

The Economic Significance of Amateur Sport and Active Recreation in Edmonton in 2000

FINAL REPORT

Prepared by:

**Tim Berrett (Ph.D.)
Caminata Consulting**

10915 126th Street

Edmonton, Alberta

T5M 0P4

caminataconsulting@telusplanet.net

(780) 433-7364

Date:

October 1, 2001

Table of Contents

	Page
Executive Summary	2
Acknowledgements	4
Introduction and Background	5
Scope of the Study and Report	7
The Organization of Amateur Sport and Active Recreation in Edmonton	8
Methods	9
Private Household Consumption	10
Public Expenditure	12
Private Investment	18
Balance of Trade	18
Economic Significance	21
Gross Domestic Product, Wage, and Employment Impacts	22
Model for Determining Direct, Indirect and Induced Impacts	24
Value of Volunteer Contributions	24
Results	26
Private Household Spending by Edmonton Residents	26
Public Expenditure	31
Private Investment	34
Balance of Trade	34
Edmonton’s Gross Municipal Amateur Sport and Active Recreation Product	37
Gross Domestic Product, Wage, and Employment Impacts	39
Value of Volunteer Contributions	42
Limitations	42
Conclusions	44
Appendices	46
Appendix A – A Method for Calculating the Economic Impact of Minor Sports Events	46
Appendix B – Survey Tool (Sport Groups)	51
Appendix C - ESC Mandate	53
References	54
List of Tables	
Table 1 – Provision of Amateur Sport and Active Recreation in Edmonton	8
Table 2 – Edmonton Household Expenditures on Amateur Sport and Active Recreation (2000)	29
Table 3 – City of Edmonton Municipal Expenditures and Revenues (\$)	33
Table 4 - Visitor Nights Reported by Edmonton Amateur Sport Groups (n=101)	36
Table 5 - Edmonton and Alberta Impacts	40
List of Figures	
Figure 1 – Edmonton Per-Household Spending on Amateur Sport and Active Recreation (2000)	30
Figure 2 - Contributions to the City of Edmonton’s Gross Municipal Amateur Sport and Active Recreation Product	38
Figure 3 – GDP Impacts of Amateur Sport and Active Recreation Expenditures in the City of Edmonton	40
Figure 4 – Wage and Salary Impacts of Amateur Sport and Active Recreation Expenditures in the City of Edmonton	41
Figure 5 – Employment Impacts of Amateur Sport and Active Recreation Expenditures in the City of Edmonton	41

Executive Summary

The Edmonton Sport Council (ESC), as part of its efforts to promote the value of sport in the city of Edmonton, retained Caminata Consulting to determine the economic contribution that amateur sport and active recreation make to the local economy. The study provides an analysis of the economic significance and impact of the “amateur sport and active recreation” sector in Edmonton in the year 2000

The definition of amateur sport and active recreation used in this investigation was as follows:

“Sport and active recreation involves participants who execute skills that require practice or preparation; it involves competition with other participants, oneself, or nature; and it occurs in a structured environment”.

For the initial expenditure figures, the definition of Edmonton was the “city of Edmonton” as outlined by municipal boundaries. The economic model employed to determine the output effects of this spending reported the impacts on the Census Metropolitan Area (CMA) of Edmonton.

Edmonton’s Gross Municipal Amateur Sport and Active Recreation Product¹

Adopting the ‘expenditure’ approach to measuring economic output levels, the first phase of the investigation measured the gross municipal amateur sport and active recreation product of the city of Edmonton for the year 2000. The results are summarized as follows:

- Total gross private household consumption was \$346.97 million (or \$1454.80 per household), which was spent by Edmonton residents on various elements of amateur sport and active recreation.
- Government (and related) expenditures in this sector in 2000 amounted to \$93.78 million. This included \$32.00 million in spending associated with preparations for the 2001 World Championships in Athletics and World Triathlon Championships (one-time event(s) spending), \$21.28 million in provincial expenditures, \$14.10 million in net municipal spending, and \$20.19 million in spending by public educational institutions.
- Private investment in major projects totalled \$6.65 million
- The ‘balance of trade’ showed an excess of exports over imports of \$93.27 million
- The “Gross Municipal Amateur Sport and Active Recreation Product” was estimated to be the sum of these initial expenditures, or \$540.67 million

Economic Impact of Amateur Sport and Active Recreation in Edmonton

Having determined the initial expenditures associated with amateur sport and active recreation in Edmonton in 2000, the second phase of the study provides an assessment of

¹ All findings presented in this Executive Summary are inextricably linked to a variety of assumptions that are outlined in the main body of the report.

the estimated impact that this spending has on economic output, wages, and employment for both the Edmonton (CMA) and Alberta economies. The results are summarized as follows:

- The overall Gross Domestic Product (GDP) [value added] impact on the greater Edmonton economy of the initial expenditures in the city of Edmonton was \$319.59 million
- The GDP impact on the Alberta economy of the initial expenditures in the city of Edmonton was \$424.01 million
- The total impact on wages and salaries in the greater Edmonton economy resulting from the initial expenditures in the city was \$213.23 million
- The total impact on wages and salaries in the Alberta economy resulting from the initial expenditures in the city was \$261.61 million.
- The effect that the initial amateur sport and active recreation spending had on employment in greater Edmonton was 7,360.3 person years of employment.
- The effect that the initial amateur sport and active recreation had on employment in Alberta was 8,619.5 person years of employment.

Other Key Findings

In addition to the major finding of the study outlined above, the following key results were obtained.

- Based on the economic impact statement, amateur sport and active recreation in the city of Edmonton contributed 0.98% to greater Edmonton's gross domestic product and 1.5% to employment.
- A selected sample of 101 Edmonton amateur sport groups reported that 369,831 sport tourist visitor nights resulted from their hosting events in 2000. These visitors spent an estimated \$27.99 million.
- Volunteers contributing to amateur sport and active recreation in the city of Edmonton provided an estimated 4.4 million hours of time in 2000. Although not included in the formal economic analysis, at market wages, the value of this contribution was estimated to have been \$73.16 million.
- The City of Edmonton's expenditures on amateur sport and active recreation in the year 2000 are estimated to have contributed to a total economic output for the region of approximately 22.67 times the municipal government expenditure. Net municipal government spending in amateur sport and active recreation was \$14.10 million; total economic impact for this sector of the economy amounted to \$319.59 million.

It should be noted that these figures do not account for any value associated with various non-economic benefits associated with participation in amateur sport and active recreation, such as health benefits, social or community development, and reductions in crime rates for participants. Nor do these figures account for the impact of professional sport on Edmonton's economy. Amateur sport and active recreation in Edmonton is therefore a significant contributor to the city, regional and indeed the provincial economies.

Acknowledgments

The following sponsors of the study are recognized:

- Edmonton Sport Council
- Imperial Oil
- City of Edmonton
- Economic Development Edmonton

Introduction and Background

As a part of its ongoing efforts to promote the value of sport to the residents of the city of Edmonton, in August 2000 the Edmonton Sport Council commissioned Caminata Consulting to conduct an assessment of the economic significance of amateur sport and active recreation in the city of Edmonton for the year 2000. The project lasted approximately twelve months from initial outset to completion. This report outlines the nature of the analysis, the data sources and methods that were employed, and the findings of the investigation.

Amateur sport and active recreation has been shown to have a wide range of social benefits for participants, spectators, and broader society. The benefits of amateur sport and active recreation for participants include improved health and sense of wellbeing. In addition, society benefits from reduced incidence of crime and other social problems, and it has been claimed that sport can result in increased local and national pride felt by a community in which a successful athlete or team resides. Furthermore, sport can benefit a community through hosting major events. These require considerable volunteer labour, and also promote the host community to a broader audience.

However, until recently, neither the internal economy of amateur sport and active recreation nor its contribution to national or local economies has been investigated to any great degree. In the 1980s in Europe, as the public sector limited resources it devoted to sport, economic impact surveys were conducted as a means of ensuring that the voice of sport was heard during the public budgetary decision-making process (Jones, 1989). These studies attempted to quantify the economic inputs, outputs, and flows that resulted from sport. More recently, Andreff, Bourg, Halba, and Nys (1995) conducted a follow-up study on the economic significance of sport in Europe. The purpose of these studies was to generate some measure of the size of the sport sector as a part of the regional or national economy. These types of study present a static picture of the share of the sports sector in the economy in terms of expenditures, production, income, and employment (Kesenne, 1999).

Drawing on the experience of previous researchers, who have attempted to evaluate the relative importance of sport in a particular country or region, the purpose of this investigation is to generate a picture of the importance of the amateur sport and active recreation sector for the Edmonton economy. The definition of Edmonton in this investigation is limited to initial expenditures that occur within the city of Edmonton. Thus, the analysis does not include the considerable impact of initial spending in the municipalities that surround Edmonton².

It is important to differentiate between the macroeconomic significance and the economic impact of an activity. The latter aims to determine the level of economic activity that

² Economic Development Edmonton's economic model, developed by the Conference Board of Canada, was used to determine the direct, indirect and induced impacts of the initial spending only reports the effects on the Census Metropolitan Area (CMA).

occurs as a direct result of a particular event, or series of events. The former attempts to determine the level of economic activity that is generated by the sector (in this case amateur sport and active recreation). Thus, the aim of this investigation is to present a static picture of the share of the amateur sport and active recreation sector in the overall municipal economy in terms of expenditure, production, income, employment etc. A macroeconomic significance study does not attempt to determine the net benefits associated with a particular industry, nor does it aim to distinguish between costs and benefits of particular projects. Instead, the first part of this investigation is more interested in the level of economic activity and the money flows that amateur sport and active recreation create in the city of Edmonton's economy. A crucial distinction between an economic significance study and an economic impact study is that the former does not attempt to determine what would happen if the amateur sport and active recreation sector of the economy were to disappear altogether. Instead, the purpose is to calculate the 'amateur sport and active recreation gross municipal product' within a particular area for a specified year (in this case the city of Edmonton in 2000). The second part of the study provides an assessment of the various economic impacts associated with the initial expenditure figures determined in the first stage of the analysis.

The remainder of this document provides first a review of the scope of the study and terms of reference. This is followed by an outline of the overall approach that was adopted in determining the economic significance of amateur sport and active recreation in the city of Edmonton in the year 2000. The specific data collection and analysis methods that were used are then highlighted (including sampling of households and amateur sport groups). Also highlighted in the report is the variety of data sources that were employed for the study. The means of analysis and a report of the findings and results are then presented. This is followed by a brief outline of the limitations associated with interpreting the study's results. The conclusion places the results in the wider context of Edmonton's overall economy. Finally, a means of estimating the projected future impact of small-scale amateur sporting events is outlined as an appendix.

Scope of the Study and Report

The scope of the study of the economic significance of amateur sport and active recreation was defined as follows:

- To research and identify the contribution to the city of Edmonton's economy of amateur sport and active recreation. This includes private (household) consumption, public (government) consumption, investment, and a measure of 'net exports' (amateur sport and active recreation-related injections into the Edmonton economy by those who do not reside in the city).
- To determine a method for evaluating the potential economic impact to the city of Edmonton of hosting international, national or provincial events (i.e. events that are not currently held in the city).
- The definition of amateur sport and active recreation used in this study was as follows:
“Sport and active recreation involves participants who execute skills that require practice or preparation; it involves competition with other participants, oneself, or nature; and it occurs in a structured environment.”
- The definition of “Edmonton” that is used in the study is “The city of Edmonton”. With the exception of the spill over effects of initial expenditures made in the city of Edmonton, this does not include other municipalities in the “Census Metropolitan Area” (CMA).

The features of the study include the following elements:

- Evaluation of the economic significance to the city of Edmonton of hosting day-to-day amateur sport and active recreation, and tournaments or other special events.
- Evaluation of the return on investment to the Edmonton community resulting from City of Edmonton funding that is directed toward amateur sport and active recreation.

This study was conducted in conjunction with two other investigations, whose objectives were to assess the need for, and potential economic impact of, a multiple sport and recreation venue. The results of these three studies will provide an assessment of the potential economic impact to the city of Edmonton of hosting international, national, and provincial events on either a 'one-off' or a continuing basis. Furthermore, they will provide an assessment of what Edmonton is losing by not having sufficient facilities, resources, and event organizers for league play, training, and tournaments in a variety of sports. Finally, a comparison will be made between Edmonton and other 'competing' cities in terms of the City of Champions' ability to generate economic activity from amateur sport. The results of these latter two studies are due to be completed in the fall of 2001.

The Organization of Amateur Sport and Active Recreation in Edmonton

In order to ensure that all levels of amateur sport and active recreation activity were accounted for in the analysis of their contribution to Edmonton’s economy, it was important to identify the manner in which these services are delivered. As is the case with other municipalities in Canada, the roles played by various levels of government have a strong influence on the manner in which amateur sport and active recreation programming are delivered in the city of Edmonton. In fact, as Burton (1982) suggested, responsibility for leisure services is divided among four sectors of society. These are the public (or government) sector, the private sector, the voluntary sector, and the commercial sector. These elements of the amateur sport and active recreation economy are illustrated in Table 1.

Table 1 Provision of Amateur Sport and Active Recreation in Edmonton

Sector	Examples
Public (Government)	Federal (funding for major facilities and events) Provincial (direct granting agencies, support for provincial sport associations, lottery funding administration, etc.) Municipal (operation and maintenance of local facilities, amateur sport and active recreation programming, etc.) Public educational institutions [secondary school, college, university] (programming and facility provision)
Private (Privately held groups providing services to members)	Private golf clubs Corporate fitness clubs Private schools
Voluntary (Non-government agencies providing services to the public)	Provincial sport associations Local amateur sport associations Youth groups Church groups
Commercial (Businesses offering goods and services in the market economy)	Retail sporting goods stores Commercial facility provision (e.g. rinks, golf dome, etc.) Accommodation and food services provided to those participating in amateur sporting events Manufacturers of sporting goods

The methodology described in the next section indicates how the various elements of the amateur sport and active recreation economy in the city of Edmonton were accounted for in the analysis.

Methods

In macroeconomic national accounting, three approaches are generally used to calculate the size of an economy (i.e., the amount of economic activity that occurs in a given timeframe). These approaches involve adding either expenditure, or production (output), or income. Each method can be shown to yield the same results (assuming accuracy of data collection methods). However, given that amateur sport and active recreation are not clearly defined in national or provincial accounts, and the fact that municipal data are not generally collected, it was necessary to generate some primary data to determine the contribution of amateur sport and active recreation to Edmonton's economy.

In order to determine a figure for the economic significance of amateur sport and active recreation in Edmonton, it was necessary to generate data from a number of sources. It has been shown that the most appropriate means of determining the significance of a particular sector in the economy is through the expenditure method (Meyer & Ahlert, 1998). The reasons for this are twofold. First, it has been shown in previous macroeconomic studies of sport's contribution to an economy that household consumption and government spending tend to be the most important final expenditure categories. Second, the expenditure method allows for the development of a household survey that focuses on consumption directly related to amateur sport and active recreation.

The expenditure method entails summing the following components of spending: private household consumption, public expenditure, private investment, and balance of trade. Of these components, it has been argued that in measuring the sport economy, household consumption and public expenditures are the most important final expenditures (Jones, 1989; Andreff et al., 1997). For example, a study in Flanders (Belgium) indicated a share of approximately 70% for household consumption and 25% for public expenditures (Kesenne et al., 1987). Data on household consumption and public expenditure on amateur sport and active recreation are also more readily available than private investment and trade balance figures.

Since the purpose of this investigation was to generate as complete a picture as possible of expenditures related to amateur sport and active recreation in the city of Edmonton, it included active participation, physical education and school sport, as well as spectator and officiating spending for amateur sport. Figures on private investment were obtained at the local level via an investigation of private providers of sport and recreation goods and services. Figures for the 'balance of trade' were more difficult to obtain, particularly at the local level. However, with additional information provided from the household expenditure survey and from surveys of Edmonton-based user groups and interviews with key representatives of the commercial sector, it is argued that a reasonable estimate of the value of amateur sport and active recreation 'exports' from the Edmonton economy has been obtained. Furthermore, it was possible to estimate the actual contribution that the initial expenditures made to Edmonton's economic output by employing a model of the local economy that has been developed to determine the output effects of spending. The nature of this model is outlined in this section of the report. The following elements of

this section of the report provide some detail of the manner in which estimates of the magnitude of various elements of Edmonton's amateur sport and active recreation economy for the year 2000 were derived.

Private Household Consumption

The data on private consumption in Edmonton were collected through a survey of a representative sample of Edmonton households. Information relating to demographic profile, participating profile, and expenditures of these households was collected. The definition of amateur sport and active recreation used in this survey was as follows:

“Sport and active recreation involves participants who execute skills that require practice or preparation; it involves competition with other participants, oneself, or nature; and it occurs in a structured environment”.

Participants were taken to include athletes, coaches, and officials. It should also be stressed that the spending questions did not refer to money spent by spectators or participants of major professional sports teams in the city. Thus, the survey related specifically to the impact of spending on amateur sport and active recreation participation.

Data on private household consumption of amateur sport and active recreation in Edmonton were collected through a telephone survey of a representative group of Edmonton households. A total of 401 Edmonton households were contacted by telephone during the fall of 2000 and asked a series of standardized questions regarding, among other items, their participation in and annual spending on amateur sport and active recreation.

The target population designated for the telephone interviewing was all persons 18 years of age or older who, at the time of the survey, were living in a dwelling unit in Edmonton that could be contacted by direct dialling. A random digit dialling approach was used to ensure that respondents had an equal chance to be contacted, whether or not their household was listed in the telephone directory. Within the household, one eligible person was selected as the respondent for the interview, which lasted approximately twenty minutes. Of the 401 survey respondents, 201 (50.1%) were male and 200 (49.9%) were female.

The survey instrument consisted of three components: a standardized introduction, questions reflecting specific interests of various researchers (one of these areas was the economic significance of amateur sport and active recreation in Edmonton), and demographic questions. The questionnaire was pre-tested by trained interviewers on 30 randomly selected Edmonton households. All questions and survey instructions were reviewed and approved by an independent ethics committee before administration to the general public.

The interviewing began on October 11, 2000 and was completed on November 9, 2000. Interviews were conducted throughout the week (Mondays to Sundays). If interviewers

were unable to establish contact on their first call, a minimum of fifteen ‘call-back’ attempts were made before the number was declared as “no contact”. Prior to administering the survey, the interviewer informed the respondents that their participation was voluntary, that responses would remain confidential, and that they could terminate the interview at any time. Ten percent of the respondents were re-contacted by survey supervisors for validation purposes.

The overall response rate for the survey was 53%. This is the percentage representing the number who participated in the survey divided by the number selected in the sample. The latter figure includes completed interviews, incomplete interviews, refusals, language problems, those who were unavailable at a verified residential number and an estimate of the number of eligible numbers out of the numbers that were dialled up to 15 times but no contact was made.

The sampling error, a measure of the validity of the descriptive statistics that are observed in the sample, at the 95% level for an area sample of 400 households is plus or minus 5.0 percentage points. In other words, the results are considered accurate to within plus or minus 5% nineteen times out of twenty. The sample is considered representative of the larger population from which it is selected (i.e., Edmonton households). A comparison between the sample’s age distributions and the Statistics Canada 1996 Census Age Profile in Alberta shows an ‘index of dissimilarity’ of 5.55³. A difference of 10 or less indicates that there is a similar distribution within the age samples, with a variation of less than 10 per cent overall.

A household is defined as “one person who usually lives alone, or two or more persons (who may be related) who usually live together in the same dwelling”. The total number of people living together in the same residence is considered to be the household. In total, the survey questioned the spending habits of 1090 Edmonton residents, with a mean of 2.72 members per household (standard deviation = 1.45)

For respondents that indicated no participation in amateur sport and active recreation, no further questions were asked regarding spending patterns etc. This may have had the effect of slightly underestimating the overall spending impact of amateur sport and active recreation. This is because non-participants may still have spent money related to amateur sport and active recreation – for example in purchasing equipment that was not used, or attending events as spectators, or socializing with event participants on completion of an event, etc.

Questions on amateur sport and active recreation spending were based on a number of previous studies of sports consumption (e.g., Rigg & Lewney, 1987; Jones, 1989). Major expenditure categories included: membership fees, training costs, equipment costs, physical education or school/college sport costs, travel costs, socializing costs, spectator costs, and other indirect spending on amateur sport and active recreation (e.g. medical,

³ The index (which can vary from 0 to 100) shows the proportion of households that would have to move to a different category to make the distributions identical. Any index lower than 10 indicates that the distributions are similar.

health, etc.). In order to ascertain whether some of this expenditure was offset by income derived from amateur sport and recreation participation, respondents were asked whether their household derived any income from amateur sport or active recreation participation. Items not included as part of Edmonton's amateur sport and active recreation economy in the survey included spending on newspapers, magazines and books related to sports, and gambling. As indicated earlier, spectator (or other) spending related to professional sport was not included.

These categories may differ from other methods that have been used to estimate the economic significance of sport in Canada or Alberta. Thus, direct comparisons between the results obtained from this survey and those reported elsewhere may not be appropriate.

The total average Edmonton household expenditure on amateur sport and active recreation was then determined by adding the means for all the expenditure categories. If a respondent indicated that they did not know how much they spent on a particular category, it was assumed that they spent the mean of those who did indicate an amount. A net expenditure figure was determined by taking the gross figure (outlined above) and subtracting any income derived from amateur sport and active recreation.

The overall net Edmonton resident expenditure on amateur sport and active recreation was estimated by multiplying the average household expenditure by the estimated number of households. The latter figure was derived by taking the latest (1999) Edmonton census figure for the city's population (648,242) and dividing by the number of members of each household (2.72). Thus it is estimated from these data that there are 238,497 households in Edmonton with an average size of 2.72 residents per household.

To arrive at an estimate for the significance of household spending on the Edmonton economy, it was necessary to determine the proportion of expenditures on (and income from) amateur sport and active recreation that were made within the city. Respondents were asked the percentage of spending (income) that was made in the city, as opposed to elsewhere. The mean response to this question was multiplied by the net expenditure (and income) figure to determine the estimated net household spending impact on the Edmonton economy.

Public Expenditure

Public expenditure is the net expenditure of all levels of government including federal, provincial, and municipal. Another element of public spending, not accounted for by the three levels of government directly, is the public education system. In order to capture the spending that occurs within the school and post-secondary institution system, contact was made with representatives of the school boards and the publicly funded post-secondary institutions. Although public responsibility for providing amateur sport and active recreation services has been downloaded largely to the provincial and municipal governments in recent years, the preparations for two international events occurring in Edmonton in 2001 had resulted in government infrastructure support in 2000. In order to avoid double counting of public spending and household consumption, the net

government expenditure is calculated by subtracting government revenues from amateur sport and active recreation (primarily in the form of user-fees) from total government spending. Public investment expenditures were included as a part of public spending in this analysis: this includes both depreciation and new capital spending. The manner in which data were collected for each of the elements of public spending identified here is outlined below.

Preparatory Spending on Major Events

In the year under consideration (2000), some federal (in addition to provincial, municipal, and corporate) funding of sport facilities was injected into the Edmonton economy. This is because the city was preparing to host two major events in 2001, which attracted federal support. These events were the IAAF World Championships in Athletics and the ITU World Triathlon Championships. While these events both actually took place in 2001, the host organizing committees made some preparatory spending in the year 2000. While not all of this spending would have been directly funded from government sources, the organizing expenditures in that year have been categorized as an element of government spending. This is because the spending that was incurred in 2000 would not have been made without considerable federal, provincial and municipal government support of the hosting of the two events and because it is not accounted for elsewhere in the analysis.

With the exception of spending on these two events, it is assumed that only the provincial and municipal governments will have relevant spending that will impact on the Edmonton economy. Suffice it to say that by excluding any other federal spending on amateur sport and active recreation in the Edmonton economy, there is likely to be an underestimation of the real level of public spending. For example, federal funding of amateur sport and active recreation facilities at Edmonton's Department of National Defence establishments has not been accounted for in this analysis.

Provincial Government Spending

Alberta's provincial government plays a number of roles in the delivery of amateur sport and active recreation services and programming in the city of Edmonton. Following discussions with key individuals within the provincial government department responsible for sport, Alberta Community Development, the following elements of provincial spending were identified.

a) Alberta Community Development Departmental Spending

The department, whose responsibilities are wide reaching, has approximately 600 employees in total. The division of the department that deals with amateur sport and active recreation programming and support is the 'Sport and Recreation Branch'. This branch employed a total of 41 individuals in 2000, with 37 of these employees being based in Edmonton. Of these 37 Edmonton-based employees, 18 dealt specifically with sport programming. In order to determine the contribution made by Alberta Community Development to the Edmonton amateur sport and active recreation economy, the total salary budget for the department's 600 employees was multiplied by the proportion of

staff that is employed in Edmonton and whose responsibilities specifically include sport (i.e. 18/600). Other direct contributions made by Alberta Community Development (for example, funding made available through the Alberta Sport, Recreation, Parks and Wildlife Foundation) were accounted for elsewhere in the analysis. While costs other than those associated with staffing are attributable to Alberta Community Development, it was not possible to determine the magnitude of this level of departmental support. Thus the overall Alberta Community Development contribution to the amateur sport and active recreation economy of Edmonton is likely to have been slightly underestimated.

b) Alberta Sport, Recreation, Parks and Wildlife (ASRPW) Foundation

In addition to direct departmental funding of amateur sport and active recreation, the Alberta Government has established the Alberta Sport, Recreation, Parks and Wildlife Foundation. The ASRPW Foundation is a non-profit Crown Corporation with the mandate to facilitate and enhance activities, lifestyles and legacies through the development of active partnerships in sport, recreation, parks and wildlife programs. The Foundation works with partners to enhance communities through sport, recreation, parks and wildlife programs, through partnerships with Alberta Community Development, provincial sport and recreation associations, and municipalities. The Foundation provides direct funding to a number of programs that operate in the city of Edmonton on an annual basis. These programs include support to a total of 65 provincial sport associations based at the Percy Page Centre, provision for provincial and inter-provincial games teams, and coaching assistance. The fact that many of the provincial associations are based in Edmonton contributes to the local economy in terms of staffing expenses. Discussions with Alberta Community Development staff responsible for support of provincial sport associations revealed an estimate for the spending that occurred in Edmonton in 2000. In addition, the proportion of programming that is delivered in Edmonton was accounted for through taking the overall provincial association budget figures and allocating a proportion to Edmonton on a per capita basis. Given that a number of clinics for coaching and officiating are hosted in Edmonton, this is likely to be an underestimate of the overall contribution that these programmes make to Edmonton's economy. Finally, two specific programmes of the ASRPW foundation directed funding directly to Edmonton amateur sport groups or individuals. These were the Development Initiatives Program (DIP) and the Quarterly Grant Program. It was possible to determine the precise amount of these grants made to Edmonton groups or individuals.

c) Other Provincial Government Agency Grants

In addition to ASRPW funding of programmes and other initiatives, various grants were made by government agencies to Edmonton-based amateur sport and active recreation groups. These funds are administered through various agencies. Of relevance for Edmonton's amateur sport and active recreation economy are two specific agencies: the Community Lottery Board and the Community Facility Enhancement Program. The Community Lottery Board (CLB) grant program uses lottery fund revenue to support community initiatives addressing local and regional priorities. The total amount of CLB grants made to Edmonton amateur sport and active recreation groups in 2000 was determined from examining the list of grant recipients for the year in the city of Edmonton region and identifying those projects that were of an amateur sport or active recreation nature. The Community Facility Enhancement Program (CFEP) provides

financial assistance for the expansion and upgrading of Alberta's network of community use facilities. The program provides matching grants to municipalities, Indian Bands and Metis Settlements, and registered community non-profit groups to build, purchase, repair, renovate, or otherwise improve related family and community wellness facilities. The total contribution of CFEP grants in the city of Edmonton in 2000 was determined from searching the database of grant recipients available on the Alberta Gaming and Liquor Commission's web-site (www.gaming.gov.ab.ca) and identifying those recipients whose projects related to amateur sport and active recreation.

d) Direct Funding of Sport Groups via Lotteries and Gaming

The final element of provincial funding of Edmonton's amateur sport and active recreation economy that was included in the study was the revenues of Edmonton amateur sport and active recreation groups from casino, bingo, raffle and pull-tab operations. A letter was sent to a representative of the Alberta Gaming and Liquor Commission in which the nature of this study was outlined. A request was made for an overall total for the bingo, raffle, pull-tab and casino funds that were directed toward Edmonton amateur sport and active recreation groups in 2000. The Commission provided figures that outlined the total disbursements made in 2000 to Edmonton-based amateur sport and active recreation groups.

Municipal Government (City of Edmonton)

Data on government spending at the municipal level were collected directly from the City of Edmonton. Representatives of the City of Edmonton's Department of Community Services (which is responsible for amateur sport and recreation programming and facilities) were contacted with a detailed request outlining the type of spending information that was required for the study. Details of the following information were requested: total expenditures for recreation facilities, management and bookings, sports field / track facilities, parkland services (amateur sport and active recreation-related only).

The financial information provided as a result included direct administration areas that are part of the operating budget for various facilities, as was, for example, 'Recreation Facilities' branch management and business development. However, because of an inability to attribute certain expenditures directly to amateur sport and active recreation, service area support, such as 'Strategic Services' and financial costs, were excluded. In addition, since the City of Edmonton supports a 'Shared Services Model' approach to administration, the expenditure amounts also excluded legal costs, accounting, payroll, human resources and 'Information Technology'.

Expenditures on some programs that are run under the auspices of the Community Services Department within the City of Edmonton were deemed to be outside the scope of this study and were therefore excluded. For example, recreation programs and playground programs did not fit with the definition of amateur sport and active recreation underlying the analysis. Similarly, expenditures made by the Parkland Services branch of the Community Services Department were only included if they were directly attributable to sports fields (e.g., line marking, tennis courts, baseball diamond maintenance, etc.)

The majority of capital expenditure for Parkland Services was excluded, with the exception of specific projects and facilities that were identified as team sports related (e.g., sports fields and the West Soccer Complex).

In order to avoid double counting of user fees and provincial grants, these were deducted from any municipal expenditure items. This is because these 'revenues' to the City of Edmonton have already been accounted for elsewhere in the analysis. For example, user-fees are paid by members of Edmonton households and would therefore have been reported as a household expenditure item in the survey administered to Edmonton residents. Non-residents of Edmonton will have paid a small proportion of user-fees, which would not be accounted for by deducting all user-fee revenues. Therefore, there is likely to be a slight underestimate of the overall contribution of municipal government spending on Edmonton's amateur sport and active recreation economy.

In addition to municipal funding of facilities, some support is provided to local amateur sport and active recreation groups through the Community Investment, Travel and Hosting Grants. The total value of these grants in 2000 was ascertained from the coordinator of the programs. In addition to these contributions, at least three City employees provide support for amateur sport and active recreation groups. The direct and indirect salary costs to the City are also accounted for in the results. Finally, the City provided an operating grant to the Edmonton Sport Council to assist with funding its operations. The overall City of Edmonton expenditures on this sector of the economy was the sum of the City's net expenditures on facilities, programming, staffing, and grants to various amateur sport and active recreation groups.

Secondary and Post-Secondary Education System

A fourth element of 'public' spending on amateur sport and active recreation is that undertaken by the education system. In order to develop an estimate of this element of public spending, representatives of each school system in Edmonton (Public and Catholic) were approached to determine investments on gymnasiums and salaries of physical education teachers. Given that maintenance costs of gymnasiums were not available separately, this element of spending was estimated as a proportion of overall operating costs for the school boards. This approach is similar to the one adopted by the Henley Centre for Forecasting (1986) in its study of the 'Economic Impact and Importance of Sport in the UK'.

The salary component of both Edmonton Public School Board and Edmonton Catholic School Board teachers that was directed toward amateur sport and active recreation was determined as follows. The overall salary budget for each school board was determined and multiplied by 3.125% in order to estimate the proportion of teachers' time taken up with amateur sport and active recreation. This latter proportion (3.125%) was determined as follows. It was estimated that approximately 25% of staff are involved in amateur sport and active recreation programs to some degree. The extent of involvement is estimated to be one hour per eight-hour day (i.e., 12.5% of each day).

The operation and maintenance component of the school boards' budget that is directed toward amateur sport and active recreation facilities is estimated at 3% of all capital spending. The previously mentioned Henley Centre study estimated that 5% of capital spending in schools would go toward sport facilities. The lower figure taken here is to account for joint use of City of Edmonton owned facilities by school users.

The direct amateur sport-programming component of school board budgets was estimated as follows. A comprehensive study of the financial components of High School athletics programming in Edmonton was conducted in 1991 (Mooney, 1992). That study estimated that a total of \$95.78 was spent per student on inter-school amateur sport programming. To account for cost increases in the intervening nine years, a conservative inflation figure of 3% was assigned to this figure. This figure included student levied user-fees. In order to avoid double counting of previously reported household expenditures, these had to be deducted. A participation rate of 20% was assumed, yielding a total estimated participant base of 8,000. For Junior High School sport, an estimated average of 150 students per school was estimated to participate across 70 schools, yielding a participation base of 10,500. An operation cost of \$3.00 per student was estimated, with additional costs borne by each school of \$2,000 for officials, transportation, equipment, uniforms, and other sport programming costs.

There are also a number of post-secondary educational institutions in Edmonton that play a significant role in the delivery of amateur sport and active recreation. Representatives of these institutions were approached to determine their annual spending (net of user-derived revenues) on amateur sport and active recreation programming. The institutions approached included the University of Alberta, Concordia University College, King's University, Grant MacEwan Community College, and Northern Alberta Institute of Technology.

The Athletic Director of each institution was contacted and asked for an estimate for 2000 of the following expenditures:

- 'Facility operations' (gymnasium, fitness centre, fields, ice arena, etc.);
- 'Utilities' related to amateur sport and recreation facilities; and
- 'Athletics and recreation' programming (including coaching, administration, travel, recreation instruction, etc.)

Certain revenues that partially offset these expenditures have been accounted for elsewhere in the analysis (i.e., the household survey). These revenues include student athletic fees, user-fees, recreational instruction fees, sports camp fees, spectator fees and concession revenues. These revenues were therefore deducted from the expenditure figures to provide a net contribution for each of the institutions to Edmonton's amateur sport and active recreation economy. It should be noted that the analysis did not include academic programming costs (e.g., salaries of instructors, classroom costs, overhead, etc.) of physical education departments. This is because some such programming would fall outside the definition of amateur sport and active recreation employed in this study. The overall contribution of the post-secondary institutions to the amateur sport and active recreation economy is the sum of the individual institutions' contributions.

Private Investment

The level of private investment in amateur sport and active recreation in Edmonton was estimated by considering the major investment projects that occurred in this sector in Edmonton in the year 2000. Unfortunately, it was not possible to estimate the value of small-scale investment conducted by businesses or clubs operating in the amateur sport and active recreation sector. One means of doing this was considered, but rejected as it was felt to be a possible source of double counting of other expenditure data included in this study. This source of investment data was the contribution required of individual amateur sport and active recreation groups in order to be eligible for Capital Facility Enhancement Program grant funding (see above). Sport groups in receipt of CFEP funding must include a budget that shows a minimum contribution of 50% of overall costs of a capital project. However, this can include volunteer time or materials. These are not included in this analysis, as they generally are not accounted for in macroeconomic studies that attempt to measure a region's output level. The figure for private investment also does not include the contributions in the form of donations or sponsorships made by the local corporate community to local amateur sport and active recreation groups. A reliable estimate of this figure could not be obtained. Thus, in order that the estimates of private investment were to remain conservative, the only spending included in this category was that attributable to major investment projects of over \$2 million. For projects that lasted more than one year, but whose time span included the year 2000, a simple average of investment per year was assumed with the relevant amount being included as part of the year 2000 figure for investment.

The resulting estimate for private investment in this study is extremely conservative in nature. However, this element of the overall amateur sport and active recreation economy is not likely to be substantial, particularly when compared with government spending (including public investment) and household consumption. In most previous studies of the economic significance of sport, it has been found that the private investment component of spending has been a relatively small contribution to the overall total. For example, a 1990 study of the economic impact of recreation in Ontario reported that investment (including government investment) accounted for approximately 8% of all spending. A recent study of the economic significance of sport in Flanders (Belgium) reported that private investment accounted for only \$38 million of a total of \$4,314 million (less than 1%) of the total. Government investment is likely to far outweigh private investment in sport facilities. In the present study, government investment has been accounted for as part of overall government spending.

Balance of Trade

In order to make a final estimate of the value of Edmonton's amateur sport and active recreation economy, it was necessary to consider spending flows that left or entered the city in the form of imports and exports respectively. The total value of imports (or spending flowing from the economy) must be subtracted from the total value of exports (or injections into the economy) to determine the balance of trade. Thus, if exports exceed imports, the balance of trade is a measure of the net contribution to the local

economy of non-residents (after subtracting the spending of residents that was made outside the local economy).

In order to estimate the balance of trade for Edmonton's amateur sport and active recreation economy, a number of steps were taken. The method used to obtain estimates for both the import and export components of Edmonton's amateur sport and active recreation economy was as follows.

Imports made by Edmonton households (direct spending)

An estimate of the value of imports made by Edmonton households was made in the survey of Edmonton residents (described above). Each respondent was asked the proportion of overall spending that he or she reported that was made outside the city of Edmonton. This is the 'import' component of household spending for each household. The total 'import' component of all household spending was estimated by multiplying the mean (average) proportion of spending spent by each household by the mean (average) household expenditures on amateur sport and active recreation. This figure represents the total value of amateur sport and active recreation goods and services purchased by Edmonton residents in 2000 outside the city.

Imports resulting from initial spending made in Edmonton

For some elements of initial spending made in Edmonton, there could still be an import component (or leakage from the local economy). Although the economic base in Edmonton is quite diverse, a number of goods that are sold in the city by local merchants to local residents are not actually manufactured in Edmonton. Consider, for example, the case of someone purchasing a pair of running shoes that are made elsewhere from an Edmonton retailer for \$120. The retailer may have paid the Canadian distributor (based outside Edmonton) of the shoes a wholesale-price of \$60. Thus the contribution to the Edmonton economy is actually \$60 (i.e., the retail margin), with the other \$60 representing a 'leakage' or 'import'.

In order to account for these leakages from the Edmonton economy, the figures obtained from the remainder of the analysis (as described in the previous pages) were entered into a model of the Edmonton economy. This model (made available by Economic Development Edmonton) has been developed by the Conference Board of Canada to enable local agencies to determine the projected impact of certain projects and industries to economic activity in the area specified in the model. By running the initial spending estimates for the entire Edmonton amateur sport and active recreation economy through the model, it was possible to determine the 'direct' impact of these expenditures on the Edmonton economy as a whole. As is described below in more detail, the model also allows for an estimate of the 'indirect' and 'induced' impact of the initial expenditures to provide an overall estimate of the impact of that spending on economic activity in Edmonton. Since the estimates for leakages are inextricably linked with the input-output model results, they cannot be reported separately as 'imports'. However, by employing this model, the actual GDP effect of all initial spending in the Edmonton economy can be

determined. The method by which this is accomplished is explained in more detail in the section entitled 'Model for Determining Direct, Indirect, and Induced Impacts' (below).

Retail Trade Exports

It should also be noted that non-residents of Edmonton spend money in the city's amateur sport and active recreation economy. A major component of such spending is in the retail sector. The following method was employed to estimate the value of 'exports' for Edmonton's sporting goods retail sector.

The most recent (1999) estimate of the total value of the Canadian retail sporting goods industry was obtained from Statistics Canada sources. Discussions with Edmonton retailers indicated that the province of Alberta accounts for between 12 and 15% of the Canadian market. So as not to overestimate the value of the provincial market for sporting goods, a conservative estimate of 9% was assumed. It is estimated that 55% of these sales are made north of Red Deer, with Edmonton accounting for approximately 65% of the Northern Alberta market for sporting goods. This process yielded a conservative estimate of the total retail sporting goods industry in Edmonton. In order to estimate the export component of the industry, the amount accounted for by Edmonton households (as indicated by the household survey) had to be deducted. In addition, it was necessary to adjust the total retail export figures to avoid double counting of some spending made by visitors who attended amateur sport and active recreation events in the city (see below). The remaining amount was the estimated value of exports of sporting goods at the retail sales level in Edmonton for 2000.

Visitor Spending (Sport Tourism Exports)

The final component of the balance of trade that was accounted for in the analysis was the value of exports resulting from visitor spending in Edmonton. In order to generate meaningful estimates for the 'exports' of the Edmonton amateur sport and active recreation economy, a cross-section of amateur sport groups in the city were surveyed to estimate the number of tournaments that were hosted within the city in the year 2000. This survey of amateur sport groups sought to assess the number of out-of-town visitors who came to Edmonton for the purpose of competing or practising in organized amateur sport activities. The survey tool is reproduced in Appendix B.

The survey was initially sent to an identified representative of some 279 amateur sport-groups. The amateur sport groups were selected as follows. The Edmonton Sport Council made a comprehensive database of Edmonton amateur sport groups available for the specific purpose of identifying suitable recipients of the survey. All Edmonton amateur sport groups in the database that participate in diamond and rectangular field sports were contacted (in part because these groups were also contacted for the analysis of a needs assessment that was being conducted in conjunction with this investigation). In addition to these groups, other provincial and citywide umbrella groups representing other amateur sports were contacted. The rationale for selection of these groups was that they were more likely to be aware of (and involved in the organization of) events and

tournaments in Edmonton than were individual clubs. For amateur sports where no such umbrella group existed, individual clubs were contacted.

The first form of contact was by e-mail (for those groups for which a valid address could be found). For other amateur sport-groups, representatives were contacted by fax, mail, or telephone. If no response resulted within two weeks, a follow-up contact was made by e-mail (or telephone). A further follow-up call was made to those groups that had not responded within six weeks of the initial contact. Of the 279 surveys that were sent out, a total of 101 were completed and returned (a response rate of 36.2%).

While the number of groups responding represents about one quarter of the estimated 400 amateur sport groups operating in the city of Edmonton, the sample is by no means a random one. Therefore, it would be erroneous to multiply the estimates of visitors by the mean number per group to yield an estimate for all Edmonton amateur sport groups. Instead, those groups that were contacted were ones that were most likely to have hosted events for large numbers of participants in Edmonton. The visitor estimates resulting from the survey can be fully justified as an absolute minimum number of visitor nights attributable to the hosting of amateur sports events in Edmonton in 2000.

This approach is similar to the one adopted by Sailor, Smale, and Donovan-Neale (1993) in their analysis of the local economic impact of public recreation in the city of Burlington. While it does not account for all events that were hosted in Edmonton in 2000, and therefore does not cover the full extent of amateur sport and active recreation tourism generated in that year, the survey illustrates the large contribution that this aspect of tournament hosting makes to the Edmonton amateur sport and active recreation economy.

The expenditures made in Edmonton by these amateur sport tourists were estimated from data supplied by Economic Development Edmonton, based on extensive experience in the estimation of visitor spending in the city. The spending estimates erred on the conservative side. For example, it was assumed that visitors under the age of eighteen did not incur any accommodation costs.

Economic Significance

Based on these data, an estimate of the total significance of amateur sport and active recreation in Edmonton can be made. This figure is essentially the 'gross municipal amateur sport and active recreation product' of the city of Edmonton. This is a measure of the actual (as opposed to potential) initial spending contribution of amateur sport and active recreation to Edmonton's economy in 2000. The following equation summarizes the manner in which the economic significance of amateur sport and active recreation in Edmonton in 2000 was determined.

$$C + G + I + (X - M) = \text{GMSP}$$

Where:

C = Household Consumption;

G = Government spending (including investment);

I = Private investment;

X = Exports;

M = Imports; and

GMSP = 'Gross Municipal Amateur Sport and Active Recreation Product'

As is indicated above, it is not possible to determine the 'import' or 'leakage' effect of initial spending without subjecting the raw data to the input-output model of Edmonton's economy. Therefore, the 'Gross Municipal Amateur Sport and Active Recreation Product' will only account for imports in the retail sector (as determined by the household spending survey). However, the overall effect of leakages is accounted for in considering the direct, indirect and induced impacts of the initial expenditures (see below).

Gross Domestic Product, Wage, and Employment Impacts

The overall economic stimulus created by initial spending comprises of autonomous (or 'direct') impacts and secondary (or 'indirect' and 'induced') impacts on economic activity. These data can be used to estimate the value added (or gross domestic product) by the industry under analysis. In addition, it is possible to estimate the effect of this increased activity on wages, salaries and employment levels in the economy. These terms are briefly explained below.

Direct Impact

The direct economic impact of spending comprises the effect of transactions that are directly related to the amateur sport and active recreation sector. These include the various expenditure categories outlined above for household consumption, government spending, private investment, and balance of trade.

In order to establish the effect of these initial expenditures on economic output, it must be assumed that the spending made on amateur sport and active recreation represent an autonomous injection of spending into the economy. In other words, it is assumed that these expenditures would not have been made in the community in the absence of an amateur sport and recreation sector in the local economy. This is clearly a simplification of the true situation in that some of the expenditures would be made in other sectors of the economy. However, this assumption must be made in order to infer the indirect and induced effects of the initial spending.

It is important to realize that this economic significance statement focuses on the effect that the amateur sport and active recreation sector had on Edmonton's Gross Domestic Product (GDP) in 2000. Given the limited industrial base of the economy of the city of Edmonton, it must be recognized that the total expenditures made by residents, governments, investors, and visitors (even if they were initially made in the city) will not have an equal impact on the GDP of the city. The following example illustrates why this is the case. If an individual spent \$1,000 on sporting equipment and supplies, a large proportion of that spending would effectively be an 'import' into Edmonton's local

economy. This is because the majority of sporting equipment and supplies that are consumed in the city are actually manufactured outside of Edmonton. Such spending on ‘imports’ has little impact on the economic wellbeing of residents of Edmonton (because it represents a net outflow of resources produced within the city). Similarly, a proportion of spending made by visitors from out of Edmonton at retail outlets and on restaurant meals ultimately found its way out of the city’s economy because some of the supplies and goods had to be imported from elsewhere.

The direct impact on Edmonton’s GDP of the initial expenditures in Edmonton’s amateur sport and active recreation sector, therefore, provides a measure of the effect that this spending had on output in the local economy.

Indirect Impacts

Indirect impacts of initial spending measure the subsequent purchases made by suppliers in order to sustain the direct expenditures. The indirect impact of this spending involves the chain of economic transactions that resulted from the direct impacts. Such indirect effects are the ripple effects that occurred when retailers, governments and their service providers purchased inputs from other agents in the local economy. The induced, or re-spending, effects of initial spending occur when agents producing for, or supplying, them hire more staff or pay additional wages. This results in an increase in the incomes of households. After they withdraw a certain portion of this increased income for taxes and savings, these households spend this additional income. In turn, this increases demand for other commodities within the local economy.

Induced Impacts

Induced effects resulting from initial spending emerge when workers in the sectors stimulated by direct and indirect expenditures spend their additional incomes on goods and services in the local economy.

Total Gross Domestic Product (Value Added) Impact

This figure represents the total value of the production of goods and services in the local economy that results from the initial expenditures being analysed (as valued at market prices). In other words, this figure shows the extent to which economic output in Edmonton is affected by amateur sport and recreation activity.

Wage and Salary Impacts

This figure provides an estimate of the income generated for local residents (in the form of wages and salaries) by the initial expenditures in the amateur sport and active recreation economy in Edmonton.

Employment Impacts

This figure provides an estimate of the total employment (as measured in terms of full-time equivalent jobs) effect that is generated by the initial expenditures in Edmonton's amateur sport and active recreation economy.

Model for Determining Direct, Indirect, and Induced Impacts

The impact analysis was completed using the Tourism Economic Assessment Model (TEAM) – a computer model developed by the Canadian Tourism Research Institute, a subsidiary of the Conference Board of Canada. A version of the model is employed by Economic Development Edmonton (EDE) and was made available by that organization for use in this analysis. The model reflects the unique nature of the Edmonton economy, and uses input-output analysis to determine how initial expenditures in one sector of the economy affect the output of all other sectors of the economy.

The data generated on initial expenditures were submitted to EDE. A representative of EDE, with considerable experience in modelling the impact of events and industrial sectors on the local economy, formatted these data so that they could be input into the economic model. By using these data on initial expenditures related to Edmonton's amateur sport and active recreation economy as inputs, the model generated a detailed picture of the manner in which the city of Edmonton's amateur sport and active recreation sector impacts the total economy of Edmonton.

The model is set up to determine the effects of initial expenditures on the Edmonton CMA, rather than the city of Edmonton. Unfortunately, it was not possible to distinguish the results of the direct, indirect, and induced impacts on the city's economy as opposed to the CMA economy. Therefore, although the inputs are derived solely from initial spending made in the city of Edmonton economy, the outputs of the model describe the impacts on the greater Edmonton economy. It is not possible to determine the precise proportion of these impacts that are concentrated within Edmonton. However, it is reasonable to assume that a large proportion of the direct, indirect, and induced impacts was concentrated in the city of Edmonton.

In addition to providing an assessment of the impact that amateur sport and active recreation has on the Edmonton economy, the model also indicates the effect of the initial expenditures on the provincial economy of Alberta. These figures are also reported in the results section.

Value of Volunteer Contributions

Another element of economic activity was estimated in this study. This is the value of volunteer work. While volunteer work is not normally included in defining the economic scope of an activity, its value is significant in the delivery of amateur sport and active recreation programming.

Secondary data were obtained from the Canadian Centre for Philanthropy's National Survey of Giving, Volunteering and Participating (NSGVP) [www.nsgvp.org]. The 2000 NSGVP was conducted as part of the federal government's Voluntary Sector Initiative

(VSI) and provides the most comprehensive assessment of volunteering in Canada. The survey was conducted by Statistics Canada as a supplement to the Labour Force Survey in the last quarter of 2000. It is based on a representative sample of 14,724 Canadians aged 15 and over. Although it is a national survey, data are available for volunteer participation rates in major cities, including Edmonton.

The proportion of adult Edmonton residents who volunteered in 2000 was determined from the survey results. This proportion was applied to the adult population of Edmonton (as determined from the civic census) to yield a total number of Edmonton volunteers. The average number of hours contributed per year for each volunteer in the city was multiplied by this figure to yield an estimate for the total number of hours volunteered by Edmonton residents in 2000. The proportion of this total amount of volunteering devoted to amateur sport and active recreation was determined in two stages. First the proportion of hours spent volunteering in the 'arts, culture, and recreation' category (of which sports is a component) was estimated from NSGVP data. Unfortunately, the NSGVP only provides aggregate data for 'arts, culture, and recreation'. As a result, a simplifying assumption was made that 50% of the total amount of volunteering in this category is directed toward amateur sport and active recreation. Therefore, the total number of volunteer hours devoted by adult Edmontonians toward amateur sport and active recreation could be estimated.

In order to assign a value to these volunteer hours, the methodology suggested by Ross (1997) has been followed. He suggested that the economic value of volunteer labour could be estimated by determining the amount that it would have cost to pay for the same amount of work in the labour market. Ross indicated that the appropriate rate of pay that should be applied to volunteer work is the average hourly wage in community, business, and personal services in the province where the volunteering occurs. Average weekly earnings figures for the service industry in Alberta were obtained from Statistics Canada. The average weekly figure was converted into an hourly figure by dividing the former by 40 (i.e., a 40-hour workweek was assumed). This yielded an imputed hourly wage for volunteering in Alberta in 2000. The value of volunteer work in Edmonton's amateur sport and active recreation economy was estimated by multiplying this imputed wage by the total number of hours of volunteering.

Results

Based on the methodology described above, the following results were obtained. It should be noted that the figures contained in the first part of this section of the report are 'direct spending' figures. The actual effect on Edmonton's GDP has been determined by incorporating these data in the Conference Board of Canada's economic model of Edmonton (made available by Economic Development Edmonton). The results of this analysis are outlined in the latter part of this section of the report.

Private Household Consumption by Edmonton Residents

For each element of household consumption, the survey question that was asked is identified. This is followed by the mean amount of total spending reported by householders. The total amount of spending by Edmonton residents is reported as the mean expenditures multiplied by the total number of households (238,497). This is identified as the 'gross Edmonton expenditure' amount for each category.

In order to determine the proportion of overall expenditures that were incurred in Edmonton (as opposed to outside the city) by Edmonton households, the following question was included on the survey:

“What proportion of total spending on amateur sport and active recreation was made in Edmonton as opposed to outside Edmonton?” (Edmonton is defined as the city of Edmonton, not including surrounding communities)

The mean response was that 82.74% of spending was made within the city of Edmonton. For each spending category, this adjustment factor (0.8274) was applied to the total mean expenditures to yield the net Edmonton expenditures of Edmonton households. This amount is reported as the 'net Edmonton expenditure' for each category.

- Survey question: “How much money did members of your household spend on membership fees in the past 12 months?” (This figure includes membership fees, licences, registration, entrance fees, competition fees, etc.)

Mean (average) response \$406.10 per Edmonton household

Gross Edmonton expenditures = \$96,853,632 (i.e., \$406.10 x 238,497)

Net Edmonton expenditures = \$80,136,694 (i.e., \$406.10 x 238,497 x 0.8274)

- Survey question: “How much money did members of your household spend on training costs in the past 12 months?” (This figure includes fees for lessons, training camps, sport holidays, etc.)

Mean response \$209.17 per Edmonton household

Gross Edmonton expenditures = \$49,886,416

Net Edmonton expenditures = \$41,276,021

- Survey question: “How much money did members of your household spend on equipment costs in the past 12 months?” (This figure includes purchase, rent and maintenance of equipment and clothing etc.)

Mean response \$253.66 per Edmonton household

Gross Edmonton expenditures = \$60,497,148

Net Edmonton expenditures = \$50,055,340

- Survey question: “How much money did members of your household spend on physical education and school/college sport in the past 12 months?” (This figure includes spending at school/college both within and outside the school curriculum)

Mean response \$115.56 per Edmonton household

Gross Edmonton expenditures = \$27,560,712

Net Edmonton expenditures = \$22,803,733

- Survey question: “How much money did members of your household spend on travel to and from sport venues and competitions in the past 12 months?” (This figure includes mileage costs, parking, public transport, etc.)

Mean response \$252.55 per Edmonton household

Gross Edmonton expenditures = \$60,232,415

Net Edmonton expenditures = \$49,836,300

- Survey question: “How much money did members of your household spend on socializing related to [amateur] sport and recreation?” (This figure includes refreshments before, during, and after [amateur] sports participation, club and team activities, etc.)

Mean response \$130.35 per Edmonton household

Gross Edmonton expenditures = \$31,088,082

Net Edmonton expenditures = \$25,722,279

- Survey question: “How much money did members of your household spend on non-professional sport spectator costs?” (This figure includes travel, refreshments, entrance fees, etc.)

Mean response \$62.36 per Edmonton household

Gross Edmonton expenditures = \$14,872,672

Net Edmonton expenditures = \$12,305,649

- Survey question: “How much money did members of your household spend on other indirect spending?” (This figure includes medical costs, body care, extra insurance, baby sitting, and other [amateur] sport and active recreation expenses not previously indicated in the survey responses)

Mean response \$62.24 per Edmonton household

Gross Edmonton expenditures = \$14,844,052

Net Edmonton expenditures = \$12,281,969

Since the purpose of these survey questions was to determine the amount of economic spending that is being generated from amateur sport and active recreation in the city of Edmonton, it was necessary to deduct any income that was being derived from these

pastimes. Thus, the following question relating to income from amateur sport and active recreation was asked.

- Survey question: “What is the total amount of household income derived from [amateur] sport participation in Edmonton, if any, in the past 12 months?” (This figure includes coaching honoraria, officiating fees, etc. earned by Edmonton residents)

Mean \$37.19 per Edmonton household

Gross income = (\$8,869,703)

Of this amount, it is assumed that some amateur sport-related income would have been derived from activities that took place outside the city. The adjustment factor of 82.74% was applied to this figure to yield the net income figure.

Net Edmonton income = (\$7,338,792)

The total gross spending per Edmonton household on amateur sport and active recreation is estimated to be the sum of these individual-spending components, less the amount derived from income. This amount is estimated to be \$1454.80 per household.

The aggregate spending of all Edmonton residents on amateur sport and active recreation could therefore be estimated as follows:

(Sport and active recreation expenditures less income per household multiplied by number of households):

$\$1454.80 \times 238,497 = \$346,965,641$

As was indicated previously, if any of this spending made by Edmonton residents was made outside the city of Edmonton, it would be considered an ‘import’ and therefore would have no impact on the overall flow of income within the city. It was therefore necessary to adjust this gross spending amount by the proportion of spending that was made outside the city of Edmonton.

The overall net spending in the city of Edmonton is therefore estimated to have been 82.74% of \$1454.80, or \$1203.70 per household.

The net aggregate spending in the Edmonton economy attributable to amateur sport and active recreation is therefore:

$\$1203.70 \times 238,497 = \$287,079,371.$

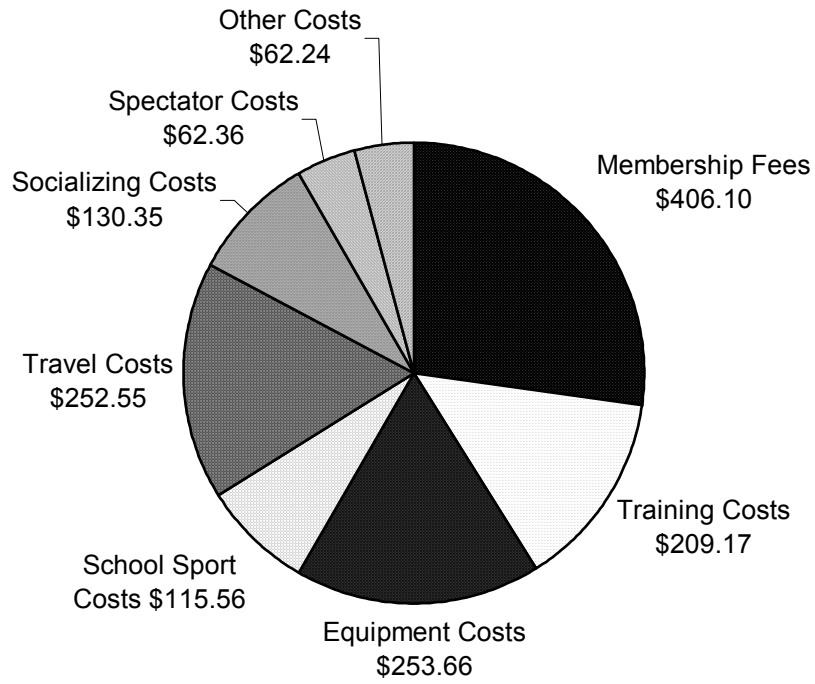
Table 2 and Figure 1 summarize the results of the survey of Edmonton households and the estimated consumer spending in the amateur sport and active recreation sector of the Edmonton economy.

Table 2 Edmonton Household Expenditures on Amateur Sport and Active Recreation (2000)

Household Expenditure Sub-Category	Amount per Household (\$)	Gross Amount (\$'000)	Net Amount (\$ '000) [82.74% of Gross]
Membership fees (includes licences, registration, entrance fees, competition fees)	406.10	96,854	80,137
Training costs (lessons, camps, sport holidays)	209.17	49,886	41,276
Equipment (purchase, rent and maintenance of equipment and clothing etc.)	253.66	60,497	50,055
Physical education and school/college sport (includes spending at school/college both within and outside the school curriculum)	115.56	27,561	22,804
Travel to and from amateur sport venues and competitions (includes mileage costs, parking, public transport, etc.)	252.55	60,232	49,836
Socializing related to amateur sport and recreation (includes refreshments before, during, and after amateur sports participation, club and team activities, etc.)	130.35	31,087	25,722
Non-professional sport spectator costs (includes travel, refreshments, entrance fees, etc.)	62.36	14,873	12,306
Other indirect spending (includes medical costs, body care, extra insurance, baby sitting, and other amateur sport and active recreation expenses not previously indicated in the survey responses)	62.24	14,844	12,282
Amount of household income derived from amateur sport participation in Edmonton	(37.19)	(8,870)	(7,339)
Total Household Expenditures (net of income)	1454.80	346,965	287,079
Total Per Household Expenditures (net of income) made in Edmonton (i.e. 82.74% of total per household expenditures)	1203.70	NA	NA

Note: Totals may not add due to rounding

Figure 1
Edmonton per Household Spending on
Amateur Sport and Active Recreation (2000)



Public Expenditure

Preparatory Spending on Major Events (\$32.00 million)

All spending made in 2000 related to the 2001 World Championships in Athletics and World Triathlon 2001 are considered under this category. Contributions made by all three levels of government to the organizing committees have been included here, and not double-counted elsewhere. The total amount of spending made under this category in 2000 was \$32.00 million. It must be noted that this preparatory spending on major events is "one-time event(s)" spending.

Although it was possible to determine the proportion of the total budgets of the organizing committees that were spent in the year 2000, a detailed breakdown of spending components could not be obtained from the organizing committees of these events. In order to determine the direct, indirect and induced impacts of the initial spending, it was necessary to make the following assumptions regarding the manner in which the budget for 2000 was spent. Estimates for the spending made in 2000 by the two Edmonton 2001 world championships organizers are broken down as follows (all figures in millions of dollars):

Salaries & benefits	2.9	Business services	1.4
Recruitment	0.2	Printing/Computing	1.0
Audits/Insurance	0.3	Advertising	1.5
Travel & meetings	0.5	Sponsorship	0.2
Hosting/Promotions	0.7	Equipment	0.1
Overheads	0.4	Communications	1.0
Office space	0.4	Construction	20.0
		Other	1.5
		<i>TOTAL</i>	<i>\$32.00</i>

Provincial Government (\$21.28 million)

The total amount spent in the various categories of provincial government expenditures on amateur sport and active recreation in Edmonton was \$21.28 million. The distribution of this expenditure is broken down as follows:

- Direct provincial government expenditures (\$1.04 million)

The total employment expense incurred by Alberta Community Development for its 600 staff in 2000 was \$34.715 million, or approximately \$57,858 per employee. Thus, for the 18 staff members employed in Edmonton who are responsible for the delivery of amateur sport and active recreation programming, the estimated staffing expenditure totalled \$1.04 million.

- Indirect provincial government spending (\$20.24 million)

The ASRPW Foundation expenditures associated with office and staffing costs for the 50 Provincial Sport Organizations (PSOs) housed at the Percy Page Centre in Edmonton are estimated at \$4.06 million. This figure is based on information provided by Alberta

Community Development staff. The total direct funding assistance provided to PSOs in Alberta is \$5.8 million, but only 70% of these associations have their administrative offices based in Edmonton. The actual provincial contribution to Edmonton's economy is in all likelihood greater than the \$4.06 million because no rent is paid by the PSOs housed in Edmonton's Percy Page Centre.

Other provincial lottery-based funding provided to Edmonton amateur sport and active recreation groups in 2000 combined to form the balance of provincial support for these entities. This support totalled \$16.18 million. This amount was comprised of the following components:

- In addition to the funding provided to Edmonton-based PSOs, the total funding provided to Edmonton groups and individuals under the Development Initiatives Program (Quarterly Grant Program) in 2000 was \$0.10 million.
- Funding provided to Edmonton-based amateur sport and active recreation groups under the Edmonton Community Lottery Board in 2000 amounted to \$1.2 million (this includes grants made to 'recreation' and 'sport' projects).
- Funding provided to Edmonton-based amateur sport and active recreation groups through casinos, raffles, bingo, and 'pull-tickets' totalled \$13.67 million.
- Finally, funding provided to Edmonton-based amateur sport and active recreation groups through the Community Facility Enhancement Program has been estimated at \$1.206 million.

Municipal Government (\$14.10 million)

Total expenses (including operating, maintenance, and capital) for sports fields, golf courses, sports, leisure, and recreation centres, stadiums, and arenas for 2000 was \$30,289,354. Offsetting this amount were grants of \$334,000, reserves of \$19,000 and revenues (user-fees) of \$16,343,000. The net expenses were therefore \$13,593,354. Table 3 outlines the nature of these expenditures in more detail.

The remaining municipal government expenditures on grants and staffing costs of three employees who provide support to amateur sport and active recreation groups and programs amounted to \$510,000. Of this figure, the grants totalled \$230,000.

Table 3 City of Edmonton Municipal Expenditures and Revenues (\$)

Description	Grants (A)	Reserves (B)	Revenues (C)	Expenditures (D)	Net Expenditures D- (A+B+C)
Parkland Services (sport related)			135,000	802,000	667,000
Recreation Facilities	334,000	19,000	16,092,000	22,333,000	5,888,000
Recreation Facility Building Maintenance				4,651,313	4,651,313
Recreation Facility Capital				915,173	915,173
Management & Bookings			116,000	854,000	738,000
Sports Fields & Track Facilities				733,868	733,868
<i>SUB-TOTAL</i>	<i>334,000</i>	<i>19,000</i>	<i>16,343,000</i>	<i>30,289,354</i>	<i>13,593,354</i>
<i>Community Services (grants made to Edmonton amateur sport and active recreation groups and support staff costs)</i>				<i>510,000</i>	<i>510,000</i>
<i>TOTAL</i>	<i>334,000</i>	<i>19,000</i>	<i>16,343,000</i>	<i>30,799,354</i>	<i>14,103,354</i>

Post-Secondary Educational Institutions (\$6.20 million)

This figure includes athletic department programming, utilities, coaching salaries, travel, hosting events, facility operations, etc. This figure does not include costs incurred for academic programming in physical education departments at post-secondary institutions. In order to avoid double counting, user-fees such as admission charges for facility use, student fees for athletics and recreation, and sports camp fees have been deducted. For Edmonton's post-secondary institutions in 2000, the total net contribution to Edmonton's amateur sport and active recreation economy was \$6.20 million.

School Boards (Catholic and Public) (\$20.19 million)

The total expenditures by Edmonton's school boards in 2000 (net of revenues accounted for elsewhere in the analysis) amounted to \$20.19 million. The breakdown of these expenditures was as follows:

- Salary component = \$15.22 million
- Operating & Maintenance component = \$3.9 million
- High School direct sport programming (less user-fees) = \$0.8 million
- Junior High direct sport programming (less user fees) = \$0.27 million

As was the case with post-secondary educational institutions, various user fees that are accounted for elsewhere in the analysis have been deducted. This avoids the possibility of double counting.

Private investment

Economic Development Edmonton provided an inventory of major project investment in Edmonton. Only those projects that are specifically amateur sport or active recreation related have been included here. For projects that are multiple-year in nature, a simplifying assumption has been made that the investment spending has been spread evenly over the span of the project. The resulting estimate for major project investment in Edmonton for 2000 is \$6.65 million. This does not account for 'minor' investment projects or for corporate donations made to, and sponsorships of, amateur sport and active recreation groups and is therefore a very conservative estimate of the total level of amateur sport and active recreation-related investment in Edmonton for 2000.

Balance of Trade

Private Household Consumption Imports (\$59.89 million) – accounted for above under 'Private Household Consumption by Edmonton Residents'

The expenditures made by Edmonton residents on goods and services from outside the city were determined in the household survey. Of the total expenditures made by households on amateur sport and active recreation, it was indicated that 82.74% were made on 'imports'. This amounts to a total of \$59.89 million. This figure has already been deducted from the household expenditure component of the 'overall spending' amount. Therefore, it does not need to be deducted for a second time as an import.

Other 'Imports' (see below under 'Direct, Indirect, and Induced Impacts')

The other 'import' component of expenditures initially made in Edmonton that is considered in this analysis is that which accounts for the fact that not all goods and services purchased in Edmonton are actually produced in the city. As is indicated in the method section of this report, the actual GDP impact on Edmonton's economy of this spending has been determined through the employment of the input-output model. The details relating to the results of subjecting the raw expenditure data to the model are outlined below.

Retail Trade Exports (\$125.17 million)

The total value of retail sales made by Edmonton sports retailers to consumers from outside Edmonton (i.e., the export component of Edmonton retail sales) was estimated at \$125.17 million for 2000. To avoid double counting, this figure does not include spending made by visitors who came to Edmonton for the primary purpose of participating in an amateur sports or active recreation event. The retail trade export figure (not including amateur sport and active recreation visitor spending) was determined as follows.

Total Canadian retail sporting goods industry is valued at \$5,631million (1999) (not including exports to other countries or team sport/school sales). Discussions with Edmonton retailers indicate that Alberta accounts for approximately 12-15% of the Canadian market. A conservative estimate of 9% yields a provincial market of \$507 million for Alberta as a whole. [In order to illustrate the effect of adopting a conservative estimate of Alberta's share of the national retail market for sporting goods, if the 15% estimate were used, this would yield an estimate of the provincial market of \$844.65.]

It is estimated that 55% of these sales are made north of Red Deer (i.e., \$278.85 million). Edmonton accounts for approximately 65% of the Northern Alberta market for sporting goods or, \$181.25 million in sales. [The more liberal estimate of Alberta's share of the national retail trade in this sector would yield an estimate of \$301.96 million, under the same assumptions regarding Edmonton's share of the provincial market].

The total Edmonton retail sporting goods industry is therefore estimated (conservatively) to be \$181.25 million for 2000. Of this amount, \$50.055million has been accounted for in the survey responses of Edmonton residents.

Therefore, the "Export" (i.e. sales made to non-residents of Edmonton) component of the Edmonton retail sporting goods industry is estimated at \$131.20 million. [The more liberal assumptions regarding Edmonton's retail trade would yield an estimate of \$251.91 million.]

In order to avoid double counting of sports tourist spending (see below), the retail trade purchases made by visitors who attended amateur sport and active recreation events have been deducted. These expenditures amount to \$6.02 million. It has been assumed that all retail spending made by amateur sport and active recreation visitors occurred in the

sporting goods sector. The result of this assumption is likely to underestimate the actual value of exports by Edmonton’s sporting goods retail sector.

After deducting the \$6.02 million from the gross export figure of \$131.20 million, the net export figure for Edmonton’s retail sporting goods industry (not including amateur sport and active recreation visitors) for 2000 was determined. This figure is \$125.17 million.

Other ‘Exports’ (Visitor spending - \$27.99 million)

Based on the responses to surveys received from individual and umbrella amateur sport groups, the following number of visitor nights for 2000 have been confirmed. As was indicated in the method section of this report, the amount presented here is by no means the full extent of amateur sport and active recreation-based tourism in Edmonton in 2000. This is because the data only represent visitor numbers reported by the 101 amateur sport groups that responded to the survey.

An estimated 369,831 visitor nights in Edmonton are amateur-sport related for 2000. Of this amount, 250,849 adult and 118,982 child visitor nights were reported. Of the adult visitor nights, Alberta residents who live more than 80km from Edmonton accounted for 169,910, residents of other Canadian provinces accounted for 51,778, and international visitors accounted for 29,161. Of the non-adult visitor nights, Alberta residents who live more than 80km from Edmonton accounted for 74,493, residents of other Canadian provinces accounted for 41,895, and international visitors accounted for 2,594. These figures are illustrated in Table 4

Table 4 - Visitor Nights Reported by Edmonton Sport Groups (n=101)

	Alberta (>80km)	Canada	International	TOTAL
Adult (>18)	169,910	51,778	29,161	250,849
Children (<18)	74,493	41,895	2,594	118,982
<i>TOTAL</i>	<i>244,403</i>	<i>93,673</i>	<i>31,755</i>	<i>369,831</i>

Spending estimates for these visitors were based on figures provided by Economic Development Edmonton. A simplifying assumption was made that non-adult visitors did not spend anything on accommodation. The rationale for this is that many children who attend amateur sports events are billeted in local households, rather than staying at hotels. While this is not the case for all children, the effect of the assumption is to slightly underestimate the overall spending effect of amateur sport-related visitors. Based on figures provided by Economic Development Edmonton, children visiting Edmonton are estimated to have spent an average of \$56.00 per day on various categories of expenditure. This includes \$9.17 for transport, \$19.18 for food and beverages, \$2.67 for recreation and entertainment, and \$24.98 in retail spending. Canadian and international adult visitors are estimated to have incurred spending amounting to \$85.00 per day. This includes \$5.31 for transport, \$42.91 for accommodation, \$20.56 for food and beverages, \$4.05 for recreation and entertainment, and \$12.17 for retail spending. As is noted in the

previous section of the report, it is assumed that all retail spending by visitors was incurred in the sporting goods sector of the economy.

Based on these assumptions, the estimated spending of Edmonton's amateur sport tourists in 2000 was \$27.99 million. Of this amount, adults incurred an estimated \$21.32 million, and children who visited Edmonton for the purpose of participating in amateur sport and active recreation events spent a further \$6.66 million.

Edmonton's Gross Municipal Amateur Sport and Active Recreation Product

From the data presented above, it is now possible to estimate Edmonton's gross municipal amateur sport and active recreation product for the year 2000, as follows:

$$C + G + I + (X-M) = \text{GMSP}$$

Where:

C = Household consumption = \$287.08 million

G = Government spending = \$93.78 million

I = Private investment = \$6.65 million

X-M = Balance of Trade = \$153.16 million

GMSP = Gross municipal amateur sport and active recreation product = \$540.67 million

If the imports of household consumers are reported as part of household consumption and then deducted from the balance of trade figure (as would normally be the case in economic accounting), the figures would be as follows:

C = Household consumption = \$346.97 million

G = Government spending = \$93.78 million

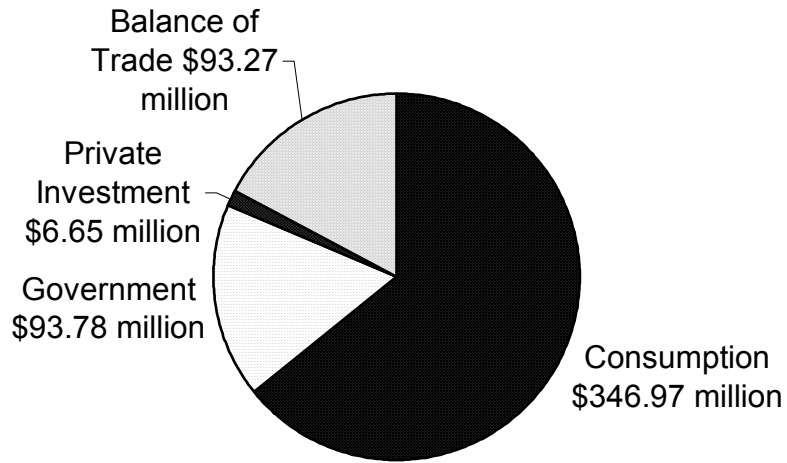
I = Private investment = \$6.65 million

X-M = Balance of Trade = \$93.27 million

GMSP = Gross municipal amateur sport and active recreation product = \$540.67 million

The components of GMSP are illustrated in Figure 2.

Figure 2
Contributions to Edmonton's Gross Municipal Sport and Active Recreation Product



Direct, Indirect, Induced, Wage and Employment Impacts

The impact statement in this section is based on the data and assumptions outlined elsewhere in this report. The economic impact of amateur sport and active recreation on the greater Edmonton economy is outlined, together with the impact on the provincial economy of Alberta.

The analysis and economic model of Edmonton's economy reveal the following results associated with the initial expenditures of \$540.67 million that were associated with amateur sport and active recreation in the city of Edmonton in 2000.

A) Impacts on Edmonton

- These expenditures generated a greater Edmonton gross domestic product (value added) impact of \$319.592 million. This is comprised of \$170.055 million in direct impact, \$86.596 million in indirect impact, and \$62.941 million in induced impact.
- The total impact on wages and salaries in the greater Edmonton area of the initial spending in the city of Edmonton was \$213.229 million. This is comprised of \$121.150 in direct impact, \$55.793 in indirect impact, and \$36.286 million in induced impact.
- The employment effect of the initial spending made in the city of Edmonton was 7,360.3 person years. Direct employment effects accounted for 4,498.0 person years of this figure, indirect employment effects accounted for 1,611.6 person years, and induced employment effects were 1,250.6 person years.

B) Impacts on Alberta

- These expenditures generated a province wide gross domestic product (value added) impact of \$424.009 million. This is comprised of \$170.257 million in direct impact, \$127.764 million in indirect impact, and \$125.988 million in induced impact.
- The total impact on wages and salaries in Alberta of the initial spending in the city of Edmonton was \$261.609 million. This is comprised of \$121.221 in direct impact, \$75.397 in indirect impact, and \$64.991 million in induced impact.
- The provincial employment effect of the initial spending made in the city of Edmonton was 8,619.5 person years. Direct employment effects accounted for 4,499.9 person years of this figure, indirect employment effects accounted for 2,099.5 person years, and induced employment effects were 2,020.1 person years.

These GDP, wage, and employment impact results are summarized in Table 5 and illustrated in Figures 3, 4, and 5 respectively.

Table 5 - Edmonton and Alberta Impacts

	Edmonton	Alberta
Gross Domestic Product (\$'000)		
Direct Impact	170055	170055
Indirect Impact	86596	127764
Induced Impact	62941	125988
<i>Total GDP Impact</i>	<i>319592</i>	<i>424009</i>
Wages & Salaries (\$'000)		
Direct Impact	121150	121221
Indirect Impact	55793	75397
Induced Impact	36286	64991
<i>Total Wage & Salary Impact</i>	<i>213229</i>	<i>261609</i>
Employment (person years)		
Direct Impact	4498.0	4499.9
Indirect Impact	1611.6	2099.5
Induced Impact	1250.6	2020.1
<i>Total Employment Impact</i>	<i>7360.3</i>	<i>8619.5</i>

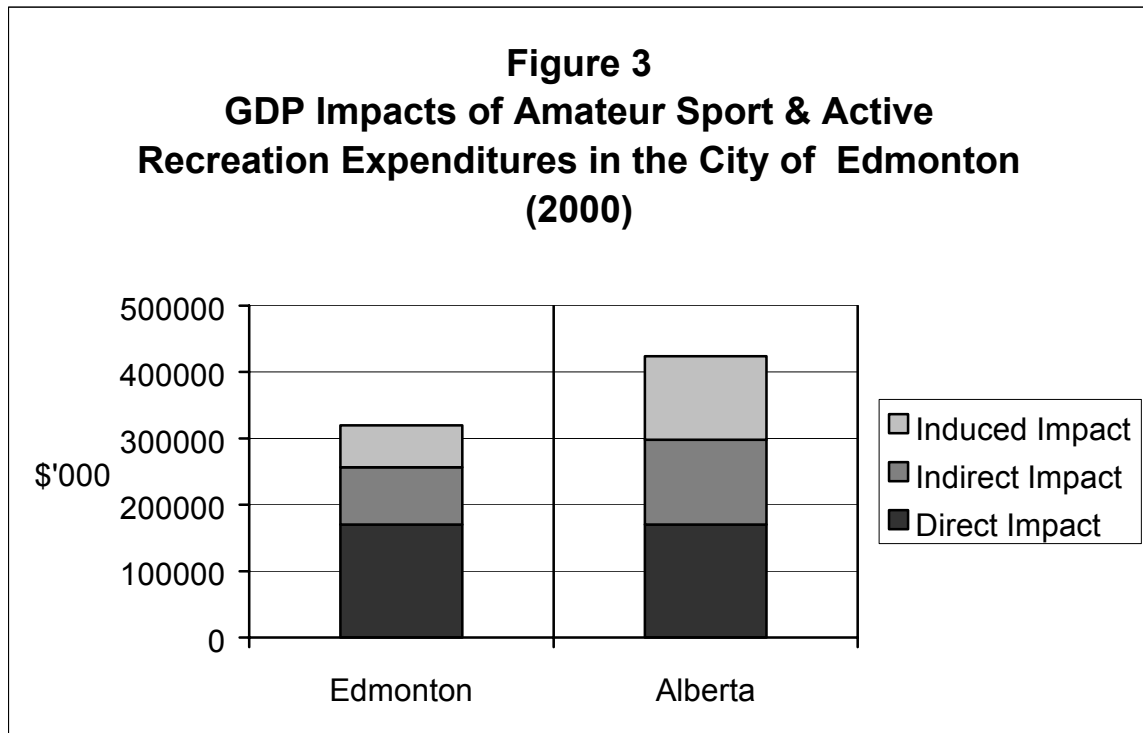


Figure 4
Wage and Salary Impacts of Amateur Sport & Active Recreation in the City of Edmonton

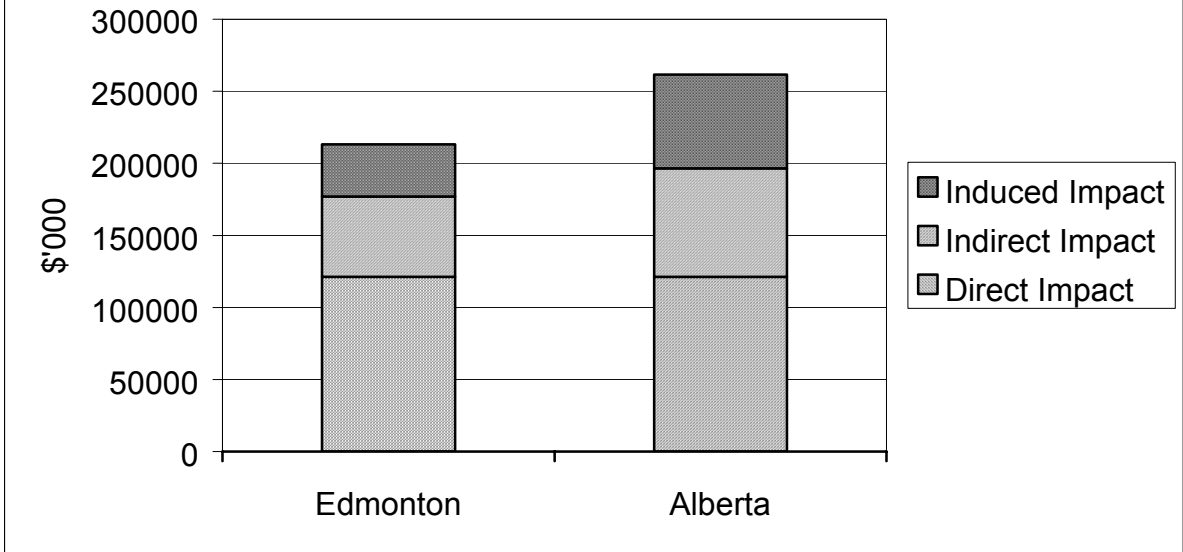
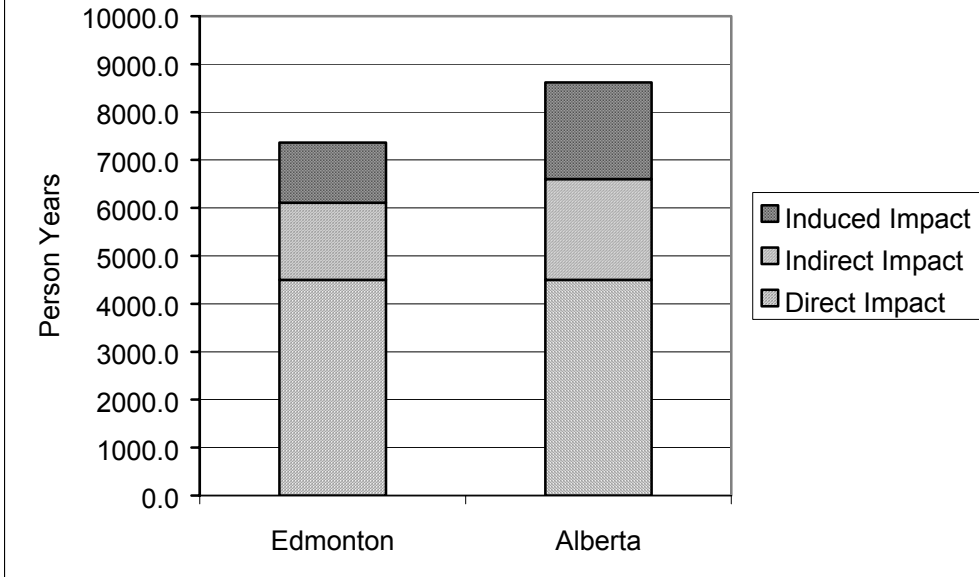


Figure 5
Employment Impacts of Amateur Sport and Active Recreation in the City of Edmonton



Value of Volunteer Contributions

While volunteer work is not normally included in defining the economic scope of an activity, its value is significant in the delivery of amateur sport and active recreation programming. The value of voluntary labour's contribution to amateur sport and active recreation was estimated as follows.

The Canadian Centre for Philanthropy's National Survey of Giving, Volunteering and Participating (NSGVP) [www.nsgvp.org] indicated that 35% of adult Edmonton residents volunteered in 2000. The average number of hours contributed per year for each volunteer in the city was 145. When one considers that the adult population of Edmonton is approximately 525,000, the number of Edmontonian adult volunteers can be estimated as 35% of this figure (i.e., 183,750). The total number of hours volunteered by these citizens is estimated at 26.64 million (i.e., 183,750 x 145 hours). Of all volunteering in Edmonton, approximately 33% is devoted to 'arts, culture, and recreation' (of which amateur sports is a component). This yields a total of 8.79 million hours of volunteering for these activities in 2000. Assuming that 50% of this figure is devoted to amateur sport and active recreation in 2000, it is estimated that the total number of volunteer hours provided by adult Edmontonians for these activities was approximately 4.4 million in 2000.

Recent Statistics Canada figures for average weekly earnings by industry in Alberta indicate an average of \$665.05 per week for Alberta in 2000 for service industries. Assuming a 40-hour workweek, this yields an hourly wage of \$16.63. The value of volunteer work in Edmonton's amateur sport and active recreation economy was estimated by multiplying this 'imputed' wage by the number of hours of volunteering. This results in an estimate of \$73.16 million.

This figure represents a significant contribution to Edmonton's amateur sport and active recreation economy. However, it has not been included in the overall assessment of the economic significance of amateur sport and active recreation and is provided here for reference and comparison purposes alone. The reason for this is that 'non-market' activity is not normally accounted for in measuring the value of economic output.

Limitations of the Study

Considerable care and attention has been made to ensuring the accuracy of data and methods used in determining the economic significance and impact of amateur sport and active recreation in Edmonton, and therefore the results presented in this report are fully justifiable and defensible. However, because of the nature of the amateur sport and active recreation sector in which a large amount of activity does not occur in the market place, a number of limitations are brought to the reader's attention here.

- The data used in the analysis were generated from a variety of sources. These included surveys of Edmonton households and its amateur sport and active recreation groups, various government and quasi-government agencies, and secondary data obtained from published statistical sources. Where possible, the

results obtained from these data were checked for accuracy and reliability against known figures. In cases where this was not feasible, data for Edmonton in 2000 were crosschecked with data for other municipalities in other years. Data obtained from secondary sources are assumed to have been accurate in both their collection and reporting.

- As is indicated in the discussion of the household expenditure survey, the results are accurate to within $\pm 5\%$ at the 95% confidence level. This is an acceptable level of accuracy for this element of the study.
- The visitor numbers (and associated expenditures) are felt to be extremely conservative in nature. Given the difficulty in obtaining accurate estimates from amateur sport and active recreation groups for the numbers of visitors that their events attract to the city on an annual basis, it was decided to only include those estimates from amateur sport and active recreation groups that could be fully justified. Thus, the actual visitor numbers (and expenditures) are likely to be somewhat higher than those reported here.
- It must be stressed that the results of the impact assessment rely on an economic model that assumes various interactions between different elements and sectors of the local and provincial economies. In interpreting the results, some allowance for margin of error should be incorporated to reflect the fact that actual interactions between different sectors of the economy may differ slightly from those assumed in the model.
- The results of the impact assessment also rely on a variety of assumptions that make the model workable for this analysis. These assumptions relate to interpretations of the sectors of the economy in which initial expenditures occurred, both on the demand and supply sides.

Finally, while all due care has been taken to ensure the accuracy of the results presented here, Caminata Consulting does not take responsibility for errors or omissions to the input data that could not have been reasonably determined within the scope of the study.

Conclusions

The results of this study indicate the extent to which amateur sport and active recreation contribute to Edmonton's economic health. Initial expenditures in the city of Edmonton's amateur sport and active recreation sector totalled \$540.67 million in 2000. The portion of gross domestic product of greater Edmonton that resulted from these initial expenditures amounted to an estimated \$319.59 million.

To place these results into context, the total gross domestic product of the greater Edmonton economy in 2000 was estimated at \$28.89 billion (in 1992 dollars). When inflation is taken into consideration (at an annual rate of 1.56%, as indicated by the Bank of Canada), the size of the greater Edmonton economy in 2000 was \$32.69 billion (actual dollars). The contribution made to the greater Edmonton economy by initial spending in the city of Edmonton's amateur sport and active recreation sector in 2000 was therefore 0.98%. In terms of employment, the amateur sport and active recreation sector is estimated to have accounted for 7,360.4 person years of employment in 2000. This represents approximately 1.51% of employment in Edmonton.

The Edmonton Socio-Economic Outlook, 2001-2006 (City of Edmonton, 2001) provides data on the contribution of various industrial sectors to Edmonton's GDP⁴. After accounting for inflation, in 2000 agriculture accounted for approximately \$292 million in GDP and approximately 4,500 person years of employment. The utilities industry accounted for approximately \$1.24 billion and approximately 5,300 person years of employment. Data provided by Economic Development Edmonton (Economic Development Edmonton, 2000b) indicate the workforce of Edmonton's major employers. The 7,360.4 person years of employment estimated for the amateur sport and active recreation in Edmonton exceeds the number of employees reported for the Edmonton Public School Board (7,125 employees), the University of Alberta (6,135), and TELUS Corporation in Edmonton (5,034). Furthermore, although the results of the two studies are not strictly comparable, it is interesting to note that an economic impact assessment of "The Edmonton Oilers" was conducted in 1997. That study estimated a GDP impact of \$62.91 million in Edmonton for the ice hockey franchise (Economic Development Edmonton, 1997). Again, it should be stressed that the current study does not account for any economic activity related to professional sport in Edmonton. Thus, the amateur sport and active recreation sector of Edmonton's economy is significant. This is particularly the case when one considers that conservative estimates have been employed throughout the analysis presented in this report and that much of the activity that occurs in the amateur sport and active recreation sector does not take place in the market economy.

The existence and health of this sector of the economy creates benefits for other sectors of the local and regional economy. As can be seen from the analysis presented here, the amateur sport and active recreation industry in Edmonton is extremely important to both

⁴ Note: The figures provide for other industrial sectors in Edmonton's economy are not strictly comparable to those of the amateur sport & active recreation sector because of differences in the manner in which they were calculated.

the local and provincial economies. This is the case in terms of both economic output and employment effects.

One other aspect of the results that can be highlighted is the return to Edmonton of the City of Edmonton's initial contribution to amateur sport and active recreation. Based on the information contained in this report, the City of Edmonton contributed a net total of \$14.10 million to providing Edmontonians with opportunities for amateur sport and active recreation in 2000. The overall economic impact was \$319.59 million. This is approximately 22.67 times the initial expenditure of the municipal administration.

In addition to the economic impacts associated with amateur sport and active recreation, numerous other paybacks (both economic and social) are attributable to these pursuits. These benefits include improved health and well being of participants, as well as social, personal, community and cultural development. While many of these have economic consequences, these benefits have not been accounted for in this analysis.

Edmonton enjoys one of the fastest growing economies in Canada in the latter years of the 1990s and the beginning of the 21st Century (Economic Development Edmonton, 2000a). This study has illustrated the current importance of amateur sport and active recreation as an agent for economic activity. As the economy is predicted to continue to grow and diversify in the first years of this decade, the contribution of amateur sport and active recreation has the potential to increase. The method employed for this analysis could be replicated in future years to illustrate changes in the contribution of amateur sport and active recreation to Edmonton's economy.

The economic (as opposed to health and social) benefits of amateur sport participation are often overlooked in evaluating the importance of these areas of human endeavour. However, as this study has illustrated, there is considerable scope for amateur sport and active recreation to be used as a driver of economic activity. For example, assuming that suitable facilities are provided to amateur sport user groups, additional sport tourists could be attracted by Edmonton's hosting of additional provincial, regional, national, and international events. In addition, the day-to-day economic activity associated with participation in amateur sport and active recreation could be enhanced by the provision of suitable facilities and programming opportunities for Edmontonians.

Appendices

Appendix A

A Model for Estimating the Economic Impact of Hosting Future Events

Introduction

As a part of a related study, it has been proposed that the potential economic impact of hosting events in Edmonton would be calculated. In order to provide a service to local event organizers, a means of estimating the net economic impact on Edmonton for small-scale events has been developed. While this is not strictly a part of the economic significance investigation, the model has been incorporated into this final analysis and report.

The resources required to conduct a thorough economic impact are often beyond the means of small-scale local event organizers. However, it is possible to estimate some initial expenditure impacts of hosting an event with good record keeping. The model presented here only focuses on initial expenditure effects of hosting an event. It does not account for spin-off effects that occur in the local economy as a result of initial expenditures being subjected to the so-called 'multiplier effect'. Also, this model does not provide a means of estimating the impact of hosting an event on the local economy's gross domestic product. In order to conduct these types of impact statements, considerably more detailed data collection and analysis are required than are available to local event organizers. Nevertheless, the model presented here does offer a means through which organizers can illustrate the direct spending impact on the local economy of hosting an event.

Data Requirements and Assumptions

The data required to conduct a simple economic impact statement are relatively simple for local event organizers to gather, provided that some pre-event planning is made and good records of event budgeting and attendance are kept.

There are two elements of data collection required:

- 1) Budget figures for the event
- 2) Estimates of visiting patrons attracted to the event from outside the host community.

Patrons include athletes, coaches, trainers, team support staff involved in the event, spectators, officials, volunteers, and media.

The simplifying assumption is made that the hosting-related expenditures of event organization would not have been spent in the local economy in the absence of the event. In addition it is assumed that visitors attending the event would not have visited the local economy if the event had not taken place.

Other assumptions include the following:

- Paid employment generated by events of a local nature is negligible.
- Expenditures by local patrons are considered to be a reallocation within the host community and therefore have no impact on the host economy.
- Only direct spending impacts are identified in the model.

Model

This simplified model entails the addition of all autonomous expenditures made in the host economy associated with staging an amateur sport event. For the purpose of this analysis, the host community is assumed to be the city of Edmonton. The model only measures increased incremental spending in the host community. Any impacts to communities outside the host community are considered to be leakages. In addition, transfers of funds within the local community to the amateur sport or recreation event are not considered impacts.

Reallocations of existing spending (for example, as would occur for local residents attending the event) are not characterized as an economic impact. If the spending would otherwise not have occurred, and can be directly related to the event in question, it can be considered incremental.

No attempt is made to assign a value to non-quantifiable benefits associated with hosting an event. For example, community image could be enhanced, as could skill levels of volunteers. These are certainly benefits associated with hosting an event, but are almost impossible to quantify.

The components of the model are identified as follows:

A) Pre- Event Impacts (those involving the preparation of the event)

- Incremental capital expenditures on facilities
- Incremental capital expenditures by the private sector to service the event
- Incremental expenditures for materials, products or services for hosting the event

Data requirements include a detailed listing of all event-related expenditures. These costs include: capital costs, labour costs (if any), administrative costs (insurance, legal, accounting, etc.), food and beverage costs, local transportation costs (e.g. car rentals), medical services and supplies, security services, signage, publicity, etc.

B) During-Event Impacts (those occurring while the event is taking place)

- Incremental expenditures by visiting patrons (athletes, coaches, trainers, spectators, media, guests, volunteers, etc.)

Those patrons attending the event who live less than 80km from the host community are unlikely to use overnight accommodation and should be treated as 'local' residents. The expenditures of these patrons should not be considered incremental to the host economy. Once the number of visitor nights has been determined, the following estimated expenditure figures are applied to the respective visitor nights for adults and children.

- For each adult visitor night, assume that \$85.00 is spent

- For each non-adult (i.e. children under-18) visitor night, assume that \$56.00 is spent

In order to keep track of visiting patrons, as detailed records as possible should be kept of registered participants (including athletes, coaches and support staff), as well as estimates of spectators and other event visitors from outside of the local economy. Caution should be taken in measuring only visiting patrons, and not including patrons who reside in the host economy. This is because the latter's expenditures are not considered incremental to the local economy.

C) Post-Event Impacts (those occurring after completion of the event)

- Incremental expenditures on facilities (e.g., user-fees from non-local residents, but not a reallocation of local government subsidy)
- Incremental expenditures on materials, products, or services (e.g., post-event banquet).

The estimated Economic Impact of hosting the event is the sum of the pre-event, during-event, and post-event impacts.

Application & Example

Scenario

A local soccer organization is hosting a tournament in the city of Edmonton. The following factors are known to organizers.

- The tournament lasts 3 days
- The number of teams participating is 60
- Of the 60 teams, 20 comprise of all adult (over-18) players.
- Players on the remaining 40 teams are all children (under-18)
- Each team has registered 15 players
- Each team has 3 adult support staff (coach, assistant coach, trainer)
- Half (i.e., 20) of the under-18 teams are attending the tournament from more than 80km away.
- A quarter (i.e., 5) of the adult teams are attending the tournament from more than 80km away.
- Each visiting non-adult team from more than 80km away brings 10 spectators, half of whom are adults.
- Each visiting adult team from more than 80km away brings 10 spectators, all of whom are adults.
- Estimated spectator attendance by local residents is 1,000 per day
- Spectators spend an average of \$10 each on concession and beverage sales. The concession and beverage stand is run by the organizing committee of the tournament.
- All teams and spectators stay in Edmonton for three nights for the tournament.
- The host organizer receives a provincial hosting grant of \$2,000
- Other local organization costs, which are covered by tournament registration fees, are \$12,000 (or \$200 per team).
- The host club builds bleachers at the site of the tournament finals at a cost of \$3,000.

- A local car dealership donates courtesy cars for transporting officials and VIPs prior to the event. The value of the ‘sponsorship’ is estimated to be \$5,000.
- On completion of the event, one of the adult teams (from 45km away) arranges to play a friendly game against the host club the following month at the same facility at which the final was held.

Economic Impact Estimate

Based on the above information, estimate of direct spending impact associated with hosting the event would be as follows:

- Pre-Event Impact (\$3,000)

Bleacher construction @ \$3,000 – this is considered to be an incremental capital expenditure and is therefore counted in the economic impact statement.

Vehicle sponsorship @ \$5,000 – this is a redistribution of local economic activity and does not form an incremental expenditure.

Total pre-event economic impact is therefore \$3,000.

- During-Event Impact (Total impact = \$150,700)

Estimate of visitor nights

There are 5 adult visiting teams and 20 child visiting teams.

For each adult visiting team, a total of 28 adults (15 players, 3 officials, 10 spectators) stay in Edmonton for 3 nights. Thus, the total number of adult visitor nights per team is 84 (i.e., 3 x 28). This is multiplied by the number of visiting adult teams to yield 420 adult visitor nights.

For each child visiting team, a total of 20 children (15 players, 5 spectators), and 8 adults (3 officials, 5 spectators) stay in Edmonton for 3 nights. Thus the total number of adult visitor nights per child team is 24 (i.e., 8 x 3), and the total number of child visitor nights per team is 60 (i.e., 20 x 3). The number of adult visitor nights associated with the visiting child teams is 24x20=480. The number of child visitor nights is 60x20=1200.

Local spectator numbers and their spending is assumed to be a redistribution in the local economy and is therefore not counted.

The total number of adult visitor nights is $(84 \times 5) + (24 \times 20) = 900$

The total number of child visitor nights is $(60 \times 20) = 1200$

Spending per adult visitor night is \$85.00

Total adult visitor expenditures are $900 \times \$85 = \$76,500$

Spending per child visitor night is \$56.00

Total child visitor expenditures are $1200 \times \$56 = \$67,200$

The spending of spectators at concession stands during the event is already accounted for in the total visitor expenditure figures and should not be double counted. Spending by local patrons at the concession is considered to be a redistribution within the local economy and must not be counted in the impact statement. Total visitor spending impacts are therefore $\$76,500 + \$67,200 = \$143,700$

The provincial hosting grant of \$2000 is incremental income for the organizer and should be included in the impact statement.

Only the entry fees of visiting teams should be considered incremental spending of the organizing committee. The registration fees of the 25 visiting teams are \$5,000. This represents incremental spending in the local economy when the organizing committee incurs tournament expenses and should be included in the impact statement. The entry fees of the local teams, when spent by tournament organizers, represent a redistribution of spending within the local economy. Therefore the \$7,000 received in entry fees from local teams should not be included.

The total during-event impact is the sum of the visitor spending, provincial grant, and portion of the organizing committee's budget accounted for by visitor entry fees. This is $\$143,700 + \$2,000 + \$5,000 = \$150,700$.

- Post-Event Impact (zero)

The staging of a friendly match with a team from less than 80km away will have no incremental impact on the local economy.

- Estimated Economic Impact

The estimated economic impact of this event is the sum of the pre-event, during-event, and post-event impacts. This is $\$3,000 + \$150,700 + \$0 = \$153,700$. This figure represents the incremental expenditures incurred in the local economy as a result of hosting the event.

APPENDIX B

Survey of Amateur sport Groups

To Sport Representatives:

You are receiving this e-mail because you have been identified as a contact person for an organization involved in the delivery of sport programming in the city of Edmonton. As part of its role of promoting sport in the city of Edmonton, the Edmonton Sport Council wishes to determine the economic significance of amateur sport and active recreation on the city's economy. Caminata Consulting has been contracted to conduct research and analysis that will provide this information. The results of the study will be used to illustrate the magnitude of the contribution of amateur sport to the city's economy.

As a part of the investigation, we wish to estimate sport group spending and the number (and spending) of athletes and spectators who are currently attracted to Edmonton for the purposes of participating in tournaments and other amateur sporting events. In order to provide as accurate as possible an estimate, it is important that the economic activity of as many sport groups as possible is taken into consideration.

Please take a few minutes to consider and respond to the following survey. If you believe that another person in your organization is more able to respond to these questions, please forward this survey to that individual.

Your response can be e-mailed to the co-ordinator of the study (Dr. Tim Berrett) at tberrett@telusplanet.net

Or fax a response to 433-9474

Or mail to Caminata Consulting, 10980 75th Avenue, Edmonton, Alberta T6G 0G9

If you have any questions about the survey, please contact Tim Berrett via e-mail or telephone (433-7364)

If you have any questions about the Edmonton Sport Council's role in the study, please contact the ESC's Executive Director, Gary Shelton, at 49-SPORT (497-7678).

ALL RESPONSES WILL REMAIN CONFIDENTIAL - ONLY AGGREGATE FIGURES ACROSS ALL SPORT GROUPS WILL BE UTILIZED. If you are unable or unwilling to answer any part of the survey, please move on to the next part.

Questions

- What sport group do you represent? _____

VISITOR INFORMATION

Please provide your best estimate of the number of out-of-town visitors (athletes, coaches, officials, spectators, etc.) who attended events hosted by your organization in the year 2000. If you hosted more than one event, please indicate whether your estimates are for each event separately, or the sum of all events for the year.

Number of events you hosted in 2000 that attracted visitors to Edmonton _____

A) All visitors (from more than 80km away)

- Approximately how many out-of-town participants (travelling >80km) did events (i.e. league, invitational, tournaments, etc.) your organization hosted in 2000 attract?
- Number of visitors _____ adults _____ children (under-18)
- Length of stay _____ nights per adult _____ nights per child

B) Alberta visitors (from more than 80km away)

- Of all visitors (identified in 'A' above), approximately how many were from elsewhere in Alberta (i.e. more than 80km from Edmonton)?
- Number of 'Alberta' visitors _____ adults _____ children (under-18)
- Length of stay _____ nights per adult _____ nights per child

C) International visitors (non-Canadians)

- Of all visitors (identified in 'A' above), approximately how many were from outside Canada?
- Number of foreign visitors _____ adults _____ children (under-18)
- Length of stay _____ nights per nights _____ nights per child

EXPENSES & REVENUES

For the following questions, please provide your best estimate of expenses and revenues from the year 2000 – if a category does not apply to your organization, please indicate "NA".

Estimated Operating Expenses \$ (2000)

- Salaries, Fees, Commissions, Benefits (e.g., paid staff or officials: full or part time) _____
- Professional, Financial, Insurance Services _____
- Communications (e.g., telephone costs) _____
- Transportation & storage (e.g., travel) _____
- Repairs (e.g., equipment repair) _____
- Other supplies (e.g., office, kitchen, etc.) _____
- Retail (e.g., uniforms, etc.) _____
- Rent (e.g., clubhouse, office) _____
- Property Tax _____
- Energy & other utilities (e.g., power, gas, etc.) _____
- Food & Beverages (e.g. concession costs) _____
- Other services (e.g., cleaning, advertising, etc.) _____

TOTAL EXPENDITURES (sum of the above) _____

Estimated Revenues (2000)

- Total user-fee revenue (memberships, drop-in, etc.)** _____
- Grants, donations, contributions, lotteries, etc. _____
- Food & Beverage revenues (e.g., concessions) _____
- Other revenues (e.g. fundraising not included above) _____

TOTAL REVENUES (sum of the above) _____

THANK YOU FOR COMPLETING THE SURVEY
YOUR RESPONSES ARE VALUABLE

APPENDIX C

The Edmonton Sport Council is an alliance of sport organizations and individuals that work to enhance the participants' experience in sport. This is done by acting as a common voice for sport in Edmonton and by facilitating programs and services that will address the needs of local sport organizations.

The Edmonton Sport Council is governed by a volunteer Board of Directors, who at this time include:

Dennis Belair	Carl Brodie	Susan Bulmer
Karl Delaronde	John Fowle	Peter Harcourt
Christie Marathalingam	Lisa Miller	Bill Mucklow
Rick Paulitsch	Doreen Ryan	R.A. (Dick) White

Lending their good name and knowledge to the Edmonton Sport Council is an Honourary Board of Directors, who at this time include:

Dr. Terry Flannigan	Cathy Borst King	Wendy Kinsella
Patrick LaForge	John Ramsey	Dr. Robert Steadward, O.C.
R.J. (Bob) Wasylshen	Jim Wheatley, Q.C.	

References

Andreff, W., Bourg, J.F., Halba, B., & Nys, J.F. (1995). Les enjeux économiques du sport en Europe: Financement et impact économique [Economic Factors of Sport in Europe: Financing and Economic Impact]. Paris: Dalloz

Burton, T.L. (1982). The Roles of Government in the Leisure Services Delivery System. Paper presented at the Commonwealth Conference, Brisbane, Australia.

City of Edmonton (2001). Edmonton Socio-Economic Outlook 2001-2006. Prepared by City Forecast Committee, March 2001. City of Edmonton Planning & Development Department.

Economic Development Edmonton (1997). Economic Impacts of “The Edmonton Oilers” in the Edmonton Alberta Capital Region 1996/1997. Edmonton: Economic Development Edmonton.

Economic Development Edmonton (2000a). Edmonton INFO 2000-2001. Edmonton: Economic Development Edmonton.

Economic Development Edmonton (2000b). CMS DataMine Inc., September 2000. Edmonton: Economic Development Edmonton.

Henley Centre for Economic Forecasting (1986). The Economic Impact and Importance of Sport in the United Kingdom. Henley: Sports Council.

Jones, H.G. (ed.) (1989). The Economic Impact and Importance of Sport: A European Study. Strasbourg: Council of Europe.

Kesenne, S., Couder, J., & De Maesschalck, L. (1987). Economische impact van de sport in Vlaanderen [Economic Impact of Sport in Flanders]. Antwerp: Study Centre for Economic and Social Research.

Kesenne, S. (1999). Miscalculations and misinterpretations in economic impact analysis. In C. Jeanrenaud (ed.), *The Economic Impact of Sport Events* (pp29-39). Neuchatel: Editions CIES.

Meyer, B. & Ahlert, G. (1998). Die ökonomische Bedeutung des Sports in Deutschland: Prognosen und Simulationsrechnungen mit einem disaggregierten Modell [The Economic Significance of Sport in Germany: Prognoses and Simulations with a Disaggregate Economic Model]. Osnabruck: Universität Osnabruck.

Mooney, R. (1992). Analysis of Financial Operations and Coaching Time Commitments During the 1991/92 High School Athletics Seasons of Play. Report prepared for Edmonton Catholic Schools Executive Council.

Ontario (1993). Economic Impact of Recreation: Part 2. Sport and Recreation Research Communiqués (no. 7). Government of Ontario.

Rigg, J. & Lewney, R. (1987). The economic impact and importance of sport in the U.K. *International Review for the Sociology of Sport*, 22, 149-170.

Ross, D. (1997). *How to Estimate the Economic Contribution of Volunteer Work*. Ottawa: Heritage Canada.

Sailor, L.E., Smale, B.J.A., & Donovan-Neale, W. (1993). *The Local Economic Impact of Public Recreation in the City of Burlington*. Report prepared for Parks and Recreation Department, City of Burlington.