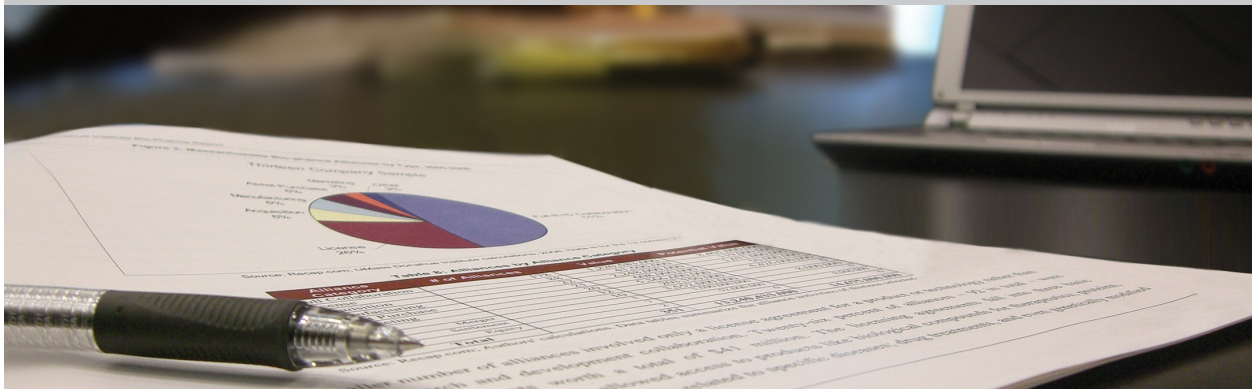


# Economic Impact of the 2024 Boston Marathon presented by Bank of America

October 2024



UMassAmherst

Donahue Institute  
Economic and  
Public Policy Research

# Economic Impact of the 2024 Boston Marathon presented by Bank of America

Prepared by the UMass Donahue Institute's  
Economic & Public Policy Research Group

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## Acknowledgments

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We would also like to thank Christina Pappas, president and CEO of the Massachusetts Lodging Association, and Stephen Clark, president and CEO of the Massachusetts Restaurant Association, for their time and knowledge regarding the impacts of the marathon on their respective industries.

## Executive Summary

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The Boston Athletic Association organizes and hosts one of the most iconic road races in the world: the Boston Marathon presented by Bank of America. This event attracts thousands of participants along with their friends and family, spectators, event staff, and volunteers. This report details the B.A.A.'s operational impacts, the impacts from marathon attendance and participation, and ends with the economic impacts of these two sources of activity.

The B.A.A. has two main categories of expenditures: year-round operations and a larger set of spending associated with marathon weekend. This spending includes staff salaries and operational expenses, contractors, payments to local governments, advertising, and more. In 2024, total spending on these items injected nearly \$67 million into the local economy, supporting 150 jobs. Through economic interactions, this direct spending goes on to create or support 300 jobs and \$106 million of economic activity statewide.

Impacts from visitation are in addition to the impacts from the logistics and facilitation required to put on the marathon. Spending by participants, their friends and family, and other spectators create most of the economic impacts associated with marathon weekend. The B.A.A. estimates more than 34,000 people participated in at least one of the weekend's races while conservative estimates for spectators are 500,000. Using surveys of both groups, we were able to learn more about them and their activities while in the area.

Reflecting the prestige of the event, participants come from around the world to run the Boston Marathon. Almost a third traveled from abroad and about half live in states outside of New England. Less than a fifth of participants live in New England and only about one in ten came from greater Boston. Many of the spectators also traveled from outside New England, with two-fifths being domestic travelers from outside the region. On the other hand, the remainder of the spectators were much more likely than participants to be from the area: 40% from Massachusetts and another 9% from elsewhere in New England. Only a small percentage arrived from another country.

While here, visitors spent money on food, shopping, entertainment, and lodging. Almost 90% of participants stayed overnight while just over half of spectators did. Overnight visitors in both groups typically spent three nights in the area. Combined spending on lodging and other activities amounted to hundreds of dollars per day, with people staying in Boston spending on average 70% more than those staying outside of the city due to lower nightly rates on accommodations and lower daily spending on other activities. We also included an estimate of spending associated with daytrippers. These activities directly create \$228 million of economic activity and 1,800 jobs statewide. After accounting for ripple effects, visitation creates or supports \$403 million of economic activity and 2,600 jobs statewide.

When all sources of economic activity are combined, total statewide impacts of the Boston Marathon are \$509 million of economic activity, 2,900 jobs, and \$207 million of income to households. Of this total, \$344 million of economic activity, 1,900 jobs, and \$144 million of income accrues to Boston.

## Introduction

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The Boston Athletic Association organizes and hosts one of the most iconic road races in the world: the Boston Marathon presented by Bank of America. This event attracts thousands of participants along with their friends and family, spectators, event staff, and volunteers. The marathon provides a showcase event for the city and creates economic opportunities for businesses throughout the region. With a new presenting sponsor and a return to its regular schedule post-pandemic, the B.A.A. is well-positioned to take a step back and evaluate the marathon's contributions to the City of Boston, the region, and the commonwealth. The following sections will detail the B.A.A.'s operational impacts, the impacts from marathon attendance and participation, and will culminate with the results of economic impact modeling using these two sources of activity.

## **B.A.A.'s Spending Impacts**

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The B.A.A. has two main categories of spending. The first is spending in 2024 associated with the B.A.A.'s year-round operations, such as staff salaries and overheads. The second, larger set of impacts are those associated with marathon weekend. The impacts of marathon participants and spectators are described in the next chapter.

### ***B.A.A. Employment, Compensation, and Revenues***

The B.A.A. has 39 full-time employees who earned \$5.5 million in total compensation, which includes wages and salaries, taxes, and benefits. These values exclude those who are not actual employees of the Association. Other paid labor and outside contractors are discussed in the next section. To support these employees and other operational costs, the B.A.A. reported revenues of \$36.4 million.

### ***Contractors and Consultants***

Expenses paid to contractors and consultants capture a large share of the expenses involved with organizing and hosting the marathon. Items in this group include technology and IT services, accommodations, transportation, signage and advertising, space and equipment rentals, prize money, insurance, and other fees. In total, spending on these items is about \$16.5 million.

### ***Other Payments***

Other payments include two main expenses and a few smaller ones. The two biggest are payments to local governments for support of the marathon, including direct public safety costs where applicable, and gifts and services in kind. Together these total nearly \$6 million. The remaining \$2.2 million in other spending is comprised of utilities, warehousing, charitable giving, and other goods and services.

### ***Office Headquarters***

The B.A.A. has recently relocated offices within downtown Boston to be closer to the finish line. This analysis includes office spending through the fall of 2024 totaling \$1.8 million.

### ***Other Advertising***

Finally, the B.A.A. provided the research team with local-market advertising spending by its partners. This spending includes placing advertising on linear television, local radio, out-of-home and digital-out-of-home advertising, the Boston Globe, WCVB-TV (Channel 5 Boston), and social media, totaling \$4.96 million.



# Impacts from Visitation

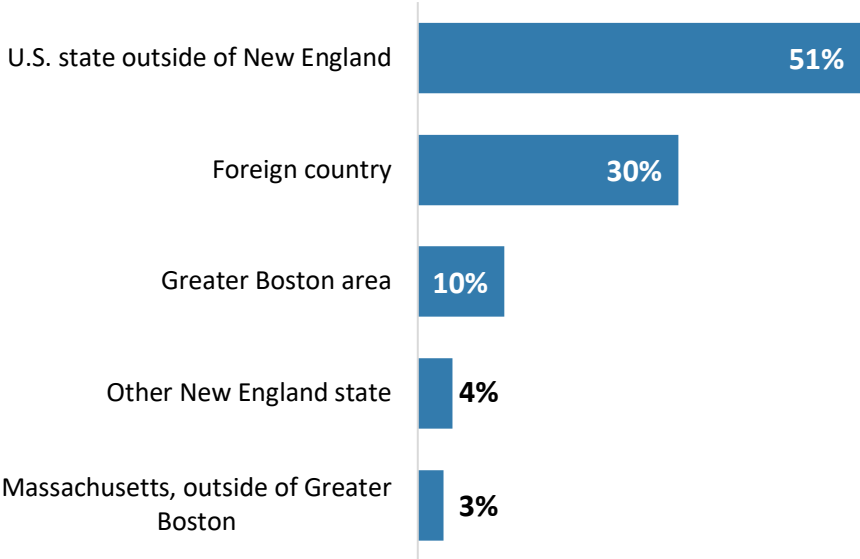
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Every year, the Boston Athletic Association surveys its marathon participants to collect data on their backgrounds, participation in events, and satisfaction with those events. This year, UMDI created a new survey to collect additional data from marathon spectators for the first time. The B.A.A.'s marathon participant survey had around 5,900 respondents and UMDI's spectator survey had over 3,500 respondents.

Both surveys showed that the Boston Marathon brings in an influx of out-of-town visitors to the area who come to celebrate the iconic race that is a milestone event in participants' lives. The marathon brings in more than just the participants themselves; it brings in a crowd of supporters who add to the overall spending and economic impact of the event. Most marathon participants said they traveled with two or three people in their party. In the spectator survey, the majority of respondents said they came to the Boston Marathon to support a friend or family member participating in the race. Reflecting its importance, most participants and spectators stayed multiple nights around the date of the race, making a full trip out of the marathon event.

Of the hundreds of thousands of people the marathon attracts to Boston each year, the majority come from outside of the region and the state. A little more than half of marathon participants reside in a U.S. state outside of New England and 30 percent come from a foreign country (Figure 1). Only 17 percent of participant respondents combined came from Greater Boston, elsewhere in Massachusetts, or another state in New England.

**Figure 1: Marathon Participant Survey Results on Residency**

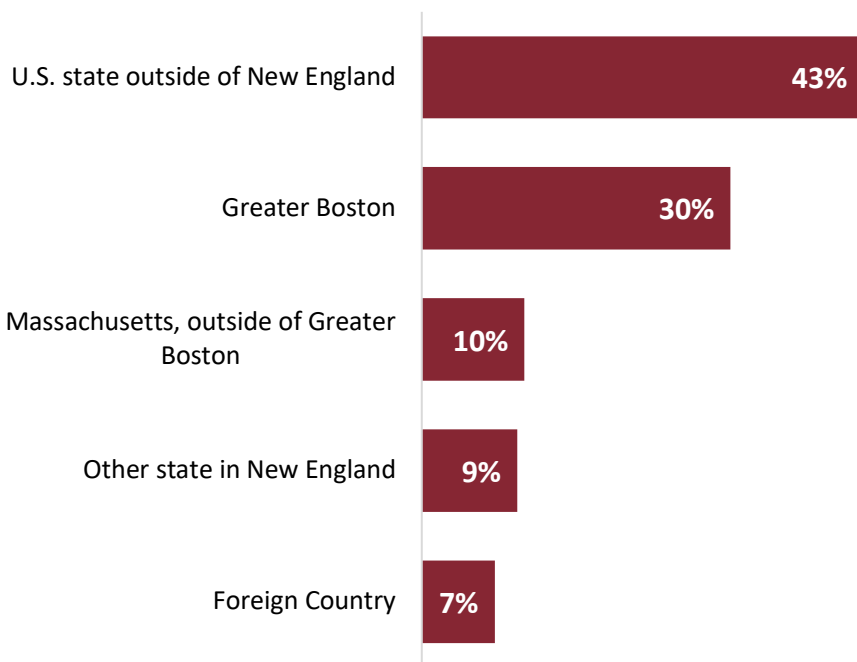


Source: B.A.A. Marathon Participant Survey

Though many spectator respondents also traveled from outside of the state and country, there was a higher share of spectators from Greater Boston, Massachusetts, and other New England states compared to the results of the participant survey. Thirty percent of the spectators came from Greater Boston, 10 percent from elsewhere in Massachusetts, and nine percent from another state in New England (Figure 2). Taken together, 49 percent, or about half, of spectators reported residences in the state or region, compared to only 17 percent of participants. Not surprisingly, this shows that those within driving or public transit distance are more likely to attend as spectators than people from outside of New England or outside of the United States. Only seven percent of the spectator respondents were from a foreign country.

The plurality of spectators (43%) live in some U.S. state outside of New England, with at least one spectator who came from each state. Behind Massachusetts, the states where most spectators came from were New Hampshire, New York, and California, each with four percent of respondents (Figure 3).

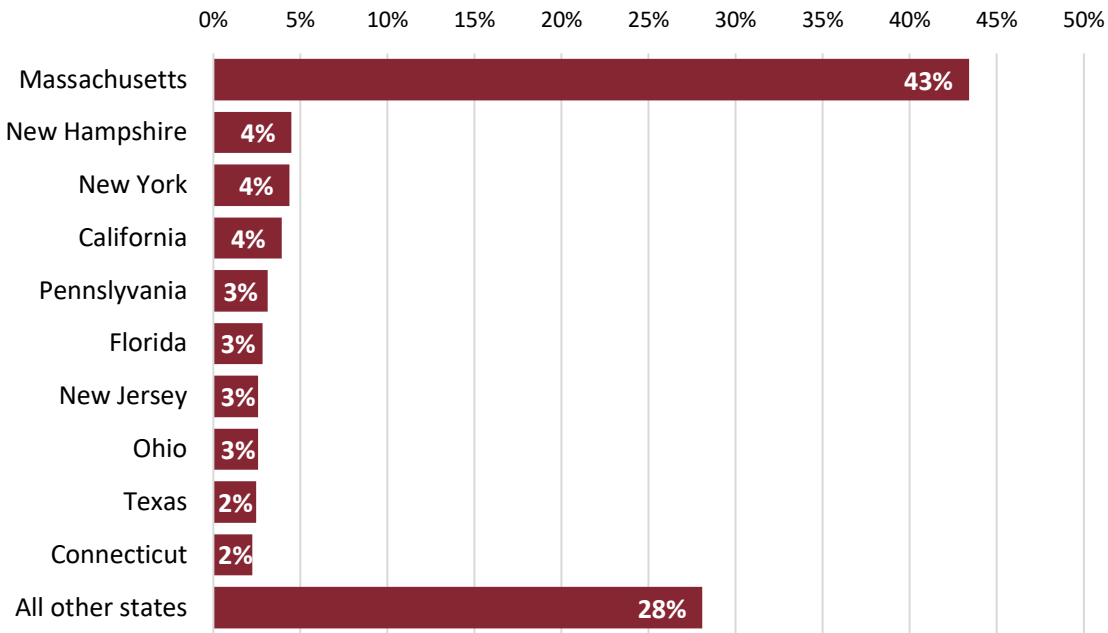
**Figure 2: Marathon Spectator Survey Results on Residency**



Source: UMDI Spectator Survey

Note: Residential zipcode responses from spectator respondents were used to emulate residence categories in the participant survey for comparison purposes. Greater Boston here is defined as the Metropolitan Area Planning Council (MAPC) planning region of Metro Boston.

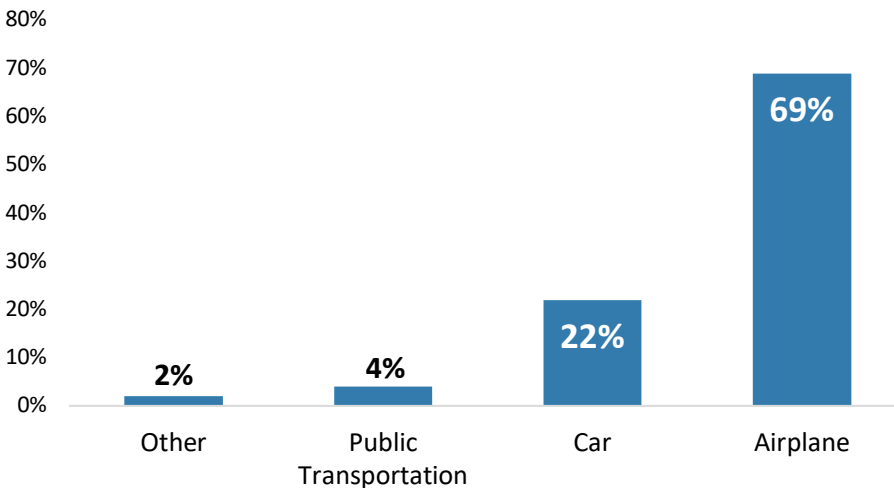
**Figure 3: Top 10 States of Residency for Spectator Respondents**



Source: UMDI Spectator Survey

The marathon attracts people from all over the country and the world and because most participants came from outside of the region, the majority (69%) traveled to Boston by airplane (Figure 4: Marathon Participant Survey Results on Transportation to Boston). This is followed by 22 percent who traveled by car and only four percent who traveled by public transportation.

**Figure 4: Marathon Participant Survey Results on Transportation to Boston**



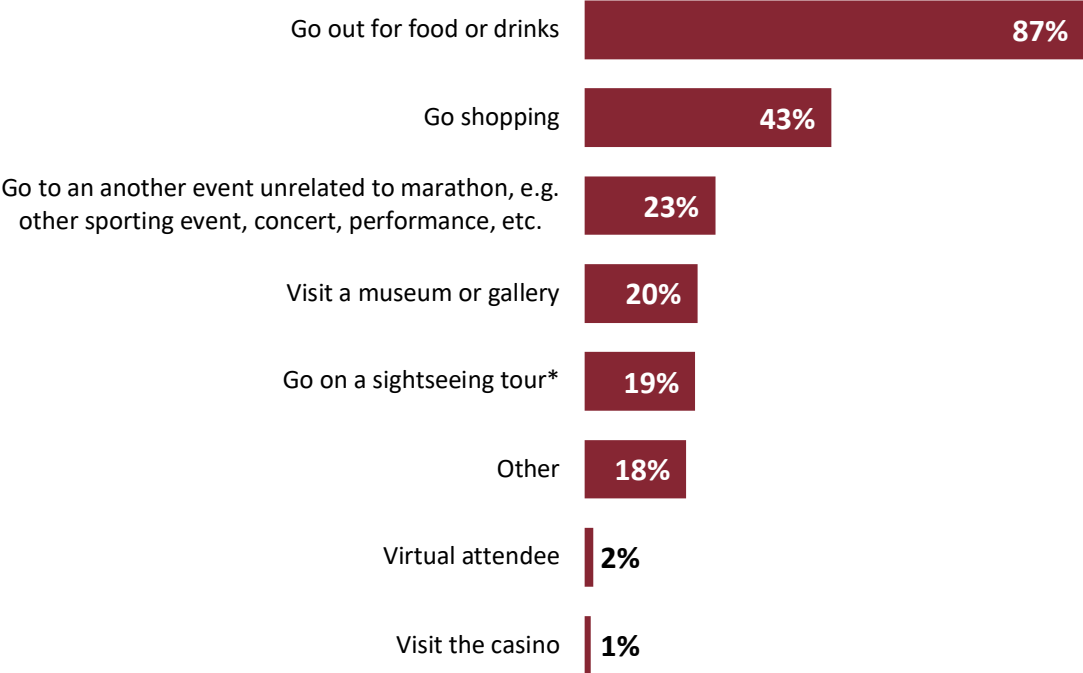
Source: B.A.A. Marathon Participant Survey

Since most of the participants came from out-of-town, two-thirds of the participants stayed in a Boston area hotel the night before the race. Most participants stayed more than just one night, making an extended weekend trip out of the events. The majority of participants (59%) stayed 3-5 nights in conjunction with the race. Additionally, most marathon participants did not travel alone, which increases the number of overall visitors and economic impact. In the B.A.A.'s participant survey, 39 percent of respondents said they had two people travel in their party to Boston. Another 36 percent traveled in groups of 3 or more. Less than a quarter (23%) traveled to the event alone.

Similarly, in the spectator survey, the median party size was three people, and the median number of nights stayed was three nights. Most spectators came to support and to celebrate a participant who is a friend or family member. In the spectator survey, 77 percent of respondents said they traveled to support a marathon participant. Only 23 percent of respondents were spectators with no connection to a participant.

While in the area, spectators participated in marathon-related activities as well as other activities around Boston. The most popular activity among spectators was going out for food or drinks. A majority (87%) of respondents said they had gone or planned to go out for food or drinks while visiting (Figure 5). This was followed by 43 percent who reported plans for shopping and 23 percent who planned to attend other events such as sporting events, concerts, or other performances. Spectators further increase the impact on businesses by spending money on activities outside of the marathon events.

**Figure 5: Spectator Survey Results on Activities during Visit**

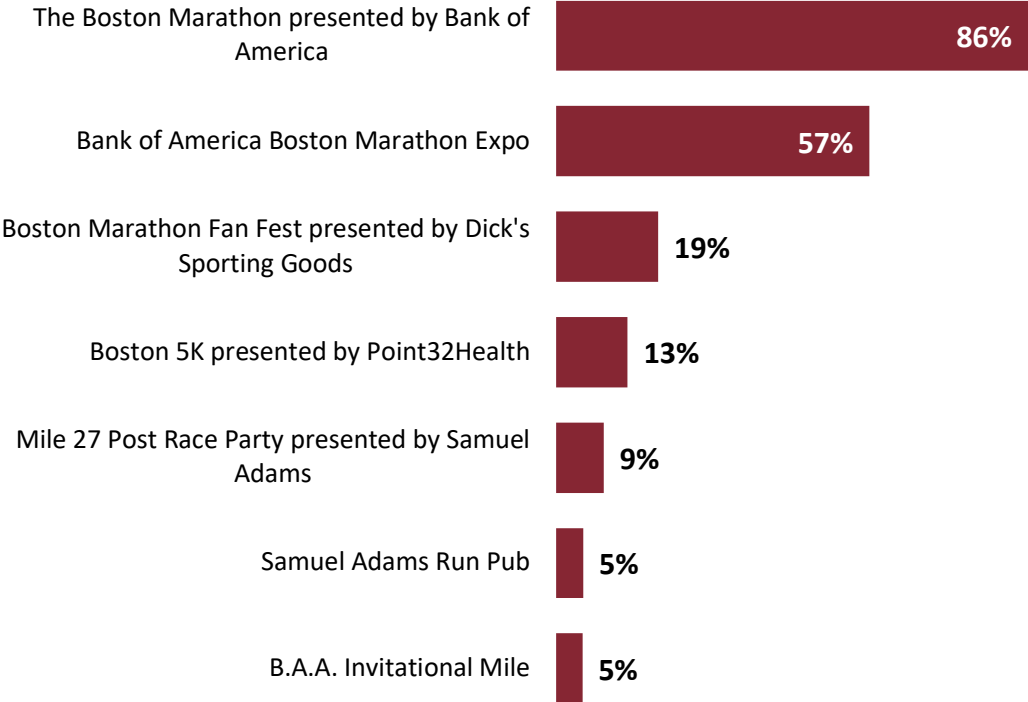


Source: UMDI Spectator Survey  
 \*Includes respondents who responded "Other" and wrote in that they did activities related to independent sightseeing or visiting historic tourist attractions

For spectators who were in attendance to support a family member or friend, 99 percent said their family or friend was a Boston Marathon participant. Only eight percent said their friend/family participated in the Boston 5K presented by Point32Health and less than one percent said they participated in the B.A.A. Invitational Mile.

For all spectator respondents, 86 percent said they attended the marathon itself and 57 percent attended the Boston Marathon Expo (Figure 6). Nineteen percent attended Boston Marathon Fan Fest presented by Dick’s Sporting Goods. The other events had lower attendance overall from respondents.

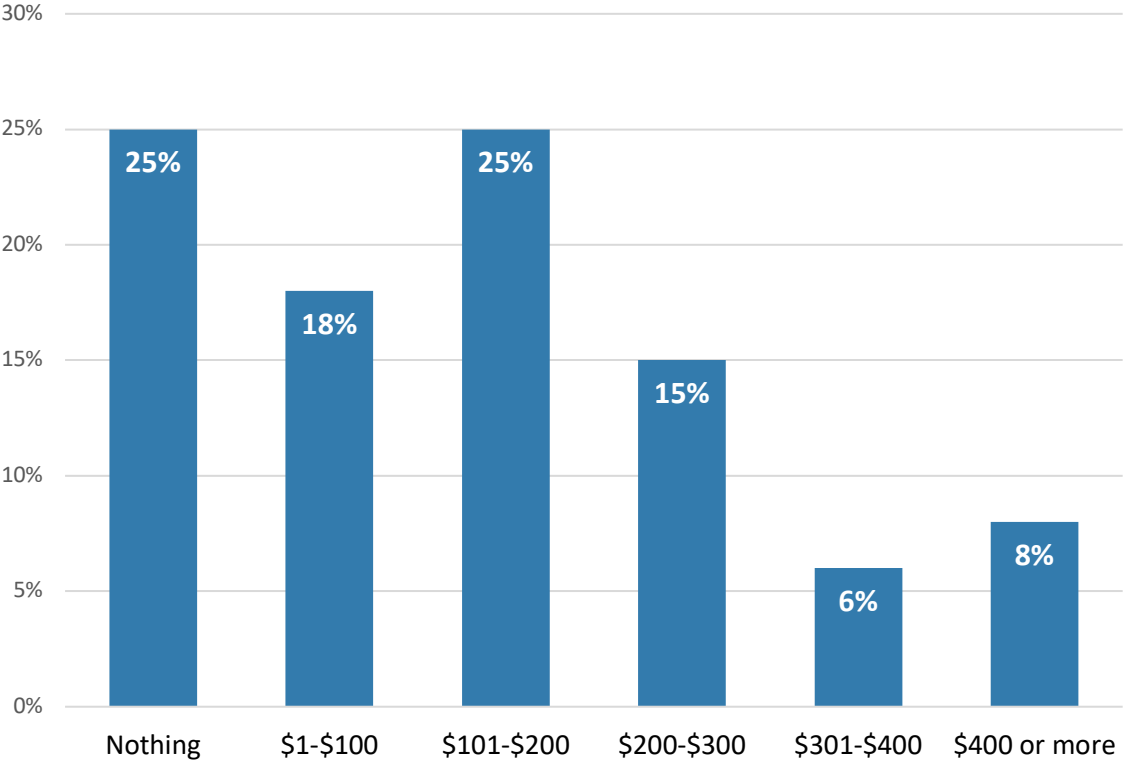
**Figure 6: Spectator Survey Results on Event Attendance**



Source: UMDI Spectator Survey

To further examine the economic impact, the B.A.A. participant survey asked questions about attendance and spending at the Bank of America Boston Marathon Expo specifically. Three-quarters of marathon participants spent money while at the Expo and about half of the participants said they brought one to two non-participants with them to the Expo. The majority (combined 58%) of participants said they spent between \$1 and \$300 (Figure 7).

**Figure 7: Marathon Participants Spending at Boston Marathon Expo**

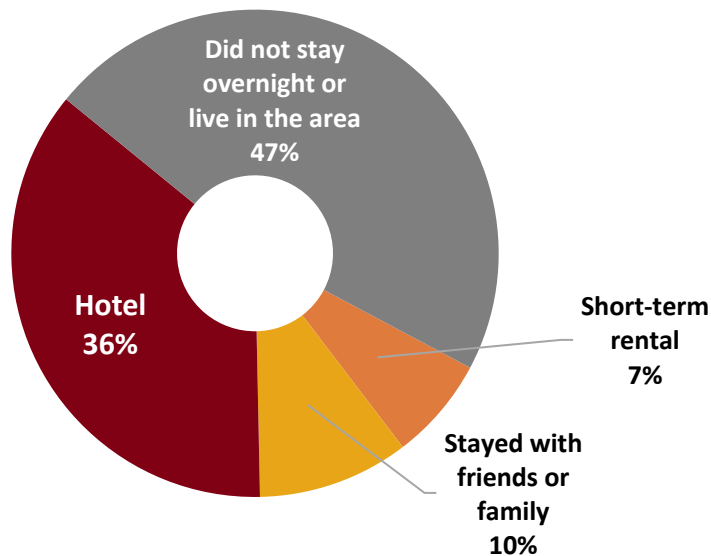


Source: B.A.A. Marathon Participant Survey

There was additional spending from both spectators and participants on hotels or other accommodations during their stay. As mentioned earlier, spectators were more likely to be from the region than participants, so many spectators were day-trippers and did not need overnight accommodations. Almost half of all spectator respondents (47%) said they did not stay overnight or said that they live in the area so stayed at home (Figure 8).

Nonetheless, a little more than half of the spectator respondents did stay overnight. Of the 53 percent that stayed overnight, most stayed at hotels, while some stayed at short-term rentals or with family and friends.

**Figure 8: Survey Question on Overnight Stay**

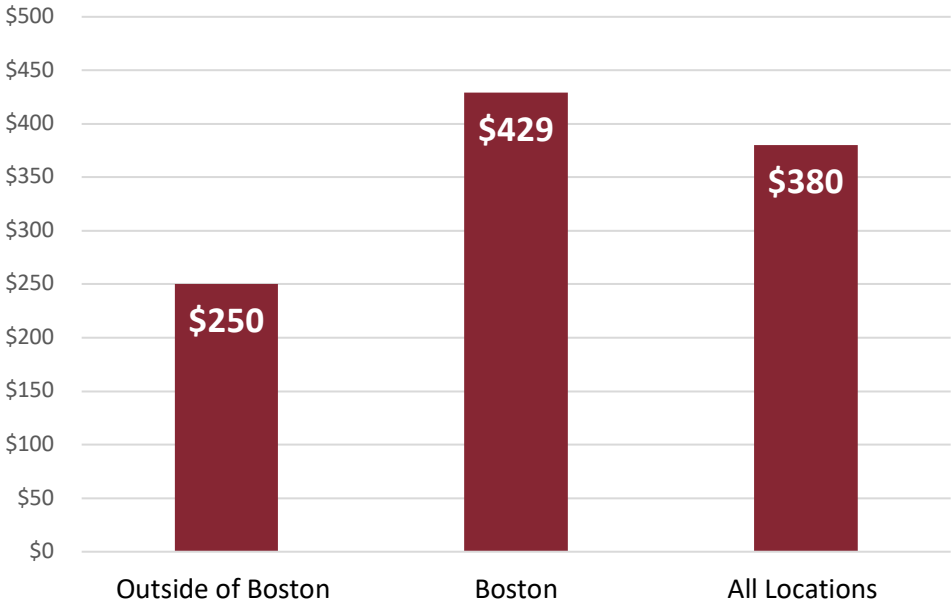


Source: UMDI Spectator Survey

More than half (55%) of the spectator respondents who planned to stay overnight stayed within the city of Boston, followed by seven percent in Cambridge and three percent each in Newton and Brookline. The other 32 percent stayed in various other towns in the surrounding Boston area, including some in bordering states. Of those who stayed in Boston, some listed the specific neighborhood where they stayed. Of those responses, the most popular area was Back Bay, followed by Brighton and South Boston.

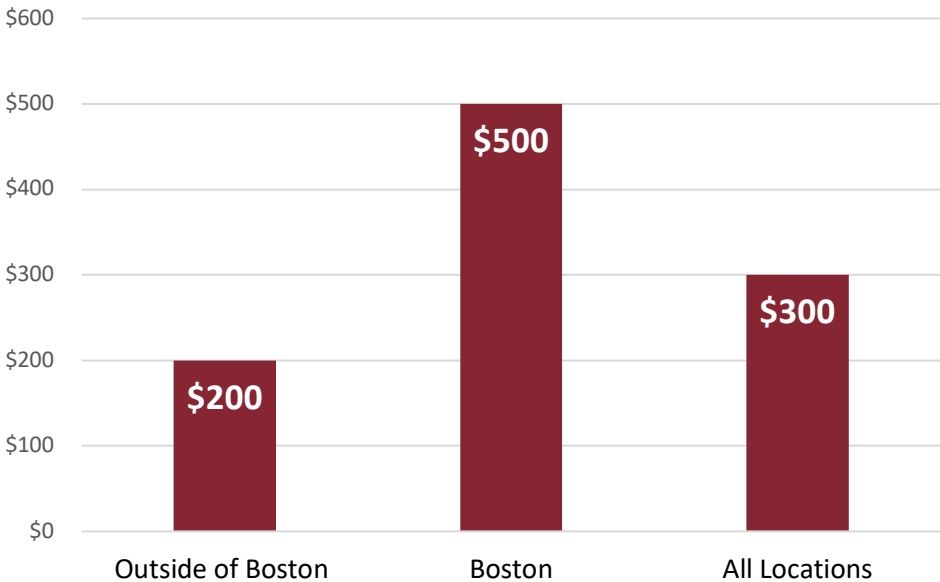
For all spectator respondents, the median nightly rate for accommodations was \$380, and the median expenditure on other activities was \$300 (Figure 9, Figure 10). For those who stayed in Boston, the median nightly rate for accommodations was slightly higher at \$429, and the median expenditure on other activities was also higher at \$500. For those who stayed outside of Boston, these amounts were a little lower; the median nightly rate for accommodations was \$250, and the median expenditure on other activities was \$200. These spending estimates are used in the economic impact modeling discussed later in the report.

**Figure 9: Median Nightly Rate for Accommodations**



Source: UMDI Spectator Survey

**Figure 10: Median Expenditure on Other Activities**



Source: UMDI Spectator Survey

The marathon continues to attract both new visitors and repeat runners. Over half (51%) of participants are racing the Boston Marathon for the first time this year. At the same time, the marathon is an event that brings the same people back again each year: 46 percent of participants in the survey had been an official finisher of the marathon at least once before.



# Economic Impact Modeling

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## Economic Concepts Glossary

To fully appreciate the Boston Athletic Association's economic impacts, it is helpful to understand the terms that describe the results discussed in this report.

**Employment:** Employment is a count of jobs, not people, by place of work. It counts all jobs with the same weight regardless of whether the position is full-time or part-time or the labor of a self-employed proprietor. Additionally, jobs are counted as job-years, which are equivalent to one job lasting for one year. This is a similar concept to "person-hours." Jobs often carry over from year to year, so therefore the jobs in one year include many of the same jobs as in the previous year. For example, if a new business opens with 10 employees, then the host community of that business will have 10 more jobs than it would have had in every future year that the company maintains its workforce. Over five years, the business will have created 50 job-years (10 jobs at the company x five years = 50 job-years), though it is possible that it is not the same 10 people who are working there over time. When reviewing changes in employment across multiple years, knowledge of the concept of job-years is vital to proper interpretation. As shown in the example above, 50 job-years is not equivalent to 50 people with jobs or even 50 job slots.

**Output:** Output is the total economic value of production, sales, sometimes called business revenues, whether final (i.e., purchased by the end user) or intermediate (i.e., used by another business to produce its own output). It includes the value of inputs to production, wages paid to employees, capital expenses, taxes, and profit. It is useful as an indicator of business activity, but it should not be construed as net new economic activity.

**Personal Income:** Personal income is income and benefits from all sources (e.g., wages and salaries, government transfers, property income, etc.) earned by all persons living in an area. It excludes the income earned by non-resident workers who commute into an area, but it includes the income of residents who commute out.

**Value Added:** Value added is the value of all final goods and services, sometimes called net economic impact, created in an economy. It represents new economic activity and is also known as gross product or net economic impact. It differs from output by the value of inputs to production. Value added provides a useful summary of the economy, which is why all nations and U.S. states report their economic growth in this way, calling it either gross domestic product or gross state product as appropriate. Its usefulness derives from the elimination of the double-counting inherent in output, which stems from the inclusion of inputs. An example of the double-counting of inputs can be found and simplified in the process of making and selling a loaf of bread. A farmer sells wheat to a mill, which then sells flour to a baker, who then sells bread to the final customer. The sale price of the bread includes the cost of all necessary inputs, including growing the wheat, milling the flour, and baking the bread. Value added counts only the sale price of the bread to the final consumer, which is the net new value created in the economy. On the other hand, output counts the revenues earned by every business in the supply chain, which means that the value of the wheat and flour are counted more than once.

## Summary Impacts

Through the year-round operation of the B.A.A., marathon-specific spending, and visitation by race participants and spectators, new spending enters the local economy. This spending is called direct spending and creates additional local activity until all new money leaves the region due to imports, commuting, savings, or taxes. The total economic impacts are found by evaluating the new activity created by the direct change. These additional impacts are called indirect and induced effects depending on their source. Indirect effects are business-to-business transactions that are caused by the chain of purchaser-supplier relationships. The induced effects are caused by the newly hired employees spending their incomes on goods and services. An example of an indirect impact is the revenues of a B.A.A. vendor or restaurant supplier. An example of an induced effect is a B.A.A. employee or a supplier's employee purchasing a meal at a restaurant. These direct, indirect, and induced effects will be seen repeatedly in the sections that follow.

The two figures that follow show the economic impacts of both the B.A.A. itself and the visitation impacts of the marathon. These impacts are based on the data shown in the chapters “**B.A.A.’s Spending Impacts**” and “**Impacts from Visitation.**” A methodology and description of the IMPLAN model are available in the appendix. The key findings follow:

- The operations of the B.A.A. in 2024, including its year-round business and the expenditures related to putting on the marathon, directly create or support \$66.8 million of economic activity and 150 jobs.
- Visitation from race participants, their guests, and spectators creates or supports \$174.1 million of economic activity and 1,375 jobs in Suffolk County. They create or support another \$54.1 million and 425 jobs in the rest of Massachusetts for a total of \$228.2 million and 1,800 jobs statewide.
- Collectively, operations and visitation create or support \$295 million in direct economic activity and 1,950 direct jobs statewide.
- Through economic linkages, the direct impacts create additional impacts of \$214.1 million and 950 jobs throughout the state. Slightly over half of this additional economic activity and about 60 percent of additional jobs are outside Suffolk County.
- Taken together, total statewide impacts are \$509.1 million of economic activity and 2,900 jobs. Gross state product, or net economic activity, is \$330.5 million and total labor income is \$206.8 million.

Figure 11: Economic Impact Results by Impact Type and Scenario

Suffolk County					
Impact Type	Scenario	Jobs	Labor Income (\$M)	Gross Product (\$M)	Economic Activity (\$M)
Direct	<i>Ops</i>	150	\$17.7	\$45.1	\$66.8
	<i>Visitors</i>	1,375	\$83.4	\$115.7	\$174.1
	<b>Combined</b>	<b>1,525</b>	<b>\$101.1</b>	<b>\$160.8</b>	<b>\$240.9</b>
Indirect & Induced	<b>Combined</b>	<b>375</b>	<b>\$42.8</b>	<b>\$68.5</b>	<b>\$103.4</b>
<b>Total</b>	<b>Combined</b>	<b>1,900</b>	<b>\$143.9</b>	<b>\$229.3</b>	<b>\$344.3</b>

Rest of MA					
Impact Type	Scenario	Jobs	Labor Income (\$M)	Gross Product (\$M)	Economic Activity (\$M)
Direct	<i>Ops</i>	0	\$0.0	\$0.0	\$0.0
	<i>Visitors</i>	425	\$23.8	\$35.7	\$54.1
	<b>Combined</b>	<b>425</b>	<b>\$23.8</b>	<b>\$35.7</b>	<b>\$54.1</b>
Indirect & Induced	<b>Combined</b>	<b>575</b>	<b>\$39.1</b>	<b>\$65.5</b>	<b>\$110.7</b>
<b>Total</b>	<b>Combined</b>	<b>1,000</b>	<b>\$62.9</b>	<b>\$101.2</b>	<b>\$164.8</b>

Massachusetts					
Impact Type	Scenario	Jobs	Labor Income (\$M)	Gross Product (\$M)	Economic Activity (\$M)
Direct	<i>Ops</i>	150	\$17.7	\$45.1	\$66.8
	<i>Visitors</i>	1,800	\$107.2	\$151.4	\$228.2
	<b>Combined</b>	<b>1,950</b>	<b>\$124.9</b>	<b>\$196.5</b>	<b>\$295.0</b>
Indirect & Induced	<b>Combined</b>	<b>950</b>	<b>\$81.9</b>	<b>\$134.0</b>	<b>\$214.1</b>
<b>Total</b>	<b>Combined</b>	<b>2,900</b>	<b>\$206.8</b>	<b>\$330.5</b>	<b>\$509.1</b>

Source: B.A.A., Participant Survey, Visitor Survey, IMPLAN, UMDI calculations Note: Jobs rounded to nearest 25 and dollars rounded to nearest \$100,000. Totals may not match due to rounding.

**Figure 12: Combined Economic Impact Results by Impact Type**

<b>Suffolk County</b>				
<b>Impact Type</b>	<b>Jobs</b>	<b>Labor Income (\$M)</b>	<b>Gross Product (\$M)</b>	<b>Economic Activity (\$M)</b>
<b>Direct</b>	1,500	\$101.1	\$160.8	\$240.9
<b>Indirect</b>	275	\$30.7	\$47.7	\$73.2
<b>Induced</b>	125	\$12.1	\$20.9	\$30.2
<b>Total</b>	<b>1,900</b>	<b>\$143.9</b>	<b>\$229.3</b>	<b>\$344.3</b>

<b>Rest of MA</b>				
<b>Impact Type</b>	<b>Jobs</b>	<b>Labor Income (\$M)</b>	<b>Gross Product (\$M)</b>	<b>Economic Activity (\$M)</b>
<b>Direct</b>	425	\$23.8	\$35.7	\$54.1
<b>Indirect</b>	125	\$9.9	\$14.1	\$27.4
<b>Induced</b>	450	\$29.1	\$51.4	\$83.3
<b>Total</b>	<b>1,000</b>	<b>\$62.9</b>	<b>\$101.2</b>	<b>\$164.8</b>

<b>Massachusetts</b>				
<b>Impact Type</b>	<b>Jobs</b>	<b>Labor Income (\$M)</b>	<b>Gross Product (\$M)</b>	<b>Economic Activity (\$M)</b>
<b>Direct</b>	1,925	\$124.9	\$196.5	\$295.0
<b>Indirect</b>	375	\$40.7	\$61.8	\$100.6
<b>Induced</b>	575	\$41.2	\$72.2	\$113.5
<b>Total</b>	<b>2,900</b>	<b>\$206.8</b>	<b>\$330.5</b>	<b>\$509.1</b>

Source: B.A.A., Participant Survey, Visitor Survey, IMPLAN, UMDI calculations Note: Jobs rounded to nearest 25 and dollars rounded to nearest \$100,000. Totals may not match due to rounding.

## Appendix: Full Economic Impact Tables

Figure 13: Suffolk County Detailed Results

<b>Suffolk County</b>				
<b>Operations Results</b>				
<b>Impact Type</b>	<b>Employment</b>	<b>Labor Income (\$M)</b>	<b>Gross Product (\$M)</b>	<b>Economic Activity (\$M)</b>
Direct	150	\$17.7	\$45.1	\$66.8
Indirect	50	\$7.3	\$11.6	\$17.4
Induced	25	\$2.3	\$4.0	\$5.8
<b>Total</b>	<b>225</b>	<b>\$27.4</b>	<b>\$60.7</b>	<b>\$90.1</b>
<b>Survey Results</b>				
<b>Impact Type</b>	<b>Employment</b>	<b>Labor Income (\$M)</b>	<b>Gross Product (\$M)</b>	<b>Economic Activity (\$M)</b>
Direct	1,375	\$83.4	\$115.7	\$174.1
Indirect	200	\$23.4	\$36.1	\$55.8
Induced	100	\$9.8	\$16.8	\$24.3
<b>Total</b>	<b>1,675</b>	<b>\$116.5</b>	<b>\$168.6</b>	<b>\$254.2</b>
<b>Combined Results</b>				
<b>Impact Type</b>	<b>Employment</b>	<b>Labor Income (\$M)</b>	<b>Gross Product (\$M)</b>	<b>Economic Activity (\$M)</b>
Direct	1,500	\$101.1	\$160.8	\$240.9
Indirect	275	\$30.7	\$47.7	\$73.2
Induced	125	\$12.1	\$20.9	\$30.2
<b>Total</b>	<b>1,900</b>	<b>\$143.9</b>	<b>\$229.3</b>	<b>\$344.3</b>

Source: B.A.A., Participant Survey, Visitor Survey, IMPLAN, UMDI calculations Note: Jobs rounded to nearest 25 and dollars rounded to nearest \$100,000. Totals may not match due to rounding.

Figure 14: Rest of MA Detailed Results

<b>Rest of MA</b>				
<b>Operations Results</b>				
<b>Impact Type</b>	<b>Employment</b>	<b>Labor Income (\$M)</b>	<b>Gross Product (\$M)</b>	<b>Economic Activity (\$M)</b>
Direct	0	\$0.0	\$0.0	\$0.0
Indirect	0	\$0.8	\$1.2	\$2.6
Induced	75	\$4.7	\$8.3	\$13.5
<b>Total</b>	<b>75</b>	<b>\$5.5</b>	<b>\$9.5</b>	<b>\$16.1</b>
<b>Survey Results</b>				
<b>Impact Type</b>	<b>Employment</b>	<b>Labor Income (\$M)</b>	<b>Gross Product (\$M)</b>	<b>Economic Activity (\$M)</b>
Direct	425	\$23.8	\$35.7	\$54.1
Indirect	125	\$9.1	\$12.9	\$24.8
Induced	375	\$24.4	\$43.0	\$69.8
<b>Total</b>	<b>925</b>	<b>\$57.4</b>	<b>\$91.6</b>	<b>\$148.7</b>
<b>Combined Results</b>				
<b>Impact Type</b>	<b>Employment</b>	<b>Labor Income (\$M)</b>	<b>Gross Product (\$M)</b>	<b>Economic Activity (\$M)</b>
Direct	425	\$23.8	\$35.7	\$54.1
Indirect	125	\$9.9	\$14.1	\$27.4
Induced	450	\$29.1	\$51.4	\$83.3
<b>Total</b>	<b>1,000</b>	<b>\$62.9</b>	<b>\$101.2</b>	<b>\$164.8</b>

Source: B.A.A., Participant Survey, Visitor Survey, IMPLAN, UMDI calculations Note: Jobs rounded to nearest 25 and dollars rounded to nearest \$100,000. Totals may not match due to rounding.

**Figure 15: Massachusetts Detailed Results**

<b>Massachusetts</b>				
<b>Operations Results</b>				
<b>Impact Type</b>	<b>Employment</b>	<b>Labor Income (\$M)</b>	<b>Gross Product (\$M)</b>	<b>Economic Activity (\$M)</b>
Direct	150	\$17.7	\$45.1	\$66.8
Indirect	75	\$8.2	\$12.8	\$20.0
Induced	100	\$7.1	\$12.3	\$19.3
<b>Total</b>	<b>300</b>	<b>\$32.9</b>	<b>\$70.2</b>	<b>\$106.2</b>
<b>Survey Results</b>				
<b>Impact Type</b>	<b>Employment</b>	<b>Labor Income (\$M)</b>	<b>Gross Product (\$M)</b>	<b>Economic Activity (\$M)</b>
Direct	1,800	\$107.2	\$151.4	\$228.2
Indirect	325	\$32.5	\$49.0	\$80.6
Induced	475	\$34.2	\$59.9	\$94.2
<b>Total</b>	<b>2,600</b>	<b>\$173.9</b>	<b>\$260.3</b>	<b>\$402.9</b>
<b>Combined Results</b>				
<b>Impact Type</b>	<b>Employment</b>	<b>Labor Income (\$M)</b>	<b>Gross Product (\$M)</b>	<b>Economic Activity (\$M)</b>
Direct	1,925	\$124.9	\$196.5	\$295.0
Indirect	375	\$40.7	\$61.8	\$100.6
Induced	575	\$41.2	\$72.2	\$113.5
<b>Total</b>	<b>2,900</b>	<b>\$206.8</b>	<b>\$330.5</b>	<b>\$509.1</b>

Source: B.A.A., Participant Survey, Visitor Survey, IMPLAN, UMDI calculations Note: Jobs rounded to nearest 25 and dollars rounded to nearest \$100,000. Totals may not match due to rounding.

## Appendix: Economic Impact Methodology

The economic impact for the operations of the B.A.A. were based directly on data provided to UMDI from the B.A.A. This data included employees, contractors, revenues, employee compensation, construction and capital spending, and other payments and taxes. Also included was local advertising spending of approximately \$5 million. Excluded from the analysis are revenue to Marathon Tours & Travel (though hotel spending by athletes is captured from the survey), bus rentals by running clubs, corporate and charity galas and fundraisers, and B.A.A.'s expenses for other marathon weekend races and its running club. The research team then matched the various data to the appropriate IMPLAN industry sector.

Data from the participant and spectator surveys were combined to create a single analysis of visitation. The research team estimated total spectators at 500,000 and total weekend race participants at more than 34,000. The findings from the survey respondents were then applied to these groups.

Both surveys allowed us to separate visitors into three groups: those who stayed overnight in Boston, those who stayed overnight outside of Boston, and those who did not stay overnight (i.e. day trippers). For each overnight group, the surveys provided a median number of nights and median party size. The visitor survey provided the median nightly rate, which was also used for the participants. Similarly, the visitor survey provided median non-lodging spending and the spending categories. These values were also applied to the participants. Finally, the total non-lodging spending of those staying in Boston was used to find the daily spending amount for day trippers.

**Figure 16: Summary of Visitor Spending and Characteristics**

Category	Stayed in Boston	Stayed outside Boston	Daytrippers
Number of people in party, spectators	3	3	1
Number of people in party, participants	2	2	1
Number of nights	3	3	0
Median nightly rate for accommodations	\$429	\$250	\$0
Median spending on other activities	\$500	\$200	\$125

Source: Participant Survey, Spectator Survey, UMDI calculations

**Figure 17: Summary of Visitor Overnight Stay Patterns**

Category	Stayed in Boston	Stayed outside Boston	Daytrippers
Share of spectators	29%	24%	47%
Share of participants	68%	20%	12%

Source: Participant Survey, Spectator Survey, UMDI calculations



**Figure 18: Summary of Non-Lodging Spending Categories**

Category	Share of Non-Lodging Spending
Food	50%
Shopping	25%
Other	25%

Source: Participant Survey, Spectator Survey, UMDI calculations

The preceding data was used to calculate spending on lodging, food, shopping, and other spending for Boston and the Rest of Massachusetts. These categories were then matched to the best IMPLAN industries.

Both the operations and visitation economic impact models were run using a two-region IMPLAN model of Suffolk County (our approximation of the City of Boston) and the Rest of Massachusetts. IMPLAN was run using the multi-region input-output (MRIO) option, which allows for the capture of cross-border impacts. For example, some spending on Boston-based restaurants will create demand for meat and vegetable suppliers in the Pioneer Valley while some hotel spending in the suburbs will create demand for Boston-based accountants. Both the simulations and the results used 2024 dollars.

## Appendix: The IMPLAN Economic Impact Model

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UMDI utilized the widely used IMPLAN input-output model to project the economic impacts of marathon weekend. IMPLAN is a platform that combines a set of extensive databases, economic factors, multipliers, and demographic statistics with a highly refined modeling system that is fully customizable. Together, software and data can help gain insights into an industry's contributions to a region, quantify the impact of a shock to an economy, examine the effects of a new or existing business, model the impacts of expected growth or changes, or study any other event specific to the economy of a particular region and how it will be impacted.

The model identifies direct impacts by sector, then develops a set of indirect and induced impacts by sector.

- **Direct Effects:** Direct effects are the immediate result of the direct spend. Applying these initial changes/dollars spent to the multipliers in an IMPLAN model will then display how the region will respond economically to these purchases.
- **Indirect Effects:** Indirect impacts stem from local industries' purchases of inputs (goods and services) from other local industries. These purchases are also known as intermediate expenditures.
- **Induced Effects:** Induced effects are caused by household spending on consumption.

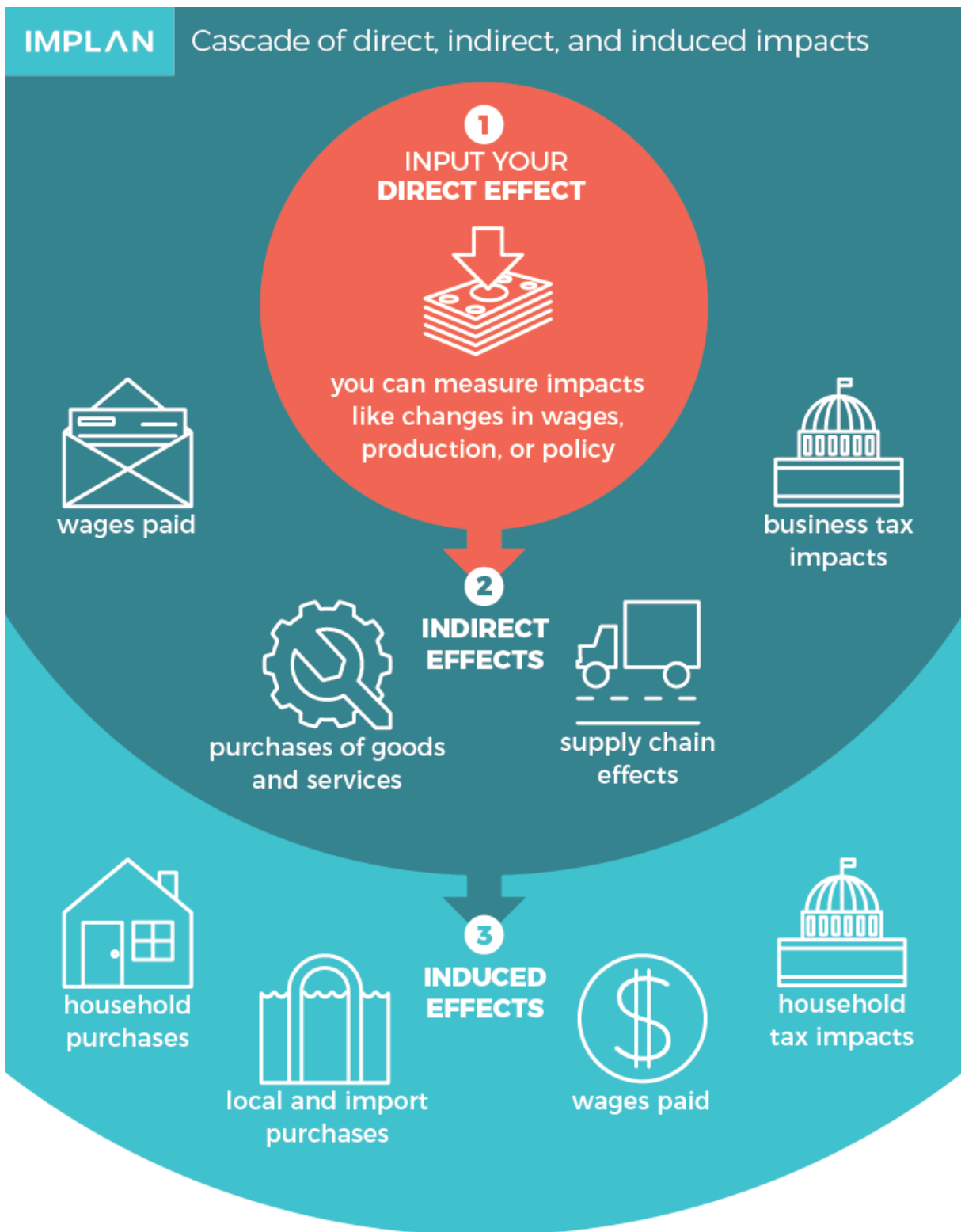
For example, one of the direct impacts is visitor spending at restaurants. The first round of indirect effects will include the restaurants' purchase of laundry services. These purchases spur the cleaning sector to in turn purchase more equipment and detergents, which are part of the second round of indirect effects. This cycle of spending continues to work its way backward through the supply chain, with each round of impacts getting smaller and smaller, until all money leaks from the local economy by way of imports, taxes, and profits, which do not generate additional impacts locally.

IMPLAN does not assume that all input purchases are made from local businesses; the proportion of local vs. non-local purchases varies by commodity and is built into the IMPLAN system.

The IMPLAN models account for commuting patterns; thus, induced impacts will only reflect the spending of wages from residents. IMPLAN removes payroll taxes, personal taxes, and savings before allowing the remainder to be spent on goods and services. IMPLAN also accounts for imports and does not assume that all purchases of goods and services are made within the study area.

The following graphic depicts how the IMPLAN model works.

Figure 19: Depiction of IMPLAN economic-impact model



Source: IMPLAN