The Economic Impact
of the
Duluth Curling Club
on the
City of Duluth

For the
Duluth Curling Club
Research Team

UMD Labovitz School of Business and Economics
Bureau of Business and Economic Research

Monica Haynes, Director
Gina Chiodi Grensing, Editor/Writer
Michelle Scott, Undergraduate Research Assistant
Karen Haedtke, Executive Administrative Specialist
Bureau of Business and Economic Research
11 East Superior Street, Suite 210
Duluth, MN 55812
(218) 726-7895
www.d.umn.edu/lsbe/bber.php

Project Contact
Linda Christensen
President
Duluth Curling Club
327 Harbor Drive
Duluth, MN 55802
218-727-1851
mbcurls@yahoo.com
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Executive Summary

ABOUT THE PROJECT

The Duluth Curling Club (DCC), established in 1891, has been located at the Duluth Entertainment Convention Center since 1976. This location has allowed the club to expand its offerings and its membership. It has hosted two World Championships, the Olympic trials, and numerous national events.

The DCC contacted the Bureau of Business and Economic Research to conduct a study on the economic impacts of the organization and the economic benefits that it provides through its operations and tournaments on the city of Duluth and the surrounding area.

The study areas for the impact were designated as all Duluth zip codes, including those extending beyond the city limits.

The economic modeling data and software used was IMPLAN 3.1. The study used IMPLAN’s economic multiplier analysis and input/output modeling. Data was the most recent IMPLAN county data, which is for year 2013. Results of modeling, reflecting 2015 dollars, are presented here as a written report.

In total, the Duluth Curling Club contributes to the creation of 38 full- and part-time jobs and adds nearly $900,000 in spending throughout the city of Duluth’s economy. The sectors that most benefit from the club’s direct visitor and operational spending include Other Amusement and Recreation Industries, Gambling, Restaurants, and Hotels. The industries that most benefit from the indirect and induced spending include Real Estate, Owner-Occupied Dwellings, Insurance, and Legal Services.

The economic impacts of the club’s operations (including member dues, charitable gambling, and Silver Broom Lounge sales) contribute the largest share to the overall impacts. The club employs 33 individuals and directly contributes more than $460,000 to the local economy. That direct spending leads to approximately $250,000 in additional spending throughout the city of Duluth.

The economic impacts of the club’s bonspiels are smaller, although they represent entirely new spending in the economy, as they are bringing out-of-town visitors to the city. The sectors that are most impacted by this additional spending are Hotels, Restaurants, Other Amusement and Recreation, and Retail. In total, the Duluth Curling Club’s bonspiels contribute over $180,000 throughout the local economy.

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1 IMPLAN is used by state government and federal government agencies, among others. IMPLAN Group LLC, 16740 Birkdale Commons Pkwy, Suite 212, Huntersville, NC 28078. www.implan.com
The Economic Impact of the Duluth Curling Club on the City of Duluth

I. Project Description

The Duluth Curling Club (DCC), established in 1891, has been located at the Duluth Entertainment Convention Center since 1976. This location has allowed the club to expand its offerings and its membership. It has hosted two World Championships, the Olympic trials, and numerous national events.

The DCC contacted the Bureau of Business and Economic Research to conduct a study on the economic impacts of the organization and the economic benefits that it provides through its operations and tournaments.

The economic modeling data and software used for the analysis was IMPLAN 3.1.² The study used IMPLAN’s economic multiplier analysis and input/output modeling. Data was the most recent IMPLAN county data, which is for year 2013. Results of modeling, reflecting 2015 dollars, are presented here as a written report.

The research objectives of this study included the following:

- To model economic data gathered from the DCC regarding its organization and operations and provide estimation of DCC tournament spending using similar previous research studies.
- To draft the findings of this analysis into a report.

**Deliverables**

- The BBER will report the direct, indirect, and induced economic impacts of the Duluth Curling Club activities in the City of Duluth, measured in employment, output, and value added.
- The BBER will draft a final written report that will present the findings and analysis. The report will be provided to the Duluth Curling Club in Adobe PDF and Microsoft Word formats.

**Study Area**

The geographic scope for this economic impact analysis is proposed to be the City of Duluth. Figure 1, below, shows the city of Duluth and the surrounding zip codes. All Duluth zip codes³ were used for the study area, including those located only partially within the city limits.

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² IMPLAN is used by state government and federal government agencies, among others. IMPLAN Group LLC, 16740 Birkdale Commons Pkwy, Suite 212, Huntersville, NC 28078. [www.implan.com](http://www.implan.com)
³ Duluth zip codes include 55801, 55802, 55803, 55804, 55805, 55806, 55807, 55808, 55810, 55811, 55812, 55814, 55815, and 55816

Bureau of Business and Economic Research
Labovitz School of Business and Economics
University of Minnesota Duluth
Definitions Used in This Report

- **Backward Linkages**: Economic relationships are linkages, such as the labor force working and living in the same study area. Backward Linkages are those relationships that are missing, such as workers who live and spend outside the study area may actually hold local jobs.

- **Bonspiel**: A curling tournament, consisting of several games, often held on a weekend.

- **Direct Effect**: Initial new spending in the study area resulting from the project.

- **Employment**: Estimates (from U.S. Department of Commerce secondary data) are in terms of jobs, not in terms of full-time equivalent employees. Therefore, these jobs may be temporary, part-time, or short-term jobs.

- **Gross Output**: The value of local production required to sustain activities.

- **Indirect Effect**: The additional inter-industry spending from the direct impact.
• **Induced Effect**: The impact of additional household expenditures resulting from the direct and indirect impact.

• **Labor Income**: All forms of employment income, including employee compensation (wages and benefits) and proprietor income.

• **Leakages**: Any payments made to imports or value added sectors that do not in turn re-spend the dollars within the region.

• **Value Added**: A measure of the impacting industry’s contribution to the local community; it includes wages, rents, interest, and profits.

II. Impact Procedures and Input Assumptions

*Input/Output Analysis*

Input/Output analysis is a type of applied economic analysis that tracks the interdependence among various producing and consuming sectors of an economy\(^4\). Specifically, it depicts inter-industry relations and shows how each industry is dependent on all the others in the economy, both as a consumer of outputs and as a supplier of inputs. Input/Output analysis has been used to study regional economies within a nation and as a tool for national and regional economic planning. It predicts the effect of changes in one industry on the others and on consumers, government, and suppliers. In addition, a common use of input/output analysis is to estimate the economic impact of an industry or firm. It is this technique that is enacted in this study.

This study uses the IMPLAN Group’s input/output modeling data and software (IMPLAN version 3.1). The IMPLAN database contains county, state, zip code, and federal economic statistics, which are specialized by region, not estimated from national averages. Using classic input/output analysis in combination with regional-specific Social Accounting Matrices and Multiplier Models, IMPLAN provides a highly accurate and adaptable model for its users.

*IMPLAN Data and Assumptions*

IMPLAN data files use the following federal government data sources.

- US Bureau of Economic Analysis Benchmark Input/Output Accounts of the US
- US Bureau of Economic Analysis Output Estimates
- US Bureau of Economic Analysis Regional Economic Information Systems (REIS) Program
- US Census Bureau County Business Patterns
- US Census Bureau Decennial Census and Population Surveys
- US Census Bureau Economic Censuses and Surveys
- US Department of Agriculture Census

\(^4\) Source: Bureau of Economic Analysis
IMPLAN data files consist of the following components: employment, industry output, value added, institutional demands, national structural matrices, and inter-institutional transfers.

The data used was the most recent IMPLAN data available, which is for the year 2013. All data is reported in 2015 dollars.

Economic impacts are made up of direct, indirect, and induced impacts. The following are suggested assumptions for accepting the impact model: IMPLAN input/output is a production-based model, and employment numbers (from U.S. Department of Commerce secondary data) treat both full- and part-time individuals as being employed.

Regional data for the impact models for Value Added, Employment, and Output are supplied by IMPLAN for this impact. Employment assumptions were provided to the model to enable construction of the impact model. From these data, Social Accounts, Production, Absorption, and Byproducts information was generated from the national level data and was incorporated into the model. All region study definitions and impact model assumptions were agreed on before work with the models began.

**Inputs provided for modeling the impact**

The BBER worked closely with the Duluth Curling Club in the development of the IMPLAN models to ensure accuracy of results. Operating assumptions required for the models include employment estimates and revenue sources. The DCC provided the BBER with all company expenditures required for the operations portion of the analysis. Inputs required for the economic impacts of the club’s bonspiels include the number of annual visitors as a result of the bonspiels and average spending per visitor. These estimates were gathered from the DCC board members, surveys of DCC bonspiel participants, and similar research studies.

*Operations:* For this analysis, the Duluth Curling Club provided budget worksheets for the 2014 fiscal year, which included charitable gambling sales numbers, revenue sources, annual expenses, employment numbers, and payroll.
Figure 2 shows the revenue sources for the Duluth Curling Club as a percentage of total sales. The largest revenue source (36%) comes from charitable gambling (i.e. pull tabs and meat raffles) followed by member dues (32%), food and beverage sales at the club’s Silver Broom lounge (23%), bonspiel registrations (4%), user fees (3%), and sponsorship and advertising (2%). These values were used to develop the IMPLAN models showing the economic impact of the club’s operations on the city of Duluth.

Table 1 provides a list of the five sectors used in modeling the economic impacts of the DCC’s operations. Dues income, bonspiels, and user fees are all classified in Sector 496, Other Amusement and Recreation Industries. In addition to curling facilities, this sector includes establishments such as golf courses, skiing facilities, and hockey clubs. Charitable gambling is classified in Sector 495, Gambling Industries (Except Casino Hotels). Food and beverage sales are classified in Sector 501, Full-service Restaurants. Sponsorship and advertising is classified in Sector 457, Advertising, Public Relations, and Related Services. Finally, a small amount of charitable gambling spending ($4,250 annually) is added to the Retail – Food and Beverage Stores sector to represent meat raffle purchases. The results of modeling are shown in Section III, Findings.

<table>
<thead>
<tr>
<th>Sector</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>496</td>
<td>Other amusement and recreation industries</td>
</tr>
<tr>
<td>495</td>
<td>Gambling industries (except casino hotels)</td>
</tr>
<tr>
<td>501</td>
<td>Full-service restaurants</td>
</tr>
<tr>
<td>457</td>
<td>Advertising, public relations, and related services</td>
</tr>
<tr>
<td>400</td>
<td>Retail – food and beverage stores</td>
</tr>
</tbody>
</table>
**Bonspiels:** The economic impact attributable to the club’s bonspiels relates only to new money injected into the Duluth economy by visiting bonspiel attendees. Expenditures by Duluth residents represent only a recycling of money that already exists in the local economy. Most likely, if local curlers did not spend their money as a result of their participation in the local bonspiel, they would have spent it elsewhere in town. For this reason, this analysis is concerned only with visitor spending as a result of the DCC’s bonspiels. Inputs required for modeling the economic impacts include the number of annual visitors as a result of the tournaments and the average spending per visitor. These data were collected from a variety of sources. Average annual bonspiel attendance (and specifically out-of-town attendance) was estimated using information from the DCC website and surveys of bonspiel attendees and adjusted using information from DCC board members and related studies. Average tourism spending was collected using results from similar relevant research studies.

The Duluth Curling Club hosts ten bonspiels each year between the months of November and March. Eight of the 10 annual tournaments draw visiting teams from outside the city of Duluth. For each of these, the club aims for registration from 32 teams, half of which should be visiting teams. Two of the bonspiels, the Turkey Spiel and the USWCA All-American, are for local participants only and don’t draw out-of-town visitors. For this reason, they were not included in the impact analysis.

A survey of bonspiel attendees was conducted at the Duluth Curling Club’s annual Cash Spiel, November 28-30, 2014. The survey asked participants if they were a local or visiting team, asked them to identify the number of spectators (or non-curlers) in their party, and asked details about the team’s accommodations and spending during their stay. Results were compiled by the DCC and provided to the research team at the start of the analysis. According to the findings of the survey, 30 teams were registered for the bonspiel, 26 of which were visiting teams. In addition to the visiting curlers, the tournament attracted 87 additional spectators, for a total of 191 visitors for the three-day tournament. Conversations with club board members confirmed that the Cash Spiel is one of the most popular and well-attended bonspiels, so these estimates are likely larger than most of the other bonspiels. According to 2014-15 registration numbers collected from the DCC’s website, the club has averaged 25 teams per bonspiel so far this season, but registrations are lower than average this year due to the weak Canadian dollar. Therefore, for the purpose of this analysis, we are assuming 29 teams per bonspiel, with half of those teams coming from outside the Duluth area.
Table 2. Duluth Curling Club Annual Bonspiels and Estimated Attendance

<table>
<thead>
<tr>
<th>Bonspiel</th>
<th>(a) Number of Teams</th>
<th>(b) Visiting Teams</th>
<th>(c) Days</th>
<th>(d) Overnights</th>
<th>(e) Visiting Curlers</th>
<th>(f) Additional Spectators</th>
<th>(e+f) Total Visitors</th>
<th>(e+f)*c Visitor Days</th>
<th>(e+f)*d Visitor Nights</th>
</tr>
</thead>
<tbody>
<tr>
<td>Turkey Spiel</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Duluth Cash Spiel</td>
<td>30</td>
<td>26.0</td>
<td>3</td>
<td>2</td>
<td>104</td>
<td>87</td>
<td>191</td>
<td>573</td>
<td>382</td>
</tr>
<tr>
<td>Ladies Fun Spiel</td>
<td>29</td>
<td>14.5</td>
<td>1</td>
<td>0</td>
<td>58</td>
<td>19</td>
<td>77</td>
<td>77</td>
<td>0</td>
</tr>
<tr>
<td>Bruce Bennett Men's Over 40</td>
<td>29</td>
<td>14.5</td>
<td>3</td>
<td>2</td>
<td>58</td>
<td>19</td>
<td>77</td>
<td>231</td>
<td>154</td>
</tr>
<tr>
<td>Elizabeth Busche Mem'l Jr. Bonspiel</td>
<td>29</td>
<td>14.5</td>
<td>3</td>
<td>2</td>
<td>58</td>
<td>19</td>
<td>77</td>
<td>231</td>
<td>154</td>
</tr>
<tr>
<td>USWCA All American</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>International Bonspiel</td>
<td>29</td>
<td>14.5</td>
<td>2</td>
<td>1</td>
<td>58</td>
<td>19</td>
<td>77</td>
<td>154</td>
<td>77</td>
</tr>
<tr>
<td>Copasetic Open Bonspiel</td>
<td>29</td>
<td>14.5</td>
<td>3</td>
<td>2</td>
<td>58</td>
<td>19</td>
<td>77</td>
<td>231</td>
<td>154</td>
</tr>
<tr>
<td>46th Dunlop Mixed Bonspiel</td>
<td>29</td>
<td>14.5</td>
<td>3</td>
<td>2</td>
<td>58</td>
<td>19</td>
<td>77</td>
<td>231</td>
<td>154</td>
</tr>
<tr>
<td>House of Hearts Charity Bonspiel</td>
<td>29</td>
<td>14.5</td>
<td>3</td>
<td>2</td>
<td>58</td>
<td>19</td>
<td>77</td>
<td>231</td>
<td>154</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>730</td>
<td>1,962</td>
<td>1,231</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The Turkey Spiel and the USWCA All American are both local bonspiels and do not draw visiting teams. Therefore, they were not included as part of the analysis.

Bonspiel participation surveys were distributed at the Duluth Cash Spiel.

Table 2 lists the ten bonspiels hosted by the Duluth Curling Club each winter. The estimates shown for the Duluth Cash Spiel represent the results of the survey distributed at that event. The rest of the values are estimates calculated for this study. Column (a) shows the number of teams estimated to participate in each tournament. Column (b) estimates the number of teams coming from outside the city of Duluth and surrounding zip codes. Columns (c) and (d) indicate the number of days and nights each attendee would be staying in the city of Duluth. Column (e) estimates the total number of visiting curlers, by multiplying the number of visiting teams by four. Column (f) estimates the number of additional spectators accompanying the teams (see page 8 for more details). The last three columns calculate the total number of visitors, the number of “Visitor Days” (used for calculating total spending amounts) and the number of “Visitor Nights” (used for calculating spending on accommodations).

Each curling team consists of four individuals.
To support the findings of the Duluth Cash Spiel survey and the information collected from the Duluth Curling Club website, our research team analyzed the results of more than a dozen studies on the economic impacts of sports tourism. In total, these studies spanned more than 40 tournaments from all over the United States and Canada and included a wide variety of athletic and recreational events. In the end, we selected six relevant studies that analyzed the impacts of 11 adult sporting tournaments between the years of 2002-2013. All of the studies included estimates of tournament attendance, including out-of-town visitors and their spending as a result of the tournament.

In addition, the majority of the studies included the number of spectators accompanying the teams. Interestingly, the number of “additional spectators” (Table 2, column f) attending the bonspiel turned out to be one of the most difficult inputs to estimate. The Cash Spiel survey identified 87 spectators accompanying the teams at the bonspiel, which would mean there were approximately 0.84 spectators for every visiting curler. However, the DCC board members claimed that most bosiels have fewer spectators. On the other hand, the studies we reviewed all had higher numbers of spectators per visiting player. For the seven tournaments that provided numbers of spectators there were, on average, 3.5 spectators for every visiting participant. Therefore, we had no reliable way of estimating the number of visiting spectators per bonspiel, except to say that the ratio should be less than 0.84 spectators per visiting curler. In the end, it was estimated that each bonspiel would draw one spectator for every three participants (0.33).

Figure 3. Average Visitor Spending Per Day

<table>
<thead>
<tr>
<th>Category</th>
<th>Average Spending Per Day</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hotels and motels, including casino hotels</td>
<td>$42.21</td>
</tr>
<tr>
<td>Full-service restaurants</td>
<td>$19.10</td>
</tr>
<tr>
<td>Retail - Gasoline stores</td>
<td>$14.30</td>
</tr>
<tr>
<td>Retail - Clothing and clothing accessories stores</td>
<td>$9.22</td>
</tr>
<tr>
<td>Other amusement and recreation industries</td>
<td>$6.19</td>
</tr>
<tr>
<td>Retail - Food and beverage stores</td>
<td>$4.90</td>
</tr>
<tr>
<td>Transit and ground passenger transportation</td>
<td>$1.04</td>
</tr>
<tr>
<td>Retail - Miscellaneous store retailers</td>
<td>$0.11</td>
</tr>
</tbody>
</table>
The spending estimates from the relevant research studies were combined with the results of the Duluth Cash Spiel survey, and average visitor spending per day was estimated for a variety of industry sectors. Figure 3, on page 8, provides a summary of those estimates, as well as the IMPLAN sectors used for modeling. These spending estimates were combined with the bonspiel attendance information from Table 2 to develop the economic impact models, the findings of which are shown in the following section.

### III. Findings

**Bonsiels**

Table 3 below summarizes the economic effects from the Duluth Curling Club’s annual bonsiels on the city of Duluth. These results use the average visitor spending per day information shown in Figure 3 combined with the bonspiel attendance estimates from Table 1 as the original input for the model.

Direct expenditures (i.e. direct spending by visiting curlers and spectators) are listed in the row labeled Direct Effect. Indirect Effect shows the measurement of increased spending between commercial, government, and service industries as a result of visitor spending. Induced Effect measures the amount of increased spending by residential households due to the bonsiels. Total Effect is the sum of Direct, Indirect, and Induced Effects.

<table>
<thead>
<tr>
<th>Impact Type</th>
<th>Employment</th>
<th>Labor Income</th>
<th>Value Added</th>
<th>Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct Effect</td>
<td>2</td>
<td>$37,908</td>
<td>$63,113</td>
<td>$117,715</td>
</tr>
<tr>
<td>Indirect Effect</td>
<td>0</td>
<td>$9,759</td>
<td>$17,514</td>
<td>$34,215</td>
</tr>
<tr>
<td>Induced Effect</td>
<td>0</td>
<td>$9,210</td>
<td>$16,599</td>
<td>$29,229</td>
</tr>
<tr>
<td>Total Effect</td>
<td>2</td>
<td>$56,877</td>
<td>$97,225</td>
<td>$181,160</td>
</tr>
</tbody>
</table>

The left-most column of Table 3, labeled Employment, estimates the number of jobs that the Duluth Curling Club’s bonsiels created directly and indirectly. Employment estimates are in terms of jobs, not in terms of full-time equivalent employees. Therefore, these jobs may be temporary, part-time, or short-term jobs. According to the results of this analysis, it is estimated that the bonsiels contributed to the creation of 2 jobs in the city of Duluth and surrounding zip codes.

The second column, Labor Income, is an estimate of all employee compensation, including wages, benefits, and proprietor income. In 2014-15, it is estimated that the Duluth Curling Club’s bonsiels contributed to approximately $56,000 in employee wages and benefits in the city of Duluth.

Column three, labeled Value Added, represents the contribution to GDP made by an individual producer, industry, or sector. This value shows the contribution to wages, rents, interest and profits as a result of bonspiel visitor spending. In 2014-15, the Curling Club’s bonsiels were estimated to have a total Value
Added impact of nearly $100,000 in the city of Duluth.

The last column, Output, is the value of all local production required to sustain activities. In 2014-15, the Curling Club bonspiels were estimated to have attracted more than 700 visitors to the city of Duluth who were estimated to have spent more than $100,000 within the city of Duluth. This direct spending led to a total output impact of nearly $200,000 throughout the city’s economy.

Figure 4. Top Ten Industries Impacted by Duluth Curling Club Bonspiels

<table>
<thead>
<tr>
<th>Industry</th>
<th>Direct</th>
<th>Indirect</th>
<th>Induced</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hotels and motels, including casino hotels</td>
<td>$52,404</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Full-service restaurants</td>
<td></td>
<td>$38,436</td>
<td></td>
</tr>
<tr>
<td>Other amusement and recreation industries</td>
<td></td>
<td>$12,310</td>
<td></td>
</tr>
<tr>
<td>Retail - Clothing and clothing accessories stores</td>
<td>$8,985</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Real estate</td>
<td></td>
<td>$6,570</td>
<td></td>
</tr>
<tr>
<td>Owner-occupied dwellings</td>
<td>$4,422</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Retail - Food and beverage stores</td>
<td>$3,331</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Retail - Gasoline stores</td>
<td>$3,314</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Management of companies and enterprises</td>
<td>$3,244</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hospitals</td>
<td>$2,448</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Figure 4 shows the estimated total output in the top ten sectors most impacted by the Duluth Curling Club’s bonspiels. Hotels and Motels are the most impacted sector, followed by Full-Service Restaurants, Other Amusement and Recreation Industries, and Retail – Clothing and Clothing Accessories. Most of the output from these sectors comes directly from visitor spending. In addition, the Real Estate, Owner-Occupied Dwellings, Management of Companies and Enterprises\(^6\), and Hospital sectors are all impacted by indirect and induced spending, meaning they benefit from additional inter-industry spending and household expenditures.

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\(^6\) The Real Estate sector includes residential and commercial rents. The Owner-Occupied Dwellings sector represents what owner/occupants would pay in rent if they rented rather than owned their homes, and is unique to IMPLAN modeling. The Management of Companies sector includes financial holding companies and corporate offices.
Table 4 summarizes the economic effects from the Duluth Curling Club’s operations. The club’s operational inputs include charitable gambling sales, member dues, food and beverage sales, bonspiel revenue, user fees, and sponsorship and advertising sales. Data for these models were supplied by the DCC. Direct expenditures (i.e. Curling Club total sales) are listed in the row labeled Direct Effect. Indirect Effect shows the measurement of increased spending between commercial, government, and service industries. Induced Effect measures the amount of increased spending by residential households. Total Effect is the sum of Direct, Indirect, and Induced Effects.

It is significant how much larger the impacts of the Curling Club’s operations are as compared with the impacts of its bonspiels. First, the club’s charitable gambling sales totaled more than $177,000 in 2014.
In addition, the club employs more than 30 full- and part-time employees annually, compared with only two additional employees as a result of the bonspiels. In all, the economic impacts of the club’s operations have a total effect of $711,956 on the city of Duluth, nearly four times that of the bonspiel’s total effects.

Figure 5 shows the top ten sectors impacted by the Curling Club’s operations. The sectors that see the largest economic impacts include Other Amusement and Recreation Industries, Gambling Industries, Full-service Restaurants, and Real Estate. These sectors are either directly or indirectly impacted by the spending that occurs as a result of the Duluth Curling Club organization and its employees.

**Bonspiels and Operations Total**

Table 6 below shows the combined impacts of the Curling Club’s bonspiels and operations. The combined results are the largest of the three models, totaling nearly $900,000 in output and resulting in the employment of an estimated 38 full- and part-time workers.

<table>
<thead>
<tr>
<th>Impact Type</th>
<th>Employment</th>
<th>Labor Income</th>
<th>Value Added</th>
<th>Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct Effect</td>
<td>35</td>
<td>$172,439</td>
<td>$292,235</td>
<td>$581,678</td>
</tr>
<tr>
<td>Indirect Effect</td>
<td>1</td>
<td>$46,536</td>
<td>$97,864</td>
<td>$177,452</td>
</tr>
<tr>
<td>Induced Effect</td>
<td>1</td>
<td>$42,220</td>
<td>$76,097</td>
<td>$133,985</td>
</tr>
<tr>
<td><strong>Total Effect</strong></td>
<td><strong>38</strong></td>
<td><strong>$261,195</strong></td>
<td><strong>$466,196</strong></td>
<td><strong>$893,115</strong></td>
</tr>
</tbody>
</table>

Figure 6 shows the top ten industries impacted by the Duluth Curling Club operations and bonspiels. Other Amusement and Recreation Industries is the sector that is most impacted by the club, followed by Gambling Industries, Full-Service Restaurants, Hotels and Motels, and Real Estate.
Figure 6. Top Ten Industries Impacted by Duluth Curling Club, Operations and Bonspiels

<table>
<thead>
<tr>
<th>Industry</th>
<th>Direct</th>
<th>Indirect</th>
<th>Induced</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other amusement and recreation industries</td>
<td>$190,150</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gambling industries (except casino hotels)</td>
<td>$169,665</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Full-service restaurants</td>
<td>$149,435</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hotels and motels, including casino hotels</td>
<td>$54,248</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Real estate</td>
<td>$50,034</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Owner-occupied dwellings</td>
<td>$20,255</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Advertising, public relations, and related services</td>
<td>$14,593</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Insurance carriers</td>
<td>$12,345</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Legal services</td>
<td>$12,107</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hospitals</td>
<td>$11,243</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Modeling Issues**

There are some IMPLAN modeling issues that should be considered when interpreting the results of this study. First, a small area, like the one included in this analysis, can have a high level of “leakage.” Leakages are any payments made to imports or value added sectors which do not in turn re-spend the dollars within the region. What’s more, a study area that is actually part of a larger functional economic region will likely miss some important backward linkages. For example, linkages with the labor force may be missing. Workers who live and spend outside the study area may actually hold local jobs.

Regional indirect and induced effects are driven by assumptions in the model. With some models, one problem is that the assumptions can mask the true multiplier. This is especially true of the assumption of constant returns to scale: This assumption most affects induced effects and says that, for example, if I drink coffee, and my income increases, I will drink proportionally more coffee than before. The amount of weight placed on the induced effects (the percentage of the total induced effect you would want to use) can be further analyzed with an in-depth impact study, involving much more specific data collection and more detailed analysis, but that is beyond the scope of this analysis.

Finally, one general caution about a study like this is with regards to spending by local residents. In the case of the bonspiel impacts, the analysis focused on visitor spending only. However, the impacts of the club’s operations include revenues from gambling, dining, and club dues. Much of that spending is
coming from local households, and that money might have been spent in the study area on something else were it not being spent at the club. Therefore, it should be noted that the Operations and Total Impacts of the analysis include spending by local residents and may overestimate the amount of new spending that the DCC is bringing to the city of Duluth.

IV. Conclusions

In total, the Duluth Curling Club contributes to the creation of 38 full- and part-time jobs and nearly $900,000 in spending throughout the city of Duluth’s economy. The local sectors that most benefit directly from the club’s visitors and operations include Other Amusement and Recreation Industries, Gambling, Restaurants, and Hotels. The industries that most benefit from the indirect (i.e. inter-industry) and induced (i.e. household) spending include Real Estate, Owner-Occupied Dwellings, Insurance, and Legal Services.

The economic impacts of the club’s operations (including member dues, charitable gambling, and Silver Broom Lounge sales) contribute the largest share to the overall impacts. The club employs 33 individuals and directly contributes more than $460,000 to the local economy. That direct spending leads to approximately $250,000 in additional spending throughout the city of Duluth.

The economic impacts of the club’s bonspiels are smaller, although they represent entirely new spending in the economy, as they are bringing out-of-town visitors to the city. The sectors that are most impacted by this additional spending are Hotels, Restaurants, Other Amusement and Recreation, and Retail. In total, the Duluth Curling Club’s bonspiels contribute to just over $180,000 throughout the local economy.

NOTE - Readers are also encouraged to remember the UMD Labovitz School’s BBER was asked to supply an economic impact analysis only. Any subsequent policy recommendations should be based on the “big picture” of total impact.
V. Bibliography


