

Te Matatini National Kapa Haka Festival 2017

National and Regional Economic Assessment

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Report Prepared by

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Executive Summary

- This report provides a Hawkes Bay region and national economic assessment of the national Te Matatini Kapa Haka Festival held at the Hastings Regional Sports Park in Hastings District, in February 2017. The assessment employs two different methodologies, namely an analysis of the flow-on or multiplied economic impacts of the Festival and an analysis of the economic benefits and costs of the event. The economic impact results cover the event organisation/ operation and visitor spending generated by the Festival. The economic benefit and cost assessment is based on 2013 MBIE (Ministry of Business Innovation and Employment) methodology developed for major events.
- **Table A** below summarises the results of the detailed economic impact assessment provided in the detailed report. The key Hawkes Bay economic impacts are additional economic activity/GDP generated of approximately \$11.2 million and a total employment impact of 177 persons. The key national impacts are additional GDP of \$17.5 million and a total employment impact of 227 persons. Festival related visitor spend in Hawkes Bay accounts for approximately 60% of the national GDP economic impact.

Table A: Te Matatini Festival 2017 – Hawke's Bay and New Zealand Economic Impacts

Economic Impact	Hawke's Bay			Rest of New Zealand			Total New Zealand		
	Event Operation Spend	Visitor Spend	Total	Event Operation Spend	Visitor Spend	Total	Event Operation Spend	Visitor Spend	Total
Revenue \$M	1.44	21.03	22.47	4.88	8.21	13.09	6.32	29.24	35.56
Net Household Income \$M	0.36	4.69	5.05	1.22	1.47	2.69	1.58	6.16	7.74
Employment (Persons)	10	167	177	31	19	50	41	186	227
Value Added/GDP \$M	0.82	10.35	11.17	2.60	3.75	6.35	3.42	14.1	17.52

- **Table B** below summarises the Hawkes Bay and New Zealand level economic benefits and costs of the Festival using the MBIE analysis approach. The net economic benefit (total benefits minus total costs) for the region is approximately \$9.1 million and for the country as a whole \$2.2 million. The major contributor to the total HB benefit value is the domestic visitor spend occurring during the Festival period. At the national level, the key contributions come from total event operating revenue and overseas visitor spend. The return on 'investment' (all sponsorships and grants for the Festival operation) at the national level is calculated at 152%; a zero percent return on investment indicates a break-even level of return.

Table B: Te Matatini Festival 2017 – Hawke's Bay and New Zealand Economic Benefits & Costs

Economic Benefits/Costs	Hawke's Bay	New Zealand
Total Benefits \$M	9.93	4.72
Total Costs \$M	0.86	2.50
NET ECONOMIC BENEFIT	9.07	2.22

- The Festival has therefore generated a significant level of economic gain both regionally and nationally.

1- Introduction

- 1.1 The 23rd national Te Matatini Kapa Haka performing arts festival was held this year over the period Tuesday 21-Sunday 26 February 2017, at the Hawke's Bay Regional Sports Park in Hastings.
- 1.2 The festival is held every two years at different locations in New Zealand and is one of the country's major cultural events and a pinnacle occasion for Maori performing arts.
- 1.3 Economic Solutions Ltd (ESL), Napier, a specialist regional and local economic analysis consultancy, has been requested to provide both a national and Hawke's Bay (regional) economic assessment of this year's festival, using appropriate methodological approaches.
- 1.4 Accordingly, the economic assessment of the festival presented in this report comprises broadly as follows:
- An economic impact assessment of the Hawke's Bay region and national level flow-on economic impacts of the festival and
 - A national and Hawke's Bay region economic cost-benefit assessment of the festival.
- 1.5 A description of the methodologies underpinning these respective analyses is provided in sections 2 and 4 of the report.
- 1.6 The specific matters covered in the report's analysis, are as follows:
- The economic impact assessment approach used for the purposes of the report.
 - The assessed Hawke's Bay and national economic impacts of this year's festival.
 - The economic benefit-cost assessment approach used for the report's analysis in this respect.
 - The assessed national and Hawke's Bay region economic benefits and costs of the festival and
 - Other economic benefits arising from the festival.
- 1.7 The key base information sources used for the report have been the following:
- The report prepared by Angus & Associates in May 2017 for the Te Matatini Society Incorporated, on the results of the detailed post-event comprehensive survey of the festival.
 - Detailed financial and other information about the festival provided to ESL by Cee R Martin Business Services Ltd (working on behalf of the Te Matatini Kapa Haka Aotearoa organisation), upon request from ESL.
 - Economic impact modelling results provided by Dr Warren Hughes of Hughes Economics, Auckland (specialist economic impact modelling consultancy). Copies of Dr Hughes' modelling results and his CV details are attached in **Appendices 1 and 2**.
 - The MBIE (Ministry of Business, Innovation and Employment) 2013 report entitled 'Major Events Development Fund Post-Event Economic Evaluation Guidelines' and
 - Hastings District Council financial and other information concerning the festival.

2- Economic Impact Assessment Methodology

- 2.1 Economic Impact Assessment (EIA) quantifies the total multiplied economic impacts for a specific geographical area (local/regional/national) of a significant existing or new revenue/ expenditure operation, development or activity in the area.
- 2.2 The total economic impacts comprise the initiating direct expenditure or revenue/turnover impact associated with the activity and the flow-on or 'multiplied' economic impacts.
- 2.3 The flow-on impacts incorporate both production and consumption impacts. The production impacts comprise the flow-on gains for businesses supplying goods and services to the initial expenditure or revenue activity, whilst the consumption impacts comprise the additional household spending of employees working directly in the activity and also in the businesses supplying inputs to the activity.
- 2.4 Economic impacts are traditionally measured using four different variables, these being Total Revenue/Gross Output (the total value of the economic impact including the value of any imported items), Net (Disposable) Household Income (after removing taxation, savings, superannuation, etc.), Total Employment (measured in terms of labour-years for construction activity and persons/jobs for operational activity) and Total Value Added/Gross Domestic Product GDP (or Gross Regional Product GRP for sub-national areas).
- 2.5 The GRP impact is considered to best measure the true multiplied gain in total economic activity in an area as a result of an initial expenditure or revenue project/change, as it excludes the value of imported items required for the project (payments for which flow out of the region to externally based suppliers of goods and services).
- 2.6 An economic impact or input-output table/model for a particular district/region/country is required in order to calculate multiplied economic impacts for the area. The economic impact results presented in this report are based on the latest available (year ended December 2016) Hawke's Bay and national multiplier results for relevant sectors within 106-sector economic impact models for both economies. The underlying national input-output table for these results relates to the 2007 year and was released by Statistics New Zealand in July 2012.
- 2.7 The table has subsequently been modified by Butcher Partners, Christchurch for regional and local application. Dr Hughes has updated the national and Hawke's Bay impact models using employment data for the year ended December 2016. It is noted that the various multiplier results presented in the report reflect Type II multipliers which include both production and consumption flow-on economic impacts.

3- Economic Impacts of Te Matatini Festival 2017

- 3.1 This section indicates the Hawke's Bay and New Zealand flow-on or multiplied economic impacts of the 2017 Te Matatini festival. The two aspects of the event covered by the analysis are its overall organisation and operation, and associated visitor spending generation.

Festival Operating Cost

- 3.2 The total operational cost for the festival is currently forecast at \$2,365,024. This comprises management/administration \$401,153, marketing and promotion \$218,851, event costs \$417,058, venue costs \$1,167,512 and spending by Hastings District Council in relation to the event of \$160,000. The proportion of this expenditure undertaken within Hawke's Bay is estimated at approximately one third or \$770,000. The total number of persons employed on a paid basis in the running of the event was 13; however, only part of their combined work input to the event was actually spent in Hawke's Bay (prior to and during the festival).
- 3.3 **Table 1** below indicates the regional economic impacts of the Hawke's Bay portion of the above event organisation expenditure. *The reference table in Appendix 1 is Table 1.* The economic impacts arise from two sources, these being the period of employment of event Organisation personnel in the region and the festival organisation expenditure undertaken in the region.

Table 1: Hawke's Bay Economic Impacts of Te Matatini Festival Organisation & Operation Expenditure 2017

Economic Impact Components	Economic Impact Measures			
	Revenue (\$M)	Net Household Income (\$M)	Employment (Persons)	Value Added/ GRP (\$M)
Initiating Total Expenditure	0.77			
Total Direct Economic Impacts (incl. impact of direct HB based employment)	0.83	0.24	7	0.51
Total Flow-on Production and Consumption Economic Impacts	0.61	0.12	3	0.31
TOTAL HAWKE'S BAY ECONOMIC IMPACTS	1.44	0.36	10	0.82

- 3.4 The key results to note from the table are as follows:
- i) A total Revenue impact within Hawke's Bay of \$1.44 million. This comprises the initial direct Revenue impact of \$0.83 million and the a flow-on/multiplied Revenue impact of \$0.61 million (the overall multiplier value inferred by these results is 1.73);
 - ii) A total regional Net Household Income impact of \$0.36 million, comprising a direct Income impact of \$0.24 million and a flow-on/multiplied Income impact of \$0.12 million. The total income figure above represents the additional Net Household Income generated within Hawke's Bay by the event, including multiplier impacts (overall multiplier value of 1.50);
 - iii) A total Hawke's Bay Employment impact of 10 persons/jobs, comprising a direct Employment impact of 7 persons and a flow-on/multiplied Employment impact of 3 persons (overall multiplier value of 2.17); and
 - iv) A total **Value Added or GRP** (Gross Regional Product) economic impact for the Hawke's Bay region of \$0.82 million, comprising a direct GRP impact of \$0.51 million and a flow-on/multiplied GRP impact of \$0.31 million (overall multiplier value of 1.61). The total GRP economic impact figure indicates the real level of the contribution of the Festival organisation and operation to overall economic activity in Hawke's Bay.

- 3.5 *Table 2 in Appendix 1* shows the distribution of the ‘backward linkage’ flow-ons in Table 1 above, amongst different industry sectors in Hawke’s Bay, for the Revenue and Employment impact measures. From a revenue perspective, the leading sectors are owner-occupied housing, construction services, non-residential property management, waste disposal and residential property management. From an employment perspective, the leading sectors are food & beverage services, residential care services, employment and administration services, construction services and supermarkets/groceries.
- 3.6 **Rest of New Zealand Economic Impacts:** In addition to the Hawke’s Bay economic impacts indicated in Table 1 above, there will be economic impact flow-ons in the rest of the national economy from the non-Hawke’s Bay based festival related paid employment and operating expenditure. These are also indicated in *Table 1 of Appendix 1*. The total scale of these impacts is as follows:
- Revenue \$4.88 million.
 - Net Household Income \$1.22 million.
 - Employment 31 persons.
 - Value Added or GRP \$2.60 million.
- 3.7 **Total National Economic Impacts:** As indicated at the bottom of *Table 1 of Appendix 1*, the total national flow-on economic impacts of the total operational expenditure incurred within New Zealand in the course of organising and operating this year’s Te Matatini Kapa Haka festival, are as follows:
- A total Revenue impact of \$6.32 million.
 - Additional Net Household Income generated in the country of approximately \$1.6 million.
 - A total Employment impact of 41 persons.
 - Additional total economic activity (GDP) generated in New Zealand of \$3.42 million.
- 3.8 *Table 3 of Appendix 1* shows the ‘backward linked’ supplier industries in the rest of New Zealand outside the Hawke’s Bay region, most benefiting from festival operating expenditure. From a Revenue perspective, they are owner-occupied housing, electricity generation, non-residential property management, construction services and financial services. From an Employment perspective, they are food and beverage services, advertising and consultancy services, employment and administrative services, residential care services and construction services.

Visitor Spending

- 3.9 The following sections quantify the Hawke’s Bay region and national flow-on economic impacts of the new visitor spending in the region generated by this year’s Te Matatini festival.
- 3.10 The key results underpinning the total direct visitor spend calculation are as follows:
- 80% of the estimated total number of attendees at the festival were visitors from outside Hawke’s Bay.
 - The ‘average (Festival) visitor length of stay’ in Hawke’s Bay was 3.8 nights.
 - For 97% of the visitors, attendance at the festival was the main motivation for visiting Hawke’s Bay.
 - A total visitor-nights impact of 58,003.

- An 'average daily visitor spend' figure of \$207.

- 3.11 These figures are sourced directly from the festival related post-event survey. The total direct visitor spend calculation is \$12 million, as reported in the survey results. This comprises accommodation \$4.08 million, food & beverage services \$2.84 million, road transport \$2.47 million, retail spending \$1.91 million and attractions/recreation \$0.70 million.
- 3.12 The Hawke's Bay economic impacts of this spending profile are indicated in Table 2 below. The relevant main reference table in *Appendix 1 is Table 5*. The key results to note from the table are additional Net Household Income generated in Hawke's Bay of approximately \$4.7 million; additional real economic activity/GRP generated in the area of \$10.4 million and a total multiplied employment impact of 167 persons.

Table 2: Hawke's Bay Economic Impacts of Te Matatini Festival Visitor Spending 2017

Economic Impact Components	Economic Impact Measures			
	Revenue (\$M)	Net Household Income (\$M)	Employment (Persons)	Value Added/ GRP (\$M)
Initiating Total Expenditure	12.00			
Total Direct Economic Impacts	12.00	3.01	120	5.73
Total Flow-on Production and Consumption Economic Impacts	9.03	1.68	47	4.62
TOTAL HAWKE'S BAY ECONOMIC IMPACTS	21.03	4.69	167	10.35

- 3.13 The leading Hawke's Bay sectors supplying goods and services to meet the spending needs of festival visitors are, in Revenue terms, non-residential property management, owner-occupied housing, road transport, financial services and residential property management. In Employment terms, the leading sectors are employment and administrative services, building cleaning and pest services, food & beverage services, road transport and supermarkets/ grocery outlets. The relevant reference table in *Appendix 1 is Table 6*.
- 3.14 *Table 5 in Appendix 1* also shows the flow-on economic impacts from festival visitor spending in Hawke's Bay, for the rest of the country. The scale of these impacts is Revenue \$8.21 million, Net Household Income \$1.47 million, Employment 19 persons and Value Added/GDP \$3.75 million.
- 3.15 The total national economic impacts associated with Te Matatini 2017 festival visitor spending in Hawke's Bay are as follows:
- Revenue \$29.24 million with a multiplier value of 2.44.
 - Net Household Income \$6.16 million with a multiplier of 2.05.
 - Employment 186 persons with a multiplier of 1.55.
 - Value Added/GDP \$14.10 with a multiplier of 2.46.

Combined Event Operation and Visitor Spending Impacts

- 3.16 For Hawke's Bay, the key combined economic impacts are additional Net Household Income generated to the tune of approximately \$5.1 million, total increased economic activity/GDP of approximately \$11.2 million and a total Employment impact of 177 persons.

- 3.17 Nationally, the key combined economic impacts are additional Net Household Income generated of approximately \$7.8 million, total increased economic activity/GDP of approximately \$17.5 million and a total Employment impact of 227 persons.

4- Economic Cost-Benefit Assessment Methodology

4.1 This section indicates the nature of the MBIE methodology which is used in this report (Section 5) to quantify the national and Hawke's Bay region economic benefits and costs of the 2017 Te Matatini Festival. The source document for the methodology is the MBIE 2013 report entitled 'Major Events Development Fund Post-Event Economic Evaluation Guidelines'. It is noted that the financial factors required to be quantified in the assessments are closely aligned with the 'contribution to GDP' principle; this is particularly relevant to the visitor spend aspect.

4.2 The specific national economic benefits required to be included in the analysis are as follows:

- Total operating income for the festival.
- Consumer surplus. This refers to the difference between the market price paid by a consumer for a good or service and what the consumer would be willing and able to pay for the good or service. Consumer surplus is calculated at 20% of the total dollar value of event ticket sales to visiting domestic spectators plus 20% of the total dollar value of visiting domestic event participant entry fees.
- International visitor expenditure generated in the country by the event.
- The value of international airfare expenditure accruing to New Zealand as a result of the event (the MBIE guidelines provide a 'formula' for calculating this factor).

4.3 The national economic costs of an event that are required to be quantified include total operating expenditure, redistribution of public funds cost (all 'investment' by public organisations in an event) and the value of any significant overseas expenditure flows associated with the event. In terms of the public funds cost, the calculation for this is 20% of the total cost figure. The overseas expenditure flows factor is not relevant to this festival assessment.

4.4 The specific Hawke's Bay region economic benefits required to be included in the analysis are as follows:

- Total operating income for the festival generated from within the Hawke's Bay region.
- Regional consumer surplus. This is calculated at 20% of the total dollar value of event ticket sales to Hawke's Bay resident festival spectators plus 20% of the total dollar value of Hawke's Bay resident festival participant entry fees.
- International visitor expenditure generated in the Hawke's Bay region by the festival. This is calculated at 50% of the total spending of overseas visitors to the event during their overall stay in the country.
- The total value of the expenditure of all New Zealand resident attendees at the festival visiting Hawke's Bay for the event, during their period of stay in the region. This is calculated at 75% of the total spend figure for all domestic visitor event attendees.

4.5 The regional economic costs required to be considered as part of the assessment are total event regionally based operating expenditure, the total value of regional public ‘investment’ in the festival (redistribution of public funds cost) and any significant overseas expenditure flows associated with the event. The ‘formula’ for calculating the public funds cost is the same as used for the national cost assessment. The factor of overseas expenditure flows is again not relevant to the regional economic assessment.

5- Economic Benefits & Costs of Te Matatini Festival 2017

5.1 **Table 3** below presents the national and Hawke’s Bay region benefits and costs which ESL has calculated, using the MBIE methodology as presented in the previous section and detailed in the MBIE post-event economic evaluation report.

Table 3: New Zealand and Hawke’s Bay Te Matatini Festival 2017 Benefit-Cost Assessment Results

Economic Benefit/Cost Item \$	New Zealand	Hawke's Bay Region
BENEFITS		
Total Forecast Operating Revenue	2,464,997	690,199
Consumer Surplus comprising:		
a) 20% of total dollar value of ticket sales to NZ/HB resident spectators at Festival;	141,740	30,482
b) 20% of the total dollar value of NZ/HB resident participant entry fees	47,000	3,000
Total	188,740	33,482
International visitor expenditure generated whilst in NZ and attending the Festival	2,263,866	
75% of this total estimated to accrue to New Zealand	1,697,900	848,950 <i>(50% of NZ)</i>
Value of international airfare contribution to New Zealand	372,400	0
Out of region domestic visitor expenditure		8,354,768 <i>(75% of total visitor spend in HB)</i>
TOTAL BENEFITS	4,724,037	9,927,399
COSTS		
Total Operating Expenditure	2,365,023	827,758
Redistribution of public funds cost	133,539	32,000
Overseas expenditure flows associated with the Festival (eg prize money & hosting right fees)	0	0
TOTAL COSTS	2,498,562	859,758
Net Benefit (Total Benefit minus Total Cost)	2,225,475	9,067,641
Return on investment (covering all sponsorships and grants for the Festival)	152%	-

5.2 From a national perspective, the economic benefits have been calculated at a total value of approximately \$4.7 million and the economic costs at approximately \$2.5 million, resulting in an

overall net national economic benefit of the festival at \$2.2 million. This yields a return on all financial ‘investment’ (sponsorships, grants, etc) in the festival of 152%.

5.3 From a Hawke’s Bay region perspective, the total economic benefits accruing to the region have been valued at approximately \$9.9 million and the economic costs at approximately \$0.9 million, resulting in an overall net regional economic benefit from the festival of \$9 million. Whilst a return on investment figure has not been calculated for the Hawkes Bay region specifically, given the strong national focus of the Festival, nevertheless, it can be noted that the returns to the region are considerably higher than the costs of its contribution to the running of the event.

5.4 **Other Regional and National Economic Gains-** the Festival generated a number of other significant gains for the Hawkes Bay region and the country as whole, which are briefly noted below:

- As an important lead-up to the Festival, it was preceded in Hastings by a major 2-day Maori-China ‘Taniwha Dragon Economic Summit’ co-hosted by the regional Ngati Kahungunu Iwi organisation and the Chairman of the Lei Gardens restaurant chain. The summit discussed new commercial dealings between the two sides and by its end had signed up to \$138 million of new deals between Maori and Chinese companies.
- Both the summit and the festival should, in time, make a positive contribution to Maori social/community and economic development in Hawkes Bay, with flow-ons to the rest of the local and regional communities.
- Increased utilisation and more diverse use of the major Hastings Regional Sports Park recreational facility.
- An important contribution to the regionally important Hawkes Bay cultural and other ‘events’ sector, as well as to further strengthening of the overall arts and cultural sector in the region.
- An important contribution to maintaining the overall external economic and tourism profile of the Hawkes Bay region, including as a potential focus area for business and other investment.
- An important contribution to the national performing arts and cultural sector, from both a Maori community perspective and also in terms of the sector generally.
- A valuable contribution to the external social and economic profile of New Zealand generally.

5.5 Particularly at the Hawkes Bay level, the above considerations collectively have the potential to generate further economic impact gains for the area, over time; for example, increased tourism to the region resulting from the attraction of further major cultural events and increased market awareness of what the region has to offer.

APPENDIX 1

ECONOMIC IMPACTS OF THE 2017 NATIONAL TE MATATINI KAPA HAKA FESTIVAL HELD IN HASTINGS IN FEBRUARY 2017

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1. INTRODUCTION

The economic impacts of the 2017 National Te Matatini Kapa Haka Festival (TMKHF or the Festival) have been calculated using base information provided by the Festival organisation. This primary information on organisational spending and visitor spending at the Festival has been analysed using 106-sector economic models for the Hawke's Bay Regional Council economy and the NZ economy in total for the year ended December 2016.

Total economic impacts using Revenue, Net Household Income, Employment as in Employment Count (full and part-time employees) and Value Added or GDP as the economic impact measures are detailed below for the Hawke's Bay economy and NZ in total. Sectors noted in the following are *italicised* for easy identification.

2. ORGANISATIONAL EXPENDITURE

The Festival organisation and the Hastings District Council collectively expended \$2.37 m in total on organising the Festival of which approximately a third or \$0.77 m was spent in the Hawke's Bay economy. The remainder of \$1.60 m was expended in the rest of NZ (RONZ) so the total economic impacts have been estimated accordingly.

In addition, an estimated 3 persons are employed in Hawke's Bay in connection with the Festival and a further 10 are based in Wellington so the household spending of this latter group will impact the NZ economy directly and the Hawke's Bay economy only indirectly.

Total gross wages and salaries at \$0.5 m imply total Net Household Income of \$0.35 m and this was allocated directly as \$0.08 m for Hawke's Bay and another \$0.27 m for the rest of NZ. Economic impacts for Hawke's Bay and NZ deriving from Festival organisational expenditure are summarised below in Table 1.

TABLE 1: ECONOMIC IMPACTS FROM TMKH FOR THE HAWKE'S BAY & NZ ECONOMIES

Impact Round & Region of Impact	Revenue \$ millions	Net Household Income \$ m	Employment Persons	Value Added or GDP \$ m
Hawke's Bay Impacts				
Direct impacts from Org employment H Bay	0.06	0.08	3	0.14
Flow-ons from resulting household spending	0.07	0.01	0	0.04
Direct impacts H Bay from Org expenditures	0.77	0.16	4	0.37
Flow-ons from this expenditure into H Bay	0.54	0.11	3	0.27
Total Impacts for the Hawke's Bay region	1.44	0.36	10	0.82
<i>Hawke's Bay Regional Multiplier</i>	<i>1.73</i>	<i>1.50</i>	<i>1.43</i>	<i>1.61</i>
Rest of NZ Impacts				
Direct impacts from Org employ Wellington	0.22	0.27	10	0.48
Flow-ons from resulting household spending	0.43	0.08	2	0.23
Direct impacts RONZ* from Org expenditures	1.60	0.37	7	0.80
Flow-ons from this expenditure into RONZ*	2.63	0.50	12	1.09
Total Impacts for all NZ	6.32	1.58	41	3.42
<i>NZ Multiplier</i>	<i>2.38</i>	<i>1.80</i>	<i>1.71</i>	<i>1.91</i>

*RONZ = Rest of NZ

For the Revenue and Employment impacts the 10 most affected sectors in the Hawke's Bay regional economy from organisational expenditure are detailed in Table 2.

TABLE 2: MAJOR HAWKE'S BAY SUPPLYING SECTORS TO ORGANISATIONAL EXPENDITURE AT THE 2017 FESTIVAL

REVENUE				EMPLOYMENT			
Flows in supplying sectors to the Festival				Flows in supplying sectors to the Festival			
#	Sector	\$ mill	Percent	#	Sector	Persons	Percent
1	Owner-Occupied Housing	0.07	11.6	1	Food & Beverage Services	0.22	7.3
2	Construction Services	0.03	4.9	2	Residential Care Services	0.17	5.6
3	Non-Residential Pty Mngt	0.03	4.9	3	Employ & Admin Services	0.15	5.0
4	Waste Disposal	0.03	4.9	4	Construction Services	0.15	5.0
5	Residential Property Mngt	0.03	4.9	5	S'markets & Groceries	0.15	5.0
6	Bank & Financial Services	0.02	3.3	6	Waste Disposal	0.09	3.0
7	Non-Building Construction	0.02	3.3	7	Legal & Accounting Serv	0.08	2.7
8	Advert & Consult Services	0.01	1.6	8	Furniture Elec H'ware Ret	0.08	2.7
9	Legal & Accounting Serv	0.01	1.6	9	Clothing & Footwear Retail	0.08	2.7
10	Road Transport	0.01	1.6	10	Advert & Consulting Serv	0.08	2.7
Top 10 supplying sectors		0.26	42.6	Top 10 supplying sectors		1.25	41.7
Remaining 96 sectors		0.35	57.4	Remaining 96 sectors		1.75	58.3
TOTAL REVENUE FLOW-ONS		0.61	100.0	TOTAL EMPLOYMENT FLOW-ONS		3.00	100.0

Owner-Occupied Housing always shows up as a major supplying sector when analysing event impacts for the Hawke's Bay. Tourism is a major activity for the region so many households rely on these events for profitable and continued employment. All regional sectors listed in Table 2 for both impacts would be those normally associated with events like the Festival.

For the NZ economy in total, the top 10 supplying sectors are detailed in Table 3.

TABLE 3: MAJOR REST OF NZ SUPPLYING SECTORS TO THE 2017 FESTIVAL

REVENUE				EMPLOYMENT			
Flows in supplying sectors to the Festival				Flows in supplying sectors to the Festival			
#	Sector	\$ mill	Percent	#	Sector	Persons	Percent
1	Owner-Occupied Housing	0.18	6.8	1	Food & Beverage Services	0.74	6.2
2	Electricity Generation	0.11	4.2	2	Advert & Consulting Serv	0.58	4.8
3	Non-Residential Ppty Mngt	0.10	3.8	3	Employ & Admin Services	0.55	4.6
4	Construction Services	0.10	3.8	4	Residential Care Services	0.52	4.3
5	Bank & Financial Services	0.10	3.8	5	Construction Services	0.48	4.0
6	Advert & Consulting Serv	0.09	3.4	6	S'markets & Groceries	0.43	3.6
7	Communications	0.08	3.0	7	Legal & Accounting Serv	0.30	2.5
8	Waste Disposal	0.08	3.0	8	Bank & Financial Services	0.30	2.5
9	Non-Residential Ppty Mgt	0.06	2.5	9	Furniture Elec H'ware Ret	0.29	2.4
10	Petrol & Coal Manufact	0.05	2.1	10	Scientific & Tech Services	0.27	2.3
Top 10 supplying sectors		0.95	36.3	Top 10 supplying sectors		4.46	37.2
Remaining 96 sectors		1.68	63.7	Remaining 96 sectors		7.54	62.8
TOTAL REVENUE FLOW-ONS		2.63	100.0	TOTAL EMPLOYMENT FLOW-ONS		12.00	100.0

The major supplying sectors in Tables 2 (Hawke's Bay) and 3 (RONZ) are very similar. For the rest of NZ impacts we see that sectors such as *Petrol & Coal Manufacturing* (petrol and diesel), *Communications* and *Electricity Generation* become important supplying sectors as shown for the Revenue flow-on impact. As these sectors are capital intensive, they do not show up in the Employment flow-on impact in the top 10 supplying sectors. Apart from *Communications*, the other two sectors are ones we would anticipate supplying goods and services from outside the Hawke's Bay region from regions such as Northland and Waikato.

3. VISITOR SPENDING IMPACTS

The total visitor spend at the Festival was estimated at \$12 m, all of which directly impacts the Hawke's Bay economy in the first instance. There will, however, be flow-ons into the economy of the rest of NZ and these are detailed in Table 5 below.

The allocation of the \$12 m over the directly affected sectors in the 106-sector economic models is detailed in Table 4.

TABLE 4: ALLOCATION OF VISITOR SPENDING ACROSS SECTORS

Sector	\$ millions
Retail Expenditure	1.91
Accommodation	4.08
Food & Beverage Services	2.84
Road Transport (includes scenic tours)	2.47
Attractions & Recreation	0.70
TOTAL	12.00

The economic impacts for the Hawke's Bay region and the rest of NZ from visitor spending at the Festival are detailed in Table 5.

TABLE 5: ECONOMIC IMPACTS FROM VISITOR SPENDING AT THE 2017 FESTIVAL

Impact Round & Region of Impact	Revenue \$ millions	Net Household Income \$ m	Employment Persons	Value Added or GDP \$ m
Hawke's Bay Impacts				
Direct spending by visitors to Hawke's Bay	12.00	3.01	120	5.73
Flow-ons into Hawke's Bay supply sectors	9.03	1.68	47	4.62
Total Impacts for the Hawke's Bay region	21.03	4.69	167	10.35
<i>Hawke's Bay Regional Multiplier</i>	<i>1.75</i>	<i>1.56</i>	<i>1.31</i>	<i>1.81</i>
Rest of NZ Impacts				
Flow-ons into rest of NZ supplying sectors	8.21	1.47	19	3.75
Total Impacts for all NZ	29.24	6.16	186	14.10
<i>NZ Multiplier</i>	<i>2.44</i>	<i>2.05</i>	<i>1.55</i>	<i>2.46</i>

As for organisational spending, the top 10 supplying sectors as summarised in the flow-on impacts for all 106 sectors in the Hawke's Bay region for the Revenue and Employment impact measures are detailed in Table 6.

TABLE 6: MAJOR HAWKE'S BAY SUPPLYING SECTORS FOR VISITOR SPENDING AT THE FESTIVAL

REVENUE				EMPLOYMENT			
Flows in supplying sectors to visitor spending				Flows in supplying sectors to visitor spending			
#	Sector	\$ mill	Percent	#	Sector	Persons	Percent
1	Non-Residential Pty Mngt	1.01	11.8	1	Employ & Admin Services	3.20	6.8
2	Owner-Occupied Housing	0.75	8.3	2	Bldg Cleaning & Pest Serv	2.90	6.2
3	Road Transport	0.46	5.0	3	Food & Beverage Services	2.89	6.1
4	Bank & Financial Services	0.36	3.9	4	Road Transport	2.45	5.2
5	Residential Pty Mngt	0.28	3.1	5	S'markets & Groceries	2.16	4.6
6	Advert & Consulting Serv	0.27	3.0	6	Residential Care Services	2.16	4.6
7	Beverages & Tobacco	0.24	2.6	7	Horticulture & Fruit Grow	1.72	3.7
8	Construction Services	0.23	2.5	8	Advert & Consulting Serv	1.30	2.8
9	Legal & Accounting Serv	0.22	2.4	9	Legal & Accounting Serv	1.28	2.7
10	Employ & Admin Services	0.21	2.3	10	Sport & Recreation	1.22	2.6
Top 10 supplying sectors		4.03	45.1	Top 10 supplying sectors		21.28	45.3
Remaining 96 sectors		5.00	54.9	Remaining 96 sectors		25.72	54.7
TOTAL REVENUE FLOW-ONS		9.03	100.0	TOTAL EMPLOYMENT FLOW-ONS		47.00	100.0

The top 10 supplying sectors for visitor expenditure in the rest of NZ are detailed in Table 7.

TABLE 7: MAJOR RONZ SUPPLYING SECTORS FOR VISITOR SPENDING AT THE FESTIVAL

REVENUE				EMPLOYMENT			
Flows in supplying sectors to visitor spending				Flows in supplying sectors to visitor spending			
#	Sector	\$ mill	Percent	#	Sector	Persons	Percent
1	Non-Residential Ppty Mngt	0.58	7.1	1	Employ & Admin Services	1.10	5.8
2	Owner-Occupied Housing	0.47	5.7	2	Food & Beverage Services	1.04	5.4
3	Bank & Financial Services	0.34	4.1	3	Advert & Consulting Serv	0.95	5.0
4	Road Transport	0.30	3.7	4	Road Transport	0.80	4.2
5	Electricity Generation	0.27	3.3	5	Residential Care Services	0.70	3.7
6	Petrol & Coal Manufact	0.27	3.3	6	S'markets & Groceries	0.68	3.6
7	Advert & Consulting Serv	0.26	3.1	7	Bldg Cleaning & Pest Serv	0.62	3.3
8	Communications	0.20	2.4	8	Bank & Financial Services	0.55	2.9
9	Beverages & Tobacco	0.18	2.2	9	Legal & Accounting Serv	0.50	2.6
10	Employ & Admin Services	0.17	2.1	10	Horticulture & Fruit Grow	0.43	2.3
Top 10 supplying sectors		3.04	37.0	Top 10 supplying sectors		7.37	38.8
Remaining 96 sectors		5.17	63.0	Remaining 96 sectors		11.63	61.2
TOTAL REVENUE FLOW-ONS		8.21	100.0	TOTAL EMPLOYMENT FLOW-ONS		19.00	100.0

As for Festival organisational expenditure, the sectors in rest of NZ most affected by visitor spending at the Festival in Hawke's Bay that are different from the Hawke's Bay supplying sectors are *Petrol & Coal Manufacturing, Communications and Electricity Generation*. These sectors from outside the Hawke's Bay region are necessary suppliers of goods and services for visitor (and household) demands since the Hawke's Bay region cannot supply at the level demanded.

Other sectors supplying goods and services to business units in the Hawke's Bay are as expected for servicing typical household and visitor demands.

APPENDIX 2

Dr WARREN R HUGHES – AUTHOR PROFILE

The author is Cambridge, NZ born and a graduate of the University of Auckland and Indiana University in the USA, where he completed his doctorate in Business Economics and Public Policy in 1970.

Since that time, he has taught in the areas of econometrics, forecasting, financial economics and managerial strategy at The University of New South Wales in Sydney (1970 – 1978) and most recently at The University of Waikato (1978 – 2007). At various times, he has taught in MBA programmes at the University of Florida in Gainesville and in the Graduate School of Management at the University of California at Irvine. Dr Hughes retired from the University of Waikato in 2007 and was appointed an Honorary Fellow in Economics in 2008. At the present time, he works as an independent economic consultant based in Auckland.

The author has published extensively, mainly as single-authored articles in international journals such as *Decision Sciences*, *Theory and Decision*, *The Journal of Business*, *Mathematical & Computer Modelling*, *Environment & Planning*, *Australian Journal of Management*, *Forest Science*, *Australasian Journal of Regional Studies* and, most recently in April 2009, *OMEGA*, the international journal of management science and again in September 2010 in the *Chinese Business Review*. Other articles on theoretical and applied economics have been published by the author in *NZ Economic Papers* and *Australia's Economic Record*. He is a former member of the Advisory Board for the Wiley journal *Managerial and Decision Economics* and maintains a continuing interest in the latest developments in economic theory as it relates to management and business. The author has developed a particular expertise in the area of impact and regional analysis. He was the Editor/Manager of the *Regional Economic Bulletin*, which focused on topical issues relevant to the business and wider communities, mainly but not exclusively, in the Waikato and Bay of Plenty regions. The *Bulletin*, which was a complimentary publication of the University of Waikato, ceased publication in 2008.

The author has acted as a consulting economist for *Economic Solutions Limited*, *Environment Waikato*, *Carter Holt Harvey Limited*, *Contact Energy*, *Norske Skog Tasman Limited*, *Port of Tauranga Limited*, *Port of Napier*, *Feltex Carpets Limited*, *Man'O War Farm Limited*, *Refining NZ Limited*, *Zespri International*, *Waikato Innovation Park*, *Property Council of NZ*, *Creative Napier*, *Katolyst*, *Priority One BOP*, *Vision Manawatu*, *Enterprise Franklin*, *Venture Taranaki*, various District Councils in the Waikato, Bay of Plenty, Hawke's Bay and other regions and for events such as *Tauranga's Montana Jazz Festival*, *Hamilton's Balloons Over Waikato* and *Napier's Art Deco Weekend*.

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