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Economic Impact of Tourist Spending at Mosaic Place Events on the Local and Provincial Economies

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Prepared for Mosaic Place

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Introduction

Festivals and events held in Moose Jaw drive significant economic impact for the city and province, attracting hundreds of thousands of visitors each year and generating millions of dollars in spending. The scale and uniqueness of events held in Moose Jaw involves a significant amount of event organization, business services, and support workers. This study attempts to quantify the value of tourist spending at festivals, conventions, and events at Mosaic Place region in a typical year both in terms of their size and impact on other industries, employment, labour income, output, and government revenues.

Festivals, Conventions, and Events as Economic Drivers

Nationally, entertainment and festivals are known to be important drivers of the national economy, contributing to trade and investment outcomes, job creation and tourist visitation. Their value goes well beyond the initial spending impact at the events. In addition, festival and event facilities play a pivotal role in a community's economic prosperity, including boosting the visitor economy through domestic and international visitation (such as transport, hotels, retail and restaurants) and providing a platform for favourable community media exposure.

Summary of Results

This analysis presents results based on standard methodologies for estimating economic contributions for sub-national geographies. Results are the sum of direct, indirect, and induced impacts.

All are for 2020, and impacts are considered relative to a hypothetical Base Case: no festivals and events at Mosaic Place. Results below include direct, indirect, and induced impacts. Direct impact is the total initial expenditure. Indirect impact is the secondary impact that includes inter-industry transactions: purchases of inputs from supporting industries. Induced impact is the additional impact from changes in household spending as additional labor is hired.

Gross Domestic Product (GDP) measures net economic activity within a prescribed geographic area. It represents the payments made to final factors of production: labour, unincorporated business profits, and other operating surplus (corporate profits, interest income, inventory valuation adjustments, and capital consumption allowances). GDP excludes the value of intermediate goods and services used in production. Labour income includes wages, salaries, and employer contributions to pensions and benefit packages.

Gross output measures total expenditures on local goods and services as well as payments to labour and business profits. Gross output is the total value of goods and services produced by an industry and includes intermediate inputs that are foreign and domestically produced goods and services used by an industry in the production of its gross output. Value added is the difference between gross output and intermediate inputs and represents the value of labour and capital used in producing gross output. The sum of value added across all industries is equal to GDP for the economy.

Employment impacts are measured in positions and contain a mix of full and part-time positions. Employment results are rounded to the nearest whole number, and as such, column sums may not necessarily add to the table total.

Excluded from results are spending by local residents and event operation impacts.

Table 1: **Provincial Impacts: Tourist Spending** – Mosaic Place

Total Impacts: Mosaic Place	**Gross Output ($M)**	**Gross Domestic Product ($M)**	**Employment (Positions)**	**Labour Income ($M)**
	2.1	1.2	21	0.6

Table 2: **Moose Jaw Impacts: Tourist Spending** – Mosaic Place

Total Impacts: Mosaic Place	**Gross Output ($M)**	**Gross Domestic Product ($M)**	**Employment (Positions)**	**Labour Income ($M)**
	1.5	0.8	17	0.5

In summary, tourist spending at events and festivals have a widespread and positive impact on the local economy in 2020. Tourist spending at events at Mosaic Place alone accounted for $1.5M in economic activity, $0.8M in local GDP, and supported 17 jobs.

Introduction

The City of Moose Jaw and Mosaic Place contracted Praxis Consulting to design a model and methodology for the measurement of the impact of festivals and events on the regional and provincial economies.

Festivals and events held in Moose Jaw drive significant economic impact for the city and the province, attracting thousands of visitors each year and generating millions of dollars of spending. The scale and uniqueness of events held in Moose Jaw involves a significant amount of event organization, business services, and thousands of support workers. This study attempts to quantify the value of festivals, conventions, and events at Mosaic Place on the Moose Jaw region in a typical year both in terms of their size and impact on other industries, employment, labour income, output, and government revenues.

Festivals, Conventions, and Events as Economic Drivers

Entertainment and festivals are known to be important drivers of the national economy, contributing to trade and investment outcomes, job creation and tourist visitation. Their value goes well beyond the initial spending impact at the events. In addition, festival and event facilities play a pivotal role in a community's economic prosperity, including boosting the visitor economy through domestic and international visitation (such as transport, hotels, retail and restaurants) and providing a platform for favourable community media exposure.

Festivals and events can be expected to continue to be a powerful economic driver for the community for years to come. Overall, the multiplying effect of having this type of public (and private) investment has generated sound financial and social returns, specifically in terms of the economic and socio-cultural benefits for the investing city.

Mosaic Place

Supporting infrastructure for Moose Jaw festivals and events includes Mosaic Place. Located in downtown Moose Jaw, Mosaic Place opened on August 19, 2011. The 210,000 square-foot facility features an entertainment/sports bowl, an 8-sheet curling club, banquet facilities, and meeting rooms including 8 conference/banquet rooms capable of holding up 900 patrons.

The arena seats 4,465 for hockey spectators and 5000+ for events & concerts and also features 21 private suites and 132 club seats. Mosaic Place is home of the WHL Moose Jaw Warriors and the AAA Warriors.

The 8-sheet Moose Jaw Ford curling facility features locker rooms, a lounge, restaurant, and seating area overlooking the ice surface.

Methodology

To estimate the value festivals and events bring to the local economy, a separate economic model was employed for the region using the latest provincial input-output tables available. In this case, the region in question is the Moose Jaw Census Agglomeration. An input-output table is a means of presenting a

detailed analysis of the process of production, the use of goods and services (products), and the income generated in that production. Input-output tables illustrate inter-industry relationships within an economy and show how output from one industrial sector may become an input to another industrial sector. In the inter-industry matrix, column entries typically represent inputs to an industrial sector, while row entries represent outputs from a given sector. Each column of the input–output matrix shows the monetary value of inputs to each sector and each row represents the value of each sector's outputs.

The Saskatchewan input-output model is rectangular in nature with 35 industries and 66 commodities and based on a standardized methodology (Statistics Canada's) and will yield results similar to Statistics Canada's inter-provincial model and the Conference Board of Canada's STEAM Model. Model description and definitions are available in Appendix A.

Key to this analysis was the estimation of impacts at the regional level. Regional level impacts were estimated by constructing a separate economic impact model for the region. This was done using regional employment by industry to estimate regional output, a community hierarchy model, to assess regional trade flows and leakages, and re-balancing to ensure model cohesiveness. The regional model is a square model with 25 industries. A more detailed discussion of the regional input-output models is available in Appendix B. Impacts on test of province outside of the Moose Jaw region (ROP) are the difference between provincial and Moose Jaw impacts.

Mosaic Place Jaw provided event attendance and estimated breakdowns of local and of non-local (tourist) attendees for 2020. These are summarized in Table 3 along with calculated tourist person day/nights and tourist spend. Statistics Canada survey-based spending on travel, accommodations, entertainment, food and beverage, and retail were used and separated by expenditures by type for same day trips and overnight trips. The provincial default split of trips by Saskatchewan residents vs. other Canadians was employed to estimate out of province visits.

Total tourist person days/nights totaled 5,292 and generated $1,129,041 in tourist spending.

Table 3: Mosaic Place **Events – Attendance, Tourist Person Days/Nights, and Tourist Spend**

Festival/Event	Attendance	% Local	Tourist Person Nights/Days	Total Tourist Spend
Bromantics	220	95	11	$2,347
PBR	1,619	46	878	$187,326
George Canyon	1,339	61	516	$110,091
Brad Paisely	2,396	47	1,264	$269,681
Offspring	2,886	24	2,192	$467,675
Gord Bamford	1,118	61	431	$91,921
Total	**9,578**	**335**	**5,292**	**$1,129,041**

Detailed Results

Results below are the sum of direct, indirect, and induced impacts for festivals and events on the local and provincial economies for 2019/20. All scenario impacts are considered relative to a hypothetical Base Case: no festivals or events. Direct impact is the total initial expenditure. Indirect impact is the

secondary impact that includes inter-industry transactions: purchases of inputs from supporting industries. Induced impact is the additional impact from changes in household spending as industries add labour in response to higher levels of demand for output. Gross output measures total expenditures on local goods and services as well as payments to labour and business profits. GDP measures net economic activity within a prescribed geographic area. It represents the payments made to final factors of production: labour, unincorporated business profits, and other operating surplus (corporate profits, interest income, inventory valuation adjustments, and capital consumption allowances). GDP excludes the value of intermediate goods and services used in production. Employment is measured in positions. Labour income includes wages, salaries, and employer benefits. Labour income includes wages, salaries, and employer contributions to pensions and benefit packages.

Excluded from results are spending by local residents and event operation impacts.

Table 4: Province, Moose Jaw, and ROP **Impacts: Tourist Spending** – Mosaic Place

Tourist Spending Impact - Scotties Tournament of Hearts	Province	Moose Jaw	ROP
Gross Output ($M)			
Direct	1.1	1.1	0.0
Indirect	0.4	0.2	0.2
Induced	0.6	0.2	0.4
Total Gross Output	**2.1**	**1.5**	**0.6**
Gross Domestic Product ($M)			
Direct	0.6	0.6	0.0
Indirect	0.2	0.1	0.1
Induced	0.4	0.1	0.3
Total Gross Domestic Product	**1.2**	**0.8**	**0.4**
Employment (Positions)			
Direct	16	16	0
Indirect	2	1	1
Induced	4	1	3
Total Employment	**21**	**17**	**4**
Labour Income ($M)			
Direct	0.4	0.4	0.0
Indirect	0.1	0.0	0.0
Induced	0.1	0.0	0.1
Total Labour Income	**0.6**	**0.5**	**0.2**

Impacts by Industry

Tables 5 and 6 provide total impacts (direct, indirect, and induced) by industry of Tourist spending at Mosaic Place. Direct impacts are confined to the travel, retail, accommodation and food service and

amusement and recreation industries. Indirect impacts (industries providing inputs to the directly impacted industries) are concentrated in retail trade, finance, insurance, real estate and rental and leasing, professional, scientific, and technical services, and business support industries. Induced impacts, which represent the additional impacts of consumer spending of wages earned, are concentrated in trade and personal services.

Table 5: Impacts by Industry – Province – Tourist Spending – Mosaic Place

	Gross Output Impact ($M)	GDP at Basic Prices Impact ($M)	Employment Impact (Positions)	Labour Income Impact ($M)
Crop and Animal Production	0.0	0.0	0	0.0
Forestry and Logging	0.0	0.0	0	0.0
Fishing, Hunting and Trapping	0.0	0.0	0	0.0
Support Activities for Agriculture and forestry	0.0	0.0	0	0.0
Mining and Oil and Gas Extraction	0.0	0.0	0	0.0
Utilities	0.1	0.0	0	0.0
Construction	0.0	0.0	0	0.0
Manufacturing	0.1	0.0	0	0.0
Wholesale Trade	0.0	0.0	0	0.0
Retail Trade	0.6	0.4	8	0.2
Transportation and Warehousing	0.1	0.0	0	0.0
Information and Cultural Industries	0.0	0.0	0	0.0
Finance, Insurance, Real Estate and Rental and Leasing	0.3	0.2	1	0.0
Professional, Scientific and Technical Services	0.0	0.0	0	0.0
Administrative and Support, Waste Management and Remediation Services	0.0	0.0	0	0.0
Educational Services	0.0	0.0	0	0.0
Health Care and Social Assistance	0.0	0.0	0	0.0
Arts, Entertainment and Recreation	0.1	0.0	1	0.0
Accommodation and Food Services	0.6	0.3	9	0.2
Other Services (Except Public Administration)	0.0	0.0	0	0.0
Operating, Office, Cafeteria and Laboratory Supplies	0.0	0.0	0	0.0
Travel, Entertainment, Advertising and Promotion	0.0	0.0	0	0.0
Transportation Margins	0.0	0.0	0	0.0
Non-Profit Institutions Serving Households	0.0	0.0	0	0.0
Government Sector	0.1	0.0	0	0.0
Total	**2.1**	**1.2**	**21**	**0.6**

Table 6: Impacts by Industry – Moose Jaw – Tourist Spending – Mosaic Place

	Gross Output Impact ($M)	GDP at Basic Prices Impact ($M)	Employment Impact (Positions)	Labour Income Impact ($M)
Crop and Animal Production	0.0	0.0	0	0.0
Forestry and Logging	0.0	0.0	0	0.0
Fishing, Hunting and Trapping	0.0	0.0	0	0.0
Support Activities for Agriculture and forestry	0.0	0.0	0	0.0
Mining and Oil and Gas Extraction	0.0	0.0	0	0.0
Utilities	0.0	0.0	0	0.0
Construction	0.0	0.0	0	0.0
Manufacturing	0.0	0.0	0	0.0
Wholesale Trade	0.0	0.0	0	0.0
Retail Trade	0.5	0.3	6	0.2
Transportation and Warehousing	0.1	0.0	0	0.0
Information and Cultural Industries	0.0	0.0	0	0.0
Finance, Insurance, Real Estate and Rental and Leasing	0.1	0.1	0	0.0
Professional, Scientific and Technical Services	0.0	0.0	0	0.0
Administrative and Support, Waste Management and Remediation Services	0.0	0.0	0	0.0
Educational Services	0.0	0.0	0	0.0
Health Care and Social Assistance	0.0	0.0	0	0.0
Arts, Entertainment and Recreation	0.1	0.0	1	0.0
Accommodation and Food Services	0.6	0.3	9	0.2
Other Services (Except Public Administration)	0.0	0.0	0	0.0
Operating, Office, Cafeteria and Laboratory Supplies	0.0	0.0	0	0.0
Travel, Entertainment, Advertising and Promotion	0.0	0.0	0	0.0
Transportation Margins	0.0	0.0	0	0.0
Non-Profit Institutions Serving Households	0.0	0.0	0	0.0
Government Sector	0.0	0.0	0	0.0
Total	**1.5**	**0.8**	**17**	**0.5**

Government Fiscal Impacts

An expansion in economic activity is expected to generate incremental government revenues. The economic impact model's fiscal module is based on the latest provincial and federal budgets and estimates government revenues as follows:

- Provincial personal income tax is calculated by using the provincial personal income tax rate that would apply to average industry annual income. This is applied to model-generated labour income.
- Corporation income tax is calculated by applying the respective provincial corporate tax rate to incremental corporate profits before taxes calculated by the model.
- Unincorporated business income taxes are calculated by applying the small business tax rate to incremental unincorporated business profits calculated by the model.
- Federal and Provincial sales taxes collected are calculated using a ratio of government sales and excise tax revenues to retail industry output.
- Local/Municipal government fiscal impacts are based on the stable ratio of Moose Jaw Municipal revenues to regional GDP and the breakdown of Moose Jaw revenues by type breakdown local government revenues by component part.

Estimated government revenues are for direct, indirect, and induced impacts and do not represent taxes paid solely by the project proponent. Estimates are not adjusted for any changes to equalization entitlements.

Table 7: Government Revenue – Tourist Spending - Mosaic Place

Government Revenues by Type	Personal Income Tax (PIT)	Corporate Income Tax	Taxes Unincorp-orated Business Profits	Sales and Excise Taxes	Total Revenue
Federal ($M)	0.11	0.02	0.02	0.04	**0.19**
Provincial ($M)	0.07	0.01	0.02	0.05	**0.15**
	Taxes	**Other Levies**	**Utilities**	**Other***	
Municipal ($M)	0.109	0.002	0.009	0.012	**0.131**

References

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Olfert, M. Rose and Jack C. Stabler. 1994. Community Level Multipliers for Rural Development Initiatives, Growth and Change, 25: 467-486.

Stabler, Jack C. and M. Rose Olfert. 1992. Regina: Canadian Plains Research Center.
Restructuring Rural Saskatchewan: the Challenge of the 1990s.

Statistics Canada Industry Accounts Division / System of National Accounts, 2019. Saskatchewan 2016 Input-Output Tables.

Statistics Canada. Table 381-0009 - Inputs and outputs, by industry and commodity, L-level aggregation and North American Industry Classification System (NAICS), annual (dollars) (table), CANSIM (database).

Appendix A: Definitions and Model Description

Direct Impact: total project expenditure, usually construction, operating outlays, or incremental consumer spending.

Employment: measured in positions.

Final Demand: sum of personal expenditure, government purchases of goods and services, business and government investment, and net exports.

GDP at factor cost: measure of net economic activity within a prescribed geographic area. It represents the payments made to final factors of production: labour, unincorporated business profits, and other operating surplus (corporate profits, interest income, inventory valuation adjustments, and capital consumption allowances). GDP at factor cost excludes the value of intermediate goods and services used in production.

GDP at market prices: GDP at factor cost plus indirect taxes less subsidies.

Gross Output: total expenditures on local goods and services as well as payments to labour and business profits. Gross output includes double counting because it includes the value of inputs used in production rather than net value added alone.

Indirect Impact: the secondary impact that includes inter-industry transactions, purchases of inputs from supporting industries

Induced Impact: the additional impact from changes in household spending as industries modify labour input requirements in response to altered levels of demand for output.

Industry outputs are calculated as $(I-D(I-\mu-\alpha-\beta)B)-1D((I-\mu-\alpha-\beta)e+(I-\mu-\beta)Xd+(I-\mu)Xr)=X$

Where:
I = an identity matrix of industry by industry dimension
D = a matrix of coefficients representing commodity output proportions
B= a matrix of coefficients representing commodity input proportions (technical coefficients) by industry
μ = a diagonal matrix whose elements represent the ratio of imports to use
α = a diagonal matrix whose elements represent the ratio of government production to use
β = a diagonal matrix whose elements represent the ratio of inventory withdrawals to use
e = final demand categories of consumption, government purchases of goods and services, business and government investment, and inventory additions.
Xd = final demand category of domestic exports
Xr = final demand category of re-exports.

Employment is calculated as a fixed number of positions per dollar of industry output.

Appendix B: Developing Community Level Input-Output Models

The latest available provincial input-output tables at the S-Level from Statistics Canada were used as the starting point. The table represents 25 industries and 18 components of final demand (based on the 2016 S-level aggregation, the latest available). The tables were converted into industry-by-industry space.

In a square input-output table, each industry in the table can be represented as a column. For example industry 1 can be represented as follows:

z11
z12
.
.
.
z125
w1
X1

zij = purchases by industry i of products from industry j. The transactions matrix consists of z11 to z2525 comprise the transactions matrix of 625 (25 x 25) elements.
W1 = value added or gross domestic product component of industry 1's output which includes wages, salaries, supplementary labour income, unincorporated business profits, incorporate income profits, other income, and depreciation.
X1 = industry 1's total output, which equals W1 plus the sum of z11 to z25.

To create sub-provincial models, four challenges must be overcome:

1) Allocation of provincial gross output by community/region;
2) Estimation of technical coefficients by industry at a community/regional level;
3) Estimation of components of gross domestic product by industry at a community/regional level; and
4) Allocation of provincial final demand output by community/region.

Census data on labour force by industry will be used to allocate gross output by industry for the region/community. Regional gross output for industry i is estimated:

XRi = Labour ForceRi/Labour ForceSki x XSki

Where:
XRi = regional gross output for industry i

Labour ForceRi = regional labour force for industry i
Labour ForceSki = provincial labour force for industry i
XSki = provincial gross output for industry i

To estimate items in each regional transaction matrix (zij) it will be assumed in all cases that the provincial input structure will apply to regional industries. The components of the regional transaction matrix are estimated:

zRij = zSKij/XSki x XRi

Where:
zRij = an element of the regional transactions matrix.
zSKij = the corresponding element of the provincial transactions matrix.

The same methodology is used for estimating the components of GDP.

WRi = WSki/XSki x XRi

Where:
WRi = regional value added or gross domestic product component of industry i's output
WSki = provincial value added or gross domestic product component of industry i's output

The components of final demand are estimated as follows. Personal expenditures are based on a per capita allocation of provincial spending.

PERi = PESki/PopSk x PopR

Where:
PERi = Regional personal expenditure on industry i's output
PESki = Provincial personal expenditure on industry i's output
PopSk = Provincial population
PopR = Regional population

Gross capital formation (GFCF) or investment by industry is estimated applying the regional share industry to total provincial gross capital formation for each industry. The same approach is used to estimate exports (Xd), imports (M), and inventory changes by industry (VPC)

GFCFRi = XRi/XSki x GFCFSki

XdRi = XRi/XSki x XdSki

MRi = XRi/XSki x MSki

VPCRi = XRi/XSki x VPCSki

Where:
GFCFRi = Regional investment spending on industry i's output.
GFCFSki = Provincial investment spending on industry i's output
XdRi = Regional exports of industry i's output
XdSki = Provincial exports of industry i's output
MRi = Regional imports of industry i's output
MSki = Provincial imports of industry i's output
VPCRi = Regional inventory changes of industry i's output
VPCSki = Provincial inventory changes of industry i's output

Regional public administration employment is used to allocate provincial government current expenditures by region.

GCERi = PAER/PAESk x GCESki

Where:
GCERi = Regional government current expenditures on industry i's output
PAER = Regional public administration labour force
PAESk = Provincial public administration labour force
GCESki = Provincial government current expenditures on industry i's output

It is also necessary to adjust for leakages for intra-provincial imported factors of production. These are estimated residually. If the sum of the use (both Final Demand and Inter-industry sales) of industry i's output is less than Xi then, intra-provincial exports are used to balance. Similarly, if use (both Final Demand and Inter-industry sales) is greater than Xi intra-provincial imports are used to balance.

Intra-provincial exports/imports and exports due to out-shopping are estimated by calculating the marginal propensity to out-shop (the ratio of major community per capita retail sales to provincial per capita retail sales and multiplying by PE). Imports and exports are adjusted by this amount.

The estimation of intra-provincial imports into a region/community and incorporation of intra-provincial imports into the region/community model's leakages will constrain local multipliers to values not exceeding provincial level multipliers.

Developing Community/Regional Impact Models

Industry outputs in response to a shock in final demand are calculated as $(I-(I-\mu-\alpha-\beta)A)-1((I-\mu-\alpha-\beta)e+(I-\mu-\beta)Xd+(I-\mu)Xr)=X$

Where:
I = an identity matrix of industry by industry dimension
A = a matrix of technical coefficients representing inter-industry purchases (zij) divided by own industry gross output Xi.
μ = a diagonal matrix whose elements represent the ratio of imports to use

α = a diagonal matrix whose elements represent the ratio of government production to use
β = a diagonal matrix whose elements represent the ratio of inventory withdrawals to use
e = final demand categories of consumption, government purchases of goods and services, business and government investment, and inventory additions.
Xd = final demand category of domestic exports
Xr = final demand category of re-exports.

Employment is calculated as a fixed number of positions per dollar of industry output.
GDP components are calculated based on a fixed ratio of Wi to industry output.