

Auditing for the Australian Capital Territory

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AUDITOR-GENERAL
AUSTRALIAN CAPITAL TERRITORY



PA 01/14

23 July 2002

The Speaker
ACT Legislative Assembly
South Building
London Circuit
CANBERRA ACT 2601

Dear Mr Speaker

In accordance with the Authority contained in the *Auditor-General Act 1996*, I transmit to you my Report titled '*V8 Car Races in Canberra – Costs and Benefits*' for immediate distribution to Members of the Legislative Assembly and for presentation to the Legislative Assembly on the Assembly's next sitting day.

The Audit was conducted primarily by Dr Mark Harrison, Principal, Consultecon Pty Ltd with assistance from Rod Nicholas, Audit Manager, ACT Auditor-General's Office.

Yours sincerely

John A Parkinson

ACT Auditor-General's Office

Performance Audit Report

V8 Car Races in Canberra – Costs and Benefits

July 2002

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1. REPORT SUMMARY

BACKGROUND

1.1 In 1999, the Canberra Tourism and Events Corporation (CTEC) signed an agreement with AVESCO, the governing body of the Shell Championship Series for V8 Supercars, to stage an annual street race in Canberra for five years. CTEC is an ACT statutory authority established by the Canberra Tourism and Events Corporation Act 1997¹. Its operations are almost entirely funded from the ACT budget.

1.2 The ACT Legislative Assembly voted to appropriate \$4.5m in capital works for the first year of the race and \$2.5m per year subsidy to fund the annual operating costs of the race. In 2000-01, the annual subsidy was raised to \$4m per year, and in 2001-02 to \$4.7m. This subsidy is paid to CTEC. It is clear from Cabinet's decision that the main reason for conducting the races was to produce economic benefits for the ACT.

1.3 Under the agreement with AVESCO, CTEC provides, finances and promotes the races. AVESCO brings the event to Canberra and receives a fixed fee. All financial risks from the races are borne by CTEC, and therefore ACT taxpayers.

1.4 The first three races of the series were held on the June long weekends in 2000, 2001 and 2002. Two further races are scheduled in 2003 and 2004.

1.5 In October 2000, CTEC published a booklet titled *GMC 400 Report 2000*. The booklet presented CTEC's estimates of the economic benefits generated for the ACT through the conduct of the first race. Costs incurred by CTEC to stage the race were not included in the booklet. The costs were separately disclosed in CTEC's audited financial statements which formed part of CTEC's annual report for the year ended 30 June 2000. For the 2001 race the economic benefits estimates were presented in a booklet titled *GMC 400 – 2001 Key Results*. As for the

¹ The Corporation is comprised of seven members. Since the decision was taken to stage the V8 races in Canberra the membership of the Corporation has progressively altered. Only two current members of the Corporation were members when the decision to stage the race was taken. The current Chief Executive was appointed on 4 March 2002.

2000 race, the costs met by CTEC were separately disclosed in CTEC's audited financial statements.

AUDIT APPROACH AND SCOPE

1.6 The ACT Government decided to conduct the races to generate economic benefits for the ACT. Consequently, the first step in the Audit was to analyse the accuracy and reliability of the publicly announced economic benefits for 2000 and 2001. The Audit would carry out a further cost-benefit analysis if the Audit's first step showed that the benefits announced were unsuitable for making judgements about the success of the race or for making decisions on the conduct of future races.

1.7 The Audit also examined the August 1999 Cabinet submission on which the decision to conduct the races was based.

1.8 The Audit's review of the announced economic benefits showed that the announced results exaggerated the benefits actually achieved. The Audit therefore proceeded to the preparation of its own cost-benefit analysis to assess whether conducting the race was achieving its intended purpose.

1.9 The Audit's scope extended only to the financial and economic forecasts that supported the initial decision to conduct the series of Supercar races and to the economic benefits and costs generated from the conduct of the 2000 and 2001 races.

1.10 As the Audit was predominantly performed in April and May 2002 the results from the 2002 race were not included in the Audit scope.

1.11 Management of the planning for the races, engagement of contractors to construct the track and facilities and the other various activities connected with the conduct of the race were not included in the Audit. The November 2000 Cabinet submission that recommended increasing funding for the races from the amounts initially agreed by Cabinet was also not included in the Audit.

1.12 The Audit has developed some general guidance on methods that should be adopted for the preparation of future cost-benefit analysis of tourism events. This guidance is included as *Chapter 5* of this report.

V8 CAR RACES IN CANBERRA – COSTS AND BENEFITS

1.13 The Audit was conducted in accordance with Australian Auditing Standards applicable to performance audits.

AUDIT OBJECTIVES

1.14 The objectives of the Audit were to provide independent opinions to the Legislative Assembly on whether:

- the conduct of the 2000 and 2001 races generated positive or negative economic results for the ACT;
- the economic benefits announced as being generated from the 2000 and 2001 races were sufficiently reliable to judge success of the races and support decision making on the future conduct of the race;
- the Cabinet submission which recommended that Cabinet agree to the conduct of the series of races contained relevant, accurate and complete information; and
- the actual financial outcomes from the 2000 and 2001 races were consistent with Cabinet's original expectations from the races.

AUDIT OPINIONS

- The conduct of the 2000 and 2001 races had significant negative economic results for the ACT.
- The economic benefits for the ACT announced as being generated by the 2000 and 2001 races were overstated and provided little information useful for making judgements on the success of the races or making decisions on the conduct of future races.
- The Cabinet submission, which recommended that Cabinet agree to the conduct of the races, contained significantly inaccurate and incomplete information.
- The actual net direct financial costs of conducting the 2000 and 2001 races were greater than the Government's original expectations; the net cost of the 2001 race was almost twice the forecast cost.

BASES FOR AUDIT OPINIONS

Economic Benefits for the ACT (see *Chapter 2*)

1.15 The opinion that *the conduct of the 2000 and 2001 races had significant negative economic results for the ACT* is based on the following findings.

- The direct net financial cost of the race (i.e. direct financial costs less revenue) met by ACT taxpayers was \$7.7m in 2000 and \$5.1m in 2001.
- The estimated net cost to the community (i.e. net direct financial costs less net other direct and indirect benefits) of the race was \$4.6m in 2000 and \$2.8m in 2001.
- The present value of the net direct financial cost of the race over five years to ACT taxpayers is estimated at \$29.2m assuming that the net financial costs of future races are similar to that incurred for the 2001 race.
- The present value of the net cost of the race over five years to the ACT community is estimated at \$16.2m assuming that the net costs of future races are similar to the net cost of the 2001 race.

Summary

1.16 The Audit estimated through its cost-benefit analysis that hosting the V8 Supercar race in Canberra resulted in a substantial cost for the ACT Government and, consequently, ACT taxpayers.

1.17 The races generated some other net benefits for the community. These were predominantly from interstate tourists. The Audit has estimated the net benefits at \$3.0m in 2000 and \$2.4m in 2001. When these estimates are taken into account the net costs to the ACT economy are reduced to \$4.6m in 2000 and \$2.8m in 2001. Based on these results, conducting future races will generate further significant net costs to the Government and community. Substantial improvements in financial and economic results would be required to change this outcome.

Announced Economic Benefits (see *Chapter 3*)

1.18 The opinion that *the economic benefits for the ACT announced as being generated by the 2000 and 2001 races were overstated and*

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provided little information useful for making judgements on the success of the race or making decisions on the conduct of future races is based on the following findings.

- The evaluations conducted by CTEC did not present a complete cost-benefit analysis. They did not consider the costs from the event. As a result, CTEC's estimates present only the gross benefits to the ACT, not the net benefits.
- The evaluations conducted by CTEC did not take into account the direct financial flows from the project, such as the public funds spent to establish and run the event.
- CTEC includes expenditure by interstate tourists and locals on race tickets and merchandise, although such expenditure is also included in the direct operating revenue for the race. In a full analysis of costs and benefits, including this expenditure would be double counting.
- CTEC has incorrectly included as a benefit expenditure by tourists who would have come to Canberra whether or not the race was held, that is, expenditure that would have occurred in absence of the car race.
- CTEC has incorrectly included as a benefit expenditure by local residents at the race, that is, expenditure that is switched from other activities with no net impact on the economy.
- CTEC includes expenditure on local contracts as a benefit. Such expenditure is a cost. It is only legitimate to also count it as a benefit if the resources used had no alternative use.
- Surveys of spectators commissioned by CTEC overstate the increase in tourist expenditure from the race. For example, they over-represent three-day ticket holders. As a result, the estimates of the proportion of spectators from interstate and their per head expenditure are over-stated.
- CTEC's statements about jobs created and publicity value received misunderstand the measures that are used.

Summary

1.19 The announced evaluations of the economic benefits generated by the 2000 and 2001 races consisted of gross benefits and did not consider costs. CTEC did not follow typical methodology for conducting economic impact studies although its own consultants followed the usual

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methodology. The estimates produced by the consultants were increased by CTEC.

1.20 As a result, the gross benefits announced were exaggerated. For example, expenditure on the race by local residents was counted. Spending by locals on the car race merely means they spend less on something else. Expenditure by local residents will mostly be expenditure switched from other activities in Canberra with no direct impact on economic activity. That is, it is not likely to be additional spending in Canberra.

1.21 Spending in Canberra by tourists who would have come to Canberra whether or not the race was held was also counted. This is not an additional benefit to the Canberra economy generated by the race, as the expenditure would have occurred whether or not the car race was held.

1.22 The benefits announced publicly were overstated and provided little useful information for making judgements on the success of the two races conducted. They were also of little use for making decisions about whether or not to continue conducting the races.

1.23 A response to a draft of this report from CTEC included:

The Board agrees that a complete net cost benefit analysis, inclusive of all costs and all benefits, should have been undertaken with the net outcome being used to determine the effectiveness of the races and its economic value to the ACT. However as we understand it, CTEC was not requested at any stage to undertake a detailed cost analysis or assess the events on going viability. It is for this reason that in publicising the economic benefits, CTEC reported the gross benefit and this was clear and transparent to all.

Cabinet Submission (see Chapter 4)

1.24 The opinion that *the Cabinet submission, which recommended that Cabinet agree to the conduct of the races, contained significantly inaccurate and incomplete information* is based on the following findings.

- The analysis and methodology used in the Cabinet Submission to estimate the financial flows and potential benefits from the race

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was flawed. As a result, the Submission was inaccurate and incomplete.

- A key table of economic benefits included in the Submission contains simple numerical errors.
- The Submission does not discount future revenue and cost flows to account for the cost of capital. The result is to exaggerate the estimated net benefit from the car race by one-third.
- The Submission's use of visitor expenditure figures from the FAI Rally is flawed. The result is to exaggerate the estimated visitor impact on spending by over 50 per cent.
- The Submission includes optimistic forecasts. Arbitrary and unjustified assumptions that favour the project are made about the size and growth of benefits and costs. In particular, the assumed publicity benefits and growth rates seem implausible.
- The Submission assumes an unrealistically high level of job creation.
- The Submission includes optimistic ticket sale forecasts that are inconsistent with experience with other car races.
- The Submission did not follow standard practice and provide information on the financial risk associated with the project.

Summary

1.25 The Cabinet Submission was inaccurate and incomplete. The economic benefit evaluation contains simple numerical errors, double counting, does not systematically allow for inflation, and does not discount future benefit and cost flows. The forecasts of interstate visitor impact, publicity value, jobs created and ticket sales are all overstated. The Submission does not adequately deal with the financial risks associated with the race. The actual net financial cost of the race has been far above the predictions made in the Submission, and the indirect benefits much less.

1.26 It is difficult to judge the assumptions made in the Cabinet Submission, as little supporting documentation could be produced for the Audit. Although the Cabinet Submission states that the Chief Minister's Department and the Department of Treasury were consulted over the Submission, neither Department could locate any written comments made on the submission. Both Departments advised the Audit that consultation

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was minimal and was likely to have been in an informal manner through telephone conversations and/or by way of meetings. The absence of documentation is a very unsatisfactory situation.

1.27 The findings show that the economic and financial forecasts contained in the Cabinet submission were not reliable as a basis for sound decision-making.

1.28 Within a response to a draft of this Report CTEC stated:

The Board of CTEC, given the unavailability of complete working papers as well as limited access to people who were employed in CTEC at the time, is unable to provide any specific comment on the process by which the Cabinet Submission was constructed or approved.

The Board believes that any proposal that involves an assessment by Government in a non community based program should be developed and assessed on the basis of a net return on investment after allowing for risk and the opportunity cost of those proposed funds being invested in some other Industry intervention program. All assumptions underpinning a business case should be thoroughly tested and ideally validated against other independent sources of information.

Direct Financial Costs (see paragraphs 4.61 to 4.65 of Chapter 4)

1.29 The opinion that *the actual net direct financial costs of conducting the 2000 and 2001 races were greater than the Government's original expectations and the cost of the 2001 race was almost twice the forecast cost* is based on the following findings.

- The net financial cost of conducting the 2000 race was \$7.7m compared to a forecast cost of \$7.5m.
- The net financial cost of conducting the 2001 race was \$5.1m compared with a forecast cost of \$2.6m.

Summary

1.30 The actual financial outcomes compared with the forecast costs illustrate that the forecasts contained in the Cabinet submission were unreliable.

COST-BENEFIT ANALYSIS METHODOLOGIES

1.31 The Audit also identifies a methodology suitable for use in future evaluations of proposed ACT Government funded tourism related events. The methodology is presented in *Chapter 5* of this Report.

ACKNOWLEDGEMENT

1.32 The Audit Office acknowledges CTEC's cooperation during the conduct of the Audit in providing information which it had available and which the Audit requested.

CONCLUSION

1.33 The Audit's cost-benefit analysis showed that conducting the first two races of the five race V8 Supercar series has been at a significant cost to the ACT. If the existing financial arrangements continue, conducting the remaining three races will also generate significant costs.

1.34 Cabinet decided to conduct the series of races based on financial and economic information contained in a Cabinet submission, which exaggerated the benefits that could accrue to the ACT from conducting the races. CTEC prepared the submission's financial and economic forecasts. The forecasts were not independently reviewed by any external person or body. The information was untested in any serious way.

1.35 The 2000 and 2001 races both failed to produce the forecast economic benefits. CTEC publicly announced economic benefit figures that were considerably overstated. CTEC measured only gross benefits and did not consider costs.

1.36 The following two major failures were noted:

- Cabinet made its decision to conduct the races based on inaccurate information. If better information had been available, Cabinet

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may not have decided to conduct the races and the taxpayer would not have had to meet the costs; and

- accurate and complete information on the financial and economic outcomes of the races was not produced. If those who were in positions to make decisions about proceeding with further races had known that the races were generating significant costs for the ACT, rather than benefits, it is possible that a decision would have been taken to either abandon or change the financial arrangements for the remaining races in the series.

DEPARTMENT OF TREASURY'S RESPONSE TO THE REPORT

1.37 A draft report was provided to the Department of Treasury on 27 May 2002. Treasury was asked whether it agreed with the economic concepts the Audit had used to arrive at the results presented in the report. Treasury's response, received on 14 June 2002, included the following.

[The Department of Treasury] has reviewed the draft report and supports the approach to cost benefit analysis taken by the audit. The approach conforms to good academic standards and professional practice.

[The Department of Treasury] agrees on the importance of rigorous and independent cost benefit analysis as a tool in providing good advice to decision makers. This very point is often made by officers of this department in discussions with other agencies.

Audit Comment on Treasury's Response

1.38 The Audit welcomes the Treasury response and commends Treasury's efforts to educate Territory agencies on the importance of rigorous cost benefit analysis.

CORPORATION'S RESPONSE TO THE REPORT

1.39 In accordance with section 18 of the *Auditor-General Act 1996*, a final draft of this report was provided to the Chief Executive of the Canberra Tourism and Events Corporation for the corporation's consideration and comments. The Corporation's response is set out following.

Performance Audit – V8 Car Race

- (1.) Thank you for providing the Board with a final opportunity for comments on the above.*
- (2.) The Board is particularly concerned that the report has not taken into account the comments made by CTEC on the draft provided to the organisation.*
- (3.) The fundamental concern is that the report’s language implies that both the CTEC organisation and, by implication, the Board, misled the public in relation to statements made about the economic benefits of the race. This is a matter of grave concern, which, needs to be addressed by the Board and the individuals on the Board separate to the organisation.*
- (4.) We think it is important to distinguish between an analysis of the event which you may wish to characterise as being inadequate (but we note CTEC was not asked and at no time pretended to carry out a complete analysis) and assumptions which you assert are mistaken and/or wrong, which is one thing, and the other issue which is one of disclosure, transparency and integrity.*
- (5.) It needs to be clearly recognised that CTEC’s announcement of the economic benefit never pretended to be a complete financial analysis, were always expressed, and understood as being, the gross economic benefits, and the assumptions that were made in generating the figures were transparently made public in a way that allowed any person to make their own analysis and judgements on the information (and, indeed, we note that your audit has had little trouble in dissecting this work and the assumptions). We would further add that each of these points can be seen readily and easily by examining the public reporting in the media of the announcements made by CTEC.*

Audit Comment on the Corporation’s Response

1.40 The Audit makes the following comments on the Corporation’s response.

1.41 The response states that CTEC is concerned that its comments on a preliminary draft of the Audit report were not taken into account in preparing the final report (paragraph 2). This is incorrect. Each comment made by CTEC was carefully examined. As a result of the examination several changes were made to the draft report. For example, the one major issue of concern identified by the Corporation with *Chapter 2 (Full*

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Cost Benefit Analysis) was the draft's treatment of 'publicity' value. Major changes were made to *Chapter 2* as a result of the Corporation's comments. Additionally, the Corporation's comments concerning *Chapter 3 (Announced Economic Benefits)* and *Chapter 4 (Cabinet Submission)* have been included in the final report at paragraphs 3.64-66 and 4.66 respectively.

1.42 The Corporation's response includes the assertion that 'the report's language implies that both the CTEC organization and, by implication, the Board, misled the public in relation to statements made about the economic benefits of the race' (paragraph 3). In this regard it is pointed out that the Report does not state or intend to imply that the public were intentionally misled. The Audit considers, however, that the information publicly released was incomplete and unreliable for judging the success of the race and making decisions about the future conduct of the races. The Audit's reasons are fully explained in Chapter 3 of the Report.

1.43 The Corporation states its view that analysis of the event should be distinguished from the issue of disclosure, transparency and integrity (paragraph 4). The Audit generally agrees. The Report mostly does this. *Chapter 2 (Full Cost – Benefit Analysis)* is the Audit's analysis of the race while *Chapter 3 (Announced Economic Benefits)* comments on the publicly disclosed information. There is unavoidably some overlap between the Chapters. The Report does not address 'integrity'.

1.44 After consideration of paragraph 5 of the CTEC response, an Appendix 4 has been added to the final report. The appendix reproduces extracts from a booklet titled *GMC 400 Report 2000* and a booklet titled *GMC 400 – 2001 Key Results*. The booklets were made publicly available by CTEC. The appendix is provided as an example of how the economic benefits from the 2000 and 2001 races were announced. Readers of the appendix will note that the term 'gross' is not used anywhere to qualify the value of the economic benefits announced.

1.45 The total cost incurred by CTEC to stage the 2000 race was not mentioned in *GMC Report 2000*. The total cost for the 2001 race was not included in *GMC 400 – 2001 Key Results*. The costs were disclosed in CTEC's audited financial statements contained in its 2000 and 2001 annual reports.

1.46 The Audit was performed to professional standards. The Audit was conducted by gathering available evidence and applying professional standards, rigour and judgement to analyse that evidence. The report presents a professional, objective, fair and reasonable representation of the matters addressed in the Audit.

SUGGESTED FUTURE ACTIONS

1.47 The Audit makes no suggestion about the future of the V8 Supercar race series in Canberra. That is a matter for the Government and CTEC to decide. The information in this Report may assist the Government and CTEC in their deliberations.

1.48 Although the Audit was specific to the V8 car race, the Audit considers that if the problems identified by the Audit occurred in regard to the race, it is possible that similar problems could occur elsewhere. The Audit therefore considers that all agencies should review their procedures for developing, verifying and providing input to Cabinet submissions and public announcements. As part of their reviews Agencies should ensure they have in place effective procedures to ensure that all the relevant requirements in the ACT Government Cabinet Handbook² are fully met. Agencies should also carefully review their record keeping processes.

1.49 In particular the following matters should be addressed.

1. Quality assurance procedures should be designed and implemented in all agencies, and in the Cabinet Office, to ensure that information contained in all Cabinet submissions is reliable, relevant, accurate and complete and that all procedures required by the Cabinet Handbook are followed.
2. Quality assurance procedures should be designed and implemented in all agencies to ensure that ‘factual’ information contained in public announcements by Ministers or by the agencies is reliable, relevant, accurate and complete.

² The current ACT Government Cabinet Handbook was approved by Cabinet on 25 March 2002. The Handbook, amongst other matters, includes procedures which must be followed in the preparation of Cabinet submissions. The V8 Supercar submission did not meet the requirements of the Cabinet Handbook which was current at the time that submission was prepared.

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3. The operation of all quality assurance procedures should be clearly evidenced (e.g. signatures, certificates, etc.).
4. In the case of Departments the quality assurance procedures should be approved by the Chief Executive and, in the case of statutory authorities (such as CTEC), by the authority's board. The designed quality assurance procedures should be documented by the agency and the documentation made available to all agency officials who may be involved in Cabinet submission preparation.
5. The quality assurance procedures should involve agencies preparing certificates summarising for every submission the procedures undertaken in relation to each Cabinet Handbook requirement. The certificates should be provided to the Cabinet Office.
6. Each agency's internal audit program should include annual independent verification that the Cabinet submission quality assurance procedures as designed have been fully performed for all submissions.
7. All agencies should review their record keeping policies and practices particularly in relation to important directions and decisions by Ministers, Boards and Chief Executives, etc. The accountability of public administration relies on accurate recording of significant decisions, directions and implementation processes.
8. For projects which are to be carried out over a period of time (such as the series of races) agencies should design procedures at the commencement of the project for implementation at regular intervals to ensure the projects are delivering the benefits which the projects were intended to generate.
9. CTEC should conduct a full cost benefit analysis of the 2002 race and publish the results. The analysis should be reviewed by Treasury before publication.

2. FULL COST-BENEFIT ANALYSIS

INTRODUCTION

2.1 The results of the Audit's cost-benefit analysis of the V8 Supercar races for 2000 and 2001 are presented in this chapter. The cost-benefit analysis was undertaken by the Audit because the publicly announced economic benefits were inaccurate and provided little information useful for making decisions about the success of the races or making decisions on the conduct of future races. (This conclusion is discussed in detail in *Chapter 3*.)

BACKGROUND

2.2 The main costs and benefits associated with the car race are the direct financial flows to Canberra Tourism and Events Corporation (CTEC) (expenses paid and revenue received), other direct costs and benefits (such as road congestion) and indirect costs and benefits (such as the benefits from interstate tourist expenditure). The difference between the total benefits and total costs is the net benefit of the race.

SIGNIFICANT FINDINGS

- *The direct net financial cost of the race (i.e. direct financial costs less revenue) met by ACT taxpayers was \$7.7m in 2000 and \$5.1m in 2001 (see Table 2).*
- *The estimated net cost to the community (i.e. net direct financial costs less net other direct and indirect benefits) of the race was \$4.6m in 2000 and \$2.8m in 2001 (see Table 1).*
- *The present value of the net direct financial cost of the race over five years to ACT taxpayers is estimated at \$29.2m assuming that the net costs of future races are similar to that incurred for the 2001 race (see Table 5).*
- *The present value of the net cost of the race over five years to the ACT community is estimated at \$16.2m assuming that the net costs of future races are similar to the net costs of the 2001 race (see Table 5).*

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SUMMARY OF COST-BENEFIT ANALYSIS FOR 2000 AND 2001 RACES

2.3 The results of the Audit's cost-benefit analysis for the races conducted in 2000 and 2001 are summarised in the following table.

Table 1: Cost-Benefit Analysis Summary		
	2000	2001
	\$'000	\$'000
Net direct financial costs ¹	7,683	5,148
Less other direct and indirect net benefits ²	3,038	2,356
Net Costs	\$4,645	\$2,792

¹ See Table 2
² See Table 3

2.4 In this Chapter it is explained how conducting the race in 2000 and 2001 has incurred a substantial net cost for the ACT community. An estimate of the net present value of the race over the full five years based on the Audit's cost-benefit analysis is presented, assuming that the costs of future races are similar to the costs of the 2001 race.

NET DIRECT FINANCIAL COSTS

2.5 The net direct financial cost is the expenses (current and capital) met by CTEC, less revenue received by CTEC from sources other than Government. It should be noted that the Government subsidy to CTEC is funded by taxpayers and therefore is not revenue generated from the race.

2.6 The components that make up the *Net Direct Financial Costs* figures in *Table 1* are set out following.

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Table 2: Net Direct Financial Costs

	2000 \$'000	2001 \$'000	Quality of Estimate ¹
Costs of Conducting Races			
Expenses (current)	8,760	9,179	Excellent
Expenses (capital)	3,402	63	Excellent
Total expenses	12,162	9,242	
Less - Revenue Generated			
Race Revenue	4,479	4,094	Excellent
Net Direct Financial Costs	\$7,683	\$5,148	

2.7 The net direct financial cost of conducting the races was \$7.7m in 2000 and \$5.1m in 2001. The direct financial cost of the race is met by CTEC and borne by ACT taxpayers.

Costs of Conducting the Races

2.8 Economic analysis uses the concept of opportunity cost to determine the costs of a project. Using resources (labour, capital and materials) to produce a car race or services for tourists involves an opportunity cost because the resources cannot be used to produce services in other sectors of the economy. The value of resources used is their value in the most attractive alternative use. CTEC's expenses incurred on the race are what has been paid to attract resources away from their next best alternative use. If markets are undistorted, the amount paid will equal the value of what the resources would produce in their next best use.

2.9 As shown in *Table 2*, the expenses of conducting the race in 2000 were \$12.2m and \$9.2m in 2001. These figures have been extracted directly from the CTEC audited annual financial statements including the supplementary operating statement on the motor race event. The supplementary operating statement for the race is included in this Report as *Appendix 1*.

2.10 CTEC's audited annual financial statements are prepared on an accruals basis. They provide accurate independently verified information on the financial operations of the races. The expense figures in *Table 2*

V8 CAR RACES IN CANBERRA – COSTS AND BENEFITS

can therefore be accepted as a reliable representation of the costs incurred by CTEC, and ultimately borne by taxpayers, to conduct the races.

2.11 Accrual-based figures recognise all expenditure incurred and revenues earned from an event in the year of the event and are a more accurate measure of race costs than cash flow based measures. For example, as the race is conducted in June, many expenses associated with one year's race are not paid until the following financial year. Measures of cash flows in the year a race is conducted will therefore underestimate the cost of the race. That is why the estimated direct financial net cost borne by the government for the 2000 and 2001 races is greater than the subsidies paid in 1999-00 and 2000-01. Parts of the costs of these races were paid in 2001-02.

2.12 The Audit treats capital costs as expenses in the year they were incurred, which is standard cost-benefit procedure. The residual value of the capital stock at the end of the project is counted as a benefit.³

2.13 The audited annual financial statements depreciate capital assets acquired for the race over the five years of the races and assume the residual value of the assets will be \$540,000. To include depreciation in the cost-benefit analysis as well as capital costs when incurred would be double counting.⁴ As a result, for the purpose of the cost-benefit analysis the Audit has excluded depreciation from current costs.

Revenue Generated by the Races

2.14 The price consumers pay for a good measures their marginal willingness to pay. Therefore, ticket revenue received by CTEC reflects the value of the race to paying spectators.

2.15 As shown in *Table 2* the revenue generated from conducting the races was \$4.5m in 2000 and \$4.1m in 2001. The revenue figures come from CTEC's supplementary operating statement for the V8 car race (See *Appendix I*).

2.16 Tickets sold for the race are subject to GST. The GST revenue raised has not been included as a benefit because it accrues to the

³ See Department of Finance (1991) p.104, NSW Treasury (1997) pp.49-50.

⁴ Department of Finance (1991) p.104, NSW Treasury (1997) p.50.

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Commonwealth Government and does not affect Canberra. The GST paid net of the refund of GST input payments is likely to be small.

OTHER DIRECT AND INDIRECT NET BENEFITS

2.17 The components that make up the *Other Direct and Indirect Net Benefits* in *Table 1* are set out in the following table.

Table 3: Other Direct and Indirect Net Benefits			
	2000 \$'000	2001 \$'000	Quality of Estimate ¹
Benefits Generated			
Benefit from Interstate tourist expenditure	2,584	2,261	Good
Consumer surplus	434	352	Indicative
Intangibles – Civic pride	Not estimated		Intangible – not measurable
– Publicity value	522	553	Speculative
	3,540	3,166	
Less Costs			
Road Congestion	461	769	Indicative
Noise	41	41	Indicative
	502	810	
Net other direct and indirect benefits	3,038	2,356	

¹ The quality of the estimate is influenced by the quality of the data. When inputs and outputs are traded in markets, their market price provides credible information about the value placed on them. For many race outputs (such as noise pollution and congestion) there is no objective information on their value and it must be estimated. The estimates are only indicative as they inevitably involve subjective judgements and potentially disputable assumptions.

2.18 It is not possible to make precise estimates for benefits such as ‘consumer surplus’ or costs such as ‘road congestion’. For this reason, some of the estimates in *Table 3* are noted as indicative only. However, the items are relatively small compared with the direct revenue flows, and large proportional changes in their value would not make much difference to the net cost of the race. The speculative nature of the Audit’s estimate for ‘publicity value’ is discussed later in this Chapter.

2.19 The table shows that there were other net benefits generated in 2000 of \$3.0m and \$2.4m in 2001. By far the main contribution to the

other net benefits is the benefit to the economy from interstate tourists, estimated at \$2.6m in 2000 and \$2.3m in 2001.

Interstate Tourist Expenditure

2.20 As shown in *Table 3* the Audit has estimated the benefits generated from interstate tourists visiting the ACT for the races as \$2.6m in 2000 and \$2.3m in 2001.

2.21 The estimates of expenditure by interstate visitors for races were drawn from spectator surveys conducted by independent consultants hired by CTEC.⁵ Tourist expenditure on GMC tickets and GMC merchandise has been removed as these revenue flows have already been accounted for in the revenue generated by the races included in *Table 2*. The rights to sell merchandise are sold off in advance.

2.22 A cost-benefit analysis must estimate the benefits to the ACT from additional tourist spending and not just the amount spent by the tourists. The actual benefit from a dollar of tourist spending is difficult to determine. On the basis that both the Chief Minister's Department and the Centre for Tourism Research estimate that a dollar of interstate tourist spending translates into an increase of 71 cents in Gross State Product (GSP) the Audit has used 71c as the basis for valuing the benefit from each dollar of expenditure by interstate visitors.⁶

2.23 The estimates by the Chief Minister's Department and the Centre for Tourism Research (71c) both assume there are no resource constraints in the economy. Further, the increase in GSP represents the benefit to the ACT only if resources used to produce the goods that tourists buy have no alternative use. As these assumptions are unrealistic, the 71c estimate is an upper bound to the benefits from the increase in tourist spending.⁷ The Audit's estimate can therefore be regarded as generous.

Consumer Surplus

2.24 As shown in *Table 3*, the Audit's indicative estimate of the value of consumer surplus is \$434,000 in 2000 and \$352,000 in 2001.

⁵ Taylor Nelson Sofres (2000) and Centre for Tourism Research (2001b).

⁶ See Centre for Tourism Research (2001c) p.vii and (2000d) ix.

⁷ See *Chapter 5*, Input-output analysis and Input-output analysis exaggerates the increase in GSP from expenditure sections for details.

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2.25 Consumer surplus is a measure of the gain to ACT residents who attend the race. It is quantified by estimating the difference between the amount local residents would be willing to pay for a ticket and what they actually pay. It is calculated for locals only as a gain to interstate visitors is not a benefit to the ACT.

2.26 The Centre for Tourism Research conducted a consumer survey to estimate the price responsiveness of demand.⁸ The information collected was used to estimate simple linear demand curves and a consumer surplus measure. The price and quantity data used was for 2001. The relevant information on the number of local spectators in each category was not available for 2000. Total surplus for local ticket holders was estimated to be \$291,000 and \$61,000 for volunteers (total \$352,000).

2.27 Total surplus for local ticket holders in 2000 was assumed to be the 2001 measure times 1.28, as ticket revenue was 28 per cent higher in 2000. The surplus for volunteers was assumed to be unchanged.

2.28 These estimates are only indicative, but show that consumer surplus generated by the races is relatively small. This is to be expected, as there were only 28,000 local spectators in 2001.⁹

Intangible Benefits

2.29 The two main intangible benefits that have been suggested for the car race are publicity for the ACT and the generation of increased civic pride in their city by ACT residents.

2.30 Intangible benefits are difficult to measure. First the Audit has reviewed whether the intangible benefits are likely to outweigh the Audit's estimated net cost of the race. For the intangible benefits to be sufficient to justify the net cost of the race, their value must at least match the net cost. The Audit assessed whether it is plausible that the intangible benefits could be of a value equivalent to the net cost.

2.31 Then, in order to be comprehensive and present an overall estimate of the cost to the ACT of the car race, the Audit has set out an estimate of the publicity benefits from the race. The intangible nature of publicity benefits means that any estimate of their size is necessarily

⁸ Centre for Tourism Research (2001f).

⁹ Centre for Tourism Research (2001b) p.vii.

speculative and involves assumptions that are difficult to verify objectively. The Audit is not aware of any techniques that can be used to produce a better estimate.¹⁰

Publicity Value

2.32 A claimed intangible benefit from the car race is that the television and other media coverage of the race results in a general increase in tourism at times other than when the race is held.

2.33 An event may raise awareness of Canberra as a tourist destination and increase tourism through repeat visits, word of mouth publicity and visits generated by media exposure. It has been claimed that the V8 Supercar race provides valuable publicity benefits for Canberra, and is a particularly effective way to promote an attractive image of Canberra ‘as more than a political centre’. The Tourism Council of Australia claims the V8 Supercar race corrects the misperception that Canberra is a ‘sterile, public service town’ and that it results in ‘tremendous media exposure afforded by the powerful race backdrop.’¹¹ Another claim is that such events create a ‘vibrant city’ and help attract business and investment.

2.34 The number of extra tourists attracted by television and other media coverage of the race is impossible to measure. It is possible, however, to assess approximately how many tourists would need to be attracted to justify the net cost of the race (i.e. the financial cost less direct and indirect benefits). The Audit has estimated the net cost of the race to the ACT community, excluding publicity benefits, as \$5.2m in 2000 and \$3.3m in 2001.¹²

2.35 Average expenditure per night by overnight domestic visitors to the ACT was \$147 per night in 1998,¹³ which in March 2002 dollars, is \$164.¹⁴ The average number of nights stayed by domestic overnight

¹⁰ See chapter 3, Publicity Benefits for a discussion of how difficult it is to value publicity benefits and of the problems with many current measures.

¹¹ In *Media Release* 30/8/2000.

¹² These figures are derived by adding the estimates for publicity benefits in *Table 3* to the estimate of the net cost to the community in *Table 1* to get \$5.167m in 2000 and \$3.345m in 2001. The figures are inflated to March 2002 dollars in *Table 4*.

¹³ Bureau of Tourism Research, quoted in Canberra Tourism and Events Corporation (2000b) p. C10.

¹⁴ The Canberra CPI increase from 1998 (four quarter average) to March 2002 was 11.9 per cent. Source: Australian Bureau of Statistics (2002b).

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visitors to the ACT in 1999 was three.¹⁵ Therefore, the average overnight visitor spends \$492 on each visit.

2.36 The estimates of the extra overnight visitors needed to be attracted to Canberra at times other than when the V8 Supercar race is held to justify the cost of the V8 car races is presented in *Table 4*. The table presents several estimates, based on different assumptions regarding the benefit to the ACT community arising from interstate tourist expenditure. As explained in paragraphs 2.21-23, this benefit is hard to determine. As previously stated the Audit considers the multiplier used by the Chief Minister's Department (\$0.71) is generous.

Table 4: Number of Extra Overnight Visitors Required to Justify the Cost of the Past V8 Car Races (March 2002 dollars)

Benefit per \$ of tourist expenditure ¹	Gain per tourist ²	Number of extra tourists ³	
		2000	2001
(\$) 0.20	(\$) 98.40	56,778	34,675
0.40	196.80	28,389	17,337
0.60	295.20	18,926	11,558
0.71	349.32	15,994	9,768

¹ This is discussed in detail in Chapter 5.

² This assumes the average overnight visitor spends \$492 on each visit.

³ This assumes the cost of the race (in March 2002 dollars) was \$5.587m in 2000 and \$3.412m in 2001. The estimate assumes an inflation rate of six per cent from June 2000 to June 2001 and two per cent for June 2001 to March 2002 in line with the CPI increase. The CPI figures are from Australian Bureau of Statistics (2002b).

2.37 Large numbers of tourists additional to those who come for the race must be attracted for the race to break-even on economic grounds. Even for high estimates of the dollar benefit from extra tourist spending, the race publicity needs to attract more visitors than actually came for the race itself.¹⁶ For lower estimates of the benefits from tourist spending, the number of tourists that need to be attracted is substantially higher.

¹⁵ ACT visitor nights from <http://www.btr.gov.au/statistics/Datacard/nights.html> and ACT visitor numbers from <http://www.btr.gov.au/statistics/Datacard/visitors.html>. These are for all overnight visitors including business trips. CTEC (2001b) p.2 claims that 'The average length of stay increased from 2.9 nights in 1999, to 3 nights in 2000.'

¹⁶ Centre for Tourism Research (2001b) p.35 estimates 11,422 interstate visitors came to Canberra as a direct result of the 2001 car race. CTEC estimated 10,145 interstate visitors attended the race in 2000 (internal memo).

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2.38 The Audit considers that television and other media coverage of the V8 Supercar race would not generate an increase in tourism (at times other than when the race is held) that would outweigh the cost of the race to the ACT community.

2.39 Preparing an estimate of the benefits generated by the race media coverage from an increase in general tourism at times other than when the race is held requires an estimate of how many extra tourists are attracted and the benefit to the ACT from each tourist. Both are difficult to objectively determine. For completeness, however, the Audit prepared a speculative estimate.

2.40 An estimated 11,422 interstate visitors attended the race in 2001.¹⁷ (This can be reasonably assumed to be the maximum number who were attracted by the race's extensive paid publicity program.) Although there is no objective basis available, for the purposes of the Audit's speculative estimates, it has been assumed that the number of tourists who visit Canberra as a result of the race media coverage at times when the race is not being conducted is half the number attending the race i.e. 5,711.

2.41 Expenditure per overnight tourist was \$492 in March 2002 dollars. This translates to \$457 in June 2000 dollars and \$484 in June 2001 dollars.¹⁸ If it is assumed, in line with the analysis in chapter 5, that the benefit from a dollar of tourism spending is 20 cents (as does the Western Australian Tourist Commission) then the benefit from television and other media coverage of the race to the ACT community would be \$522,000 in 2000 and \$553,000 in 2001. This speculative estimate has been included in *Table 3*.

2.42 The Audit notes that in a recent survey of Australians' perceptions of Canberra conducted for the National Capital Authority, the top five perceived important festivals and events in Canberra did not include the V8 Supercar race.¹⁹ The race was mentioned by only 2.5 per cent of those surveyed.²⁰

¹⁷ Centre for Tourism Research (2001b) p.35 estimates 11,422 interstate visitors came to Canberra as a direct result of the 2001 car race.

¹⁸ The figures are adjusted for changes in the Canberra CPI. Source: Australian Bureau of Statistics (2002b).

¹⁹ See CRC for Sustainable Tourism (2002) table 4, p.11. The survey was conducted from November 2001 to February 2002.

²⁰ Personal communication by the report author.

V8 CAR RACES IN CANBERRA – COSTS AND BENEFITS

2.43 It is not clear that the effect on tourist numbers of televising the race will increase or decrease over time. The Audit notes that despite the publicity from television broadcasts and increasing expenditure on marketing, crowd attendance at the race has fallen.

2.44 In summary the Audit does not believe that the publicity and television coverage of the race would motivate significant numbers of tourists to visit Canberra at times when the race is not being conducted. The Audit agrees that some tourists may be motivated however the number is likely to be small. Nevertheless for the purposes of arriving at a net economic result from conducting the races the Audit has made a speculative estimate of benefits which might be generated by the coverage. The Audit estimate is probably generous.

Civic Pride

2.45 Benefits from the race include any ‘warm glow’ benefits to residents who appreciate having the car race in Canberra but do not attend. For example, it has been claimed that the event ‘adds a lively and colourful dimension to the city’.²¹ Any civic pride that results from living in a more dynamic city with extra excitement and atmosphere would be a benefit. On the other hand, an external cost is imposed on those who believe the car race compromises the dignity and character of the Parliamentary triangle.

2.46 As can be readily appreciated, attempting to value the effect of conducting the race on residents’ civic pride in Canberra is very difficult.

2.47 One survey of Canberrans found that 44 per cent were satisfied the car race was held in Canberra, although 77 per cent had no intention of seeing it. This compared with 80 per cent support for the Monet exhibition at the Australian National Gallery, 42 per cent for the Brumbies being in Canberra and 33 per cent for the Raiders.²²

2.48 On the other hand, some residents oppose the race and feel shame at the ‘despoiling’ of the Parliamentary precinct. For example, some letter writers to the *Canberra Times* have expressed strong opposition.²³

²¹ Canberra Tourism and Events Corporation (1999).

²² ‘Monet outrevved supercar race: survey’ *Canberra Times*, June 27, 2001 p.3.

²³ See for example, the letters page on June 14, 2001, June 8, 2001.

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2.49 The Audit view is that net overall effect on civic pride from conducting the races is likely to be very small. It is not plausible that the intangible benefits from increased civic pride would outweigh the costs of the V8 Supercar race to the ACT community.

Road Congestion

2.50 As shown in *Table 3* the Audit has estimated road congestion costs as \$461,400 in 2000 and \$769,000 in 2001.

2.51 Estimating the time lost due to the road works to set up the V8 Supercar race circuit is difficult. Travel times are increased for journeys in and out of the Barton district and for through traffic, especially in peak travel times. An estimate requires information on the extent of traffic delays, the number of people affected, and the duration of the disruption.

2.52 Time spent travelling is a cost. The cost can be estimated from observed behaviour – such as route choice decisions when there are different costs (e.g. toll versus non-toll roads), choice of transport (e.g. driving versus flying) and location choice decisions (e.g. the impact of commuting time on land values). Time spent commuting by car is usually valued at half the after tax wage rate per hour.²⁴

2.53 The Audit has estimated road congestion costs as follows:

- the official road closures for the race were six days in 2000 and nine days in 2001, though work setting up the circuit starts some weeks before the event;
- the congestion costs are estimated for working days when the road closures operated. Congestion costs on weekend days (including the holiday Monday) and from roadwork for the race before the road closures are not estimated. The road was closed for three working days in 2000 and five in 2001;
- it is assumed that 10,000 people a day use Barton each work day and suffer one hour extra travel time a day during the road closure;²⁵

²⁴ Boardman et al (2001) p.401-402.

²⁵ The National Capital Development Plan for the Parliamentary Zone estimated that in 1990 the daytime population (workforce plus tourists) of the Parliamentary Zone was 10,000-11,000 people. See National Capital Authority (1999).

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- the road closures led to traffic delays on affected routes, often doubling travel times. It is assumed that another 30,000 passengers suffer an extra 20 minutes travel time a day each work day during the road closure; and
- commuting time is valued at \$7.69 per hour, or half an annual after-tax wage of \$30,000 for a full-time worker.

2.54 Based on these assumptions, the Audit's estimated cost of road congestion caused by the race is \$461,400 in 2000 and \$769,000 in 2001.

2.55 The figures are significant, but small relative to the direct expenses associated with the event. They do not include extra running costs of cars or additional pollution while in traffic jams. The estimate can be scaled up or down for different assumptions.

Noise Costs

2.56 The Audit's estimate shown in *Table 3* for noise costs is \$41,000 for both 2000 and 2001.

2.57 Estimating the cost of additional noise generated by the event is also difficult. Noise can lead to annoyance. Background noise during working hours on weekdays and weekends in an area with negligible transportation has been placed at around 45 dB(A)s, where dB(A) is a decibel measure adjusted to approximate the human ear.²⁶ Dense transportation increases the noise level to 60 dB(A)s. A noise level of 120 db(A) causes pain for people of normal hearing. In an urban environment, buildings reflect sound, but low frequency sounds (such as V8 Supercar noise) can penetrate buildings (high frequency sounds are reflected). Wind patterns can also affect noise heard at different sites.²⁷

2.58 Noise levels were monitored during the 2000 race. The Confederation of Motor Sport limits individual cars to 95 dB(A)s at 35 metres. Residents likely to experience noise of 65 dB(A)s or greater were notified. The results of the monitoring were only reported for noise levels inside nearby buildings. They tended to increase by about 25 per cent. Other monitoring indicated noise levels were 5 db(A)s less than

²⁶ The decibel measure is logarithmic; each 10 dB(A) increase makes the sound twice as loud.

²⁷ Burns et al (1986), p.125-128.

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expected.²⁸ A reasonable estimate is that the race increased noise levels from 45 to 60 dB(A)s for the affected households.

2.59 The cost of noise can be estimated from how much people are willing to pay for a house in a quiet neighbourhood. A broad consensus from the literature indicates that houses that suffer noise levels of around 60 dB(A)s (e.g. from being near an airport) are worth ten per cent less than equivalent households with noise levels of 45 dB(A)s.²⁹

2.60 If the affected houses are worth an average of \$200,000, then if the interest rate is five per cent real, this translates into a daily cost of \$2.74. If 5,000 houses were affected for three days, the total noise cost is \$41,100. If temporary noise is easier to bear than permanent noise, this may be an overestimate.

2.61 The estimate made by the Audit is indicative only. It does show, however, that the noise cost is likely to be small.

COST-BENEFIT FOR FIVE RACE SERIES

2.62 In addition to estimating the net costs for the races held in 2000 and 2001, the Audit used net present value analysis to estimate the costs to the taxpayer and the community of the complete five race series. The estimates use a real discount rate of five per cent.³⁰ The results are presented in *Table 5*.

²⁸ Canberra Tourism and Events Corporation (2000), p.14.

²⁹ Boardman et al (2001), p.407.

³⁰ The discount rate of five per cent real reflects the ACT government's cost of borrowing. The costs of the past races have already been incurred and are known. The future races are expected to make a loss and will have a negative present value with any discount rate. A higher discount rate will only reduce the present value of the loss. Present value analysis suggests projects with a negative net present value should be rejected.

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Table 5: Net Present Value of V8 Supercar Race Series (March 2002 Dollars)

	Net Cost to the Taxpayer ¹			Net Cost to the Community ²		
	Estimate ³	2002 ⁴	Present Value ⁵	Estimate ³	2002 ⁴	Present Value ⁵
	\$'000	\$'000	\$000	\$'000	\$'000	\$000
2000	7,683	8,307	9,158	4,645	5,022	5,537
2001	5,148	5,251	5,514	2,792	2,848	2,990
2002		5,251	5,251		2,848	2,848
2003		5,251	5,001		2,848	2,712
2004 ⁶		4,711	4,273		2,308	2,093
Total			\$29,197			\$16,180

Notes:

¹ Net direct financial cost

² Net direct financial cost less direct and indirect benefits. Does not include intangible benefits.

³ See Table 1

⁴ March 2002 dollars

⁵ The real discount rate used is five per cent. The estimate assumes an inflation rate of six per cent from June 2000 to June 2001 and two per cent for June 2001 to March 2002 in line with the CPI increase. The CPI figures are from Australian Bureau of Statistics (2002b).

⁶ 2004 figure takes account of value of capital stock (\$540,000).

2.63 The table shows that if the net cost estimated in 2001 was to continue for the next three years, and accounting for the resale value of the capital stock, the present value of the net cost of the race to the ACT community over the five years (in March 2002 dollars) would be \$16.2m. This amounts to \$129 per household.³¹ The present value of the total direct financial cost to the taxpayer of the project is estimated at \$29.2m, or \$232 per household.

THE AUDIT ESTIMATES OF NET COST ARE CONSERVATIVE

Introduction

2.64 The assumptions adopted for the Audit's cost-benefit estimates favour the conduct of the race. The Audit's estimates of the benefit from interstate tourist spending are generous and likely to be an overestimate,

³¹ There are 125,600 households in Canberra. Source: http://www.act.gov.au/government/demography/2001to2016/10_6.html.

while the estimate of costs is conservative. It is also likely that the estimates of tourist spending are exaggerated.³²

Estimates of the Benefit from Interstate Tourist Spending

2.65 The estimate of the benefit from tourist spending implicitly assumes that resources used to produce goods for tourists have no opportunity cost. That would be true if there are substantial levels of idle resources. But if resources are unemployed, the effect of the whole project on local economic activity should be considered, not just the effect of the extra tourist spending. If it were true that there are substantial levels of idle resources, the estimated effect of the project on local economic activity is negative and it creates significant extra costs that are ignored in the Audit's cost-benefit analysis.³³ If the assumption that there are idle resources is not correct then the benefits from extra tourist spending will be less than estimated in the cost-benefit analysis. In either case, the net costs estimate for the project will increase.

Estimates of Costs

2.66 A number of costs of the race are omitted from the Audit's analysis. A number of CTEC and other public service staff spend time on the project but do not work on it full time. The value of their time is not included in the Audit's cost estimates. The cost of pollution from the race has not been included although the Audit view is that this would not be large.

2.67 The financial costs of the project are ultimately paid from taxes. A potentially large cost that has been omitted is the additional costs generated by these taxes. These include the administration costs incurred by government in assessing and collecting the taxes and the compliance costs incurred by taxpayers. Taxes also impose economic costs because they induce individuals to behave differently and make decisions they would not have made in the absence of the tax. Taxes force individuals to consume a mix of goods that is less desirable from the standpoint of their own subjective preferences. The result is what economists call a 'deadweight loss' or 'excess burden'. The excess burden from a tax is the difference between the amount individuals would be willing to pay to avoid having a tax imposed and the amount of tax collected. The more the tax changes behaviour, the greater the excess burden.

³² This issue is explained in detail in 'Flaws in Visitor Expenditure Estimates' in *Chapter 3*.

³³ This issue is explained in *Appendix 2*.

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2.68 Gabbitas and Eldridge (1998) carefully examined the excess burden associated with state taxes in Australia. Their preferred estimates of the excess burden imposed by state taxes range from three cents to 71 cents for an extra dollar of revenue, depending on the tax that is adjusted.³⁴ The cost of taxes needed to finance the V8 Supercar race is significant. Even if the marginal excess burden was as low as ten per cent, the cost of taxation would add \$2.9m to the net present value of the costs of the project and \$768,300 to the net cost of the race in 2000 and \$514,800 in 2001.

2.69 Cost-benefit analysis may treat projects provided or funded by the government more favourably than projects that are not. For example, a project that is unprofitable for the private sector may have positive net benefits when the associated consumer surplus, tax revenue, and indirect benefits are taken into account. Therefore cost-benefit analysis may say a government project produces net benefits even though an identical private project that produces the same increase in tax revenue, consumer surplus and indirect benefits would not be profitable. A government project may be favoured in a cost-benefit analysis because more is taken into account.

CONCLUSION

2.70 The Audit estimated through the cost-benefit analysis described in this Chapter that hosting the V8 car race in Canberra has resulted in a substantial cost for the ACT Government and consequently, ACT taxpayers. The costs were \$7.7m in 2000 and \$5.1m in 2001. The race generates some net benefits for the community. These are predominantly from interstate tourists. The Audit has estimated the net benefits at \$3.0m in 2000 and \$2.4m in 2001. Taking account of the net benefits reduces the net costs to the ACT community to \$4.6m in 2000 and \$2.8m in 2001.

2.71 The present value in March 2002 dollars of the total cost to the ACT community for the series of five races is conservatively estimated to be \$16.2m.

³⁴ See Gabbitas and Eldridge (1998) table 4.2, p.33.

3. ANNOUNCED ECONOMIC BENEFITS

INTRODUCTION

3.1 CTEC has published an evaluation of the V8 Supercar race each year the race has been held (2000 and 2001).³⁵ The Audit examined the announced benefits to form a view on whether the information was sufficiently reliable to judge the success of the races and support decision-making on the future conduct of the race series.

3.2 In the Legislative Assembly on 9 August 2001 the then Minister for Business, Tourism and the Arts commented on the key results of the 2001 V8 car race. The then Minister said:

The GMC 400 in 2001 produced an economic benefit of over \$11.2m for the ACT community. Last year's economic benefit was estimated at \$13.2m. Spectators, volunteers, officials, and teams spent an estimated \$5.4m while in the ACT for the event. Local visitor expenditure was estimated to be \$3.1m for 2001. Locally let contracts were worth over \$2.7m. Mr Deputy Speaker \$11.2m is a good result. If the GMC 400 were not held in Canberra, the economic benefit would be lost.

3.3 The Minister's comments were based on the evaluations published by the Canberra Tourism and Events Corporation. The results of the evaluations (and the estimates announced by the Minister) differ greatly from the Audit's cost-benefit estimates presented in *Chapter 2* of this report – CTEC announced substantial positive economic benefits rather than large net costs.

3.4 The CTEC evaluations of the car race have a number of problems. They focussed on gross benefits from the race, not net benefits and the gross benefits were exaggerated. CTEC includes as a race benefit expenditure that would have been made whether or not the race was held. It counts some costs as benefits. Further, the surveys on which the estimates are based overestimate the visitor expenditure from the race.

³⁵ See Canberra Tourism and Events Corporation (2000a) and (2001).

SIGNIFICANT FINDINGS

- *The evaluations conducted by CTEC did not present a complete cost-benefit analysis. They did not consider the costs from the event. As a result, CTEC's estimates present only the gross benefits to the ACT, not the net benefits.*
- *The evaluations conducted by CTEC did not take into account the direct financial flows from the project such as the public funds spent to establish and run the event.*
- *CTEC includes expenditure by interstate tourists and locals on race tickets and merchandise, although such expenditure is also included in the direct operating revenue for the race. In a full analysis of costs and benefits including this expenditure would be double counting.*
- *CTEC has incorrectly included as a benefit expenditure by tourists who would have come to Canberra whether or not the race was held, that is, expenditure that would have occurred in the absence of the car race.*
- *CTEC has incorrectly included as a benefit expenditure by local residents at the race, that is, expenditure that is switched from other activities with no net impact on the economy.*
- *CTEC includes expenditure on local contracts as a benefit. Such expenditure is a cost. It is only legitimate to also count it as a benefit if the resources used had no alternative use.*
- *Surveys of spectators commissioned by CTEC overstate the increase in tourist expenditure from the race. For example, they over-represent three-day ticket holders. As a result, the estimates of the proportion of spectators from interstate and their per head expenditure are over-stated.*
- *CTEC's statements about jobs created and publicity value received misunderstand the measures that are used.*

CTEC ANNOUNCED BENEFITS

3.5 CTEC announced the results of its evaluations of the V8 Supercar races in October 2000 and August 2001. For each race, CTEC announced that substantial economic benefits had been returned to the ACT.

3.6 The economic benefits announced by CTEC are shown in *Table 6*.

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Table 6: CTEC Economic Benefit Estimates

	2000 \$m	2001 \$m
Interstate visitor expenditure	5.1	5.4
Expenditure by locals	3.7	3.1
Local contracts	4.4	2.7
Total	13.2	11.2

Source: Canberra Tourism and Events Corporation (2001), (2000) and internal memo.

3.7 For each race, CTEC appropriately commissioned reports from consultants on attendance, ticket sales, interstate visitor numbers and expenditure, spectator satisfaction and sponsor recognition.³⁶

3.8 In 2000, the consultants estimated average per person daily expenditure at the race by locals and visitors, the proportion of visitors who specifically came to see the race, their per person spending while in Canberra and expenditure by visiting teams. To arrive at the estimates in *Table 6*, CTEC then multiplied the average expenditure figures by its own estimates of local attendances at the race and the total number of interstate visitors and added team expenditure to estimate total expenditure by locals and interstate visitors. CTEC used its own records to determine the value of contracts let to local suppliers by the event.

3.9 In 2001, the consultants carefully estimated expenditure by visitors who came to Canberra as a direct result of the race and teams that were visitors to Canberra. The consultants estimated the number of spectators from the ticket and survey data. CTEC added expenditure by interstate spectators who would have been in Canberra even if the event were not being held and its own estimate of expenditure by locals and spending by the event with local suppliers. The estimate of expenditure by locals used CTEC's own estimate of local attendance and the previous year's per person expenditure by locals.

CTEC EVALUATIONS ARE INCOMPLETE

3.10 The evaluations conducted by CTEC did not present a complete cost-benefit analysis. They did not consider the costs from the event. As a result, CTEC's estimates attempted to identify only gross benefits to the

³⁶ The consultants' reports are Centre for Tourism Research (2001b) and Taylor Nelson Sofres (2000).

ACT, not the net benefits. The evaluations failed to take into account the direct financial flows from the project such as the public funds spent to establish and run the event.

3.11 The net benefit from an event is the difference between the gross benefits the event confers on the community and the costs incurred to produce it. The CTEC evaluations estimate the extra expenditure in the ACT from the car race – what is known as an economic impact study. But by itself, expenditure measures gross benefit. A complete cost-benefit analysis of an event also deducts all the relevant costs of generating the expenditure flows and includes other benefits. The CTEC analysis takes no account of the costs incurred to produce the revenue flows from the event.³⁷

3.12 By not including the direct financial costs, the CTEC estimates significantly overstated the economic benefits of the V8 Supercar race.

DEPARTURES FROM ACCEPTED METHODOLOGY

3.13 The Audit assessed the methodology employed by CTEC in conducting its economic impact studies against practice well accepted in the tourism industry. The Audit considers that CTEC evaluations depart from the accepted methodology for conducting economic impact studies.

3.14 For example, CTEC's own consultants in 2001 followed the accepted approach. The departures in CTEC's announced benefits resulted from CTEC adding items to increase the measured benefits. The added items were often specifically excluded by the consultants, were not included in CTEC's estimate of potential race benefits in the Cabinet Submission. They also are not included in evaluations of some of the other events conducted by CTEC.

Interstate Visitor Expenditure

3.15 CTEC announced interstate visitor expenditure as \$5.1m in 2000 and \$5.4m in 2001. These figures are an overstatement because they include expenditure that would have been made whether or not the race was held.

³⁷ For a more detailed examination of the problems with economic impact methodology and how it differs from cost-benefit analysis, see Chapter 5.

V8 CAR RACES IN CANBERRA – COSTS AND BENEFITS

3.16 To measure the impact of the race, only the increase in expenditure in the ACT that is attributable to the event should be estimated. This fundamental aspect of an economic impact study was explicitly acknowledged by the consultant engaged by CTEC to survey spectators at the 2001 race, who advised CTEC that the economic impact should not include:

... the expenditure of visitors who would have been in Canberra even if the event were not being held, as this expenditure would have occurred even if there were no GMC 400.³⁸

3.17 Nevertheless, CTEC added the expenditure into its announced benefits. In 2001, CTEC added to tourist expenditure figures about \$1m expenditure by tourists who would have been in Canberra even if the event were not held. This action was apparently taken to produce a result which could be compared with the results announced for the 2000 race. In 2000, CTEC included expenditure by all interstate tourists, notwithstanding that their consultants found only 86 per cent came to Canberra specifically for the event. Therefore, the CTEC figure for expenditure by interstate spectators, officials and volunteers in 2000 is an overstatement by fourteen per cent, or about \$0.6m.

3.18 Further, there are inconsistencies across the two years in CTEC's approach to estimating visitor numbers, and this can also affect the estimates of interstate visitor expenditure. For example, the CTEC estimate of the number of interstate visitors in 2000 is conservative compared with the estimate in the 2001 report, which explains why their estimate of interstate expenditure rose from 2000 to 2001 despite the fall in crowd size and ticket sales. In 2000, the number of spectators was estimated to be the number of daily visits divided by three – yet some spectators would attend for less than three days. The average number of days spent at the event was 2.08 – but the number attended by interstate spectators can be expected to be above average. The information on the number of days attended by each type of spectator collected in the 2001 survey was more detailed.

³⁸ Centre for Tourism Research (2001b) p.35.

Expenditure by Locals

3.19 In CTEC's announcements, expenditure by local residents of \$3.7m in 2000 and \$3.1m in 2001 were included as benefits generated by the race.

3.20 It is generally accepted in both the tourism and economics literatures that expenditure by local residents on events should not be included because it involves residents switching expenditure from other local activities to the event with no net impact on economic activity. Spending by locals on the car race would generally mean they spend less on something else.³⁹

3.21 CTEC's own consultants state:

The economic impact of visitor expenditure on the ACT economy does not include expenditure by locals who attend the GMC 400, as their expenditure is merely being shifted around the local economy.⁴⁰

3.22 The inclusion of spending by locals on the event favourably exaggerated the economic impact by more than \$3m for both 2000 and 2001.

Potential Double Counting of Spectator Spending

3.23 The measured expenditure by tourists and locals includes their expenditure on tickets to attend the race and expenditure on concessions and merchandise at the race. These revenue flows are also included in the direct operating revenue for the race (the rights to sell merchandise are sold off in advance). To count them again would be double counting in a full cost-benefit analysis that took account of all benefits from the race.

3.24 Expenditure on GMC tickets and merchandise, which is counted in interstate visitor spending, amounts to \$0.9m in 2000 and \$1.1m in 2001. The 2000 figure is the portion of the CTEC estimate the consultants estimated was spent at the race on the day of interview by

³⁹ From the tourist literature see Centre for Tourism Research (2001a), Bureau of Tourism Research (1999) p.42, Burns et al (1986) p.12-13. From the economics literature see Noll and Zimbalist (1997) and Siegfried and Zimbalist (2000) pp.105-106.

⁴⁰ Centre for Tourism Research (2001b) p.35.

interstate visitors.⁴¹ It probably understates the double counting because what remains includes expenditure on race tickets and merchandise on other days of attendance.⁴² Further, it is likely that spending by visitors on race day has already been double counted.⁴³ In 2001, the consultant's survey of tourist spending explicitly measured expenditure on race fees and merchandise by visitors.⁴⁴

Local Contracts

3.25 Spending on local contracts was announced by CTEC as an economic benefit generated by the race. The benefit claimed was \$4.4m in 2000 and \$2.7m in 2001.

3.26 Local contracts refer to payments made to locally based firms for services connected with the race. This includes expenditure on items such as cleaning and rubbish removal, traffic management, portable buildings and track construction.

3.27 Expenditure on conducting the race would normally be treated as a cost, not a benefit. It is counted as a cost in CTEC's financial statements. It is also a cost to society if the resources used are transferred from other valuable economic activities.

3.28 If the resources have no alternative use, then the cost of using them is zero. In a cost-benefit analysis either the cost of the resources should be directly counted as zero or the amount paid by the provider can be counted as a cost and an offsetting benefit be counted. Therefore including local contracts as a benefit is only valid if the resources have no alternative use and expenditure on the resources is included as a cost. It is shown in *Appendix 2* that even if there were substantial amounts of unemployed resources, the effect of the whole project on economic activity would still be negative.

3.29 By including local spending as a benefit, CTEC exaggerated the announced benefits from the race by \$4.4m in 2000 and \$2.7m in 2001.

⁴¹ See Taylor Nelson Sofres (2000) p.23.

⁴² See Taylor Nelson Sofres (2000) p.27.

⁴³ See relevant section for details.

⁴⁴ See Centre for Tourism Research (2001b) pp.36 and 50.

OTHER BENEFITS ANNOUNCED

3.30 In announcing its estimation of the economic benefits generated by the race, CTEC stated there were other benefits that had not been quantified in dollar terms. These benefits were jobs created and publicity gained.

Jobs Created

3.31 CTEC stated in its 2000 evaluation that:

The event easily exceeded a target of creating 150 full-time or part-time equivalent jobs. A sample survey of only four contractors revealed that they had collectively created 368 jobs for the duration of the event.

3.32 To make the employment effects of spending on the car race comparable with alternatives, employment should be measured on a scale that can be compared across projects. Typically, employment is measured based on annual full-time equivalent jobs. The Australian Bureau of Statistics uses this measure in its input-output tables.

3.33 CTEC's statement that 368 jobs were created for the duration of the event can be converted to annual full-time equivalents. If it is assumed that the short-term jobs created were for seven days each (i.e. allowing an additional two days either side of the event for preparation and clean-up), the 368 short-term jobs are equivalent to less than eleven full-time jobs. Clearly, this falls far short of the target of '150 full-time or part-time equivalent jobs'.

3.34 The Audit view is that although the race may have created short-term jobs, it would have little overall effect on full-time equivalent job numbers in Canberra, especially when the employment reducing effects of the taxes needed to fund the project are taken into account.

3.35 The number of jobs created is a cost of the event, not a benefit. The cost of employing labour for the event is the value of what the labour would have produced in its next best use. In general, the gross wage including tax reflects what must be paid to attract labour away from alternative uses – which is why wage payments to labour belong on the cost side of the equation.

3.36 The existence of involuntary unemployment may mean the cost of labour is below the wage paid. Even then, the cost is unlikely to be zero, and it is even less likely that the opportunity cost of all labour employed in the project is zero.

3.37 Further, even if there was substantial unemployment, providing a car race is unlikely to be the best way to help the unemployed. The funds spent on the car project still have an opportunity cost. They may have greater value if used in other ways or if left in the hands of taxpayers. Expenditure on the car race may employ unemployed resources, but so would alternative uses of the money – such as alternative government spending (on labour market programmes, schools, hospitals, police or roads) or tax cuts which return the money to private individuals to spend as they choose.

Publicity Benefits

3.38 Estimates of the benefits to the ACT of publicity arising from the V8 Supercar race have been cited as economic benefits in the Cabinet Submission concerning the race and have been announced publicly. In CTEC's 2001 evaluation under the heading 'Promotion of the National Capital' CTEC state:

... overall, media coverage was extensive and overall publicity value was estimated at over \$1.2m.⁴⁵

3.39 The figure referred to comes from an evaluation commissioned by CTEC from Sponsorship Information Services (SIS).⁴⁶ A similar study the previous year found a media exposure value of \$1.1m.

3.40 The Audit considers the estimates of the publicity benefit are questionable on several grounds.

3.41 The benefit from publicity is an intangible that is difficult to value. The problem with measuring the success of publicity is disentangling its effect from all the other factors that affect the decision to travel and where to travel to (such as the economy, the cost of travel, and safety issues) – many of which are difficult to quantify. .

⁴⁵ Canberra Tourism and Events Corporation (2001a) p.5.

⁴⁶ See Sponsorship Information Services (2001).

3.42 The Centre for Tourism Research has concluded:

Although there is wide recognition of the economic value of media coverage of Major Events, research has not yet been conducted to establish a definitive method for valuing such coverage.⁴⁷

3.43 Publicity value is usually estimated by calculating how much it would cost in terms of commercial advertising rates to buy the amount of media coverage of the event and then applying a ‘weighting’ depending on the nature of the media coverage.⁴⁸ For example, a half page of newspaper coverage is valued at what it would have cost to buy a similar amount of advertising. The standard formula used by CTEC, the Australian Tourist Commission and most other State authorities calculates publicity value of media coverage as the equivalent advertising value of space and airtime with positive items multiplied by three, neutral by one and negative editorial by one half.⁴⁹ Positive editorial is multiplied by three because it is considered more significant than equivalent advertising as it comes from a more independent source, although according to a Bureau for Tourism Research study ‘there is no definitive basis for such an increase.’⁵⁰ There is no obvious reason why negative coverage should be given a positive weight.

3.44 The Centre for Tourism Research has commented:

It is not appropriate, however, to value most [media] coverage at the purchase rate charged by media outlets as it may not be focused and will likely be in forms of media that would never be chosen as a promotional vehicle. It is likely that some of the coverage achieved will have a zero real value.⁵¹

3.45 Indeed, some of the coverage may have a negative value. For example, negative editorial comment may deter some potential tourists.

3.46 The publicity is not directed at potential visitors. It is unfocused. In addition, it is not clear to what extent awareness of a destination is

⁴⁷ Centre for Tourism Research (2001) p.4.

⁴⁸ Bureau of Tourism Research (1999) p.40.

⁴⁹ 2001 Subaru Rally of Canberra, CTEC Draft Media Publicity Report 20 June 2001.

⁵⁰ Bureau of Tourism Research (1999) p.53.

⁵¹ Centre for Tourism Research (2001) p.4.

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connected to the decision to visit a destination.⁵² The advertising value measures extent or reach of publicity – but not type or quality of publicity. At best, it is a measure of the cost of an advertising campaign with equivalent coverage, not the benefits that result.

3.47 The standard measures may be useful as comparative measures of the effectiveness of different publicity efforts, to measure the use of public relations efforts by journalists, and to track performance over time. They may be used internally to judge the effectiveness of public relations against alternative methods of publicity. They are not, however, measures of economic benefit.

3.48 The publicity benefits achieved will be influenced by the resources and effort put into public relations. The value of measured publicity will depend on the resources and effort put into measuring. For example, the 2001 publicity figure was above that for 2000 because only major metropolitan markets were analysed in 2000 while regional markets, television magazine programmes, and press magazine publications were included in 2001. The increase in the 2001 figure masked a sharp decline in the media value achieved in metropolitan markets due to the significant decrease in audience figures and lack of images in the New Zealand market.⁵³

3.49 The evaluations undertaken for CTEC estimated the sponsorship media value, which measures the exposure a sponsor receives. With this measurement, seconds of exposure of the brand name are weighted by type of exposure. For example, when assessing the value of media exposure an image of Canberra (i.e. the ‘brand name’) is weighted ten times more than track signage.⁵⁴ The idea is to demonstrate the benefits of sponsorship to interested companies.

3.50 The evaluations reported on the exposure received by Canberra from media coverage of the race. They also estimated the advertising equivalent media value – which does not weight the type of exposure and gives a higher figure. The estimates appeared to count published articles with a negative tone about the race as positive exposure as long as Canberra was mentioned.⁵⁵

⁵² Bureau of Tourism Research (1999) p.40.

⁵³ Sponsorship Information Services (2001) p.49-50.

⁵⁴ Sponsorship Information Services (2001) p.2.

⁵⁵ See Sponsorship Information Services (2001) p.41.

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3.51 CTEC presented the advertising media equivalent value as an estimate of the benefits to Canberra created by the publicity. It is not. For example, in 2001 half the press articles about the race were published in the *Canberra Times* – accounting for a quarter of the estimated press media value.⁵⁶ If the objective is to raise awareness of Canberra as a tourist destination and increase tourism, then press articles in the *Canberra Times* have little value as they are almost exclusively read by people who already live in Canberra. On the other hand, if the objective is to promote the race to attract spectators and sponsors, then the Canberra market is crucial and measuring coverage in the *Canberra Times* is legitimate.

3.52 The benefits gained from publicity designed to attract sponsors and increase ticket sales are measured by ticket and sponsorship revenue. There is no case for including the measure of event publicity as a benefit for the ACT, no more than money spent advertising should be included as a benefit.

FLAWS IN VISITOR EXPENDITURE ESTIMATES

3.53 The Audit examined the methods used by CTEC's consultants to arrive at visitor expenditure estimates. The examination revealed some flaws.

Over-Representation of Three-Day Ticket Holders

3.54 Spectators can buy one day or three-day tickets to attend the races. Three-day ticket purchasers who are interstate visitors will spend more in Canberra than one-day visitors. It is therefore important that the numbers of different types of interstate visitors are measured accurately.

3.55 The visitor expenditure figures were estimated by the consultants based on a random sample of spectators taken over the three days of the event. This implies that three-day ticket holders are likely to be over-represented in the survey.

3.56 For example, if three-day ticket holders make up 25 per cent of tickets sold and they attend all three days, while one day ticket holders' attendance is equally spread over the three days, then half the crowd on any one day will be three-day ticket holders. Three-day ticket holders

⁵⁶ See Sponsorship Information Services (2001) p.41.

therefore will form about half of any random survey, although they are only 25 per cent of spectators.

3.57 In practice, the proportion of one-day spectators is likely to be higher on Sunday than on Friday and Saturday, but three-day ticket holders will still be over-represented in the entire survey. In the 2001 survey, three-day ticket holders were 48.3 per cent of those surveyed, yet three-day tickets were only 26 per cent of tickets issued.⁵⁷

3.58 Over-representation of three-day ticket holders in evaluation surveys will have important flow-on effects. Firstly, three-day interstate spectators are likely to spend more during their stay in Canberra than one-day interstate spectators. Therefore the random survey of spectators over-estimates the true amount of per visitor spending. Secondly, interstate visitors are more likely than local residents to purchase three-day tickets.⁵⁸ Therefore the surveys will overestimate the proportion of visitors from interstate.

3.59 These biases, which apply to both the consultant's survey and the CTEC evaluations based on them, exaggerate the amount of interstate tourist spending.

Double Counting of Visitor Spending in 2000

3.60 CTEC's estimate of visitor spending in 2000 appears to double-count expenditure on race days. In the 2000 survey, visitors were asked 'How much did you spend today while at the GMC 400, including programs, food and drinks?' and 'How much did you spend while in Canberra?'.⁵⁹ It was found on average they spent \$103.04 on race day and \$321.49 while in Canberra. The two figures provided were totalled to give a reported expenditure of \$425 per person. It is not clear whether what is spent 'while in Canberra' includes spending at the track that day or other days (especially as almost half the people interviewed spent three days at the track).

⁵⁷ See Centre for Tourism Research (2001b) table 3 p.5 and Table 4, p.6. The proportion of tickets issued that were three day excludes paddock passes and grandstand upgrades, as that would double count. It includes all other tickets issued – general admission, sponsor, grandstand and corporate. Note also that if the raw figures given in table 5 are used, the proportion of 3 day pass holders is 51.7 per cent and one day is 48.3 per cent. One of the sets of figures must be the wrong way round.

⁵⁸ See Centre for Tourism Research (2001b) Table 4, p.6.

⁵⁹ Taylor Nelson Sofres (2000) p.23, 27.

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3.61 The survey in 2001 explicitly separated race entry fees and merchandise from other visitor expenditure. It found that overnight visitors spent about \$350 per person, significantly below the total estimate for 2000, but consistent with the 2000 figure of \$321 as representing total spending while in Canberra, including race day spending. This strongly suggests that the 2000 estimate double counted race day expenditure.

Discouraged Visitors and Retained Local Residents

3.62 A further overestimate of expenditure by interstate visitors comes from a general problem faced by all surveys. Even the best survey will not measure the reduction in expenditure from tourists who did not come due to the car race. For example, tourists may be unable to get a hotel booking or may be discouraged by crowds and congestion. CTEC refers to anecdotal reports that hotels were full during the race.⁶⁰ Some tourists who may have come to Canberra (for example, to see the last days of the Monet and Japan exhibition in 2001) may have been crowded out. There have been complaints that some local businesses in the Parliamentary Triangle lost custom.

3.63 There is the reduced expenditure by some local residents who leave town because of the event (such as Forrest and Barton residents wishing to escape the noise). Going the other way, and equally difficult to measure, is the 'retained expenditure' of local residents, which would have been spent elsewhere if the event were elsewhere. Some residents who otherwise might go away from Canberra for the long weekend may decide to stay in Canberra and attend the race – keeping expenditure in the Canberra economy. The effect on expenditure is likely to be small because the race is more likely than not to affect the timing of interstate trips rather than whether they are taken or not.

CORPORATION COMMENTS

3.64 In a response made on 2 July 2002 to a draft of this audit report, which was provided to CTEC on 27 May 2002, CTEC advised:

The Board agrees that a complete net cost benefit analysis, inclusive of all costs and all benefits, should have been undertaken with the net outcome being used to determine the

⁶⁰ Tabling Statement to Legislative Assembly p.4.

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effectiveness of the races and its economic value to the ACT. However as we understand it, CTEC was not requested at any stage to undertake a detailed cost analysis or assess the events on going viability. It is for this reason that in publicising the economic benefits, CTEC reported the gross benefit and this was clear and transparent to all.

3.65 CTEC's response also included:

From an assessment of the [*draft*] Auditor-General's Report and from feedback from some staff and other key stakeholders the Board believes that CTEC in no way attempted to mislead or deceive the public in the presentation of the "results" of the two races. The reporting of gross benefits in terms of interstate expenditure, expenditure by locals and local contracts was just that "gross economic benefits" and was never represented as a cost benefit analysis. The costs were presented separately in the [*Corporation's*] annual report.

3.66 The response also included:

Information provided by CTEC having been provided in an open and transparent way was done so on the belief that at any time an assessment of the type undertaken by the Auditor-General could independently determine whether the race was viable or not. At no stage, until now, was CTEC asked to undertake a detailed cost benefit analysis to justify the continuation of the race program.

CONCLUSION

3.67 As CTEC has agreed CTEC's race evaluations were an incomplete cost-benefit analysis. The CTEC evaluations measured gross benefit and did not consider costs. CTEC did not follow typical methodology for conducting economic impact studies although the usual methodology was followed by its own consultants. The estimates produced by the consultants were increased by CTEC.

3.68 As a result, the gross benefits announced are exaggerated. For example, the studies count expenditure by locals (which is expenditure switching with no direct impact on the economy) and count spending by tourists who would have come to Canberra whether or not the race was held (which is not an incremental benefit and would have occurred

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without the car race). The spectator expenditure figures include expenditure on race tickets and merchandise which would be double counting in a full analysis.

3.69 As well, it is only legitimate to count expenditure on local contracts as a benefit if the resources used had no alternative use.

3.70 Considering these factors considerably reduces the CTEC estimates of economic benefit. In terms of *Table 6*, interstate visitor expenditure is reduced to \$3.6m in 2000 and \$3.2m in 2001. The other expenditures should be deleted.

3.71 Further, faults with the surveys on which the estimates are based mean these figures are overstated. The surveys overestimate the proportion of visitors from interstate and the true amount of visitor spending.

3.72 What remains is not an economic benefit – it is expenditure by interstate tourists. Only a portion is of net economic benefit. When other costs and benefits are taken into account in a full cost-benefit analysis, as conducted by the Audit and presented in *Chapter 2* of this report, the net benefits to Canberra from conducting the races are clearly negative.

3.73 What is clear from the Audit's analysis is that the economic benefits announced publicly were of little use for making judgements on the success of the two races conducted. They were also of little use for making decisions about whether or not to continue conducting the races.

4. CABINET SUBMISSION

INTRODUCTION

4.1 The Audit considered whether the Cabinet Submission that recommended Cabinet agree to the conduct of the series of races contained relevant, accurate, and complete information. This Chapter discusses the Audit's analysis of the Submission. A comparison of the forecasts included in the Submission with actual results for the 2000 and 2001 races is also presented.

BACKGROUND

4.2 Cabinet decided on 23 August 1999 to fund a series of five V8 Supercar races in Canberra (Cabinet Decision 7456). Cabinet agreed to a \$4.5m non-repayable capital injection and an annual subsidy of \$2.5m. The decision was based on information contained in Cabinet Submission 6009, dated 20 August 1999. The submission was signed by the then Chief Minister.

SIGNIFICANT FINDINGS

- *The analysis and methodology used in the Cabinet Submission to estimate the financial flows and potential benefits from the race was flawed. As a result, the Submission was inaccurate and incomplete.*
- *A key table of economic benefits included in the Submission contains simple numerical errors.*
- *The Submission does not discount future revenue and cost flows to account for the cost of capital. The result is to exaggerate the estimated net benefit from the car race by one-third.*
- *The Submission exaggerates the estimated visitor impact on spending by over 50 per cent.*
- *The Submission includes optimistic forecasts. Arbitrary and unjustified assumptions that favour the project are made about the size and growth of benefits and costs. In particular, the assumed publicity benefits and growth rates seem implausible.*
- *The Submission assumes an unrealistically high level of job creation.*

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- *The Submission includes optimistic ticket sale forecasts that are inconsistent with experience with other car races.*
- *The Submission did not follow standard practice and provide information on the financial risk associated with the project.*
- *The net cost to taxpayers of conducting the 2000 race was \$7.7m compared with a forecast cost of \$7.5m.*
- *The net cost to taxpayers of conducting the 2001 race was \$5.1m compared with a forecast cost of \$2.6m.*

THE CABINET DECISION

4.3 Cabinet Decision 7456 dated 23 August 1999 was examined closely by the Audit. The Decision makes it clear that very important to Cabinet's decision were the considerable benefits forecast to be derived for the Territory from:

- the direct economic impact from the race;
- the national and international media exposure created by the race; and
- the race's potential employment generation.⁶¹

4.4 Each of these claimed benefits were described and quantified in Cabinet Submission 6009. The amount of funding approved by Cabinet was based on forecasts of race revenue and expenditure presented in an attachment to the Cabinet Submission.

4.5 Cabinet's decision was heavily reliant on the information provided in the Submission. Accordingly, the Audit reviewed the content of the submission. In particular, the Audit evaluated the methodologies and sources used to arrive at the important monetary estimations presented in the submission and the estimate of jobs to be created by the race.

ECONOMIC BENEFIT EVALUATION

4.6 The following was included in the submission on the 'Economic Benefit' to be derived from the race.

⁶¹ See Cabinet Decision No. 7456, 23 August 1999

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5. The cumulative direct economic impact generated by the three day event is expected to be in the order of \$33.9m over five years. The benefits are derived from visitation by tourists, media and teams (see Attachment B – Economic Benefits Statement). The net economic benefit to the Territory (which includes national and international media exposure over the five year contract term) is expected to be in the order of \$51m. The estimated cumulative increase in tax revenues to the Territory is in the order of \$1.37m over the five year period.

4.7 *Table 7*, on the following page, reproduces Attachment B – Economic Benefits Statement from the Cabinet Submission.

4.8 The Audit identified a number of problems with the attachment.

Numerical Errors

4.9 The table of economic benefits presented to Cabinet contained simple numerical errors. For example:

- ‘Total Value to Territory’ (column F) has not been calculated using the formula shown in the heading, nor does it sum to the total shown. (Indeed, applying the formula shown would result in double counting of extra tax revenue as the price tourists pay for goods includes tax.);
- calculations in ‘ACT Tax Revenue’ (column C) are incorrect for year two of the race; and
- the wrong amount has been included as the annual government contribution in calculating the ‘Net Economic Benefit’ (column G), and it does not sum to the total shown.

4.10 Errors such as these should not be in a Cabinet submission. The existence of the errors implies either review processes did not pick them up or the table was not reviewed.

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Table 7: Economic Benefits Statement (per Cabinet Submission 6009)

Year	A Spectator Nos	B Interstate visitor impact (marginal GSP increase)	C ACT tax Revenue increase	D National Media Exposure	E International Media Exposure	F Total Value to territory (B+C+D +E)	G Net Economic Benefit (F-annual Govt contribution)
(Notes)	(1)	(2) \$m	(3) \$m	(4) \$m	(5) \$m	\$m	
99-00	50,000	5.3m	0.212m	3.5m	2.0m	10.8m	+3.8
00-01	55,000	5.8m	0.244m	3.9m	2.2m	12.2m	+9.45
01-02	60,500	6.8m	0.272m	4.2m	2.4m	13.4m	+10.65
02-03	66,550	7.6m	0.304m	4.6m	2.7m	14.9m	+12.15
03-04	73,205	8.4m	0.336m	5.1m	2.9m	16.4m	+13.65
5 year							
Total	305,255	\$33.9m	\$1.37m	\$21.2m	\$12.2m	\$69.07m	+\$52.07

Notes:

- (1) Visitor numbers are increased by 10% per annum
- (2) Marginal GSP increase is calculated in year one by taking total visitors x 45% = interstate visitor number x \$185 per person expenditure (based on 1999 Rally expenditure). Years 2-5 use the same assumptions to calculate interstate visitor numbers with a nominal 3% CPI increase in per person expenditure. Each year also assumes in the order of \$1.1m impact for associated teams media and AVESCO staff.
- (3) Tax revenue effect is calculated multiplying marginal GSP increase x 4%.
- (4) & (5) Media exposure is based on advertising rates and media channels provided by AVESCO and on 1999 Rally media exposure. A 10% per annum increase in value is applied to both national and international media value.

Lack of Discounting

4.11 Standard cost-benefit analysis emphasises the need to apply an appropriate discount rate to future cash flows to account for the cost of tying funds up in the project. A dollar received now is worth more than a dollar received at some time in the future and a cost paid now is more onerous than a cost of the same dollar amount paid in the future – a fact that is reflected in positive real interest rates.⁶² Any funds spent today cannot be invested at interest, so the cost of capital is the interest return foregone.

⁶² NSW Treasury (1997) p.51.

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4.12 Discounting the value of future costs and benefits in order to determine their present value is necessary to compare cost and benefits in a common time dimension.

4.13 Future financial flows were not discounted in the Cabinet submission. The submission states that the total value to the Territory from the event is \$69.07m, from which is subtracted \$17m government funding over five years to get a net economic gain of \$52m. Significant timing differences were forecast between revenue and expenditure flows. More than half the expenditure flows occur in the first two years and almost half the benefit flows are in the final two years of the car race.

4.14 To allow for the timing differences the costs and benefits should have been discounted with the discount rate that accounts for the interest cost of capital and risk. Outdoor entertainment events are risky and likely to be positively correlated with the state of the economy (for example, poor attendances are likely to coincide with a weak economy). To account for this extra risk, the NSW Treasury recommends that a real discount rate of ten per cent be used. Even though the government can borrow and lend at the government bond rate, that is not a measure of the cost of capital because risk is transferred to taxpayers.

4.15 The Cabinet Submission uses nominal flows and assumes an inflation rate of three per cent, so the discount rate should be a nominal interest rate of thirteen per cent.

4.16 The Audit recalculated figures in the Cabinet Submission on a net present value basis, and this is shown in *Table 8* on the following page. The ‘Undiscounted Value’ shown in *Table 8* shows figures from the Cabinet Submission (with numerical errors corrected). The ‘Present Value’ shows Audit calculations based on a thirteen per cent discount rate.

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Table 8: Net Present Value of Cabinet Submission Figures

Year	Undiscounted Value			Present Value ¹		
	Gross Benefit	Government contribution	Net Economic benefit	Gross Benefit	Government contribution	Net Economic benefit
	\$m.	\$m	\$m	\$m	\$m	\$m
2000	10.8	7.0	3.8	10.8	7.0	3.8
2001	12.2	2.5	9.7	10.8	2.2	8.6
2002	13.4	2.5	10.9	10.5	2.0	8.5
2003	14.9	2.5	12.4	10.3	1.7	8.6
2004	16.4	2.5	13.9	10.1	1.5	8.5
Total	\$67.7	\$17.0	\$50.7	\$52.5	\$14.4	\$38.0

¹ A discount rate of at thirteen per cent has been applied.

4.17 Simple discounting reduces the total value column from \$67.7m to \$52.5m and the net economic benefit from \$50.7m to \$38m. In other words, the net benefits were exaggerated by more than one-third when they were not discounted for the cost of capital.

Overstatements of Interstate Visitor Impact

4.18 The attachment to the Cabinet Submission estimates ‘Interstate Visitor Impact’ as \$33.9m for the five race series (column B in *Table 7*).

4.19 Although column B is labelled ‘Interstate visitor impact (marginal GSP increase), it actually estimates the extra expenditure by interstate tourists and not the increase in Gross State Product (GSP). GSP is the regional equivalent of Gross Domestic Product and measures the change in value added. It automatically nets out imports and does not double count changes at different levels of the production chain. GSP is a more accurate measure of the economic impact of tourists. But the GSP increase is a fraction of the increase in expenditure – the Chief Minister’s Department uses a generous estimate of 0.71.⁶³

4.20 As explained in *note 2* to the attachment (see *Table 7*), the year one increase is calculated by assuming interstate tourists are 45 per cent

⁶³ See Centre for Tourism Research (2001c) p.vii and (2000d) ix. Why the estimate is generous is discussed in *Chapter 5*, Input-output analysis and Input-output analysis exaggerates the increase in GSP from expenditure sections.

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of total visitors and then multiplying by \$185 per person expenditure (based on expenditure estimates from the 1999 FAI Rally). The following years assume a nominal three per cent CPI increase in per person expenditure. Each year ‘assumes in the order of a \$1.1m impact for associated teams, media and AVESCO staff’.

4.21 The evaluation of the FAI rally conducted in June 1999 found that the 33 per cent of attendees who came specifically to see the rally of Canberra had on average spent \$184, stayed 2.18 nights⁶⁴ and spent 2.42 (out of three) days at the rally.⁶⁵

4.22 The Cabinet submission assumes 4,500 high price three-day ticket purchases and 18,000 day entries by interstate tourists (45 per cent of the total) who would each spend \$184. Yet that is the average expenditure for 2.18 nights, and it overstates the expenditure by per day visitors and understates expenditure by three-day ticket holders.

4.23 If the FAI Rally figures were considered to be a good estimate of the behaviour of potential V8 car race spectators, then 31,500 day visits by interstate tourists (being 18,000 + 3x4,500) translates into 13,017 spectators (being 31,500/2.42) who would spend \$184 each; a total of \$2.395m. This is a slight overestimate, because not all high price ticket holders will visit for all three days. Adding \$1.1m in team and media expenditure brings the total to \$3.495m.

4.24 The Cabinet submission estimates \$5.3m, which is around \$1.8m or fifty per cent higher.

4.25 Moreover, estimates of expenditure by teams, media, and AVESCO staff are not supported and appear unrealistic. In the first year, this expenditure is assumed to be \$1.1m, which together with the other assumptions in *note 2*, makes interstate visitor expenditure \$5.26m (rounded to \$5.3m in the table). To get the figure for 2004 in the Cabinet submission, the team expenditure must be at least \$1.5m, which implies a growth rate of over eight per cent per year. There appears to be little justification for this, as the number of teams, media, and AVESCO staff are unlikely to grow. Further, the pattern of growth assumed appears arbitrary; it does not appear to be a constant eight per cent per year or constant absolute amounts.

⁶⁴ Assuming those who stayed ‘more than four nights’ stayed five nights.

⁶⁵ Taylor Nelson Sofres, *Evaluation of the FAI Rally of Canberra*.

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4.26 Based on the methodologies and sources referred to in the Submission itself, the Audit view is that the interstate visitor impact estimations were substantially overstated.

Overstatements of Publicity Value

4.27 Attachment B values ‘national media exposure’ at \$21.2m over the series of races (column D) and ‘international media exposure’ as \$12.2m over the same period (Column E).

4.28 In relation to publicity in Australia the Cabinet Submission states:

10. National television coverage is delivered by Network 10 and, based on the Adelaide format (a three day format endurance race), over 750,000 people will view the race via ten hours of cumulative free-to-air live broadcasts at prime time.
11. Fox Sports are also licensed to provide up to two hours per day of live coverage within Australia (six hours total). Radio and print media coverage will be delivered through generalist national publications/programs and specialist motoring publications/programs.
12. Based on results generated by the 1999 FAI Rally of Canberra and the Adelaide event, the Canberra event is expected to generate in the order of \$3.5m in positive publicity in year one alone and \$21.2m over the five year period.

4.29 For international publicity the submission states:

13. International audience exposure is even more extensive than the national coverage. China is a key target market for Australia and the linkages formed by the ACT Government and CTEC to date will be positively re-inforced through this additional exposure – much like the FAI Rally of Canberra.
14. It is conservatively estimated that the value of the international promotions (based on the Adelaide event and the 1999 FAI Rally of Canberra) is in the order of \$2m in year one alone and \$12.2m over the five year period.

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4.30 As shown in the attachment the value of national publicity was estimated as \$3.5m and international publicity as \$2m in the first year. Both are assumed to grow at ten per cent each year, a seven per cent real growth.

4.31 The submission claims the figures for publicity benefits are ‘conservatively estimated’ and ‘based on the Adelaide event and the 1999 FAI Rally of Canberra’. However, it is not clear how these estimates were made and CTEC has been unable to supply the Audit with any analysis to support the estimates.

4.32 In a later CTEC document it is stated that the ‘perceived benefits from the event’ included ‘Publicity for the National Capital with the race being seen by 2.25 million national viewers and an estimated 85 million people internationally.’⁶⁶ The 2000 and 2001 CTEC evaluations (see *Chapter 3*) both state that the race was telecast in New Zealand, but no mention is made of telecasts to Asia. It is likely that the figures for international publicity are an overestimate. The FAI Rally is part of an international series, whereas the V8 Supercar series is not.

4.33 The national and international media exposure figures in the Cabinet submission were said to be based on information supplied by AVESCO and on the 1999 FAI Rally exposure. CTEC, however, could not supply the analysis behind the figures or any figures on the 1999 FAI Rally exposure to the Audit.

4.34 Although publicity value is difficult to predict, estimates in the Cabinet submission seem implausibly high, the total annual publicity value starting at \$5.5m for the first race and rising to \$8m for the final race. Whether the initial estimate is plausible or not, there seems no basis for assuming the benefits grow by ten per cent per year. It could be just as easily argued that the publicity would be greatest in the first year of an event due to its novelty.

JOB CREATION

4.35 One of the specific benefits noted by the Cabinet was the jobs that would be created as a result of the race being conducted in Canberra.

4.36 The Cabinet submission stated that:

⁶⁶ Canberra Tourism and Events Corporation (2000a) p.3.

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6. Applying the Bureau of Tourism Research's general approach to tourism-generated job creation in the ACT (for every \$27,413 in tourist expenditure, one full or part-time equivalent job is created), over 150 full or part-time equivalent jobs will be created from year one as a result of the proposed event.

4.37 Many of the jobs created by events may come in the form of short-term casual positions during the event and hours of overtime. There is a need to convert hours worked into a measure that is comparable across different types of industries. Jobs can be measured as either full-time or part-time equivalent but not both. It is impossible to know what level of employment is meant by '150 full or part-time equivalent jobs'.⁶⁷

4.38 The methodology used by CTEC to calculate job creation is questionable. CTEC could not provide documentation regarding the Bureau of Tourism Research's 'general approach' and none could be found by the Audit. The quoted expenditure required to create a job (\$27,413) is certainly much smaller (and the employment effect greater) than other figures put out by CTEC, the Bureau of Tourism Research, and other bodies. For example:

- CTEC has claimed that the \$1.1b direct tourist expenditure in the ACT supports 14,000 jobs, which is \$78,571 of expenditure per job;⁶⁸
- the Bureau of Tourism Research has recently estimated the number of jobs supported by tourism expenditure in a number of regions. It computes the share of 'employed persons' that could be attributed to tourism without distinguishing between full and part-time employment. In each region, over \$100,000 of visitor expenditure supports one tourism job;⁶⁹ and
- a recent report on the proposal for an ACT dragway estimated construction expenditure of \$6m would create 59 jobs, i.e.

⁶⁷ The Audit notes that the Cabinet submission estimates \$5.3m in tourist expenditure in year 1 of the race. On this basis, the car race should have generated 193 jobs, not 150 (being \$5.3m/\$27,413).

⁶⁸ See Canberra Tourism and Events Corporation (2000b) p.C1. This point is made 3 times in the document and the Bureau of Tourism Research, 1999; Policy Group ACT Chief Minister's Department, 2000, sometimes 1999, is cited in support. What these citations refer to are not in the document.

⁶⁹ See Bureau of Tourism Research (2001) p.20, 58-59, 85, 121, 156.

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\$101,700 per job. It would take \$65,000 of operating expenditure to generate each job.⁷⁰

4.39 The Audit considers that the Cabinet Submission significantly overestimates job creation arising from the event. Even using the most optimistic figures quoted above (\$65,000 per job) the race would generate only about 80 jobs, almost half that quoted in the Cabinet Submission.

REVENUE AND EXPENSES FORECASTS

4.40 The Cabinet Submission contained forecasts of the direct costs, which would be incurred to stage the race and the direct revenues. These forecasts were the basis for the amounts that Cabinet approved to fund the conduct of the race.

4.41 *Table 9* on the following page summarises the revenue and expenses forecasts contained in the Cabinet submission. The revenue figures in the table set out expected revenue from private sources and do not include government subsidies to the event, which are revenue to CTEC but a cost to taxpayers. The anticipated loss (which must ultimately be covered by taxpayers) of \$3.4m in the first year was expected to gradually fall to \$1.9m in 2004.

4.42 All the figures are nominal dollars. There is an underlying inflation rate of three per cent per year. The initial capital investment of \$4.5m was expensed over ten years in the submission (i.e. it adds \$450,000 per year to expenses).

4.43 The Audit reviewed the forecasts and noted that the methodology employed, and underlying assumptions, worked to overstate revenue estimates and understate estimates of expenses.

⁷⁰ Centre for Tourism Research. (2001e).

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Table 9: Operating Statement Calculations in the Cabinet Submission

	2000 \$'000	2001 \$'000	2002 \$'000	2003 \$'000	2004 \$'000
Revenue					
Corporate/sponsorship	2,500	2,600	2,700	2,800	2,900
Ticket sales	2,100	2,585	3,146	3,793	4,539
Licensing	400	410	420	430	440
	5,000	5,595	6,266	7,023	7,879
Expenses					
Fees and charges	1,409	1,474	1,689	1,809	1,879
Other	7,006	7,211	7,386	7,577	7,856
	8,415	8,685	9,075	9,386	9,735
Net Loss	3,415	3,090	2,809	2,363	1,856

Ticket Revenue Estimates

4.44 The revenue forecasts assumed that there would be 50,000 tickets sold in the first year, with 20 per cent buying high priced tickets (\$110) and the rest \$25 tickets. The low priced tickets correspond to daily general admission and the high priced tickets to three-day grandstand tickets. This meant selling 40,000 daily admissions and 10,000 three-day grandstand tickets.⁷¹

4.45 The number of paying spectators was expected to grow by ten per cent each year, which with the assumptions on ticket prices, meant revenue from ticket sales would grow by 19 to 23 per cent per year. This translates into expected growth of total revenue of around twelve per cent annually, well above the rate of inflation (see *Table 9*).

4.46 It is not clear whether experience with other races was taken into account when setting revenue estimates. The Audit considers that this was an important issue, and has compiled historical data on crowd figures

⁷¹ The actual ticket pricing structure in 2000 was more complex. Three day grandstand tickets were \$110-\$169. A three-day general admission ticket was \$70 (close to \$25 per day). Daily general admission ranged was \$15 on Friday, \$30 on Saturday and \$35 on Sunday. Tickets were \$5 more if purchased at the gate.

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at various other Australian car races. The data is set out in *Table 10*. The data was available publicly and readily from AVESCO.

Table 10: Car Race Crowd Figures (Shell Championship Series)										
Event	Year									
	1992 '000	1993 '000	1994 '000	1995 '000	1996 '000	1997 '000	1998 '000	1999 '000	2000 '000	2001 '000
Philip Island		28.0	23.0	15.0	14.5	16.0	18.0	24.3	20.0	21.5
F1 Melbourne						289.0	297.0	345.3	359.5	369.5
Barbagallo	13.5	17.0	14.0	15.5	17.5	27.0	24.0	32.0	35.0	57.6
Adelaide Street								158.0	164.0	166.8
Eastern Creek	12.5	18.5	18.5	20.0	18.0	18.0		16.2	22.7	32.6
Hidden Valley							26.9	26.7	32.5	32.3
Canberra Street									109.0	101.0
Queensland raceway								27.9	23.0	
Winton	16.0	19.0	19.0	25.0		22.0	23.0	26.8	31.0	34.7
Oran Park	19.5	22.0	23.5	32.0	30.0	42.0	35.0	31.6	40.5	28.0
Calder Park					20.0	21.0	13.5	26.0	28.5	35.6
Queensland 500								38.5	25.5	36.3
Sandown	15.0		17.0	18.0	18.0	17.5	20.0	28.0	34.0	27.4
Gold Coast Indy						226.0	245.6	250.8	269.9	286.6
Bathurst 1000				22.0	23.5	139.4	148.8	154.6	130.3	144.8
Symmons Plains	16.8	19.5	19.7	22.0	16.5	12.5	13.5	14.9		
Lakeside	16.0	17.0	15.0	17.0	15.0	18.5	16.9			
Mallala	9.5	19.0	19.0	19.5	19.0	31.5	17.0			
Sandon 500						29.0	28.0			
Amaroo Park	10.5	14.0	11.1							

Source: AVESCO Record book. Available at:
<http://www.v8supercar.com.au/resource/recordbook/varrecords/crowdfigures.htm>
 The Audit has assumed that the crowd figures included all attendees since the recorded Canberra crowd in 2000 was 109,000 and this figure included all attendees i.e. the number of daily visits by all spectators (paying and non-paying), officials, volunteers and media.

4.47 Fluctuations in crowd figures are illustrated more clearly when percentage growth rates, rather than overall attendances, are examined. Accordingly, the Audit calculated the crowd growth rates from the data available from AVESCO, and these are presented in *Table 11*.

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Table 11: Car Race Crowd Growth Rates

Event	1993 %	1994 %	1995 %	1996 %	1997 %	1998 %	1999 %	2000 %	2001 %
Philip Island		-17.9	-34.8	-3.3	10.3	12.5	35.0	-17.9	7.5
F1 Melbourne						2.8	16.3	4.1	2.8
Barbagallo	25.9	-17.6	10.7	12.9	54.3	-11.1	33.3	9.4	64.6
Adelaide Street								3.8	1.7
Eastern Creek	48.0	0.0	8.1	-10.0	0.0		-10.0	39.8	43.6
Hidden Valley							-0.7	21.9	-0.6
Queensland raceway								-17.5	-7.3
Winton	18.8	0.0	31.6		-12.0	4.5	16.7	15.5	
Oran Park	12.8	6.8	36.2	-6.3	40.0	-16.7	-9.7	28.2	11.9
Calder Park					5.0	-35.7	92.6	9.6	-30.9
Queensland 500								-33.8	24.9
Sandown		13.3	5.9	0.0	-2.8	14.3	40.0	21.4	42.4
Gold Coast Indy						8.7	2.1	7.6	-19.4
Bathurst 1000				6.8	493.2	6.8	3.9	-15.7	6.2
Symmons Plains	16.1	1.0	11.7	-25.0	-24.2	8.0	10.2		11.1
Lakeside	6.3	-11.8	13.3	-11.8	23.3	-8.6			
Mallala	100.0	0.0	2.6	-2.6	65.8	-46.0			
Sandown 500						-3.4			
Amaroo Park	33.3	-20.7							

4.48 If the behaviour of attendance at new events as shown in *Table 11* is examined, there was a fall in the crowd after the first year at Philip Island, Hidden Valley, Queensland raceway, Queensland 500 and Sandon 500. The average fall was 14.7 per cent. There was an increase in the crowd at the F1 Melbourne, Adelaide Street, Calder Park, and Gold Coast Indy. The average increase was 5.1 per cent. On this basis, it can be said that crowds are as likely to fall as to rise after the initial year.

4.49 Changes in the crowd figures are likely to understate the proportional changes in paying spectators. For example, from 2000 to 2001 the Canberra crowd fell by 7.3 per cent, yet general admission daily entries fell by 38 per cent and ticket revenue by 22 per cent.⁷²

⁷² See table 11 actual and predicted revenue and ticket sales.

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4.50 It is clear from the AVESCO data that race crowds fluctuate. Although attendance at several races has increased over time, none has experienced a steady growth rate over five years such as the ten per cent improvement each year forecast for the Canberra race. On this basis, the Audit considers there was no justification for assuming a ten per cent annual increase in attendance.

4.51 Since the estimated ticket revenue was based on estimated attendances, it follows that optimistic attendance estimates will lead to optimistic revenue estimates. As noted above, assumptions regarding ticket prices and attendance have resulted in an estimated growth of total revenue of around twelve per cent, well above inflation. The Audit considers this overstated revenue estimates.

Expenses Estimates

4.52 Expenses were forecast to grow at lower rates than revenue, ranging from 3.2 to 4.5 per cent. The main contributor to cost increases is the level of fees. Non-fee costs are assumed to rise at below the rate of inflation over the period. Indeed, there are no systematic adjustments for inflation in the estimates. For example, non-fee costs are assumed to rise by constant nominal amounts – which implies a declining rate of growth over time. Some cost items fluctuate up and down over time with little justification. These arbitrary assumptions act to keep cost estimates down.

4.53 The Audit considers that estimates of expenses were based on unjustified assumptions likely to result in understatement of costs.

FINANCIAL RISKS

4.54 The Cabinet submission did not draw attention to the risk that the optimistic crowd and cost projections contained in the submission would not be realised and the financial consequences that would result.

4.55 The Cabinet Submission:

notes the risks with the AVESCO proposal outlined in the Submission, in particular:

- (i) the safety issues associated with motor sport;

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- (ii) potential additional costs relating to the introduction of the Goods and Services Tax (GST); and
- (iii) the importance of fine weather to the financial success of the event.’

4.56 It is stated that attachment E to the submission, a letter on the financial forecasts from Ernst and Young, ‘shows a level of comfort in the budget’. The letter, however, does not do this. The letter makes it clear that Ernst and Young thought the forecast ‘should be regarded as an initial draft’. Ernst and Young recommended:

... the forecast be subject to a more rigorous review including benchmarking against similar events and sensitivity analysis to assess the financial results in circumstances where assumptions are not achieved.

4.57 The Ernst and Young recommendation was not followed. Indeed, time did not allow the recommendation to be followed as the submission was provided to Cabinet the day after the Ernst and Young letter was written.

4.58 The Ernst and Young recommendation was simply sound management practice. Sensitivity analysis provides information about the effect of forecast errors on the viability of a project and how changes in different variables will affect the overall costs and benefits of the project. Sensitivity analysis helps assess the risk of the project and indicates critical elements for management to focus on. Sensitivity analysis is recommended by the Commonwealth Department of Finance and the NSW Treasury for use in cost-benefit studies. Decision makers should repeat calculations for alternative scenarios and assumptions and pay close attention to factors that analysis suggests are critical to the success of the project.

4.59 Further, the submission does not attempt to quantify the risks that it does draw attention to, such as the likelihood and financial consequences of bad weather or the likely impact of taxation changes.

4.60 The Audit considers that sound practice in proposing a project of this nature would include an assessment of risk, and careful analysis of possible consequences using sensitivity analysis. The absence of such analysis, particularly regarding risks that have been brought to the attention of government officials (such as the risk of poor weather)

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compromised the quality and reliability of the information presented to Cabinet.

COMPARISON OF FORECASTS WITH ACTUAL RESULTS FOR 2000 AND 2001

4.61 In hindsight, the Cabinet submission forecasts were certainly optimistic – especially the assumed growth rates. *Table 12* compares actual with forecast revenue and expenses for 2000 and 2001.

Table 12: Forecast and Actual Revenue and Expenses				
	2000 Forecast \$'000	2000 Actual \$'000	2001 Forecast \$'000	2001 Actual \$'000
Expenses	7,965	8,760	8,235	9,179
Revenue	5,000	4,479	5,595	4,094
Capital works	4,500	3,402		63
Net cost to taxpayers	7,465	7,683	2,640	5,148

Source: Canberra Tourism and Events Corporation Audited Financial Statements. The table uses the operating statement prepared on an accruals basis as the most accurate reflection of the financial position. Capital costs are included when incurred, so depreciation is subtracted from expenses in both predicted and actual figures to avoid double counting.

4.62 The net cost to the taxpayer in 2000 was within three per cent of that implied by the Cabinet submission estimates. Although revenue was \$0.521m less than predicted and expenses \$0.8m more, capital works were \$1.1m less than the planned \$4.5m.

4.63 The growth rates assumed in the Cabinet submission proved optimistic. Rather than rising by twelve per cent, revenue fell by 8.6 per cent and current expenses rose by 4.8 per cent rather than 3.4 per cent. The cost to the taxpayer for the 2001 race increased to over \$5m – almost double the Cabinet submission expectation.

4.64 As shown in *Table 13*, the revenue shortfall in 2000 was due to both corporate/sponsorship and ticket sales being below expectations. The slump in revenue in 2001 was mainly due to a fall in ticket sales.

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Table 13: Forecast and Actual Revenue and Ticket Sales

Revenue	2000		2001	
	Forecast \$'000	Actual \$'000	Forecast \$'000	Actual \$'000
Corporate/sponsorship	2,500	1,780	2,600	1,992
Ticket sales	2,100	1,894	2,585	1,484
Licensing	400	684	410	618
Interest received		121		
Total	5,000	4,479	5,595	4,094
High price grandstand tickets	10,000	3,883	11,000	3,221
General admission daily entries	40,000	36,544	44,000	22,762

Source: Forecasts from the Cabinet Submission, actual revenue figures from Canberra Tourism and Events Corporation Audited Financial Statements.

Actual crowd figures from CTEC (2000a) p.7 and (2001) p.4.

The general admission is paid entries. This does not include sponsor or corporate passes, because revenue from them goes to corporate/sponsorship.

A three-day ticket counts as three entries.

Note that the 2001 Audited Financial Statements contain two different splits between licensing (called fees, commission and rights) and corporate hospitality/sponsorship. The split done on the same basis as the 2000 figures is used.

4.65 Expenditure by interstate tourists has also been below expectations, as shown in *Table 14*.

Table 14: Forecast and Actual Interstate Tourist Expenditure

	2000 \$m	2001 \$m
Forecast from Cabinet Submission	5.3	5.8
Consultants' estimates of Gross Tourist Expenditure	4.5	4.3
Tourist expenditure excluding race expenditure	3.6	3.2

Source: Consultants' evaluations

CORPORATION COMMENTS

4.66 In a response made on 2 July 2002 to a draft of this Audit report, which was provided to CTEC on 27 May 2002, CTEC advised:

The Board of CTEC, given the unavailability of complete working papers as well as limited access to people who were employed in CTEC at the time, is unable to provide any specific

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comment on the process by which the Cabinet Submission was constructed or approved.

The Board believes that any proposal that involves an assessment by Government in a non community based program should be developed and assessed on the basis of a net return on investment after allowing for risk and the opportunity cost of those proposed funds being invested in some other Industry intervention program. All assumptions underpinning a business case should be thoroughly tested and ideally validated against other independent sources of information.

A decision to support a certain program in a particular Industry sector should also be made after ensuring that the proposed program is consistent with the overall Government Industry sector Strategy as well as being assessed against other alternative priority programs, detailed within that Strategy.

CONCLUSIONS

4.67 The decision by the Government to support the V8 race was heavily reliant on information included in Cabinet Submission 6009. The Audit considered whether the Submission contained relevant, accurate, and complete information to assist the decision-making process. The Audit also considered whether the actual financial outcomes of the 2000 and 2001 races were consistent with forecasts in the Submission.

4.68 The Audit considers the analysis and methodology used in the Cabinet submission to estimate the financial flows and potential benefits from the race were flawed. The economic benefit evaluation contained simple arithmetical errors, double counting, did not systematically allow for inflation, and did not discount future benefit and cost flows. The forecasts of interstate visitor impact, publicity value, jobs created and ticket sales are all overstated. The submission did not adequately deal with the financial risks associated with the race. The actual net financial cost of the race has been far above the predictions made in the submission, and the indirect benefits much less.

4.69 The Audit concludes that the economic and financial forecasts contained in Cabinet Submission 6009 were not reliable for use as a basis for sound decision-making.

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4.70 It is difficult to judge how the assumptions made in the Cabinet submission were made as little supporting documentation of the basis for them could be produced for the Audit. Although the Cabinet submission states that the Chief Minister's Department and the Department of Treasury were consulted over the submission, neither CTEC nor the Departments could locate any written comments made on the submission. Both Departments advised the Audit that consultation was minimal and was likely to have been in an informal manner through telephone conversations and/or by way of meetings. The absence of documentation is a very unsatisfactory situation.

4.71 The Cabinet Handbook⁷³ summarises the importance of Cabinet submissions as follows:

Cabinet is the core decision-making forum for government policy. Most matters considered by Cabinet are complex and involve the weighing of many, often conflicting, factors. For this reason Submissions must be of the highest possible standard. Submissions should canvass all relevant considerations and information to assist Cabinet in making considered decisions for the good government of the Territory.

4.72 The submission discussed in this Chapter fell far short of the standards described in the Cabinet Handbook.

⁷³ Version issued October 2000 paragraph 7.3.

5. COST-BENEFIT ANALYSIS METHODOLOGIES

INTRODUCTION

5.1 The Chapter consists of three parts:

- a summary of the advantages of undertaking cost-benefit analysis;
- a guide to good practice in conducting cost-benefit analysis of government-funded events in the ACT; and
- a discussion of common problems with the methodology of economic impact statements, commonly used to evaluate tourism related events.

5.2 Cost-benefit analysis is a valuable tool to provide information and support decision-making. As identified in this report, however, the use of cost-benefit analysis in the evaluation of tourism related projects could be improved.

5.3 The cost-benefit analysis methodology discussed in this report is accepted practice that takes into account all relevant costs and benefits. Its use will avoid double counting, discount future cost and benefit flows, and value inputs appropriately (i.e. at the prices paid for them). Importantly, the methodology notes that financial risks should be carefully assessed and the best way to achieve intangible objectives considered.

ADVANTAGES OF COST-BENEFIT ANALYSIS

5.4 It is usual practice for substantial government investments to be subject to a cost-benefit analysis – as set out in guidelines issued by the Commonwealth Department of Finance or NSW Treasury⁷⁴ or set out in numerous economics textbooks.⁷⁵ The standard approach is to identify costs and benefits that are directly attributable to the project, quantify costs and benefits, apply an appropriate discount rate to future cash flows

⁷⁴ See Department of Finance (1991) and NSW Treasury (1997).

⁷⁵ See for example, Rosen (1998) pp.223-252, Browning and Browning (1994) pp.126-137 and Boardman et al (2001).

to calculate net present value, conduct sensitivity tests for uncertainty, and then consider equity issues and intangibles.⁷⁶

5.5 Economic cost-benefit analysis provides information to assist evaluation and decision-making. It considers on a consistent basis the costs and benefits of alternatives. It can assist in the choice between alternative options to achieve a given objective, such as different projects to promote tourism. It can guide decisions between a range of expenditure proposals directed at a variety of objectives that cannot all proceed due to resource constraints.

5.6 Cost-benefit analysis attempts to measure all major costs and benefits associated with a project. It expresses the costs and benefits in dollar amounts as a convenient measuring tool. The difference between the total benefits and total costs is the net benefit of the project. The net benefit can be compared across different projects.

5.7 It is valuable to undertake rigorous and systematic cost-benefit analysis, even if it is difficult to estimate some costs and benefits with precision. Often judgement must be used, but it is useful to put those judgements within a rigorous framework to make clear the assumptions and judgements made and to compare alternatives. Even if some costs and benefits cannot be assigned a dollar value, it ensures these factors are considered in the decision making process.

5.8 The NSW Treasury lists a number of advantages in using cost-benefit analysis for government agencies and government budget committees, including:

- by identifying and measuring all costs to an agency, economic appraisal provides the framework for consideration of the total costs of providing particular services, and thereby encourages the pursuit of low-cost solutions;
- by emphasising the quantification of benefits, it encourages managers of public sector agencies to question and re-examine the strategic objectives of the agency in undertaking the project; and
- by quantifying the net contribution of projects in a standard manner, the information base for decisions is improved, thereby assisting in the assessment of relative priorities.⁷⁷

⁷⁶ See Department of Finance (1991) pp.5-12.

⁷⁷ NSW Treasury (1997) pp.8-9.

5.9 Cost-benefit analysis can help minimise waste and ensure resources are directed to achieving objectives in the most effective way.

GUIDANCE FOR EVALUATION OF GOVERNMENT-FUNDED EVENTS

5.10 This Audit identified many deficiencies in the way the costs and benefits related to the V8 race series were estimated. This part of the Chapter provides some general guidance to assist with ensuring future evaluations of proposed government-funded events do not have the same deficiencies. The Audit's comments are not intended as a detailed guide to better practices; such information is readily available from, for example, guidelines issued by the Commonwealth Department of Finance or NSW Treasury.

Identify Costs and Benefits

5.11 A cost-benefit analysis should identify all major costs and benefits that are directly attributable to the event. It should take account of costs as well as benefits to estimate the net economic benefit. In particular, any evaluation of a proposal should take account of the direct financial flows associated with the project. It should weigh the cost to the taxpayer, including the excess burden of taxation, against any benefits that flow from the project.

5.12 A cost-benefit study should avoid double counting. For example, spending at an event by locals and tourists is measured in the direct revenue flow from the event. It should not be counted again in the extra expenditure in Canberra from the event.

5.13 The standard cost-benefit approach, which values inputs at the price paid for them, should be used. There is no justification for assuming the resources used are costless – that would imply that the project uses unemployed resources with no alternative use. Neither assumption is plausible in Canberra.

5.14 An appropriate discount rate should be applied to future cost and benefit flows to calculate net present value.

Treatment of Risk

5.15 Risk assessment should be a standard component of the evaluation of any major proposal involving government funding. For example, NSW Government agencies are required to apply a formal assessment of risk in planning new projects and major capital asset activities valued in excess of \$5m.⁷⁸

5.16 It is particularly important that the financial risks of proposals be fully investigated, especially when they involve open-ended commitments for taxpayers. Although external benefits may give rise to a case for government subsidies to an event and there may be a co-ordination role for government, it is another matter to take on all the financial risk associated with an event. Decision makers should be informed about the likely consequences of doing so.

Treatment of Intangibles

5.17 If intangible objectives, such as ‘publicising Canberra’ or ‘promoting community pride’ are considered important to the project, then a means of assessing their ‘worth’ should be determined and the best way to pursue them should be carefully considered.

5.18 The consideration of intangibles should aim to identify matters such as the logical assumptions applied, the impact on the community (such as who is affected and how) and the likelihood of the full impact being realised.

5.19 Proposals should consider different approaches and determine the best way to achieve the intangible objectives expected from a project. For example, if the objective is to promote Canberra, it may be desirable to make specifications about TV coverage in the contract for the event.

Independent Expert Review

5.20 Typically, a cost-benefit analysis will be undertaken by the agency proposing the project. It is important, however, that such analyses are subject to independent expert review. This practice will ensure that analyses are relevant, accurate, and complete.

⁷⁸ NSW Treasury (1997) p.61.

5.21 As a rule, in the ACT environment the ACT Treasury Department should review any cost-benefit analyses. This requires coordination between the proposing agency and the Treasury to ensure sufficient time is provided for the review. The Industry Commission has argued:

Most regional benefit cost studies are undertaken by, or on behalf of, the proposed implementing agency. If they are a public agency, the agency has an interest in the project proceeding since implementing projects is usually the primary reason for the institution's existence. In these circumstances, benefit cost studies can become simply an exercise in pseudo ex-post justification. It is not surprising therefore that for regional projects, benefits of projects tend to be overstated. The moral hazard incorporated in these institutional arrangements should not be underestimated as many of the problems associated with the use of the benefit cost framework for decision making arise because of this institutional weakness.

To minimise this conflict of interest it would be preferable that the evaluation of projects, and of the need for or desirability of government assistance, be undertaken or commissioned by a different area of the State government than those charged with promoting industry development or events. Central agencies such as finance or treasury departments in each State would appear to be better placed to make (or commission) such evaluations which take a 'whole-of-government' approach, and consider the alternative uses of public funds.⁷⁹

5.22 The NSW Treasury recommends that ex-post evaluation should not be undertaken by the same personnel responsible for the initial economic appraisal, though of course the expertise and knowledge of those initially involved should be called on as required.⁸⁰

MINIMISING COMMON PROBLEMS WITH ECONOMIC IMPACT METHODOLOGY

Introduction

Government-funded tourism events are often evaluated by a commissioned economic impact statement, which measures the extra

⁷⁹ Industry Commission (1996) p.90.

⁸⁰ NSW Treasury (1997) p.70.

expenditure in the host region from an event. Flaws in the methodology used often result in overstatement of the net benefits from tourism events. This part of the report discusses some of the common problems with the conduct of economic impact analyses. The Audit expects that, by highlighting the importance of the issues, agencies will work towards minimising the incidence of such problems in future analyses.

5.23 The focus of economic impact statements is usually on indirect benefits, such as the benefits from tourist spending. Frequently these studies fail to differentiate between gross and net benefits. If an event produces an increase in tourist spending, account needs to be taken of the opportunity cost of resources needed to produce the goods that tourists buy.

5.24 Economic impact statements are only part of a full cost benefit analysis. A complete cost-benefit analysis of an event deducts all the relevant costs of generating the expenditure flows and includes other benefits.

5.25 There is a need for scepticism about the indirect benefits associated with sporting events. In the USA, notwithstanding economic impact statements produced by hired consultants that predict large benefits to local governments that offer subsidies to attract sporting teams and events to their region, independent research finds no actual effect on economic activity – or even a negative effect.

5.26 The academic work on the economic impact of sports facilities, events, and teams does not rely upon projection. It compares areas with and without sporting events and controls for other variables that affect local economic conditions. Key findings from the empirical research include:

- there is not a positive correlation between professional sports and job creation, economic activity and the tax base;⁸¹
- there is no impact on the growth rate of real per capita income and a negative impact on the level of income;⁸²
- even hosting a major sporting event such as the Super Bowl had no associated impact on spending in the region; and⁸³

⁸¹ See Baade and Sanderson (1997), Rosentraub (1997) and Zipp (1997).

⁸² Coates and Humphreys

⁸³ Porter (1999).

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- there is little evidence that attracting sporting events creates a vibrant city. For example, there is no increased demand to live in communities with subsidised sporting events.⁸⁴

5.27 The findings are consistent with the more general finding that subsidies given by regional governments to attract businesses do not boost economic activity.⁸⁵

5.28 Most States and Territories, and even some cities (such as Ipswich) have special units or organisations to seek out events and attract them to the region. They bid for, assist, and underwrite events that are expected to bring economic benefits to the host economy.⁸⁶ Competitive bidding leaves States paying large amount to attract sporting events – which can act as a drain on the economy.

5.29 Another reason for the gap between predictions and actual impacts is that the assumptions and methods used in economic impact studies may exaggerate the actual effects of events. For example, surveys of visitors tend to overstate the effect of an event on total tourist expenditure.⁸⁷ Flawed methodology exaggerates the net benefits that result from the expenditure.

Problems with a Focus on Indirect Benefits

5.30 A focus on indirect benefits may distract attention from maximising the difference between the direct costs and benefits of the project. If the objective is to generate economic activity and create jobs, the usefulness of the project, the desires of consumers, cost control and value for money are of lesser concern.

5.31 For example, the Cabinet submission for the V8 Supercar race (see *Chapter 4*) lists increasing ‘tourist visitation during a ‘trough’ period’ as a benefit of the V8 Supercar race. Yet the result is a race in June, which is likely to be a difficult time to have a financially successful car race. June is a ‘trough’ period precisely because it is not an attractive time to visit Canberra. Further, the chance of bad winter weather may interfere with the running of the race and risks poor local attendance.

⁸⁴ Palmer (2002).

⁸⁵ See Industry Commission (1996) chapter 2 and appendix 6 for a survey of the evidence.

⁸⁶ Bureau of Tourism Research (1999) p.33.

⁸⁷ See *Chapter 3*, Neglect of discouraged visitors section.

Winter weather may reduce any publicity benefits from the race – and may result in negative publicity.

5.32 A focus on indirect benefits favours more spending on projects than would a commercial analysis. The larger the project, the greater the value added and jobs created. The more wasteful the project, the better it becomes for the purpose of providing employment.

5.33 Although the domestic market is often crucial to the success of a project, a focus on encouraging tourist spending risks its neglect. For example, promotional efforts may be slanted to interstate visitors.

Leakages of Gross Expenditure from the ACT

5.34 The net benefit from an event (or project) is the difference between the benefits the event confers on the community and the costs incurred locally to produce it. Most economic impact studies of major events in Australia estimate gross expenditure. But by itself, expenditure measures only the gross benefit. To measure the economic gain to the local economy the cost of the goods and services used to produce the revenue flows from the event must be deducted.

5.35 The gross expenditure of interstate tourists ignores the ‘leakage’ of the extra expenditure outside the ACT economy. For example, if a tourist buys some clothing at a shop, it is likely that the clothes have been imported from outside the ACT, the profits go to owners likely to reside outside the ACT and revenue from the company, income taxes and GST paid goes to the Commonwealth. A small jurisdiction like the ACT imports a large portion of its inputs for production.

5.36 The measure of the impact of tourist spending on the ACT economy should be net of the cost of imported inputs used in making those sales. The proportion of tourist spending on items produced interstate does not increase demand for the services of ACT residents.

5.37 A further leakage is the amount of GSP increase that goes into Commonwealth taxes such as income tax and the GST. Commonwealth taxes amounted to 26 per cent of GDP in 2000-01 and can be expected to be a substantial portion of any GSP increase.⁸⁸ Commonwealth tax payments are a leakage because the basis for Commonwealth grants to the

⁸⁸ See Australian Bureau of Statistics (2002a).

States is independent of the amount of Commonwealth revenue raised from the States. There is an equalisation process to ensure all States receive funding to provide services of the same standard if they make the same effort to raise revenue from own sources and operate at the same level of efficiency. States receive an equal per head share of the pool adjusted for assessed expenditure and revenue needs – influences on the demand for and cost of providing services and on revenue capacities. On the other hand, extra tax revenue raised by the States is kept by them and leaves their Commonwealth grant unchanged. However, the larger the share of national economic activity in a State, the greater its assessed capacity to raise revenue and the lower its grant.⁸⁹

5.38 Even if an Australian perspective rather than an ACT perspective is taken, the extra Commonwealth tax revenue raised from Canberra is still unlikely to be a net benefit. For example, if the car race is in Canberra rather than, say, the Gold Coast, the result may be to attract extra tourists to Canberra from interstate and benefit ACT residents. However, this is not a gain from a national perspective – just a redistribution of expenditure from one part of Australia to another. It will have a negligible effect on Commonwealth tax revenue or overall economic activity in Australia.

Accounting for Leakages: Measuring the Increase in GSP with General Equilibrium Models

5.39 A better measure of economic impact than gross expenditure is the increase in Gross State Product (GSP) – the regional equivalent of Gross Domestic Product. It measures the change in value added and so automatically nets out imports and does not double count changes at different levels of the production chain. It can be interpreted in terms of income (gross of depreciation). If an event increases GSP by \$10m, then it has generated an extra \$10m in income, including all wage income, business income, rent and interest.⁹⁰

⁸⁹ See Commonwealth Grants Commission State Revenue Sharing Relativities 2002 Update pp.5-7 http://www.cgc.gov.au/State_Pages/U2002Report.htm.

It should be noted that subsidies provided to encourage industry development (such as those to attract the car race) do not increase Commonwealth Grants. See Commonwealth Grants Commission, *Report on General Revenue Grant Relativities 1993*, para 4.100, page 287 and Commonwealth Grants Commission Discussion Paper CGC 2000/5 *State Policies And Disabilities* November 2000 p.8.

⁹⁰ Bureau of Tourism Research (1999) p.38.

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5.40 The need to convert expenditure to a GSP increase was implicitly recognised in the Cabinet submission (see *Chapter 4*) because the interstate visitor impact column was labelled as \$m marginal GSP increase (although it in fact estimated the gross expenditure increase).

5.41 Further, the 2001 consultant's report to CTEC emphasised that the extra expenditure attributed to the car race overstates the economic impact on the ACT economy and should be converted to a GSP increase. The report included the following statement:

Due to the high leakage of expenditure from the ACT, \$1 of extra expenditure increases GSP by less than \$1. GSP calculations can be provided by the ACT Chief Minister's Department (CMD).⁹¹

5.42 To estimate the increase in GSP that results from an event, the flow-on effects of extra spending to other areas of the economy need to be quantified. For example, when a tourist spends \$100 in a restaurant, part of that will go to wages to the waiter and profits to the owner. Part will go to buy inputs from other industries – such as food, electricity, and premises. Some will be imported from outside the ACT and some will be purchased from local suppliers. They in turn will buy inputs from other suppliers and so on. Further, the recipients will spend their increases in income. For example, the waiter will purchase goods and services from his wages, which sets in motion another chain of expenditure.

5.43 The effect of the tourist spending on GSP can be estimated by an economic model that identifies and quantifies the linkages between different sectors of the local economy and linkages with other regions (such as the propensity of different industries to import). This is a general equilibrium model.

Input-Output Tables

5.44 General equilibrium models are based on input-output tables, which show the structure of a country's entire production system for a particular period, usually one year. They show which goods and services are produced by each industry and how they are used (e.g. some goods, such as cars, are sold to final consumers while others, such as steel, are used as inputs by other industries in producing more goods and services). The Australian Bureau of Statistics provides national tables and then

⁹¹ Centre for Tourism Research (2001b) p.ix.

tables for a relevant region are estimated. Although the available tables probably provide the best available estimates, their shortcomings should be recognised. There are severe data limitations, and strong assumptions about the structure of production within and between industries are made.⁹²

5.45 For example, models of regional economies need to estimate the propensity of different industries to import from outside the region. Yet there are no complete data on interstate trade in goods and services. The ABS warns that detailed industry estimates for the two Territories are likely to be less accurate than those for the States.⁹³

5.46 Input-output tables assume:

- each sector produces a single output with single input structure (i.e. one which does not vary in response to changes in product mix);
- there is no substitution between the products of different sectors; and
- that the change in output of an industry will lead to proportional changes in the quantities of its intermediate and primary inputs (i.e. for any output, each of these inputs will be a fixed proportion of the total with no substitution between inputs) and these responses stay constant in the face of changing prices.⁹⁴

5.47 Tables are only produced about every five years, with a two-year lag, and reflect historical technologies which may date quickly. Further, when an expanding industry's demand for inputs is not met by local suppliers, the industry increases its imports and leakages are greater than predicted by the input-output tables.

Input-Output Analysis

5.48 The most common general equilibrium model is an input-output model. The standard approach is to first estimate the *initial impact effect* of an increase in expenditure on the final output of a sector. The increase in own value added in the sector is estimated. Then the flow-on effects on production and consumption in the rest of the economy are traced.

⁹² Australian Bureau of Statistics (2000) and Australian Bureau of Statistics, *Australia Now* National Accounts Input-output tables.

⁹³ See Australian Bureau of Statistics p.65-66.

⁹⁴ Australian Bureau of Statistics, *Australia Now* National Accounts Input-output tables.

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Other measures of the impact, such as employment, income, and tax revenue changes can also be estimated.

5.49 The *first round effect* takes account of input purchases by the sector providing the extra output – demand in supplier industries is increased. The *industrial support effects* are the second and subsequent rounds as those industries increase their input demands and so on, as the initial increase in final demand induces successive waves of output increases in the region. The first round and industrial support effects are called the *production induced effects*.

5.50 The increase in output in different industries increases the incomes of those who own and sell factor services to the industries. Some of the higher incomes will be spent locally and generate still more income that will be spent locally and so on. The *consumption induced effects* follows the effects of this increased spending by residents.⁹⁵

5.51 The induced or flow-on effects are sometimes called multiplier effects. The initial impact has a multiplied effect on GSP. Type I multipliers measure the effect of the one-off shock on the industries affected by the change (i.e. the impact and production induced effects). Type II multipliers measure total effects (impact, production and consumption induced).⁹⁶

5.52 The Chief Minister's Department has an input-output model of the Australian Capital Region. According to the Chief Minister's Department model, when spending in the restaurant and hotel industry increased by \$1, the initial impact is to increase value added in the restaurant and hotel industry by 40.2 cents. The production induced increase in value added is a further 15.9 cents and the consumption induced increase is 20.1 cents.⁹⁷

5.53 Based on this model, \$1 increase in spending in the restaurant and hotel industry induces a 76.2 cent increase in GSP. It is typically true that an increase in tourist expenditure results in an increase of GSP of less than \$1 due to the high rate of 'leakage' of expenditure from the ACT which reduces both the impact and multiplier flow-on effects.

⁹⁵ This account of how input-output models work is based on EconSearch (undated) pp.50-51.

⁹⁶ Bureau of Tourism Research (1999) p.93.

⁹⁷ EconSearch (undated) Appendix table 1.4, p.32.

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5.54 There is no equivalent number for general tourism spending. Tourism is not classified as a separate industry in the input-output framework. The increase in GSP that results from additional tourist expenditure must be estimated by allocating the expenditure to different industries, which may depend on the particular event. For example, tourists attending Floriade may have a different pattern of expenditure from tourists who attend the V8 Supercar race. The Centre for Tourism Research usually collects information on tourist expenditure patterns to facilitate this allocation.

5.55 In March 2001, CTEC received advice from the Chief Minister's Department that extra tourism expenditure of \$169,927 would increase GSP by \$138,517 (81.5 per cent of expenditure). The expenditure has an initial impact of 76,232m (44.9 per cent) and a flow-on of \$62,286 (36.7 per cent). This figure was used in the Department of Treasury and Infrastructure's report on the impact of Olympic soccer⁹⁸ and in CTEC's claim that 'tourism in 1998 brought \$1.1 billion in direct expenditure to the ACT and an additional \$898m in value added economic impacts.'⁹⁹ The increase in value added is 81.5 per cent of the increase in expenditure, but this is not an additional impact.

5.56 The CMD input-output model has recently been revised in line with new input-output tables, and the leakages appear to be higher and impact of expenditure lower. For example, CMD has recently advised that \$1 of tourist expenditure translates into a total increase of 71 cents GSP.¹⁰⁰

5.57 The Centre for Tourism Research at the University of Canberra has its own model input-output model of the ACT. The Centre recently estimated that each \$1 of expenditure by Floriade tourists increased GSP by 71 cents on average, although the effect varied with the type of expenditure.¹⁰¹

⁹⁸ See ACT Audit Office p.62.

⁹⁹ See Canberra Tourism and Events Corporation (2000b) p.C1. This point is made 3 times in the document and refers to Bureau of Tourism Research, 1999; Policy Group ACT Chief Minister's Department, 2000, sometimes 1999). What these citations refer to are not in the document.

¹⁰⁰ Centre for Tourism Research (2001c) p.vii.

¹⁰¹ Centre for Tourism Research (2001d) p.ix.

Input-Output Analysis Exaggerates the Increase in GSP from Expenditure

5.58 There are a number of problems with the input-output approach.

5.59 One is the ‘black box’ nature of the analysis. For example, it is clear that these estimates include multiplier effects, but it is not clear whether they treat Commonwealth taxes as a leakage from the ACT economy. Usually taxes are included in GDP measures but not in gross value added measures of industry production. It is not clear how CMD takes this into account. If Commonwealth taxes are not treated as a leakage, then the standard input-output estimates overstate the effect of spending on GSP.

5.60 A more fundamental problem is the strong assumptions that underlie simple input-output models. As the NSW Treasury points out in its *Guidelines for Economic Appraisal*:

In the simplest form of input-output analysis, input-output multipliers are applied to measures of direct impact to determine estimates of flow-on impacts in terms of income and employment. All such analysis is subject to significant limitations, and extreme care should be taken in its interpretation.

First and foremost, input-output analysis is concerned with measuring economic activity, and is not a tool for the evaluation of projects. Input-output analysis does not take account of the alternative uses (opportunity costs) of resources. Therefore, input-output analysis will always indicate positive impacts – activity – without providing guidance as to whether such impacts correspond with net benefits.¹⁰²

5.61 Simple input-output analysis assumes that production increases to meet demand. It either ignores the cost of the resources used to increase output or assumes the cost is zero. The result is to overstate the increase in GSP that results from extra tourist expenditure.

5.62 For example, the simple input-output approach routinely includes the consumption flow-on effects, which assume that as residents spend their increased income a further chain of output increases occurs. If the

¹⁰² NSW Treasury (1997) p.6.

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resident spending occurs in a fully employed, undistorted competitive economy, then there will be no consumption flow-on effect. The resources used to produce the extra goods demanded by the recipients of tourist spending will come from other uses. In a competitive economy, the price of a good is equal to its cost of production. The cost is what must be paid to attract resources from other uses and reflect the value of the resources used in their next best use. The expenditure on extra output will equal the value of sacrificed output elsewhere. The positive stimulus to output will be offset by an equal negative effect on output somewhere else in the economy. Any changes in domestic prices from the demand changes will merely result in transfers between domestic producers and consumers of that good, with no net effect on welfare.

5.63 The Industry Commission comments:

Multipliers, as simply measures of linkages, can measure a net gain to the economy only to the extent that their demand on resources for associated activities can be met from resources which otherwise would not be used. They do not consider possible alternative uses of such resources. If an expansion of one industry can occur only by bidding resources away from another industry, then there is no net multiplier effect. Indeed, the initial expenditure itself will increase activity only if it involves a more efficient use of resources. In particular, the alternative uses of government funds used to assist the investment are usually ignored. These funds may have greater value (or even higher multipliers) used in other ways or if left in the hands of taxpayers.¹⁰³

5.64 A requirement for the consumption flow-on effects from tourist spending to produce an indirect benefit is that the spending flows to markets subject to some distortion (such as taxes, monopoly or wage regulation) that put a wedge between price and cost. For example, taxes may provide big distortions that should be taken account of in cost-benefit analysis. An increase in demand for a taxed commodity will increase tax revenue resulting in a benefit to the recipients of the tax revenue. Reductions in demand for taxed commodities have the opposite effect.

5.65 If there are distortions in related markets, then the payments necessary to attract resources may either over-estimate or under-estimate

¹⁰³ Industry Commission (1996) p.31.

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the true costs. For example, the wage necessary to bid a worker away from a monopoly will understate the cost because a monopoly pays a wage less than the marginal value product of workers.¹⁰⁴

5.66 Another possible market distortion is the existence of idle resources. For example, if minimum wages result in involuntary unemployment then the opportunity cost of extra labour used in the project (such as the cost of foregone leisure) may be less than the wages paid. Even then, the opportunity cost is unlikely to be zero.

5.67 However, Canberra has a low unemployment rate. An unemployed worker hired by the project may not have remain unemployed very long if the project were not undertaken. The appropriate adjustment to project costs and benefits is difficult to estimate. Standard cost-benefit analysis makes no adjustment for unemployed resources. The Commonwealth Department of Finance states:

Inclusion of a multiplier effect from income and spending generated by a project is only justified when (a) the affected resources would have otherwise been unemployed and (b) the activities displaced by the project would not have also made use of the idle resources;¹⁰⁵ and

As a general rule, it is recommended that analysts assume that labour, as with other resources, is fully employed.¹⁰⁶

5.68 The NSW Treasury also argues that any adjustment to take account of unemployed resources would be relatively small and does not recommend making it.¹⁰⁷

5.69 In contrast, input-output models assume expenditure results in greater production – that there are no resource constraints. Further, the increase in GSP will measure the benefit to the economy from this extra production only if all extra production uses otherwise idle resources with no alternative use so that there is no opportunity cost. The assumption that all resources used are idle seems unrealistic. In fact, most of the

¹⁰⁴ Browning and Browning (1994) p.129.

¹⁰⁵ Department of Finance (1991) p.103.

¹⁰⁶ Department of Finance (1991) pp.34-35.

¹⁰⁷ See *Guidelines for Economic Appraisal*, NSW Treasury, Office of Financial Management, Treasury Policy and Guidelines Paper 97-2, June 1997, chapter 9.

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labour employed through the project is skilled labour that will be employed elsewhere in the ACT or Australia if not on that project.

5.70 Similarly, it assumes that any capital used is surplus operating capacity that would not be utilised in the absence of the project in question. The entire operating surplus component of value-added is treated as excess profits and it is assumed no part represents a required return on capital.

5.71 Further, the input-output approach assumes that there is a stable and predictable relationship between additional income and additional spending. But if consumer and business confidence has a lot to do with spending and savings decisions, stable and predictable multipliers may not exist. It also fails to take account of the possible adverse effects on business and investor confidence of seeing the state involved in promoting uncommercial projects that cannot be justified on public good grounds. Reduced spending because of reduced confidence would reduce the multiplier.¹⁰⁸

5.72 The simple input-output models assume that inputs are in perfectly elastic supply. More sophisticated general equilibrium models can impose economy-wide constraints on input supplies and take account of price changes and negative effects on other industries as resources are drawn into tourism from other uses. For example, when a model that assumed a given level of aggregate employment and rate of return on capital estimated the effect of an expansion in foreign tourism, the result was a small increase in GDP. The increase in exports appreciated the exchange rate, which led to reductions in other exports and increases in the demand for imports at the expense of domestic import competing industries. The gain in GDP is less than the increase in value added in the tourism sector.¹⁰⁹ The main problem with the more sophisticated general equilibrium models is their cost.

5.73 It may be that inputs are in elastic supply to the ACT, as labour and other inputs can be drawn in from the rest of Australia. If so, the estimates of increased GSP from simple input-output models may be reasonably accurate but they do not represent gains to existing residents. There will be little effect on per capita incomes within the region. The gain to migrants is not the wages they are paid but the difference between their new and old wages less moving costs. Some people may value

¹⁰⁸ Wilkinson (1998) p.5.

¹⁰⁹ See Bureau of Tourism Economics (1999) p.115-116.

living in a larger economy, but others might prefer the region to remain less densely populated.

5.74 Input-output models exaggerate the impact of extra tourist spending on the economy and the benefit from that impact. They routinely include excessive flow-on effects.

5.75 A reasonable estimate of the effect of the impact of new spending on GSP is the initial and production flow-on effects, which are around 50 per cent of spending.¹¹⁰ Even they are likely to overstate the impact. Price changes and resource constraints are likely to result in an offsetting output fall in other industries. The reason why other industries' output falls is easy to see in the case of a rise in foreign tourist demand with a floating exchange rate. If the exchange rate was fixed, the same responses will occur via a change in the domestic price level. The ACT has a fixed exchange rate with the rest of Australia and changes in the ACT price level in response to extra tourist demand will act to limit the increase in GSP.

The GSP Increase Overstates Net Benefit

5.76 Even the GSP increase overstates the economic benefit to the ACT from the increased spending. Not all the income generated in the ACT accrues to the ACT. For example, some of the income generated in the hotel sector accrues to the owners who may live outside the ACT.¹¹¹

5.77 Further, the cost of using inputs to produce the increased income needs to be taken into account – such as foregone leisure. For example, if an increase in tourist demand leads to an ACT resident earning \$100 of overtime, GSP is increased by \$100. But the net benefit to the worker is less than \$100, depending on the cost to the worker of the time spent working – the value of the best alternative use of the time.

5.78 The net benefit from the expenditure increase will be any extra tax revenue that accrues to the ACT and any increased 'surplus' to residents – the difference between extra income received and the cost of producing that income. The GSP increase is an upper bound to the net benefit to the ACT that is only relevant if the inputs used to produce the extra income had no alternative use. In general, the benefit from selling \$1m worth of

¹¹⁰ As most of the consumption flow-on effects are around 20 cents per dollar of spending in the relevant industries.

¹¹¹ Bureau of Tourism Research (1999) p.38.

goods is less than receiving \$1m as a gift – because it is costly to make the goods.

5.79 A diagrammatic analysis of the benefits from increased tourist demand in related markets is set out in *Appendix 3*. It shows that the net benefits to the ACT from extra tourist demand are a portion of the expenditure by interstate tourists.

5.80 The net benefits that result from extra GSP will vary from industry to industry and depend on such factors as the elasticity of supply and demand and the presence of distortions, such as taxes, monopoly power and idle resources.¹¹² A lower bound on the net benefits from an increase in spending is the case of an undistorted competitive market. As shown in figure 1 in *Appendix 3*, net benefit as a proportion of expenditure is approximately half the increase in the market price as a result of the extra tourist demand. For example, if price were bid up by five per cent, the benefit would be around 2.5 per cent of the extra spending.

5.81 An upper bound is the case of zero opportunity costs, where all the resources used have no alternative use. In this case, GSP will rise by the full flow-on effect (initial, production and consumption – known as a type II effect) and will measure the net benefit. CMD and the Centre for Tourism Research estimate 0.71 of expenditure to be this upper bound.¹¹³

5.82 The net benefit from \$1 of tourist spending will lie somewhere between zero and 0.71. The size of distortions will be important. It is only when secondary markets are distorted that effects in these markets can potentially generate important benefits for the community. However, most tourist markets are highly competitive and ACT taxes are only about five per cent of GSP.¹¹⁴ There may be idle resources but the zero opportunity cost case is unrealistic.

5.83 One approach to estimate the net benefits from tourist spending is a rule of thumb. For example, the Western Australian Tourism Commission requires \$5 dollars of tourist spending for each \$1 in subsidy.¹¹⁵ It implicitly assumes that each dollar of spending results in 20

¹¹² Commonwealth taxes paid are not a benefit from an Australian point of view. See *Chapter 5*, Leakages of gross expenditure from the ACT section.

¹¹³ See Centre for Tourism Research (2001c) p.vii and (2000d) ix.

¹¹⁴ ACT tax revenue as a proportion of GSP was 5.1 per cent in 2000-01.

¹¹⁵ See 'Perth says V8 supercars cost too much', Canberra Times 22/8/01 p.1

cents net benefit. Alternatively, the rule would make sense if the marginal excess burden of taxation is 25 per cent and each dollar of tourist spending produces 25 cents net benefit. Then it would take \$5 of tourist spending to match the cost to the taxpayer of an extra dollar of subsidy.

5.84 It is difficult to justify one number to determine the net benefits from tourist spending. Another approach is to estimate a range and explicitly recognise the uncertainty involved.

Conclusion

5.85 Cost-benefit analysis assists project evaluation. Good practice in cost-benefit analysis would apply accepted cost-benefit methodology. Unfortunately, this is often not done in the evaluation of tourism projects. Instead, economic impact studies are conducted. They measure indirect benefits and ignore the often larger direct financial flows associated with projects. A focus on indirect benefits may distract attention from maximising net direct benefits.

5.86 Economic impact studies usually measure the gross expenditure from a project. Some measure the increase in GSP, usually through a simple input-output model. Both approaches ignore important costs, measure gross benefits and overstate the net benefit from tourism events. Gross spending does not account for the leakage of extra expenditure into imports and Commonwealth taxes and overstates the impact on the ACT economy. Input-output analysis overstates the increase in GSP that results from spending.

5.87 A reasonable estimate of the effect of the impact of new spending on GSP is the initial and production flow-on effects (known as the type I effect) – around 50 per cent of spending. Consumption flow-on effects should not be included, as they wrongly assume no resource constraints.

5.88 The GSP increase overstates the benefit from additional tourist spending because it ignores the cost of resources used to produce the goods that tourists buy. It is an upper bound to the net benefit to the ACT that is only relevant if the inputs used to produce the extra income had no alternative use. That is not a realistic assumption for Canberra and departs from conventional cost-benefit analysis.

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5.89 The net benefits that result from the GSP increase must be estimated. They will only be a percentage of the GSP increase, but there is no definitive answer as to how large that percentage is. Effects in secondary markets can potentially generate important benefits for the community only when secondary markets are distorted.

Extract from CTEC Audited Annual Financial Statements

**Table A1-1: Information Extracted from Supplementary Statements
GMC 400 Motor Race Event Operating Statement**

	2000 \$'000	2001 \$'000	Cumulative \$'000
Revenue – Private Sources			
Sponsorship	846	1,283	2,129
Admission Fees	1,894	1,484	3,378
Interest Received	121	-	121
Corporate Hospitality	934	709	1,643
Fees, Commissions, rights, Other	684	618	1,302
Total revenue – private sources	4,479	4,094	8,573
Expenses			
Employee and Superannuation expenses	262	291	553
Track and civil works	2,144	2,859	5,003
Race facilities	3	-	3
Fencing	256	258	514
Race communications	100	119	219
Services	487	437	924
Transportables	99	-	99
Spectator and corporate facilities	1,270	1,222	2,492
Fitout and entertainment	348	299	647
Event promotion	317	518	835
Fees and charges	1,455	1,528	2,983
Contingency funding	582	-	582
Administration, sponsorship and ticketing	1,417	1,618	3,035
Board fees	20	30	50
Depreciation	48	512	560
Total expenses	8,808	9,691	18,499
Operating Losses	\$4,329	\$5,597	\$9,926

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Table A1-2: Reconciliation of Operating Statement Total Expenses to Expenses Figure in Table 2 of Report

	2000	2001
	\$'000	\$'000
Expenses as per Supplementary Operating Statement	8,808	9,691
<i>Less</i> Depreciation	48	512
	<hr/>	<hr/>
Capital Expenditure	8,760	9,179
	3,402	63
Expenses as per <i>Table 2</i>	<hr/> <hr/>	<hr/> <hr/>
	\$12,162	\$9,242

The Economic Impact of the Project When Resources Have No Cost

Even if there are substantial amounts of unemployed resources so that resources used in the project have no opportunity cost, the economic impact of the whole project should be examined, not just selected parts, and double counting should be removed.

The cash flows are used to estimate economic impact as they indicate the injection of expenditure into the economy from the project. They are set out in *Table A3-1*. Expenditure by interstate visitors does not include their expenditure on GMC tickets and merchandise as these revenue flows have already been accounted for in receipts.

	2000	2001
	\$'000	\$'000
Receipts	3,196	4,141
Payments	9,451	8,741
Receipts from interstate	959	1,408
Local contracts	4,373	1,511
Payments directly interstate	5,078	7,230
Expenditure by interstate visitors	3,639	3,185
Receipts from locals	2,237	2,733
Net cost to taxpayer	6,255	4,600

CTEC estimated interstate attendance was 30 per cent of spectators in 2000 and 34 per cent in 2001. This table assumes the proportion of receipts is the same.
Payments directly interstate are payments less local contracts.

To work out the economic impact, assumptions must be made about the economic impact of different expenditures – for example, the propensity to import, degree of local ownership etc. This discussion assumes the economic impact of the different expenditures is the same as for tourist spending. As it is assumed that there are high levels of idle resources, the full type II multiplier applies and a dollar of spending increases GSP by 71 cents. It is assumed the propensity to ‘leak’ is the same out of all expenditure.

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The effect of the project injects expenditure into the economy through spending on local contracts and expenditure by interstate visitors, 71 per cent goes to the local economy with the rest leaking out of the economy. The amount paid by local residents to CTEC through taxes and ticket purchases is withdrawn from the economy – which is equal to payments less receipts from interstate. Their spending on locally produced items falls by 71 per cent of this. The net effect is summarised in *Table A3-2*.

Table A2–2: Net Effect on Local Spending when Resources are Costless

	Effect on Spending		Effect on Local Spending	
	2000 \$'000	2001 \$'000	2000 \$'000	2001 \$'000
Increase	8,012	4,696	5,689	3,334
Decrease	8,492	7,333	6,029	5,206
Net effect			-340	-1,872

An alternative way to work out the net effect on the economy is to assume that payments directly interstate less receipts from interstate directly leaves the economy and extra tourist spending is attracted. The net effect on local spending is:

$$0.71(3,639 - 5,078 + 959) = - 340 \text{ in 2000; and}$$

$$0.71(3,185 - 7,230 + 1,408) = - 1872 \text{ in 2001.}$$

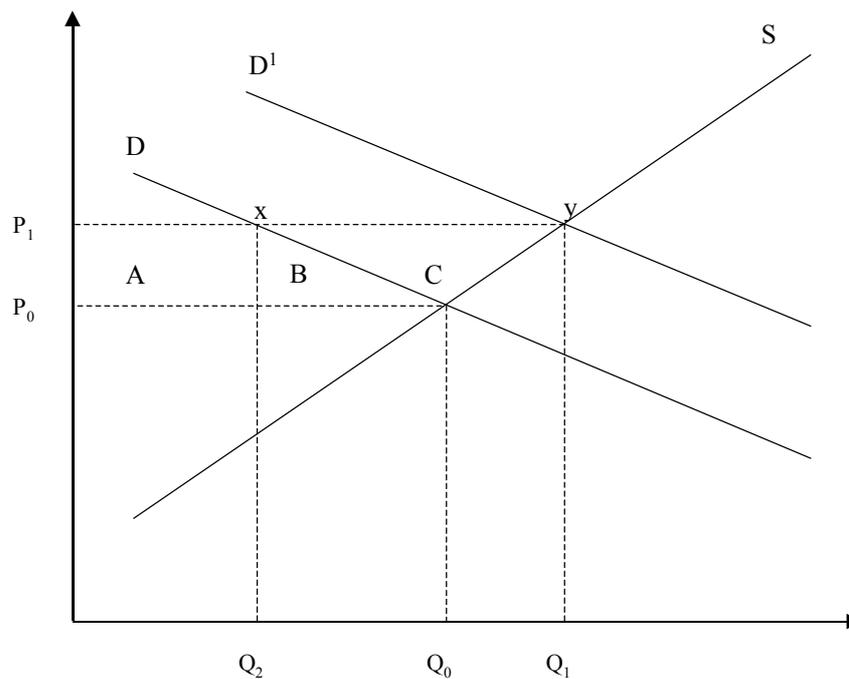
If there are substantial amounts of unemployed resources so that assuming a zero opportunity cost of resources is reasonable, the project will have a negative effect on economic activity. The payments interstate exceed the receipts and it is a net drain.

Benefits from Increased Tourist Demand in Related Markets

The increase in the number of interstate tourists in the ACT due to the car race will boost demand in other markets for local products and services. The indirect benefits that result are illustrated in this appendix.¹¹⁶

First, consider the effects of increased demand in an undistorted market, illustrated in figure 1.

Figure 1 Increase in tourist demand in an undistorted market



The increase in tourist demand shifts the demand curve from D to D' . The quantity sold in the market increases from Q_0 to Q_1 and the consumer price rises from P_0 to P_1 .

¹¹⁶ For a non-diagrammatic textbook treatment see ‘Secondary Market Effects from the Perspective of Local Communities’ pp.114-115 in Boardman et al (2001).

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In an undistorted market, the increase in demand for local products and services can only benefit the local community if it increases price. Suppliers benefit by the area ABC. This increase in producer surplus partly comes at the expense of existing consumers of the product who now pay more and lose AB in consumer surplus. For example, if the car race brings tourists in and demand for petrol increases, petrol prices may be higher than otherwise. This is a benefit to petrol suppliers but a cost to local residents who buy petrol at the higher price.

The net gain is triangle C, which is a fraction of the expenditure in the market by extra tourists (xyQ_1Q_2 – or P_1 times their demand Q_2Q_1).

The fraction of car tourist expenditure that is a net gain to the ACT will be about half the percentage increase in price. That is, if price rises by ten per cent, area C will be about five per cent of the extra tourist expenditure. If demand and supply are linear, then it will be exactly half.

The extent to which price rises depends on the elasticities of supply and demand. High elasticities reduce the price rises.

Part of the loss to existing consumers (AB) will be from tourists who would have come in the absence of the car race. This transfer from interstate visitors should not be counted as a loss to the ACT, increasing the net gain received by ACT residents. On the other hand, some of the increased producer surplus (ABC) will accrue to non-ACT residents, which reduces the net benefit received by ACT residents. For example, businesses may be owned by interstate interests.

The two offset each other, and which effect is larger will depend on the market. For example, in the petrol market, the proportion of existing consumers who are tourists is likely to be small and the producer surplus accruing outside the ACT is likely to be large. In the hotel market, tourists are likely to form a large portion of the customers.

The gain from extra tourist spending in undistorted markets is relatively small. It is only when secondary markets are distorted that effects in these markets can potentially generate important benefits for the community.

Figure 2 illustrates the effect of increased tourist demand in a distorted market, where there is a wedge between the price paid by the consumer and the cost of the product and service. The case of a tax is illustrated.

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There is a tax in place equal to $P_0 - C_0 = P_1 - C_1$. The increase in tourist demand shifts the demand curve from D to D' . The quantity sold in the market increases from Q_0 to Q_1 and the consumer price rises from P_0 to P_1 and the producer price from C_0 to C_1 . Producer surplus rises by $ABCD$. Part of this is a transfer from existing consumers who lose AB . Tax revenue increases by the rectangle EF – the increased sales times the tax rate. The areas labelled with the same letters are equal. The line D'' is parallel to the initial demand curve.

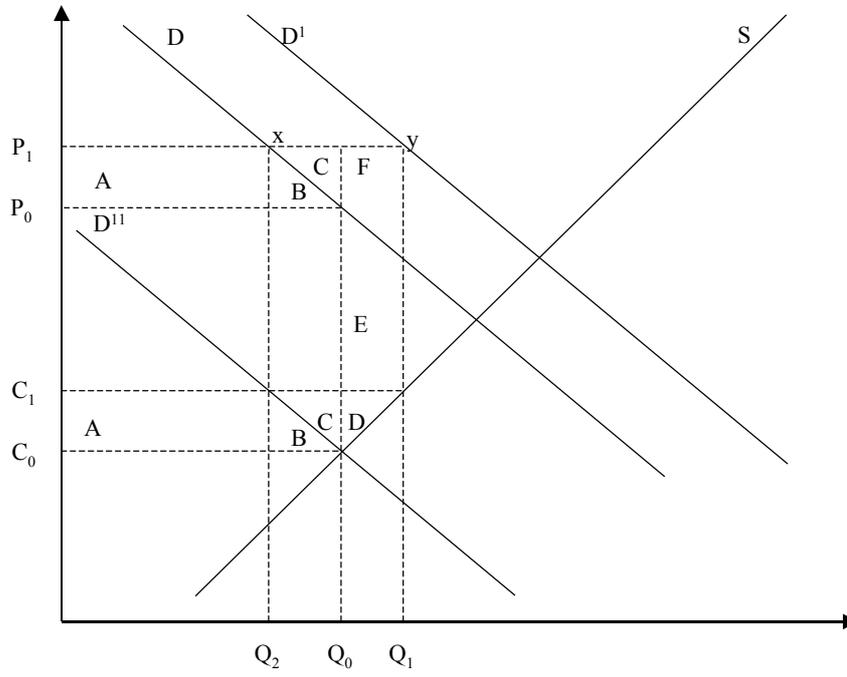
The net gain to the local community is $CDEF$. The distortion has increased the gains from an increase in demand. Any distortion that makes the price paid by consumers exceed the marginal cost of production will have the same effect. Other examples include monopoly power and idle resources.

The gains are still only a portion of the expenditure by the new tourists, the rectangle xyQ_1Q_2 , or P_1 times the extra tourist demand Q_2Q_1 .

As in the previous case, part of the loss to existing consumers will be from tourists who would have come in the absence of the car race. On the other hand, some of the increased producer surplus will accrue to non-ACT residents. It is difficult to tell how this affects the net loss to the community.

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Figure 2 Increase in tourist demand in a distorted market



Economic Benefit

The following is a reproduction of page 16 from the booklet titled 'GMC 400 Report 2000' distributed publicly by CTEC in October 2000.

ECONOMIC BENEFIT

The GMC 400 produced an economic benefit of over \$13.2 million, surpassing a target of \$10.4 million for its first year.

An independent survey by Taylor Nelson Sofres states that spectators and teams who attended the event spent an estimated \$8.79 million.

Interstate visitors spent over \$4.3 million; locals spent \$3.6 million and interstate teams competing in the race spent \$834,486.

- Spectators spent on average \$61.14 per person at the event, with visitors coming to Canberra specifically for the event spending more (\$103.04) than locals (\$46.74).
- Visitors to Canberra who specifically came to see the GMC 400 spent \$322 per person and when added to the \$103 spent at the event, spent approximately \$425 per person.
- Teams visiting Canberra spent \$540.47 on average while in Canberra. V8 teams spent more on average (\$550.40) than support teams (\$522.98).
- Team members stayed on average for 4.1 nights in Canberra, usually in hotels/motels (63 per cent) or serviced apartments (20 per cent).
- V8 teams typically stayed in a hotel (93 per cent) while support category teams stayed in a range of accommodation including hotels (33 per cent), serviced apartments (33 per cent) and friends/family (27 per cent).

In addition to visitor expenditure, a number of interstate contractors working on the event spent significantly on accommodation, food, transport and local subcontractors.

The event also created valuable business activity for florists, staging suppliers, printers, couriers, entertainment agents, hotel function coordinators and a range of other local suppliers.

Event revenue of \$4.5 million came from non-government sources such as sponsorship and concessions.

The GMC 400 generated substantial business activity through locally let contracts for race infrastructure.

Businesses in Canberra and the region took on contracts worth over \$4 million to supply items ranging from concrete barriers, security and cleaning services to traffic management, hire of portable buildings, communications, security, signage and more.

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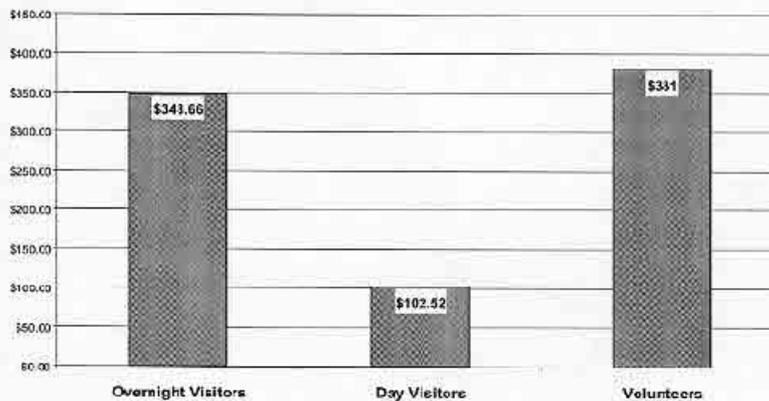
The following is a reproduction of page 10 of 'GMC 400 Canberra Key Results' distributed publicly by CTEC in August 2001.



Economic benefit

- In direct comparison with the 2000 event the 2001 GMC 400 produced an economic benefit of over **\$11.2 million** for the ACT community. Last year's benefit was estimated at \$13.2 million.
- Spectators, volunteers, officials and teams spent an estimated **\$5.4 million** while in the ACT for the event.
- Local visitor expenditure was estimated to be **\$3.1 million** for 2001.
- Locally let contracts were worth **\$2.7 million**.

Average Expenditure for spectators



Financial performance

Full financial statements for the 2001 GMC 400 will be available following an audit by the ACT Auditor-General. Current unaudited results indicate an operating loss of some \$1.45 million primarily due to a fall in ticket sales.

The expected cash result for the event is a shortfall of \$1.17 million which excludes depreciation and in-kind contra. The event does not expect to require funding other than the amount already appropriated by the ACT Government for the next three years.



The winners podium: from left, Mark Skeliff (third overall), Steven Johnson (first overall), Garth Tander (second overall).

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2. Operation of the Public Access to Government Contracts Act
3. Governance Arrangements of Selected Statutory Authorities
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9. Agents Board – Financial Administration of Training Grant Program
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- 2 Bruce Stadium Redevelopment — Value for Money
- 3 Bruce Stadium Redevelopment — Costs and Benefits
- 4 Bruce Stadium Redevelopment — Decision to Redevelop the Stadium
- 5 Bruce Stadium Redevelopment — Selection of the Project Manager
- 6 Bruce Stadium Redevelopment — Financing Arrangements

¹¹⁷ 46 Reports were issued prior to 1996. Details can be obtained from the ACT Auditor-General's Office or the ACT Auditor-General's homepage: <http://www.audit.act.gov.au>.

Reports Published in 2000 (con't)

- 7 Bruce Stadium Redevelopment — Stadium Financial Model
- 8 Bruce Stadium Redevelopment — Actual Costs and Cost Estimates
- 9 Bruce Stadium Redevelopment — Market Research and Marketing
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- 11 Bruce Stadium Redevelopment — Lawfulness of Expenditure
- 12 Bruce Stadium Redevelopment — Governance and Management
- 13 Annual Management Report for the Year Ended 30 June 2000

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- 2 The Management of Year 2000 Risks
- 3 Annual Management Report for Year Ended 30 June 1999
- 4 Financial Audits With Years Ending to 30 June 1999

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- 9 Financial Audits with Years Ending To 30 June 1998
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- 9 Fleet Leasing Arrangements
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- 12 Financial Audits with Years Ending to 30 June 1997
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- 2 1995 Taxi Plates Auction
- 3 VMO Contracts
- 4 Land Joint Ventures
- 5 Management of Former Sheep Dip Sites
- 6 Collection of Court Fines
- 7 Annual Management Report For Year Ended 30 June 1996
- 8 Australian International Hotel School
- 9 ACT Cultural Development Funding Program
- 10 Implementation of 1994 Housing Review
- 11 Financial Audits with Years Ending to 30 June 1996

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