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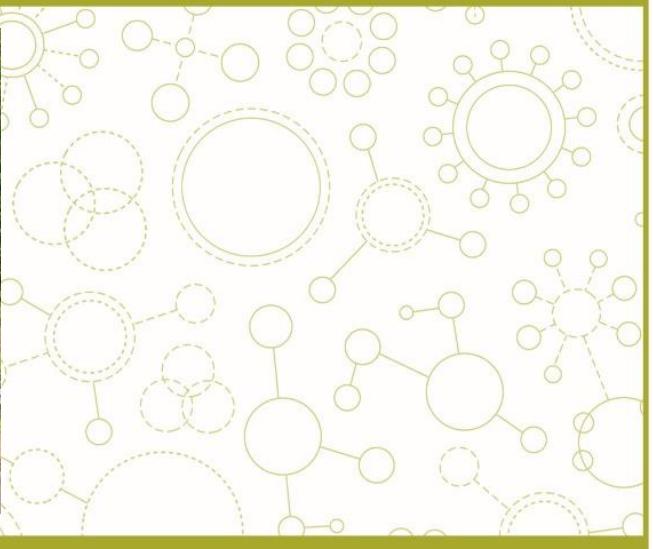
COMMUNITY VITALITY



# Economic Contribution of 2019 Grandma's Marathon Weekend

A REPORT OF THE ECONOMIC IMPACT ANALYSIS PROGRAM

Prepared by Brigid Tuck and John Bennett



**PROGRAM SPONSOR: GRANDMA'S MARATHON**



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A REPORT OF THE ECONOMIC IMPACT ANALYSIS PROGRAM

December 2019

Prepared by Brigid Tuck, Senior Economic Analyst, and John Bennett, Extension Educator, Center for Community Vitality

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Grandma's Marathon

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Prepared by Brigid Tuck and John Bennett

## EXECUTIVE SUMMARY: ECONOMIC CONTRIBUTION OF 2019 GRANDMA'S MARATHON WEEKEND

Grandma's Marathon is a road race held annually in Duluth, Minnesota. First held in 1977, the marathon drew 150 registrants to run from Two Harbors to Duluth. With time, the now world-class event has expanded to include the Garry Bjorklund Half Marathon, William A. Irvin 5K, and the Whipper Snapper races for kids. In addition to these races, marathon weekend also features the Essentia Health Fitness Expo, Michelina's spaghetti dinner, and Rock the Big Top entertainment.

The weekend attracts more than 20,000 people to Duluth each year. In 2019, 19,300 runners from 46 countries and all 50 states participated in the races. The 2019 marathon weekend was June 20-22.

Clearly, drawing thousands of runners, plus their friends, families, and supporters to Duluth generates economic activity in the city. Grandma's Marathon hired University of Minnesota Extension to conduct an economic contribution analysis of the event. Major findings show **the weekend generated an estimated \$20.6 million of economic activity** in Duluth in 2019.

**Project Approach:** In 2019, Grandma's Marathon weekend contributed to the economy in two ways. First, race participants spent money while in town. To measure this spending, Grandma's Marathon allowed Extension to add a series of questions to its evaluation survey. These questions covered topics such as length of stay, party size, attractions visited, distance traveled, and purchases made in the Duluth area. In total, Extension-specific questions received 2,722 responses. Second, race organizers spent money to host the race. Expenditures included marketing, advertising, and transportation. Race organizers provided Extension with their event budget.

**Participant Profile:** Grandma's Marathon weekend runners traveled lengthy distances with nearly half reporting traveling 150-300 miles. They stayed an average of 2.6 days in the Duluth area and primarily used paid accommodations. On average, travel parties spent \$778.10 during race weekend. The largest expenditures were for lodging (\$344), dining out (\$141), and transportation (\$84). The average travel party had 2.5 people, of which 1.8 ran in a race. This indicates that many racers brought spectators.

**Direct Effect:** In 2019, Grandma's Marathon weekend attendees spent an estimated \$10.7 million while in the Duluth area. Their spending supported 100 jobs and generated \$2.5 million in labor income. Grandma's Marathon spent \$3.1 million to host the event and hired 84 workers.

**Total Effect:** In 2019, Grandma's Marathon weekend generated an estimated \$20.6 million of economic activity in St. Louis County. Of this, \$5.7 million was labor income. Race events supported employment for 244 workers.

**Top Industries Impacted:** Grandma's Marathon generated \$20.6 million in economic activity in 2019. Of this, \$13.8 million was direct spending by race participants and race organizers. Thus, \$6.8 million was at other businesses in St. Louis County. The top industries affected by Grandma's Marathon weekend included wholesale trade, real estate, and owner-occupied dwellings (housing).

**Visitor Spending:** Those traveling to Duluth specifically to participate in the races (visitors) brought "new" money into the economy. Of the total economic contribution, an estimated \$17.5 million was money brought into Duluth by visitors. Of this, \$4.8 million was labor income. Visitors supported 210 jobs.

## INTRODUCTION

Grandma's Marathon is a road race held annually in Duluth, Minnesota. First held in 1977, the marathon drew 150 registrants to run from Two Harbors to Duluth. With time, the now world-class event has expanded to include the Garry Bjorklund Half Marathon, William A. Irvin 5K, and the Whipper Snapper races for kids. In addition to these races, marathon weekend also features the Essentia Health Fitness Expo, Michelina's spaghetti dinner, and Rock the Big Top entertainment.

The weekend now attracts more than 20,000 people to Duluth each year. In 2019, 19,300 runners from 46 countries and all 50 states participated in the races. The 2019 marathon weekend was June 20-22.

Clearly, drawing thousands of runners, plus their friends, families, and supporters to Duluth generates economic activity in the city. Runners participate in the expo, dine out, and book hotel rooms. Grandma's Marathon was interested in quantifying the economic benefits of the event. Therefore, they hired University of Minnesota Extension to conduct an economic contribution analysis. This report presents a summary of results.

## Survey

Each year, Grandma's Marathon surveys race participants. The primary goal of the survey is to evaluate the event. In 2019, Grandma's Marathon allowed Extension to add a series of questions to collect data for its economic contribution study. Questions covered topics such as length of stay, party size, attractions visited, distance traveled, and purchases made in the Duluth area (see Appendix 2 for list of questions).

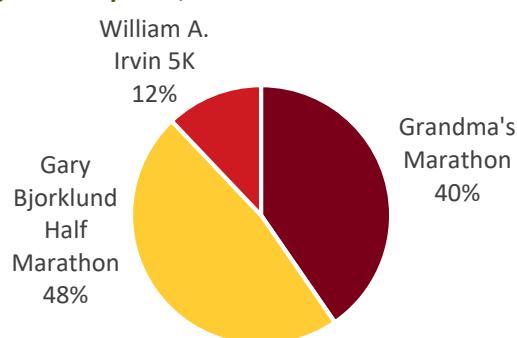
Grandma's Marathon staff sent the survey in late June and early July 2019. They then supplied Extension with the corresponding data. In total, Extension's questions received 2,722 responses. Assuming a race day participation of 19,300 people, this was a 14 percent response rate. In addition, given race registration was less than 25,000, the number of responses provide a 95 percent confidence interval with a plus or minus 3 percent sampling error. In other words, Extension is 95 percent confident responses are within 3 percent of the actual figures.

## GRANDMA'S MARATHON WEEKEND PARTICIPANTS

In 2019, Grandma's Marathon weekend attracted 19,300 registrants. Nearly half ran the half marathon, followed by the marathon and the 5K (Chart 1).

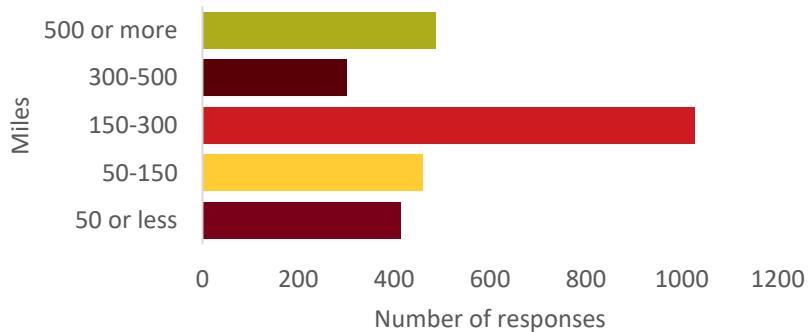
**Chart 1: Registrants by Race, Grandma's Marathon**

**Weekend**



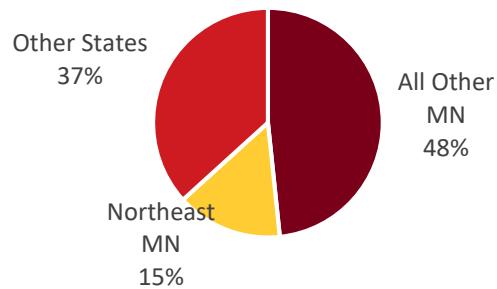
Grandma's Marathon races are internationally known events. Among runners, the marathon and half-marathon are considered top destination races. Thus, it is not surprising people travel significant distances to participate in the weekend's races (Chart 2). The largest group of participants traveled 150 to 300 miles.

**Chart 2: Distance Traveled, Grandma's Marathon Weekend Respondents**



Zip code data from registrants reinforces the observation that Grandma's Marathon weekend is a destination event (Chart 3). Only 15 percent of racers were from northeast Minnesota.<sup>1</sup> Nearly half were from other locations in Minnesota. More than one-third traveled from other states to race.

**Chart 3: Home Zip Codes of Grandma's Marathon Weekend Registrants**

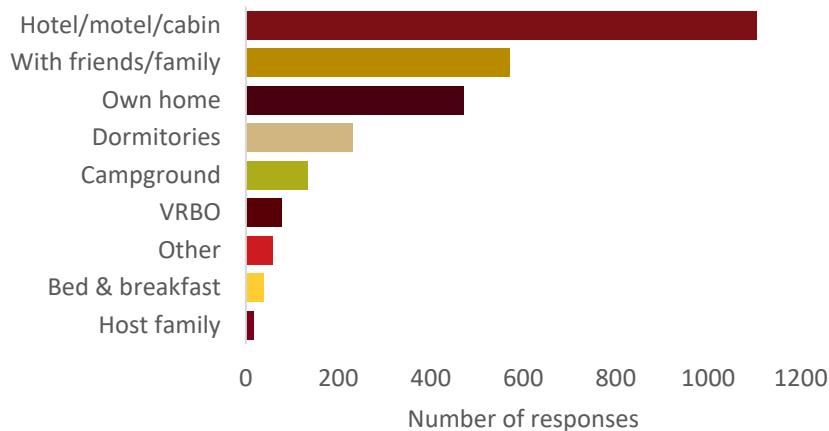


<sup>1</sup> Aitkin, Carlton, Cook, Itasca, Koochiching, Lake, and St. Louis Counties.



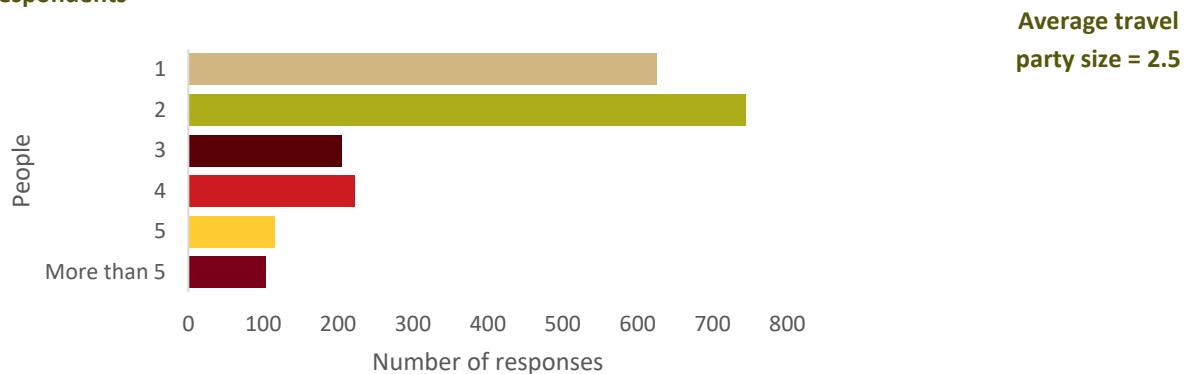
Given the distances traveled, most participants stayed in local accommodations. The most commonly reported lodging type was a hotel, motel, or cabin (Chart 4). Other frequently used accommodations included staying with family or friends, staying in one's own home, and bunking in college dormitories.

**Chart 4: Accommodations, Grandma's Marathon Weekend Respondents**



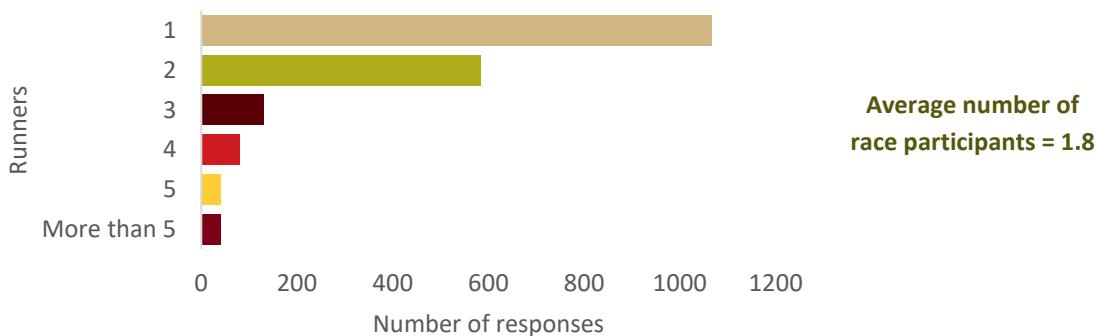
Many Grandma's Marathon participants traveled with family or friends for the weekend. The most commonly reported travel party size was two (Chart 5). However, a significant number of racers traveled alone. On average, respondents reported traveling in parties of 2.5 people.

**Chart 5: Travel Party Size, Grandma's Marathon Weekend Respondents**



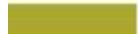
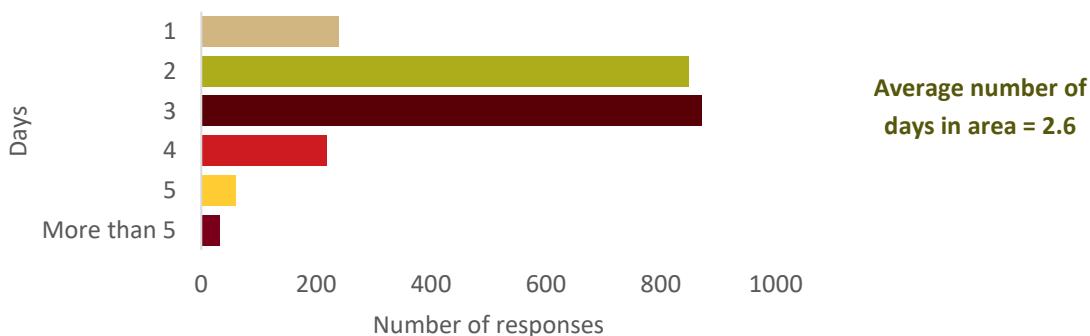
Not everyone in a travel party, however, ran in a race. The largest segment of respondents indicated only one member of their party participated in a race (Chart 6). On average, each travel party had 1.8 race participants. Therefore, for every registered runner, there were 0.8 additional people in Duluth for the weekend.

**Chart 6: Number of Runners Per Travel Party, Grandma's Marathon Weekend Respondents**



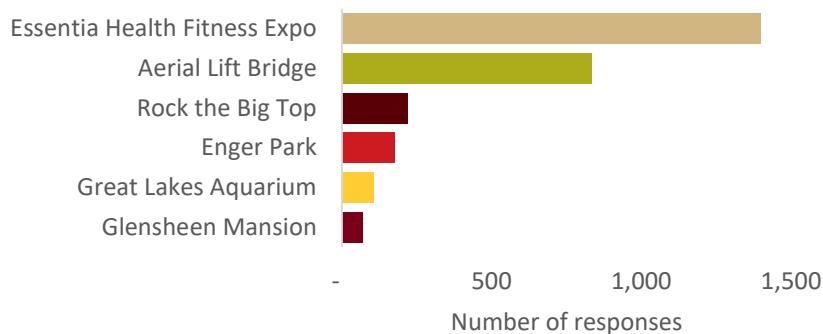
On average, race participants spent 2.6 days in the Duluth area. In fact, 76 percent of respondents reported staying two or three days in the region (Chart 7).

**Chart 7: Number of Days in Duluth Area, Grandma's Marathon Weekend Respondents**



While Grandma's Marathon weekend was the primary reason race participants traveled to Duluth, they also visited other local attractions (Chart 8). In addition to the Essentia Health Fitness Expo, other frequently visited places included the Aerial Lift Bridge, Rock the Big Top, and Enger Park.

**Chart 8: Attractions Visited in Duluth, Grandma's Marathon Weekend Respondents**



In 2019, race participants reported their travel party spent an average of \$778.10 during race weekend (Table 1). The largest expenditures were for lodging (\$344), dining out (\$141), and transportation (\$84). This figure is for the entire travel party and weekend. The weekend generated a significant amount of retail shopping for Duluth, with respondents spending an average of \$106.50 at retail businesses (non-running, running, and grocery stores).

**Table 1: Average Spending Per Party, Per Trip, Grandma's Marathon Weekend Respondents, 2019**

Category	Average Spending
Lodging	\$344.90
Dining Out	\$141.10
Transportation	\$84.00
Essentia Health Fitness Expo	\$48.10
Retail, Non-Running	\$41.60
Groceries	\$37.80
Entertainment	\$33.10
Retail, Running	\$27.10
All Other	\$20.40
Total	\$778.10

Source: Survey of Grandma's Marathon Weekend participants



## ECONOMIC CONTRIBUTION

Economic contribution is comprised of direct, indirect, and induced effects. Direct effects are those generated by the activity itself. In this study, there are two sources of direct effect. First, there is the direct spending (and associated employment) by participants in town for race weekend. Extension quantified this component by calculating spending per party and then extrapolating across all travel parties.

Second, there is spending by Grandma's Marathon to host the race. Grandma's Marathon provided Extension with its 2019 race budget. Grandma's Marathon makes expenditures directly related to the race—such as paying for starting line transportation and race day timing. The organization also has expenditures for marketing, advertising, and office operations.

When participants spend money at Duluth area hotels and restaurants, this stimulates an increase in spending in the economy. Restaurant owners, for example, purchase more supplies—food, electricity, and laundry services. Meanwhile, restaurant staff earn wages and tips, which they then spend on items such as rent, groceries, and transportation. These are the indirect and induced, or ripple, effects. Likewise, when Grandma's Marathon purchases items, such as marketing services, that creates ripple effects as well. Ripple effects can be measured using input-output models. The IMPLAN model, with Type SAM multipliers and 2017 data, was used in this analysis.

The study area for this analysis was St. Louis County, since this was the primary location of events and activities. Survey results do indicate, however, that Grandma's Marathon weekend has a significant effect on neighboring counties—especially Lake County in Minnesota to the north and Douglas County in Wisconsin to the east. Many respondents reported staying at accommodations in these counties.

### Direct Effects

#### Participants

In 2019, Grandma's Marathon weekend attendees spent an estimated \$10.7 million while in the Duluth area (Table 2). Their spending supported 100 jobs and generated \$2.5 million in labor income.

Total spending, as mentioned, was derived by taking the average spending per travel party and extrapolating to all travel parties. Employment and labor income were estimated by IMPLAN, based on averages for the businesses visited by race participants.

**Table 2: Direct Effect, Grandma's Marathon Weekend Visitors, 2019**

Category	Total
Total Spending	\$10,690,600
Employment	100
Labor Income	\$2,529,900

Source: Survey of Grandma's Marathon Weekend participants and IMPLAN

## Operations

In 2019, Grandma's Marathon budgeted \$3.1 million to host the race (Table 3). Of this, \$893,000 was labor income. Grandma's Marathon has 84 employees—this includes both full-time workers and those hired close to or on race day to help with logistics.

**Table 3: Direct Effect, Grandma's Marathon Operations, 2019**

Category	Total
Total Spending	\$3,066,800
Employment*	84
Labor Income	\$893,000

\*Includes full-time employees and temporary close to or on race day

Source: Grandma's Marathon

## Indirect and Induced Effects

As detailed, indirect and induced effects are the secondary impacts generated from the direct effect. Indirect effects stem from spending along the business supply chain. They are often considered business-to-business effects. Induced effects stem from spending by a business' employees. They are also known as consumer-to-business effects (see Appendix 1 for additional details).

## Total Effects

In 2019, Grandma's Marathon weekend generated an estimated \$20.6 million of economic activity in St. Louis County (Table 4). Of this, \$5.7 million was labor income. Race events supported employment for 244 workers.

**Table 4: Total Economic Contribution, Grandma's Marathon Weekend, 2019**

	Output	Employment	Labor Income
Direct	\$13,757,400	184	\$3,422,900
Indirect	\$3,821,200	35	\$1,263,900
Induced	\$3,023,300	25	\$972,900
Total	\$20,601,900	244	\$5,659,700

Estimates by University of Minnesota Extension

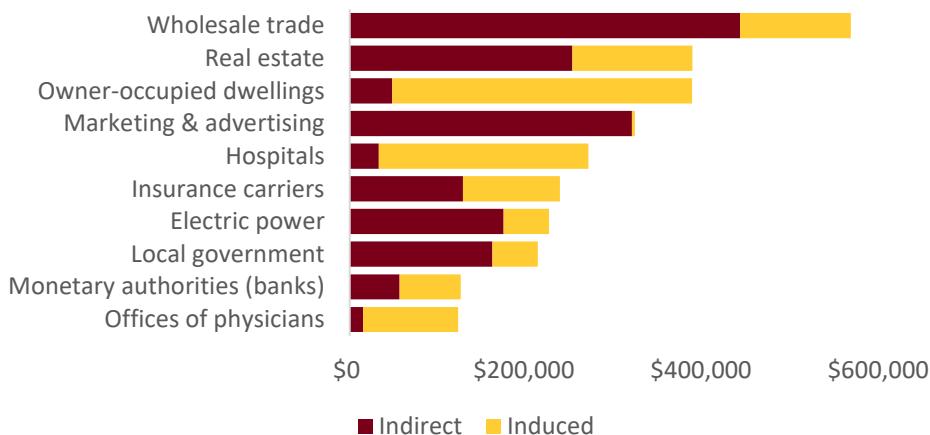
## Top Industries Impacted

Grandma's Marathon generated \$20.6 million in economic activity in 2019. Of this, \$13.8 million was direct spending by race participants and organizers. Thus, \$6.8 million was at other businesses in St. Louis County. The top industries affected by Grandma's Marathon weekend included wholesale trade, real estate, and owner-occupied dwellings (Chart 9).



Wholesale trade is an industry in which goods are purchased and stored in large quantities and sold to resellers and professional users. They are not to final consumers. Items for race goodie bags, for example, would be purchased via wholesalers. Real estate (apartments and rentals) and owner-occupied dwellings are both types of housing. Since housing is a major component of a household budget, it is not surprising to see high ripple effects in these industries. There are also indirect effects, as some racers rent homes during the event.

**Chart 9: Top Industries Impacted, Grandma's Marathon Weekend, 2019**



## Visitor Spending

For any analysis related to an event, it is important to consider the percent of economic activity generated by local participants versus those traveling from outside the area. Those traveling to Duluth specifically to participate in the races (visitors) bring new money into the economy. This is money that likely would not have been spent in the region if not for the race. Those living locally, however, would likely spend money in Duluth that weekend regardless of the races.

In the case of Grandma's Marathon, the overwhelming majority of participants (85 percent) traveled from outside the Duluth area. Thus, this distinction is less of a concern. However, it is helpful for local decision makers to have this data.

Of the total economic contribution, an estimated \$17.5 million is money brought into Duluth by visitors (Table 5). Of this, \$4.8 million is labor income. Visitors supported 210 jobs.

**Table 5: Total Economic Contribution, Local versus Visitor Spending, Grandma's Marathon Weekend, 2019**

	Output	Employment	Labor Income
Visitors	\$17,511,600	210	\$4,810,700
Local residents	\$3,090,300	34	\$849,000
Total	\$20,601,900	244	\$5,659,700

Estimates by University of Minnesota Extension



## Sensitivity Analysis

While registration numbers for marathon weekend vary by year, it has grown steadily through the years. Economic contribution depends on the number of participants. A sensitivity analysis shows how registration numbers affect total economic contribution.

Table 6 highlights the economic contribution of 15,000, 19,300, and 25,000 race registrants. If attendance dropped to 15,000, the total economic contribution would correspondingly fall to an estimated \$17.4 million. If the number of registrants increased to 25,000, then economic contribution would increase to \$25.1 million.

**Table 6: Sensitivity Analysis, Economic Contribution, Grandma's Marathon Weekend, Registration of 15,000, 19,300, and 25,000**

	15,000 Registrants	19,300 Registrants	25,000 Registrants
Output	\$17,401,800	\$20,601,900	\$25,130,132
Employment	215	244	280
Labor Income	\$4,939,500	\$5,659,700	\$6,845,082

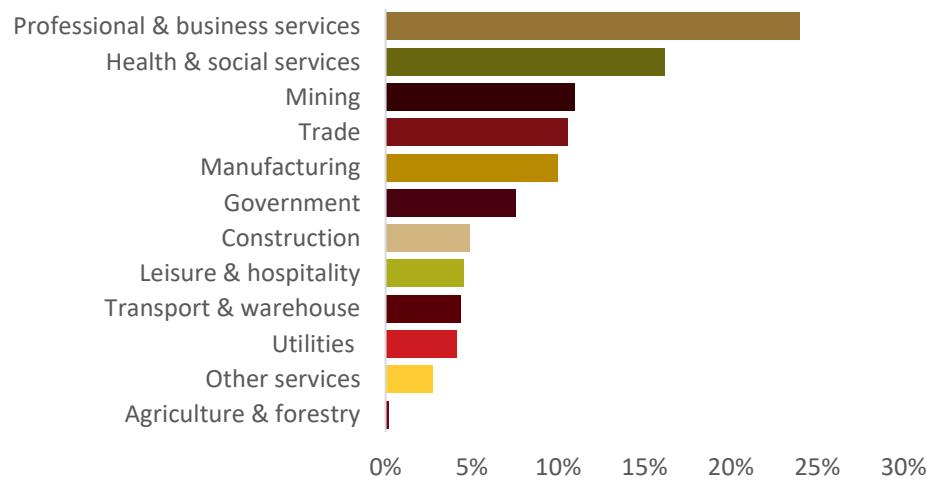
Estimates by University of Minnesota Extension

This sensitivity analysis holds the Grandma's Marathon budget steady. It assumes that marginal changes in registrations would not affect the budget too drastically. However, if race registrations were to increase or decrease significantly, then race-related expenditures would also change and affect projections.

## GRANDMA'S MARATHON WEEKEND IN THE CONTEXT OF DULUTH'S ECONOMY

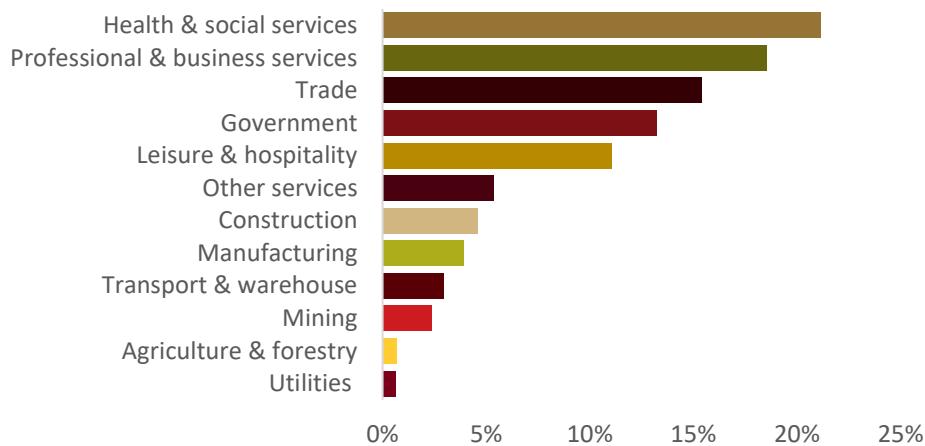
In 2017, businesses and enterprises in St. Louis County generated \$19.3 billion in output. Of this, the largest industries included professional and business services, health and social services, and mining (Chart 10).

**Chart 10: Percent of Output by Industry, St. Louis County, 2017**



In 2017, businesses and enterprises in St. Louis County provided 125,900 jobs. Of these, the largest industries included health and social services, professional and business services, and trade (Chart 11). The leisure and hospitality industry, which is directly supported by Grandma's Marathon, accounted for 11 percent of employment in the county.

**Chart 11: Percent of Employment by Industry,  
St. Louis County, 2017**



## APPENDIX 1: METHODS AND TERMS

Special models, called input-output models, exist to conduct economic impact analysis. There are several input-output models available. IMPLAN (IMpact Analysis for PLANning, Minnesota IMPLAN Group)<sup>2</sup> is one such model. Many economists use IMPLAN for economic impact analysis because it can measure output and employment impacts, is available on a county-by-county basis, and is flexible for the user. IMPLAN has some limitations and qualifications, but it is one of the best tools available to economists for input-output modeling. Understanding the IMPLAN tool, its capabilities, and its limitations helps ensure the best results from the model.

One of the most critical aspects of understanding economic impact analysis is the distinction between the “local” and “non-local” economy. The local economy is identified as part of the model-building process. Either the group requesting the study or the analyst defines the local area. Typically, the study area (the local economy) is a county or a group of counties that share economic linkages. In this analysis, the study area is St. Louis County.

A few definitions are essential to properly read the results of an IMPLAN analysis. These terms and their definitions are provided below.

### Output

Output is measured in dollars and is equivalent to total sales. The output measure can include significant double counting. Think of corn, for example. The value of the corn is counted when it is sold to the mill, again when it is sold to the dairy farmer, again as part of the price of fluid milk, and yet again when it is sold as cheese. The value of the corn is built into the price of each of these items and then the sales of each of these items are added to get total sales (or output).

### Employment

Employment includes full- and part-time workers and is measured in annual average jobs, not full-time equivalents (FTEs). IMPLAN includes total wage and salaried employees, as well as the self-employed, in employment estimates. Because employment is measured in jobs and not in dollar values, it tends to be a very stable metric.

### Labor Income

Labor income measures the value added to the product by the labor component. Therefore, in the corn example, when the corn is sold to the mill, a certain percentage of the sale goes to the farmer for his/her labor. Then when the mill sells the corn as feed to dairy farmers, it includes some markup for its labor costs in the price. When dairy farmers sell the milk to the cheese manufacturer, they include a value for their labor. These individual value increments for labor can be measured, which amounts to labor income. Labor income does *not* include double counting.

### Direct Impact

Direct impact is equivalent to the initial activity in the economy. In this study, it is spending by Grandma's Marathon weekend race attendees and race organizers.

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<sup>2</sup> IMPLAN Version 3.0 was used in this analysis. The trade flows model with SAM multipliers was implemented.



## **Indirect Impact**

The indirect impact is the summation of changes in the local economy that occur due to **spending for inputs** (goods and services) by the industry or industries directly impacted. For instance, if employment in a manufacturing plant increases by 100 jobs, this implies a corresponding increase in output by the plant. As the plant increases output, it must also purchase more inputs, such as electricity, steel, and equipment. As the plant increases these purchases, its suppliers must also increase production, and so forth. As these ripples move through the economy, they can be captured and measured. Ripples related to the purchase of goods and services are indirect impacts. In this study, indirect impacts are those associated with spending by Grandma's Marathon weekend attendees and race organizers.

## **Induced Impact**

The induced impact is the summation of changes in the local economy that occur due to **spending by labor**. For instance, if employment in a manufacturing plant increases by 100 jobs, new employees will have more money to spend on housing, buying groceries, and going out to dinner. As they spend their new income, more activity occurs in the local economy. Induced impacts also include spending by labor generated by indirect impacts. So, if Grandma's Marathon purchases services from a local tax preparer, spending of the tax preparer's wages would also create induced impacts. Primarily, in this study, the induced impacts are economic changes related to spending by those hired to serve Grandma's Marathon weekend attendees and those generated by the employees of the race organization.

## **Total Impact**

The total impact is the summation of the direct, indirect, and induced impacts.

## **Input-Output, Supply and Demand, and Size of Market**

Care must be taken when using regional input-output models to ensure they are being used in the appropriate type of analysis. If the models are used to examine the impact of an industry so large that its expansion or contraction results in major supply and demand shifts, causing the price of inputs and labor to change, then input-output can overstate the impacts. Since this analysis looks at one specific weekend, the model should estimate reliably. It is important, however, to remember this information when considering this analysis.



## APPENDIX 2: GRANDMA'S MARATHON WEEKEND PARTICIPANT QUESTIONNAIRE

1) How many days were you in Duluth for Grandma's Marathon activities? \_\_\_\_ days

2) During your trip to Duluth, what other attractions did you visit?

Aerial Lift Bridge     Rock the Big Top     Essentia Health Fitness Expo

S.S. William A. Irvin (boat)     Glensheen Mansion     Enger Park

Great Lakes Aquarium     Other (please list) \_\_\_\_\_

We are evaluating the economic impact Grandma's Marathon weekend has on surrounding businesses and our community, and we need to know how much you or your HOUSEHOLD (including you) spent while in Duluth for the running activities. Please give us your best estimate. Thank you!

3) How much did you spend in total during your trip to Duluth? \$\_\_\_\_\_

4) Now, to the best of your ability, break your spending into the following categories.

Lodging \$\_\_\_\_\_ Dining Out \$\_\_\_\_\_ Groceries \$\_\_\_\_\_

Expo merchandise \$\_\_\_\_\_ Running-related merchandise (not at Expo) \$\_\_\_\_\_

All other retail shopping \$\_\_\_\_\_ Entertainment/recreation \$\_\_\_\_\_

Transportation (including gas) \$\_\_\_\_\_ Other \$\_\_\_\_\_

5) How many people (including you) are included in your spending estimate? \_\_\_\_

6) How many people (including you) in your spending estimate participated in race activities? \_\_\_\_

7) Would you have visited Duluth if not for Grandma's Marathon?  Yes  No  I live here (or nearby)

8) When you attended Grandma's Marathon, did you spend the night away from home?  Yes  
 No (if no, go to question X)

9) How many nights did you spend away from home to attend the running events \_\_\_\_ nights

10) If you stayed overnight, what type of accommodation did you use?

\_\_\_\_ Hotel/motel \_\_\_\_ Resort/commercial cabin \_\_\_\_ Home of friend/relative \_\_\_\_ Airbnb \_\_\_\_

Vacation rental by owner \_\_\_\_ Your own vacation home \_\_\_\_ Vacation home of friend/relative

11) What is your home zip code? \_\_\_\_\_

