

Introduction

The Sydney 2000 Olympic Games absorbed large amounts of the city's transport and logistics resources for a significant period of time. For any city, an Olympics Games is a rare event but the staging of major events is becoming an increasingly frequent phenomenon and has the potential to disrupt transport and distribution if not managed effectively. The Sydney Games presented a unique opportunity for research into how a city's commuters might cope with the levels of disruption that have historically occurred in other cities such as Barcelona, Atlanta and Seoul, and which were anticipated for Sydney over the three week period of intense Olympic activity.

The aim of this paper is firstly, to investigate commuters' intentions (and indirectly employer strategies) to adjust their work and travel behaviour in the light of a major event that could potentially impinge in a substantial way on their daily activities. Secondly, since planning for the impacts of travel during the Sydney Olympics could benefit from early advice on behavioural intentions to specific coping strategies, it was desirable to identify, as far as is possible, how reliable behavioural intentions were. Reliability of stated behavioural intentions has wide applicability beyond the staging of major events to the wider realm of the formation of transport policy. Very little research has explored the comparative aspect of this relationship. Four phases of a Work-Related Travel Activity survey, were analysed to capture the inter-temporal relationships between behavioural intentions over three discrete time periods leading up to the Games and comparing that to reported behavioural responses during the Olympics.

The paper is divided into six sections: Section 1 presents the study objectives and methodology, followed by Section 2 which sets out the general profile of the study sample. Section 3 provides an assessment of the nature and extent of any changes in behavioural intentions leading up to the Games in the light of what respondents actually did to cope with work/travel disruptions as well as examining employer influence on coping strategies. Section 4 assesses the value of marketing and promotional activity leading up to the games with Section 5 providing an overview of the findings. Conclusions are given in Section 6.

Study Objectives

The rationale for conducting this study was twofold:

1. To identify and determine the stability of personal intentions of commuters to alter work and travel patterns during the 2000 Olympic period and,
2. To identify commuters' reasons for altering work and travel patterns.

Study Methodology

A series of structured computer assisted telephone interviews (CATI) were undertaken in four Waves. Interviews were conducted with a stratified random sample of the same cohort of

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Sydney commuters whose work destination was either the central business district (CBD) (inner and outer) or a non-CBD location. Waves 1, 2 and 3 (in February, May and August 2000) were undertaken to gauge the formation of intentions and modifications to plans or preparations leading up to the Games. A final interview (Wave 4) was conducted immediately after the Games in October to evaluate the reliability of stated intentions as a basis of forecasting actual behavioural outcomes. Although the questionnaire format varied slightly from Waves 1 to 4 to accommodate the different time periods, core items regarding commuter coping strategies, and employer influence on coping strategies were the same in all four waves

Response Rate

Table 1 shows the response rate for the four interviews as well as the number of respondents that changed employment positions between each Wave. A target of approximately 500 interviews was set for each Wave. Given the under and over sampling structure, each sample was weighted to reflect the composition of the population of individuals (by industry) working in the study area, identified from the 96 Census Industry Categories for CBD and Non CBD work locations (see Appendix A).

Table 1: Response Rate

	Responses (unweighted)	Responses (weighted)*	Respondents in new employment position
Wave 1	663	662	
Wave 2	501	501	42
Wave 3	482	480	37
Wave 4	429	429	12

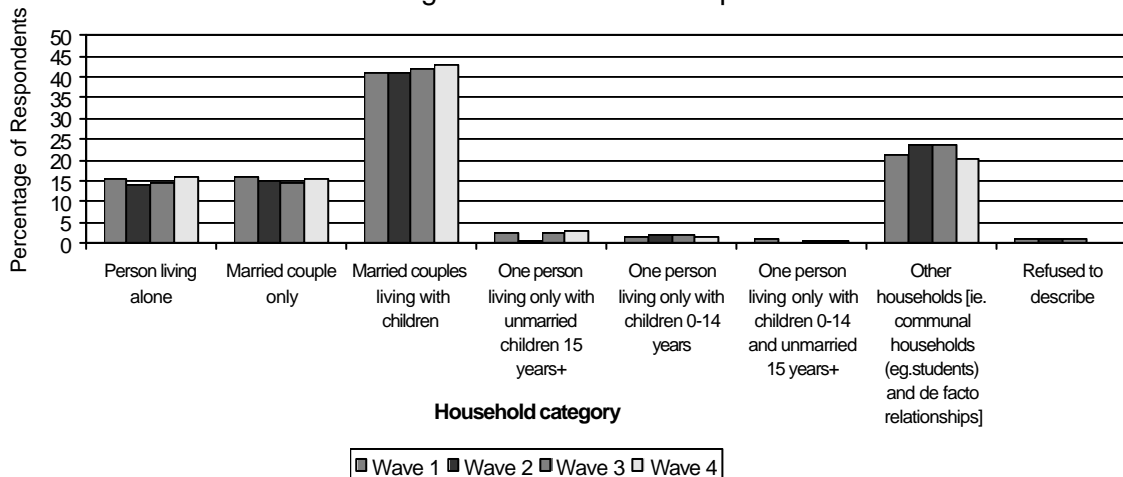
*Weighted to reflect the working population

General Profile of Survey Participants

Household Makeup

All respondents were aged between 18 and 65 plus years. Household makeup is shown in Figure 1. Married couples with children represent over 40% of the sample in all four waves.

Figure 1: Household Makeup

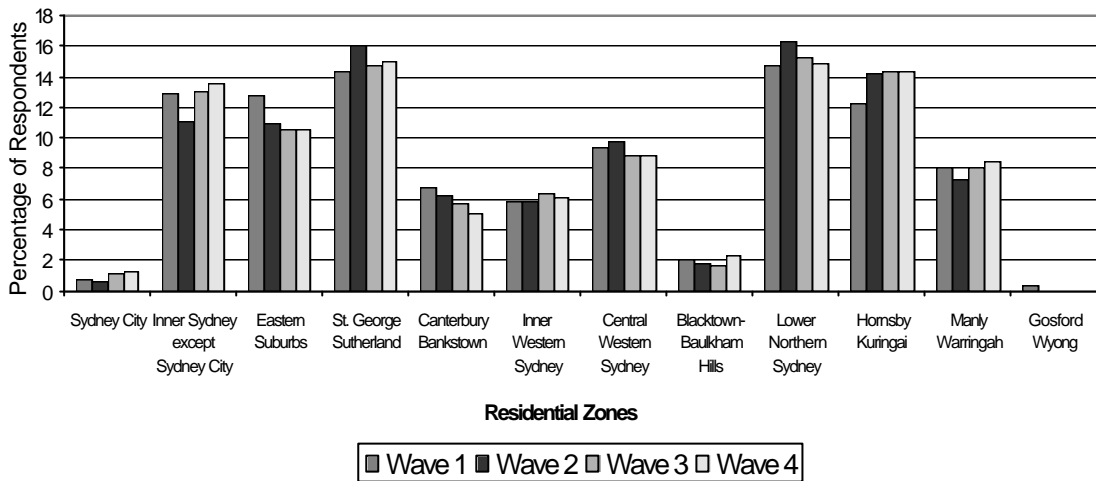


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Place of Residence

Over 86% of respondents lived outside the CBD, 11.7% of respondents were from the outer CBD, whilst less than 1% of respondents were from the Inner CBD (Figure 2).

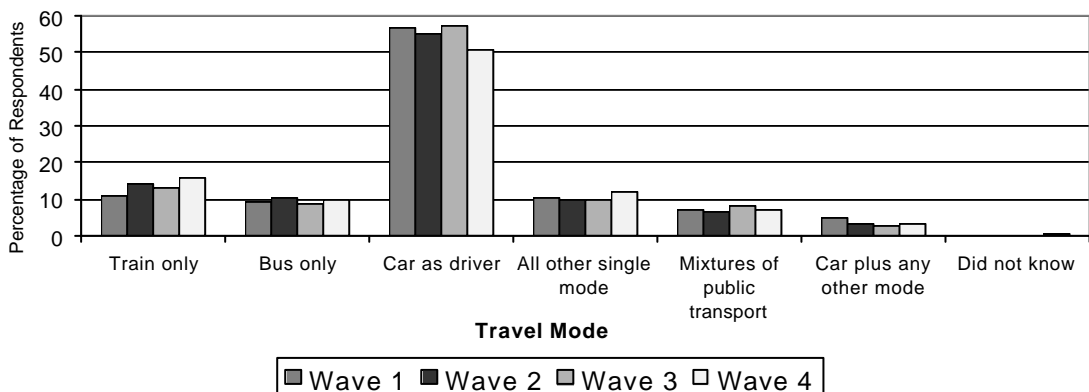
Figure 2: Residential Zones of Respondents



Travel Mode

By far the majority of commuters use a single mode to travel to work. Across the four waves between 50% and 58% use car as driver, 11% to 15% use train and 8% to 11% use bus (Figure 3). From Figure 3 it can be seen that public transport patronage did not increase dramatically during the Games. Bus only and Train only patronage remained relatively steady whereas mixtures of public transport decreased from a high of around 8% to around 6%. What is interesting is that car as driver percentages also decreased from 58% to 52%. This may be accounted for by people opting to work from home (telecommute: 3%) or not engaging in work at all (annual leave: 27%).

Figure 3: Mode of Travel to Work

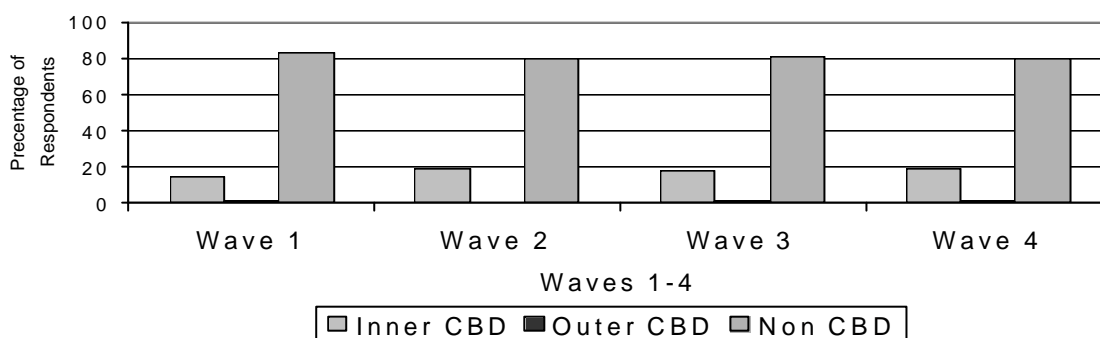


Employment

Figure 4 shows the work location for the total samples in each Wave. The majority of respondents worked outside the Central Business District (80-84%). Most of the respondents were employed throughout the service sectors, predominantly Finance and Insurance, Health, Community and Personal Services, Education and Communication (Appendix 1). Between 87% and 95% worked at a single fixed location. Between 3% and 9% of the sample were self-employed which was below the 96 Census population figure of 10%. Overall, 69% of respondents worked more than 35 hours per week.

Work Related Travel Characteristics

Figure 4: Work Location



During the study period leading up to the Games (February-August) the majority (72%) of respondents worked 35 hours or more each week however, this dropped to 60% during the Games and those working 40 hours or more decreased to 46.3% from 60% prior to the event. There was also a 14.5% increase in the number of respondents who did not work during the Olympics. For Waves 1 to 3, the majority of respondents departed from home (to work) between 6:30 and 8:30am (63-70%). During the Olympics, there was a decrease in the percentage of respondents departing from home between period 6:30-8:30 am (from 70% in wave 3 to 57% in Wave 4), with a corresponding increase in the number of people departing before 6:30 am, and after 8:30 am. For the return trip home, the majority of respondents departed from work after 4:30pm (60-69%). During the Olympics the percentage of respondents who left work at standard departure times (4:30-5:30pm and after) also decreased (from 69% in Wave 3 to 63% in Wave 4) whereas non-standard departure times (3:30-4:30pm) gained popularity. What accounted for this result was commuters leaving for work earlier as well as over 12% of people decreasing their weekly work hours. Also, during the Olympics there was a decrease in the percentage of respondents who travelled 6 to 10 kms (45-55%) and 16 kms or more (a.m. and p.m.). The percentage of respondents who travelled less than 5 kms increased from about 25% for the first three waves to 38% reported

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in Wave 4 (a.m. and p.m.). The reduced trip length resulted because 5% of people relocated to a temporary fixed work location and 3% of people telecommuted during Games.

Stated Intentions and Actual Behaviour

Respondents' General Plans for the Olympics

Table 2 reveals the changes in respondents' general plans for the Olympics period leading up to the games as well as actual behaviour reported in Wave 4.

Table 2: Respondents' Perceptions and Plans between each Wave

	Ex Ante			Ex post
	Wave 1 Yes %	Wave 2 Yes %	Wave 3 Yes %	Wave 4 Yes %
Plans for Olympics				
Continue life as usual	69.3	69.3	66.0	75.0
Mainly continue life as usual but attend some Olympic events	34.2	37.5	36.9	60.3
Purchased Olympic tickets	24.4	29.5	34.8	51.5
Remain in Sydney and change usual activities to avoid Olympic events and crowds	52.5	51.7	52.9	20.6
Mainly continue life as usual but work more hours or days because your job will be affected	26.7	21.4	20.2	11.5
Depart Sydney for a few days	27.0	26.7	22.4	16.2

Results obtained from Waves 1-3, showed little variation in plans to modify behaviour with the exception of ticket purchase. Appendix B (Table B1) summarises Pearson Chi-Square results between Waves 3 and 4. Responses in Wave 3 (statements listed in Table 2) had a bearing on the responses in Wave 4. These relationships, however, were only moderate in strength.

Commuter Coping Strategies for the Olympics

Appendix C, Table C1 displays the coping strategies that respondents *planned* to adopt as well as those actually employed during the Games. Although Waves 1 and 2 are omitted from this table, overall trends during the pre-Games period are discussed below. In Wave 4 'Taking leave from work' (26.7%) followed by 'Changing the number of working hours' (24.4%) were the most popular coping strategies. In terms of actual travel activities, 11.4% of respondents travelled earlier from home to work, 17.3% travelled earlier from work to home and 15.1% changed their number of working days.

'Yes' Responses: For the period *before* the Olympics (February-August) the highest percentage of 'Probably Yes' and 'Definitely Yes' responses were for following the coping strategies: 'Take leave from work', 'Change number of working hours', 'Travel earlier from home' and 'Travel later from work'. These strategies showed a positive trend in all four waves. Similarly, these strategies recorded a positive trend for the accompanying 'No' responses. This is discussed below.

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'No' Responses: The results of Wave 4 showed that between 73% - 98.6% of respondents did not adopt any of the coping strategies. All coping strategies recorded an increase in the percentage of 'No' responses. For coping strategies associated explicitly with travel (i.e. 'Travel earlier from home' to 'Change mode of transport'), there was an inverse relationship for the trend between the 'Definitely No' and 'Unsure' responses across waves 1-3. For example for 'Travel earlier from home', the percentage change for the 'Definitely No' response between Waves 1 and 2 is upwards and between waves 2 and 3 it is downwards, whereas for the 'Unsure' responses the opposite is true. This was an interesting result given that as time progressed, respondents had more time to think about planning everyday activities. Table C1 gives an indication to the change in responses between Waves 3 and 4. As mentioned earlier, more people actually gave the 'No' response. However these percentages exceeded the summation of the total percentages for the 'No', 'Probably No' and 'Unsure' responses, in Wave 3. It is concluded, therefore, that some of the people who gave the 'Probably Yes' response in Wave 3 actually answered 'No' in Wave 4.

Table C2 displays Pearson Chi-Square results for coping strategies between Waves 3 and 4. For the coping strategies 'Telecommute for the first time' and 'Travel later from home', respondents intentions before the Games had no influence as to whether these strategies were implemented or not. For example, if respondents claimed that they would *not* implement these strategies in Wave 3, this did not mean that they would not actually adopt these strategies during the Olympics. However for the remaining strategies, intentions in Wave 3 moderately influenced Wave 4 outcomes i.e. if people did not 'Telecommute as usual' before the Olympics then they did not 'Telecommute as usual' during the Olympics.

Table C3 summarises Pearson Chi-Square results between coping strategies and work location for Waves 3 and 4. The decision whether to implement the coping strategies 'Telecommute for the first time', 'Travel later from home' and 'Change mode of travel' was not associated with CBD work location nor earlier decisions made by commuters regarding the implementation of these strategies. The decision whether to adopt the remaining coping strategies was moderately associated with CBD work location and previous decisions made. Also, the decision whether to implement the coping strategies 'Telecommute for the first time' and 'Travel later from home', was not associated with Non-CBD work location nor commuters' intentions leading up to the Olympics. The decision to adopt the remaining strategies was associated with Non-CBD work location and earlier considerations stated before the Games. These results were expected given that the majority of people surveyed worked in Non-CBD areas.

Employer Influence on Commuter Coping Strategies

Table 3 shows that from Wave 1 to Wave 3, employees reported that employers had strengthened their strategies to reduce staff, alter work and travel patterns. These employer strategies in turn influenced the nature of employees' strategies. However only supporting plans

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to alter work and travel patterns increased in Wave 4. Employers opted for providing a flexible policy but no enforcement of its implementation.

Table 3: Percentage of 'Yes' Responses for Employer Influence on Coping Strategies between Waves 1, 2, 3 and 4

Employer Influence	Ex Ante			Ex post
	Wave 1 Yes %	Wave 2 Yes %	Wave 3 Yes %	Wave 4 Yes %
(Strategy 1) Employer has Plan to Reduce Staff	18.4	21.0	24.9	19.2
(Strategy 2) Employer Supports Plan to alter Travel/Work Patterns	37.0	46.5	53.9	66.7
(Strategy 3) Employer has Influenced Plan to alter Travel/Work Patterns	17.5	21.6	26.2	21.7

Table D1, Appendix D, summarises Pearson Chi-Square results and shows the differences for employer plans between Waves 3 and 4. What employers planned to do had a bearing on what they actually did during the Olympic period. Table D2, summarises Pearson Chi-Square results between employer plans and commuter coping strategies for Wave 4. The decisions concerning the implementation of coping strategies 'Change the number of work hours', 'Travel later from work' and 'Change the number of work days', were associated with all three employer plans; coping strategies 'Travel earlier from home' and 'Travel earlier from work' were associated with employer plans to reduce staff and to influence travel/work patterns whereas coping strategies 'Change mode of travel' and 'Take leave from work' were associated with employer plans to reduce staff during the Olympics and to alter work/travel plans, respectively.

Table 4 shows perceptions of employer strategies in all four waves. From Wave 1 to Wave 2, employers were less likely to impose leave, RDOs, or car pooling, preferring to introduce flexible work programs, alter work hours and permit telecommuting. From Wave 2 to 3 employers were more inclined to adopt all strategies, though increases were most noticeable for introducing flexible work program and altering work hours. In Wave 4 all strategies recorded a decline. Telecommuting recorded the greatest decline, followed by altering work hours and closing down operations, suggesting employers did not anticipate negative impacts accruing from The Olympic Games (based on employee perceptions). Table D3 summarises Pearson Chi-Square results for differences in employer strategies between Waves 3 and 4. The decision whether to implement 'Imposing annual leave', 'Accrued rostered days off' and 'Altering work hours', was not influenced by employers' decisions before the Games. Only 'Closing down operations' showed a strong relationship to that in previous waves.

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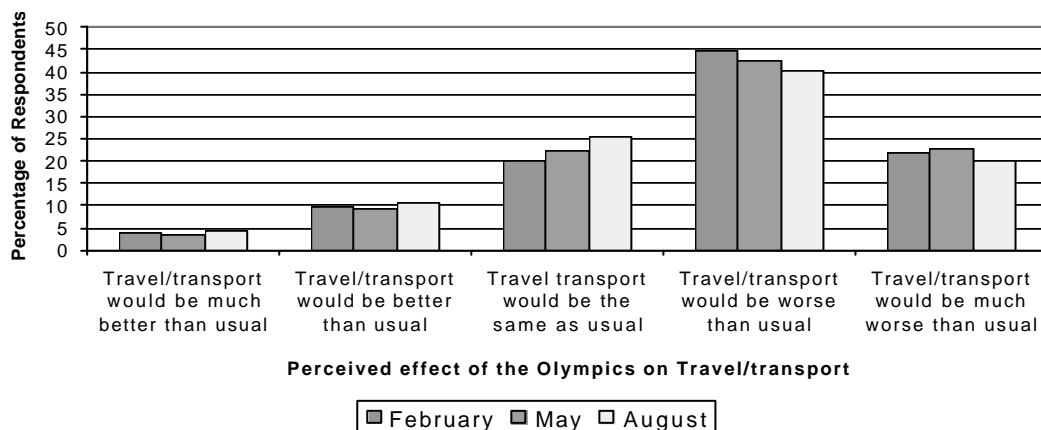
Table 4: Percentage of 'Yes' Responses for Employer Strategies between each Wave

Employer Strategies for Olympics	Ex Ante			Ex post
	Wave 1 Yes %	Wave 2 Yes %	Wave 3 Yes %	Wave 4 Yes %
Closing down operations	6.7	6.3	8.5	3.1
Imposing annual leave	5.1	4.3	5.0	1.9
Introducing flexible work program	10.0	10.9	15.4	10.7
Telecommuting	6.2	6.8	9.2	3.3
Accrued rostered days off	4.5	3.7	4.9	3.1
Altering work hours (start/finish)	10.5	13.3	17.4	11.8
Car pooling (travel early and bring a friend)	5.4	5.2	7.3	2.5

Perceived Effect of the Olympics on Travel/Transport Activities

In Wave 4, respondents described how their a priori perceptions the Olympics had affected their travel/transport activities. Figure 5 shows that from February to May, the majority of the respondents perceived that travel/transport would be either worse or much worse than usual although perceptions showed a slightly increasing positive trend from Waves 1 to 3. By contrast, in August, between 9% and 11% of respondents believed transport would be better than usual, while 4% or less thought it would be much better.

Figure 5: Perceived Effect of the Olympics on Travel/Transport Activities



The perceptions that commuters reported in Waves 1 to 3 differed significantly from their ex poste views in Wave 4. When asked how the Games affected their travel/transport activities, over 51% respondents said that travel/transport was much better than expected; with a further 32% saying it was better than expected. Sixteen percent (16%) reported travel/transport was the same as expected. Comparing the Olympic period with their usual activities, 68% of

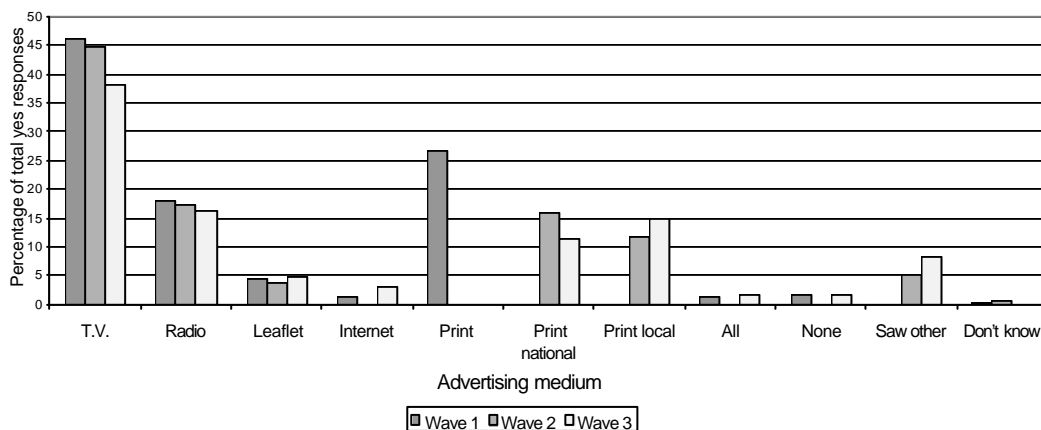
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respondents said that travel/transport was either much better or better than usual. Twenty eight percent (28%) of respondents thought it was about the same, while around 5% thought it was worse or much worse than usual. Most commuters did not consider the change to their work routine (85%) and travel routine (88%) during the Olympics to be less favourable. Eighty seven percent of respondents said they would not do anything different if Sydney were to host a similar event again, while 12% (n=50) said that they would behave differently. Within this group, 41 respondents said that they would take leave and participate in more event activities, 26 said they would change their work times, 24 said they would change their number of work hours, 22 said they would change number of work days and 17 said they would telecommute (*respondents could choose more than one strategy hence the total number of respondents exceeds 50*). Eighty nine percent of respondents said they had reverted back to their pre-Olympic travel arrangements, while 10% had not. Within the latter group, 35% were on leave, 29% were telecommuting and 23% changed their work hours. The percentage of respondents using other strategies were low, particularly those who changed their mode of travel as well as those car-pooling. Overall, these results show that perceived negative impacts accruing from the Olympic Games, on travel and transport activities, did not eventuate.

Perceived Value of Marketing and Promotional Activity

The comparison between Waves 1 and 2 shows an increase in the percentage of respondents reporting that Olympics advertising had influenced their plans to change work and travel patterns (23% in Wave 2 compared to 18% in Wave 1). This remained steady from Wave 2 to Wave 3. Figure 6 reveals that the most effective forms of advertising remained largely unchanged between Waves 1 and 2 with minor changes in the effectiveness of TV, radio, print and leaflet media. The effectiveness of TV fell from 45% to 38% from Wave 2 to Wave 3; other changes were relatively small, with the exception of print media (national), which decreased from 16% to 11% from Wave 2 to Wave 3. The percentage of respondents who said that word of mouth had influenced their travel plans decreased from 24% in Wave 1 to 22% in Wave 2 and increased to 23% in Wave 3.

Figure 6: Differences in Effective Influence of Advertising between Waves 1, 2 and 3



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Advertising and Marketing During the Olympics

When asked to describe the information they received about transport/travel arrangements during the Olympics, 48% of commuters said it was very good, and a further 30% rated it as good. Sixteen percent said it was adequate and 6% said it was poor or very poor. From this, it can be concluded that sufficient information regarding transport/ travel arrangements, during the Olympics, was available to commuters.

Discussion

Commuter Behaviour and Intentions Leading Up to September 2000

Through the first three waves, there was a marginal increase in awareness of work and travel issues surrounding the Sydney Games. The percentage of respondents expecting life to continue as normal, generally remained steady from Wave 1 to Wave 3. This was also the case for those respondents who stated that they would remain in Sydney and change their usual activities to avoid Olympic events and crowds. From Wave 1 to Wave 2, there was a large decrease in the number of respondents who thought that they would mainly continue life as usual, however, they expected to work more hours or days because their job might be affected. Their perceptions were influenced by the increased percentage of employers considering the introduction of flexible work programs. The percentage of commuters expecting to leave Sydney decreased from Wave 2 to Wave 3. Not surprisingly, as the survey progressed more respondents focused on their plans. Employer strategies also strengthened slightly from Waves 1 to 3 (Brewer and Hensher, 2000). Employers and employees became more willing to consider flexible options, such as altering work hours and introducing flexible work programs in order to cope with travel/work disruptions rather than imposing annual leave.

From Wave 1 to Wave 2, more respondents gave thought to their activities during the Olympics and hence, the percentage of 'Unsure' responses, regarding coping strategies, decreased. From Wave 2 to Wave 3, there was a clear movement towards more flexible types of coping strategies, in particular, travelling earlier to work and changing the number of working hours and days. These changes were also evident when responses from Wave 1 were compared with those of Wave 3. This was most likely a reflection of the increasing popularity of introducing more flexible working hours by employers. Commuter behaviour firmed up, as commuters continued to rule out some relatively inflexible options while taking a more favourable view of other more flexible coping strategies.

Commuter Behaviour During the Olympics

Perceptions leading up to the Games had a bearing as to whether pre-Games plans were implemented or not. The majority of respondents (75%) stated that life continued as usual.

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This reflects the decrease in the percentage of respondents who claimed that life continued as usual but had to work more hours or days because of the Olympics, and those who claimed that they remained in Sydney and changed their usual activities to avoid Olympic events and crowds (11.5% and 20.6%; 8.7% and 32.3% decrease from Wave 3 respectively).

The majority (94%) of respondents stated that information concerning transport arrangements during the Olympics was better than adequate. 'Take leave from work' was the strategy most adopted by respondents (26%). Since the majority of respondents did not adopt these coping strategies it is assumed that negative impacts accruing from the Olympics were not perceived by commuters. For the coping strategies 'Telecommute as usual' and 'Travel later from home', respondents' considerations given in Wave 3 had no bearing on the responses stated in Wave 4. The decision whether to implement the coping strategies 'Telecommute for the first time', 'Travel later from home' and 'Change mode of travel' was not associated with CBD work locations nor was it associated with previous decisions made. This was also the case for Non-CBD work locations, concerning the former two strategies only. The decision whether to adopt the remaining strategies was associated with decisions made prior to the Olympic Games. These results confirmed earlier findings. Also, 83% of respondents stated that travel/transport was better than expected during the Olympic period and 68% of respondents said that travel was at least better during the Games than in the normal situation. This was expected given that as time progressed peoples' perceptions were more favourable regarding the perceived effect of the Olympics on travel/transport activities.

Conclusion

The establishment of a knowledge base of behavioural intentions, leading up to such a major event, provides important information in understanding how best to manage (or cope with) the usual movement of commuters alongside the additional flow of people associated with a major event. It is the behavioural outcome that will impact the work and travel activity at any major event. It also provides a significant gauge of the value of marketing and promotional activity that sought to mediate commuters' intentions and ultimately behaviour. As time progressed, respondents were able to think about planning their activities.

Overall, the Games had little negative influence on commuter travel behaviour which was not the generally expected outcome (Hensher and Brewer 2001). In an attempt to forecast behavioural responses, behavioural intentions were masked by a magnificent appeal to Sydney residents to use public transport (buses and trains only) and a substantial reduction in the predicted influx of visitors to Sydney. It is not possible to conclude that behavioural intentions are an adequate or inadequate indicator of behavioural response as the Sydney Games was simply too good in its delivery of transport due in no small measure to the support of the local population. More research of this kind needs to be conducted in the future to ascertain the effectiveness or not of longitudinal surveys to foreshadow the intentions of commuters' on their final behavioural outcome.

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Appendix A Employment and Work Location

Table A1: Industry Categories for CBD and Non CBD

Industry	Work Location									
	CBD%					Non CBD%				
	Wave 1	Wave 2	Wave 3	Wave 4	'96 Census	Wave 3	Wave 1	Wave 2	Wave 4	96 Census
Agriculture, Forestry and Fishing	22.2	25.0	25.0	33.3	3.8	75.0	77.8	75.0	66.7	96.2
Mining	0.0	0.0	0.0	0.0	14.1	100.0	100.0	100.0	100.0	85.8
Manufacturing	10.5	13.8	13.3	13.0	3.6	86.7	89.5	86.2	87.0	96.4
Electricity, Gas and Water Supply	0.0	20.0	0.0	50.0	32.7	100	100.0	80.0	50.0	67.3
Construction	28.6	33.3	23.8	23.5	4.9	76.2	71.4	66.7	76.5	95.1
Wholesale trade	33.3	28.6	28.6	20.0	4.0	71.4	66.7	71.4	80.0	96
Retail Trade	16.7	29.0	28.6	19.2	6.3	71.4	83.3	71.0	80.8	93.7
Accommodation, Cafes and Restaurants	50.0	41.7	38.5	33.3	18.8	61.5	50.0	58.3	66.7	81.2
Transport and Storage	27.3	16.7	33.3	43.8	16.3	66.7	72.7	83.3	56.3	83.7
Communication Services	49.1	63.6	46.9	47.6	22.4	53.1	50.9	36.4	52.4	77.6
Finance and Insurance	72.7	76.7	72.6	74.2	52.0	27.4	27.3	23.3	25.8	48
Property and Business Services	45.5	52.0	58.3	37.5	24.3	41.7	54.5	48.0	62.5	75.7
Gov Administration and Defence	49.1	59.0	44.2	61.1	32.0	55.8	50.9	41.0	38.9	68
Education	22.4	4.1	4.1	7.3	8.4	95.9	77.6	95.9	92.7	91.6
Health and Community Services	10.0	18.2	8.1	19.1	3.5	91.9	90.0	81.8	80.9	96.5
Cultural and Recreational Services	50.0	33.3	36.4	35.3	22.5	63.6	50.0	66.7	64.7	77.5
Personal and Other Services	44.8	32.9	47.5	35.3	16.5	52.5	55.2	67.1	64.7	83.5
Total	37.6	38.5	35.5	37.8	14.3	64.5	62.4	61.5	62.2	85.7

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Appendix B Respondents Plans for the Olympics

Table B1: Pearson Chi-Square Results for Commuters Plans for the Olympics between Waves 3 and 4.

Plans for the Olympics	Chi Square	df	Significance (P)	f (Strength of association- significant)
<i>Continue life as usual</i>	132.266	2	0.000	0.585 moderate
<i>Mainly life as usual but attended some Olympic events</i>	79.345	2	0.000	0.454 moderately weak
<i>Purchased Olympic tickets</i>	124.818	2	0.000	0.570 moderate
<i>Remain in Sydney and change usual activities to avoid Olympic events and crowds</i>	11.454	2	0.003	0.172 weak
<i>Mainly continue life as usual but work more hours or days because your job will be affected</i>	32.635	2	0.000	0.291 weak
<i>Leave Sydney for a few days</i>	133.696	2	0.000	0.589 moderate

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Appendix C Coping Strategies for the Olympics

Table C1: Differences in 'Yes' and 'No' Responses Between Waves 3 and 4 for Commuter Coping Strategies

Coping Strategy	Wave 3 'Yes'		Wave 4 'Yes'		Wave 3 'No'		Wave 4 'No'		Change (W4-3)	
	N	%	N	%	N	%	N	%	'Yes'	'No'
<i>Telecommute for the first time</i>	46	12.4	13	3.0	326	87.6	416	97.0	-9.4	+9.4
<i>Telecommute as usual</i>	65	17.5	79	18.5	308	82.5	349	81.5	+1.0	-1.0
<i>Take leave from Work</i>	104	27.6	114	26.7	272	72.4	314	73.3	-0.9	+0.9
<i>Relocate to a temporary fixed work location</i>	21	5.6	20	5.0	355	94.4	380	95.0	-0.6	+0.6
<i>Change number of work hours</i>	121	32.3	98	24.4	254	67.7	302	75.6	-7.9	+7.9
<i>Join car pool</i>	22	5.9	6	1.4	354	94.1	395	98.6	-4.5	+4.5
<i>Travel earlier from home to work</i>	137	36.5	73	18.3	239	63.5	327	81.7	-18.2	+18.2
<i>Travel later from home to work</i>	44	11.7	45	11.4	332	88.3	355	88.6	-0.3	+0.3
<i>Travel earlier from work to home</i>	77	20.5	69	17.3	299	79.5	331	82.7	-3.2	+3.2
<i>Travel later from work to home</i>	84	22.3	47	11.7	292	77.7	354	88.3	-10.6	+10.6
<i>Change mode of travel</i>	34	9.0	20	5.0	342	91.0	380	95.0	-4.0	+4.0
<i>Change number of work days</i>	86	23	60	15.1	289	77.0	340	84.9	-7.9	+7.9

Table C2: Pearson Chi-Square Results for Coping Strategies Between Waves 3 and 4

Coping Strategy	Chi Square	df	Significance (P)	f (Strength of association, significant)
<i>Telecommute for the first time</i>	0.695	1	0.405	No association
<i>Telecommute as usual</i>	53.871	1	0.000	0.374 weak
<i>Take leave</i>	100.120	1	0.000	0.509 moderate
<i>Relocate to a temporary fixed work location</i>	40.233	1	0.000	0.335 weak
<i>Change number of work hours</i>	64.921	1	0.000	0.426 moderately weak
<i>Join car pool</i>	20.146	1	0.000	0.238 weak
<i>Travel earlier from home</i>	27.551	1	0.000	0.277 weak
<i>Travel later from home</i>	3.639	1	0.056	No association
<i>Travel earlier from work</i>	36.207	1	0.000	0.318 weak
<i>Travel later from work</i>	13.092	1	0.000	0.191 weak
<i>Change mode of travel</i>	16.675	1	0.000	0.216 weak
<i>Change number of work days</i>	69.246	1	0.000	0.440 moderately weak

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Table C3: Pearson Chi-Square Results for Commuter Coping Strategies by Work Location for Waves 3 and 4

Coping Strategy / CBD/Non-CBD	CBD				Non-CBD			
	Chi Square	df	Signif. (P)	f Significant	Chi Square	df	Signif. (P)	f Significant
<i>Telecommute for the first time</i>	0.373	1	0.541	No association	0.395	1	0.530	No association
<i>Telecommute as usual</i>	16.235	1	0.000	0.453 moderately weak	40.654	1	0.000	0.364 weak
<i>Take leave</i>	17.245	1	0.000	0.464 moderately weak	85.210	1	0.000	0.528 moderate
<i>Relocate to a temporary fixed work location</i>	16.134	1	0.000	0.458 moderately weak	19.294	1	0.000	0.262 weak
<i>Change number of work hours</i>	13.815	1	0.000	0.421 moderately weak	54.623	1	0.000	0.440 moderately weak
<i>Join car pool</i>	-		-	-	28.071		0.000	0.316 weak
<i>Travel earlier from home</i>	4.122	1	0.042	0.233 weak	23.693	1	0.000	0.290 weak
<i>Travel later from home</i>	1.749	1	0.186	No association	2.117	1	0.146	No association
<i>Travel earlier from work</i>	15.613	1	0.000	0.453 moderately weak	17.900	1	0.000	0.252 weak
<i>Travel later from work</i>	8.329	1	0.004	0.329 weak	5.066	1	0.024	0.134 weak
<i>Change mode of travel</i>	1.283	1	0.257	No association	17.956	1	0.000	0.252 weak
<i>Change number of work days</i>	11.916	1	0.001	0.396 weak	58.685	1	0.000	0.457 moderately weak

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Appendix D Employer Influence on Coping Strategies

Table D1: Pearson Chi-Square Results for Employer Plans for the Olympic Games between Waves 3 and 4

Employer Plans	Chi Square	df	Significance (P)	f (Strength of association, significant)
<i>Employer to reduce staff during the Olympics</i>	58.083	3	0.000	0.42 moderately weak
<i>Employer supports plan to alter work/travel patterns during the Olympics</i>	57.837	16	0.000	0.431 moderately weak
<i>Employer influence on your intention to change work/travel patterns during the Olympics</i>	70.440	6	0.000	0.477 moderate

Table D2: Pearson Chi-Square Results For Employer Plans and Commuter Coping Strategies, Wave 4

Employer Plans/ Coping Strategies	Plan to Alter Travel/Work Patterns			Reduce Staff			Support Work Plans		
	Chi Square*	(P)	φ	Chi Square*	(P)	φ	Chi Square♦	(P)	φ
<i>Telecommute for the first time</i>	0.505	0.771	No assoc.	3.156	0.076	No assoc.	2.039	0.729	No assoc.
<i>Telecommute as usual</i>	1.570	0.456	No assoc.	0.763	0.382	No assoc.	3.407	0.492	No assoc.
<i>Take leave</i>	2.688	0.261	No assoc.	4.993	0.025	-.117 Weak	6.031	0.197	No assoc.
<i>Relocate to a temporary fixed work location</i>	0.124	0.940	No assoc.	0.13	0.911	No assoc.	2.137	0.711	No assoc.
<i>Change number of work hours</i>	33.2	0.000	0.302 Weak	14.392	0.000	-.202 Weak	10.019	0.040	0.166 Weak
<i>Join car pool</i>	1.185	0.553	No assoc.	0.828	0.363	No assoc.	1.077	0.898	No assoc.
<i>Travel earlier from home</i>	20.046	0.000	0.234 Weak	14.011	0.000	-.196 Weak	7.343	0.119	No assoc.
<i>Travel later from home</i>	2.504	0.286	No assoc.	2.048	0.152	No assoc.	5.091	0.278	No assoc.
<i>Travel earlier from work</i>	9.371	0.009	0.160 Weak	16.086	0.000	-.210 Weak	4.989	0.288	No assoc.
<i>Travel later from work</i>	29.616	0.000	0.285 Weak	8.064	0.005	-.149 Weak	10.721	0.030	0.172 Weak
<i>Change mode of travel</i>	8.524	0.014	0.153 Weak	0.585	0.444	No assoc.	3.177	0.529	No assoc.
<i>Change number</i>	14.526	0.001	0.199	20.283	0.000	-.235	18.073	0.001	0.233

* Degrees of freedom equals 2

* Degrees of freedom equals 1

♦ Degrees of freedom equals 4

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<i>of work days</i>			Weak			Weak			Weak
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Table D3: Pearson Chi-Square Results for Employer Strategies during the Olympic Games, between Waves 3 and 4.

Employer Strategies for the Olympics	Chi Square	df	Significance (P)	f (Strength of association, significant)
<i>Closing Down Operations</i>	30.973	2	0.000	0.859 strong
<i>Imposing Annual Leave</i>	3.435	2	0.253	No association
<i>Introducing Flexible Work Program</i>	8.736	2	0.013	0.467 moderate
<i>Telecommuting</i>	12.513	2	0.002	0.552 moderate
<i>Accrued Rostered Days Off</i>	1.265	2	0.531	No association
<i>Altering Work Hours</i>	0.946	2	0.597	No association
<i>Car Pooling</i>	13.467	2	0.002	0.566 moderate
<i>First-time Telecommuting used</i>	6.577	2	0.037	0.405 moderately weak
<i>Other</i>	0.767	2	0.681	No association

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