

ECONOMIC IMPACT
of the proposed
ASHBURTON STADIUM
on
ASHBURTON DISTRICT

Final

Butcher Partners Limited

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Summary

For some years Ashburton District Council has been developing and evaluating various concepts for a new sports facility. The current proposal relates to a new indoor stadium and swimming pool complex designed to “provide for the present and future needs of the district¹”. It does not include the velodrome, which was a feature of earlier proposals.

The Ashburton Stadium Trust has asked Butcher Partners Ltd to assess the economic impacts² of the current proposal, and have requested that this be done from the perspective of Ashburton District only. This assessment is based on financial data, including operating budgets and expected patronage of various sorts, from the Financial Feasibility Study of the proposed stadium and swimming pool prepared by Deloitte for the Ashburton Stadium Trust in May 2008.

The key considerations when estimating the economic impacts of the Centre are:

- Capital Cost: Estimated at \$33 million. It is assumed that only 50 % of employees on the project will come from within the Ashburton District since the contract will attract bids from all over the South Island. Whoever wins the tender, it is likely that they will maximise the use of local labour (travel time from Christchurch or Timaru would make local labour much more cost-effective) and will probably, for the same reason, use a considerable number of local contractors.
- The Stadium economic impact calculations should take into account the funding source. If funds come from grants which would otherwise have been spent elsewhere in the district, the impacts associated with this alternative spending should be deducted from the gross economic impact of the stadium to get a net economic impact. Likewise if the stadium is funded by local government grants, this implies higher rates and lower disposable incomes than would otherwise be the case.
- Financial viability: The economic impacts depend on the commercial survival of the complex. It is assumed that Council and perhaps other sponsors will meet any operating deficit.
- Patronage: Patrons will be those involved in swimming, the fitness centre and the various other sports and activities for which the centre caters. It is also possible that conferences and exhibitions will be held at the centre, but current expectations are that the number of these will be small, and have minimal impact in this analysis. It is anticipated that there will be a number of sports events at the centre involving teams from outside the district,

¹ Concept Design Report, section 1.0

² An economic impact is not the same thing as a benefit. For example, if additional wages of \$30,000 are generated, the benefit is equivalent to \$30,000 less the opportunity cost of other work or leisure. Impact analysis is important to council’s who wish to look beyond purely commercial benefits of an operation.

and Deloitte estimate that these events will generate 7,700 visitor-nights per annum. We have assumed that typical spend per person is around \$75 / night³.

- We assume that the events identified by Deloitte do not currently take place in the district because there is no adequate facility, and that all such events are currently played outside the district. This means that not only do external players not currently come into the district but also a number of local residents go outside the district to tournaments and spend disposable income while they are away. Hence in estimating the net visitor impacts we have assumed that the stadium will indirectly lead to an increase in available spending power for local residents equal to 25 per cent of the increase in visitor spending, and that this increase will increase local spending⁴.
- It is possible that some of the local stadium and pool patrons would otherwise have gone to other centres (such as Christchurch) in the absence of the development of the stadium and pool, but this is considered to be unlikely. A majority of the activities at the new complex (e.g. basketball, fitness centre, netball, swimming) will have transferred from existing facilities in the district, and to the extent that patrons of the new complex are simply transferring from existing facilities, there will be no net economic impacts from the operation of the new complex. However, the higher quality of facilities and the extended area available for activities is expected to generate increases in patronage, and this will generate a positive economic impact in the district. At this stage of the analysis we have assumed that one third of the economic impacts of the stadium are additional to the district and the other two thirds represent transfers within the district⁵.
- To the extent that operating costs are higher at the new complex than at existing facilities there may be a positive economic impact associated with the complex. However, these higher costs will be met either by higher charges or a higher district council subsidy and, eventually, higher rates. Either of these outcomes will reduce household disposable income and spending, which will have a negative economic impact and will partially offset the positive economic impact of the proposed complex.
- The café is assumed to be a minor contributor to the stadium's commercial viability, but expenditure at the cafe is expected to be a transfer away from other businesses in Ashburton.
- Tourism: Given the availability of competing facilities in other centres, we are of the view that the proposed stadium is unlikely to generate significant tourism. While the stadium will attract occasional conferences or sports events, competition for major events

³ This is about two thirds of the average visitor spend per night revealed by the Domestic Tourism survey, but this estimate is justified on the grounds that events at the stadium are often tournaments for school children or young adults with relatively low disposable incomes, or by groups who try to minimise costs.

⁴ Local people will still go out of the district to tournaments, but they will now play a "fair share" of their games at home, rather than travelling out of the district for all their tournaments.

⁵ The economic impacts of the café are assumed to be 100 % transfer from other cafés in town, and hence are excluded from this analysis of operating impacts.

is becoming ever more intensive as the number of centres with appropriate facilities increases and we therefore do not expect the impacts from this source to be significant.

- **Strategic Impact:** It has been suggested that economic growth of the town and the district will be dependent on getting good employees and entrepreneurs, and that they will only come to live in Ashburton if there are good community facilities. The economic impacts of making the community more attractive and facilitating growth in this way are not readily quantifiable, but may nonetheless be important. Analysis of this strategic impact is beyond the scope of this report, but a social impact analysis would identify the perceptions of employers as to how important community facilities are when potential employees decide whether or not to come to Ashburton.

RESULTS AND CONCLUSIONS

1. Construction of the proposed Ashburton Stadium and Pool complex would generate directly an estimated 62 job-years of work in Ashburton district over the construction period. It would also increase district income by \$3.7 million, including a \$3.1 million increase in household income. Construction would also generate flow-on or multiplier activity, and this will increase the total economic impacts to 115 job-years of work and \$7.5 million district income, including \$5.5 million of household income.

Summary Table 1: Potential Economic Impacts on Ashburton District of the Proposed Ashburton Stadium Construction.

	Output (\$m/yr)	Value Added (\$m/yr)	Household Income (\$m/yr)	Employ ment (FTE)
Direct Construction Impacts	15	3.7	3.1	62
Total Construction Impacts	30	7.5	5.5	115

2. If construction is funded partially by rates (either directly or through interest payments to service loans), there will be an associated reduction in other consumption expenditure and an associated reduction in economic impacts. These negative impacts are taken into account in the assessment of annual operating impacts of the stadium. The construction impacts will hence be strongly positive during construction and then weakly negative during the balance of the stadium's life.
3. Whether this additional construction activity will actually have a net positive impact on the district economy in the short term will depend on the stage of the business cycle at the time of construction. The construction industry has in recent years been near capacity, although it has started to weaken in the last six months or so.
4. Operation of the stadium will directly generate \$1.4 million of output. Multiplier effects will increase this to \$2.45 million per year of output. Associated with this will

be 28 jobs and \$1.15 million per year of regional income (after losses) including \$1.22 million per year of household income.

5. Much of the direct impact will be activity diverted from existing businesses, and the balance represents a transfer from other household spending. The expected operating loss of approximately \$330,000 per year plus debt repayment *less* elimination of the operating deficit at the existing pool is presumed to be funded by rates, payment of which will also reduce other household spending. On the other hand, the stadium is likely to attract to Ashburton a number of sports events which currently take place elsewhere. This will increase economic activity in the district.

Summary Table 2: Economic Impacts of the Proposed Ashburton Sports Complex Operation

Total Operational Impacts of the Proposed Ashburton Stadium and Pool.

	Output (\$m/yr)	Value Added (\$m/yr)	Household Income (\$m/yr)	Employment (FTE)
Direct Impacts of Stadium Operation	1.40	0.63	0.96	22
Gross Total Impacts of Stadium Operation	2.45	1.15	1.22	28
<i>Plus</i>				
Sports event visitors	0.79	0.35	0.27	7.9
Reduced resident travel to sports events	0.08	0.05	0.02	0.5
<i>Less</i>				
Funding of operating deficit	-0.89	-0.51	-0.21	-5.2
Transfer from existing business	-1.64	-0.77	-0.82	-18.8
Transfer from consumption to stadium spend	-0.27	-0.16	-0.06	-1.6
Net Impacts	+ 0.52	+ 0.12	+ 0.42	+ 11

6. Once all these factors have been taken into account (see Summary Table 2 above), we anticipate that the stadium operation will generate 11 on-going additional jobs in Ashburton district. Associated with this will be district income of \$0.12 million per year, including income of \$0.42 million per year to households⁶ and losses incurred by the stadium. Hence the operation of the pool and the stadium, including the various activities which it will accommodate, will have limited positive economic impact on the district.
7. If Ashburton was able to attract more events such as conferences or exhibitions to the stadium, then the economic impacts could be much more substantial. However, there is no evidence that this is a likely outcome.
8. This report addresses only the economic impacts of the proposed stadium. This is a very different thing to the economic benefits and costs. To convert impacts to financial benefits one has to weigh up the net financial costs (as shown in the Deloitte

⁶ Increased business income in other sectors will be offset by the operating loss at the stadium.

report) against any benefits associated with generating additional jobs and income (value added) in a town such as Ashburton, which is perceived already to have a low unemployment rate⁷. In the case of the proposed stadium, benefits are likely to depend primarily on the value to the community of having this asset available for their use, rather than from the minor increase in economic activity associated with it. These community benefits were discussed in the social impact report which accompanied an earlier proposal for a stadium with an attached velodrome.

9. It is worth noting that the small economic impacts of the stadium and pool reported here are consistent with the findings of many other studies of projects which are aimed primarily at improving the wellbeing of local communities. In recent years it has become widely recognised that economic impacts modelling must take into account negative impacts on other businesses, and the general rule is that significant economic impacts will only arise when amenities attract out-of-region visitors or provide services that locals had formerly gone out of town to obtain.

⁷ Unfortunately the household labour force survey results are not available at the district level to confirm this perception.

1. Introduction

Ashburton District Council is considering a proposal to construct a sports stadium and associated swimming pool in the town. Current expectations are that the stadium and pool will cost approximately \$33 million + GST for the facility plus some cost for site services work (which will depend on the site chosen and is still to be quantified and finalized). The complex will run an annual operating deficit of around \$330,000 before depreciation and opportunity costs of capital. Depreciation and costs of capital will add approximately \$1.46 million per year to this cost, although savings in the operating deficit at the existing pool will remove \$270,000 per year from this cost. It is assumed that the net increase in costs will be met directly or indirectly through rates⁸, and that hence there will be a negative economic impact generated through reduced household disposable income.

1.1 Scope of the Report

Ashburton Stadium Trust has asked Butcher Partners Limited to estimate the economic impact of the proposed development from the perspective of Ashburton district. This report presents estimates of the economic impacts of the proposed development in terms of household income, value added⁹ and employment.

Flow-on Effects

Estimates of direct economic impacts generated by the operation of the complex have been made on the basis of revenue and expenditure forecasts generated by Deloitte. These figures have been incorporated into an economic model of the district to estimate the flow-on effects through the economy, and hence to estimate the stadium's total economic impact. The estimation of flow-on effects has relied on professional judgement as to the level of trade diversion¹⁰ and trade creation associated with sports events which are currently held outside the district being transferred into the district.

Strategic Impacts

The strategic impacts of the complex, viewed from the perspective of its role in encouraging labour to locate in Ashburton, has not been considered in this economic impact assessment, primarily because quantitative estimates are not possible.

⁸ Even if the money is funded by council grants from reserves, it remains the case that the reserves could have been used to reduce rates.

⁹ Value Added is the return to labour and capital. It is the equivalent of household income plus profits (before interest, depreciation and tax).

¹⁰ Trade diversion is trade at the complex which would otherwise have gone to other businesses in the area.

2. THE STRUCTURE OF THE ASHBURTON ECONOMY

2.1 Employment in Ashburton District (1996 - 2006)

The 2006 census reveals that at that time there were 11,724 FTE jobs in Ashburton district, with numbers having risen steadily over the preceding decade. Overall growth during that period of 17 % suggests that Ashburton has had much stronger economic growth than many other small towns in New Zealand. Resident population over the period 1996 – 2006 grew by 9 per cent, with almost all of this growth having occurred in the last five years. Forecasts to 2031 are for a further 1 per cent (low) to 23 per cent (high) growth, with the medium growth being 10 per cent. The recent rapid growth suggests that the “high” figure is more likely to be the outcome.

A breakdown of employment by sector (see Table 1) shows that the major sources of employment are agriculture, followed by wholesale and retail trade and food manufacturing. This shows the dependence of the town on the agricultural sector generally. The fastest growing areas have been mining (albeit from a very low base), business and professional services, construction and restaurants. Employment in food manufacturing and electricity has also been quite rapid.

Table 1 Employment (Full Time Equivalent) by Sector: 1986 – 2001

Industry	Ashburton District			
	1996	2001	2006	% Change 1996-2006
Agriculture	3,123	3,156	3,266	5
Forestry	39	27	41	5
Hunting and Fishing	6	9	6	0
Mining	18	15	44	144
Food Manufacturing	1,041	1,155	1,361	31
All Other Manufacturing	972	999	1,118	15
Electricity, Gas & Water	66	63	86	30
Construction	576	648	866	50
Wholesale & Retail Trade	1,554	1,797	2,096	35
Restaurants	204	288	321	57
Accommodation	150	78	92	-39
Transport	342	384	398	16
Communications	69	63	77	12
Business & Prof Services	663	882	1,092	65
Recreation & Cultural Services	144	168	160	11
Health & Education	828	894	1,017	23
All Other Services	630	633	676	7
Not Identified	543	504	560	3
TOTAL	10,944	11,724	13,248	31

Totals may not add, since all individual figures are randomly rounded to the nearest 3.

Source: Statistics New Zealand Census Data. The decline in employment in accommodation may seem surprising given the growth in tourism, but this decline is reflected across New Zealand and seems to have been caused by an increase in labour efficiency, a shift towards different types of accommodation such as backpackers, and a shift to part time.

3. THEORY AND RESEARCH METHOD

The objective of this project was to measure the level of economic activity (employment, output and value added), which is likely to arise both directly and indirectly from the construction and operation of the proposed stadium and pool. This section describes the general concept of multiplier analysis and the way in which an economic model of Ashburton District was developed in order to estimate the wider economic impacts of the proposed complex. An understanding of this section is not necessary to an understanding of the results of this analysis, but Appendix 2 describes various terms used through this section.

3.1 Principles of Multiplier Analysis

When consumers spend money on various services and goods, this generates direct employment, output, and value added. The businesses which sell to consumers use part of the money received to purchase goods and services from other local businesses, who in turn buy still more goods and services from other businesses. These "business support" effects are generally termed "indirect" effects, and to determine the scale on which they occur, one must examine the expenditure patterns of the proposed stadium.

As businesses expand, they also employ more labour and increase payments to households. The resultant increase in household income and expenditure generates further increases in output, value added and employment in the Ashburton economy. These additional effects generated by household spending are termed "induced" effects, and their extent depends on the proportion of household spending which is done in the local economy.

3.2 Generation of an Ashburton District Economic Model

The Ashburton District economic model generated for this study is based on a national inter-industry model for 2003/04 and the national distribution of industry and hence implied regional self-sufficiency in 2006.

The data on the likely direct spending patterns of the proposed stadium gives only the first round of indirect impacts. To estimate the further impacts caused by the spending of businesses further down the chain, an estimate of the probable pattern of their expenditure was developed, on the basis of information that already exists about national average expenditure patterns of businesses of this type and the regional location of businesses that supply those inputs. For example, if 1% of all retail costs is spent on plastic bags and Ashburton has no plastics factory, then it can be assumed that this 1% of costs is imported into the region. If it is known that on average 3% of retail costs is spent on uniforms, and there are sufficient clothing factories in Ashburton for the district to be 50 per cent self-sufficient in clothing, then it can be assumed that 1.5% of inputs are made locally, and a further 1.5% of inputs are

imported into the District.

All the information and assumptions are incorporated into a separately estimated district input-output model. This district model is generated using an existing national input-output model, information about the regional distribution of employment and output, and a relatively simply mathematical technique called GRIT¹¹ (Generation of Regional Input-output Tables - which estimates the source of inputs into regional industries). This model is then adapted to analyse this specific case by incorporating into it the information about the likely expenditure patterns of the proposed stadium and the spending pattern of households. The resultant input-output model can be used to calculate the total effects on all sectors of an increase in output of any single sector. These total effects include the original effect and all the consequential rounds of indirect and induced effects.

In the case of the proposed stadium, an estimate of capital cost, employment and operational financials has been developed by Deloitte. These forecasts are used as the basis of inputs into the economic model for the Ashburton District.

3.3 Estimates of Multipliers for Proposed Stadium (including pool)

Once the stadium expenditure information had been incorporated into the district model, employment, output, value added and household income multipliers could be estimated using matrix algebra¹². Type II multipliers (which include induced effects) were calculated. It is clear that the increased direct household income from the proposed development stimulates household spending and hence economic activity in the district. For this reason it is believed to be appropriate to use Type II multipliers to calculate total economic impacts.

The multipliers estimated from the district economic model are applied to estimates of the proposed stadium's direct employment, output, value added and household income to get estimates of total employment, output, value added and household income arising from the stadium. Multipliers are also applied to the estimated visitor spending in the district associated with the expected increase in sporting events at the new stadium. Readers who wish to know more should consult a text on input - output models.

¹¹ Developed in Australia and widely used there and in New Zealand. See West et al (1982), or Butcher (1985).

¹² Readers who wish to know more should consult a text on input - output models. Customised software (e.g. IO7) which undertakes the matrix manipulation is readily available

4. DIRECT ECONOMIC OUTPUT OF OPERATIONS

This section contains a summary of the estimated economic impacts of the proposed Stadium (including swimming pool) on Ashburton District.

4.1 Stadium and Pool Admission and Concession Revenue.

The impacts of the stadium operation are based on the forecasts of capital costs, employment, and operating financial outcomes developed by Deloitte. It has been estimated that the stadium will generate admission and concession revenue of \$1.31 million per year in year one, rising to \$1.4 million per year by year five. A significant part of the revenue will be a transfer away from existing facilities, which we presume have similar cost structures to the stadium, and hence there will be no impact on economic activity in spite of the fact that consumers have benefited by enjoying a higher quality facility. To the extent that the new stadium and pool lead to increased total community spending on these activities, other household expenditure will be reduced. This will have a negative effect on local economic activity, partially offsetting the positive effects of higher spending at the stadium.

4.2 Café and Fitness Centre Sales

Users of the café are expected to be predominantly people who would otherwise use existing cafés in Ashburton. The existing fitness centre use is believed to be constrained by capacity and the gym facilities at the stadium will increase capacity. Assuming that the existing facilities and the proposed new facilities will have similar cost structures, the new facilities will only have a net economic impact on employment, income and value added to the extent that they persuade people not to go out of town to alternative facilities. Consumers will presumably transfer from existing facilities to the new facilities because they enjoy the new facilities more, and while this implies an economic benefit to consumers, which is relevant to the overall value of the stadium, this will not generate additional economic activity. Our current assumption is that overall only one third of the operating impacts of the pool, fitness centre and other activities (and none of the café impacts) will be additional to the district. Once the concept plans have been developed to a more detailed level, it may be appropriate to review this assumption.

4.3 Funding of Operating Deficit

The Deloitte feasibility study indicate an operating deficit of \$166,000 during the “honey-moon” period in 2010-11, rising to a typical long term figures of \$330,000 in 2014-15. Added to this are the depreciation and funding costs of \$1.46 million per year¹³. The total of \$1.79 million per year is around \$1.52 million per year greater

¹³ In this calculation we have included the inflation adjusted interest costs (5 %) on the borrowings and Council grant funds (\$27.64 million) over the pool lifetime (60 years). This differs from the accounting costs of 7.5 % on borrowings only (\$12.64 million) over a 30 year loan repayment period which is \$1.12 million per year.

than the Council’s budgeted operating deficit of \$270,000 for the pool in 2007/08. As is the case now, this deficit will be financed by rates. The rates would otherwise have been spent by households in other areas, and the negative economic impacts of this reduced spending have been offset against the positive impacts of the stadium (see section 5 of this report).

4.4 Additional Sports Events Impacts

4.4.1 Additional Visitors to town

A preliminary analysis by Deloitte suggests that the stadium will enable more sports events to be held in Ashburton than can currently be held. It is estimated that there will be approximately 7,700 additional visitor-nights per year in Ashburton associated with these additional events. Further analysis may change these figures. Using estimates of \$75 expenditure per person per day, we estimate that the total impact of these visitors would be to increase expenditure in Ashburton by \$580,000 per year.

4.4.2 Impact of Reduced Travel to Events by Local Residents

The additional events in Ashburton are expected to be transfers of events that Ashburton people currently travel outside the District to attend. If we assume that Ashburton people are one quarter of the participants in the event¹⁴, then the reduced expenditure by Ashburton residents outside the region, which is equivalent to increased disposable income available for spending in the region, is equivalent to \$145,000 / year.

4.5 Direct Employment and Value Added

As shown in Table 2, the operation of the stadium including all associated facilities (except the café) will directly generate 22 FTE jobs, \$960,000 per year of household income and \$630,000 per year of value added (after operating losses). These figures are for year 5 once the “honey-moon” period of a new facility has worn off.

Table 2: Gross Economic Impacts of the Ashburton Stadium Operation

	Direct Impact of Stadium 2014/15
Output (\$m / year)	\$1.40 m / yr
Value Added (\$m / year)	\$0.63 m / yr
Household Income (\$m / year)	\$0.96 m / yr
Employment (FTEs – on-going)	22 FTEs

¹⁴ This number is highly speculative. In some cases the tournaments are between Ashburton and a single other region, while in other cases Ashburton residents are only perhaps 10 % of the participants.

As indicated above, much of this impact will be offset by declines in other businesses and in household spending. These effects are taken into account in section 5.

4.6 Economic Impacts of Construction

4.6.1 Impacts of Construction

Construction of the stadium is expected to cost \$33 million (excluding land and site-specific services). The economic impact in Ashburton itself will depend on the mix of inputs and where they are sourced from. Because the buildings have not yet been costed at a detailed level, we have assumed a mix of inputs based on broad averages for similar projects. We have also assumed that all the professional fees and 50 % of the construction work will go to businesses outside the district. For the above reasons, the impacts may be considerably more or less than we have estimated depending on which company wins the contract and the degree to which they use local subcontractors. In broad terms, construction will directly generate 62 job-years of work in Ashburton along with \$3.7 million of district income, including \$3.1 million of household income.

Table 3: Direct Construction Impacts of the Ashburton Stadium.

	Direct Impact of Construction (spread over 2 year construction period)
Output (Sales)	\$15 m
District Income (Value Added)	\$3.7 m
<i>Of which Household Income</i>	\$3.1 m
Employment	62 job-years*

* A job year is 1 job for 1 year, or 0.5 jobs for 2 years or two jobs for six months, etc.

4.6.2. Construction Impacts Offset Due to Funding Costs

The way in which the stadium is funded will have a considerable effect on the net economic impact of construction. If the funding was from grants outside the region, then the impacts will be as shown above. However, if funding for the stadium means reduced funding for something else which would otherwise have generated economic impacts, this will reduce the net economic impacts of stadium construction. If the funding is through rates (whether by council grant or through higher council debt) or from higher user charges, then the positive economic impacts of construction will be offset to some degree by the negative economic impacts of reduced consumer spending during the life of the stadium. This effect is explored further in section 5.

4.6.3 Construction Impact Dependence on Economic Cycle

The level of economic impact from construction will depend on the degree to which the stadium construction crowds out other construction work. If the construction industry is already very busy, then the stadium will not so much generate additional employment as force other projects to be delayed. If the stadium is constructed at a time when the construction industry is quiet, then the stadium construction would boost activity beyond what it would otherwise be. The estimates of economic impacts shown in Table 3 assume that the industry is quiet and has spare capacity at the time of stadium construction.

4.7 Impact on Community Economic Growth

The unemployment rate in Ashburton is believed to be low¹⁵ and there have been suggestions that lack of labour is a barrier to faster economic growth, and that some potential employees are reluctant to come to Ashburton because of perceived inadequate community facilities. If that is the case and if a stadium would alter that perception, then the stadium's impact on economic activity from this perspective could be significant, and probably much greater than any impact through additional construction or the operation of the stadium.

Forecasts produced by the council show population increasing from 27,300 in 2006 to 33,000 in 2026. This growth requires, and will be in part be driven by, improved community facilities.

4.8 Conclusion

The proposed stadium will involve capital expenditure of \$33 million. In broad terms, construction will generate 62 job-years of work in Ashburton along with \$3.7 million of regional income (value added), which includes \$3.1 million of household income.

Operation of the complex (excluding the café) will directly generate 22 jobs as well as \$630,000 of regional income per year, which includes \$960,000 of household income and an operating loss for the stadium.

These impacts will be offset in part by reduced expenditure in existing businesses and by reductions in general household consumption in other areas, as shown in section 5 of this report.

¹⁵ The Household Labour Force survey sample size is too small to produce reliable estimates at the Ashburton District level, but anecdotal evidence is that labour is scarce.

5. MULTIPLIERS AND TOTAL DEVELOPMENT IMPACTS

5.1 Estimates of Complex Multipliers and Total Impacts

Once the basic District model had been expanded to incorporate the financial and employment estimates for the proposed Stadium, it was possible to calculate employment, value added and household income multipliers. Multipliers have been applied to the direct impacts in Table 2 in order to estimate the total impacts arising from the complex construction and operation. We have termed these the “gross” (as opposed to net) total impacts.

Against the positive impacts of the stadium need to be set the negative impacts as existing competing businesses (e.g. the existing swimming pool and fitness centre) contract, and as households switch spending from consumption to funding the stadium operating losses of \$1.52 m per year. We have assumed that two thirds of the impacts of the stadium will be direct transfer effects from the existing pool and fitness centres, and that the remaining third leads to an equivalent loss of \$460,000 per year in consumption spending in the district with associated economic impacts.

The net result of these positive and negative impacts is shown in Table 4, and it is because of the offsetting negative impacts that that at the District level the total impacts are less than the direct impacts.

5.2 Total Gross and Net Stadium Operation Impacts

The inclusion of flow on effects means it is expected that operation of the stadium itself will generate a total of 28 jobs in Ashburton District. Associated with this will be total District income of \$1.15m per year (after operating losses), including household income of \$1.22m / year.

The impacts of additional visitors attending sports events as well as the extra spending of residents who less frequently go out of the district to sports events needs to be added to this total, and the resultant figure should then have deducted from it the reduced household spending of residents who have to fund the increased operating deficit of the stadium, and the reduced economic activity from existing businesses who lose custom to the new stadium.

As is shown in Table 4, the net economic impact of the stadium will be to generate 11 on-going jobs (FTE) and \$0.12 million per year of regional income, including \$0.42 m per year of household income and stadium operating losses.

It is worth noting that the small economic impacts of the stadium and pool reported here are consistent with the findings of many other studies of the economic impacts of projects which are aimed primarily at improving the wellbeing of local communities. In the 1980s and 1990s, urban amenities were often justified on the basis of an expected boost to local economic activity. The actual outcomes of such projects were

frequently disappointing in terms of economic impacts, and it became apparent that the new amenities were simply diverting spending away from other activities in the region. Regional modeling has to take into account negative impacts on other businesses, and the general rule is that significant local economic impacts will only arise when amenities attract out-of-region visitors or provide services that locals had formerly gone out of town to obtain. It is now generally accepted that the major benefits of urban amenities most commonly arise from the improved standard of living for local residents who use the new facility, and not from any economic impacts that might arise.

Table 4: Total Operational Impacts of the Proposed Ashburton Stadium and Pool.

	Output (\$m/yr)	Value Added (\$m/yr)	Household Income (\$m/yr)	Employ- ment (FTE)
Direct Impacts of Stadium Operation	1.40	0.63	0.96	22
Gross Total Impacts of Stadium Operation	2.45	1.15	1.22	28
<i>Plus</i>				
Sports event visitors	0.79	0.35	0.27	7.9
Reduced resident travel to sports events	0.08	0.05	0.02	0.5
<i>Less</i>				
Funding of operating deficit	-0.89	-0.51	-0.21	-5.2
Transfer from existing business	-1.64	-0.77	-0.82	-18.8
Transfer from consumption to stadium spend	-0.27	-0.16	-0.06	-1.6
Net Impacts	0.52	0.12	0.42	11

5.3 Total Stadium Construction Impacts

The inclusion of indirect and induced impacts means that total one-off construction impacts in the District increase to 115 job-years of employment and \$7.5 million of value added, including \$5.5 million of household in the district (see Table 5).

Table 5: Total Construction Impacts of Ashburton Stadium and Pool.

	Output (\$m/yr)	Value Added (\$m/yr)	Household Income (\$m/yr)	Employ- ment (FTE)
Direct Construction Impacts	15	3.7	3.1	62
Total Construction Impacts	30	7.5	5.5	115

These estimates assume that no other construction work is displaced by the stadium construction, and this depends on the stage of the economic cycle at the time of construction. Construction of a stadium at present might bolster economic activity in the construction industry, which currently appears to be facing a downturn in some sectors.

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Appendix 1. Uncertainty

Source of Uncertainties

Direct Impacts

The estimates of turnover and direct employment are based on forecasts from the Deloitte Feasibility Study Report May 2008. Forecasts are inherently uncertain. They are predictions of future events, which cannot be assured. They are based upon assumptions, many of which are beyond the control of Ashburton Stadium Trust and their management and advisers. Actual results will vary from the forecasts and these variations may be significantly more or less favourable.

The project is expected to make a commercial loss with this being sustainable only because of the presumed set-up and operational grants.

Employment and Value Added

Multiplier impacts are determined by employment : output and value added : output ratios in other industries in Ashburton. The ratios used are averages for New Zealand, and these may differ somewhat from region to region. Errors in analysis from this source are expected to be small.

Flow-on Effects

There is significant uncertainty about the flow-on effects of the stadium. The assumption that two thirds of the spending at the new stadium will be a transfer from existing business seems reasonable, but the actual figure could differ significantly. This is particularly the case in the long term as existing facilities may become inadequate for the growing Ashburton population. It may well be that in the medium term the impacts of the stadium will be greater than is estimated here for 2014-15.

There is uncertainty about how many additional sports events will come to Ashburton as a result of the stadium. The results could be 50 per cent less or 100 per cent more than has been assumed here. If we doubled the number of additional sports events, this would increase the net impacts of the stadium and pool by almost 50 per cent.

CAN YOU PUT A NUMBER ON

Double

Half

No allowance has been made the visitor impact of potential conferences or exhibitions on the basis that the conferences/exhibits are expected to large attract local people.

APPENDIX 2 DEFINITIONS

Employment

Employment is work done by employees and self-employed persons, and is measured in Full-Time-Equivalent jobs (FTEs). A person working part time all year is deemed to be equivalent to 0.5 FTEs. Where work is seasonal, the conversion to FTEs is based on 12 months work per year. So a seasonal worker working full time for six months per year is 0.5 FTEs, and a part time seasonal worker working ten hours per week for 4 months is 0.1 FTEs.

Output

Output is the value of sales by a business. In the case of wholesale and retail trade, it is the total value of turnover (and not simply gross margins)¹⁶.

Value Added

Value added includes household income (wages and salaries and self-employed income), and returns to capital (including interest, depreciation and profits). It also includes all taxes. Put another way, Value Added is equal to Output less costs other than wages, salaries, depreciation and interest.

Household Income

Household income is the gross income of households. It includes the income of self-employed persons. There is sometimes considerable uncertainty as to the proportion of business income, which goes to households, especially for small businesses. In assessing this proportion, dividends and interest payments have been excluded. Conceptually they should be included, but it is difficult to be clear what proportions have gone to households. When estimating indirect economic impacts, one needs to know the increase in household income, which occurs in the region. Where owners of business capital live out of the district, shares and interest do not form part of the district household income.

Direct Economic Impacts

The direct impact arises from the initial spending by visitors on the goods and services they want to consume. The direct employment is of people who produce and sell goods and services directly to tourists. The direct output is the value of purchases made by tourists. The direct value added is the value added in those businesses, which sell direct to tourists.

Indirect Economic Impacts

The indirect impact arises from increased spending by businesses as they buy additional inputs so that they can increase production to meet visitor demand. This indirect effect can be envisaged as an expanding ripple effect. A tourist buys food and drink at a cafe. The cafe has to employ more staff and buy more bread, so the

¹⁶ Care has to be taken in combining retail sales figures with employment per \$million of output from input - output tables. In these tables, output is generally defined as gross margin. By contrast, business statistics figures usually give employment per \$million of turnover.

bakery output expands. The bakery has to employ more staff and buy more electricity, so the power company increases its output. The power company has to increase its maintenance, so it employs another person and spends more on a vehicle for that person. All the increased employment, output and value added (apart from that at the cafe) are the indirect effect. Note that indirect effects only include "upstream" effects (via buying more inputs), but do not include any stimulated development downstream. So although an expansion of activities may lead to more tourists and hence an expansion of accommodation, the extra accommodation is not included as a flow on effect of the activity, and hence is not included in the multiplier.

Induced Economic Impact

The induced impact is the result of increased household income being spent, and leading to a further ripple effect of increased employment, output and income.

Flow on Effects / Upstream Impacts

The sum of indirect and induced effects is sometimes termed the flow on effects, or upstream impacts.

Down Stream Impacts

Impacts which are not driven by an activity's demand for extra inputs, but which might arise as a result of a particular activity, are sometimes called the "Downstream impacts". An example in the Ashburton example is where spending additional sports events leads to an increased demand by visitors for accommodation and food. The accommodation and food is not an input into the Stadium and hence is not an indirect or induced effect of the Heritage Centre. It is a downstream effect.

Total Economic Impacts

The total Type I impact is the sum of the direct and indirect impacts, and a Type II impact is the sum of direct, indirect and induced impacts.

Multipliers

A Type I multiplier is the ratio of (direct + indirect) impacts to direct impacts, and a type II multiplier is the ratio of (direct + indirect + induced) impacts to direct impacts. The Type II multipliers include the impact of household spending and hence will always be greater than a Type I multiplier. Both multipliers will always be greater than 1. Note that downstream effects (whether positive or negative) are not included in the multiplier, and must be calculated separately.

Appendix 3. Spreadsheets of Calculations