



Review of Tourism Victoria's report Formula One Australian Grand Prix:
Benefits to Victoria

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Contents

Introduction	4
The need for cost-benefit analysis.....	4
Calculation of retained expenditure	6
Expenditures and the “Mercantilist Fallacy”	9
Induced tourism	9
Conclusion.....	10
References	11

Introduction

Economists at Large have reviewed Tourism Victoria's 2011 report entitled *Formula One Australian Grand Prix: Benefits to Victoria*. We believe the Grand Prix (GP) does not provide a net benefit and in fact reduces the welfare of Victorians. This was the finding of Applied Economics (2006), the last time a cost-benefit analysis of the GP was carried out. Recent reports from Tourism Victoria (2011) and Ernst and Young (2011) do not suggest anything has changed. Tourism Victoria's claim that "Hosting the Formula One Australian Grand Prix brings significant benefits to Victoria" (Tourism Victoria 2011 p6) is not based on any net present benefit calculation.

In this review we focus on four areas where we believe reports by Tourism Victoria (2011) and Ernst and Young (2011) need revision if they are to improve Victoria's understanding of the economics of the Grand Prix.

- The use of economic impact analysis rather than cost benefit analysis, despite the recommendations of the Auditor-General and the opinions of virtually the entire economics profession.
- Miscalculations of retained expenditure, through poor survey administration.
- Misplaced emphasis on visitor expenditure.
- Reference to a report on induced tourism which is not publicly available, suggesting benefits that contradict published empirical findings.

The need for cost-benefit analysis

Tourism Victoria's report claims to have taken an approach "consistent with the recommendations of the Auditor-General's 2007 report on State Investment in Major Events." We feel Tourism Victoria has only half-understood the Auditor-General who said:

Consideration should be given to:

- *the use of cost benefit analysis at the pre-event stage for all events to determine the degree to which anticipated net benefits match the funding sought*
- *an updating of the pre-event cost benefit analysis at the post-event stage*

(Victorian Auditor-General, 2007 p3)

And:

"to ensure there is more evidence-based justification for the recommended level of funding relative to the projected net benefits to Victorians"

(Victorian Auditor-General, 2007 p26)

Clearly what is required to assess net benefits to Victorians is cost-benefit analysis. However, Tourism Victoria seems not to understand this, claiming that:

“The economic value of major events can be measured using direct expenditure, input-output modelling, Computable General Equilibrium (CGE) modelling and/or cost-benefit analysis.”(p7)

This is misleading. The best tool for economic decision making is cost-benefit analysis. This is the opinion of virtually the entire economics profession, see for example (Dobes and Bennett 2009; Ergas 2009; Abelson 2011) and many others, including Tourism Victoria’s own consultants, Ernst and Young (2011):

To understand whether the Grand Prix delivers net welfare improvements to Victoria, a full cost benefit analysis would need to be prepared. (p55)

Cost-benefit analysis is necessary as other economic modelling only shows the impact on the state’s economic output, not on welfare. Change in gross state product (GSP) is not an appropriate measure of welfare for three reasons identified by Abelson (2011) p49:

1. GSP includes output produced by, and income accruing to:
 - non-resident owners of capital employed in the state;
 - non-resident labour including short-term casual labour arriving for a major event;
 - the Australian government via income and indirect taxes.
2. GSP makes no allowance for the real cost of labour, i.e. the loss of household production or leisure which is embodied in labour’s reservation price. Therefore, it does not measure the net benefit to labour.
3. GSP does not account for any other non-market goods including consumer surpluses, health status, travel in non-work time or environmental impacts.

Tourism Victoria complies only with the Auditor-General’s recommendation to use computable general equilibrium analysis as opposed to input-output analysis. Even then they seem not to understand why the Auditor-General recommended this, again showing only a half-understanding of economic assessment:

Input-output modelling assumes that a large investment in the economy, such as hosting a major event, will have flow-on effects to other industries that will increase production, employment and income. In comparison, CGE models assume that the economy has finite resources and that a large investment, such as hosting a major event, may direct resources away from other productive activities.....Using (Input-output modelling), the estimated economic impact of an event is usually larger than an assessment based on CGE modelling. (p7)

Abelson (2011) puts it differently:

I–O models lack resource constraints and fail to capture significant welfare (consumer and environmental) impacts. They always produce a positive gain to the economy, however disastrous the event.

This was why the Auditor-General recommended CGE analysis. But he went further, recommending:

That economic impact assessment reports become more rigorous and transparent in terms of the:

- *economic models used to estimate economic effects such as changes to the Gross State Product and employment*
- *the rationale for key assumptions that have a material effect on the level of economic impacts.*(p3)

Few such key assumptions are transparent in Ernst and Young's analysis. Important factors that could improve transparency are mentioned by Abelson (2011), including:

- Industries' unit costs
- whether capital comes from domestic saving or foreigners
- availability and (market) opportunity cost of local labour

Calculation of retained expenditure

Even without adequate information on the modelling inputs and assumptions, problems in methodology used to survey GP visitors mean the GP's impact on GSP is overstated in Ernst and Young's assessment. We believe poor survey administration has resulted in overstatement of retained expenditure by a factor of 3.5 times.

Before exploring the overstatement of retained expenditure, it is first worth noting that the Auditor-General considered that "the basis for the inclusion of retained expenditure as an assumption in the modelling is certainly contestable"(Victorian Auditor-General, 2007 p142).

Spectators were surveyed on their way into the event. While convenient from a sampling perspective, taking surveys at the beginning of the event is not ideal for collection of unbiased data. The potential for response bias is clear - respondents are excited about going to the event and have paid a considerable sum of money to do so. Under such circumstances it is not possible to obtain unbiased data about future intentions or perceptions of the event. Respondents' perceptions of the event and their future attendance will be different amid the excitement of entering the event, hearing the roar of engines than it will be some time before or after the event sitting at home when they have just received a speeding ticket in the mail.

We tried to get more information about how the survey was administered and if there had been any attempt to account for this bias, but were told that:

"Ernst and Young has advised that the questionnaire is there [sic] intellectual property. As such it is not available for public release." (Tourism Victoria personal communication via email 9 August)

Unfortunately it seems no attempt was made to correct this bias. The only description of the questionnaire and how it was carried out is on page 60. Spectators are asked "*If Grand Prix [sic] was not held in Melbourne, would you be (likely/unlikely) to make a trip to attend an interstate (or overseas) GP*". Unsurprisingly a high proportion of Victorian spectators claimed they would be likely to attend events interstate (44%) or overseas (20%).

The authors apply these percentages to Victoria’s portion of the 109,234 unique spectators at the event: 70,795 people.

Table 1: Calculation of retained expenditure

Scenario 1: GP in another state		Scenario 2: GP held overseas	
Victorian attendees (p20)	70,795	Victorian attendees	70,795
Likelihood of attending interstate GP (p60)	44%	Likelihood of attending international GP	20.40%
Hypothesised retained attendance	31,150	Hypothesised retained attendance	14,442

(Note these retained attendance figures are 31,199 and 14,426 on p4, possibly due to rounding. All of these figures are spectators only, not including media and officials.)

It seems unlikely that 31,150 Victorians would attend an interstate race, given that only 26,699 people came from all other states of Australia to the Melbourne GP (p20). As a portion of the population this suggests that Victorians are 3.5 times more likely to travel interstate to a Grand Prix than other Australians – 0.56% of the population compared to 0.16%. This disparity confirms our suspicion of response bias in the survey.

Table 2: Percentage of populations travelling to GP

	Population¹	Interstate grand prix attendees	
Victoria	5,585,600	31,150	0.56%
Rest of Australia	16,889,500	26,699	0.16%
Likely overstatement of retained expenditure			3.5

¹<http://www.abs.gov.au/ausstats/abs@.nsf/mf/3101.0>

Another concerning disparity in the assessment regarding retained attendance and expenditure is the unexplained change between Victorians being “likely” to attend an interstate GP (p60), and on p5 and elsewhere in the body of the report where the authors make the claim that “Nearly half (44%) of the respondents indicated that they *would* travel interstate if the event was shifted” (italics added). On p60 the most detailed discussion of the administration of this part of the survey is discussed and no justification is made for the change from “likely to attend” to “would attend”. The survey should have asked for more details about respondents’ intentions, including whether they would go every year, next year, or just occasionally. As presented, there is no difference between a committed fan who would travel next year and every year interstate and an occasional GP fan who likes the idea of travelling to an interstate GP at some unspecified date in the future.

Similarly unlikely ratios of population and attendance and the same confusion between “likely to attend” and “would attend” are encountered in section 4.6.3 relating to retained corporate expenditures, where 40% of 282 Victorian corporate customers (113) claimed they were likely to take their custom to an interstate GP, while only 96 interstate businesses have done the same.

We suggest retained attendance to Victoria should be recalculated through a survey of GP attendees outside of Grand Prix time, or estimated in line with portions of the population likely to travel to a GP in line with the rest of Australia. This would remove the optimistic assumption shown in table 2 that Victorians are 3.5 times more likely to attend a Grand Prix and would eliminate the sample bias between fans likely to travel and those that do travel.

Table 3: Suggested likely Victorian interstate GP attendees

	Population	Portion of Australian population that travels to interstate GPs	Estimated Victorian attendance
Victoria	5,585,600	0.16%	8,830

To account for this overstatement, we suggest dividing all items relating to retained expenditure by 3.5, to bring this back into line with the general Australian propensity to travel to an interstate GP. As comparison with the rest of the world is not useful, this is only possible with scenario 1, relative to interstate GPs.

Table 4: Suggested correction of retained expenditure

	Economic assessment (\$,000)	Economists at Large correction (\$,000)
Direct expenditure by non-Victorians	\$42,036	\$42,036
Total retained expenditure by Victorians	\$7,719	\$2,205
AGPC operations	-\$19,031	-\$19,031
Total direct expenditures under scenario 1	\$30,724	\$25,210

(see page 1)

This reduction affects the modelled impact on GSP. Recreating this model is beyond the scope of this review, but as the total expenditure is around the same as scenario 2, it seems reasonable to assume that the impact on GSP would be similar, around \$30m

Expenditures and the “Mercantilist Fallacy”

In addition to the errors involved in the calculation of retained expenditure, Tourism Victoria’s emphasis on the expenditures brought to Victoria by the GP (see Tourism Victoria 2011 p6) seems to show a failure to understand the “Mercantilist Fallacy”. As Abelson (2011) makes clear, direct expenditures are of limited use in evaluating an event’s impact on a state economy:

There is a widespread view that any expenditure by outside parties coming into the country is a free good and therefore to be encouraged by the provision of public subsidies where events would otherwise not be viable.

This view is an illusion. Any external investor seeks a positive return on capital and to takeaway more than they put in. Any visiting consumer wants a service in return for their expenditure and the provision of this service almost always requires the use of resources that could be employed in other activities. Consequently, an external injection of funds guarantees neither net employment generation nor a welfare-enhancing economic project.

The welfare value of external expenditure is the extent to which it allows the community to increase its own consumption. The costs of providing the goods and services that GP visitors spend on needs to be considered, including the returns to labour and capital involved in providing them.

Induced tourism

Both Tourism Victoria (2011) and Ernst and Young (2011) highlight the findings of a report by Comperio Research into the value of the television coverage of the GP to Victoria. This report has

not been released. Our phone calls and emails to the relevant officer at the Office of the Minister for Major Events have all gone unreturned.

Tourism Victoria claims that the exposure of television coverage:

is associated with longer-term benefits such as induced tourism, It can be particularly beneficial in markets that are growing in importance for Victoria in trade and tourism, such as China and India.

This claim has absolutely no basis in economic literature. Abelson (2011) recommends a conservative approach towards induced tourism and the Auditor-General (2007) was sceptical about its inclusion in analysis of the GP. Giesecke & Madden (2007) have written the only empirical study that touches on induced tourism in Australia, relating to the Sydney Olympics:

For the three years immediately after the games, foreign willingness to pay for NSW tourism grew by an average 2.2 percentage points less than for Australia as a whole. Only by 2005/06 did the rate of growth in demand for NSW tourism match the Australian average. These results lend no support to the existence of an induced tourism effect.

Conclusion

In conclusion, we believe that the Australian Formula One Grand Prix brings about a loss of economic welfare for Victoria. This was the conclusion of the only cost-benefit analysis of the event and recent analysis shows nothing to the contrary. Tourism Victoria has not responded to the Auditor-General's appeal for cost-benefit analysis and transparent modelling. Instead they have commissioned an economic impact assessment that shows only changes to gross state product and expenditure – neither of these are good measures of economic welfare. The analysis they commissioned contains errors in its methodology that result in the GP's effect on GSP being overstated. These errors stem from poor administration of the survey of GP attendees, carried through into modelling of retained expenditure.

We agree with Abelson (2011) who concluded:

Of course, if governments or any group of citizens wish to host events to promote civic pride or for other feel-good reasons, they may do so if the sacrifice of other services is considered acceptable. But they should not claim that the event provides economic benefits unless it passes the cost-benefit test. (p58)

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