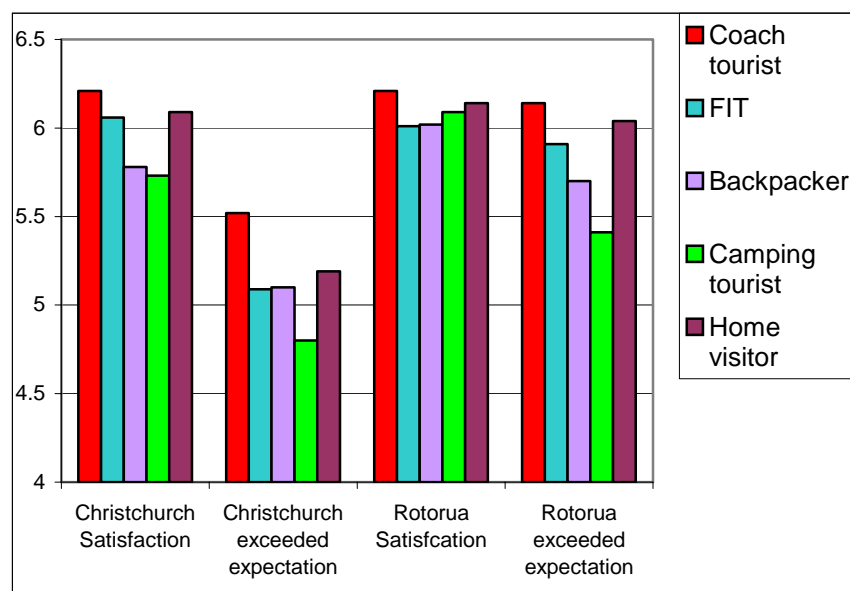
## **6.3 Sustainable Yield**

Sustainable yield includes costs and benefits to society that are not captured by economic transactions. These are also called external costs (or benefits). Travel distance can be used as one proxy for environmental costs from transport. Camping and backpacker tourists travel the greatest distance, but coach tourists are the most frequent user of air travel with implications for greenhouse gas emissions. Road transport also contributes to external costs such as

congestion, local pollution and accidents<sup>22</sup>. These external costs are comparatively low for air travel.

- Another aspect of sustainable yield is visitor satisfaction. Responses to the questions on satisfaction and expectations provided a very positive picture in both case study areas, as well as for New Zealand as a whole (IVS). Indeed, the very high satisfaction ratings given by most tourists to most parts of these questions make it difficult to identify any areas needing improvement. While levels of satisfaction are always difficult to interpret (because respondents almost invariably gravitate towards the higher end of the spectrum, unless they have had a notably bad experience), averages which are generally in the 5.5 – 6.5 range on a 7 point scale suggest that there is a high degree of satisfaction with what was found, and a high proportion of people had levels of satisfaction which exceeded their expectations. Both these factors bode well for the sustainability of tourism from the perspective of market demand.
- Satisfaction levels were slightly higher in Rotorua and the experience seemed to exceed expectations more in Rotorua compared with Christchurch across all tourist types (Figure 913). In both case study areas, coach tourists were the most satisfied; whereas camping tourists were the least satisfied. Backpacker tourists were slightly less satisfied in Christchurch compared with Rotorua and the ranking on “satisfaction exceeded expectations” was quite low for backpacker tourists in Christchurch, too. It is important to stress that satisfaction was high in both case study areas, but maybe tourists expected that of Christchurch – a major gateway city – and where pleasantly surprised by Rotorua.

**Figure 13**  
**Comparison of Satisfaction Ratings and “satisfaction exceeded expectation” Ratings for Christchurch and Rotorua by Tourist Type**



22 Recent work by Becken “Identifying indicators for managing tourism in the face of Peak Oil” (forthcoming) identifies total travel by country of origin, but not by tourist type. This work could be extended to consider the sustainability of tourism from the perspective of both energy price rises and, by combining it with estimates of traffic externalities (Cullen et al 2005) the effective environmental cost of travel by tourist type could be estimated. Unfortunately almost half the externalities on road travel was related to accidents and congestion, and information on these by tourist type is not available.

As a result of a change in methodology in 2005, the IVS satisfaction data should be treated with caution. However, the IVS indicates that camping tourists are very satisfied, which is in contrast to the case study results. This warrants further investigation. The IVS also shows that all tourist types are likely to recommend New Zealand as a destination; however, coach tourists are less likely to return, whereas home visitors and backpackers are most likely to return.

Responses to the question on motivations yielded expected responses that indicated the continuing importance of New Zealand's natural environment and 'freedom' to tourists. From a national perspective at least, this must be considered the most important factor differentiating New Zealand from destinations in other countries. In Rotorua, experiencing Māori culture was also important and appreciated. This was most evident for coach tourists; who generally seem to provide the greatest potential for cultural tourism. Camping tourists appeared to be extremely focused on the natural environment. From the perspective of commercial sustainability in tourism, one encouraging result is that value for money ranks comparatively low among factors driving tourists to come to New Zealand. This may mean that an increase in prices aimed at increasing commercial sustainability of the accommodation sector in particular, is unlikely to significantly affect decisions to come to New Zealand. However an alternative perspective is that visitors already know that New Zealand is not particularly good value for money and hence that is not a reason for visiting. It would be good to explore the issue of pricing through more direct analysis, but little work in this area has been done on price elasticity of demand<sup>23</sup>.

Coach tourists and home visitors are less likely to be "interactive travellers" than the other types, especially backpacker and camping tourists.

## **6.4 Comparison of Case Studies**

The analysis of the case studies and their triangulation with the IVS data showed that there are persistent patterns of difference among tourist types, for example length of stay or purpose of travel. Also, travel behaviours as observed through transport, accommodation and activity choices differ.

However, it also became clear that the actual "manifestation" of a tourist type or travel style depends on the actual destination. The mix of attractions is one important factor that determines what tourists do, how much they spend and how long they stay. Rotorua, for example, is characterised by spread-out commercial attractions (at reasonably high cost) that require motorised travel to reach them. In contrast, Christchurch offers a concentration of public sector places and attractions in the city centre, that invite tourists to "explore" and walk between places. As a result more money is spent on shopping, eating out and having drinks; whereas little is spent on recreational activities (as most of them are free of charge). In Rotorua most tourist spending is on recreational activities, for example Maori performance or thermal attractions. Interestingly, the total daily expenditure by tourist types is very consistent for the two case studies.

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23 Covec produces forecasts of future visitor numbers for the Ministry of Tourism (ongoing). Their modelling work includes some estimates of effects of exchange rate effects, which are a proxy for price changes at a macro level. However, this work is limited. We understand that NZIER has also been contracted to do some work, but this has not yet been released.

The place of a destination within the wider itinerary is also likely to influence actual tourist behaviour. For example, Christchurch is a gateway city and as such tourists spend time on organising their trip, getting information and doing souvenir shopping (before they leave). Also, typical travel behaviour as evident for the rest of the trip might be modified; for example camping tourists tended to stay at a hotel in Christchurch rather than the campground.

The behaviour of the “home visitor” is also influenced by the destination. In Christchurch, the sample contained a number of educational visitors who tended to stay for longer periods of time, whereas in Rotorua home visitors were more often domestic tourists who visited friends or relatives either for the day or for an overnight trip. Accordingly, some of the behaviour (e.g. length of stay at the destination) is very different between Christchurch and Rotorua.

Both case studies have to be interpreted in the context of a sample bias towards English-speaking and freely travelling tourists. In particular, Asian coach tourists were absent from the sample and no statement about their travel behaviour (in relation to other coach tourists) can be gained from this study. Also, the yield measures for coach tourists are associated with great uncertainty as tourists were often only able to report a package price. From the IVS analysis it can be seen that a large proportion of costs are prepaid in tourists’ home country, and little is known about how much remains in New Zealand and how it disperses across different industries.

## **6.5 Synthesis of Yield Assessment**

A summary of the yield indicators is provided in Table 44 in a qualitative way. It becomes clear that each tourist type is associated with benefits and disbenefits. For example, coach tourists generate comparatively high economic activity, however the EVA associated with their consumption is quite low. The EVA could be improved by working with the hotel industry to improve financial yield, but also to encourage coach tourists to spend more in high-yielding industries, for example retail. In Christchurch, coach tourists posed the highest cost to Council as a result of their frequent visitation of free attractions. Coach tourists are also comparatively frequent visitors to natural attractions and museums/historic sites, which is likely to result in costs to Central Government. While the benefits from regional dispersion are lower than from other types, the environmental cost from transport (especially internal air travel) are relatively high. Coach tourists were among the most satisfied tourists.

Table 45 gives some indication of management needs for each tourist type. For example, backpacker and camping tourists’ visitation to natural areas and parks raise questions around the yield associated with public sector land. In addition camping tourists highlight the trade off between regional dispersion and environmental costs as a result of extensive road transport. These issues highlight the conflicting nature of yield when measured on multiple dimensions.

**Table 45**  
**Summary Assessment of the Yield Indicators by Tourist Type**

	Indicators	Coach tourist	FIT	Backpacker	Camper	Home visitor	
Financial Yield	Value Added	+++	++	++	++	+	Driven largely by volume of expenditure
	Free Financial Cashflow	++	+++	++	+++	+	Driven by the spending pattern across industries, e.g. a large amount spent on hotels (financial yield of 4%) results in less FCF
	Economic Value Added	+/- depends on location	++	+++	+++	+/- depends on location	See above comment
Economic Yield	Cost to council	- - -	-	--	--	-	Based on Christchurch, visitation of public attractions
	Cost to Central Government	- -	--	--- Visitation of free entry sites	--- Visitation of national parks	- Low visitation levels	Based on IVS visits to natural attractions, tramping (assumed to be in a national park) and visits to museums/historic sites
Sustainable Yield	Regional dispersion	+	+	+++	+++	Possibly not sufficient data	Based on travel distance
	Environmental impact	--- (substantial air travel)	--	--	--- (substantial road travel)	-	Based on travel distance and importance of air travel
	Satisfaction	+++	++	++	+ mixed results	+++	

## **Chapter 7**

### **Conclusion**

When calculated on a per day basis, total income (value added) generated in both Rotorua and Christchurch is highest for coach tourists followed by FITs, Camping tourists, backpackers and finally home visitors. Coach tourists generate around one third more income per day than FITs, almost twice as much as backpackers and campers and three times as much as home visitors.

When calculated on a per visit basis, the picture changes significantly because of the differences in average stay duration. Total income (value added) generated in New Zealand per total visit does not appear to vary significantly between coach tourist, backpackers and campers. FITs generate less income and home visitors generate the least income.

When we consider the EVA figures, i.e. financial benefit over and above the cost of capital, backpackers and camping tourists quite clearly generate the highest net commercial benefit. This outcome is driven by the higher rates of return to capital in backpacker accommodation and for rental vehicles than in other sectors. While the return is not particularly high, for example for backpacker hostels at 6.7 per cent per annum after tax averaged over the period 1999 – 2003, it is higher than the assumed opportunity cost of capital (5.7 %) and considerably higher than the returns in other sub-sectors of accommodation. The EVA of coach tourists is comparatively low and even negative for the Christchurch case study.

When we move beyond the purely commercial returns, backpackers also stand out in that they exhibit the least seasonality in an industry where high seasonality significantly reduces profits and sustainability. Backpackers do not travel significantly greater distances within New Zealand than do other visitors (excluding home visitors), hence imposing no obviously greater traffic externalities and being no less sustainable than other visitor types should energy costs rise significantly. In contrast, camping tourists travel extensively and are likely to impose greater environmental costs as a result of transport. Their visitation is also more seasonal than that of other tourist types. There is some anecdotal evidence that backpackers and possibly camping tourists contribute most strongly to economic activity in peripheral regions and help the visitor industry cope with its endemic shortages of seasonal labour, particularly in isolated destinations (although neither of these factors has been proved statistically).

This research has shown that there are benefits and dis-benefits associated with each tourist type and that different management strategies are required to increase the overall yield of each type. Implications of this research are:

- Tourism yield should be measured by several indicators, not only expenditure
- On an EVA basis, backpackers are the highest yielding type
- Investing in backpacker and camping tourists is likely to impose greater costs on nationally provided public services such as national parks
- Higher shares of coach tourists will result in more greenhouse gas emissions from air transport; growth in camping tourists will produce more greenhouse gas emissions from road transport

- A policy discussion about the conflicting nature of some yield indicators would be required to establish some sort of weighting of the different yield dimensions
- Future marketing strategies could incorporate knowledge on yield by different tourist types

## **Chapter 8**

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## Appendix A

### Christchurch Case Study Details

#### Sampling Locations in Christchurch

**Table 46**  
**Christchurch sample by location of Survey and Gender**

Survey Location	Female	Male	Total
Cathedral Square	328	300	628
Botanic Gardens	51	61	112
Antarctic Centre	31	55	86
Cathedral Junction	29	30	59
Arts Centre	24	22	46
New Brighton Pier	21	17	38
Gondola Base	8	9	17
Art Gallery	7	3	10
Other Sites	14	18	32
Total	513	515	1028

#### Country of Origin, Purpose of Travel and Travel Style

**Table 47**  
**Christchurch sample by region of origin and main purpose**

Origin	Holiday / Leisure	VFR	Business / Conference	Education	Other	Total
NZ	79	32	22	1	11	145
Australia	109	18	13	1	3	144
USA/Canada	119	11	13	5	4	152
UK/Ireland	242	36	4	4	4	290
Other Europe	163	6	8	12	5	194
Asia	29	2	3	24	0	58
Other	29	4	2	7	2	44
TOTAL	770	109	65	54	29	1,027

**Table 48**  
**Number of Visitors on Package Tours by Origin**

Origin	Package		Total
	No	Yes	N
NZ	142	3	145
Australia	118	26	144
USA/Canada	125	27	152
UK/Ireland	243	47	290
Europe	164	30	194
Asia	51	7	58
Other	42	2	44
Total	885	142	1027

## Accommodation Categories Used in Christchurch

**Table 49**  
**Accommodation Used in Christchurch by All Types of Tourists**

Accommodation Type	Percentage		Median nights	
	Domestic	International	Domestic	International
Backpacker / Youth Hostel	11.7	31.5	2	3
Hotel	11.0	24.0	2	2
Motel / Motor Inn	31.7	12.7	3	3
Private home / VFR	26.9	11.8	4	11
Camping / holiday park	3.4	4.1	2	3
B & B	2.1	3.7	1	2
Homestay / Farmstay	-	3.1	-	63
Apartment	1.4	2.8	9	7
All Other	11.7	6.3	32	7

## Transport Modes Used to and Within Christchurch

**Table 50**  
**Modes of Transport to Christchurch for Domestic and International Visitors by all**  
**Types of Tourists**

Origin		Frequency	Percent
International Visitors	International air	372	42.1
	Rental car	141	16.0
	Scheduled or shuttle bus	86	9.7
	Tour coach	58	6.6
	Private car	57	6.5
	Domestic air	54	6.1
	Campervan	45	5.1
	Train	36	4.1
	Cruise ship	25	2.8
	Other	9	1.0
	Total	883	100.0
Domestic Visitors	Private car	58	40.0
	Domestic air	53	36.6
	Scheduled or shuttle bus	14	9.7
	Rental car	7	4.8
	Train	7	4.8
	International air	3	2.1
	Campervan	2	1.4
	Other	1	0.7
	Total	145	100.0

**Table 51**  
**Modes of Transport Within Christchurch by all Types of Tourists**

	<b>International</b>	<b>Domestic</b>	<b>International</b>	<b>Domestic</b>
Walking	431	52	49%	36%
Scheduled or shuttle bus	189	14	21%	10%
Rental car	110	23	13%	16%
Private motor vehicle	67	50	8%	35%
Tour coach	23	-	3%	0%
n.a.	22		3%	0%
Campervan	20	2	2%	2%
Bicycle	10		1%	0%
Other	11	4	1%	3%

## Activities Undertaken by Visitors to Christchurch

**Table 52**  
**Most Frequent Activities and Average Participation by all Types of Tourists**

<b>Activity</b>	<b>N</b>	<b>Proportion</b>	<b>Mean frequency</b>
explore	613	59.6%	1.45
arrived at accommodation	401	39.0%	1.27
self catering	387	37.6%	1.44
eating out	385	37.5%	1.25
relax	361	35.1%	1.39
shopping	324	31.5%	1.26
take away	274	26.7%	1.21
walk	238	23.2%	1.46
cafe	215	20.9%	1.13
bus	214	20.8%	1.47
car	213	20.7%	1.62
sleeping	199	19.4%	1.02
botanic garden	190	18.5%	1.07
catered meal	183	17.8%	1.22
souvenir	171	16.6%	1.18
drinks	151	14.7%	1.15

visit	128	12.5%	1.15
internet	126	12.3%	1.06
i-site	104	10.1%	1.07
tram	89	8.7%	1.20
Arts Centre	87	8.5%	1.01
Cathedral	84	8.2%	1.06
shuttle	80	7.8%	1.04
taxi	76	7.4%	1.13
Antarctic Centre	74	7.2%	1.01
socialising	63	6.1%	1.17
Canterbury Museum	60	5.8%	1.05
Art Gallery	57	5.5%	1.07
sport	49	4.8%	1.14
organising	47	4.6%	1.11
gondola	44	4.3%	1.11
work	44	4.3%	1.32
pickup	37	3.6%	1.03
entertainment	36	3.5%	1.03
phone	30	2.9%	1.07
beach	28	2.7%	1.11
museum	28	2.7%	1.04
movie	25	2.4%	1.00
trip outside study area	24	2.3%	1.29
school	22	2.1%	1.50
tour coach	21	2.0%	1.24
post	19	1.8%	1.05
port hills	17	1.7%	1.06
punting	16	1.6%	1.00
biking	9	0.9%	2.11
adventure experience/boat	5	0.5%	1.00
maori	2	0.2%	1.00

## Satisfaction by region of origin for visitors to Christchurch

**Table 53**  
**Overall Satisfaction for Christchurch (Scale of 1 to 7) by Origin**

Origin	Mean	Mode	% < 4	% > 4
NZ	5.9	6	1.4	89.7
Australia	6.0	6	0.7	93.0
USA / Canada	6.3	7	0	96.0
UK / Ireland	6.0	6	0	94.1
Europe	5.7	6	1.6	93.3
Asia	6.0	6	1.8	87.5
Other	5.9	6	0	90.7

**Table 54**  
**Satisfaction Exceeding Expectations for Christchurch (Scale of 1 to 7) by Origin**

Origin	Mean	Mode	% < 4	% > 4
NZ	5.0	5	3.5	55.5
Australia	5.2	5	0	64.3
USA / Canada	5.3	5	0	59.1
UK / Ireland	5.2	5	3.2	62.5
Europe	4.9	5	5.3	51.9
Asia	5.7	6	0-	80.3
Other	5.3	5	4.7	65.1

**Table 55**  
**Satisfaction Ratings for Christchurch by all Tourists**

<b>Satisfier</b>	<b>Mean</b>	<b>Mode</b>	<b>% &lt; 4</b>	<b>% &gt; 4</b>
Botanic Gardens	6.4	7	0%	98%
Friendliness of local people	6.3	7	1%	97%
Canterbury Museum	6.1	7	1%	94%
Nature Walks	6.1	6	1%	97%
Arts Centre	6.1	7	2%	94%
Usefulness of information centres	6.1	7	3%	91%
Attractiveness of the city	6.0	6	2%	93%
Christchurch Cathedral	6.0	6	2%	93%
Quality of public transport services	6.0	7	2%	91%
Christchurch Art Gallery	5.9	6	5%	90%
Safety from crime	5.9	6	2%	92%
Variety of rural landscapes	5.9	7	5%	87%
Environmental management (e.g. waste)	5.8	6	4%	91%
Quality of accommodation	5.8	6	4%	87%
Restaurants and cafés	5.7	6	3%	90%
Uncrowdedness (not too many people/not too busy)	5.7	6	4%	85%
Public toilets	5.7	6	5%	87%
Quality of airport facilities	5.6	6	3%	87%
Range of shopping opportunities	5.6	5	4%	87%
Māori performance or hangi	5.6	7	7%	80%
Quality of conference or business facilities	5.5	6	4%	82%
Quality of road signage	5.5	6	7%	81%
Availability of parking	5.1	6	18%	69%



**Table 56**  
**Deriving Net Costs per Visit for Different Public Sector Attractions/Services in Christchurch**

Activity	Annual net cost (\$'000)	Basis for net cost (negatives = net benefits)	Visits / year	Basis for visits	Net cost coefficient (\$/instance)	Comment
Christchurch Art Gallery	6140	Net total cost, CCC AR 2004	550434	Total visits, CCC AR 2004	\$ 11.15	Includes costs of maintaining the collection
Canterbury Museum	3120	Net total cost, YR1/2005	513600	Museum, 2004	\$ 6.07	Does not include costs of maintaining the collection, only public operations.
The Arts Centre	4	Net total cost, YR1/2005	1000000	Using mean ratio of surveyed:total tourist visits for Gallery & Museum	\$ 0.00	Visits estimation unreliable, but net cost per visit negligible.
Christchurch Cathedral	240	Net tourist cost, YR1/2005	660000	Total visitors, Cathedral website	\$ 0.36	Assume CCC support is for <i>all</i> visitors, including locals. Implies net tourist cost in Y1/2005 should be reduced.
Christchurch & Canterbury Marketing (excl. I-Site)	2950	Net operating cost, pers. comm. 11/11/06, Ian Bougen, CEO, CCM.	8370000	Total visitors to Canterbury	\$ 0.35	Assumes marketing costs are proportional across all visitor markets
I-Site	-200	Net revenue, pers. comm. 11/11/06, Ian Bougen, CEO, CCM.	940000	Using mean ratio of surveyed:total tourist visits for Gallery & Museum	-\$ 0.21	Visits estimate unreliable. Should be revised using <i>weighted</i> survey data when available.
Botanic Gardens and other "Heritage Parks"	4118	100% Costs for "Heritage Parks" + 20% "Parks Customer Service", YR1/2005	1200000	Total visits to Botanic Gardens, CCC website	\$ 3.43	Total costs differ from those in YR1/2005
Bus	11829	Net cost all users, CCC AR 2004	10941115	Total trips	\$ 1.08	Using average (all users) net subsidy per trip
Parking	-4527	Net revenue from all users, CCC AR 2004	2871495	Total uses, assume same ratio of use:spaces for on-street as for off-street	-\$ 1.58	CCC provides a total 3745 off-street parking spaces with target of 1.75m vehicle uses per year, plus 2400 on-street metered spaces. Est. coefficient implies mean user charge of \$5 per use .

## Explanations

- Art Gallery: The annual net cost is calculated as total cost less total revenue. This is divided by the number of gallery visitors (including locals) to estimate the cost per visitor. As in YR1/2005, no allowance is made for any 'non-use values' of the museum and its collection. If such values do exist, they would lower the net cost attributed to gallery visitors.
- Canterbury Museum: In YR1/2005, net costs of \$3.12 million were accounted for in association with public operations of the museum, while other costs and revenues were associated with the value of a 'public good' generated by the collection (p80). That cost is divided by the total number of museum visitors (including locals) to calculate the cost per visit.
- The Arts Centre has a very low public sector cost, since most of its operations are commercial (YR1/2005). Even if a small subsidy from CCC (which is arguably based on the public good of maintaining heritage buildings) is considered, dividing it by approximately one million visitors (including locals) gives an insignificantly small cost per visitor.
- The Cathedral receives a larger subsidy from CCC. In YR1/2005 this was associated with visitation, however, Christchurch and Canterbury Marketing comment that the subsidy is actually received for heritage reasons (Ian Bougen, pers. com.). An argument against this, is that CCC subsidise heritage values of only a few iconic buildings in the city. Thus the Cathedral's role as a key attraction probably plays at least some part in the Council's decision to provide support. For comparability, the per visitor figure in the table above is calculated by dividing the subsidy by the estimated visitor numbers (including local visitors, but not church-goers)<sup>24</sup>.
- Costs for Christchurch and Canterbury Marketing, excluding the I-Site account for operational expenses for marketing and promotion, as well as CCM's overhead expenses. These total \$2,500,000 (Ian Bougen, pers. com.). That figure is divided by the annual number of visitors to Canterbury of 850,000. It is acknowledged that some of CCM's activities also cover promotion of the South Island in general. The I-Site was accounted for separately, and the operation was estimated to yield net revenue of approximately \$200,000 per annum (Ian Bougen, pers. com.). This figure was divided by an estimate of visits to the I-Site to give a net revenue of 21c per visit. Evidently some visits to the I-Site yield much more revenue than this, while others yield much less or none at all. The revenue is in fact derived from direct sales and sales of tourism services on commission by the I-Site. In the absence of other data, the number of I-Site visits was estimated indirectly from our Christchurch Visitor Survey. We computed ratios of visits recorded in the survey to total visits for both the Art Gallery and the Canterbury Museum, for which we do have reliable estimates of total visitor numbers. These numbers differed significantly, so we divided the I-Sites visits recorded in the survey by their mean value. This gave an estimate of 940 000 visits to the I-Site, which seems reasonable. It is difficult to break down the costs for Christchurch's parks and gardens to identify only those associated with tourism. We assumed that 100 percent of heritage parks (\$3.8 million total) and 20 percent of other parks (20% x \$1.4 million = total \$275,000) had tourism values, giving an adjusted total cost of \$4.1 million in the above table. To derive a cost per visitor, we used CCC's estimate of 1.2 million visits to the Botanic Gardens,

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24 See [http://www.christchurchcathedral.co.nz/visit/visitor\\_statistics.html](http://www.christchurchcathedral.co.nz/visit/visitor_statistics.html)

including visits of locals<sup>25</sup>. As this does not account for independent visits to Hagley Park or visits to other gardens, the derived per visitor cost is probably too high.

- The total subsidy for city bus operations from Environment Canterbury is \$11.8 million (i.e. \$21.6 million - \$9.7 million, YR1/2005). If this is divided by the 10.9 million total bus trips, the subsidy per trip is \$1.08. Applying this value to tourist trips assumes that on average, tourists and locals make bus trips on routes receiving the same overall level of subsidy. Differences in tourist and local bus travel patterns may mean that the real subsidy for tourists is either higher or lower than the value above. We also do not consider the implications of either minimum service requirements or marginal usage. For instance, tourists may simply be 'filling up' buses that would run regardless and therefore have low marginal costs. Conversely tourists may create enough extra load to require additional services, leading to high marginal costs.
- City parking generates \$4.5 million net revenue for CCC. However, we have not found data on the numbers of uses or average charge per use of parking meters and stations. However, CCC have a target of 1.75 million vehicle uses for their 3,745 off-street spaces. Assuming the same ratio of use for 2,400 on-street metered parking spaces, gives an estimated 2.87 million vehicle uses annually. This yields a net revenue per use of \$1.58, which seems reasonable.

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25 See <http://www.ccc.govt.nz/parks/GardenCity/nationsinbloom.asp>

## Appendix B

### Rotorua Case Study Details

#### Sample Locations and Characteristics in Rotorua

**Table 57**  
**Rotorua Sample by Location of Survey and Gender**

Survey Location	Female	Male	Total
Agrodome	11	12	23
Farnworth Ave	0	1	1
Lakefront	19	13	33
Rainbow Springs	16	11	27
Rotorua I-Site	87	53	141
Rotorua Museum	28	19	47
Te Puia	42	23	65
Wai-o-Tapu	61	54	115
TOTAL	264	186	452

**Table 58**  
**Rotorua Sample by Region of Origin and Main Purpose**

Origin	Holiday / leisure	VFR	Business / conference	Education / study	Other	Total
NZ	54	24	5	1	18	102
Australia	41	6	3	0	0	50
USA/Canada	45	5	2	1	0	54
UK/Ireland	108	12	0	0	4	124
Europe	73	3	1	1	1	80
Asia	20	2	0	0	1	23
Other	14	1	2	1	0	18
TOTAL	355	53	13	4	24	451

**Table 59**  
**Number of Visitors on Package Tours by Origin**

Origin	Package		Total
	No	Yes	N
NZ	94	5	99
Australia	35	14	49
USA/Canada	38	15	53
UK/Ireland	113	10	123
Europe	74	6	80
Asia	16	7	23
Other	18	0	18

### Satisfaction with various aspects of Rotorua

**Table 60**  
**Satisfaction Ratings for Rotorua by All Tourist Types**

Aspect	N (tourists providing response)	Mean
Friendliness of people	361	6.41
Maori experience	87	6.34
Maori Arts Te Puia	95	6.31
Geothermal reserves	138	6.28
Information centres	233	6.27
Rural landscapes	366	6.21
Rotorua Museum	75	6.21
Safety from crime	326	6.2
Thermal pools	117	6.15
Environmental management	322	6.12
Nature walks	168	6.12
Lakefront	196	6.07
Public toilets	283	6.01
Airport facilities	33	5.91
Uncrowdedness	374	5.86
Conference facilities	14	5.86
Accommodation quality	298	5.84
Attractiveness of the city	363	5.83
Signage	279	5.79
Parking availability	242	5.71
Restaurants quality	245	5.67
Shopping opportunities	171	5.61
Public transport services	72	5.57