An Impact Analysis of Constructing and Operating An 'All Weather Multi-Purpose Entertainment Facility' On the Site of the Regina CP Rail Yards

By

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Executive Summary

This report looks at the economic, social and related benefits of constructing and operating an All Weather Multi-Purpose Entertainment Facility (proposed venue) on the site of CP rail yards located in the city centre of Regina, Saskatchewan. The project is a generational opportunity to redevelop the CP rail yards in a manner that is both stimulative and transformational.

Economic and Employment Impact:

Capital Investment

- Baseline case for the construction phase simulation used $350 million with the actual construction cost to be determined by a final project estimate. All dollar figures are stated in 2010 nominal dollars.
- Changes in the amount of capital investment will result in a proportional change in the economic impact. For comparison, the impacts of incremental capital investments levels of $350, $375, $400, $425 and $450 million were estimated and are shown below.

GDP Impact from Construction (Incremental Investment Levels)

	$350	$375	$400	$425	$450
Direct GDP	$149.9	$160.6	$171.3	$182.0	$192.7
Indirect GDP	$45.6	$48.9	$52.1	$55.4	$58.6
Total GDP	**$195.5**	**$209.5**	**$223.4**	**$237.4**	**$251.4**

Note: *All dollar values are stated in millions rounded off to one decimal place.*

Employment Impact from Construction (Incremental Investment Levels)

	$350	$375	$400	$425	$450
Direct Employment	2,019	2,163	2,307	2,452	2,596
Indirect Employment	568	609	649	690	730
Total Employment	**2,587**	**2,772**	**2,957**	**3,141**	**3,326**

Note 1: *All dollar values are stated in millions. Employment values are stated in person years and are rounded off to whole numbers.*

36 Months Construction Phase

- $195.5 million Total (direct and indirect) GDP.
- 2,587 person years of Total Employment impact.
- The impacts from construction are new impacts on the economy of Saskatchewan.

Annual Operations

- Economic impacts were estimated based on $39 million in gross revenue which includes all the activity and events that would move from Mosaic Stadium to the proposed venue, new activity and events, and ticket revenue that exists because of the use of the venue.
- $30.6 million Total GDP impact per year.
- 1,034 person years of Total Employment impact per year.

Long Term

- Operating benefits are long term in nature and recur at the rate of the annual operating benefits.
- Based on a very conservative 25 year operating horizon, plus construction impacts, it is estimated that there will be approximately $960.5 million of Total GDP impact and 28,437 person years of Total Employment impact.
- Over the life of the venue the operating impacts will exceed the impacts from construction.

Retail, Tourism and Entertainment Impact:

- As a signature Sports and Entertainment facility the proposed venue would stimulate demand for the Retail, Tourism and Entertainment sectors in Regina and throughout the province.
- Over 500,000 people will be drawn to the venue each year seeking goods and services associated with their visit.
- Provides an opportunity for Saskatchewan performers, promoters, production companies, sports organizations and community groups to develop and offer events.

Transformation Impact:

- Alignment of the interests of the Warehouse District, Regina Downtown, City of Regina, the Saskatchewan Roughriders and other community groups in linking the Regina Downtown and Warehouse District.
- Generate significant and sustained economic impact and activity to support the ongoing renewal and viability of the city centre of Regina.
- Establishes the Warehouse District and Regina Downtown as a distinct place to live, visit, work and play.
- A future growth oriented project that affirms that Saskatchewan is a place to invest in, and to grow with.

Synergies:

- An anchor facility that can coordinate with other Saskatchewan groups and facilities to maximize Saskatchewan's ability to attract large events that exceeds the capacity of any one venue to offer.
- Concerns that existing business will be taken from other venues can be addressed in the programming and design of the proposed venue.
- Many opportunities for the people of Saskatchewan to leverage the proposed venue to the benefit of themselves, their organizations, their communities and their province.

Constructing and operating an All Weather Multi-Purpose Entertainment Facility on the site of the old CP rail yards in Regina speaks to Saskatchewan's future. The project will generate significant related and recurrent benefits throughout the province of Saskatchewan. A growth oriented project that affirms that Saskatchewan is a place to invest in, and to grow with.

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1.0 INTRODUCTION

This report examines the Total (direct and indirect) economic impact of constructing and operating an All Weather Multi-Purpose Entertainment Facility (proposed venue) as well as the related impacts. Induced effects are also calculated and included in Overall impact estimates for reference only.

The proposed venue would be designed for 33,000 seats, expandable to 45,000 seats in a football configuration. The potential exists for a maximum of 53,000 seating capacity in a 'centre field stage' format. The proposed venue would be constructed on the site of the existing CP rail yards just north of downtown Regina, Saskatchewan, Canada. In addition to hosting professional, university and amateur football the venue could be the eastern anchor of a 'Regina Entertainment Corridor' and an all season facility for other forms of entertainment, tourism, conference and community uses.

The report looks at the following five themes:

- Total economic impact of the proposed venue on the Regina, and Saskatchewan markets.
- The economic impact of the proposed venue during the construction phase, annual operations and as an ongoing operation.
- The impact of the proposed venue's operations on the retail, entertainment and tourism sectors of the City of Regina and the province of Saskatchewan.
- The impact that the proposed venue will have as a transformational stimulus for the 'CP rail yard', 'Warehouse District' and the 'Downtown'.
- The impact that the proposed venue will have, on the broader Regina/Saskatchewan identity, on synergies with other sports/entertainment venues, and as a secondary stimulus in the greater community.

2.0 ECONOMIC AND EMPLOYMENT IMPACT

An economic analysis was conducted to determine the economic impact of constructing and operating an All Weather Multi-Purpose Entertainment Facility in Regina using Statistics Canada's 'Open Interprovincial Input-Output Model' for Saskatchewan. The models were run by Statistics Canada on January 28, 2010 and February 2, 2010 using their most current (2006) Input Output Multipliers for Saskatchewan. A subsequent model was run by SJResearch of Regina on February 5, 2010 to segment out Regina and Saskatchewan level annual operational impacts. The annual operational impacts on the retail, entertainment and tourism sectors were also estimated.

The analysis is based on the premise that all activity that occurs at the proposed venue is captured in order to calculate the full economic impact that building and operating the venue will have on the Saskatchewan and Regina economies. This includes all the activity and events that would move from Mosaic Stadium to the proposed venue, new activity and events and ticket revenue that exists because of the use of the venue. While construction impacts are incremental, the operating impacts combine both existing and incremental components.

The analysis was conducted in two parts. The first part focused on the economic impact associated with the construction phase of the project. Direct, indirect, and induced impacts for GDP, Employment, and Provincial Revenue were calculated at the provincial level. The second part focused on the economic impact associated with operating the proposed venue on a yearly basis and on the long term impact associated with 25 years of operations segmented by the impact on Regina and the provincial level.

The methodology for Statistics Canada's 'Open Interprovincial Input-Output Model' is presented in Appendix A and a glossary of terms is presented in Appendix B. SJResearch's models of Saskatchewan and Regina economies are presented in Appendix C. A summary of the simulation results with industry level effects are given in Appendix D.

2.1 Construction Impact: Subject to approval, land acquisition and tendering, the project could start in the fall of 2011. Construction would take approximately 36 months and could be completed in the fall of 2014. **For the purpose of the simulation**, it is estimated that approximately $10 million will be invested in the first year, $120 million in the second year, $135 million in the third year and $85 million in the fourth year for a total investment of $350 million dollars. All dollar figures are in 2010 nominal dollars. The economic impact on Saskatchewan's GDP and Employment was calculated for the total investment of $350 million.

An analysis with $350 million capital investment in construction, estimates that the Total GDP (direct and indirect) impact is $195.5 million with the direct GDP impact of $149.9 million and indirect GDP impact of $45.6 million. Overall GDP impact (Total plus induced) was $260.2 with an induced GDP of $64.7 million. The Total (direct and indirect) Employment impact from construction is estimated at 2,587 person years of employment with the direct Employment of 2,019 person years and indirect Employment of 568 person years. Overall Employment impact (Total plus induced) was 3,266 with an induced Employment of 679 person years. Results are shown in Table 1 and summarized below.

TABLE 1: GDP and Employment Impact from $350 Million Construction Phase

	Direct	Indirect	**Total**	Induced	Overall
GDP	$149.9	$45.6	**$195.5**	$64.7	$260.2
Employment	2,019	568	**2,587**	679	3,266

Note: Calculations were made using the 2006 Input Output Multipliers for Saskatchewan. All GDP values are stated in millions rounded off to one decimal place. All employment values are stated in person years rounded off to whole numbers.

Approximately 56% of the Total GDP (direct and indirect) impact from the investment remains in Saskatchewan and 34% flows to other provinces. This is a similar impact to other major non-residential construction projects in Saskatchewan where major components of the project such as steel, concrete, glass, seating, etc are often purchased in Saskatchewan but manufactured elsewhere. While the majority of the construction related employment impact will be realized in the Regina and surrounding areas, GDP impact will be realized throughout the province as materials are sourced and supplied. Total Provincial Revenues (excluding income taxes) from construction are estimated at $11.561 million (details are provided in Table 2).

TABLE 2: Estimated Provincial Revenue from $350 Million Construction Phase

	Total (Direct and Indirect)	Induced	Overall
Provincial Trading Profits	**$0.012**	$0.034	$0.046
Provincial Gas Tax	**$0.957**	$0.420	$1.377
Provincial Amusement Tax	**$0.000**	$0.000	$0.000
P.S.T	**$10.592**	$0.736	$11.328
Provincial Revenue	**$11.561**	$1.190	$12.751

Note: Estimates are based on prevailing rates in 2006. All dollar values are stated in millions rounded off to three decimal places.

Changes in the amount of capital investment will result in a proportional change in the economic impact within a $350 - $450 million range. For comparison of the impacts of incremental capital investments levels of $350, $375, $400, $425 and $450 million see Table 3a and 3b.

TABLE 3a: GDP Impact from Construction (Incremental Investment Levels)

	$350	$375	$400	$425	$450
Direct GDP	$149.9	$160.6	$171.3	$182.0	$192.7
Indirect GDP	$45.6	$48.9	$52.1	$55.4	$58.6
Total GDP	**$195.5**	**$209.5**	**$223.4**	**$237.4**	**$251.4**
Induced GDP	$64.7	$69.3	$73.9	$78.6	$83.2
Overall GDP	$260.2	$278.8	$297.4	$316.0	$334.5

Note: *All dollar values are stated in millions rounded off to one decimal place.*

TABLE 3b: Employment Impact from Construction (Incremental Investment Levels)

	$350	$375	$400	$425	$450
Direct Employment	2,019	2,163	2,307	2,452	2,596
Indirect Employment	568	609	649	690	730
Total Employment	**2,587**	**2,772**	**2,957**	**3,141**	**3,326**
Induced Employment	679	728	776	825	873
Overall Employment	3,266	3,499	3,733	3,966	4,199

Note 1: *All dollar values are stated in millions. Employment values are stated in person years and are rounded off to whole numbers.*

2.2 Annual Operating Impact: Post construction, major facilities often go through a 'honeymoon period[1]' characterized by: high interest in seeing and being at the new venue which drives demand; evolving operating efficiencies; and, stabilization in maintenance costs. In terms of ongoing viability, establishing the proper identity/reputation is one of the most important outcomes of this transition period.

Unlike a single-use venue, a multi-purpose venue must become known for its breadth of offering. Possibly even more important, the venue needs to deliver value to its intended patrons. The quality of experience, price of tickets, parking costs, concessions, ease of access/egress amongst other factors influence whether or not the consumer perceives

[1] Howard Dennis R, and John L Crompton (2003) "An Empirical Review of the Stadium Novelty Effect", Sports Marketing Quarterly, Volume 12, Number 2, p 111- 116

good value. The initial commissioning period is often scheduled to coincide with special events (Grey Cup, world class concert, etc) that draw a geographically diverse range of customers to the venue. During the honeymoon period utilization and revenue are higher than normal. This period is important to the long term viability of the venue as it sets up patronage patterns for future visits and use.

There is no defined length to the honeymoon period. If consumer experiences with the venue are in line with or exceeds their expectations, the reputation of the venue as a place to go spreads. Based upon positive word of mouth a wider base of patrons are likely to go to the venue and to develop the intention to do so again. This can extend the honeymoon period to several years. The opposite also holds true.

For the purpose of this study the economic impact during the honeymoon period is assumed to be consistent with the average ongoing long term operating performance in order to show long term projections. However it should be noted that the addition of a single major event can lead to a significantly higher economic impact. For example the 2003 Grey Cup had an economic impact of over $13 million in GDP[2] while the 2006 Rolling Stones Bigger Bang Tour concerts had an economic impact of over $10.5 million in GDP[3].

Estimates of the economic and employment impact on Saskatchewan of operating the proposed venue were calculated based on a $39 million gross revenue estimate provided by Crown Investments Corporation of Saskatchewan on February 4, 2010. The estimate was based on Global Spectrum's proforma adjusted to reflect gross revenue for all activity (excluding novelty and merchandizing revenue, and naming rights which were unknown) flowing through the proposed venue for a 'typical' year including ticket sales revenue. Based on a comparison with other local and regional facilities (Evraz Place, CUC Place, and Fargo Dome) the projected utilization of the proposed venue is conservative. Results are shown in Table 4 and 5, and summarized below.

$39 million gross revenue results in an annual Total GDP impact of $30.6 million on the economy of Saskatchewan with the direct GDP of $20.8 million and indirect GDP of $9.8 million. Overall GDP impact is $43.7 million with an induced GDP of $13.0 million. The annual Total Employment impact is estimated at 1,034 person years of employment with the direct Employment of 863 person years and indirect Employment of 171 person years. Overall Employment is 1,241 person years with an induced Employment of 207

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[2] "Economic Impact of The 2003 Grey Cup on the Provincial Economy -- Executive Summary", SJ Research Services, Regina Saskatchewan, August 2003

[3] "Economic Impact of The 2006 Rolling Stones' Bigger Bang Tour on the Regina Economy", SJ Research Services, October 2006.

person years. The proposed venue itself will create 42 full-time and 12 full-time equivalent part-time jobs per year.

TABLE 4: GDP and Employment Impact from Annual Operations (Provincial)

	Direct	Indirect	**Total**	Induced	Overall
GDP	$20.8	$9.8	**$30.6**	$13.0	$43.7
Employment	863	171	**1,034**	207	1,241

Note: Calculations were made using the 2006 Input Output Multipliers for Saskatchewan. All dollar values are stated in millions rounded off to one decimal place. Employment values are stated in person years and are rounded off to whole numbers.

TABLE 5: GDP and Employment Impact from Annual Operations (Regina)

	Direct	Indirect	**Total**	Induced	Overall
GDP	$18.8	$3.7	**$22.5**	$5.0	$27.5
Employment	788	58	**846**	78	923

Note: Calculations were made using the 2006 Input Output Multipliers for Saskatchewan. All dollar values are stated in millions rounded off to one decimal place. Employment values are stated in person years and are rounded off to whole numbers.

Of the annual provincial Total GDP impact, 73.5% will be realized in Regina and 26.5% throughout the rest of the province. Of the provincial Total Employment impact created annually, 81.8% will be realized in Regina and 18.2% throughout the rest of the province. Total Provincial Revenues from annual venue operations with related tourist impacts are estimated at $4.4 million annually (details are provided in Table 6).

TABLE 6: Estimated Provincial Revenue from Annual Operations with Tourist Impacts

	Direct	Indirect	**Total**	Induced	Overall
Provincial Revenue - PIT	$1.3	$0.6	**$1.8**	$0.7	$2.6
Provincial Revenue - Corporate Income Tax	$0.3	$0.2	**$0.5**	$0.2	$0.7
Provincial Revenue - Taxes on Unincorporated Business Profits	$0.1	$0.0	**$0.1**	$0.1	$0.2
Provincial Revenue - Sales Tax	$0.2	$1.2	**$1.4**	$1.1	$2.5
Provincial Revenue - Fuel Tax	$0.0	$0.4	**$0.4**	$0.3	$0.8
Provincial Revenue - Tobacco Tax	$0.0	$0.2	**$0.2**	$0.2	$0.3
Total	$1.8	$2.5	**$4.4**	$2.6	$7.0

Note: Estimates are based on prevailing rates in 2010. All dollar values are stated in millions rounded off to one decimal place.

2.3 Total (Long Term) Impact: Long term, the viability of a venue is determined by numerous factors that can't be predicted beyond projection of the past and current trends. Changes in demographic, social, technological, economic and competition trends influence demand estimates in either direction. The underlying assumption in this economic analysis is that the revenue estimates provided by Global Spectrum, adjusted to reflect gross revenue from operations is typical of future years. Their estimates based on 31 events per year appear to be very conservative considering the Fargo Dome hosts 70-80 (excluding 20 NDSU sports events) events per year[4], and Credit Union Centre in Saskatoon hosted 31 concerts/shows in 2009[5].

Although many factors affecting gross revenue will change over time it is important to consider the economic impact of the future operation of the proposed venue in order to get a more complete picture of the future economic impact. Many facilities such as the proposed venue have useful operating life spans of 35 to 50 years or longer. During the entire life span of the proposed venue, economic benefits will continue to be realized. As a reference point the results of estimating the impact of 25 years of operations are presented in Table 7 and discussed in the following paragraph.

TABLE 7: GDP and Employment Impact from Construction and 25 Years of Operations (Provincial)

	Total GDP	Total Employment
Construction ($350MM Investment)	$195.5	2,587
25 Years Operations	$765.0	25,850
Combined Total Impact	**$960.5**	**28,437**

Note: Data is summarized from Table 1 and Table 4. Total effects include direct and indirect effects. All dollar values are stated in millions rounded off to one decimal place. Employment values are stated in person years are rounded off to whole numbers.

The provincial level impacts of projecting the results from 'Annual Operations' model over 25 years of operations yields approximately $765 million in Total GDP impact ($30.6 x 25) measured in 2010 dollar values and would generate approximately 25,850 (1034 x 25) person years of Total Employment. Each year after the 25th year of operation would continue to contribute another $30.6 million (2010 nominal) in Total GDP and another 1,034 person years of employment. Based on a limited projection of a 25 year

[4] "Fargodome Annual Attendance Comparisons 1993-2008," CITY OF FARGO, NORTH DAKOTA 2010 Approved Budget, pg 52. http://www.cityoffargo.com/attachments/3a815457-c3ac-45c3-928d-3c610c9d163d/2010%20APPROVED%20BUDGET%20for%20web.pdf

[5] 'Compiled from 2009 calendar of events' http://www.creditunioncentre.com/calendar.php

operating horizon with a $350 million capital investment in construction the project would yield Combined Total impact of $960.5 million in GDP and 28,437 person years of employment in the province of Saskatchewan.

3.0 RETAIL, TOURISM AND ENTERTAINMENT IMPACT

Global Spectrum estimates that the venue will bring over 500,000 people a year to the facility[6] and to the Warehouse District and Downtown area. The flow of people into these areas prior to, during and following the events will impact the retail, entertainment and tourism industry in Regina and throughout Saskatchewan. The following section discusses these impacts.

3.1 Retail: The impact on retail activity is highly variable depending on the nature and time of the event, demographics, and the distance the attendees, teams and personal with the events travel. The following points outline some of the inputs captured in the analysis.

- Out of town attendees with planned overnight stays have the greatest effect on retail activity. Many visitors to the urban centres combine a planned shopping trip around a major event.
- Aside from hotel and restaurants, visitors often purchase a wide range of goods and services including consumer merchandise, rentals, spas, salons, to name but a few.
- Purchasing behaviour from local residents going to an entertainment venue is usually related to impulse and convenience purchases associated with the event itself.
- During major events the regional supply of hotels, bed and breakfasts, camp grounds and resorts will experience an increase in demand.
- In most cases there are transportation related economic spins offs including spending on parking, transit, taxis, and gas purchases to attend an event.
- Major purchases and rentals made or arranged by the staff of the primary event plus last minute purchases related to forgotten, lost or damaged goods can range from a few thousand to hundreds of thousands of dollars.

[6] "Global Spectrum Regina Proforma as of 02-01-2010" unpublished report.

- There are increased traffic and customer counts in businesses prior to the events as people often travel to, and are in the area of the event prior to its start.

The Provincial and Regina level economic impacts of the proposed venue's operation on the retail sector were estimated with the February 5, 2010 model. These values are already captured in the Total GDP and Total Employment estimates as presented in section 2. They are broken out in detail in this section to show the impact that the operation of the venue and related tourism has on the retail sector. The Saskatchewan Total GDP impact on the retail sector is $3.6 million and the Total Employment impact is 110 person years, annually. The Regina Total GDP impact on the retail sector, which is included in the provincial level impact, is $2.3 million and the Total Employment impact is 38 person years, annually. Details and induced effects are presented in tables 8a and 8b.

TABLE 8a: Annual GDP and Employment Impact on the Retail Sector from Operations (Provincial)

	Direct	Indirect	**Total**	Induced	Overall
Provincial Retail GDP	$1.4	$2.2	**$3.6**	$2.0	$5.6
Provincial Retail Employment	44	66	**110**	60	170

Note: Retail GDP and Employment Impacts (from Stadium Operations and Tourism model). GDP values are stated in millions rounded to one decimal place. Employment values are rounded to whole numbers.

TABLE 8b: Annual GDP and Employment Impact on the Retail Sector from Operations (Regina)

	Direct	Indirect	**Total**	Induced	Overall
Regina Retail GDP	$1.2	$1.1	**$2.3**	$0.6	$2.9
Regina Retail Employment	0	38	**38**	23	61

Note: Retail GDP and Employment Impacts (from Stadium Operations and Tourism model). GDP values are stated in millions rounded to one decimal place. Employment values are rounded to whole numbers.

3.2 Sports and Entertainment: Having the ability to host premier sports and entertainment events, each being unique, will have positive effects on many of the industries associated with developing, supporting and hosting them. While there is a tendency to focus on large scale events the importance and impact of amateur and community use should not be overlooked as it contributes not only economically but also to the image and attitude of the community. Potential benefits to the sports and entertainment industry include:

- Demand will provide an opportunity for local production, performance and promotion companies and organizations to create events for the venue.

- The venue size has the ability to attract shows that wouldn't play in Regina or Saskatchewan because of the limits of current venue sizes, unwillingness to play multiple shows in a smaller venue, or routing choices. For example the 'Top 10' concert performers of 2009 averaged between 13,000 and 35,000 seats sold per performance with 7 of the 10 performers averaging over 15,000 seats per performance[7]. Currently the band U2 is averaging 62,000 seats per concert and will play in both Edmonton and Vancouver.

- Offering a diverse range of events is important to minimizing the impact on 'share of wallet' and market exhaustion. Focusing to heavily on any one type of event has the potential to exhaust the available market and alienate those in the community whose needs and interests are not being served. Less than 20% of the total annual attendance at the venue is projected to come from concert activity.

- Targeting concerts in the 8,000+ attendance range, which exceed the capacity of the Brandt Centre, minimizes potential competitive overlap between the major Regina concert venues.

- Concert offerings at Credit Union Centre in Saskatoon may be impacted by the proposed venue given that there is limited market for any event. However as seen in the Saskatchewan Roughrider's ticket demographics, approximately 75-80% of attendees come from within 80km range of Regina. Assuming a similar relationship holds true for event goers in Saskatoon the majority of event goers at CUC come from within 80km of Saskatoon.

- We have seen with the Sir Elton John concert in 2008 that a high demand artist can successfully play in both cities. With planning, artists could be enticed to Saskatchewan to serve Regina and Saskatoon.

- The proposed venue is designed to be easily reconfigured (change over) to permit a range of show layouts from a 1,500 person banquet, to a monster truck show, to a 33,000 football game. The facility has the ability to host an event on a Thursday and then be reconfigured for a Saturday football game.

- An increase in Roughrider attendance associated with larger seating capacity (approximately 18% larger), better and more reliable game day experience, and the elimination of weather delays and cancellations.

[7] "Top 25 Concert Tours of 2009," http://www.billboard.com/features/best-of-2009-1004052398.story#/features/top-25-tours-of-2009-1004053062.story

- The potential to attract other professional and semi-professional sports such as soccer, lacrosse and rugby.

The Provincial and Regina level economic impacts of the proposed venue's operation on the entertainment sector were estimated with the February 5, 2010 model. These values are already captured in the Total GDP and Total Employment estimates as presented in section 2. They are broken out in detail in this section to show the impact that the operation of venue and related tourism has on the entertainment sector. The Saskatchewan Total GDP impact on the entertainment sector is $18.4 million and the Total Employment impact is 774 person years, annually. The Regina Total GDP impact on the entertainment sector, which is included in the provincial level impact, is $16.4 million and Total Employment impact is 737 person years, annually. Details are presented in tables 9a and 9b.

TABLE 9a: Annual GDP and Employment Impact in the Entertainment Sector from Operations (Provincial)

	Direct	Indirect	**Total**	Induced	Overall
Provincial Entertainment GDP	$18.2	$0.2	**$18.4**	$0.1	$18.5
Provincial Entertainment Employment	767	7	**774**	6	780

Note: Entertainment GDP and Employment Impacts (from entertainment, arts and recreation industry). GDP values are stated in millions rounded to one decimal place. Employment values are rounded to whole numbers.

TABLE 9b: Annual GDP and Employment Impact in the Entertainment Sector from Operations (Regina)

	Direct	Indirect	**Total**	Induced	Overall
Regina Entertainment GDP	$16.4	$0.0	**$16.4**	$0.1	$16.5
Regina Entertainment Employment	737	0	**737**	3	740

Note: Entertainment GDP and Employment Impacts (from entertainment, arts and recreation industry). GDP values are stated in millions rounded to one decimal place. Employment values are rounded to whole numbers.

3.3 Tourism: With careful planning and promotion the proposed facility has the potential to make a significant impact on Saskatchewan's image and the attractiveness of the province as a tourist destination for local and out of province visitors.

- Focusing on 'share of wallet' retention as an objective. By offering events in Saskatchewan that residents would normally attend out of province the benefits will remain in Saskatchewan keeping their money in the provincial economy.

- Attracting Saskatchewan expatriates home. The ability to offer events that are not typically available in Western Canada will attract people from surrounding provinces and states. For world class events may mean that many of these visitors will be Saskatchewanian expatriates staying with friends and family in Saskatchewan. Providing yet another reason to come home and see the benefits of staying.

- The national and international marketing and promotion of hosting premier events reaches a large market of potential tourists influencing their intentions to visit.

- The Feb 2008 Travel Activity Motivation (TAM) Survey for Canadian visitors to Saskatchewan[8] and the Jan 2008 TAM Survey for American visitors to Saskatchewan[9] results indicate that visitors are likely to combine multiple events into a vacation or trip and use an event as a destination or anchor. Once in the area they are likely to visit and participate in a number of activities.

- Opportunity to create locally developed destination events such as Octoberfest, Ribfest, Invitational tournaments, Festivals and Pow Wows.

- Regina Hotels Association offer of $10 million over 15 years[10] as a contribution towards construction of the venue signals their belief that there will be a direct positive impact on hotel demand from tourism.

- In conjunction with other facilities the proposed venue presents an opportunity to offset the slow down in Regina tourism associated with winter months. The ability to offer promoters and program developers a large indoor area during winter months opens new event opportunities.

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[8] "Canadian Travelers to Saskatchewan: A Profile Report (February 5, 2008)," http://www.tourism.gov.on.ca/english/research/travel_activities/CDNTAMS2006_Travelers_to_Saskatchewan.pdf

[9] "U.S. Travelers to Saskatchewan: A Profile Report (January 31, 2008)," http://www.tourism.gov.on.ca/english/research/travel_activities/USTAMS2006_Travelers_to_Saskatchewan.pdf

[10] "Regina hotel owners contribute $10 million over 15 years to domed stadium," http://www.leaderpost.com/sports/Regina+hotel+owners+contribute+million+over+years+domed+stadium/2237503/story.html

- The only 30,000+ all weather venue in the Prairie Region (Alberta, Saskatchewan, Manitoba, Montana, and North Dakota). Closest 30,000+ large format all weather facility to Regina is the Metro Dome in Minneapolis, Minnesota USA. Significantly reduces the weather related risks associated with producing open air events.

- At a maximum seating capacity of 53,000 in full concert layout it has the potential to favourably compete with facilities like Commonwealth Stadium in Edmonton Alberta for events like the upcoming U2 concert both in size and also by not having weather related cancellation risks for the performers or fans.

- Leverage with other venues as an added venue to attract or cater to events beyond the scope of existing facilities.

The Provincial and Regina level economic impacts of the proposed venue's operation on the tourism sector were estimated with the February 5, 2010 model. These values are already captured in the Total GDP and Total Employment estimates as presented in section 2. They are broken out in detail in this section to show the impact that the operation of the venue has on the tourism sector. The Saskatchewan Total GDP impact on the tourism sector is $3.7 million and Total Employment impact is 115 person years annually. The Regina Total GDP impact on the tourism sector, which is included in the provincial level impact, is $2.9 million and Total Tourism Employment impact is 59 person years annually. Details are presented in tables 10a and 10b.

TABLE 10a: Annual GDP and Employment Impact in the Tourism Sector from Operations (Provincial)

	Direct	Indirect	**Total**	Induced	Overall
Provincial Tourism GDP	$2.7	$1.0	**$3.7**	$1.7	$5.5
Provincial Tourism Employment	102	13	**115**	28	143

Note: Tourism GDP and Employment Impacts Only (retail spending, entertainment, accommodations and food by non-Regina residents). GDP values are stated in millions rounded to one decimal place. Employment values are rounded to whole numbers.

TABLE 10b: Annual GDP and Employment Impact in the Tourism Sector from Operations (Regina)

	Direct	Indirect	**Total**	Induced	Overall
Regina Tourism GDP	$2.5	$0.4	**$2.9**	$0.7	$3.6
Regina Tourism Employment	57	2	**59**	11	70

Note: Tourism GDP and Employment Impacts Only (retail spending, entertainment, accommodations and food by non-Regina residents). GDP values are stated in millions rounded to one decimal place. Employment values are rounded to whole numbers.

4.0 TRANSFORMATIONAL IMPACT

Construction of the proposed venue in the CP rail yards presents an opportunity to stimulate (re)development of the CP rail yard area, the Warehouse District to the north and the Regina Downtown to the south. Transformation of the CP rail yard is the most near term and obvious visible impact of the proposed venue. However the impact of integrating the development of the rail yard with the Warehouse District and Regina Downtown will have significant transformational effects both short and long term. The effects of the CP rail yard development on all three areas are discussed below.

4.1 CP Rail Yard: In its current state the rail yard divides the city into north and south between Broad and Albert streets and acts as a barrier between Regina Downtown and Warehouse District. As a heavy transportation and commercial hub it draws significant heavy trucking into the area impacting local traffic flows, noise and air quality. Public discussion by Regina Warehouse Business Improvement District[11], Regina Chamber of Commerce and the City of Regina indicate strong support for the relocation of the CP rail yard to the west of the city and development of the yard, a trend occurring throughout western Canada. Some of the priorities for these groups in redeveloping the yards are:

- Maintaining the Warehouse District as a distinct place to live, visit, work and play.
- Creating a synergy for the Warehouse District and Regina Downtown by linking the two areas in a manner that stimulates pedestrian flow between the two.
- Generate significant and sustained economic impact and activity to support the ongoing viability of the Regina core area.

Construction of the proposed venue would take into account the priorities for redevelopment of the rail yard. The transformational benefits derived from building the venue in the rail yard area would include:

- Stimulate the movement of the CP rail yards out of the core area making the land available for redevelopment in the near term. A situation that might not otherwise occur.

[11] "Toward a Vision for the Regina Warehouse District in 2029," Regina Warehouse Business Improvement District, 2009.

- Environmental remediation of the rail yard area in order to make the area suitable for development and use.

- Multiple overhead pedestrian walk/pathways across the CP rail lines connecting the two halves of Regina's core and encouraging the flow of people between the two areas.

- Minimal displacement of private business during construction.

- Stimulate further development in the yard area leading to the creation of a mixed use area providing a wide range of services and activities (entertainment, arts, markets, hotels, office space, restaurants, parking, etc).

- Provides a reason and attraction for new groups of people to come to Regina's core area on a regular and ongoing basis.

- Increased attractiveness of the area and creation of a source of pride as opposed to an 'eye sore'.

4.2 Warehouse District: Establishing and maintaining the Warehouse District as a distinct place to live, visit, work and play is a priority for area. Creation of the proposed venue in the CP Rail Yard area will be a substantive stimulus for progressing towards this goal. Offering a diverse range of programming and community use opportunities will attract a wide range of people to the area. Secondary development opportunities on the rail yard site and throughout the Warehouse District will occur as a result of the facility construction. Many opportunities will exist to promote and develop the Warehouse District in alignment with the District's vision. For example:

- Future removal of north-west spur line from the rail yard through the Warehouse District would present several positive impacts and opportunities, including better traffic flow in the area and the potential for future businesses and green space development in the area of the removed tracks.

- Creation of an All Weather Multi-Purpose Entertainment Facility on the CP yard with a diverse range of programming and community use opportunities will add to the diversity and vibrancy of the area. With a greater and more diverse flow of people into the Warehouse District the attractiveness of the area as a place to live increases and drives the demand for housing and other service developments.

- The venue can incorporate a modern warehouse image as a transition between the urban structures of downtown and the historic warehouse district buildings as it serves as a bridge between the two areas.

- Encourages food and beverage, and retail operations to expand to serve people attracted to the area for events and to live.

- People have ability to use downtown parking and walk over the CP rail tracks to the Warehouse District via pedestrian overpasses. Similarly hotel patron/visitors could access Warehouse area without the use of a car.

- While recognizing that there will be impacts, especially along Dewdney Street from Albert Street to Broad Street, from construction it also presents an opportunity for road and streetscape (re)development to encourage better pedestrian and vehicle traffic flow.

4.3 Regina Downtown: While immediate development occurs north of the CP tracks, significant benefits will subsequently flow to the Downtown core.

- Pedestrian overpasses connecting the two areas and increase the demand for goods and services from the downtown.
  - Hotels and restaurants demand after normal business hours and weekends will increase related to events.
  - Parking to the north will be available to the downtown to relieve parking pressures during the business day.
  - Parking in the downtown will find higher utilization in the evenings and weekends related to parking demand from the Warehouse District.

- An extensive and diverse offering of sport and entertainment events combined with community use makes the Regina core area a more attractive place to live and a centre for entertainment and specialty retail uses.

- Increased property tax base from secondary private investment to support city infrastructure.

4.4 Realization of Benefits: "Build it and they will come" is not a guaranteed strategy for success in constructing large sports and entertainment facilities in North America. The viability of a facility is a function of the relationship between demand and event planning/usage, patronage, costs control, efficiency, design, location, transportation to/from, and having a broad base of patrons amongst many other factors[12]. Achieving the following would help towards ensuring the viability of the proposed venue.

- Maximize the utilization of the venue on a year round basis. While hosting large events has a substantive economic impact, the hosting of many smaller events helps to cover the annual operating and overhead costs.

- Provide value. The recent opening of Yankee Stadium in the midst of an economic downturn has shown that consumer demand is not a given and that events in the proposed venue must deliver good value to attract and retain patrons[13]. Pricing of events and for use of the venue must reflect Saskatchewan norms and expectations.

- Integrate the venue into the design, character and life of the Warehouse District and Regina Downtown will facilitate support of the venue[14].

- Build a facility that reflects Saskatchewan's image. Many of the image and identity related impacts described in this report are predicated on the facility being seen as reflective of our province and its ability to build and run a world class 'signature facility.'

- Active community support and usage is dependent on the venue being able to meet the needs of a wide range of Saskatchewanians beyond professional sports and entertainment events.

- Meet the needs and concerns of residents that may never use the venue. Issues around congestion, traffic flow, parking, noise, appearance, costs, safety and community support, amongst other, should be addressed.

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[12] Davis Langdon (2003), "Football Stadiums" *Cost Model*, Issue 23, p 64-69.

[13] "Will Portland suffer from national stadium ticket sales drop? May 19, 2009," http://oregontaxnews.com/2009/05/19/will-portland-suffer-from-national-stadium-ticket-sales-drop/

[14] Chema, Thomas V. (1996), **"**When Professional Sports Justify The Subsidy, a Reply to Robert A. Baade**"** *Journal of Urban Affairs*, Volume 18 Issue 1: p. 19-22.

5.0 RELATED IMPACTS ON REGINA AREA AND SASKATCHEWAN

Major sports and entertainment facilities are relatively scarce and as such are often seen as prominent landmarks that are widely promoted and publicized to a very large segment of society. The facilities help define the image and identity of their location which in turn creates opportunities for the greater community. For example:

- Facilities like the Skydome in Toronto, Yankee Stadium in New York and the Sydney Opera House in Australia help define the image and identity of area they are in and are well known on a national and international scale.

- The broader the use of the facility the more the facility will become known to different groups interested in those activities. For example prior to the 2006 Rolling Stone's Concert, Mosaic Stadium was primarily known as CFL football stadium. Now the stadium is recognized by members of the entertainment industry as an outdoor concert venue which can attract large audiences.

- The facility influences the image and identity of the province and city which then influences people to come to Saskatchewan as tourists or to live.

- Building the proposed venue in the CP rail yard location opens up the existing Mosaic Stadium area for alternate use or redevelopment by the City of Regina.

- As a major venue the concern exists that business will be taken from other venues, a concern that can be addressed in the programming and design of the proposed venue.

- The opportunity exists to coordinate events in order to maximize Saskatchewan's ability to attract and host high demand or large events that exceed the capacity of any one venue. A situation similar to what was done between Saskatoon and Regina for the 2010 World Junior Hockey Championships, or could be done with an event like the Pan American games. On a smaller scale the venue can be used as an additional facility for shows such as Agribition and the Regina Multicultural Council's Mosaic Festival.

- Establishing an anchor facility often creates the critical mass around which other events can be developed. Visitors attracted to Saskatchewan for an event at the venue are going to seek other activities to complement their stay[15],[16]. While some of these activities will be visits to existing tourist attractions the opportunity exists to draw them to new events and services both locally and throughout the province.

[15] "Canadian Travelers to Saskatchewan: A Profile Report (February 5, 2008)," http://www.tourism.gov.on.ca/english/research/travel_activities/CDNTAMS2006_Travelers_to_Saskatchewan.pdf

[16] "U.S. Travelers to Saskatchewan: A Profile Report (January 31, 2008)," http://www.tourism.gov.on.ca/english/research/travel_activities/USTAMS2006_Travelers_to_Saskatchewan.pdf

6.0 CONCLUSIONS

Constructing and operating an All Weather Multi-Purpose Entertainment Facility on the site of the Regina CP rail yards speaks to Saskatchewan's future. A project that is affirming of the progress that has been made to date and that has the ability to unify the larger Saskatchewan community. The project:

- Will add $195.5 million in Total GDP and 2,587 person years of Total Employment to the Saskatchewan economy during the three year construction phase.

- Will provide a positive stimulus to transform the Regina core area in a way that is sustainable while preserving the unique character of the Warehouse District and Regina Downtown area.

- Will enable $30.6 million in Total GDP and 1,034 person years of Total Employment to be realized in the Saskatchewan economy related to the operation of the venue.

- Will create 42 permanent full-time and 12 full-time equivalent part-time jobs at the venue and have a significant impact on the economy of Saskatchewan and Regina.

- Will have long term recurrent positive impacts on the retail, tourism and entertainment sectors throughout Saskatchewan.

- Will positively impact almost every resident of Saskatchewan.

In summary the project provides benefits that are overwhelmingly positive to Regina and to Saskatchewan.

Appendix A: Estimates of the Economic Impacts using Statistics Canada's Saskatchewan Interprovincial Input-Output Model 2006: Methodology

This appendix reviews the methodology used to generate estimates of the economic impacts resulting from:

- Construction of a $350 million All Weather Multi-Purpose Entertainment Facility; and,

- Its annual operations based on it generating $39 million dollars in gross revenue from all activities associated with the facility.

Estimates for the impact of capital investment during construction of an All Weather Multi-Purpose Entertainment Facility and its annual operations were derived through the use of Statistics Canada's Saskatchewan Interprovincial Input-Output Model using 2006 multipliers. Separate models were run (January 28, 2010) for the construction phase of the project and another distinct model to estimate the impact from operations. Induced effects were estimated on February 1, 2010 by Statistics Canada using inputs from the January 28, 2010 models.

An input-output model is used to estimate the impacts of various types of economic activities. It's an accounting framework for an economy's production system that shows the connections that exist between the various sectors of the economy when goods and services are produced. Using an input-output model, it is possible to determine which goods and services are required to achieve a certain production level in a particular industry – or the economy as whole. The model can take an estimate of an expenditures on a given economic activity (in this case, the investment in construction of the Facility and its ongoing its annual operations) and translate it into the impacts on various industries – and ultimately, the amount of direct and indirect GDP and employment creation. At a sub-level the indirect tax impacts can be determined.

A key component of an input-output model is the set of "input structures" for each economic activity covered by the model. An input structure literally splits the original expenditure among all the different inputs that are used in that economic activity. For example, in construction of an All Weather Multi-Purpose Entertainment Facility estimates are based on previous Non-residential construction in Saskatchewan (in this case during 2006) where expenditures are incurred in a wide variety of industries – steel, concrete, glass, wire, seating, etc. In the operation of an All Weather Multi-Purpose Entertainment Facility the revenue would relate the entertainment industry and within that to food and beverage, transportation, lodging, maintenance, etc. Each of theses individual industries has an input structure of its own that involves inputs from a variety of other industries plus labour related to each industry.

An input-output model includes a full array of input structures that have been estimated for all industries in the economy. Use of the model in this analysis involves estimating the impacts of investment in constructing a Facility and Gross Revenue generated during yearly operations. An estimate of $350 million was used as a baseline for construction costs. Revenue estimates provided by Global Spectrum were adjusted to reflect gross revenue $39 million per 'typical' year. The construction costs and gross revenue were used to generate two separate runs of the Saskatchewan Interprovincial Input-Output model 2006. Alternate runs of the models previous years' data sets were used to validate the model. The findings are presented in terms of direct and indirect GDP impact, 'person years' of employment generated and provincial revenue impacts in the body of the report. The estimate of employment includes both full and permanent part-time jobs.

Appendix B: Glossary of Terms Used In Economic Analysis

Initial Shock - This figure indicates the amount of initial investment or revenue used in the analysis. This heading indicates not only the total magnitude of the spending but also the region and sector in which it was invested.

Direct Impact - Relates ONLY to the impact on "front-line" businesses. These are businesses that initially receive the revenue or tourist expenditures for the project under analysis. From a business perspective, this impact is limited only to that particular business or group of businesses involved. From an entertainment perspective, this can include all businesses such as artists, promoters, hotels, restaurants, retail stores, transportation carriers, attraction facilities and so forth.

Indirect Impact - Refers to the impacts resulting from all intermediate rounds of production in the supply of goods and services to industry sectors identified in the direct impact phase. An example of this would be the supply and production of safety equipment to a building contractor.

Induced Impact - These impacts are generated as a result of spending by employees (in the form of consumer spending) and businesses (in the form of investment) that benefited either directly or indirectly from the initial expenditures under analysis. An example of induced consumer spending would be the impacts generated by the venues employees on typical consumer items such as groceries, shoes, cameras, etc. An example of induced business investment would be the impacts generated by the spending of retained earnings, attributable to the expenditures under analysis, on machinery and equipment.

Gross Domestic Product (GDP) - This figure represents the total value of production of goods and services in the economy resulting from the initial expenditure under analysis (valued at market prices).

Labour Income - This figure represents the amount of wages and salaries generated by the initial expenditure. It is the portion of GDP paid to employees. This information is broken down by the direct, indirect and induced impacts.

Employment - These figures represent the employment generated by the initial expenditure. These figures distinguish between the direct, indirect and induced impact. "Equivalent Full-Year Jobs", if selected, include both part-time and full-time work in ratios consistent with the specific industries.

Gross (Industry) Output - These figures represent the direct & indirect and total impact (including induced impacts) on industry output generated by the initial expenditure. It should be noted that the industry output measure represents the **sum** total of all economic

activity that has taken place and consequently involve double counting on the part of the intermediate production phase. Since the Gross Domestic Product (GDP) figure includes only the **net** total of all economic activity (i.e. considers only the value added), the industry output measure will always exceed or at least equal the value of GDP.

Provincial Revenues - These figures represent the amount of taxes contributed to the provincial government relating to the project under analysis. This information is broken down by the direct and indirect, and induced impacts.

Appendix C: SJResearch's Models Of Saskatchewan and Regina Economies

Model Description

Industry outputs are calculated as $(I-D(I-\mu-\alpha-\beta)B)^{-1}D((I-\mu-\alpha-\beta)e^*+(I-\mu-\beta)X_d+(I-\mu)X_r)=X$

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.
X_d = final demand category of domestic exports
X_r = final demand category of re-exports.

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

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 2002 S-level aggregation). 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:

z_{11}
z_{12}
.
.
.
z_{117}
w_1
X_1

z_{ij} = purchases by industry i of products from industry j. The transactions matrix consists of z_{11} to z_{1717} comprise the transactions matrix of 289 (17 x 17) elements.

W_1 = 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.
X_1 = industry 1's total output, which equals W_1 plus the sum of z_{11} to z_{17}.

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
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:

$$X^R_i = \text{Labour Force}^R_i / \text{Labour Force}^{Sk}_i \times X^{Sk}_i$$

Where:
X^R_i = regional gross output for industry i
Labour Force^R_i = regional labour force for industry i
$\text{Labour Force}^{Sk}_i$ = provincial labour force for industry i
X^{Sk}_i = provincial gross output for industry i

To estimate items in each regional transaction matrix (z_{ij}) 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:

$$z^R_{ij} = z^{SK}_{ij} / X^{Sk}_i \times X^R_i$$

Where:
z^R_{ij} = an element of the regional transactions matrix.
z^{SK}_{ij} = the corresponding element of the provincial transactions matrix.

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

$$W^R_i = W^{Sk}_i / X^{Sk}_i \times X^R_i$$

Where:
W^R_i = regional value added or gross domestic product component of industry i's output
W^{Sk}_i = 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.

$$PE^R_i = PE^{Sk}_i / Pop^{Sk} \times Pop^R$$

Where:

PE^{R}_{i} = Regional personal expenditure on industry i's output
PE^{Sk}_{i} = Provincial personal expenditure on industry i's output
Pop^{Sk} = Provincial population
Pop^{R} = Regional population
Gross capital formation (GFCF) or investment by industry is estimated applying the regional share industry output 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)

$$GFCF^{R}_{i} = X^{R}_{i}/X^{Sk}_{i} \times GFCF^{Sk}_{i}$$

$$Xd^{R}_{i} = X^{R}_{i}/X^{Sk}_{i} \times Xd^{Sk}_{i}$$

$$M^{R}_{i} = X^{R}_{i}/X^{Sk}_{i} \times M^{Sk}_{i}$$

$$VPC^{R}_{i} = X^{R}_{i}/X^{Sk}_{i} \times VPC^{Sk}_{i}$$

Where:
$GFCF^{R}_{i}$ = Regional investment spending on industry i's output.
$GFCF^{Sk}_{i}$ = Provincial investment spending on industry i's output
Xd^{R}_{i} = Regional exports of industry i's output
Xd^{Sk}_{i} = Provincial exports of industry i's output
M^{R}_{i} = Regional imports of industry i's output
M^{Sk}_{i} = Provincial imports of industry i's output
VPC^{R}_{i} = Regional inventory changes of industry i's output
VPC^{Sk}_{i} = Provincial inventory changes of industry i's output

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

$$GCE^{R}_{i} = PAE^{R}/PAE^{Sk} \times GCE^{Sk}_{i}$$

Where:
GCE^{R}_{i} = Regional government current expenditures on industry i's output
PAE^{R} = Regional public administration labour force
PAE^{Sk} = Provincial public administration labour force
GCE^{Sk}_{i} = Provincial government current expenditures on industry i's output

It is also necessary to adjust for leakages for intra-provincial imported factors of production.

In Saskatchewan's case, Dr. Jack Stabler's work on community level multipliers and hierarchical communities will be incorporated to estimate intra-provincial imports and exports.
In the Stabler methodology there are six levels of Trade Centre Functional Classification:

1. Primary Wholesale-Retail (PWR)
2. Secondary Wholesale-Retail (SWR)
3. Complete Shopping Centre (CSC)
4. Partial Shopping Centre (PSC)

5. Full Convenience Centre (FCC)
6. Minimum Convenience Centre (MCC)

There are only 2 Primary Wholesale-Retail communities in the province: Regina and Saskatoon. Moose Jaw, Prince Albert, Yorkton, Lloydminster, Battlefords, Swift Current, Weyburn, and Estevan are among the eight communities that presently classify as Secondary Wholesale-Retail. The communities classifying as PWR and SWR have been unchanged since 1961 to 1995.

Dr. Stabler has estimates of the marginal propensity for out-shopping in other communities (m2) and local expenditures on goods and services that have been imported by local firms for resale or as intermediates inputs used in production for local consumption (m1). Both of these have been estimated by functional level of community. The marginal propensity to import industry i's output (ms) is already available at the provincial level from the provincial input-output table.

Once m1 and m2 are estimated, intra-provincial imports can be estimated as:

m1 – ms = marginal propensity to import intra-provincial intermediate goods
m2 – ms = marginal propensity to import intra-provincial consumer goods (out-shopping)

To add intra-provincial imports to the regional table the following is added to each industry's imports:

$((m1-ms) \times (PE^{Sk}_i + GFCF^{Sk}_i + GCE^{Sk}_i)) + ((m2-ms) \times PE^{Sk}_i)$

Intra-provincial exports are estimated by calculating the marginal propensity to import (both out-shopping and intermediate inputs) for the rest of the province based on the same methodology used to calculate community/regional intra-provincial imports. Intra-provincial exports will be added to the estimated community/regional exports.

After an initial community/regional table has been created there is a high probability that it will be unbalanced: row sums will not equal column sums. The community/regional table will be rebalanced using the Haring-McMemanin method or RAS, by performing multiple iterations of row and column error pro-rations until the row and column errors converge to zero.

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 $(I-(I-\mu-\alpha-\beta)A)^{-1}((I-\mu-\alpha-\beta)e^*+(I-\mu-\beta)X_d+(I-\mu)X_r)=X$

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.
X_d = final demand category of domestic exports
X_r = 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 W_i to industry output.

The Fiscal Module

An expansion in economic activity, especially when wages and salaries compose a significant portion of incremental gross domestic product, is expected to generate incremental government revenues. The economic impact model fiscal module is based on the latest provincial budget and estimates provincial 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.
- Federal personal income tax is calculated by using the federal personal income tax rate that would apply to average industry annual income applied to model-generated labour income.
- Corporation income tax is calculated by applying the respective provincial and federal 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.
- Corporate capital tax is calculated by applying the ratio of provincial corporate capital tax to corporate income tax to incremental corporate profits before taxes calculated by the model. Corporate capital taxes are no longer applied beginning in 2008.
- Federal and Provincial sales taxes collected on goods are calculated using an estimated split of federal provincial taxes applied to model generated indirect taxes on products. All model generated indirect taxes on services are considered federal sales and excise tax revenues.

Appendix D: Simulation Impact Results From Construction

Simulation Inputs:

Saskatchewan:	**$350.0 Million**

GDP Impacts (on Saskatchewan):

Direct	**$149.9 Million**
Direct and Indirect (Total)	**$195.5 Million**

Employment Impacts (on Saskatchewan):

Direct full-time equivalent jobs *	**2,019 FTE Jobs**
Total full-time equivalent jobs *	**2,587 FTE Jobs**

* *- The estimate of the total number of jobs covers two main categories: employee jobs and self-employed jobs (including persons working in a family business without pay).*

- The full-time equivalent is applied to employee jobs only.

Labour Income (in Saskatchewan)**

Direct labour income	$108.4 Million
Total labour income	$136.7 Million

** *- Labour income is part of the GDP and is the portion that is paid to employees*

Estimated Provincial Revenues:***

Provincial gallon tax	*$0*
Provincial trading profits	*$11,597*
Provincial gas tax	*$956,965*
Provincial amusement tax	*$278*
P.S.T	*$10,591,748*
H.S.T	*$0*
Total provincial	**$11,560,588**

*** *- estimates are based on the prevailing rates in 2006*

Industry Impacts Totals (direct and Indirect)

Industry	GDP	Employment
Crop and Animal Production	$178,502	3 FTEs
Forestry and Logging	$36,571	0 FTEs
Fishing, Hunting and Trapping	$83	0 FTEs
Support Activities for Agriculture and forestry	$16,106	0 FTEs
Mining and Oil and Gas Extraction	$3,161,584	8 FTEs
Utilities	$595,746	2 FTEs
Construction	$150,364,139	2,025 FTEs
Manufacturing	$10,260,062	122 FTEs
Wholesale Trade	$6,175,867	51 FTEs
Retail Trade	$1,949,445	42 FTEs
Transportation and Warehousing	$1,646,864	28 FTEs
Information and Cultural Industries	$981,894	8 FTEs
Finance, Insurance, Real Estate and Rental and Leasing	$5,122,654	36 FTEs
Professional, Scientific and Technical Services	$9,286,346	166 FTEs
Administrative and Support, Waste Management and Remediation Services	$805,938	18 FTEs
Educational Services	$75,968	3 FTEs
Health Care and Social Assistance	$295,314	4 FTEs
Arts, Entertainment and Recreation	$57,868	2 FTEs
Accommodation and Food Services	$335,963	10 FTEs
Other Services (Except Public Administration)	$531,451	12 FTEs
Operating, Office, Cafeteria and Laboratory Supplies	$0	0 FTEs
Travel, Entertainment, Advertising and Promotion	$0	0 FTEs
Transportation Margins	$0	0 FTEs
Non-Profit Institutions Serving Households	$54,014	1 FTEs
Government Sector	$3,557,700	45 FTEs
Total	**$195,490,077**	**2,587 FTEs**

Source: Statistics Canada. Custom simulations on the Interprovincial Input-Output Model.

Simulation Inputs:

Initial shock (for direct and indirect)	**$350.0 Million**
Induced shock (calculated from results from initial shock)	**$114.8 Million**

GDP Impacts (on Saskatchewan):

Direct	$149.9 Million
Indirect	$45.6 Million
Direct and Indirect (Total)	**$195.5 Million**
Induced	$64.7 Million
Overall (Direct, indirect and Induced)	**$260.2 Million**

Employment Impacts (on Saskatchewan):

Direct full-time equivalent jobs *	2,019 FTE Jobs
Indirect full-time equivalent jobs *	568 FTE Jobs
Total full-time equivalent jobs *	**2,587 FTE Jobs**
Induced full-time equivalent jobs *	679 FTE Jobs
Overall (direct, indirect and induced)full-time equivalent jobs *	**3,266 FTE Jobs**

* *- The estimate of the total number of jobs covers two main categories: employee jobs and self-employed jobs (including persons working in a family business without pay).*

- The full-time equivalent is applied to employee jobs only.

Labour Income (in Saskatchewan)**

Direct labour income	$108.4 Million
Indirect labour income	$28.3 Million
Total labour income	**$136.7 Million**
Induced labour income	$31.3 Million
Overall (direct, indirect and induced) labour income	**$168.0 Million**

** *- Labour income is part of the GDP and is the portion that is paid to employees*

Estimated Provincial Revenues:* **	**Direct and indirect**	**Induced**	**Overall**
Provincial gallon tax	*$0*	*$0*	*$0*
Provincial trading profits	*$11,597*	*$34,234*	*$45,831*
Provincial gas tax	*$956,965*	*$420,394*	*$1,377,359*
Provincial amusement tax	*$278*	*$288*	*$565*
P.S.T	*$10,591,748*	*$735,480*	*$11,327,228*
H.S.T	*$0*	*$0*	*$0*
Total provincial	**$11,560,588**	**$1,190,396**	**$12,750,983**

*** *- estimates are based on the prevailing rates in 2006*

Simulation Results Summary

GDP Impacts by Industry

Industry	Direct and indirect	Induced	Overall
Crop and Animal Production	$178,502	$2,153,225	$2,331,727
Forestry and Logging	$36,571	$79,463	$116,034
Fishing, Hunting and Trapping	$83	$1,040	$1,123
Support Activities for Agriculture and forestry	$16,106	$151,243	$167,349
Mining and Oil and Gas Extraction	$3,161,584	$16,642,797	$19,804,381
Utilities	$595,746	$1,846,078	$2,441,824
Construction	$150,364,139	$4,268,556	$154,632,695
Manufacturing	$10,260,062	$2,229,394	$12,489,456
Wholesale Trade	$6,175,867	$3,127,688	$9,303,555
Retail Trade	$1,949,445	$3,259,176	$5,208,620
Transportation and Warehousing	$1,646,864	$3,693,264	$5,340,128
Information and Cultural Industries	$981,894	$1,814,868	$2,796,762
Finance, Insurance, Real Estate and Rental and Leasing	$5,122,654	$9,342,600	$14,465,254
Professional, Scientific and Technical Services	$9,286,346	$1,463,413	$10,749,759
Administrative and Support, Waste Management and Remediation Services	$805,938	$920,652	$1,726,590
Educational Services	$75,968	$108,832	$184,800
Health Care and Social Assistance	$295,314	$1,608,869	$1,904,184
Arts, Entertainment and Recreation	$57,868	$261,291	$319,158
Accommodation and Food Services	$335,963	$1,028,639	$1,364,602
Other Services (Except Public Administration)	$531,451	$958,460	$1,489,910
Operating, Office, Cafeteria and Laboratory Supplies	$0	$0	$0
Travel, Entertainment, Advertising and Promotion	$0	$0	$0
Transportation Margins	$0	$0	$0
Non-Profit Institutions Serving Households	$54,014	$936,432	$990,445
Government Sector	$3,557,700	$8,798,078	$12,355,778
Total	**$195,490,077**	**$64,694,058**	**$260,184,134**

Employment Impacts by Industry

Industry	Direct and indirect	Induced	Overall
Crop and Animal Production	3 FTEs	58 FTEs	61 FTEs
Forestry and Logging	0 FTEs	1 FTEs	2 FTEs
Fishing, Hunting and Trapping	0 FTEs	0 FTEs	0 FTEs
Support Activities for Agriculture and forestry	0 FTEs	3 FTEs	4 FTEs
Mining and Oil and Gas Extraction	8 FTEs	40 FTEs	49 FTEs
Utilities	2 FTEs	5 FTEs	6 FTEs
Construction	2,025 FTEs	52 FTEs	2,077 FTEs
Manufacturing	122 FTEs	21 FTEs	143 FTEs
Wholesale Trade	51 FTEs	26 FTEs	77 FTEs
Retail Trade	42 FTEs	71 FTEs	113 FTEs
Transportation and Warehousing	28 FTEs	49 FTEs	77 FTEs
Information and Cultural Industries	8 FTEs	15 FTEs	24 FTEs
Finance, Insurance, Real Estate and Rental and Leasing	36 FTEs	38 FTEs	74 FTEs
Professional, Scientific and Technical Services	166 FTEs	25 FTEs	192 FTEs
Administrative and Support, Waste Management and Remediation Services	18 FTEs	25 FTEs	43 FTEs
Educational Services	3 FTEs	5 FTEs	8 FTEs
Health Care and Social Assistance	4 FTEs	22 FTEs	25 FTEs
Arts, Entertainment and Recreation	2 FTEs	9 FTEs	11 FTEs
Accommodation and Food Services	10 FTEs	34 FTEs	44 FTEs
Other Services (Except Public Administration)	12 FTEs	25 FTEs	37 FTEs
Operating, Office, Cafeteria and Laboratory Supplies	0 FTEs	0 FTEs	0 FTEs
Travel, Entertainment, Advertising and Promotion	0 FTEs	0 FTEs	0 FTEs
Transportation Margins	0 FTEs	0 FTEs	0 FTEs
Non-Profit Institutions Serving Households	1 FTEs	19 FTEs	20 FTEs
Government Sector	45 FTEs	136 FTEs	180 FTEs
Total	**2,587 FTEs**	**679 FTEs**	**3,266 FTEs**

Source: Statistics Canada. Custom simulations on the Interprovincial Input-Output Model.