

PATRON AND LICENSE PLATE SURVEY REPORT: ENCORE BOSTON HARBOR 2022

This report presents the results of the first patron survey at Encore Boston Harbor, completed in 2022. Patron surveys have been an important part of the Massachusetts Gaming Commission's research agenda. These surveys provide the only data collected directly from casino patrons regarding their geographic origin and expenditures. These data are important to ascertain the influx of new revenues to the venue and the Commonwealth, and to measure any monies diverted from other sectors of the economy. The concurrent license plate survey assesses the accuracy of prior estimates of out-of-state casino expenditure and provides corroborating information about patron origins.

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Authorship

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SEIGMA members from both the social and economic teams collaborated closely on the project, working together to create and implement the survey, and later to analyze the data and report on the findings contained in this report. Special recognition goes to the economic team at the University of Massachusetts Donahue Institute who contributed to the patron survey questionnaire design and provided insight in the data analysis: Rod Motamedi, Assistant Director; Rebecca Loveland, Senior Research Manager; and Thomas Peake, Senior Research Analyst. Special thanks to SEIGMA social team member Álvaro J. Castro Rivadeneira, M.D., a doctoral student in epidemiology at University of Massachusetts Amherst, who assisted with project planning as well as supervising surveyors in the field.

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Executive Summary

The original research plan for the *Social and Economic Impacts of Gambling in Massachusetts* (SEIGMA) study identified the need for ongoing patron surveys at all of the newly licensed casinos in the state. These surveys serve several purposes. For one, they establish the demographic characteristics of people patronizing the casinos which speaks to whether certain subgroups of the population are impacted more than others. For another, they establish the geographic origin of patrons to identify whether the impacts are localized or regional and the extent to which out-of-state patrons contribute to casino revenue, an important economic benefit. Asking patrons directly about their gambling and non-gambling expenditures during casino visits also helps us understand their patterns of expenditure and the approximate amount of off-site spending contributing to the local economy. Questions about whether patrons would have gambled out-of-state if Encore Boston Harbor did not exist allow identification of the approximate amount of recaptured spending, which also represents an important economic benefit. Survey questions also establish the degree to which casino spending represents money that has been reallocated from other sectors of the economy. Finally, patron surveys are useful in understanding patrons' perceptions and experiences with the new venues and begin to track the impact of responsible gambling measures such as the GameSense program. Note that throughout this report, when we reference findings related to patrons, we are referring to findings related to the weighted information from and/or about the respondents to this survey.

Patron Surveys have now been done at all three Massachusetts casinos: Plainridge Park Casino (2016); MGM Springfield (2019); and Encore Boston Harbor (2022). Methodologically, a significant effort was made to capture a sample of patrons through venue exit surveys that was as representative as possible. This included: conducting the survey 6 to 12 months after the venue opened to allow patronage to settle; spreading each data collection period over a two week time period; sampling during both peak (Saturday) and non-peak (Monday) days, as well as during peak and non-peak times; and keeping track of the demographics of patron refusals to allow for corrective weighting. However, due to the pandemic, the Encore Boston Harbor Patron Survey was delayed and instead fielded in a two-week period in April 2022. It was self-administered and took an average of 5-10 minutes to complete. A total of 440 surveys were collected, which represents a response rate of 15.4%.

Now that patron surveys have been conducted at all three venues, it is unclear at this time if surveys will be repeated at these venues. We are investigating alternatives to the patron surveys due to their high cost, complex logistics, and limitations by reviewing their value relative to other methodologies (i.e., online panel surveys, smartphone surveys, and player card data) prior to implementing any new surveys of these venues and will release our findings as a technical report.

This report provides a *brief* comparison between the Patron Survey results of Plainridge Park Casino (2016), MGM Springfield (2019), and Encore Boston Harbor (2022). It is not intended to provide a complete comparison of all three Massachusetts casinos; a *detailed* comparison of the differences in the demographic characteristics, gambling behavior, and expenditures of patrons will be included in our future report, *Socioeconomic Impacts of Expanded Gambling in MA: 2024*. Still, this report does contain several comparisons of interest. For example, patrons at Encore Boston Harbor were somewhat younger, more likely to be employed, less likely to be retired, and had higher levels of education than patrons at MGM Springfield and Plainridge Park Casino.

Demographics

Geographically, 78.3% of the patrons were from Massachusetts, with 41.8% coming from the host (Everett) and surrounding (Boston, Cambridge, Chelsea, Saugus, Lynn, Malden, Medford, Melrose, and Somerville)

communities, and the remainder from other Massachusetts municipalities. Out of state patrons accounted for 21.8%, and less than 1% were international patrons.

In looking at race/ethnicity, overall, the survey found that 55.0% of patrons were white, 24.9% were Asian, 8.3% were black, and 7.6% were Hispanic. Notably, the number of Asian patrons from Massachusetts (24.3%) is higher compared to their prevalence in the adult population of Massachusetts (7.1%).

Gender distribution at Encore Boston Harbor showed that 55.2% of the patrons were male and 38.3% of the patrons were female. If we look at patrons from Massachusetts only, we see a slightly higher percentage of males compared to the general population in Massachusetts (55.4% vs. 52.0%), with a significantly lower percentage of females (39.7% vs. 48.0%). The 6.5% of all patrons, and 4.9% of Massachusetts patrons, who preferred not to disclose their gender may impact this analysis. For patrons from Massachusetts, the greatest number of Encore Boston Harbor patrons were in the 35-54 age range (39.5%), a higher number than in the Massachusetts general population (31.1%). The number of patrons with less than a high school education (6.3%) was less than the Massachusetts general population (8.5%).

In terms of total yearly household income, 24.6% of all patrons reported incomes under \$50,000, which was similar for patrons from Massachusetts (24.2%) and the Massachusetts population (22.2%). The proportion of Massachusetts patrons earning \$50,000-\$100,000 (36.5%) was similar to all patrons (35.0%), but much higher when compared to the Massachusetts population (24.2%). The opposite was found for Massachusetts patrons earning over \$100,000 (39.3% and 40.4% of all patrons), a group that represents 53.6% of the Massachusetts population. When we further compare patron income by geographical origin, we see even fewer patrons from the host and surrounding communities reporting incomes of >\$100,000/year (35.3%) than patrons from other municipalities in Massachusetts (43.8%) or those outside of Massachusetts (44.9%).

Gambling and Non-gambling Behavior

When looking at visitation, we found that almost two-thirds (57.2%) of those surveyed were regular visitors (defined as visiting 2-3 times a month or more), with nearly half (43.3%) visiting once a week or more. The percentage for visiting once a week or more is even higher (58.1%) for those coming from the host and surrounding communities.

When looking at casino visitation among patrons, generally, it is interesting to note that almost a third of them (30.1%) had not visited another casino in the past year. This number is much higher than seen in prior patron surveys (MGM Springfield 11.7% and Plainridge Park Casino 10.8%). It is fair to assume that at least part of this difference may have been due to the COVID-19 pandemic. We also see a difference in other states where patrons visited casinos in the past year.

Most of the patrons got to Encore Boston Harbor by car (i.e., own or someone else's car, ride share) (94.3%), and experienced no problem getting there (90%), though many (63.7%) reported dealing with traffic. Nearly all patrons had an enjoyable visit and indicated they would return. Encore Boston Harbor was the motivator for 66.9% of patrons to visit the area, with a higher number for Massachusetts patrons (70.2%). Interestingly, just over half of patrons visiting from outside the state (54.7%) indicated the casino prompted their visit to Massachusetts.

A majority of the patrons (89.2%) participated in some sort of gambling activity during their visit. While overall 10.8% of patrons did not gamble during this visit, the number was lower for patrons from the host and surrounding communities (6.7%), and higher for those from other Massachusetts municipalities (13.6%) and patrons from outside of the state (13.8%).

Not surprisingly slot machines were the most popular game (62.7%) although just over a third of the patrons (37.7%) reported playing table games. Only 5.3% of the patrons reported purchasing lottery tickets while on site. Nearly three-quarters of the patrons (74.0%) reported having a casino loyalty or rewards card. Notably 69.9% indicated they had gambled at other casinos in the past year, with the most frequent locations being Connecticut (42.9%), Rhode Island (25.2%), and other gambling venues in Massachusetts (19.3%).

Although 20.6% of the patrons did not report any spending on non-gambling activities at Encore Boston Harbor, the majority bought food and beverage on site (68.1%). Other spending activities included staying in the hotel (17.8%), buying items in the retail or gift shops (16.1%), and other entertainment (13.8%). Nearly a third (29.5%) of the patrons did not report any spending on non-gambling activities outside of Encore Boston Harbor. The largest off-site spending was seen in attendance at an event, show, or exhibit (33.6%), with additional spending for off-site food or beverage (21.0%), bars, pubs, or nightclubs (11.3%), and retail shopping (9.8%).

Expenditures

During their visit, Encore Boston Harbor patrons reported a median expenditure of \$131 on gambling at the casino (mean of \$309), \$53 on non-gambling activities at the casino (mean of \$253), and \$95 on non-gambling activities outside the casino (mean of \$285). When looking at the expenditures by household income, income groups below the median household income in Massachusetts (i.e., \$70,000) account for 29.0% of Encore Boston Harbor gambling revenue, 27.0% of non-gambling revenue at Encore Boston Harbor, and 27.0% of non-gambling revenue outside of Encore Boston Harbor. The highest income group contributes proportionally more gambling revenue relative to their prevalence in the population, with the lower middle-income groups contributing proportionally less.

Two important goals of the Massachusetts casino law were to recapture Massachusetts residents' spending at out-of-state casinos and capture new spending from out-of-state casino patrons. Based on the survey results, recaptured in-state patrons accounted for nearly half (45.2%) of gambling spending and nearly two-thirds (64.4%) of estimated non-gambling spending at Encore Boston Harbor. Therefore, this group does appear to constitute a major share of Encore Boston Harbor's revenues. However, not all of this spending represents new economic activity to the state since the survey also found that nearly a quarter (24.3%) of Massachusetts residents' gambling spending was reallocated as casino patrons shifted their spending patterns from purchasing other goods and services in Massachusetts to spending money at Encore Boston Harbor.

An important social issue concerns whether people with lower incomes contribute disproportionately more to gambling revenues than people with higher incomes. This does not appear to be the case at Encore Boston Harbor. A fine-grained analysis of the Massachusetts patrons who spent money gambling at Encore Boston Harbor showed that the 14% of the patrons with the lowest household incomes (less than \$30,000 per year) was roughly the same as their prevalence in the general adult population of Massachusetts (13%), and they represented just 10% of the gambling spending. The 39.3% of Massachusetts patrons with the highest incomes (over \$100,000) accounted for 54% of the gambling spending and similarly represent 53.6% of the state's adult population.

Patrons were asked about strategies used to keep their gambling within personal affordable limits and how effective those strategies were. Avoiding the on-site ATM was the most frequently reported (43.1%), followed by thinking of gambling as fun and not a way to make money (31.0%), and staying within a limit of how much to lose during a visit (29.5%). When looking at all strategies employed, 64.8% of patrons reported a strong or modest impact (72.0% for patrons in the host and surrounding communities).

License Plate Survey

A license plate survey was conducted concurrently with the patron survey. Prior to casinos in Massachusetts, a similar survey was conducted biennially over many years at the Connecticut casinos and reported by the Northeastern Gaming Research Project. That information was used by Massachusetts policy makers and others to support the notion that Massachusetts lost significant gambling revenues to Connecticut. The current License Plate Survey found that estimates of patron residency corresponded quite closely to the patron survey estimates (i.e., 80.3% Massachusetts for license plates and 84.9% for patron survey). There was an even closer match for estimated expenditure (i.e., 80.3% for Massachusetts for license plates and 80.0% for patron survey). Thus, the Encore Boston Harbor license plate survey results provide a reasonable approximation to the patron survey and lend support to the estimates of out-of-state casino expenditures reported by the Northeastern Gaming Research Project. However, the patron survey also provides detailed spending information and patron demographics which cannot be obtained by a simple license plate survey.

The patron survey represents a major point of primary data collection for the SEIGMA project. However, as a stand-alone report, it should be viewed as just that: data collection. The survey provides important data on patron demographics, expenditures, and gambling behavior but does not lend itself to major conclusions. Nevertheless, the findings presented here are critical to inform other more substantive and integrative SEIGMA reports. This includes the “Economic Impacts” operating reports, which estimate the full economic impact of casino operations on the Massachusetts economy, a unique opportunity for SEIGMA to conduct economic modeling utilizing both primary data (from the patron survey and the casino operators) and secondary data (from multiple sources). Additionally, the patron survey data is one of many data points (primary and secondary) used to inform the “Social and Economic Impacts of Expanded Gambling in Massachusetts” reports, a series of reports that document changes in the social and economic landscape in Massachusetts that can potentially be attributed to the introduction of these new gambling venues. For that reason, the patron surveys serve an important function in the overall research agenda.

Interpretation of research data requires consideration of a variety of issues, including but not limited to decisions around sampling methods, weighting, statistical modeling, and appropriate comparisons. To ensure comparability across venues, the same analytic procedures were used to analyze Encore Boston Harbor patron survey data as were used to analyze Plainridge Park Casino and MGM Springfield patron survey data. There are inherent limitations to these applications that readers need to take into account in relation to any given study or report. For additional information, see the Methodology and Limitations sections in the full report.

Patron Survey

Introduction

The original SEIGMA research plan called for patron surveys to be conducted at all Massachusetts casinos shortly after opening and repeated at regular intervals. To that end, the first patron survey was conducted at Plainridge Park Casino in Plainville, Massachusetts in 2016, and the second at MGM Springfield in Springfield, Massachusetts in 2019. Reports on these surveys have already been released. (Salame, et al, 2017; Salame, et al, 2020). The third at Encore Boston Harbor in Everett, Massachusetts was conducted in 2022, delayed due to the pandemic.

Patron surveys accomplish several goals related to both the social and economic impacts of casino introduction, particularly the economic impacts. More specifically, patron surveys establish:

1. The geographic origin of casino patrons

- The geographic origin of patrons helps identify whether the impacts of the facility are localized, statewide, or multistate.
- Casino patron surveys are the only method available for estimating the amount of out-of-state patronage. The spending of these out-of-state patrons represents ‘**new revenue/spending**’ to the state, which has important economic value.¹

2. The demographic characteristics of people patronizing Massachusetts casinos

- The demographic profile of casino patrons in terms of age, gender, race/ethnicity, and income helps establish whether casinos disproportionately impact certain subgroups of the population more than others.

3. Spending patterns on gambling and non-gambling activities

- Casino revenue does not establish the type of people or number of people who contributed to these revenues or the general spending patterns of casino visitors. Casino patron surveys accomplish this, as well as establish the approximate amount of off-site spending on non-gambling activities.

4. The amount of monetary recapture

- In addition to ‘new spending’ from out-of-state patrons, another significant economic benefit is the ‘**recaptured spending**’ of Massachusetts residents who indicate they would have spent their money at out-of-state casinos if the new casino did not exist.

5. The amount of reallocated spending

- Some casino-related spending is cannibalized from other sectors of the economy (often from other forms of gambling and/or other forms of entertainment). The magnitude of this ‘**reallocated spending**’ can also be estimated from the self-report of casino patrons.

In addition to the primary goals above, patron surveys provide an opportunity to assess:

6. Patrons’ perceptions and experience with the new venues

- Whether they found it difficult to get to the facility and whether they enjoyed their visit.

¹ The proportion of spending by out-of-state patrons who would have visited the community regardless of the casino does not count as “new” spending but is important to account for as well.

7. Utilization of responsible gambling measures such as the GameSense program

- These measures are an important part of the gambling environment in the Commonwealth and it is helpful to gain information on patron participation in and perceptions of these measures.

This report addresses each of these issues.

Encore Boston Harbor

The Expanded Gaming Act authorized up to three casino resorts and one slot parlor. Wynn Resorts, Limited, was awarded a gaming license for a casino resort in Everett on September 17, 2014 and Encore Boston Harbor opened to the public on June 23, 2019.

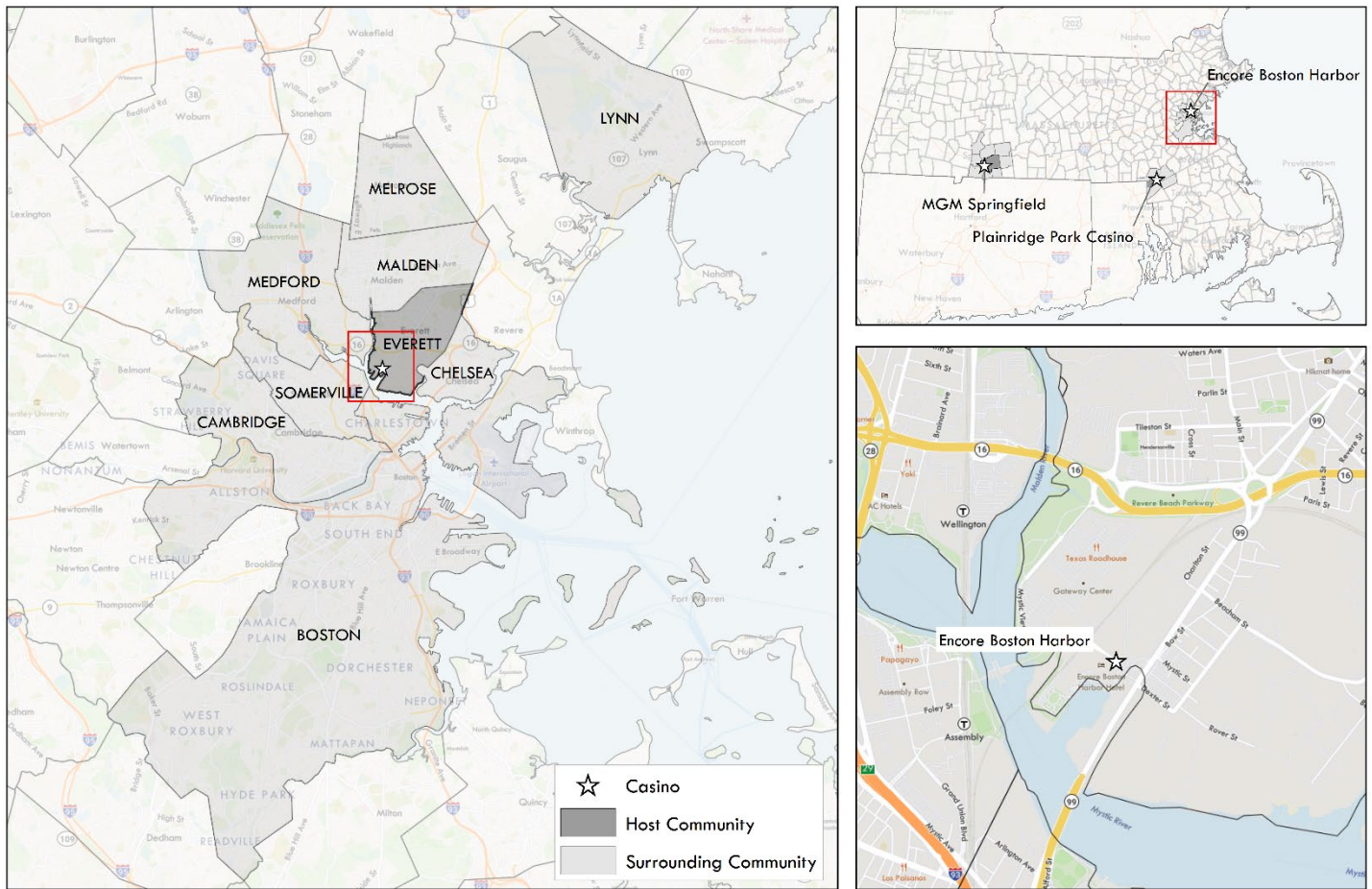
Encore Boston Harbor is a subsidiary of Wynn Resorts, Limited, a global gaming entertainment company with several properties worldwide, employing nearly 30,000 people globally. Encore Boston Harbor is open 24 hours and employs approximately 3,500 people. The property offers a 210,000 square foot casino with 2,700 slot machines and 206 gaming tables (Figure 1). Additionally, the property has eight locations on-site for purchasing the full range of lottery products. Sitting on the waterfront, with a six-acre Harborwalk, the property also features a Forbes Travel Guide Five-Star 671-room hotel, a spa, retail outlets, approximately 12 dining and lounge venues, and 71,000 square feet of meeting space (see Appendix A: Encore Boston Harbor Main Floor). Complimentary valet and self-parking are available at their multi-level parking garage, with additional parking located in a city-owned lot across the street. There are many shuttle, bus, and public transportation options available for getting to/from the resort as well (Figure 2).

Figure 1. Encore Boston Harbor



Photo credit: Encore Boston Harbor

Figure 2. Map of Everett and Surrounding Communities



Methodology

Ethical Approval

The protocol entitled “Social and Economic Impacts of Gambling in Massachusetts: Encore Patron Survey” (#3083), which included data collection procedures and all survey materials, received a letter of exempt determination from the University of Massachusetts Amherst Institutional Review Board (IRB) on November 4, 2021.

Timing and Sampling Periods

The timing of the survey and the specific sampling periods were selected so as to obtain as representative a sample as possible. This involved (1) waiting at least 6-12 months after the casino opened to allow patronage volume and demographic characteristics to settle;² (2) spreading data collection over a two week time span; and (3) sampling during both peak (Saturday) and non-peak (Monday) days as well as during peak (5pm-12am) and non-peak (10:30am-5:30pm) hours. Each site visit was for a 7-hour fixed period of time, sampling every 5th exiting patron. The length of time on site

² Ideally this survey would have been conducted in February/March 2020, some 8-9 months after the opening date of June 23, 2019, however, it was delayed due to the COVID-19 pandemic.

and the sampling number (i.e., every 5th patron) were determined based on pilot visits to the venue, which allowed us to estimate business volume and response rates needed to achieve a goal of collecting approximately 500 completed surveys. Table 1 identifies the four specific dates and times the survey was fielded.³

Table 1. Patron Survey Schedule

Survey Day	Day of Week	Date	Time
1	Saturday	4/2/2022	10:30am-5:30pm
2	Monday	4/4/2022	5pm-12am
3	Saturday	4/9/2022	5pm-12am
4	Monday	4/11/2022	10:30am-5:30pm

Survey Team and Patron Recruitment

Laurie Salame, J.D., Senior Lecturer II in the Isenberg School of Management, Department of Hospitality and Tourism Management, and SEIGMA Expert Advisor, led the survey team, along with Álvaro J. Castro Rivadeneira, MD, a doctoral student in epidemiology at University of Massachusetts Amherst. Forty-two surveyors were hired to administer the surveys (21-31 during any given shift) through Headway Workforce Solutions, Research Division. Headway supports data collection efforts and staffing for both quantitative and qualitative research projects. With over twenty years of experience on the specific requirements of the research industry, they have provided support for a wide array of research projects nationwide funded by federal and state governments, universities, institutes, and non-profits. The surveyors were supervised on-site at all times by Ms. Salame and Dr. Castro Rivadeneira.

Each surveyor received two hours of in-person training provided by Ms. Salame, to ensure professional, knowledgeable, and polite interactions. Although the need did not arise during data collection, team members were trained to refer patrons in distress to the GameSense Advisor on duty.

Teams of surveyors were stationed at four busy casino entry and exit points, as determined by pre-survey visits and information provided by Encore Boston Harbor: Main/Watch; Main/Drugstore; East/GameSense; and North/Dunkin. Multiple surveyors staffed tables, with a display of “Frequently Asked Questions” hand-outs in English, Spanish, Mandarin, and Vietnamese (see Figure 30 in Appendix A for Encore Boston Harbor Main Floor plan with the exits and survey locations indicated). All surveyors wore uniform vests clearly identifying them as part of University of Massachusetts Amherst.

The patron recruitment procedure was as follows:

- One team member (**counter**) at each exit counted and kept a tally of all patrons exiting the venue.
- When the 5th person exiting was reached,⁴ another team member (**solicitor**) approached that patron

³ Prior surveys at Plainridge Park Casino and MGM Springfield were conducted over two seasons, winter (February/March) and summer (July/August) to take account of potential seasonal differences in patronage. This practice was discontinued for two reasons. First, there were no significant differences found seasonally on the prior surveys. Second, the costs associated with fielding surveys over different seasons nearly double the overall cost of the survey. Therefore, the decision was made to conduct this and any future patron surveys only once a year during a winter collection period. In order to obtain enough surveys with only one sampling period, the collection period was changed to 7 hours from 6, and we intercepted every 5th patron instead of every 6th.

⁴ When people were departing in groups, the counter continued to count each exiting patron and the person who was judged to be the 5th exiting patron was approached. In a situation when people were “tied” as the 5th patron (i.e., walking towards the exit side-by-side), the solicitor randomly selected which person to approach.

and, using a specific script (see Appendix B: Survey Team Script), asked if they had 5-10 minutes to complete a short, self-administered, confidential survey and receive a \$5 Dunkin or Starbucks gift card as compensation.

- If the patron indicated they were not exiting the facility (i.e., just going outside to smoke or using the ATM), the solicitor recorded the interaction as a 'non-exit.'
- If the patron indicated they had already completed a survey that day, the solicitor recorded the interaction as 'already did.'
- If the person indicated they were not really a patron (e.g., out of uniform employee), the solicitor recorded the person as a 'non-patron.'
- If the patron declined to participate, the solicitor recorded the person as a 'refusal' and marked, to the best of their ability, the gender, race, and age group of that patron.
- A small number of patrons exited the casino and were not solicited to complete a survey due to all surveyors being occupied with other participants and/or it was not possible to solicit them because they arrived at the elevator before we could approach them. These individuals were recorded as 'missed patrons.'
- If the patron agreed to participate, the solicitor escorted the patron to the table where another team member (**table monitor**) provided more information about the survey (i.e., its purpose, that it was anonymous, that participants could stop at any time, the time required, and the option of completing the survey via paper and pencil or electronically on an iPad via Alchemer). The table monitor then provided the patron with a survey number along with either an iPad or a paper survey, depending on the patron's preference. The printed version was available in English, Spanish, Mandarin, and Vietnamese; the electronic version was available only in English. A total of 410 people opted for the electronic questionnaire and 30 completed the printed questionnaire (19 in English, 3 in Spanish, 7 in Mandarin, and 1 in Vietnamese). The purpose of the self-administered format was to maximize the validity of responses to potentially sensitive questions (e.g., gambling expenditure, income). However, when requested, the survey questions were asked orally and the interviewer entered the responses (this option was rarely used). When the survey was complete, the interviewer gave the patron a \$5 gift card to either Dunkin Donuts or Starbucks, along with a thank you note and recorded the transaction on the gift card inventory sheet.
- Team members switched roles roughly every hour and the two supervisors moved between the various exits to monitor each team throughout the 7-hour period.

Questionnaire

The questionnaire contained five sections. The content of each section is presented briefly here, and the full questionnaire is included in Appendix C: Patron Survey Questionnaire.

Transportation, frequency of visiting, reason for visiting, length of stay, enjoyment of the venue

This section included questions about transportation used to get to the venue, whether any problems were experienced getting to the venue, frequency of visiting the venue, whether the venue prompted their visit to the area, length of visit to Massachusetts, use of a loyalty or rewards card, satisfaction with the venue, what they liked most about their visit, and plans to return to the venue.

Activities engaged in while at the venue

Questions in this section involved the non-gambling activities the respondents engaged in while at the venue (food or beverage, shopping, entertainment, and/or other), and their estimated total expenditure

on these non-gambling activities. Patrons were also asked whether they gambled at the facility and, if so, which type of gambling they participated in and their estimated total gambling expenditure. An additional question inquired about casinos in other states that the respondent had visited in the past year.

Activities participated in outside of the venue during the visit

This section of the questionnaire asked about other activities patrons participated in outside the venue but within the area, as well as their total expenditure on these activities. Additional questions in this section asked whether the patron would have spent money on out-of-state gambling if a gambling venue in Massachusetts was unavailable, which other activities they would have spent their money on if they had not come to this venue, and the impact the pandemic had on their gambling.

Demographics

The questionnaire asked respondents about their geographic origin, gender, age, marital status, highest level of education, employment status, veteran status, household income, race/ethnicity, and zip code. The demographic categories used were identical to those used in all other SEIGMA surveys.

Utilization of responsible gambling measures such as GameSense

Finally, patrons were asked about their utilization of various responsible gambling strategies including the GameSense program. Respondents were also asked about the impact these strategies had on their ability to play within their limits.

Obtained Sample and Response Rate

As detailed in Table 2 below, by counting every 5th person exiting the casino, the surveyors tracked a total of 3,480 individuals. Of those, 490 people were not eligible to complete the survey.⁵ Additionally, due to the physical logistics of the exit areas, 131 people were ‘missed,’ meaning we did not have a chance to solicit them, mostly due to their entry into the elevators before a solicitor could approach them. In total, 2,859 eligible patrons were invited or ‘solicited’ to participate in the survey. A total of 440 patrons agreed, for an overall response rate of 15.4%.⁶ Response rates for individual questions were above 83% for all but two of the questions (spending on tips to non-gambling employees in Encore Boston Harbor and spending on activities in Massachusetts outside of Encore Boston Harbor during visit to area), as shown in Table 13 in Appendix D. Refusal rates were examined by day of week and time of day, with no significant differences found (see Table 14 in Appendix D).

⁵ Ineligible people consisted of three groups: a) those who were not permanently leaving (i.e., exiting the casino floor to enjoy non-gambling amenities, accessing the ATMs, and/or temporarily going outside to smoke), b) patrons who had already completed the survey, and c) people who were not Encore Boston Harbor patrons (i.e., non-uniformed Encore Boston Harbor employees).

⁶ For further discussion of the response rate, see the Limitations section of this report.

Table 2. Obtained Sample

Day	Day of Week	Date	Time	Every 5 th Person Leaving	Ineligible People	Missed People	Eligible Patrons Solicited	Refusals	Completed Surveys	Response Rates
1	Saturday	4/2/2022	10:30am-5:30pm	769	83	23	663	546	117	17.6%
2	Monday	4/4/2022	5pm-12am	696	88	57	551	462	89	16.2%
3	Saturday	4/9/2022	5pm-12am	1496	248	36	1212	1041	171	14.1%
4	Monday	4/11/2022	10:30am-5:30pm	519	71	15	433	370	63	15.4%
Total				3480	490	131	2859	2419	440	15.4%

Data Cleaning

All paper surveys were manually entered into Alchemer. A random sample of 20%, or 6 out of 30, of the records were selected and the accuracy of these entries verified. All Alchemer files were then downloaded and converted to a SAS file. These individual files were then checked for anomalous values. The main data cleaning occurred with expenditure values. Self-reported gambling expenditure tends to be somewhat unreliable due to a tendency, particularly among heavy and/or problem gamblers, to report being a ‘winner.’ This is despite its implausibility and objective evidence to the contrary (Williams, Volberg, Stevens et al., 2017; Wood & Williams, 2007). The analytical approach employed with these data has been shown to improve the validity of self-reported expenditures and has been used in previous reports. Consequently, the present study adopted this protocol as a best-practice approach and to maintain consistency across reports. This analytical approach involves winsorizing all extreme values greater than 4 standard deviations from the average and converting all reported wins to zero (Volberg, Williams, Stanek et al., 2017; Williams, Volberg, Stevens et al., 2017; Wood & Williams, 2007).⁷ Winsorization of all values greater than 4 standard deviations was also used for self-reported *non-gambling* expenditure. Fourteen percent of the respondents reported gambling expenditure wins, which were set to zero. Less than 1% of gambling expenditures, non-gambling expenditures at Encore Boston Harbor, and non-gambling expenditures outside of Encore Boston Harbor were winsorized.⁸

⁷ Four standard deviations is consistent with the methodology utilized in the Plainridge Park Casino and MGM Springfield patron surveys and equals 4 standard deviations from the mean (\$5,368 for gambling expenditures in this report).

⁸ Winsorizing and setting wins to zero was also utilized in the Plainridge Park Casino Patron Survey and produced a 96% match between gambling expenditure and revenue (after we conducted a sensitivity analysis to arrive at the best solution for that data set). Winsorizing also produced a good match for on-site non-gambling expenditure. The Plainridge Park Casino data cleaning procedures derived from the approach utilized in our population surveys, which were, in turn, drawn from the larger research literature on how to best clean self-reported gambling expenditure. We used the same procedure in this report to maintain consistency of analytic methodology across venues. We have included a sensitivity analysis for Encore Boston Harbor expenditure data in Table 15 of Appendix D. While the approach used for Plainridge Park Casino produced a 96% match between estimated expenditures and casino revenues, the match was less robust for Encore Boston Harbor producing estimates that were 1.26 times higher than casino revenues.

Weighting

The first step in the weighting process established the population characteristics during the sampling periods. This involved combining the age category, race/ethnicity category, and gender of people who completed the survey (and reported these demographic characteristics in their survey) with the age, race/ethnicity, and gender of people who declined to complete the survey (as recorded by the survey team). The demographics of people who completed the survey were then weighted to match the gender, race/ethnicity, and age range of the total population of casino patrons during the survey periods.

The reliability and validity of this weighting procedure depends on the accuracy of the survey team in correctly identifying the age, gender, and race/ethnicity of refusals and whether there are any systematic biases in the errors. A 'Demographic Accuracy Test' (see Appendix E: Demographic Accuracy Test) consisting of 36 pictures of people of different known ages, genders, and race/ethnicities was developed for the 2016 Plainridge Park Casino patron survey (Salame et al., 2017) and was utilized again for the MGM Springfield and present study. This was administered to the 29 surveyors.⁹ An average of 84.9% of all pictures were correctly identified by the 29 surveyors, with no significant difference in picture accuracy as a function of the age, gender or race/ethnicity of the person in the picture. Surveyors themselves had an average of 81.2% (29.2/36) pictures correct. These results confirm that the ability of the surveyors to correctly identify age range, gender, and race/ethnicity of survey refusals with reasonable accuracy, which provides support for the validity of our weighting procedure.

The process of assigning weights to Encore Boston Harbor patron survey respondents was similar to that used for Plainridge Park Casino and MGM Springfield survey respondents as described in Salame et al. (2017). The Plainridge Park Casino patron survey divided the 12-month period after Plainridge Park Casino opened into two 6-month intervals (winter/spring, and summer/fall) where casino patronage was thought to be similar. Recognizing the differences in the number of patrons by the time of the day, and day of the week, weeks in each interval were stratified into weekday hours, and weekend hours. Using the automatic exit counts recorded by the Plainridge Park Casino TRAF-SYS system, it was possible to know the average number of patrons per week in the weekday hours in each 6-month interval. In addition, it was possible to know the average number of patrons per week in the 4-hour weekday-collection period in each 6-month interval. With these values, we were able to determine the percent of patrons asked to complete a survey in the survey period. The weight is the reciprocal of the percent (i.e., if 1 in 10 patrons are surveyed, then each surveyed patron is assigned a weight of 10). Additional steps were taken to adjust the weights to account for different survey response rates by gender, age, and race.

The Encore Boston Harbor patron survey weighting was similar to the Plainridge Park Casino patron survey design. However, it differed in one respect, in that the automatic exit counts recorded by TRAF-SYS that were used for weighting at Plainridge Park Casino were not available for Encore Boston Harbor at the time of this writing, nor was that data available when writing the MGM Springfield report. As a result, the development of weights to make the surveyed patrons' responses representative of all patrons over 12-months also differed. Appendix F: Weighting Calculations describes the Encore Boston Harbor patron survey weighting procedure in detail.

⁹ Although a total of 42 surveyors were hired for this project, not all of the surveyors were available prior to the survey to complete the Demographic Accuracy Test.

Results

The results of the patron survey provide a detailed picture of who patronizes Encore Boston Harbor, and their behavior in and out of the casino. The results presented here offer both a general overview of the data collected as well as a more in-depth analysis in some key areas.

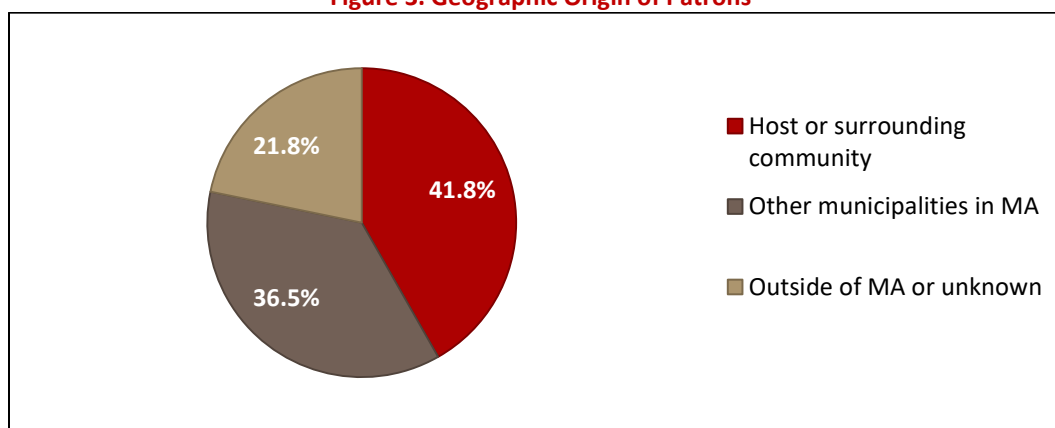
Geographic Origin

The first question in the survey asked for participants' zip code, which was used to determine geographic origin. The geographic origin of patrons helps identify how the facility's presence affects the region. Patrons who come from the immediate area may not bring as much new economic activity to the region as patrons who are coming from other parts of the state or from outside of the state. Knowing where patrons come from allows the use of economic modeling to analyze recapture and reallocation of revenues. We grouped patrons into three geographic regions: (1) host and surrounding communities (defined by the Massachusetts Gaming Commission as the municipality where the venue is physically located, those that have agreements with the casino, and/or municipalities in close proximity to the venue that are likely to be impacted by the venue);¹⁰ (2) other communities in Massachusetts; and (3) outside of Massachusetts. In total:

- 41.8% of patrons were from the host (Everett) or surrounding communities (Boston, Cambridge, Chelsea, Saugus, Lynn, Malden, Medford, Melrose, and Somerville)
- 36.5% of patrons were from other communities in Massachusetts
- 14.1% of patrons were from outside of Massachusetts
- 6.7% of patrons did not enter a zip code, but reported that they live in the United States
- <1.0% of patrons were from outside the United States

For analytic purposes, we combined the patrons who did not report a zip code and patrons who were not from the United States with the patrons from outside of Massachusetts in Figure 3.

Figure 3. Geographic Origin of Patrons



Note: This information is also contained in Table 57 in Appendix H

¹⁰ Chelsea and Saugus have not been designated as official surrounding communities by the Massachusetts Gaming Commission. However, since these communities have similar stipulations to those official designations, we have included them in the defined surrounding communities for this report. This is consistent with analysis done in other SEIGMA patron survey reports. Information about host and surrounding community designation can be found on the Massachusetts Gaming Commission's website: <https://massgaming.com/about/community-mitigation-fund/host-surrounding-communities/>.

As seen in Table 57 (Appendix H), there were no significant differences in geographic origin of patrons by day of collection.

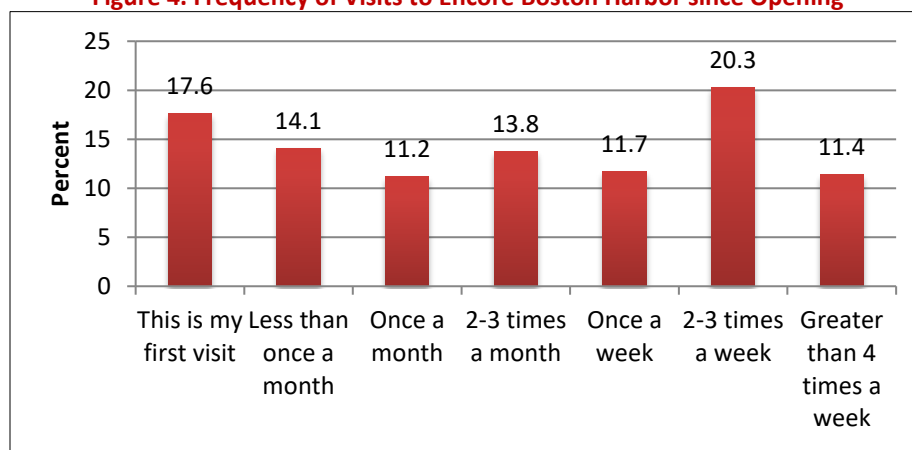
Transportation, Visitation Frequency, Reason for Visiting, Length of Stay, Enjoyment

Patrons were asked about their mode of transportation getting to the casino and whether they experienced any problems getting to the venue. A total of 90.0% of patrons reported experiencing no problems in getting to the casino, with most people coming in their own or someone else's car (82.4%) (Table 51 in Appendix G).

When asked how often they have visited the facility since it opened, Figure 4 shows that 17.6% indicated that this was their first visit to Encore Boston Harbor. Another 14.1% of patrons reported they visited Encore Boston Harbor less than once a month, 25.0% reported they visited 1-3 times per month, and 43.3% reported they visited once a week or more often (11.7% once a week, 20.3% 2-3 times a week, and 11.4% greater than 4 times a week). Nearly two-thirds of patrons (57.2%) were determined to be regular visitors as they visited the casino 2-3 times a month or more.

This pattern is consistent with other patron surveys conducted in Massachusetts and in other jurisdictions. A sampling bias of all patron surveys is that they are more likely to sample patrons who visit on a regular basis. For example, if patronage consists of three people who attend every day and seven people who attend once a week, then the majority of the sample on any given day will consist of the daily attenders, even though they only comprise 30% of the patronage. Thus, it is important to recognize that the demographic, geographic and gambling behavior of people sampled in a patron survey is not perfectly representative of the demographic, geographic and gambling behavior profile of the entire patronage.¹¹ However, the value of patron surveys is that they *do provide a representative profile of the people who contribute to daily casino gambling and non-gambling revenue*. In many ways this information is actually more important, as the geographic and demographic origin of **casino revenue** is more central to the social and economic impacts of casinos than the geographic and demographic origin of all **casino patrons**.

Figure 4. Frequency of Visits to Encore Boston Harbor since Opening

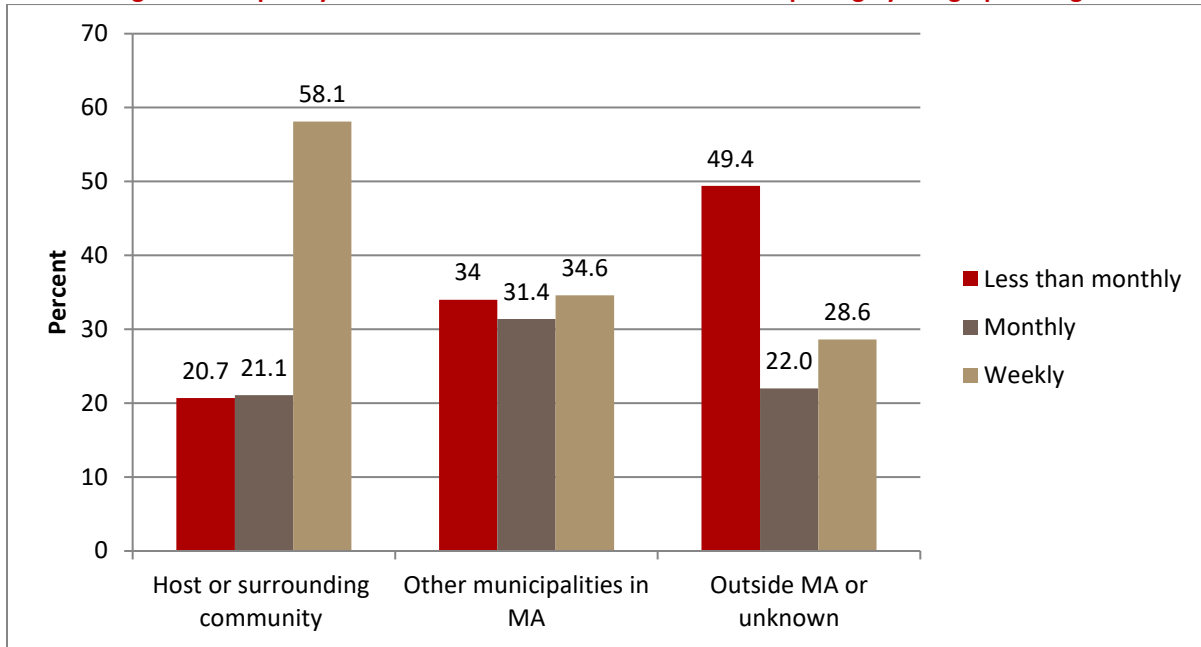


Note: This information is also contained in Table 51 in Appendix G

¹¹ This information is captured in population surveys that sample the entire population, and will be reported in our Follow-Up General Population Survey report later this year.

Figure 5 shows that 58.1% of the patrons from host and surrounding communities visited Encore Boston Harbor on a weekly basis or more often compared to only 34.6% of patrons from other municipalities in Massachusetts and 28.6% of patrons from outside of Massachusetts. The difference is statistically significant (Table 52 in Appendix G).

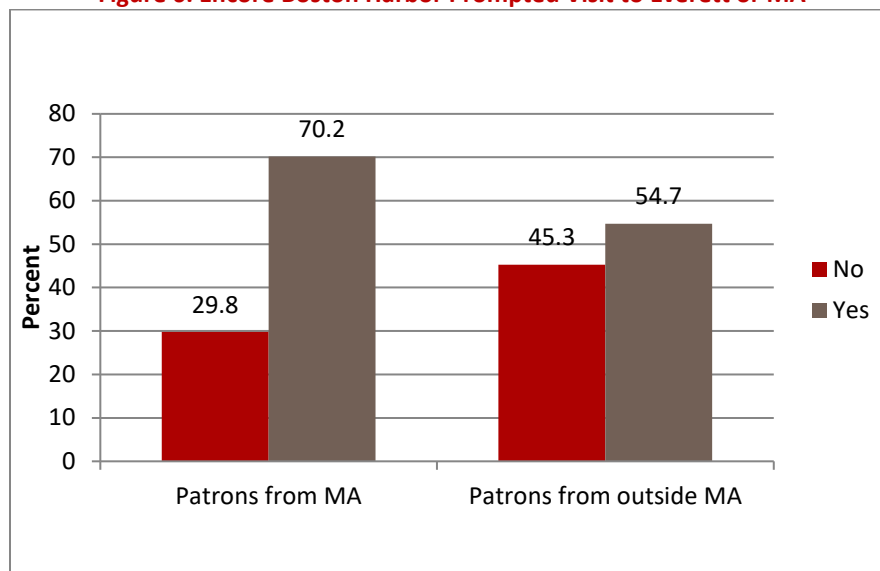
Figure 5. Frequency of Visits to Encore Boston Harbor since Opening by Geographic Origin



Note: Table 52 in Appendix G also contains this information

A total of 66.9% of patrons reported that it was Encore Boston Harbor that prompted them to visit Everett and/or Massachusetts (see Table 54 in Appendix G). Figure 6 shows that out-of-state patrons were less likely to visit the area because of the casino compared to patrons from Massachusetts (70.2% versus 45.3%)

Figure 6. Encore Boston Harbor Prompted Visit to Everett or MA



Note: Table 54 in Appendix G also contains this information

Among patrons from outside Massachusetts, 41.5% reported visiting Massachusetts for one day or less and 58.5% stayed for two or more days, with an overall average of 2 days (see Table 55 in Appendix G).

Finally, a majority of patrons (89.5%) reported having an enjoyable experience at Encore Boston Harbor and 88.4% indicated they would return. When asked what three things they liked most about their visit, “playing the games” was the most common item endorsed (69.3%), followed by friendliness of casino staff (25.8%), convenient parking (20.8%), and easy access to the games (19.1%) (see Table 56 in Appendix G).

Demographics

Table 3 illustrates that the gender of casino patrons was not evenly distributed (55.2% male versus 38.3% female). Over half of patrons were White (55.0%), a quarter of patrons were Asian (24.9%), with smaller proportions of patrons classified as Hispanic (7.6%) or Black (8.3%). The majority of patrons were middle-aged or older, with a mean age of 44 years. Educational attainment was relatively high, with 77.5% having attended college or obtained a university or college degree. Household income was quite variable, with the modal income group being in the \$50,000 to \$99,999 range. Although not reported in Table 3 (as this information was not available from the Massachusetts census), Table 58 in Appendix H shows that the majority of patrons were employed (71.6%), and almost one fifth of patrons (18.7%) were retired. Almost six in ten patrons were married, living with a partner, or widowed (57.0%) and 11.1% were divorced or separated. Finally, about one in ten patrons (9.8%) had served in the military.

Compared to the general adult Massachusetts population (18+) from the 2020 American Community Survey, patrons from Massachusetts were less likely to be female. The most marked difference is in the race/ethnicity, where 24.3% of Massachusetts patrons were Asian, compared to only 7.1% in the census. Patrons were also less likely to be White (53.6% compared to 71.9% in the Massachusetts population). A somewhat higher proportion of casino patrons were aged 35-64 compared to the Massachusetts population. In terms of education, patrons were more likely to have some college education below a degree, but otherwise with similar educational attainment. Finally, patrons were more likely to have a household income between \$50K - \$100K and less likely to have a household income >\$150K, suggesting that Massachusetts residents with household income greater than \$150K are less likely to visit Encore Boston Harbor. Patron demographics compared to the Massachusetts population for the Host and Surrounding Communities can be found in the Appendices (Table 59 in Appendix H).

It is important to note that Table 3 provides a detailed summary of selected demographic characteristics of the patron survey participants that are not fully utilized in subsequent analyses. Instead, these demographic characteristics have been collapsed into fewer categories to facilitate interpretation of the results. The reader will see these collapsed categories in Figures 7 through 10 below which illustrate differences in age, education, and household income by geographic origin.

Table 3. Patron Demographics Compared to the Massachusetts Population

		Encore Boston Harbor Patrons								MA in 2020 ³	
		Entire Sample				MA residents					
		N ¹	N ²	%	SE	N ¹	N ²	%	SE	%	SE
Gender	Female	218	1,169,039	38.3	2.8	173	946,178	39.7	3.2	48.0	0.3
	Male	196	1,683,082	55.2	2.9	154	1,322,304	55.4	3.3	52.0	0.3
	Prefer not to say	26	197,623	6.5	1.4	16	116,950	4.9	1.3		
Race/ Ethnicity	Hispanic	38	215,862	7.6	1.4	35	196,121	8.6	1.7	11.0	0.2
	White alone	255	1,560,648	55.0	3.2	198	1,226,523	53.6	3.5	71.9	0.3
	Black alone	43	234,987	8.3	1.4	38	216,013	9.4	1.7	6.1	0.2
	Asian alone	52	707,236	24.9	3.3	41	556,965	24.3	3.6	7.1	0.2
	Some other race alone			--				--		0.6	0.0
	Two or more races	18	101,069	3.6	0.9	12	76,392	3.3	1.1	3.3	0.1
Age	18-20			--				--		5.3	0.1
	21-24	32	237,315	9.2	1.8	26	178,871	8.6	1.8	7.0	0.2
	25-34	54	423,498	16.5	2.4	40	314,329	15.1	2.5	18.0	0.2
	35-54	118	979,873	38.1	3.3	98	820,550	39.5	3.7	31.1	0.3
	55-64	88	515,133	20.0	2.6	71	427,717	20.6	2.9	17.1	0.2
	65-79	66	357,010	13.9	2.0	54	285,828	13.8	2.1	16.4	0.2
	80+	10	55,422	2.2	0.8	7	47,522	2.3	0.9	5.1	0.1
Education	Less than high school	28	207,201	7.3	1.6	22	143,951	6.3	1.6	8.5	0.2
	High School or GED	74	434,428	15.2	2.0	58	356,805	15.6	2.3	22.8	0.3
	Some college	129	872,682	30.6	2.8	111	767,404	33.5	3.3	25.2	0.3
	Bachelor's Degree	117	893,733	31.3	2.9	85	649,423	28.4	3.2	24.8	0.3
	Masters, PHD or professional degree	68	444,972	15.6	2.2	55	371,857	16.2	2.5	18.7	0.2
Annual Household Income	Less than \$15,000	30	227,045	8.0	1.8	25	174,039	7.6	1.9	5.9	0.2
	\$15,000-<30,000	27	172,641	6.1	1.3	23	146,861	6.4	1.5	6.7	0.2
	\$30,000-<50,000	53	295,708	10.5	1.6	42	231,292	10.2	1.8	9.6	0.2
	\$50,000-<100,000	127	989,780	35.0	3.1	104	830,171	36.5	3.4	24.2	0.3
	\$100,000-<150,000	95	643,338	22.8	2.6	78	531,196	23.3	2.9	20.0	0.3
	\$150,000 and more	79	498,614	17.6	2.2	57	363,621	16.0	2.3	33.6	0.3

¹Unweighted N refers to the total number of respondents who answered this question.

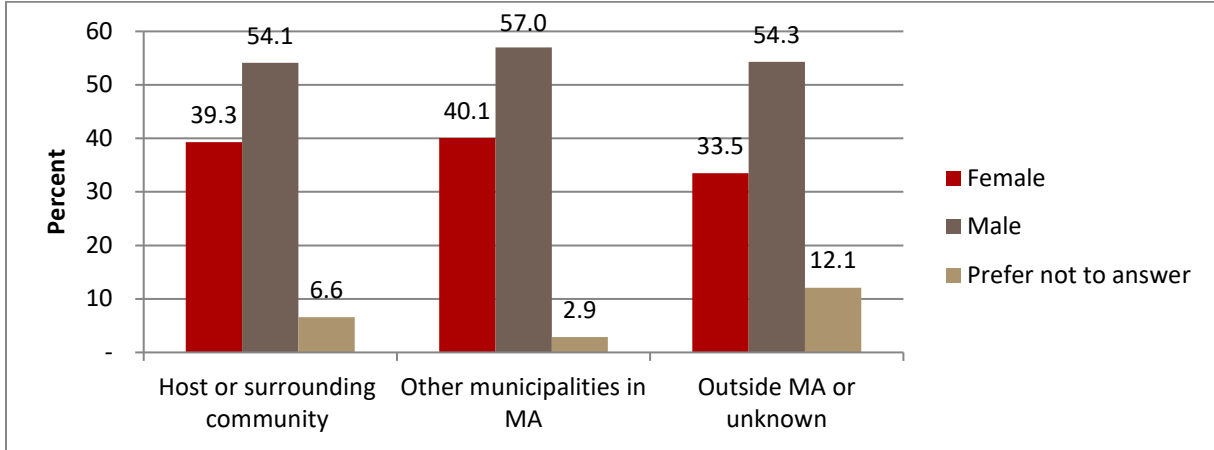
²Weighted N is the estimated total number of patrons who visited Encore Boston Harbor in the past year.

³Source: U.S. Census Bureau, 2020 American Community Survey PUMS.

Note: Not available (NA) indicates estimates are unreliable, relative standard error >30%.

Figures 7 to 10 present the demographics of patrons broken out by geographic origin. Figure 7 illustrates that 39.3% of patrons from the host and surrounding communities were female, while 54.1% were male and 6.6% preferred not to specify their gender. There was no significant gender difference by geographic origin.

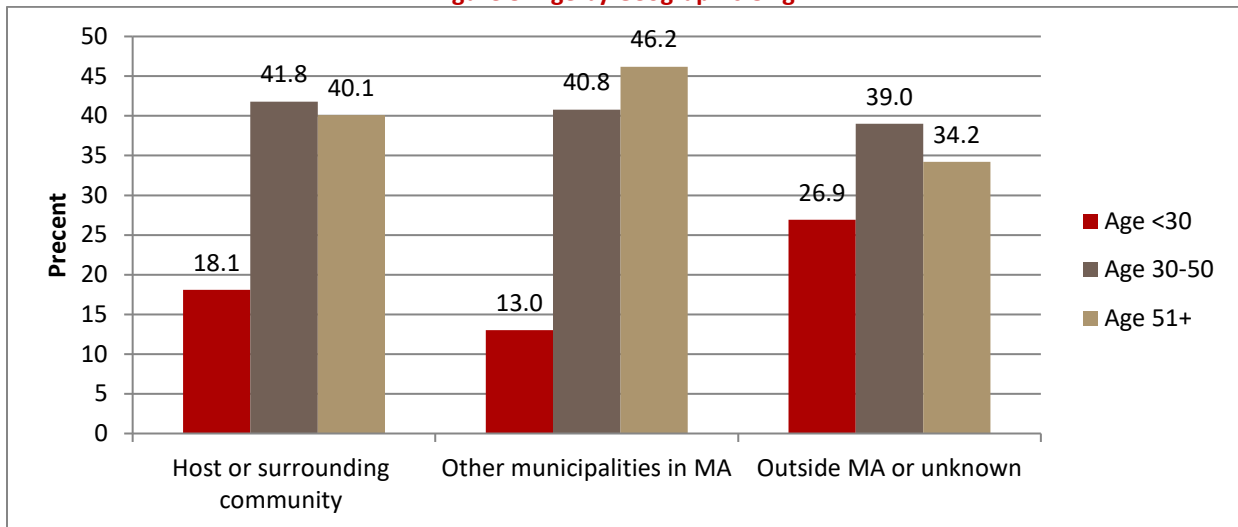
Figure 7. Gender by Geographic Origin



Note: This information is also contained in Table 59 in Appendix H

Figure 8 shows that there were differences in age among the patrons in several categories; far fewer patrons under age 30 were from other Massachusetts municipalities (13.0%) than from outside of Massachusetts (26.9%). The differences in age by geographic origin are not statistically significant.

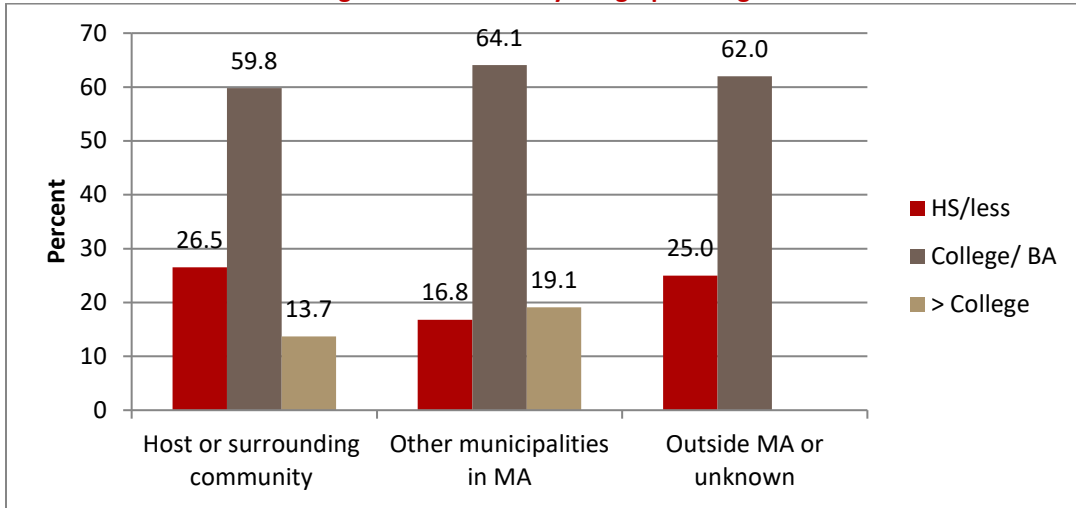
Figure 8. Age by Geographic Origin



Note: This information is also contained in Table 59 in Appendix H

Figure 9 demonstrates that only 26.5% of patrons from the host and surrounding communities, 16.8% patrons from other Massachusetts municipalities, and 25.0% of patrons from outside of Massachusetts or origin unknown had a high school education or less. Overall, the proportion of patrons with at least some college education was high among patrons from all three geographical areas. The differences in education by geographic origin are not statistically significant.

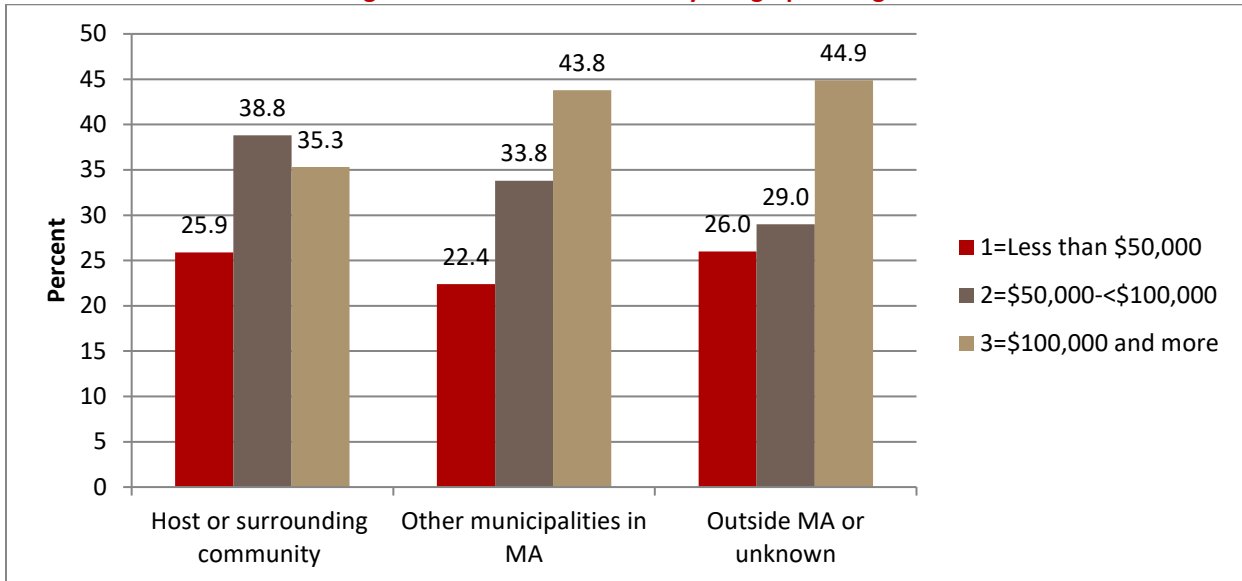
Figure 9. Education by Geographic Origin



Note: This information is also contained in Table 59 in Appendix H

Figure 10 shows that 25.9% of patrons from the host and surrounding communities, 22.4% patrons from other Massachusetts municipalities, and 26.0% of patrons from outside of Massachusetts or origin unknown had an annual household income of \$50,000 or less. The differences in income by geographic origin are not statistically significant.

Figure 10. Household Income by Geographic Origin

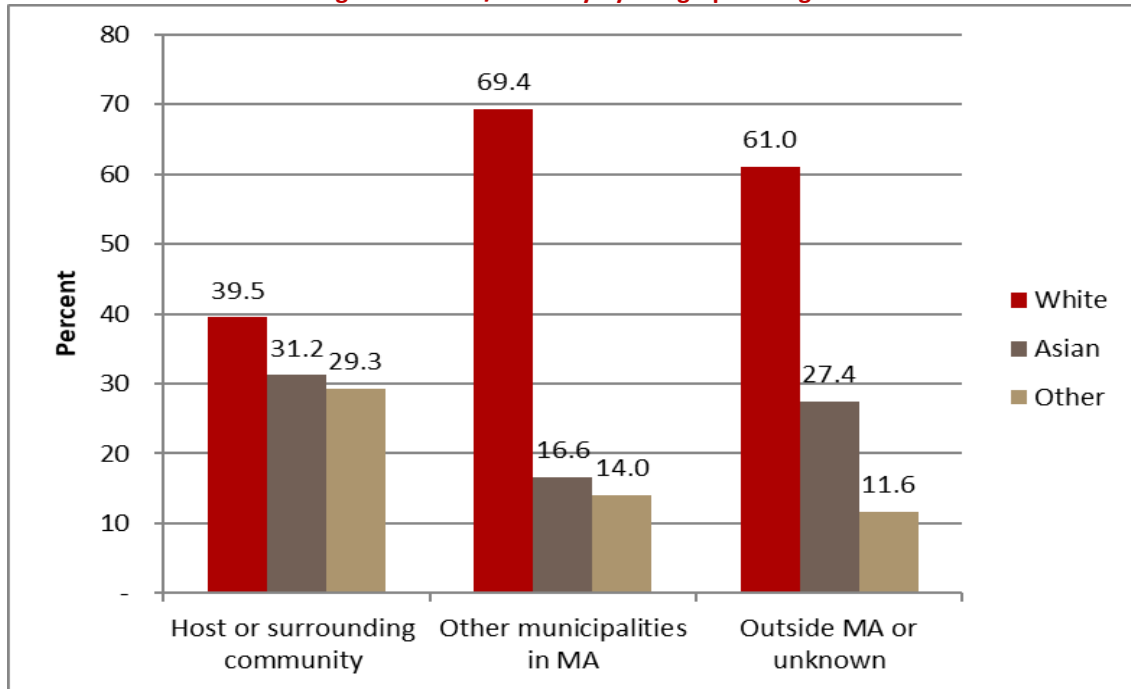


Note: This information is also contained in Table 59 in Appendix H

Overall, the survey found that 24.9% of patrons were Asian. Figure 11 shows that patrons from the host and surrounding communities were significantly more likely to be Asian (31.2%) and less likely to be White (39.5%) compared with those from other municipalities in Massachusetts (Asian 16.6% and White 69.4%). The proportion of Asian patrons from Massachusetts (24.3%) is much higher compared to their prevalence in the adult population of Massachusetts (7.1%). The Massachusetts Gaming Commission has identified gambling participation within the Asian community as an issue worth further research, and has funded and/or collaborated on projects such as “Unpacking the Root Causes of Problem Gambling in the

Asian Community” and “Community Voices from Boston Chinatown.”¹² Given these factors and since several sections within this report warrant a further analysis of Asian patrons, we have included all such analyses in the Analysis of Asian Patronage section later in the report.

Figure 11. Race/Ethnicity by Geographic Origin

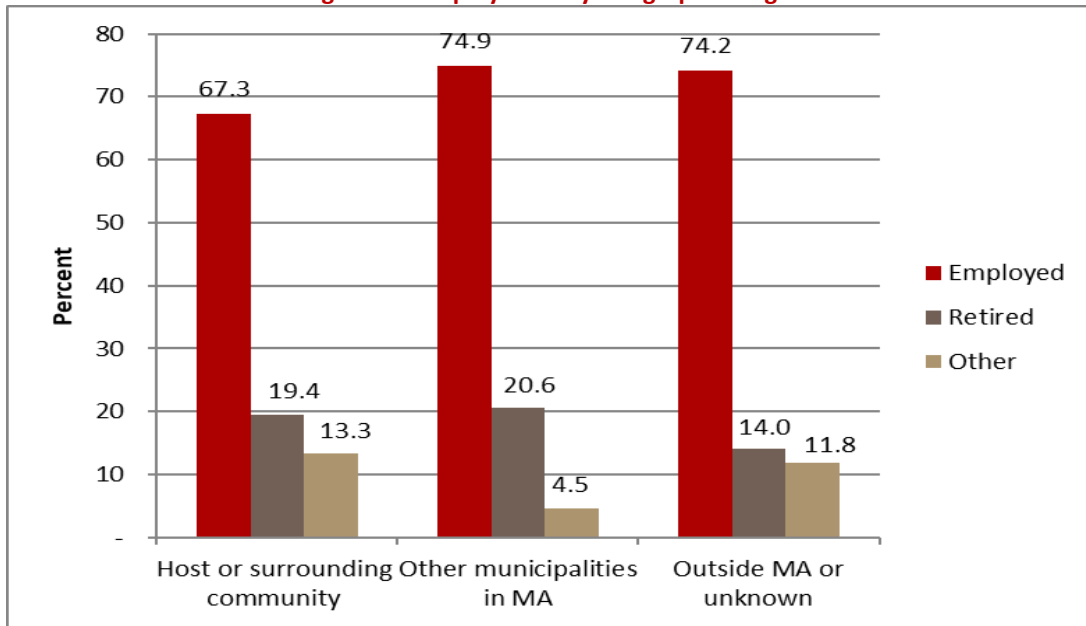


Note: This information is also contained in Table 60 in Appendix H

Figure 12 shows that almost two thirds (67.3%) of patrons from the host and surrounding communities, 74.9% of patrons from other Massachusetts municipalities, and 74.2% of patrons from outside of Massachusetts or origin unknown were employed. The difference in employment by geographic region is statistically significant. Table 61 in Appendix H presents this and additional information about the demographic differences across the three geographic groups.

¹² Full reports on these projects can be found at the following links, respectively: <https://massgaming.com/research/asian-cares-research-report/> and <https://massgaming.com/research/talking-about-casino-gambling-community-voices-from-boston-chinatown/>.

Figure 12. Employment by Geographic Origin



Note: This information is also contained in Table 59 in Appendix H

Patron Activities

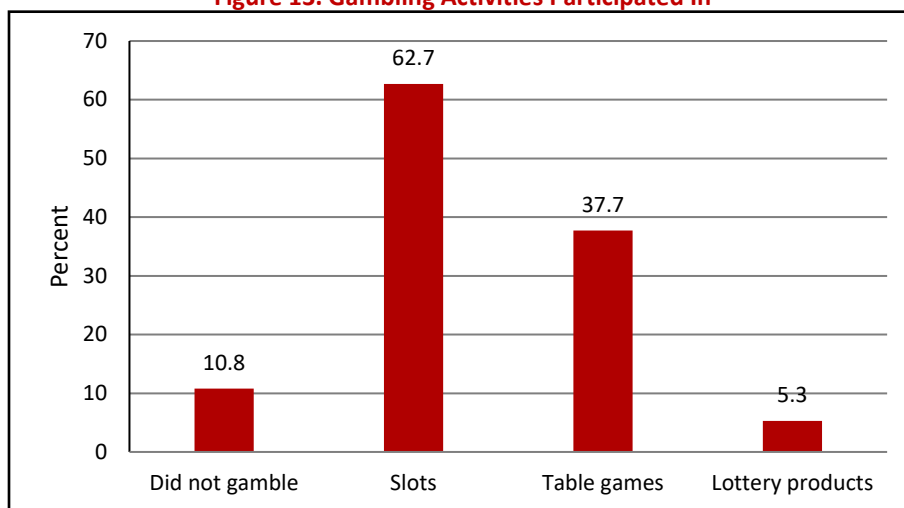
Patrons were asked a series of questions about the gambling and non-gambling activities in which they participated during this visit, both within the casino and off-site. The questions included:

- What different types of gambling they participated in on-site during this visit
- Whether they had a loyalty or rewards card with Encore Boston Harbor (e.g., Wynn Rewards)
- What non-gambling activities they participated in on-site during this visit
- What non-gambling activities they participated in outside of the casino during this visit
- How the COVID-19 pandemic impacted their gambling

Gambling Activities

In this section, we analyze the gambling behavior of the patrons. A total of 10.8% of patrons indicated they did not gamble during their visit, illustrating that gambling is not the only factor drawing people to Encore Boston Harbor. Nonetheless, most patrons did gamble. When asked about gambling activities, patrons were asked to select all activities in which they participated. As shown in Figure 13, the large majority played slots (62.7%), while 37.7% played table games, and 5.3% bought lottery tickets (see Table 62 in Appendix I).

Figure 13. Gambling Activities Participated In



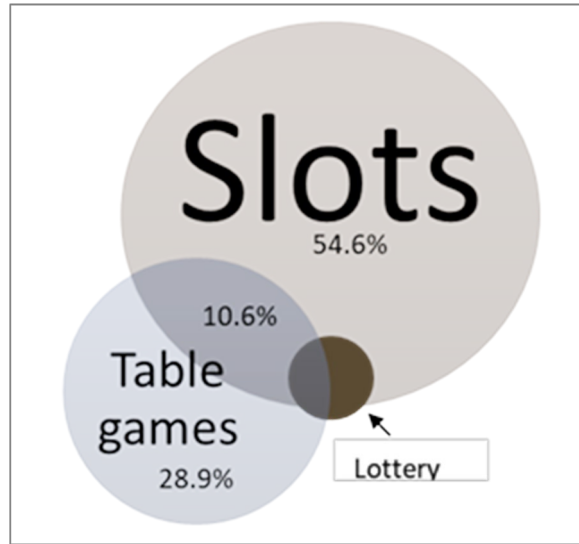
Note: This information is also contained in Table 62 in Appendix I

When considering gambling participation by geographic origin, Table 64 in Appendix I shows that 6.7% of patrons from the host and surrounding communities, 13.6% of patrons from other Massachusetts municipalities, and 13.8% of patron from outside of Massachusetts or with origin unknown did not gamble. The difference by geographic origin is not statistically significant.

A total of 74.0% of patrons reported that they had a loyalty or rewards card with Encore Boston Harbor (e.g., Red Card). Loyalty card membership was highest among patrons who played slots (82.5%). Among patrons who played table games and among those who bought lottery tickets, loyalty card membership was 70.1% and 70.7% respectively (see Table 65 in Appendix I).

Next, we examined the patterns of gambling participation for patrons who played slots (294), table games (137), or purchased lottery products (21). Figure 14 illustrates that among those who participated in gambling activities, 54.6% only played slots; 28.9% only played table games; 10.6% played both slots and table games and the remaining small percentage played lottery and slots; lottery and tables; lottery, slots, and tables; or just lottery.

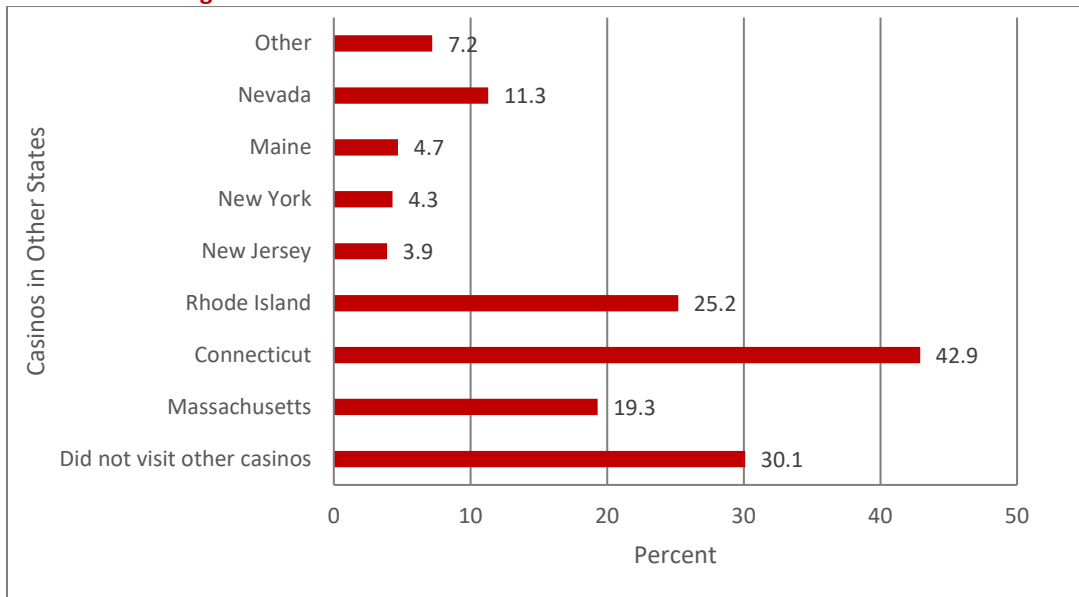
Figure 14. Patterns of Gambling Participation



Note: Table 63 in Appendix I also contains this information

Patrons were also asked if they had visited other casinos in the past year, and if so, which specific states they visited for casinos. A total of 39.5% reported going to one state, 13.8% reported going to two states, 8.8% reported going to three states, and 5.3% reported going to four or more states (see Table 62 in Appendix I which also contains details about the specific state patterns observed). Almost a third of patrons (30.1%) had not visited another casino. As seen in Figure 15, the majority of patrons reported visiting casinos in Connecticut (42.9%), Rhode Island (25.2%) and Massachusetts (19.3%).

Figure 15. Other States Where Patrons Visited Casinos in Past Year



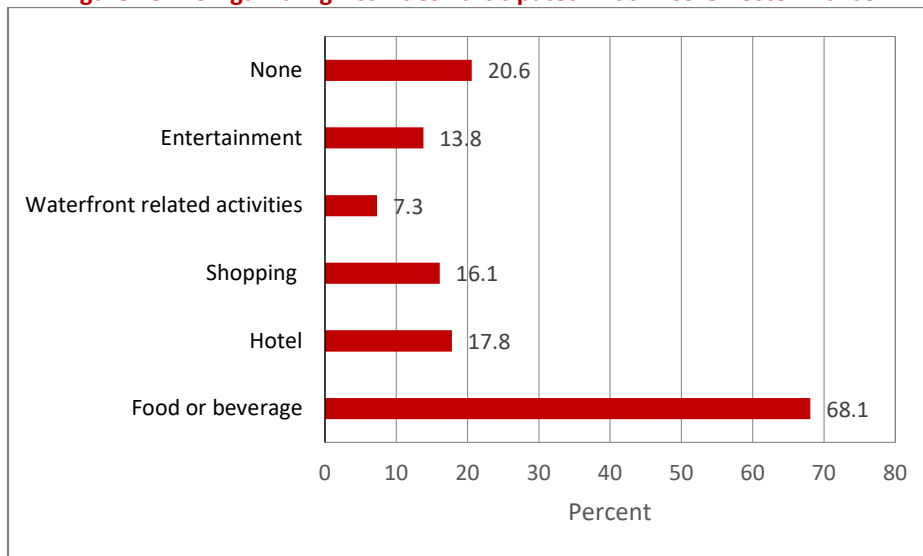
Note: Table 62 in Appendix I also contains this information

Non-gambling Activities at Encore Boston Harbor

In this section, we examine the non-gambling activities that patrons reported spending money on during their visit (Figure 16). A majority (68.1%) reported buying food and beverage at the casino, 17.8% stayed at the hotel, 16.1% purchased items at a gift shop or other retail outlet, and 13.8% reported spending on

entertainment. About one-fifth of the patrons (20.6%) reported not participating in any non-gambling activities while at Encore Boston Harbor (see Table 66 in Appendix I).

Figure 16. Non-gambling Activities Participated in at Encore Boston Harbor



Note: This information is also contained in Table 66 in Appendix I

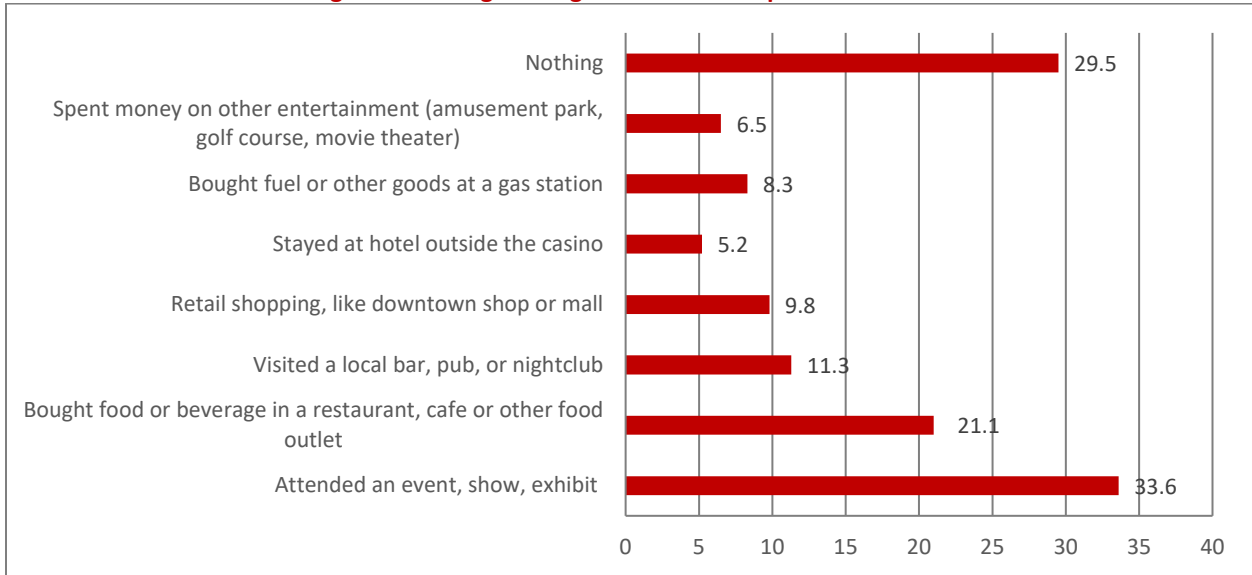
There is no statistically significant difference when considering non-gambling activities at Encore Boston Harbor by geographic origin (see Table 67 in Appendix I).

Next, we examined the relationship between type of gambling engaged in and non-gambling spending at Encore Boston Harbor (see Table 68 in Appendix I). A significantly higher percentage of patrons who played the lottery (53.0%) spent money on a hotel room at Encore Boston Harbor compared to 19.8% of patrons who played slots. A larger percentage of patrons who played table games (25.7%) spent money on entertainment in Encore Boston Harbor compared to 9.7% of patrons who played slots.

Non-gambling Activities Outside Encore Boston Harbor

In this section, we examine the non-gambling activities that patrons engaged in off-site during their visit to the area. As seen in Figure 17, nearly one-third of patrons (29.5%) reported not participating in any off-site activities. However, 33.6% attended an event, show or exhibit, 21.0% bought food and beverage off-site, 11.3% visited a local bar, pub or nightclub, 9.8% went retail shopping, 8.3% bought fuel or other goods at a gas station, 6.5% spent money on other entertainment such as an amusement park, golf course, or movie theater, and 5.2% stayed at a hotel outside of Encore Boston Harbor (see Table 69 in Appendix I). The events patrons attended included TD Garden (12.2%), Boston Duck Boats (7.8%), New England Aquarium (7.4%), Museum of Science (6.1%), and some other Boston location (8.4%). When considering non-gambling activities off-site by geographic origin, Table 70 in Appendix I shows there to be statistically significant differences by geographic origin. Patrons from other municipalities in Massachusetts were significantly more likely to do no other activities off-site (39.6%) compared to patrons from outside Massachusetts or unknown residence (20.5%). Patrons from outside Massachusetts or an unknown residence were significantly more likely to visit a local bar, pub or nightclub (21.4%) compared to patrons from host and surrounding communities (7.2%).

Figure 17. Non-gambling Activities Participated in Off-site



Note: Table 69 in Appendix I also contains this information

Next, we examined the relationship between gambling activities at the casino and non-gambling activities off-site (see Table 71 in Appendix I). Among the patrons who played slots, 33.4% attended an event, show or exhibit, compared to 36.0% of patrons who played table games, and 27.8% of patrons who did not gamble at all. The differences are not statistically significant.

Among the Massachusetts patrons who indicated that their visit to Everett was prompted by Encore Boston Harbor, 31.9% attended an event, show or exhibit, 19.6% bought food or beverage off-site and 35.0% did not spend on anything off-site (see Table 72 in Appendix I). Among the out-of-state patrons who decided to visit Massachusetts because of Encore Boston Harbor, 38.2% attended an event, show or exhibit and 31.5% did not spend on anything off-site (see Table 73 in Appendix I).

COVID-19 Pandemic Impact on Gambling

Patrons were asked two questions about the impact the COVID-19 pandemic had on their gambling: if their amount of online gambling had increased, and the pandemic’s impact on their overall gambling behavior. The majority of patrons (84.5%) indicated that their amount of online gambling had not increased during the pandemic. However, 16.4% indicated that they gambled more during the pandemic and 22.3% indicated they gambled less; 61.4% reported that the pandemic had no impact on their gambling behavior (see Table 74 in Appendix I). There is no statistically significant difference by geographic origin (see Table 75 in Appendix I).¹³

Patron Expenditures

In addition to the activities they participated in, patrons were asked to estimate their total expenditure in each of these categories during their visit. Table 4 presents the median, average, and total self-reported expenditures on gambling activities, non-gambling activities at Encore Boston Harbor, and non-

¹³ The SEIGMA team released a COVID Impacts Report in November 2022 which details the initial impacts of the pandemic on Massachusetts casinos (https://www.umass.edu/seigma/sites/default/files/SEIGMA%20Covid%20Impacts%20Report_FINAL.pdf).

gambling activities outside of Encore Boston Harbor as a function of Massachusetts or non-Massachusetts residency.

For all patrons combined, the median self-reported gambling expenditure was \$131, the median non-gambling expenditure at the casino was \$53, and the median non-gambling expenditure outside the casino was \$95.¹⁴ The last column illustrates the percentage of self-reported expenditure accounted for as a function of Massachusetts versus non-Massachusetts residency. As seen, Massachusetts patrons accounted for 79% of all reported gambling expenditure, 79.7% of all reported non-gambling expenditure at the casino, and 82.1% of non-gambling expenditure outside of the casino.

Table 4. Self-reported Expenditures at Encore Boston Harbor by Residency

		Unweighted N	Weighted N	Average (95% C.I.)	Median	Total (95% C.I.)	% of Total
MA Patrons	Gambling	280	1,950,208	303.9 (222.9, 384.8)	134.4	592,581,176 (420,931,383, 764,230,969)	79.0%
	Non-Gambling at Encore Boston Harbor	243	1,745,690	256.1 (161.8, 350.4)	51.0	447,115,973 (274,253,713, 619,978,233)	79.7%
	Non-Gambling outside Encore Boston Harbor	186	1,358,930	308.0 (200.0, 416.3)	95.1	418,512,565 (253,603,123, 583,422,008)	82.1%
Non-MA Patrons	Gambling	71	477,643	329.0 (174.6, 483.4)	132.9	157,130,228 (75,509,194, 238,751,263)	21.0%
	Non-Gambling at Encore Boston Harbor	74	472,902	240.2 (93.7, 386.8)	73.1	113,601,053 (39,220,441, 187,981,665)	20.3%
	Non-Gambling outside Encore Boston Harbor	59	431,716	211.3 (143.9, 278.7)	91.1	91,209,681 (49,102,493, 133,316,869)	17.9%
All Patrons	Gambling	351	2,427,851	308.8 (237.1, 380.5)	130.7	749,711,404 (564,825,759, 934,597,050)	100.0%
	Non-Gambling at Encore Boston Harbor	317	2,218,592	252.7 (172.2, 333.3)	53.2	560,717,026 (375,207,028, 746,227,024)	100.0%
	Non-Gambling outside Encore Boston Harbor	245	1,790,645	284.7 (200.5, 368.8)	95.2	509,722,246 (341,920,120, 677,524,373)	100.0%

Note: Italics indicates estimates are unreliable, relative standard error >30%.

New Revenue/Spending

While the *relative expenditure proportions* by Massachusetts or non-Massachusetts residency are likely accurate, the actual amounts reported are likely inaccurate due to the inherent unreliability of self-reported gambling expenditure (Williams, Volberg, Stevens et al., 2017; Wood & Williams, 2007). As evidence of this, the aggregated self-reported gambling expenditure in Table 4 (extrapolated to the general population of patrons over 12 months) is \$187 million over a 3-month period (\$750 million over 12 months), whereas Encore Boston Harbor reported \$148,748,000 in gambling revenue for the first quarter of 2022 (see Table 79 in Appendix J).

¹⁴ The respective means are \$309 for gambling, \$253 for non-gambling at Encore Boston Harbor, and \$285 for non-gambling outside of Encore Boston Harbor. It should be noted that the mean values are influenced by a small number of high values.

Assuming that gambling revenue was similar for each quarter, the estimated annual gambling revenue of Encore Boston Harbor is \$594,992,000, which is only 79.36% of the \$749,711,404 projected self-reported gambling expenditures from the Patron Survey. Similarly, the aggregated self-reported non-gambling expenditure at Encore Boston Harbor by patrons in Table 4 is \$560,717,026 million projected over 12 months, whereas Encore Boston Harbor reported \$32,241,871 in non-gambling revenue (including lessees) in January and February, which projects to \$193,451,232 over 12 months¹⁵. Thus, the actual non-gambling revenue of \$193,451,232 is only 34.5% of the \$560,717,026 self-reported non-gambling expenditure at Encore Boston Harbor from the patron survey.

To arrive at more plausible expenditure amounts as a function of Massachusetts or non- Massachusetts residency we apply the proportions in the last column of Table 4 to the *actual* gambling revenue and non-gambling revenue reported by Encore Boston Harbor for calendar year 2022. This results in an estimated:

- \$470,043,680 of gambling revenue coming from Massachusetts residents ($\$592,581,176 \times 79.0\%$) and \$124,948,320 from non-Massachusetts residents ($\$592,581,176 \times 21.0\%$) for the calendar year 2022.
- \$154,180,631 of non- gambling revenue at Encore Boston Harbor coming from Massachusetts residents ($\$193,451,232 \times 79.7\%$) and \$39,270,600 from non-Massachusetts residents ($\$193,451,232 \times 20.3\%$) in calendar year 2022.

There are no reliable figures for actual revenue to businesses outside of Encore Boston Harbor. However, a reasonable approach is to take the aggregated self-reported expenditure outside of Encore Boston Harbor and apply the corrective weighting of 0.7936 that allowed self-reported gambling expenditure to match actual gambling revenue. Applying this weighting to self-reported non-gambling expenditure outside of Encore Boston Harbor (i.e., \$509,722,246) results in an estimated:

- \$404,515,574 ($\$509,722,246 \times 0.7936$) being spent by Encore Boston Harbor patrons on non-gambling activities outside of Encore Boston Harbor for the calendar year 2022, with \$332,107,285 ($\$404,515,572 \times 0.821$) being spent by Massachusetts residents, and \$72,408,287 ($\$404,515,572 \times 0.179$) being spent by non-Massachusetts residents.

Adding all three areas of spending – gambling expenditure, non-gambling expenditure at Encore Boston Harbor, and non-gambling expenditure outside of Encore Boston Harbor – produces an estimated total gambling and non-gambling expenditure of \$956,331,597 by Massachusetts residents and \$238,627,208 by non-Massachusetts residents. Thus, in total, we estimate that Massachusetts residents account for 80.0% of all combined gambling and non-gambling expenditure and non-Massachusetts residents account for 20.0%

Recaptured Spending

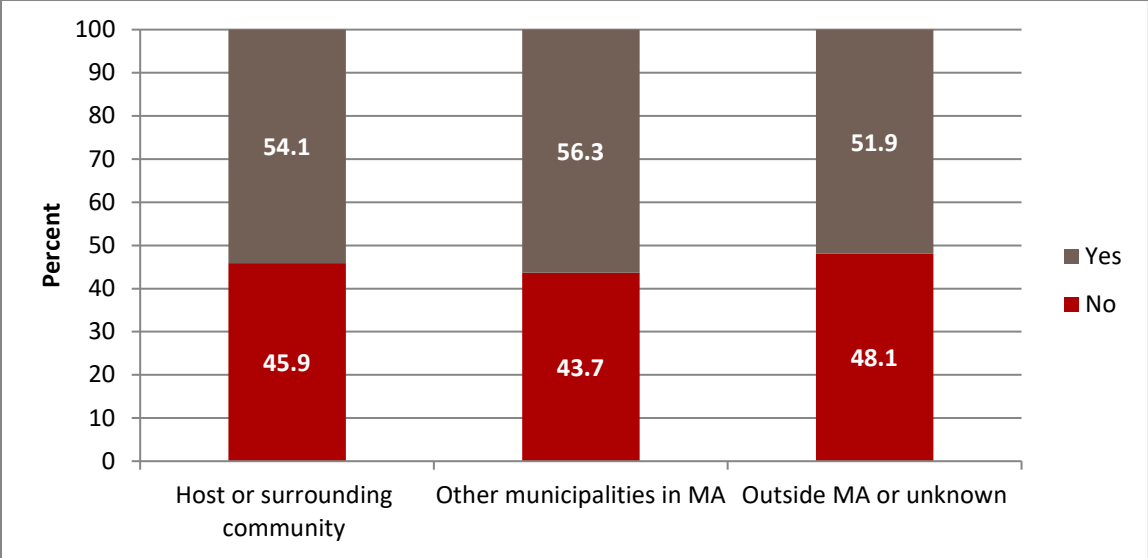
The previous section quantified an important economic impact of Encore Boston Harbor, which is the extent to which it captures out-of-state revenue. Encore Boston Harbor generates more money from in-state residents than from out of state residents. However, there are two other economic impacts of importance related to the spending behavior of Massachusetts residents. One is the extent to which Encore Boston Harbor has attracted or 'recaptured' spending from Massachusetts residents who would have otherwise spent their money at an out-of-state casino. The second is the extent to which Encore

¹⁵ Note that the non-gaming revenue reported in Table 79 in Appendix J does not include the revenue from lessees.

Boston Harbor has caused Massachusetts residents to 'reallocate' their spending from other businesses within Massachusetts. All of this information is crucial to understanding the overall economic impact of Encore Boston Harbor. Patron survey data inform the subsequent economic modeling, which utilizes the PI+ economic impact model produced by Regional Economic Models Incorporated (REMI). The present report discusses the proportion of spending accounted for by different types of patrons. The results of the economic modeling will be included in an impact report on the first three-and-a-half years of Encore Boston Harbor operations, likely to be released in 2023.

A total of 54.5% of patrons reported that if there was not a casino in Massachusetts, they would have gambled in another state (see Table 80 in Appendix J). Figure 18 shows the proportion of patrons who would have gambled in another state if there were no casino in Massachusetts by the geographic origin of the patrons. The difference is not statistically significant by geographic region (see Table 81 in Appendix J). Among patrons who said that they would have gambled in another state, 75.4% indicated this would have been Connecticut and 48.4% indicated they would have gambled in Rhode Island (see Table 80 in Appendix J). These findings illustrate that Encore Boston Harbor is indeed attracting significant numbers of Massachusetts residents and out-of-state patrons who would have gone to other states to gamble.

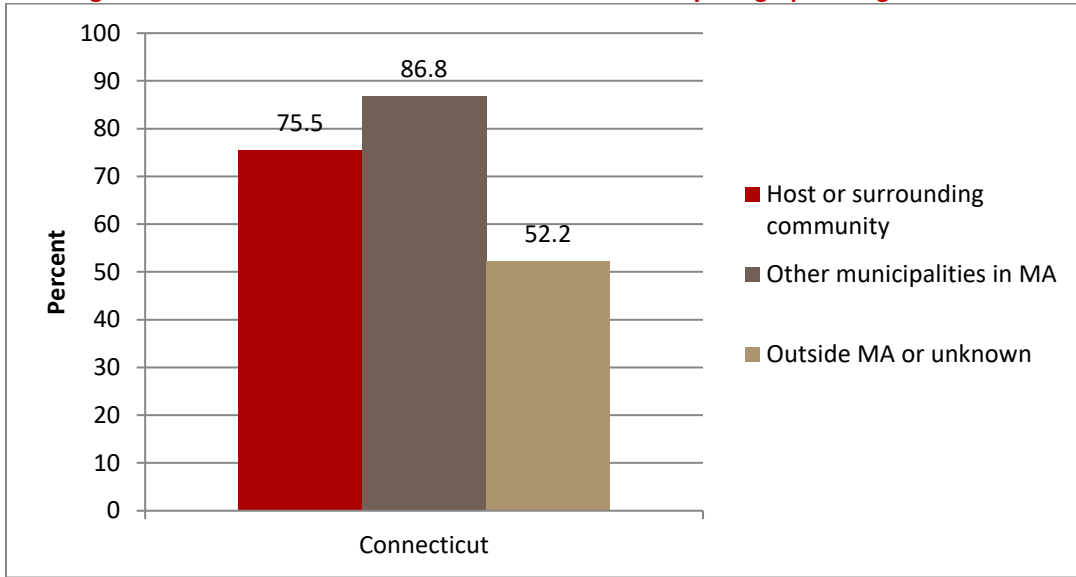
Figure 18. Would Have Gambled in Another State by Geographic Origin of Patron



Note: This information is also contained in Table 80 in Appendix J

Connecticut and Rhode Island were the states outside of Massachusetts identified by patrons as the most likely destinations to gamble if a casino had not been available in Massachusetts. This is consistent with Figure 15 earlier in the report, which showed that these were the two states *actually* visited most in the past year for casino gambling outside of Massachusetts. Figure 19 shows that 75.5% of patrons from the host and surrounding communities and 86.8% of the patrons from elsewhere in Massachusetts identified Connecticut as a state to visit, while 52.2% of the patrons from outside the state or origin unknown identified Connecticut as a state to visit. The difference is statistically significant.

Figure 19. Other States Would Have Visited to Gamble by Geographic Origin of Patron

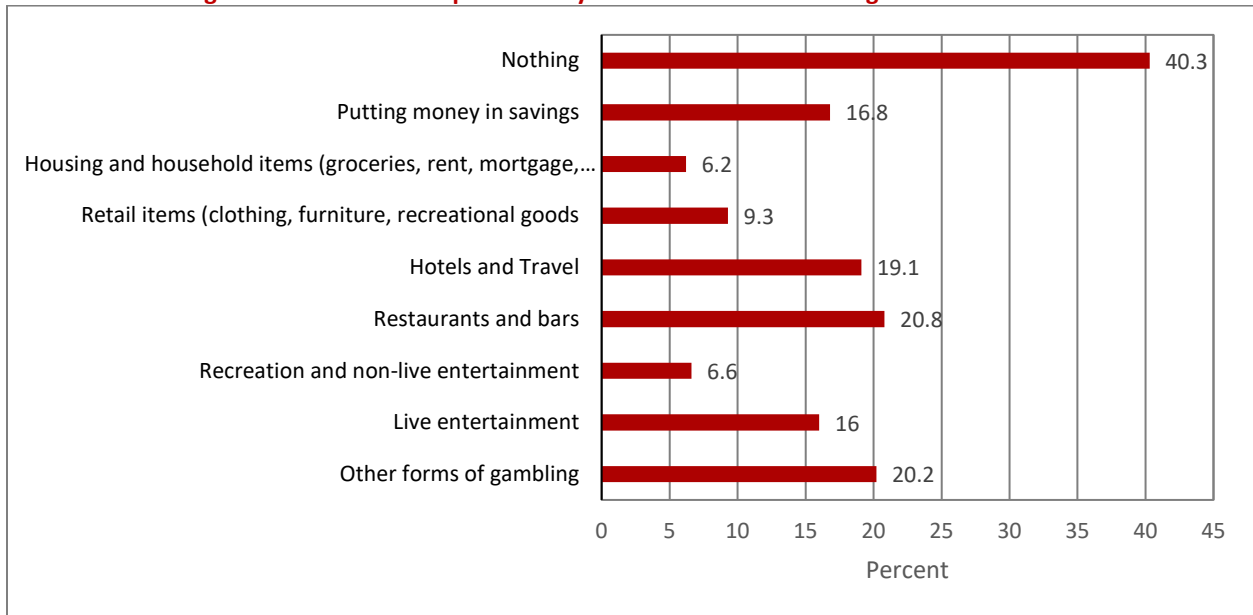


Note: This information is also contained in Table 80 in Appendix J

Reallocated Spending

Reallocated spending is spending on goods and services which would have occurred had the casinos never opened, but which did not occur because an individual chose to spend their money at the casino instead. Since not everyone thinks about their spending in terms of what they would have purchased instead of what they did buy, tracking reallocated spending can be a challenge. But it is important to make every effort to estimate reallocated spending, as shifts in spending can potentially affect the revenues of other businesses in the area. In order to estimate reallocated spending, patrons were asked what they were spending less money on as a result of having casinos in Massachusetts. A total of 40.3% of patrons indicated that there was nothing that they spent less money on as a result of casinos in Massachusetts. For the 59.7% of people who did report spending less money on other things, the specific goods and services where less money was spent are shown in Figure 20 below (see Table 80 in Appendix J). The most common items reported were spending in restaurants and bars, followed by spending on other forms of gambling (such as lottery products, bingo, or horse racing), hotels and travel, putting money into savings, and live entertainment. There were no significant differences by geographic origin (see Table 81 in Appendix J).

Figure 20. Would have Spent Money on if not Casino Gambling in Massachusetts



Note: Some data are not shown due to unreliable estimates or cell size less than 6.

Note: Table 80 in Appendix J also contains this information.

Economic Modeling

As mentioned above, the estimates derived from the patron survey will inform an economic model which will estimate the total economic impact of Encore Boston Harbor’s operations. When using an economic model, it is a best practice to use primary data on a firm’s operation, rather than modeled data, where available. For example, an economic model like the one used by the SEIGMA team would be able to create an estimate for the number of jobs supported by patron spending at the casino, as well as the wages paid to those employees, the additional demand for intermediate goods and services, and the new revenue accruing to state and local government entities. These estimates would be based upon parameters in the model, which are themselves informed by government data about the casino industry and local economic conditions.

In the case of this exercise, however, modeling these aspects of the casino’s economic impact is unnecessary, as actual data on all of these factors exist and are available to the SEIGMA team.¹⁶ In this case, the model instead seeks to measure a more limited number of things, such as the economic impact of patron spending outside of the casino during their visit, the impact of patrons shifting their spending away from their previous spending patterns and towards the casino, and the impact of employees, vendors, and governments spending the money which they receive from the casino in their communities.

In order to derive estimates of these activities from the patron survey data, the SEIGMA team has developed a typology for casino patrons, which identifies six basic types of casino patrons based on the ways in which their spending can be expected to interact with the local and regional economy. Table 5 shows the patron types that are defined aligned with how they answered certain questions in the survey. These patron types were used to determine how spending by each patron type is treated in the

¹⁶ The data that does not need to be modeled is the operational data collected from the casinos (i.e., employment, vendor spending, revenues, visitation, fiscal impacts, etc.).

REMI modeling. Below the table, we provide a detailed description of each of the casino patron types.

Table 5. Patron Types for Economic Modeling

Patron Code	Patron Type	Origin	Would have gambled elsewhere	Casino prompted visit (from MA)	Casino prompted visit (not from MA)
1	Recaptured In-State	In-State	Yes	Not applicable	Not applicable
2	Reallocated In-State	In-State	No	Yes	Not applicable
3	Reallocated In-State Incidental	In-State	No	No	Not applicable
4	New Out-of-State	Out-of-State	Not applicable	Not applicable	Yes
5	Captured Out-of-State	Out-of-State	Yes	Not applicable	No
6	Reallocated Out-of-State Incidental	Out-of-State	No	Not applicable	No

Recaptured in-state patrons are people who live in Massachusetts but who would have gambled out-of-state if not for the in-state option. For modeling purposes, we treat all spending reported by recaptured in-state patrons as new to the state. This includes their off-site spending, as we assume that, if Encore Boston Harbor did not exist, recaptured in-state patrons would be spending money on similar off-site expenditures, but in another state. Technically speaking, the on-site spending of recaptured in-state patrons is not used as an input in the model, as that spending goes to hire and pay employees, purchase intermediate goods and services, and pay state and local governments, all of which are captured in greater detail through primary, rather than modeled, data. The SEIGMA team has access to primary data on casino operations, so there is no need to estimate that activity based on reported patron spending. Patron survey data are only used to model shifts in spending throughout the Massachusetts economy, and since these patrons would have otherwise spent their money in establishments outside of Massachusetts, it is not included in the model.

Reallocated in-state patrons are people from Massachusetts who would not have visited Everett were it not for the casino, but who also would not have gambled out-of-state, for example, new tourism or recreational visitors to the region. In other words, these are patrons who, were it not for the casino, would have likely spent their money on goods and services other than gambling elsewhere in Massachusetts. The model represents this as a decrease in consumption of a general basket of goods and services in the region where the patron lives, equal to the on-site and off-site expenditures of the patron. However, the model represents a patron’s off-site spending as an increase in regional consumer spending, since this may be new spending for the host region.

Reallocated in-state incidental patrons are like reallocated in-state casino visitors, except that they indicated that Encore Boston Harbor did not prompt their visit to Everett. They may live in the city itself, or they may have been running errands or visiting family in Everett. Put simply, these patrons would have been in Everett regardless of the presence of a casino. The primary way that this affects the economic modeling is that we cannot assume that their spending outside of the casino was related to their trip to Encore Boston Harbor since they indicated that the casino did not prompt their visit to Everett. Therefore, spending by these patrons has been neither added to the model as new spending nor reallocated from another region.

New out-of-state patrons are visitors from other states who would not have visited Massachusetts were it not for Encore Boston Harbor. While these residents live outside of Massachusetts, they are the same

as recaptured in-state patrons for modeling purposes, as their expenditures during that visit would not have occurred within the Commonwealth if not for Encore Boston Harbor.

Captured out-of-state incidental patrons are people who would have visited Massachusetts regardless of whether or not Encore Boston Harbor existed, but who chose to gamble here rather than in their home state now that it does exist. These patrons live out-of-state, but reported that Encore Boston Harbor did not prompt their visit to Massachusetts. These patrons, however, reported that they would have spent the money that they spent at Encore Boston Harbor gambling at an out-of-state casino if the Massachusetts casino did not exist. These patrons may have visited to attend a concert, a sports event, or to visit with family. It is probable, however, that the length and expenditure of the stay would have been less if Encore Boston Harbor did not exist. These patrons do not have an effect on the model. Their spending at Encore Boston Harbor is already captured through employment, payroll, vendor spending, and fiscal data. The spending these patrons do off-site is assumed to be part of the regular course of their visit to Massachusetts, which would have occurred anyway.

Reallocated out-of-state incidental patrons are those whose visit to Massachusetts was not prompted by Encore Boston Harbor, and who would not have otherwise spent the money they spent at Encore Boston Harbor gambling out-of-state. In other words, they are out-of-state visitors who came to Massachusetts and chose to spend their time and money at Encore Boston Harbor instead of elsewhere in Massachusetts. Our economic model treats these patrons in a similar way to the reallocated in-state casino visitors. The one exception is that instead of the model reallocating the spending of these patrons from a regional consumption basket, it reallocates spending from a basket of goods and services frequently consumed by out-of-state tourists in Massachusetts.

Shares of Recaptured and Reallocated Spending

At this time, no better estimate of patron behavior at Encore Boston Harbor exists. For this reason, our future economic impact report will still utilize these data for purposes of apportioning known and estimated levels of patron spending. However, the lower level of confidence in patron behavior trends will be noted in that report.

Table 6 shows that recaptured in-state patrons – those who would have gambled elsewhere had it not been for the Massachusetts casino – contribute to a narrow plurality of both gambling and non-gambling spending at Encore Boston Harbor (45.2% and 64.4%, respectively). The next largest group in terms of share of spending is reallocated in-state patrons – those attracted to Everett by the casino – who make up 24.3% of gambling spending at Encore Boston Harbor. Unfortunately, response numbers for the other types of reported spending were not large enough to be reported. What can be discerned from the responses is that the majority of spending at Encore Boston Harbor can be attributed to either in-state patrons who would have otherwise have gambled out-of-state (recaptured in-state patrons) or in-state patrons who otherwise would not have visited Everett (reallocated in-state patrons).

At this time, no better estimate of patron behavior at Encore Boston Harbor exists. For this reason, our future economic impact report will still utilize these data for purposes of apportioning known and estimated levels of patron spending. However, the lower level of confidence in patron behavior trends will be noted in that report.

Table 6. Share of On-site Spending by Patron Type¹⁷

Patron group	Share of Gambling Spending	Share of Non-Gambling EBH Spending
1=Recaptured In-State	45.2%	64.4%
2=Reallocated In-State	24.3%	NA
3=Reallocated In-State Incidental	NA	NA
4=New Out-of-State	NA	NA
5=Captured Out-of-State Incidental	NA	NA
6=Reallocated Out-of-State Incidental	NA	NA

Note: Not Available (NA) indicates estimates are unreliable, relative standard error >30%.

The economic modeling exercise is based on a six-region division of the state (Figure 31 in Appendix J presents a map of the regions used in the economic modeling exercise). Of the spending by recaptured in-state patrons, people who would have gambled out of state, those from the Greater Boston region which includes Everett and several of the surrounding communities contribute 96.6% of gambling spending and 97.5% of non-gambling Encore Boston Harbor spending (Table 7).

Table 7. Share of Recaptured On-Site Patron Spending by REMI Region

REMI region	Share of Gambling Spending	Share of Non-Gambling MGM Springfield Spending
Pioneer Valley	NA	NA
Central	NA	NA
Greater Boston	96.6%	97.5%
Southeast	NA	NA
Cape and Islands	NA	NA

Note: Not Available (NA) indicates estimates are unreliable, relative standard error >30%.

Table 82 and Table 83 in Appendix J provide details of reallocated in-state on-site and incidental patron spending by REMI Region. In addition, Table 84 and Table 85 in Appendix J display off-site non-gambling spending, and casino patron off-site spending by REMI region.

Expenditure by Household Income

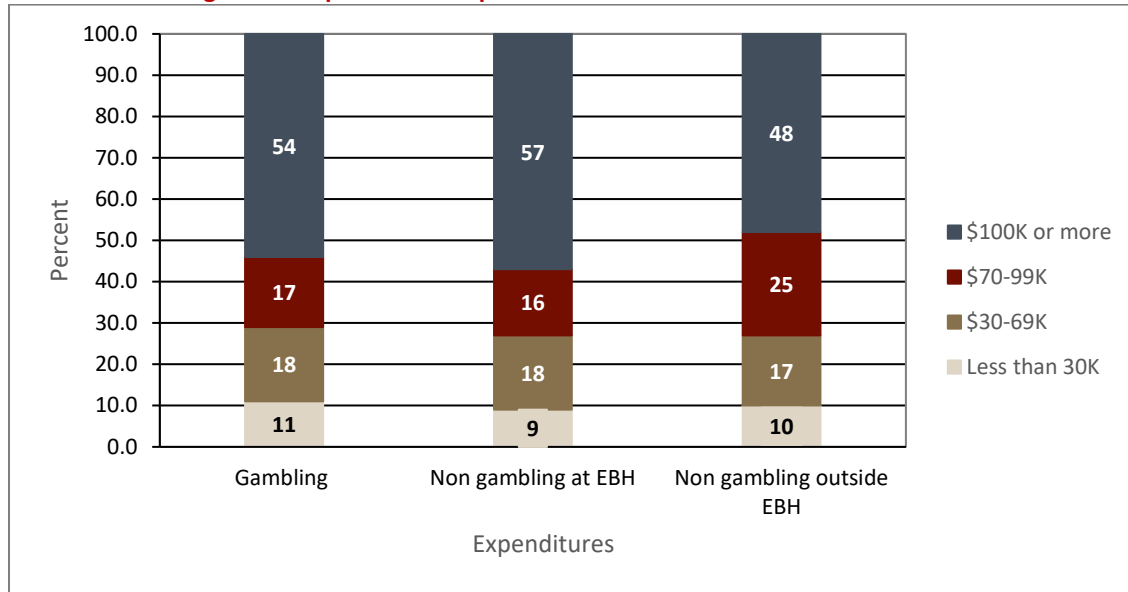
An important social issue concerns whether gambling acts as a form of regressive taxation, where people with lower incomes contribute disproportionately more to gambling revenues than people with higher incomes. We did not find that to be the case at Encore Boston Harbor. Most studies that have examined this issue, including our MGM Springfield Patron Survey Report, have found that gambling is usually economically regressive (Williams, Rehm, & Stevens, 2011). Although it is clear in most of these studies that individuals with lower incomes contribute proportionally more of their income to gambling compared to middle and high-income groups, average annual expenditure on gambling still tends to increase as a function of income category. Thus, middle and higher income groups still tend to be the primary contributors to total gambling revenue, which was also seen at Encore Boston Harbor.

Figure 21 shows patron expenditures on gambling and non-gambling amenities at Encore Boston Harbor as well as expenditures on non-gambling amenities outside the casino by household income group. As a

¹⁷ Twenty-five respondents who were missing patron type were excluded from these calculations.

reference point, the median household income for Massachusetts in 2016-2020 was \$84,385 (U.S. Census).¹⁸ Figure 21 illustrates that the 43% of Encore Boston Harbor patrons from income groups below the median Massachusetts household income (i.e., below \$70,000 category), accounted for only 29% of the reported gambling expenditures at Encore Boston Harbor, 27% of the non-gambling expenditures at Encore Boston Harbor, and 27% of non-gambling expenditures outside of Encore Boston Harbor.

Figure 21. Expenditure Proportion for Households with Annual Income



Note: Table 86 in Appendix J also contains this information

Figure 22 provides a more fine-grained analysis of gambling spending as a function of income group for Massachusetts patrons and the sub-group of patrons from the host and surrounding communities only. Looking at groups of patrons by household income, this impact can be analyzed in two ways. In the first instance, we can simply look to see if the patronage of the casino (brown bar) mirrors the population distribution in the general adult population (maroon bar). In the second instance, in terms of population impact, we can also measure what portion of the casino gambling revenue (tan bar) comes from each income group of the general population (maroon bar).

For all Massachusetts patrons, the lowest income groups (i.e., below \$30,000) represent 14% of the patrons and 13% of the general population; this group spent 10% of the gambling expenditures. For patrons from the host and surrounding communities with the lowest incomes, they are equally represented in the casino as they represent 15% of the patrons, 15% of the population of the same area, and account for 15% of the gambling expenditures.

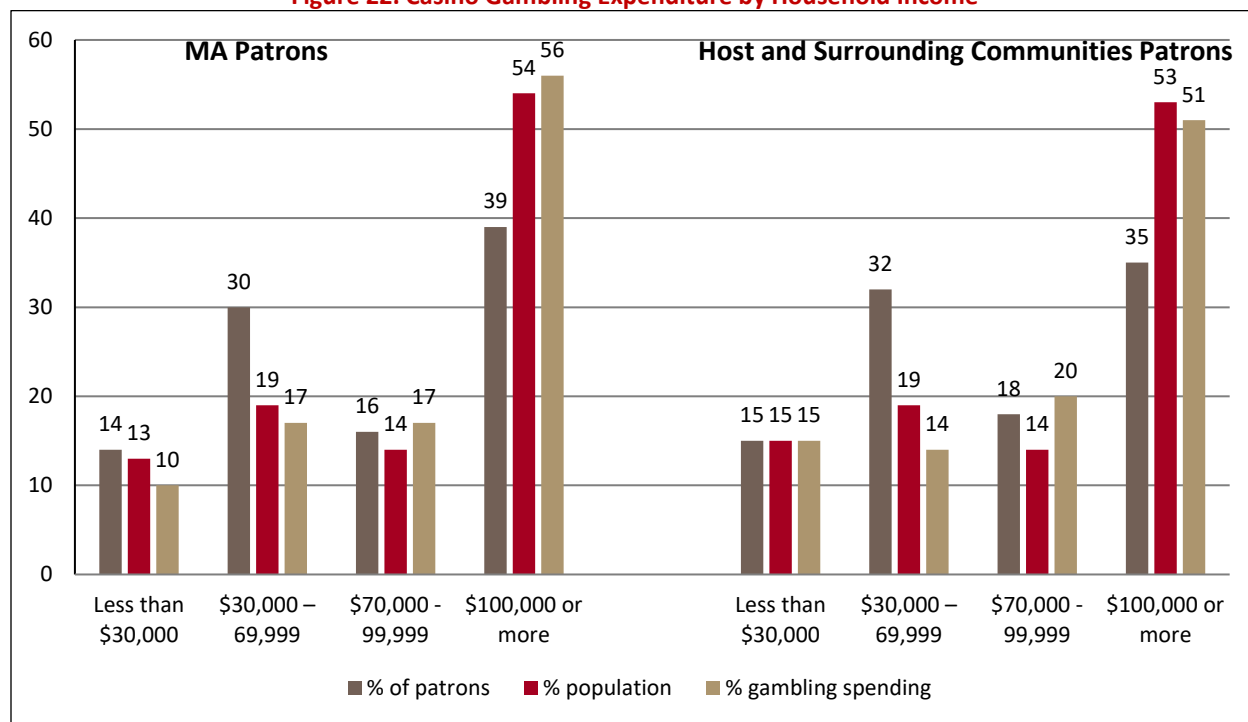
If we look at Massachusetts patrons from income groups below the median Massachusetts household income (i.e., below \$70,000 category), they are overrepresented in the casino (44% of patrons and 32% of the population), but only account for 27% of the gambling expenditures. For patrons from the host and surrounding communities, they were also overrepresented in the casino (47% of patrons and 34% of population of the same area), but similarly only accounted for 29% of gambling expenditure.

¹⁸ Information can be found at <https://www.census.gov/quickfacts/fact/table/MA/INC110220>.

Patrons from the host and surrounding communities with the highest incomes represent only 35% of the patrons but 53% of the population of the same area, and account for 51% of the gambling expenditure. It should be noted, however, that only 39% of Massachusetts Encore Boston Harbor patrons had incomes greater than \$100,000. Thus, their per capita spending is higher than per capita spending by patrons with lower incomes.

As the graph shows, the lower-middle-income Massachusetts patrons (\$30,000-\$69,999) were overrepresented in the casino, representing 30% of the patrons, yet only representing 19% of the general population and accounting for 17% of the gambling expenditure. The pattern for the lower-middle-income patrons from the host and surrounding communities followed a similar pattern.

Figure 22. Casino Gambling Expenditure by Household Income



Note: Table 87 and Table 88 in Appendix J also contains this information

Analysis of Asian Patronage

As referenced earlier in this report, the survey found that a quarter of patrons (24.9%) were Asian. For Massachusetts patrons, 24.3% were Asian, compared to their much smaller prevalence in the adult population of Massachusetts (7.1%). The percentage of Asian patrons from the host and surrounding communities was even higher (31.2%). Some Asian patrons responded to a question to further identify their specific race/ethnicity, with an option to check all that apply; 40% identified as Chinese, approximately one-fifth identified as Vietnamese, approximately one-fifth identified as Other Asian, and under 10% identified as Asian Indian.

Given the frequency of the complimentary shuttle bus service to and from the casino and the John F. Fitzgerald Surface Road at Kneeland Street in Boston, better known as “Chinatown,” this is hardly a surprise. Figure 23 shows the shuttle bus schedule posted at the casino during our data collection period. Buses departed Chinatown and the casino every half hour, with a break only between the hours of 8am-9:30am. Those patrons who identified as Asian were more likely to visit Encore Boston Harbor

on a weekly basis compared to Whites, with more than half indicating they visited at least weekly. For additional information, see Table 53 in Appendix G.

Figure 23. Complementary Chinatown Shuttle Bus Schedule

John F Fitzgerald Surface Road at Kneeland Street, Boston, MA, 02111
 “天下為公”牌坊旁邊的巴士站

Depart Surface Road at Kneeland Street 在 Kneeland 廣場與 Surface Road	Depart Encore 從 Encore 賭場出發
10 a.m.	10 a.m.
10:30 a.m.	10:30 a.m.
11 a.m.	11 a.m.
11:30 a.m.	11:30 a.m.
12 p.m.	12 p.m.
12:30 p.m.	12:30 p.m.
1 p.m.	1 p.m.
1:30 p.m.	1:30 p.m.
2 p.m.	2 p.m.
2:30 p.m.	2:30 p.m.
3 p.m.	3 p.m.
3:30 p.m.	3:30 p.m.
4 p.m.	4 p.m.
4:30 p.m.	4:30 p.m.
5 p.m.	5 p.m.
5:30 p.m.	5:30 p.m.
6 p.m.	6 p.m.
6:30 p.m.	6:30 p.m.
7 p.m.	7 p.m.
7:30 p.m.	7:30 p.m.
8 p.m.	8 p.m.
8:30 p.m.	8:30 p.m.
9 p.m.	9 p.m.
9:30 p.m.	9:30 p.m.
10 p.m.	10 p.m.
10:30 p.m.	10:30 p.m.
11 p.m.	11 p.m.
11:30 p.m.	11:30 p.m.
12 a.m.	12 a.m.
12:30 a.m.	1 a.m.
1:30 a.m.	2 a.m.
2:30 a.m.	3 a.m.
3:30 a.m.	4 a.m.
4:30 a.m.	5 a.m.
5:30 a.m.	6 a.m.
6:30 a.m.	7 a.m.
7:30 a.m.	8 a.m.

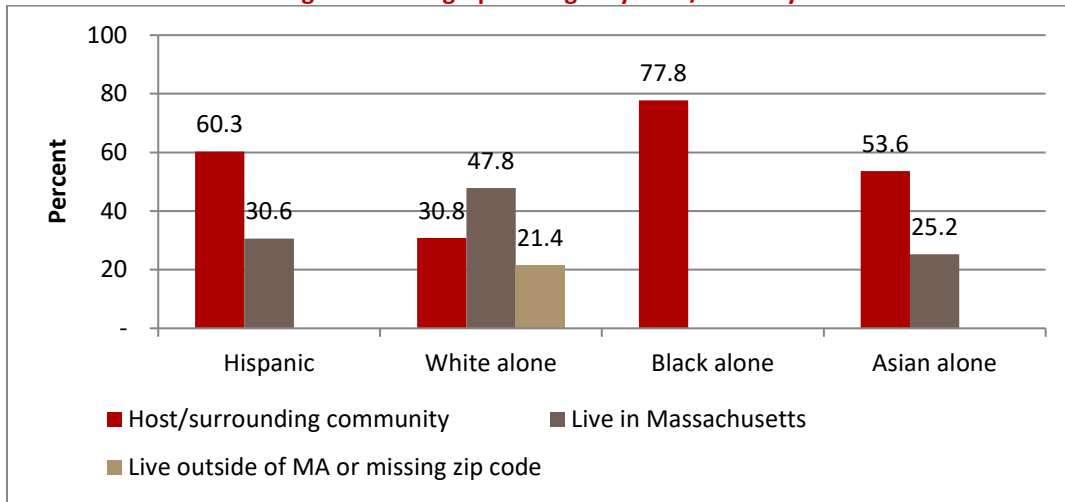
No Service: 8-9:30 a.m. — Resumes with 30 minute frequency at 10 a.m.
 從早上 8 點至 9:30 沒有巴士服務 - 10 點後每 30 分鐘恢復正常運作

Schedule subject to change.
 時間表可能會更改

Photo courtesy of Encore Boston Harbor

Figure 24 shows patron geographic origin by race/ethnicity. With 40.8% of patrons identifying as non-White (44.4% if patrons of two or more races are included), it is clear most non-White patrons come from the host and surrounding communities. Of the 24.9% of Asian patrons, more than half (53.6%) were from the host and surrounding communities. Looking at the 7.6% of Hispanic patrons, 60.3% were from the host and surrounding communities. This number was even higher for the 8.3% of Black patrons, where more than three-quarters of them (77.8%) were from the host and surrounding communities. The opposite pattern holds for the 55.5% of White patrons, with only 30.8% coming from the host and surrounding communities.

Figure 24. Geographic Origin by Race/Ethnicity

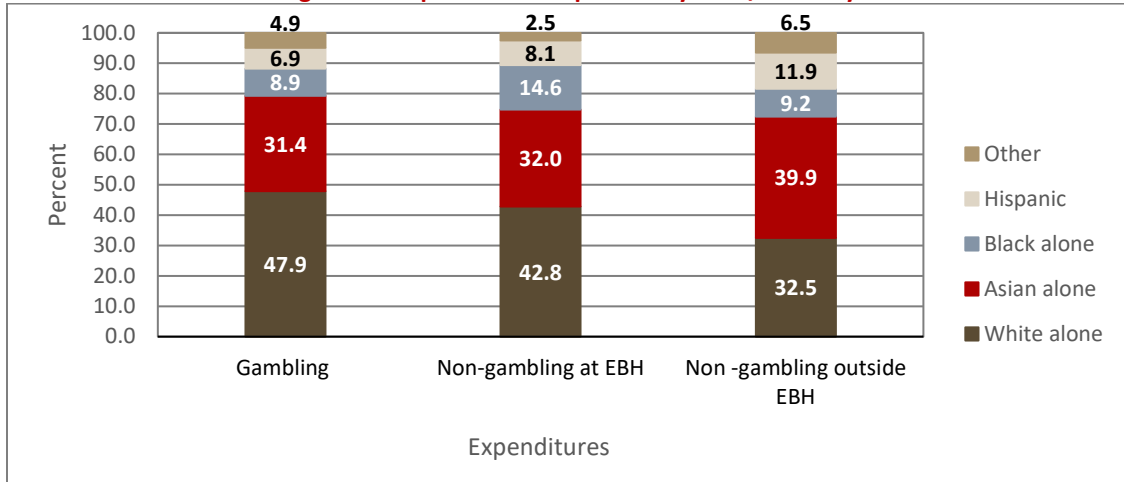


Note: This information is also contained in Table 60 in Appendix G

If we look at gender by race/ethnicity, there were no significant differences; the percentage of females ranged from 36.7% to 40.6% across race/ethnicity. There were higher numbers of Hispanic (52.8%) and Black (52.5%) patrons in the 30-50 age range than there were White (35.8%) patrons. The number of patrons who had some college or a Bachelor’s Degree was similar among all race/ethnicity groups (Hispanic 67.7%, Asian 64.4%, Black 63.5%, and White 61.8%). The percentage of White (21.9%) patrons with incomes less than \$50,000 was lower than Black patrons (32.4%), and highest among Hispanic patrons (36.7%). This information is also contained in Table 60 in Appendix G.

Figure 25 looks at expenditures on gambling and non-gambling at Encore Boston Harbor, and non-gambling outside of Encore Boston Harbor by race/ethnicity. While White patrons represented 55.0% of all patrons, they represented less in expenditures in all three areas (47.9% gambling, 42.8% non-gambling activities on-site, and 32.5% non-gambling activities off-site). Asians, accounting for 24.9% of patrons, accounted for 31.4% of gambling spending, 32.0% of non-gambling spending at the casino, and an even greater percentage of non-gambling spending outside of the casino (39.9%). Black patrons, representing 8.3% of patrons, were equally represented in gambling spending (8.9%) and non-gambling spending outside of the casino (9.2%), with a greater percentage (14.6%) of non-gambling expenditures in Encore Boston Harbor, which was similar to the 7.6% of Hispanic patrons (6.9% gambling, 8.1% non-gambling in Encore Boston Harbor, and 11.9% non-gambling outside of the casino).

Figure 25. Expenditure Proportion by Race/Ethnicity



Note: This information is also contained in Table 77 in Appendix J

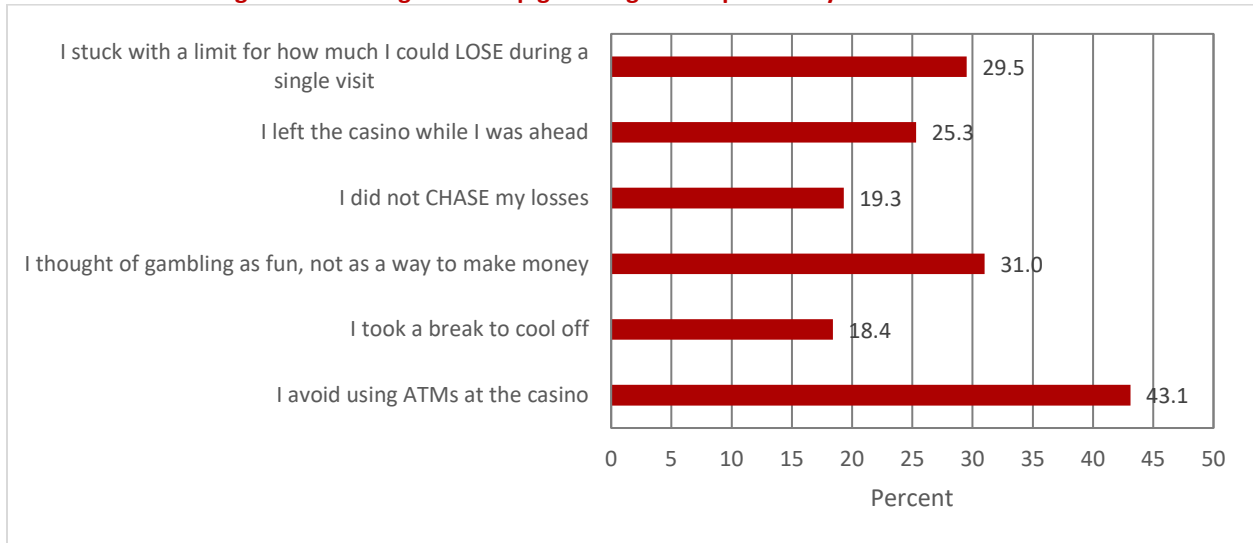
Responsible Gambling and GameSense

The Patron Survey included two questions about strategies used to keep gambling within personal affordable limits, including utilization of GameSense, and the impact of these strategies. The GameSense Information Center is an on-site resource for gamblers to find out more about how the games work, the odds, gambling fallacies, and signs of problem gambling. When requested, GameSense Advisors also assist gamblers with voluntary self-exclusion. GameSense Advisors, funded by the Massachusetts Gaming Commission and trained by the The Massachusetts Council on Gaming and Health, are on-site at Encore Boston Harbor Casino 24-hours a day, 7 days a week. More information about GameSense can be found at <https://gamesensema.com>.

As shown in Figure 26, when asked about strategies used to keep gambling within personally affordable limits¹⁹, the top three responses were to avoid using the ATMs at the casino (43.1%), viewing gambling as fun and not a way to make money (31.0%), and sticking to a monetary limit (29.5%). For patrons from the host and surrounding communities, the top three strategies used were avoiding the ATM (49.2%), viewing gambling as fun and not a way to make money (31.3%), and leaving the casino while ahead (27.7%). Patrons from other municipalities in Massachusetts and outside of Massachusetts also selected ATM avoidance most frequently (38.9% and 38.5% respectively). These findings are not statistically different by geographic origin (see Table 86 in Appendix K).

¹⁹ Patrons were allowed to check any strategy they had used in the past year.

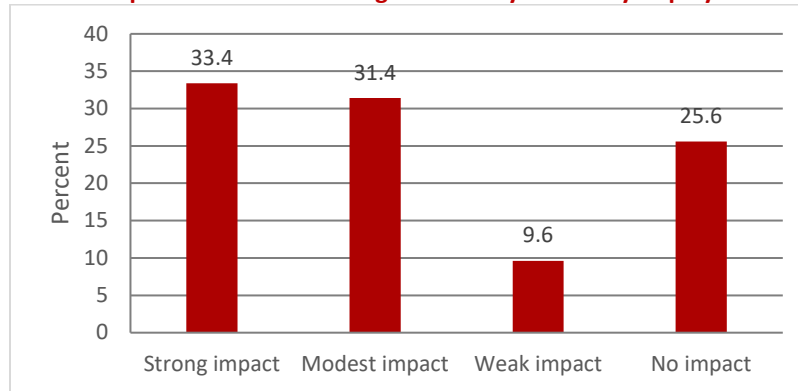
Figure 26. Strategies to keep gambling within personally affordable limits²⁰



Note: Table 89 in Appendix K also contains this information

As shown in Figure 27, when asked about the impact these strategies had on their ability to play within their limits, the majority of patrons indicated a strong or modest impact (64.8%), and only about a quarter (25.6%) indicated no impact. For patrons from the host and surrounding communities, 72.0% reported a strong or modest impact, and only 14.2% indicated no impact. For patrons from outside of Massachusetts, however, only 48.3% indicated a strong or modest impact, while 47.7% indicated no impact (see Table 92 in Appendix K).

Figure 27. What impact have these strategies had on your ability to play within your limits



Note: Table 91 in Appendix K also contains this information

Casino Patron Comparisons

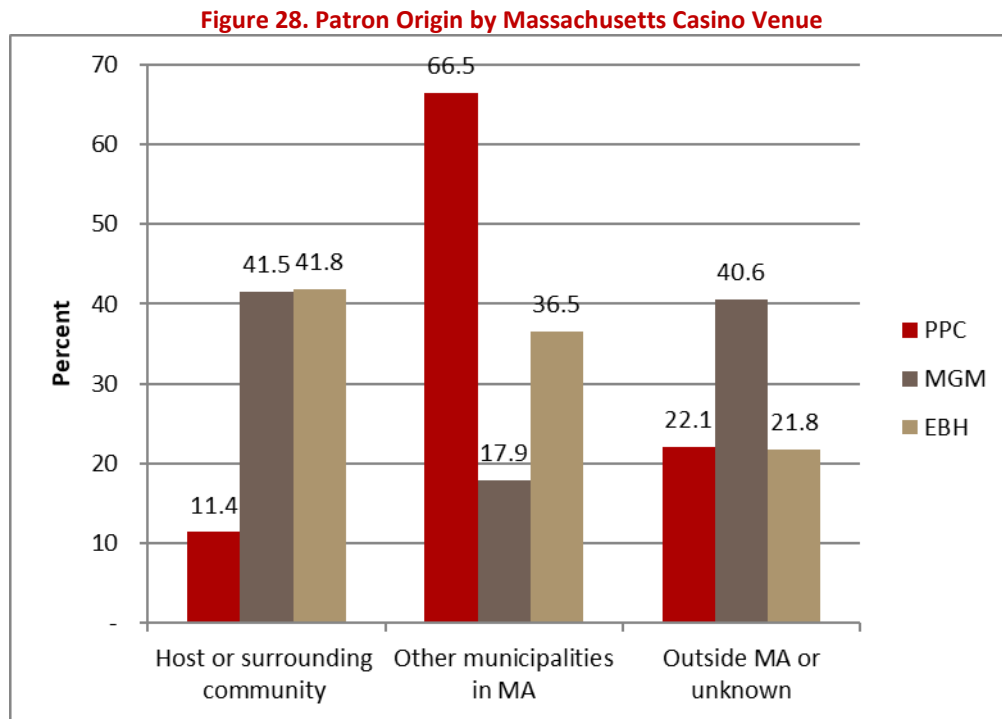
While a more in-depth comparison of Patron Survey data between the three Massachusetts casinos will be included in our upcoming integrative report, *Socioeconomic Impacts of Expanded Gambling in MA: 2024*, we wanted to conclude with some key comparisons of the results of the patron survey at Encore Boston Harbor with patron surveys carried out at Plainridge Park Casino in 2016 (Salame et al., 2017)

²⁰ Data for patrons who indicated they talked to a GameSense advisor and/or accessed a GameSense kiosk was not included in this figure as the number of patrons who selected that option was too small to report (<2%).

and MGM Springfield in 2019 (Salame et al., 2020). The three venues had staggered openings (Plainridge Park Casino on June 24, 2015, MGM Springfield on August 24, 2018, and Encore Boston Harbor on June 23, 2019), are located in different regions of the Commonwealth, and are also quite different in terms of their size, gambling offerings, and non-gambling amenities. The Encore Boston Harbor Patron Survey collected a total of 440 surveys, which represents a response rate of 15.4%. The MGM Springfield Patron Survey yielded 878 surveys with a response rate of 21.2%, while the Plainridge Park Casino Patron Survey produced 479 surveys with a 22.4% response rate.

Geographic Origin

One important difference between the three venues is where they draw patrons from geographically. While only 11.4% of patrons at Plainridge Park Casino came from the host and surrounding communities, MGM Springfield (41.5%) and Encore Boston Harbor (41.8%) had much higher (and nearly identical) percentages (Figure 28). MGM Springfield had the smallest proportion of patrons from elsewhere in Massachusetts (17.9%) compared to Encore Boston Harbor (36.5%), while Plainridge Park Casino saw the greatest proportion (66.5%), keeping in mind that when the patron survey was done at Plainridge Park Casino, there were no other casinos open in the state. There was also a substantial difference in the proportion of patrons at the three venues drawn from outside the Commonwealth, with similar figures for Plainridge Park Casino (22.1%) and Encore Boston Harbor (21.8%), which were nearly half of what was seen at MGM Springfield (40.6%).

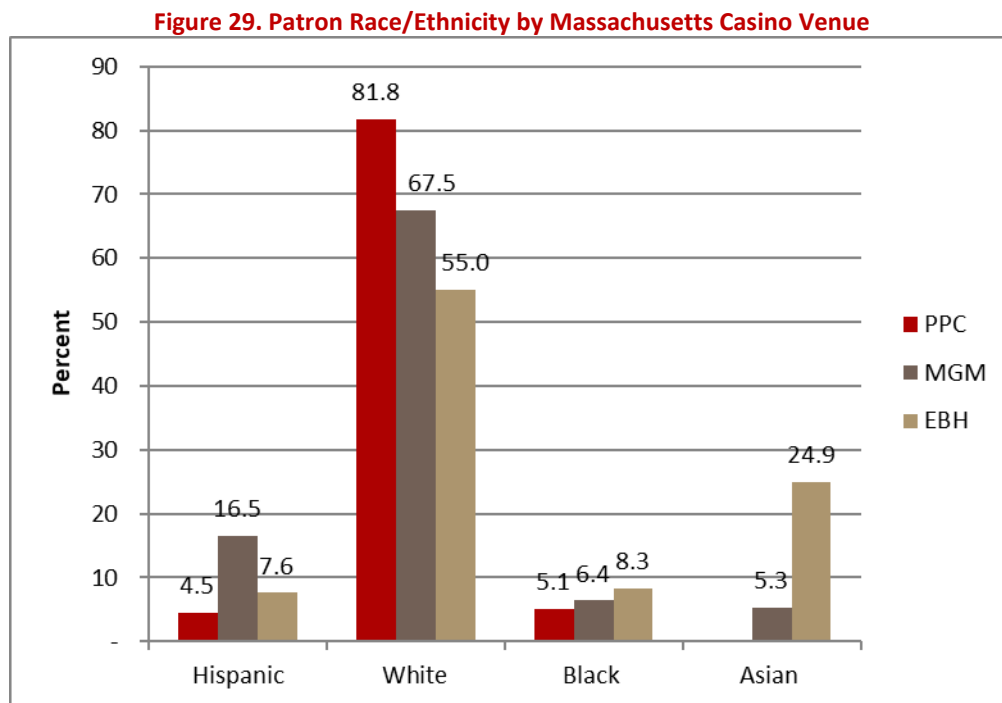


Demographics

Other important differences were seen between patron demographic characteristics at the three venues. Encore Boston Harbor saw fewer female patrons (38.3%) than MGM Springfield (47.4%) and Plainridge Park Casino (48.3%). All three had similar proportions of male patrons (Encore Boston Harbor 55.2%, MGM Springfield 52.5%, and Plainridge Park Casino 51.6%).

For Massachusetts patrons, prior surveys saw very few gender differences between the number of patrons versus their representation in the general adult Massachusetts population. At Encore Boston Harbor, we saw fewer females (39.7%) than in the Massachusetts population (48.0%), and slightly fewer males (55.4% vs. 52.0%). However, the Encore Boston Harbor survey was the first to include an “I prefer not to say” option, so was the only venue with a reportable proportion of patrons who preferred not to indicate their gender (6.5%), and that may have influenced this analysis.

One of the most significant comparisons of the three venues was around the race/ethnicity of patrons, as shown in Figure 29. Encore Boston Harbor patrons were the most racially diverse, with 45% of patrons identifying as non-White compared to 32.5% at MGM Springfield and just 18.2% at Plainridge Park Casino. As previously stated, patrons at Encore Boston Harbor were significantly more likely to be Asian (24.9%) compared to MGM Springfield (5.3%) and Plainridge Park Casino (where the numbers were too low to report).



MGM Springfield had a greater number of Hispanic patrons (16.5%) compared to Encore Boston Harbor (7.6%) and Plainridge Park Casino (4.5%). Hispanic patrons from Massachusetts were overrepresented at MGM Springfield (16.3%) compared to their representation in the Massachusetts population (10.6%), and slightly underrepresented at Encore Boston Harbor (8.6% vs. 11.0%); the numbers were too low to report for Plainridge Park Casino.

Patrons at Encore Boston Harbor were slightly more likely to be Black (8.3%) compared to MGM Springfield (6.4%) and Plainridge Park Casino (5.1%). When looking at Massachusetts casino patrons compared to the Massachusetts population, Black patrons were overrepresented at Encore Boston Harbor (9.4% vs. 6.1%), underrepresented at Plainridge Park Casino (3.9% vs. 6.4%), and fairly well represented at MGM Springfield (6.2% vs. 6.6%).

At Plainridge Park Casino, 81.8% of the patrons identified as White compared with 67.5% of the patrons

at MGM Springfield and only 55.0% of the patrons at Encore Boston Harbor. Compared to the Massachusetts population, White patrons were overrepresented at Plainridge Park Casino (82.5% vs. 75.5%) but more underrepresented at Encore Boston Harbor (53.6% vs. 71.9%) than at MGM Springfield (68.3% vs. 73.4%).

All three casinos had the highest number of patrons in the 35-54 age range (Encore Boston Harbor 38.1%, MGM Springfield 37.6%, and Plainridge Park Casino 34.8%). Encore Boston Harbor and MGM Springfield saw far fewer patrons 55 or above (36.1% and 39.7% respectively) compared to Plainridge Park Casino (57.6%).

The proportion of patrons at Encore Boston Harbor with less than a high school education was higher than our past patron surveys (7.3% for all patrons, 6.3% for Massachusetts patrons), compared to MGM Springfield (3.4% for all patrons, 3.2% for Massachusetts patrons) and Plainridge Park Casino (4.7% for all patrons, 4.5% for Massachusetts patrons). However, it was still less than the Massachusetts general population (8.5% based on 2020 data for Encore Boston Harbor, 9.4% based on 2018 data for MGM Springfield, and 9.7% based on 2015 data for Plainridge Park Casino). Interestingly, the number of patrons who reported having completed their education at the Bachelor's Degree level or greater was significantly higher for Encore Boston Harbor (46.9%) compared to MGM Springfield (40.0%) and Plainridge Park Casino (38.2%).

In terms of total yearly household income, Encore Boston Harbor saw more higher income (\$100,000 or greater) patrons (40.4%) compared to MGM Springfield (34.9%) and Plainridge Park Casino (29.6%). When comparing Massachusetts patrons to the Massachusetts population, these higher income patrons were underrepresented at all three casinos (39.3% vs. 53.6% at Encore Boston Harbor, 30.3% vs. 49.4% at MGM Springfield, and 31.5% vs. 43.8% at Plainridge Park Casino).

Not surprisingly, there were fewer lower income (\$50,000 or less) patrons (24.6%) at Encore Boston Harbor than at MGM Springfield (36.2%) and Plainridge Park Casino (30.1%). The proportion of lower income patrons at Encore Boston Harbor and Plainridge Park Casino was very similar to the Massachusetts general population (24.2% vs. 22.2% and 29.0% vs. 28.2% respectively), unlike with MGM Springfield (38.0% vs. 24.5%).

Frequency of Visitation

When looking at visitation, Encore Boston Harbor had a similar proportion of patrons (57.2%) indicating they were regular visitors (defined as visiting 2-3 times a month or more) when compared to Plainridge Park Casino (58.7%) and MGM Springfield (53.5%). About four out of ten (43.4%) of patrons at Encore Boston Harbor indicated visiting once a week or more, which was higher than at Plainridge Park Casino (39.3%) and MGM Springfield (32.8%).

Encore Boston Harbor patrons visited other Massachusetts casinos less frequently than patrons at the other Massachusetts casinos (only 19.3% vs. 45.0% for MGM Springfield patrons). Note that there were no other Massachusetts casinos opened when we conducted the Plainridge Park Casino survey. For those patrons who did visit casinos in another state in the past year, visits to casinos in Connecticut and Rhode Island were the most frequent among patrons at all three casinos (Encore Boston Harbor: 25.2% Rhode Island and 42.9% Connecticut; MGM Springfield: 12.0% Rhode Island and 66.7% Connecticut; Plainridge Park Casino: 55.9% Rhode Island and 72.3% Connecticut).

With regard to the gambling behavior of patrons at the three venues, the greater availability of non-gambling amenities at Encore Boston Harbor and MGM Springfield likely contributed to the much higher proportion of Encore Boston Harbor (10.8%) and MGM Springfield patrons (16.4%) who indicated that they did not gamble during their visit compared to the proportion of Plainridge Park Casino patrons (3.5%). Other differences relate to frequency of visits by patrons at the three venues.

One interesting comparison relates to frequency of visitation among all patrons compared with those from the host and surrounding communities. While 43.4% of patrons at Encore Boston Harbor reported that they visited once a week or more, that proportion increases to 58.1% for patrons from the host and surrounding communities. A similar difference was seen at MGM Springfield, with 32.8% of all patrons and 43.6% of patrons from the host and surrounding communities. At Plainridge Park Casino the opposite was seen, with 39.3% of all patrons compared with 18.2% of patrons from the host and surrounding communities visiting once a week or more.

Another interesting comparison relates to gambling and non-gambling expenditures by patrons at the three venues. First, it is notable that the proportion of total spending by Massachusetts-based patrons was actually highest at Encore Boston Harbor (80.0%) compared to Plainridge Park Casino (79.1%) and MGM Springfield (61.3%) This is despite the fact that Encore Boston Harbor was touted as a destination casino intended to attract a greater portion of out-of-state and international visitors.

It is also notable that the proportion of recaptured spending by Massachusetts residents at Encore Boston Harbor (54.5%) was similar to that reported by MGM Springfield patrons (52.7%), but much lower than the 69.8% reported by Plainridge Park Casino patrons. On the other hand, the proportion of reallocated spending at Encore Boston Harbor (59.7%) was higher than reported at MGM Springfield (46.1%) and much higher than reported at Plainridge Park Casino (16.3%).

Collectively, these results indicate that there is likely a significant net economic benefit of Encore Boston Harbor with 20% of revenue coming from out-of-state and 54.5% of Massachusetts patrons reporting they have redirected their casino spending from out-of-state to in-state. This is offset somewhat by the significant degree of Massachusetts casino spending that has simply been reallocated from other sectors of the Massachusetts economy (59.7%). Although the absolute magnitude of the economic benefit is greater for Encore Boston Harbor because of its much larger total revenue compared to MGM Springfield and Plainridge Park Casino, proportionally it can be argued that the latter two casinos create greater economic benefits for their size.

Limitations

Patron surveys have several limitations that the reader should keep in mind. These include limitations associated with the sampling strategy developed for the survey, those associated with the analysis of expenditures, those associated with asking hypothetical questions about spending, and those related to the performance of the Demographic Accuracy Test. It should be noted that similar methodologic and analytic procedures were used for Encore Boston Harbor, MGM Springfield, and Plainridge Park Casino patron surveys in order to maintain consistency across venues.²¹

²¹ As previously stated, the methodology for the Encore Boston Harbor patron survey differed slightly from past surveys. First, the first data collection day was not within 6-12 months of opening due to the pandemic. Second, data collection was limited to one season only (there was no second collection period in the summer) based on past survey results showing little to no seasonal differences in patronage. Last, we intercepted every 5th patron instead

First, the development of projected expenditure totals for all Encore Boston Harbor patrons and the percentage of these expenditures that could be attributed to Massachusetts and non-Massachusetts residents are based on a non-probabilistic methodology. There was a diligent effort to implement a sampling design that best reflected the average Encore Boston Harbor patron. Based on multiple visits to the casino to assess visitation, days and times of the week were purposefully selected in an effort to increase representativeness. Nonetheless, randomness is not an attribute of the patron sample and reported results should be viewed in this context and with this limitation.

The patron survey relies on self-reported expenditures to determine statewide versus out-of-state levels of expenditure by patrons of the casino. Self-reported expenditure is challenging data to collect and to use. The weighting methodology employed attempts to correct for some of these implicit biases; however some of these projections are somewhat inferential. However, our intent is not to identify actual expenditures by patrons but rather to use proportional information to estimate expenditures by geographical origin. While research shows that self-reported gambling expenditure is fairly unreliable, the research is also clear that certain ways of assessing expenditure can significantly improve reliability and validity. The two important features of the present assessment that improved the validity of self-report were (a) the use of a very short and recent time frame (expenditure during the visit, rather than past month or past year) and (b) asking about 'spending' (implying a loss). The poor matches found by Heirene et al. (2022) and Australian household expenditure surveys (Worthington et al., 2007) is primarily due to those studies using much longer time frames and using wording known to produce the poorest match (i.e., asking about 'net outcome' or 'wins and losses') (Wood & Williams, 2007). The analytic approach used in this report, as in previous reports, is based on experimental evidence from sensitivity analyses. Although the match obtained with Encore Boston Harbor expenditures was not as robust as that found with Plainridge Park Casino, these investigations found that winsorizing had a very small effect on the results. While there are limitations with any analytic approach developed for use with expenditure data and while these limitations may produce variations in results, they are not likely to influence the proportional data used in this report. Throughout this report, when we reference findings related to information from and/or about the patrons, we are referring to the findings related to the weighted information from and/or about the respondents to this survey. We have taken great care to weight the sample to be as representative as possible of regular gamblers who contribute to casino patronage and revenue.

There are also limitations in asking hypothetical questions (i.e., whether the patron would have spent money on out-of-state gambling if a gambling venue in Massachusetts was unavailable and what they would have spent their money on if they had not come to this venue). Answers to these questions may reflect a mismatch between what people *say they would have done* versus *what they would have actually done*. Due to the limits of hypothetical questions, we avoided asking such questions whenever possible. Nonetheless, the hypothetical questions that we did include were critical in establishing the counterfactuals necessary to understand Encore Boston Harbor's impact on patron spending.

Finally, while the Demographic Accuracy Test developed to assess the accuracy of the surveyors using photographs to estimate demographic characteristics showed the surveyors performed well, the question of how the results of this test translate into accurate assessments of the face-to-face patron contacts during data collection warrants further investigation. As such, correcting for demographic differences in the people who took the survey versus those who did not does not necessarily correct for

of every 6th patron.

possible attitudinal, behavioral, or personality differences, all of which have the potential to skew the results.

Overall, the response rate of 15.4% at Encore Boston Harbor was lower than our prior surveys (i.e., MGM Springfield 21.2% and Plainridge Park Casino 22.4%.) We can only speculate as to the possible reasons. One factor may be that the general layout of the facility made it more challenging to intercept people. For our busiest exit, people had often reached the elevator vestibule by the time we intercepted them, so were disinclined to come back out. At our three other exits, we were not on the gaming floor so people may have been more rushed to leave. There may have been different social norms than we saw at the other casinos, either culturally (with a higher percentage of Asian patrons who, research has shown, have a higher refusal rate) or pandemic-related (social distancing and withdrawal from normal activities may have impacted social skills). Due to the pandemic, some patrons and surveyors were wearing masks. This reduces the ability to observe full facial expressions, which may have impacted participation. Last, during some periods, there were lines of people entering the gaming floor, so those patrons may have been more eager to leave directly when they were done.

License Plate Survey

License plate surveys, or license plate counts, were done concurrently with patron surveys at Encore Boston Harbor, as was done previously at at MGM Springfield and Plainridge Park Casino during those patron surveys. The purpose of the SEIGMA license plate count was twofold. The first was to test how well the results of this much simpler methodology approximates the Patron Survey’s more precise and detailed estimates of patron origin and spending. The second purpose was to provide some indication of the accuracy of prior estimates of out-of-state casino expenditure reported by the Northeastern (formerly New England) Gaming Research Project (NEGRP) conducted by the Center for Policy Analysis at the University of Massachusetts at Dartmouth. NEGRP carried out license plate surveys at New England casinos every two years between 2004 and 2014. These surveys formed the basis for assumptions about the amount of Massachusetts gambling revenue being lost to other states that could potentially be recaptured with newly established Massachusetts casinos.²²

Methodology

A two-person team conducted license plate counts of all guest parking areas during the same time periods and days that the patron survey was being administered. A copy of the License Plate Data Collection Instrument is provided in Appendix L. The license plate survey carried out by the SEIGMA team required some adjustments to correct for methodological problems in the Northeastern Gaming Research Project (NEGRP) approach as well as to synchronize the administration of our license plate survey with the administration of the patron survey. These differences are listed in Table 8. It is important to note that the Encore Boston Harbor license plate survey was done exclusively in the attached raised parking garage structure at the casino, and did not include any other nearby parking areas. Also, no counts were made for buses, as none were parked on site (buses drop off and pick up without staying on site).

Table 8. Differences in the NEGRP and SEIGMA Encore Boston Harbor License Plate Surveys

Methodology	Northeastern Gaming Research Project (NEGRP)	SEIGMA Plainridge Park Casino & MGM Springfield	SEIGMA Encore Boston Harbor
Time Period	Once a year in mid-February on the weekend that includes President’s Day on Monday	Twice a year, 6-12 months after venue opening, with one of these sampling periods being in July/Aug	Once a year (due to lack of seasonal differences), opening date not taken into account due to pandemic-related casino closures
Time Span	5 consecutive days (Thursday to Monday)	4 different days over 2-week span: Monday day; Saturday evening; Monday evening; Saturday day. This avoids the potential double, triple, and quadruple counting of the same vehicles that occurs with the NEGRP methodology and better captures the	Same as Plainridge Park Casino & MGM Springfield

²² This method of data collection merely records the vehicles' registration state for the cars on the premises concurrent to our Patron Survey. As is true for past license plate surveys that have been done by other groups at other venues, such as the Northeastern Gaming Research Project, there is no way of knowing if the passengers of those cars are from the same state where the car is registered, for any number of reasons.

Methodology	Northeastern Gaming Research Project (NEGRP)	SEIGMA Plainridge Park Casino & MGM Springfield	SEIGMA Encore Boston Harbor
		variation in patronage that occurs at different times of year (though little difference was actually found)	
Time	9-11am + 2-4pm + 7-9pm + 12am-2am every day during the time span	11am-5pm or 6pm-12am depending on the day	10:30am-5:30pm or 5pm-12am depending on the day
Sample Size	At least 1,500 plates per day at Foxwoods, Mohegan Sun, and Twin River. At least 200 each day at Newport Grand Slots, Hollywood Casino, Oxford Casino.	All license plates.	Same as Plainridge Park Casino & MGM Springfield
Calculation of the Casino's Annual Percentage of Patrons from Each State	<p><u>Weekday</u></p> <ul style="list-style-type: none"> % of cars from State X on Thu & Fri * 0.667 * 0.88 + % of buses from State X on Thu & Fri * 0.667 * 0.12 <p><u>Weekend</u></p> <ul style="list-style-type: none"> % of cars from State X on Sat & Sun * 0.303 * 0.88 + % of buses from State X on Sat & Sun * 0.303 * 0.12 <p><u>Holiday</u></p> <ul style="list-style-type: none"> % of cars from State X on Mon * 0.030 * 0.88 + % of buses from State X on Mon * 0.030 * 0.12¹ <p>Percentage of Patrons from State X = [(Weekend% * 2) + (Holiday% * 2)] + [Weekday%/2]²</p>	Straight count of number of plates from each state. Full size buses are given a value of 12 cars. Half size buses are given a value of 6 cars. (Note: we did not collect data on a holiday.) (Note: for MGM Springfield there were no buses parked on site.)	Same as Plainridge Park Casino & MGM Springfield (Note: we did not collect data on a holiday.) (Note: for Encore Boston Harbor there were no buses parked on site).
Calculation of the Amount of Casino Revenue deriving from Each State	Annual total revenue for that facility divided by % of patronage from that state.	Same	Same

¹ 0.667, 0.303, and 0.030 are the percentages of weekdays, weekend days, and holidays, respectively, in a typical calendar year. The adjustment factors of 0.838 and 0.12 are the estimated percentages of patrons arriving by car and bus.

² Weekend and holiday percentages are multiplied by 2 due to casino management reports that visitation numbers on weekends and holidays are double weekday numbers.

Weighting

Limited information was available to assist in developing weights for the license plate data. We did not know how the counted license plates totals related to the total number of vehicles using the garage in a

day. We simply knew that license plate counts were done twice on a weekday (Monday) and twice on a weekend day (Saturday). Since there are 5 weekdays and 2 weekend days, we assigned a weight of 5 for each count on weekdays, and a count of 2 for each count on weekends. The weights were multiplied by the counts for each time period.

Results

The unweighted proportion of Massachusetts license plates is presented in Table 9.

Table 9. Unweighted License Plate Counts

Collection Period	Total # of License Plates	Total # MA License Plates	Percent of MA License Plates
Weekday	2,017	1,638	81.2%
Weekend	2,611	2,050	78.5%
Total	4,628	3,688	79.7%

Table 10 reports the geographic origin of all license plates during all of the sampling periods after weighting.

Table 10. Geographic Origin of License Plates at Encore Boston Harbor (weighted)

Dates	MA	CT	RI	NH	NY	NJ	ME	VT	PA	Oth	Tot
Day 1 Sat 4/2 10:30am-5:30pm	1306	42	10	174	16	22	38	18	4	46	1676
Day 2 Mon 4/4 5pm-12am	4945	150	45	460	95	20	125	15	20	250	6125
Day 3 Sat 4/9 5pm-12am	2794	68	36	282	68	50	76	28	8	136	3546
Day 4 Mon 4/11 10:30am-5:30pm	3245	45	60	295	80	15	70	20	10	120	3960
Total #	12290	305	151	1211	259	107	309	81	42	552	15307
%	80.3%	2.0%	1.0%	7.9%	1.7%	0.7%	2.0%	0.5%	0.3%	3.6%	100.0%

Table 11 presents the weighted geographic origin of all of the respondents in the patron survey versus the geographic origin of all license plates. As a reminder, there were 23 individuals in the patron survey whose geographic origin was unknown.

Table 11. Geographic Origin of Patrons as Determined by the Patron versus License Plate Survey

	MA	CT	RI	NH	NY	NJ	ME	VT	PA	Other	TOTAL
Patron Survey	84.9%	0.7%	0.8%	6.2%	1.0%	0.1%	1.3%	0.6%	0.2	4.4%	100.0%
License Plate Survey	80.3%	2.0%	1.0%	7.9%	1.7%	0.7%	2.0%	0.5%	0.3%	3.6%	100.0%

The next step in our analysis was to compare estimates of the percentage of revenue derived from Massachusetts versus non-Massachusetts residents in the patron survey and the license plate survey. The methodology historically used to determine proportional share of revenue from license plate surveys is to assume that this corresponds directly to the proportion of license plates from each state (i.e., the implication is that, on average, people spend the same amount regardless of origin). Using this approach, the license plate survey results suggest that 80.3% of all revenue comes from Massachusetts residents and 19.7% comes from non-Massachusetts residents. As indicated earlier in the report, results from the patron survey show that 80.0% of all gambling and non-gambling expenditure comes from

Massachusetts residents and 20.0% comes from non-Massachusetts residents. Table 12 displays this comparison.

Table 12. Percentage of Revenue Accounted for by Patron versus License Plate Surveys

	MA residents	Non-MA residents
Patron Survey	80.0%	20.0%
License Plate Survey	80.3%	19.7%

Conclusion

The Encore Boston Harbor license plate survey appears to closely approximate the patron survey in estimating the geographic origin of the overall casino patronage as well as provide a very close match to the percentage of revenue accounted for by in-state versus out-of-state residents. In fact, the match between the license plate survey and the patron survey at Encore Boston Harbor is somewhat closer than the match between the same two surveys carried out at Plainridge Park Casino in 2016 (Salame et al., 2017).

While the overall estimate of expenditures is quite similar between the patron survey and the license plate survey, the specific proportions are quite variable as a function of type of expenditure. More specifically, while the patron survey showed that Massachusetts residents accounted for 80.0% of total expenditure, in terms of subcategories, these residents accounted for 79.0% of gambling expenditure, 79.7% of non-gambling expenditure at Encore Boston Harbor, and 82.1% of non-gambling expenditure outside of Encore Boston Harbor (see and Table 4).

Only the methodology utilized by the patron survey allows for the collection of this more detailed spending information along with detailed data on patron demographics. Furthermore, unlike the license plate survey, the patron survey allows for estimates of non-gambling expenditure outside of Encore Boston Harbor. This more detailed information is required for the economic modelling analyses that will be included in the first Encore Boston Harbor operations report. Finally, although the present results provide support for prior NEGRP estimates of out-of-state Massachusetts casino expenditures, it is important to recognize that the sampling procedures used in the present study diverge somewhat from the NEGRP methodology. Thus, the precise accuracy of these previous estimates remains somewhat uncertain.

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Appendix A: Encore Boston Harbor Main Floor

Figure 30. Encore Boston Harbor Main Floor



Note: Survey locations and main Encore Boston Harbor exits indicated with highlighted text

Appendix B: Survey Team Script

Encore Boston Harbor Survey Scripts (use laminated translated scripts if needed with paper survey only)

Solicitor:

Initial Approach:

- Hi, I'm _____, with UMass.
- Are you heading out? [If hotel guest: headed to room for the night=leaving]
- No: **Ok, thank you, perhaps we will see you when you leave.** (Record on refusal tally as not leaving)
 - Yes: (Go to next script)

Describe survey: (Prominently hold empty gift card envelop in your hand)

- I'm part of a research team and would like to give you a \$5 **Dunkin or Starbucks** gift card if you have 5-7 minutes to complete a **confidential** survey right over here. (point/indicate over to the table area)

If employee or other worker: Record on refusal tally as "non-patron"

If they are NOT interested:

- **Ok, thank you very much. Have a great [day/night].** (Record on refusal tally)

If they are interested:

- Have you already completed a survey this visit?
 - Yes: **We won't need you to do that again. Thank you very much.** (Record on refusal tally "already did")
 - No: (Continue to next script)

Walk patron to the private seating area where Table Monitor awaits. Return to Counter to wait for next patron.

Table Monitor:

- We are hoping to understand the impact this facility has on the region and surrounding areas.
- All of your answers will be kept private and we will not ask you for your name or contact information.
- Taking part is up to you.
- You don't have to answer any question you don't want to.
- And you can stop at any time.
- Almost everyone is able to finish the survey in 5-10 minutes.
- You can complete the survey either on an iPad or on paper.
- If you don't want to complete the information on your own we can assist you in whatever way you want, like reading you the questions if you prefer.
- A paper version is available in Spanish, Mandarin, and Vietnamese though we can't read those to you.
- Do you have any questions? (If they say they don't want to participate now record tally on refusal chart)
- You can have a seat here and get started when you are ready.

NOW ok to give them iPad (preferred) or paper version and a survey #.

When done:

- Paper survey: collect survey # and survey (place in box)
- iPad: collect survey # and make sure iPad is ready for next survey
- Thank patron and give them ^{the} gift card
- Record survey # and initials on inventory sheet (save survey number with inventory sheet)

US Zip Code:
Unknown or doesn't want to give, use 99999
International:
just write in name of country

IF they want survey but weren't asked by you to complete one:

Thank you for offering, but unfortunately the surveys are counted and we can only give them out based on our counts of people leaving the facility.

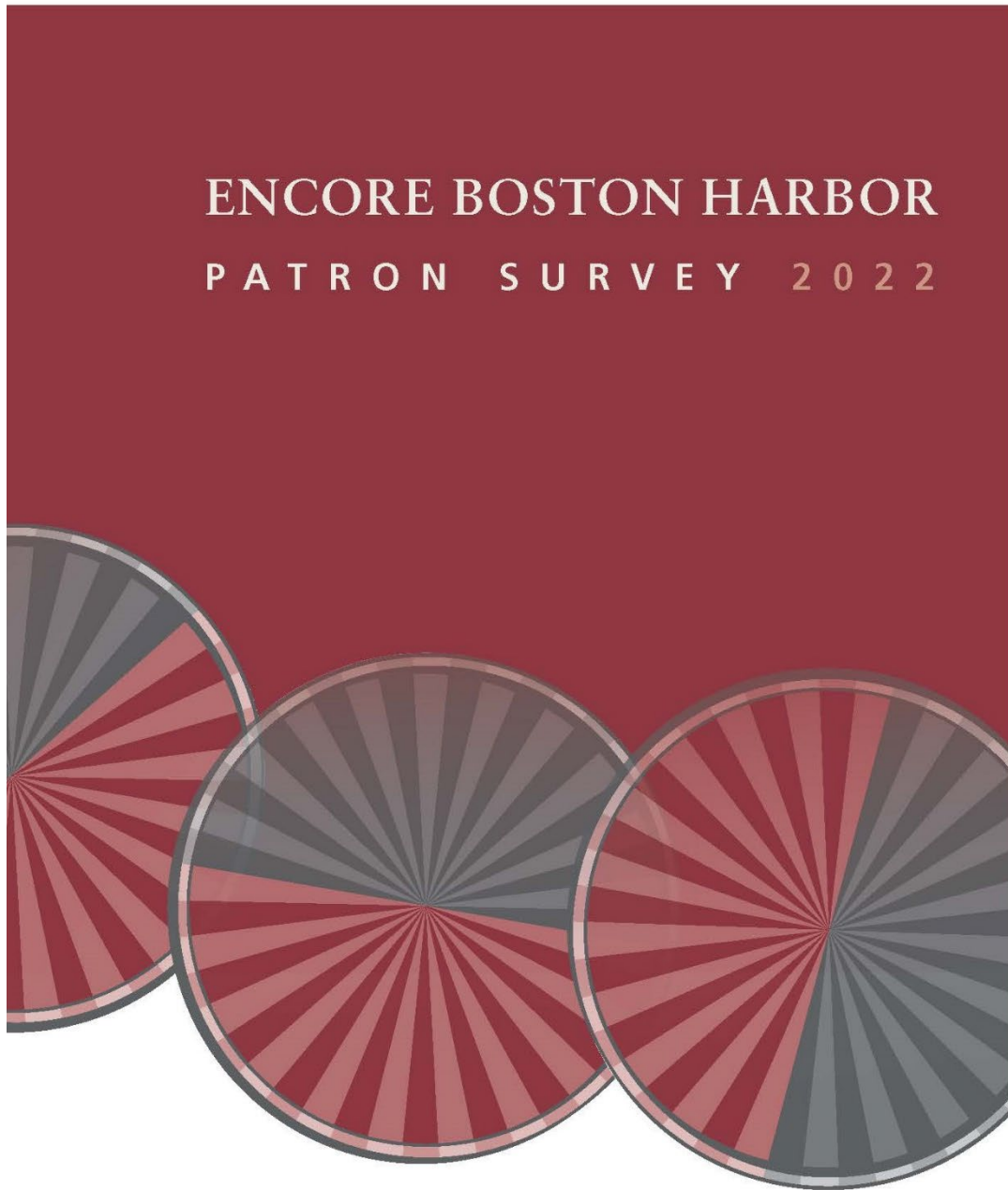
IF they appear upset or uncomfortable while filling out the survey:

You seem uncomfortable. I'm going to ask my supervisor to come over.

Incoherent patron:

I actually won't need you to participate today but thank you anyway.

Appendix C: Patron Survey Questionnaire



SEIGMA  **SOCIAL AND ECONOMIC IMPACTS
OF GAMBLING IN MASSACHUSETTS**

UNIVERSITY OF MASSACHUSETTS SCHOOL OF PUBLIC HEALTH AND HEALTH SCIENCES

Instructions for
completing the booklet

This booklet contains
several types of questions.

*For some questions, you select **one** answer by checking a circle, like this:*

- Yes
- No

*For some questions, you select **multiple** answers by checking boxes, like this:*

- Connecticut
- Rhode Island
- New Jersey
- New York

For some questions, you answer the question by filling in one number per box, like this:

You will sometimes be instructed to skip one or more questions. In this example, if your choice is 'No', you skip to question 22; otherwise you continue to the next question.

- Yes
- No - GO TO QUESTION 22

1. Do you live in the United States of America?

a. If yes: To get started with the survey, please enter your home zip code:

b. If no: Please indicate the country you live in:

We would like to learn about how you got to Encore Boston Harbor today and your experience at the facility.

2. How did you get to Encore Boston Harbor today?

Check all ways of transportation that apply.

- My own vehicle or the vehicle of someone I am here with (***Check type of parking below.***)
 - Parked at the Encore main parking lot (valet or self-park)
 - Parked in an off-site parking lot
 - Found my own or private parking in the neighborhood
 - Other
- My rental car (***Check type of parking below.***)
 - Parked at the Encore main parking lot (valet or self-park)
 - Parked in an off-site parking lot
 - Found my own or private parking in the neighborhood
 - Other
- By taxi, rideshare (like Uber or Lyft), or limousine
- By charter bus, shuttle, private coach, or runner van
- By public transportation (such as the MBTA or commuter rail)
- By water (such as private boat, water taxi, water shuttle)
- By bicycle
- By foot (walked here)
- Part of my trip involved travel by airplane

3. Did you have any problems getting here? *Check all that apply.*

- No problems
- Got lost
- Lots of traffic
- Difficulty finding parking
- Long wait for transportation
- Limited bike lanes
- Limited sidewalks
- Road construction

4. Since Encore Boston Harbor opened in June 2019, how often have you visited this facility? (We know the casino was closed and/or had limited operations during the COVID-19 pandemic, but think about times when the pandemic was not an issue.)

- This is my first visit
- 4 or more times a week
- 2-3 times a week
- Once a week
- 2-3 times a month
- Once a month
- Less than once a month



If you live in Massachusetts, please answer Question 5.



If you do not live in Massachusetts, please skip Question 5 and go to Question 6.

5. What was your *main* reason for visiting Everett (the location of Encore Boston Harbor) today?

- To visit Encore Boston Harbor
- For shopping or recreation in Everett other than the casino
- To visit friends or family in Everett
- For business or work in Everett
- I live here
- Some other reason



If you live in Massachusetts, go to Question 9.

- 6.** What was your *main* reason for visiting Massachusetts today?
- To visit Encore Boston Harbor
 - For shopping or recreation other than the casino
 - To visit friends or family
 - To attend a convention, trade show, or large event
 - For business or work
 - Some other reason
- 7.** On this trip, how many days are you visiting Massachusetts?
- One day or less → GO TO QUESTION 9
 - More than one day
- 8.** Please enter number of days you are visiting Massachusetts on this trip: _____
- 9.** Do you have a loyalty or rewards card with Encore (e.g., Red Card)?
- Yes
 - No
- 10.** Overall, did you have an enjoyable time during your visit today?
- Yes
 - No
- 11.** Do you think you would return to this facility?
- Yes
 - No
 - Maybe

Now, we would like to learn a little more about what activities you enjoyed while you were on-site at Encore Boston Harbor today.

12. What non-gambling activities did you spend money on today **on-site** in Encore Boston Harbor? *Check all that apply.*

- Food or beverage
- Hotel
- Shopping
- Waterfront-related activities
- Entertainment (i.e. Mémoire or other nightclubs, live entertainment or performances)
- Spa or salon
- Other, please specify: _____
- None ➔ GO TO QUESTION 15

13. How much money in total did you—not including your family or friends, just **you**—spend on these non-gambling activities today?

\$

14. How much of this amount was spent on tips to **non-gaming employees** in Encore (i.e. valet parkers, food and beverage servers, hotel housekeepers, etc.)?

\$

15. If you gambled today, which gambling activities or games did you play? *Check all that apply.*

- I did not gamble today ➔ GO TO QUESTION 18
- Slots
- Table Games (poker, blackjack, craps, roulette, baccarat, pai gow, etc.)
- Lottery products (scratch tickets, etc.)

16. How much did you—not including your family or friends, just **you**—spend on these activities today? (For example, if you started with \$100 but are going home with \$60, you spent \$40.) Change the minus sign (-) in front of the number (-) in front of the number to a plus sign (+) if you are going home with more than you started with.

-\$

17. How much of this amount was spent on tips to **gaming employees** in Encore (i.e. dealers, slot machine attendants, etc.)?

\$

18. Other than Encore Boston Harbor, what other casinos have you visited in the past year? **Check all that apply.**

- Did not visit any other casino in the past year
- Other Massachusetts casinos
- Connecticut casinos
- Rhode Island casinos
- New Jersey casinos
- New York casinos
- Pennsylvania casinos
- Maine casinos
- Nevada casinos
- Canadian casinos
- Asian casinos
- European casinos
- Online casinos
- Other, please specify: _____

19. What did you like the most about your visit here today? (**You can pick up to 3 things.**)

- Playing the games
- How quickly and easily I could access the games
- The different food and beverage options
- The friendliness of the casino staff
- The non-gambling entertainment
- The convenient parking
- The variety of game choices
- The quality of the food and beverage
- The friendliness of the food and beverage staff
- The way the facility looks and feels inside
- The facility is non-smoking
- The shops and retail
- How easy it was to get here
- None of the above

Next, we would like to ask some questions about things you did outside of the casino facility during this visit.

20. What else did you do *in Massachusetts outside of Encore Boston Harbor* during this visit today (for example, on your way in or out of the casino, or during your visit to city or state)? **Check all that apply.**

- Attended an event, sporting event, exhibit, guided tour, or historic site (without live performance) such as:
 - Boston Duck Tours
 - USS Constitution Museum (“Old Ironsides”)
 - New England Aquarium
 - TD Garden
 - Museum of Science
 - Some other Boston-area location(s)
- Went to a live entertainment show, concert, or performance at some other venue
- Bought food or beverage in a restaurant, café, or other food outlet
- Visited a local bar, pub, or nightclub
- Went retail shopping at a downtown shop, store, or mall
- Stayed at a hotel outside of the casino
- Took public transportation around the city such as a public bus, the “T” subway, commuter rail, or a water shuttle
- Bought fuel or other goods at a gas station
- Spent money on other entertainment such as an amusement park, golf course, movie theater, etc.
- Nothing ➔ GO TO QUESTION 22

21. How much in total do you estimate you—not including your family or friends, just *you*—spent on these activities in Massachusetts outside of Encore Boston Harbor during your visit to this area today?

\$

22. If there were no casinos in Massachusetts, would you have chosen to spend the money you spent here today on gambling in another state or country?

- Yes
- No ➔ GO TO QUESTION 24

23. Where? *Check all that apply.*

- Connecticut
- Rhode Island
- New Jersey
- New York
- Pennsylvania
- Maine
- Nevada
- Canada
- Asia
- Europe
- Online
- Other, please specify: _____

24. As a result of the casinos in Massachusetts, are you spending less in any of the following areas? *Check all that apply.*

- Other forms of gambling (lottery products, sports betting, bingo, horse racing, etc.)
- Live entertainment (concerts, theater, live sports, etc.)
- Recreation and non-live entertainment (parks, clubs, museums, etc.)
- Restaurants and bars
- Hotels and travel
- Retail items (clothing, furniture, electronics, recreational goods, etc.)
- Housing and household items (groceries, rent, mortgage, utilities, personal and household supplies, etc.)
- Health care (doctors' visits, medication, health insurance, etc.)
- Transportation (cars, car parts, auto insurance, fuel, public transportation, etc.)
- Other services (education, other professional services, etc.)
- Putting money in savings
- Nothing, my spending did not change

25. As a result of the casinos in Massachusetts, has your spending on the Massachusetts Lottery, including scratch tickets and keno:

- Increased
- Decreased
- Stayed the same
- I don't play the Massachusetts Lottery

26. Has the COVID-19 pandemic increased the amount of online gambling you have done?

- No
- Yes

27. What impact, if any, has the COVID-19 pandemic had on your overall gambling behavior?

- It has had no impact on my gambling
- Overall, I have gambled less
- Overall, I have gambled more

You are almost done. We would like some demographic information about you. Of course, like the rest of the survey, your responses to these questions will be confidential.

28. Which best describes your current gender (or gender identity)?

- Female
- Male
- I identify my gender as (please specify): _____
- Prefer not to say

29. In what year were you born?

30. At present, are you...?

- Married
- Living with your partner
- Separated, but still legally married
- Divorced
- Widowed
- Never been married

31. What is your highest degree or level of school you have completed?

- Never attended grade or primary school
- Grades 1-8 or primary level
- Grades 9-11 or some secondary education
- Completed high school, GED, or secondary school
- Trade, technical, or vocational training
- Some college or post-secondary schooling but no degree
- Associate's degree or post-secondary certificate, diploma, or degree below a bachelor's degree
- Bachelor's degree
- Master's, Doctorate, or Professional degree beyond a bachelor's degree

32. Are you currently...? (Please pick primary activity.)

- Employed for wages
- Self-employed
- A homemaker
- A student
- Retired
- Out of work for more than 1 year
- Out of work for less than 1 year
- Unable to work

33. Have you ever served on active duty in the U.S. Armed Forces, military reserves, or National Guard? (Active duty does not include training for the Reserves or National Guard, but does include activation, for example, the Persian Gulf War.)

- Yes, on active duty now
- Yes, on active duty in the past, but not currently
- No, never served on active duty in the military

34. Is your approximate annual household income in U.S. dollars from all sources...

- Less than \$15,000
- \$15,000-29,999
- \$30,000-49,999
- \$50,000-69,999
- \$70,000-99,999
- \$100,000-124,999
- \$125,000-149,999
- \$150,000 or more

35. Which one or more of the following would you say is your race and/or ethnicity?

Check all that apply.

- White or Caucasian
- Hispanic or Latino
- Black or African-American—if yes, please check all that apply
 - Caribbean/West Indies
 - Puerto Rican
 - Other Black or African American
- Asian—if yes, please check all that apply
 - Asian Indian
 - Chinese
 - Vietnamese
 - Other Asian
- Native Hawaiian or other Pacific Islander
- Native American or Alaskan Native
- Some other race, please specify: _____

You have reached the final section. In closing, we would like to ask you about your experiences playing the games and *GameSense*.

36. Some people use strategies to keep their gambling within personally affordable limits. Have you used any of these strategies in the past year?

(Check any strategy you have used in the past year.)

- I avoided using ATMs at the casino.
- I took breaks to cool off.
- I thought of gambling as fun, not as a way to make money.
- I did not "chase" my losses.
- I left the casino while I was ahead.
- I stuck with a limit for how much I could **lose** during a single casino visit.
- I talked to a GameSense advisor at Encore Boston Harbor and/or accessed a GameSense kiosk.
- Other, please specify: _____

37. What impact have these strategies had on your ability to play within your limits?

- Strong impact
- Modest impact
- Weak impact
- No impact

Thank you!

You have reached the end of the survey.

Be sure to get your thank you gift from our interviewer!

Thank you on behalf of the University of Massachusetts Amherst for the time and effort you've spent answering these questions. If you have any questions about this survey, please refer to the information on our handout.

Appendix D: Item Response Rate and Refusal Rate

Table 13. Item Response Rate (%) by Data Collection Mode

Question	IPAD	Print
Do you live in the US?	100.0	100.0
How did you get to Encore today?	98.8	96.7
Did you have any problems getting here?	97.6	96.7
Since Encore opened in June 2019, how often have you visited this facility?	93.9	100.0
What was the main reason for visiting Everett today?	98.5	100.0
What was the main reason for visiting Massachusetts today?	99.5	100.0
On this trip, How many days are you visiting Massachusetts?	99.3	93.3
Please enter the number of days you are visiting Massachusetts on this trip	98.0	93.3
Do you have a loyalty or rewards card with Encore (e.g. Red Card)?	98.5	100.0
Overall, did you have an enjoyable time during your visit today?	97.8	96.7
Do you think you would return to this facility?	98.3	96.7
Non-gambling activities you spent money on	98.5	93.3
Amount Spent on Non Gambling Activities today	93.2	93.3
Amount Spent on tips to Non Gambling employees in Encore	85.9	90.0
If you gambled today, which gambling activities or games did you play: Did not gamble today	98.3	96.7
How much did you spend on these (gambling) activities?	89.8	93.3
Amount Spent on tips to Non Gambling employees in Encore	84.4	76.7
Where were the casinos you visited in the past year?	95.6	90.0
What do you like the most about your visit here today? You can pick up to 3 things?	96.8	93.3
What else did you do in MA outside of Encore during your visit today?	83.2	80.0
How much in total do you estimate you spent on activities in MA outside of Encore during your visit to this area today?	79.0	56.7
If there wasn't a casino in Massachusetts, would you have chosen to spend the money you spent here on gambling in another state or country?	87.8	86.7
Where would you have spent money at a casino in?:	86.8	83.3
Due to casinos in MA, are you spending less in?: other forms of gambling	93.4	83.3
As a result of casinos in MA, has your spending on MA lottery, including scratch tickets and Keno?	95.4	90.0
Has the COVID-19 pandemic increased the amount of online gambling you have done?	95.1	93.3
What impact, if any, has the COVID-19 pandemic had on your overall gambling behavior?	92.9	90.0
Gender identity	96.1	93.3
What year were you born?	83.9	83.3
At present are you married?	94.2	90.0
What is your highest degree or level of school you have completed?	94.6	93.3
Are you currently...(employment)	94.4	93.3
Have you ever served in active duty in the US Armed Forces, military reserves, or National Guard?	94.2	93.3
What is your approximate annual household income from all sources	93.4	93.3
What is your race	92.9	100.0
Strategies to keep gambling within personally affordable limits	88.8	86.7
What impact have these strategies had on your ability to play within your limits?	87.3	83.3

Table 14. Refusal Rate by Day of Week, and Time of Day

	# refused		# accepted	total	refusal rate	p-value ¹⁶
Day of week	Saturday	1587	288	1875	0.85	0.95108
	Monday	832	152	984	0.85	
Time of day	10:30am -5:30pm	916	180	1096	0.84	0.22732
	5pm - midnight	1503	260	1763	0.85	

¹⁶ Chi-square test for independence.

Table 15. Patron-reported Gambling Expenditures Compared to Encore Boston Harbor-reported Gambling Revenue (weighted) (n=351)

Winsorization Method	Standard Deviations	Mean	SE Mean	Lower 95% Limit Mean	Upper 95% Limit Mean	Total Patron-reported Gambling Expenditures	SE Total	Lower 95% Limit Total	Upper 95% Limit Total	Patron-reported Gambling Expenditures /Encore Boston Harbor-Estimated Gambling Revenue ¹
Did not winsorize wins or losses	0	-504	73	-360	-648	-\$1,233,625,625	\$184,453,657	-\$871,103,742	-\$1,596,147,507	-2.07
Winsorize wins and losses	2	-219	37	-293	-146	-\$532,667,547	\$94,698,960	-\$718,787,171	-\$346,547,922	0.90
	3	-223	41	-304	-142	-\$541,843,546	\$103,695,163	-\$745,644,144	-\$338,042,948	0.91
	4	-223	45	-313	-134	-\$542,533,496	\$113,236,507	-\$765,086,480	-\$319,980,511	0.91
Winsorize losses	2	-178	55	-285	-70	-\$431,728,871	\$135,014,308	-\$697,083,552	-\$166,374,191	0.73
	3	-192	56	-302	-81	-\$465,003,532	\$138,735,639	-\$737,672,048	-\$192,335,016	0.78
	4	-200	58	-314	-87	-\$486,694,983	\$142,437,875	-\$766,639,807	-\$206,750,159	0.82
Winsorize losses (wins set to \$0)	4	-309	36	-380	-237	-\$749,711,404	\$94,739,721	-\$935,911,139	-\$563,511,669	1.26

¹Encore Boston Harbor-estimated gambling revenue²³: \$594,992,000

²³ Encore Boston Harbor gambling revenue for the 1st quarter of 2022 was \$148,748,000 (see [here](#)), so an estimate of their annual gambling revenue would be 4 times that would be \$594,992,000.

Appendix E: Demographic Accuracy Test

Name: _____







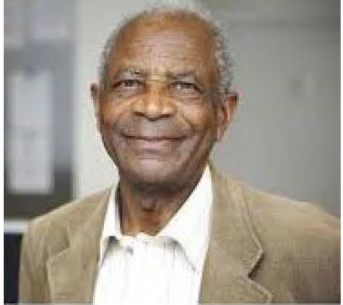



Date: _____


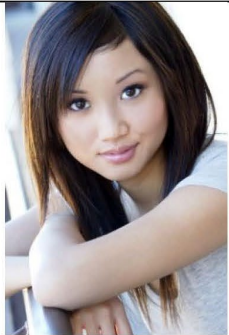
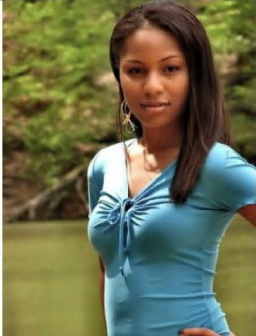

- Please refer to the pictures shown on the screen.
- For each picture estimate the gender, race, and age of each person shown.
- Things will move fast, so just do your best based on your first glance!
- Please do this task yourself without any assistance.
- Record your answers below using the following key:


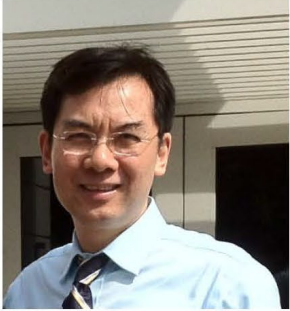








		<30	30-50	50+
Male	White	A	B	C
	Asian	D	E	F
	Black	G	H	I
Female	White	J	K	L
	Asian	M	N	O
	Black	P	Q	R






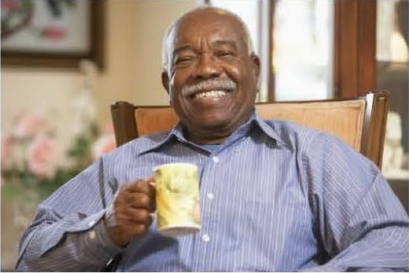
Your Answers:

Question #	Answer	Question #	Answer	Question #	Answer	Question #	Answer
1		10		19		28	
2		11		20		29	
3		12		21		30	
4		13		22		31	
5		14		23		32	
6		15		24		33	
7		16		25		34	
8		17		26		35	
9		18		27		36	

#	Photo		#	Photo
1			2	
3			4	
5			6	
7			8	
9			10	

#	Photo	#	Photo
11		12	
13		14	
15		16	
17		18	
19		20	

#	Photo	#	Photo
21		22	
23		24	
25		26	
27		28	
29		30	

#	Photo	#	Photo
31		32	
33		34	
35		36	

Appendix F: Weighting Calculations

Briefly, the patron survey plan called for data to be collected on patrons in one calendar period: the winter/spring period following the opening of the Encore Boston Harbor on June 3, 2019. Originally, the Encore Boston Harbor patron survey was to be conducted in Winter/Spring of 2020, but due to the pandemic, it was delayed for 2 years. The Encore Boston Harbor patron survey was conducted in April 2022. The hours of a week were divided into ‘weekday hours’ (including the 114 hours from 12AM Monday morning to 6 PM Friday evening) and ‘weekend hours’ (including the 54 hours from 6PM Friday to 12AM Monday). During each of these periods, patron survey data were collected for 14 hours. The 14 hours were divided into two seven-hour intervals: 10:30AM-5:30PM, and 5-12PM. The key features of the survey design are summarized in Table 16.

Table 16. Encore Boston Harbor Patron Survey Design

Calendar Periods	Weekday/Weekend Hours	Data Collection Intervals
Winter/Spring (Dec – May)	Weekday (Monday – 6pm Friday)	Monday: 10:30AM-5:30PM
		Monday: 5-12PM
	Weekend (6pm Friday – Sunday)	Saturday: 10:30AM-5:30PM
		Saturday: 5-12PM

The weekday data collection intervals were from 5PM-Midnight on Monday, 4/4/2022, and from 10:30AM-5:30PM on Monday 4/11/2022. The weekend data collection intervals were from 10:30AM-5:30PM on Saturday, 4/2/2022, and from 5PM-Midnight on Saturday, 4/9/2022. In each seven-hour data collection interval, an effort was made to ask every 5th exiting person from the main/drugstore, main/watch, East/GameSense and North/Dunkin exits to complete a patron survey. When a person declined to participate in the survey, survey staff recorded (using their judgement) the persons age (<30, 30-50, 50+), race (White, Black, Asian, other), and gender (female, male).

Developing Weights for the Encore Boston Harbor Patron Survey Respondents

Determining the Sampling Fraction of Exiting Patrons

We define two strata based on 52-week calendar period, and weekday/weekend hours. The calendar periods correspond to each month. We define the weekday hours as beginning at 12:01 AM Monday and ending at 6 PM on Friday. The weekend hours are defined as beginning at 6:01 PM Friday and ending at 12:00AM Monday. The strata are indexed by $t = 1, \dots, T = 2$, where

- $t = 1$ corresponds to the weekday hours;
- $t = 2$ corresponds to the weekend hours.

In each week, there are 114 hours in the weekday, and 54 hours in the weekend.

We use the data collection interval (in hours) during an average week in each stratum, E_t , along with the total number of hours in the stratum, E_t^* , to determine the sampling fraction, $f_t = \frac{E_t}{E_t^*}$ for each stratum.

These results are given in Table 17.

Based on the interval surveyed at Encore Boston Harbor, 12.3% of the total hours in the stratum were survey hours during the weekdays, while 25.9% of the total hours in the stratum were survey hours during the weekends. If the same number of patrons exited Encore Boston Harbor each hour, these percentages would be the percentages of exiting patrons in the survey.

We do not believe the number of exiting patrons is equal in each hour during the week, or in each hour during the weekend. In fact, the survey data collection intervals were selected to have a relatively large number exiting patrons compared to other time periods during the week. The decision to collect survey data during such time intervals was made to reduce survey costs.

Since we believe that the proportion of exiting patrons in the survey interval was larger than the proportion of survey hours among the weekday hours, or among the weekend hours, we need an estimate of these proportions. If the number of exiting patrons per hour were known at the Encore Boston Harbor, we could use such data to make such estimates. Unfortunately, a count of the number of exiting patrons at Encore Boston Harbor each hour was not available. However, such data were available at the Plainridge Park Casino.

With this background, we examined the Plainridge Park Casino data. The ultimate goal is to estimate the proportion of exiting patrons at the Plainridge Park Casino during a data collection interval where data collection intervals are defined to be the intervals used at the Encore Boston Harbor. The data available from the Plainridge Park Casino are the 2016 TRAFSYS patron entry data. Using these data, we calculate the proportion of exiting patrons at Plainridge Park Casino that we would expect if the Encore Boston Harbor patron sampling protocol was used in Plainridge Park Casino. This calculation assumes that the number of entering patrons at Plainridge Park Casino is similar to the number of exiting patrons in 2016.

The results are given by percentages in the last column of Table 17.

Table 17. Encore Boston Harbor Sampling Fraction based on Sample Time, and Based on 2016 Plainridge Park Casino TRAFSYS data

		Encore Boston Harbor Patron Times			Plainridge Park Casino	MGM Springfield
t	Weekday, Weekend	Interval Surveyed (Hours) A	Hours in Interval B	Sampling Fraction (Percent of Hours) C=100*(A/B)	Sampling Fraction based on TRAFSYS Data	Sampling Fraction Based on Sample Time
1	Weekday	14	114	12.3%	14.1%	10.5%
2	Weekend	14	54	25.9%	37.3%	22.2%

The percentages indicate that the sampling interval used in the Encore Boston Harbor patron survey would likely capture a larger proportion of exiting patrons than indicated by the simple percent of hours of data collection. This observation has face validity since patron survey data collection intervals were selected to have a relatively large number exiting patrons compared to other times in the week. If the patterns in timing of exiting patrons are similar over a 24-hour period between the Plainridge Park and Encore Boston Harbor casinos, we would expect the percent of patrons exiting during the sampling period at Encore Boston Harbor to more closely match the percent reported from Plainridge Park Casino (Table 17) than from the sampling fraction of data collection hours. This conclusion assumes that the relative number of exiting patrons over hours of a week at the Plainridge Park Casino in 2016 is proportional to the relative number of exiting patrons

at the Encore Boston Harbor in 2022.

Weight assigned to an Exiting Patron Asked to Complete a Patron Survey

We use the sampling fractions of exiting patrons in Table 17 based on the Plainridge Park Casino TRAFSYS data to define a weight for the s^{th} sampled patron in stratum t given by $w_{st1} = \frac{5}{f_t}$. The multiplier of 5 is used since every 5th exiting patron was requested to complete a patron survey. These weights are given in Table 18 for each stratum.

Table 18. Weight for an Average Week for Sampled Patrons at the Encore Boston Harbor Casino in 2022 by Weekday/Weekend

t	Interval (Weekday, Weekend)	Estimated Sampling Fraction based on TRAFSYS Data (f_t)	Sampling Weight (per week) [$w_{st1}=5/[f_t]$]	Sampling Weight (annual) [$w_{st2}=52(w_{st1})$]
1	Weekday	14.1%	35.39	1840.39
2	Weekday	37.3%	13.40	696.66

The sampling weight in Table 18 is the average number of exiting patrons represented by each exiting patron asked to complete a patron survey during a survey week. Since there are 52 weeks in each calendar period, and the data collection interval is for a single week, the annual number of exiting patrons represented by each exiting patron in the data collection interval is given by $w_{st2} = 52(w_{st1})$.

Estimating the number of Exiting Patrons Asked to Complete a Patron Survey during the Data Collection Intervals

The weight, w_{st2} , in the last column of Table 18 represents the number of exiting patrons represented by a single exiting patron asked to complete a patron survey in the survey interval, expressed over 1 year. By adding such weights over the number of exiting patrons asked to complete a survey we can estimate the annual number of exiting patrons from the Encore Boston Harbor casino.

We use the data collected during the Encore Boston Harbor patron survey to estimate the number of exiting patrons asked to complete a survey. While it seems that determining this number should be straightforward, some practical issues related to the survey conduct complicate estimating the number of exiting patrons. The Encore Boston Harbor patron survey workers attempted to ask every 5th person exiting the casino to complete a patron survey. The disposition of the persons asked to complete a survey upon exiting the Encore Boston Harbor is given in Table 19. Notice that most of those asked to complete a survey either did so (n=440), or refused to complete the survey (n=2,419). However, some persons asked to complete a survey (n=421) were not exiting the casino (but just stepping outside). Others (n=19) indicated that they were not casino patrons, and others (n=50) indicated that they had been previously asked to complete the survey. Finally, due to high exiting volume, survey staff missed asking some persons who were exiting the casino (n=131). Although a separate count of the number of persons exiting the casino was made (see the last column in Table 19), since some of these persons may not have been casino patrons, and/or some of them may have exited more than once, this number does not directly correspond to the number of exiting casino patrons.

Table 19. Disposition of Persons Asked to Complete a Patron Survey at Encore Boston Harbor and Count of Exiting Persons

Date	Weekday/Weekend Hours	Data Collection Intervals	'Ask' Completed Survey	'Ask' Refused Survey	'Ask' Not Exiting	'Ask' Not a Patron	'Ask' Previously Asked	'Ask' Missed	Count of Exiting Patrons
4/11/2022	Weekday (Monday – 6PM Friday)	Monday: 10:30AM – 5:30PM	63	370	58	6	7	15	2,604
4/4/2022		Monday: 5-12PM	89	462	77	3	8	57	3,468
4/2/2022	Weekend (6PM Friday – Sunday)	Saturday: 10:30AM – 5:30PM	117	546	65	8	10	23	3,845
4/9/2022		Saturday: 5-12PM	171	1,041	221	2	25	36	7,472
Totals			440	2,419	421	19	50	131	17,389

We use the data in Table 19 to estimate the number of patrons exiting the casino during the survey periods. As a first step, we combine data over weekdays and weekends to form totals for each of the strata illustrated in Table 17. These results are given in Table 20.

We include several other columns in Table 20 (column F, G, I and J) with the collapsed data based on Table 19. In Column F, we total the number of persons asked to complete a patron survey. Not all of these persons were first time exiting casino patrons, which corresponds to the targeted survey population. We assume that persons completing the survey (column A) and persons refusing the survey (column B) are first time exiting patrons. With this assumption, between 85.0% and 86.1% of the persons asked to complete a survey are exiting patrons (column G). Applying these percentages to persons that were reported missing being asked (column H), we estimate the number of missed exiting patron asks (column I). Adding the estimated number of missed asks to the complete and refused asks results in an estimate of the total 'asks' of exiting patrons (column J). Using these values, the total number of exiting patron survey 'asks' is 2,971.

Table 20. Exiting Patron Survey 'Ask' Dispositions and Estimated total 'Asks' of Exiting Patrons

Weekday/Weekend Hours	'Ask' Completed Survey	'Ask' Refused Survey	'Ask' Not Exiting	'Ask' Not a Patron	'Ask' Previously Asked	Total 'Asks'	Percent of 'Asks' Exiting Patrons	'Ask' Missed	Estimated Exiting Patrons from Missed 'Asks'	Estimated Total 'Asks' of Exiting Patrons
	A	B	C	D	E	F=A+B+C+D+E	G=(A+B)/F	H	I=H(G)	J=A+B+I
Weekday	152	832	135	9	15	1,143	86.1%	72	62	1,046
Weekend	288	1587	286	10	35	2,206	85.0%	59	50	1,925
									Total	2,971

The number of 'asks' of exiting patrons can be estimated in a different manner. We illustrate this in Table 21 using counts of persons exiting during the survey interval. The count of exiting persons (Column A) corresponds to summing rows from the last column in Table 19. Using the estimate of the percent of exiting persons that are first time exiting patrons from Column G in Table 20, we estimate the count of exiting patrons (Column C in Table 21). Dividing this number by 5 results in an estimate of the number of exiting patron survey 'asks' (corresponding to 2969).

Table 21. Directly Estimating Exiting Patron Asks based on Exiting Person Counts

Weekday/ Weekend Hours	Count of Exiting Persons	Percent of 'Asks' Exiting Patrons	Estimated count of Exiting Patrons	Estimated Number of Exiting Patron Survey 'Asks'
	A	B	C=A(B)	D+C/5
Weekday	6,072	86.1%	5,227	1,046
Weekend	11,317	85.0%	9,619	1,924
			Total	2,969

The estimate of the number of exiting patron survey 'asks' from Table 21 is very close to the estimate made in Table 20 (corresponding to 2,971 'asks'). We use the estimate of the 'asks' corresponding to 2,971 from Table 20 in determining weights. We note that using the estimate of the number of 'asks' from Table 20, and the weight associated with an 'ask' in Table 18, we can estimate the total number of exiting patrons in a 1-year period. This estimate corresponds to 3,266,128 as illustrated in Table 22.

Table 22. Estimate of Annual Patron Exits from Encore Boston Harbor Casino 2022

Weekday/ Weekend Hours	Estimated Total 'Asks' of Exiting Patrons	Sampling Weight (annual) w_{t2}	Estimated Total Exiting ENCORE Patrons 2022
	A	B	C=A(B)
Weekday	1,046	1840.39	1,925,051
Weekend	1,925	696.66	1,341,077
Total	2,971	Total	3,266,128

The weights in Table 22 when summed over sampled patrons total to an estimate of the number of exiting patrons in a year.

We summarize the number of patron survey 'asks' along with the status of their response, and the total number of exiting patrons represented by the 'asks' in Table 23.

Table 23. Number of 'Asks' and Total Weight for Encore Boston Harbor Patron Survey by Weekday/Weekend

	Status: STATUS						All	
	Complete		Missing		Refusal			
	W2		W2		W2		W2	
	N	Sum	N	Sum	N	Sum	N	Sum
t	152	279,740	62	114,104	832	1,531,207	1,046	1,925,051
1=weekday								
2=weekend	288	200,639	50	34,833	1,587	1,105,604	1,925	1,341,077
All	440	480,379	112	148,938	2,419	2,636,811	2,971	3,266,128

Accounting for Missed 'Asks' to complete a Patron Survey

We estimate in Table 23 that there were a total of 112 exiting patrons that were not asked to complete a patron survey. These persons were not asked to complete a patron survey (even though they should have been asked) due to a combination of high exit volume and insufficient survey staff during certain periods in the data collection. There was no information collected on these patrons. In contrast, although 2,419 exiting patrons refused to complete the patron survey, demographic information was available on these patrons.

Since no information was available on the ‘missing’ exiting patrons, we allocate the weight assigned these patrons proportionally to sampled patrons who completed or refused the survey. We introduce some notation in order to illustrate this process. In the weekday/weekend period t , let n_{Ct} represent the number of completed surveys and w_{Ct} represent the total weight associated with these subjects, n_{Mt} represent the number of missing surveys and w_{Mt} represent the total weight associated with these subjects, and n_{Rt} represent the number of refusal surveys and w_{Rt} represent the total weight associated with these subjects. Then, we allocate $\frac{n_{Ct}}{n_{Ct} + n_{Rt}}(w_{Mt})$ of the missing survey weight to the weight for the complete surveys, and $\frac{n_{Rt}}{n_{Ct} + n_{Rt}}(w_{Mt})$ of the missing survey weight to the weight for the refusal surveys. The total weight for the survey completer is then given by $w_{Ct} + \frac{n_{Ct}}{n_{Ct} + n_{Rt}}(w_{Mt})$, while the total weight for the survey refusers is given by $w_{Rt} + \frac{n_{Rt}}{n_{Ct} + n_{Rt}}(w_{Mt})$. Using these new total weights, we define a new weight for a survey completer as

$$w_{Ct3} = \frac{1}{n_{Ct}} \left[w_{Ct} + \frac{n_{Ct}}{n_{Ct} + n_{Rt}}(w_{Mt}) \right],$$

and a new weight for a survey refuser as

$$w_{Rt3} = \frac{1}{n_{Rt}} \left[w_{Rt} + \frac{n_{Rt}}{n_{Ct} + n_{Rt}}(w_{Mt}) \right].$$

Since w_{t2} is identical for survey completers and refusers in each weekday/weekend period, w_{t3} is also identical for survey completers and refusers. These weights are illustrated in Table 24.

Table 24. Number of 'Asks' and Total Weight for Encore Boston Harbor Patron Survey by Weekday/Weekend

	Status :STATUS								All			
	Complete				Refusal				Wt2		Wt3	
	Wt2		Wt3		Wt2		Wt3		Wt2		Wt3	
	n	Wt2	Wt3	Total	n	Wt2	Wt3	Total	n	Wt2	Wt3	Total
t	152	1,840	1,956	297,366	832	1,840	1,956	1,627,685	984	1,840	1,956	1,925,051
1=weekday												
2=weekend	288	697	715	205,989	1,587	697	715	1,135,087	1,875	697	715	1,341,077
All	440	1,092	1,144	503,355	2,419	1,090	1,142	2,762,773	2,859	1,090	1,142	3,266,128

The weight after accounting for missing ‘asks’ given by w_{t3} is larger than the weight w_{t2} for all $t = 1, 2$. Notice that summing these weights over the 2,859 patrons that either completed or refused the survey totals to 3,266,128, the total estimated number of exiting patrons.

Accounting for Survey Non-Response

We adjust the w_{t3} weights for survey non-response via post-stratification based on the estimated age, gender, and race distribution of sampled patrons. The adjusted weight is determined so that the total adjusted weight for sample patrons who complete the survey is equal to the total estimated patron visits.

The initial weights, w_{t3} , range from 715 to 1956 depending on the weekday-weekend periods (Table 24). Without accounting for demographics, we could adjust the weight for sample patrons due to non-response in each stratum. For example, for the Weekday stratum the non-response adjustment corresponds to multiplying the initial weight of 1956.35 by 1 over the proportion of estimated patrons who completed response (i.e., $1,925,051/297,366$), to obtain the new weight, i.e. 12,665. When this weight is totaled over

the 152 sampled patrons completing the survey, the total matches (up to rounding) the estimated total patron visits, i.e., 1,925,051.

We apply a similar procedure to accounting for age, gender, and race. The initial weight, w_{st3} , for each sampled patron is given in Table 25.

Table 25. Initial Weight (Wt3) for Encore Boston Harbor Patron Survey by Weekday/Weekend 2022

Day Type	Complete			Refusal			All		
	Sample Patrons	Initial Weight (Wt3)	Estimated Total Patrons	Sample Patrons	Initial Weight (Wt3)	Estimated Total Patrons	Sample Patrons	Initial Weight (Wt3)	Estimated Total Patrons
1=weekday	152	1,956.35	297,366	832	1,956.35	1,627,685	984	1,956.35	1,925,051
2=weekend	288	715.24	205,989	1,587	715.24	1,135,087	1,875	715.24	1,341,077
All	440	1,143.99	503,355	2,419	1,142.11	2,762,773	2,859	1,142.40	3,266,128

We cross-classify sampled patrons who completed the survey by age, gender, and race, and in each cell, sum the patron's weights, w_{t3} . The weight totals are given in Table 26 for sample patrons who completed the survey, and in Table 27 for sample patrons who either completed the survey, or refused response.

Table 26. Weight (Wt3) Totals for 2022 Encore Boston Harbor Patron Survey Completers by Gender, Race, and Age

Wt3		Completed Survey					All
		Complete					
		Age				Miss	
18-29	30-50	51+	Miss				
Fem	Black	4,102	8,015	9,445	2,672	24,234	
	Asian	10,876	9,445	8,015	4,817	33,153	
	White	12,496	28,904	102,467	9,109	152,976	
	Other	2,861	6,248	12,117	715	21,941	
	Miss		715	1,956	6,584	9,256	
Male	Black	6,248	13,547	8,919	2,146	30,860	
	Asian	6,058	8,541	7,489	9,256	31,344	
	White	15,882	38,686	76,761	8,919	140,248	
	Other	2,146	7,300	6,774	3,387	19,606	
	Miss		2,672		4,817	7,489	
Miss	Black	715	715		2,672	4,102	
	Asian				5,869	5,869	
	White			2,672		2,672	
	Other				715	715	
	Miss				18,891	18,891	
All		61,384	124,787	236,615	80,569	503,355	

Table 27. Weight (Wt3) Totals for 2022 Encore Boston Harbor Patron Survey for ALL 'Asks' by Gender, Race, and Age (including 'Asks' completing or refusing the survey)

Wt3		Age				All
		18-29	30-50	51+	Miss	
Fem	Black	28,672	64,497	31,575	2,672	127,416
	Asian	57,197	158,045	121,273	4,817	341,333
	White	112,944	247,450	330,858	9,109	700,361
	Other	23,182	47,416	24,949	715	96,262

	Miss		715	1,956	6,584	9,256
Male	Black	55,767	110,524	41,883	2,146	210,320
	Asian	95,315	251,466	223,320	9,256	579,357
	White	175,233	385,174	453,856	8,919	1,023,182
	Other	28,904	75,078	31,533	3,387	138,902
	Miss		2,672		4,817	7,489
Miss	Black	715	715		2,672	4,102
	Asian				5,869	5,869
	White			2,672		2,672
	Other				715	715
	Miss				18,891	18,891
All		577,929	1,343,753	1,263,876	80,569	3,266,128

If demographic variable values were known for all sampled patrons, we could adjust weights for non-response directly using post-stratification. However, some missing demographic data was evident for sample patrons who completed the survey, and demographic data were present for all ‘refusals’ since such data was reported by the survey staff. For this reason, we first account for missing demographic data prior to post-stratification.

Accounting for Missing Demographic Data

As a first step, we total the weights by missing data patterns for the demographic variables (Table 28). For example, Table 28 illustrates that 16 patrons completed the survey, but failed to provide demographic data on race, sex, and age. The total weight for these 16 patrons is 18,891. The total weight for other missing demographic patterns for completed surveys are calculated in a similar manner. The total weight, 503,355, matches the total weight assigned to completed patron surveys in Table 24, Table 25, and Table 26.

In the patron survey, demographic characteristics of patrons refusing to complete the survey were recorded based on surveyor’s observation. For this reason, there was no missing demographic data for survey refusals. The total weight associated with the refusals is 1,885,874 (see Table 28). We calculate a new weight for complete surveys that adjusts for the weight associated with refusals.

In order to adjust weights for refusals, we first estimate the weight associated with patrons who refused to be surveyed. To do so, we make the assumption that if the survey was completed by a patron who refused the survey, then the missing data pattern for demographics would be proportional to the missing data pattern for demographics that were observed among patrons completing the survey. With this assumption, we assign “Refused” weight totals proportional to Completed Survey weights in Table 28. For example, the weight (Wt4) of 122,575 in the first row of Table 28 is equal to the sum of the weight for completers (i.e. 18,891) plus the proportional weight for refusals, i.e., $103,685 = \frac{18,891}{503,355} (2,762,773)$.

Table 28. Weight (Wt3) Totals for Complete and Refusals by Missing Demographics Patterns for Patrons Completion the Survey with Proportional Allocation of Refusal Weights

k	Race	Gender	Age	# Complete Surveys	Completed Survey Wt3 Sum	Refused Survey Wt3 Sum	Wt4 Adj.for Missing Demos
				n_k	N_k	M_k	T_k
1	Missing	Missing	Missing	16	18,891	103,685	122,575
2	Missing	Reported	Missing	9	11,402	62,580	73,982

3	Missing	Reported	Reported	4	5,343	29,327	34,670
4	Reported	Missing	Missing	6	9,256	50,803	60,059
5	Reported	Missing	Reported	4	4,102	22,515	26,617
6	Reported	Reported	Missing	40	41,021	225,151	266,172
7	Reported	Reported	Reported	361	413,341	2,268,711	2,682,052
				440	503,355	2,762,773	3,266,128

We introduce some notation to define this process in general. Let $k=1, \dots, 7$ represent the seven missing data patterns corresponding to rows of Table 28. Next, let N_k represent the total initial weight for the completed surveys with a missing data pattern. For example, when $k=1$, $N_1 = 18,891$. We define $N = \sum_{k=1}^7 N_k$ as the total initial weight assigned to completed patron surveys (i.e. $N = 503,355$). Similarly, let M represent the total initial weight assigned to refusals (i.e., $M = 2,762,773$). The estimated total number of refusals in missing data pattern k is given by $M_k = \left(\frac{N_k}{N}\right)M$. Values of N_k and M_k are given in Table 28. The total weight for a missing data pattern is the sum of the weights for completed surveys and refusals, $T_k = N_k + M_k$.

Recall that the weight assigned to a sampled patron is represented by w_{st3} , where S indexes the patron in stratum t (calendar period and weekday/weekend). We use $j = 1, \dots, n_k$ to index the sampled patrons with complete surveys in stratum k , and represent weight for the patron by $w_{jk}^{(0)} = w_{st3}$ for the surveyed patron S that are in stratum k . We note that these weights are not identical for each patron in stratum k , since they depend on the weekday/weekend period (as indicated in Table 25).

The procedure that we follow to adjust survey weights for non-response depends on the missing data pattern for the demographic variables. We define the adjustment for each of row of Table 28.

Non-Response Adjustment when race, gender, and age are missing (k=1).

There is no additional demographic information that can be used in the non-response adjustment when all demographic variables are missing. For this reason, the non-response adjustment corresponds to multiplying the weight for each of the $j = 1, \dots, n_1 = 16$ sampled patrons who completed the survey (with missing demographic data) so that the total weight is T_k (i.e., $T_1 = 122,575$). The adjusted weights are given by

$w_{jk}^{(1)} = A_1 w_{jk}^{(0)}$, where $A_1 = \frac{T_1}{N_1}$ and $N_1 = 18,891$. Table 29 details the weights for these patrons.

Table 29. List of Weights and total weight after adjusting for refusals (k=1)

Day type: DAYT	# of Patrons	W3	W4	Total of Wt4
t	n_{t1}	$w_{j1}^{(0)}$	$w_{j1}^{(1)}$	$n_{t1} w_{j1}^{(1)}$
1=weekday	6	1,956	12,694	76,165
2=weekend	10	715	4,641	46,410
	16			122,575

Notice that the total weight, $w_{jt}^{(1)}$, when summed over $t = 1,2$ is equal to the estimated total number of patrons with all demographic variables missing.

Non-Response Adjustment when race and age are missing (k=2).

For other patterns of missing demographic data, we refine the re-weighting process to account for the demographics assigned by surveyors to the sample patrons who refused completion of the survey. Let $i = 1, \dots, I_k$ index the cells for known demographic variables for a given missing data pattern. For example, when the missing data pattern has age and race missing, the known demographic variable is gender with $I_2 = 2$ cells. Let $M_{i(k)}$ represent the total weight of refusals in a cell for missing data pattern k . In order to adjust for missing data, we first determine the total initial weight for sampled patrons who refused the survey for each cell. These totals are given in Table 30.

Table 30. Distribution of Wt3 Weights for Sampled Patrons who Refused by Demographics of Refusals k=2

Gender	Refusals n	Refusals WT3	Refusals Total WT3
			$M_{i(2)}$
Female	929	1,112	1,033,069
Male	1,490	1,161	1,729,704
	2,419		2,762,773

We estimate the weight for sampled patrons who refused in missing data pattern $k=2$ by $\hat{M}_{i(k)} = \left(\frac{M_{i(k)}}{M} \right) M_k$.

For example, for females ($i=1$), $M_{1(2)} = 1,033,069$, while for males, $M_{2(2)} = 1,729,704$. From Table 28 when $k=2$, the total weight for sampled patrons who refused is $M_2 = 62,580$. Using this total, the estimated total weight assigned to female ($i=1$) sample patrons who refused with missing data pattern $k=2$ is

$$\begin{aligned} \hat{M}_{i(k)} &= \left(\frac{M_{i(k)}}{M} \right) M_k \\ &= \left(\frac{1,033,069}{2,762,773} \right) \times 62,580 \\ &= 23,400. \end{aligned}$$

Using these values, and similar total weights for sample patrons with completed surveys, $N_{i(k)}$, we construct a table corresponding the response weights and total weights (Table 31). The total weight is given by

$$T_{i(k)} = N_{i(k)} + \hat{M}_{i(k)}, \text{ with a non-response adjustment factor given by } A_{i(k)} = \frac{T_{i(k)}}{N_{i(k)}}.$$

Table 31. Non-response Adjusted Factor by Gender for k=2

<i>i</i>	Gender	Sampled Patron Completers	Total Wt3 Completers	Estimated Total Wt3 for Refusals	Estimated Total Wt3	Non-Response Adjustment Factor
		$n_{i(2)}$	$N_{i(2)}$	$\hat{M}_{i(2)}$	$T_{i(2)}$	$A_{i(2)}$
1	Fem	4	6,584	23,400	29,985	4.55
2	Male	5	4,817	39,180	43,997	9.13
		9	11,402	62,580	73,982	

The adjusted weights are given by WT4, which we represent by $w_{jk}^{(1)} = A_{i(k)} w_{jk}^{(0)}$. Table 32 details the weights for these patrons.

Table 32 Adjustment for Refusals for Missing Demographic Patterns k=1,2

k=1

Day type: DAYT	Gender	Sampled Patron Completers	Wt3 Weight	Refusal Adjustment Factor	Wt4 Weight
1=weekday	Miss	6	1,827	6.49	11,855
2=weekend	Miss	10	715	6.49	4,641
mpat		16			

k=2

Day type: DAYT	Gender	Sampled Patron Completers	Wt3 Weight	Refusal Adjustment Factor	Wt4 Weight
=weekday	Fem	3	1,853	4.55	8,438
1=weekday	Male	1	963	9.13	8,799
2=weekend	Fem	1	715	4.55	3,257
2=weekend	Male	4	715	9.13	6,532
mpat		9			
		25			

Adjustment for Refusals when Race is missing (k=3).

The third missing data pattern has race missing, but gender and age known. Among the sampled patrons who refused the survey, the distribution of weights by gender and age is given in Table 33.

Table 33. Distribution of Wt3 Weights for Sampled Patrons Refused by Demographics of Refusals Pattern k=3

Gender	Age	Refusals n	Refusals WT3	Refusals Total WT3
Fem	18-29	176	1,089	191,661
Fem	30-50	426	1,091	464,796
Fem	51+	327	1,152	376,612
Male	18-29	305	1,065	324,884
Male	30-50	664	1,136	754,170
Male	51+	521	1,249	650,650

		2,419		2,762,773
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We use this distribution to estimate the weight for sampled patrons who refused. However, among those completing the survey, there are no patrons with missing data pattern $k=3$ who were in the 18-29 age category males/females or 51+ males. For this reason, we drop the corresponding rows in Table 33, summarizing the refusal distribution as in Table 34.

Table 34. Distribution of Wt3 Weights for Sampled Patrons who Refused Where there was at least one patron response for Refusal Pattern k=3

Gender	Age	Refusals n	Refusals WT3	Refusals Total WT3
				$M_{i(3)}$
Fem	30-50	426	1,091	464,796
Fem	51+	327	1,152	376,612
Male	30-50	664	1,136	754,170
		1,417		1,595,578

We use these strata to estimate the weight for sampled patrons who refuse with this missing data pattern, such that $\hat{M}_{i(k)} = \left(\frac{M_{i(k)}}{M^*} \right) M_k$, where M_k is 29,327 (from Table 28) and $M^* = 1,595,578$ from Table 34. Using

these values, and similar total weights for sample patrons with completed surveys, $N_{i(k)}$, we construct a table corresponding the response weights and total weights (Table 35). The total weight is given by

$$T_{i(k)} = N_{i(k)} + \hat{M}_{i(k)}, \text{ with a non-response adjustment factor given by } \frac{T_{i(k)}}{N_{i(k)}}.$$

Using these totals, the estimated total weight assigned to females-age 30-50 sample patrons ($i=1$) who refused the survey with missing data pattern $k=3$ is

$$\begin{aligned} \hat{M}_{i(k)} &= \left(\frac{M_{i(k)}}{M} \right) M_k \\ &= \left(\frac{464,796}{1,595,578} \right) \times 29,327 \\ &= 8543. \end{aligned}$$

Using these values, and similar total weights for sample patrons with completed surveys, $N_{i(k)}$, we construct a table corresponding the response weights and total weights (Table 35). The total weight is given by

$$T_{i(k)} = N_{i(k)} + \hat{M}_{i(k)}, \text{ with a non-response adjustment factor given by } A_{i(k)} = \frac{T_{i(k)}}{N_{i(k)}}.$$

Table 35. Non-response Adjusted Factor by Gender-Age for k=3

<i>i</i>	Gender	Age	Sampled Patron Completers	Total Wt3 Completers	Estimated Total Wt3 for Refusals	Estimated Total Wt3	Non-Response Adjustment Factor (k=3)
				$N_{i(k)}$	$\hat{M}_{i(k)}$	$T_{i(k)}$	$A_{i(3)}$
1	Fem	30-50	1	715	8,543	9,258	12.9443
2	Fem	51+	1	1,956	6,922	8,879	4.5383
3	Male	30-50	2	2,672	13,862	16,533	6.1886
			4	5,343	29,327	34,670	

The adjusted weights are given by $w_{jk}^{(1)} = A_{i(k)} w_{jk}^{(0)}$. Table 36 details the weights for these patrons.

Table 36. Non-response Adjusted Factor by Gender-Age for k=3

<i>i</i>	Day type: DAYT	Gender	Age	Sample Patron Completers	Wt3-Completers+Refusers: WT3	Non-Response Adjustment Factor (k=3)	Refusal adjusted Weight (WT4)
					$w_{j3}^{(0)}$	$A_{i(3)}$	$w_{j3}^{(1)}$
1	1=weekday	Fem	51+	1	1,956	4.54	8,879
2	1=weekday	Male	30-50	1	1,956	6.19	12,107
3	2=weekend	Fem	30-50	1	715	12.9	9,258
4	2=weekend	Male	30-50	1	715	6.19	4,426
				4			

Non-Response Adjustment when gender and age are missing (k=4).

The fourth missing data pattern has gender and age missing, but race known. Among the sampled patrons who refused the survey, the distribution of weights by race is given in Table 37.

Table 37. Distribution of Wt3 Weights for Sampled Patrons who Refused by Demographics of Refusal Pattern k=4

Race	Refusals n	Refusals WT3	Refusals Total WT3
Black	239	1,183	282,643
Asian	647	1,323	856,193
White	1,356	1,055	1,430,319
Other	177	1,094	193,618
	2,419		2,762,773

We use this distribution to estimate the weight for sampled patrons who refused. However, inspection of the race distributions for patrons who completed the survey with this missing data pattern reveals that no White race patrons are in this stratum. For this reason, we drop the corresponding rows in Table 37, summarizing the refusal distribution as in Table 38.

Table 38. Distribution of Wt3 Weights for Sampled Patrons who Refused where there was at least one patron response for Refusal Pattern k=4

<i>i</i>	Race	Refusals n	Refusals WT3	Refusals Total WT3
				$M_{i(4)}$
1	Black	239	1,183	282,643
2	Asian	647	1,323	856,193
3	Other	177	1,094	193,618
		1,063		1,332,454

We use these strata to estimate the weight for sampled patrons who refuse with this missing data pattern,

such that $\hat{M}_{i(k)} = \left(\frac{M_{i(k)}}{M^*} \right) M_k$, where M_k is 50,803 (from Table 28) and $M^* = 1,332,454$ from Table 38. Using

these values, and similar total weights for sample patrons with completed surveys, $N_{i(k)}$, we construct a table corresponding the response weights and total weights (Table 39). The total weight is given by

$$T_{i(k)} = N_{i(k)} + \hat{M}_{i(k)}, \text{ with a non-response adjustment factor given by } \frac{T_{i(k)}}{N_{i(k)}}.$$

Table 39. Non-response Adjusted Factor by Race for k=4

<i>i</i>	Race	Sampled Patron Completers	Total Wt3 Completers	Estimated Total Wt3 for Refusals	Estimated Total Wt3	Non-Response Adjustment Factor (k=4)
			$N_{i(k)}$	$\hat{M}_{i(k)}$	$\hat{M}_{i(k)}$	$A_{i(4)}$
1	Black	2	2,672	10,776	13,448	5.03
2	Asian	3	5,869	32,644	38,513	6.56
3	Other	1	715	7,382	8,097	11.3
		6	9,256	50,803	60,059	

The adjusted weights are given by $w_{jk}^{(1)} = \left(\frac{T_{i(k)}}{N_{i(k)}} \right) w_{jk}^{(0)}$. Table 40 details the weights for these patrons who completed the survey.

Table 40. Non-response Adjusted Factor by Race for k=4

<i>i</i>	Day type: DAYT	Race	Sample Patron Completers	Wt3-Completers+Refusers: WT3	Non-Response Adjustment Factor (k=3)	Refusal adjusted Weight (WT4)
				$w_{j4}^{(0)}$	$A_{i(4)}$	$w_{j4}^{(1)}$
1	1=weekday	Black	1	1,956	5.03	9,848
2	1=weekday	Asian	3	1,956	6.56	12,838
3	2=weekend	Black	1	715	5.03	3,600
4	2=weekend	Other	1	715	11.3	8,097
			6			

Non-Response Adjustment when Gender is missing (k=5).

The fifth missing data pattern has gender missing, but age and race known. Among the sampled patrons who refused the survey, the distribution of weights by age and race is given in Table 41.

Table 41. Distribution of Wt3 Weights for Sampled Patrons who Refused by Demographics of Refusal Pattern k=5

<i>i</i>	Race	Age	Refusals n	Refusals WT3	Refusals Total WT3
1	Black	18-29	55	1,347	74,089
2	Black	30-50	133	1,154	153,459
3	Black	51+	51	1,080	55,094
4	Asian	18-29	108	1,255	135,578
5	Asian	30-50	301	1,301	391,525
6	Asian	51+	238	1,383	329,090
7	White	18-29	273	952	259,799
8	White	30-50	554	1,020	565,035
9	White	51+	529	1,145	605,486
10	Other	18-29	45	1,046	47,079
11	Other	30-50	102	1,068	108,947
12	Other	51+	30	1,253	37,592
			2,419		2,762,773

We use this distribution to estimate the weight for sampled patrons who refused. However, only three patrons completed the survey with this missing data pattern. There was one Black 18-29 year old patron, one Black 30-50 year old patron, and one White 51+ year old patron. We limit the refusal race by age strata to those that had some survey respondents, as illustrated in Table 42.

Table 42. Distribution of Wt3 Weights for Sampled Patrons who Refused where there was at least one patron response for Refusal Pattern k=5

Race	Age	Refusals n	Refusals WT3	Refusals Total WT3
				$M_{i(5)}$
Black	18-29	55	1,347	74,089
Black	30-50	133	1,154	153,459
White	51+	529	1,145	605,486
		717		833,035

We use these strata to estimate the weight for sampled patrons who refuse with this missing data pattern,

such that $\hat{M}_{i(k)} = \left(\frac{M_{i(k)}}{M^*} \right) M_k$, where M_k is 22,515 (from Table 28) and $M^* = 833,035$ from Table 42. Using

these values, and similar total weights for sample patrons with completed surveys, $N_{i(k)}$, we construct a table corresponding the response weights and total weights (Table 43). The total weight is given by

$$T_{i(k)} = N_{i(k)} + \hat{M}_{i(k)}, \text{ with a non-response adjustment factor given by } \frac{T_{i(k)}}{N_{i(k)}}.$$

Table 43. Non-response Adjusted Factor by Race for k=5

<i>i</i>	Race	Age	Sampled Patron Completers	Total Wt3 Completers	Estimated Total Wt3 for Refusals	Estimated Total Wt3	Non-Response Adjustment Factor (k=5)
				$N_{i(k)}$	$\hat{M}_{i(k)}$	$T_{i(k)}$	$A_{i(5)}$
1	Black	18-29	1	715	2,002	2,718	3.80
2	Black	30-50	1	715	4,148	4,863	6.80
3	White	51+	2	2,672	16,365	19,036	7.13
			4	4,102	22,515	26,617	

The adjusted weights are given by $w_{jk}^{(1)} = \left(\frac{T_{i(k)}}{N_{i(k)}} \right) w_{jk}^{(0)}$. Table 44 details the weights for the patrons who completed the survey with missing data pattern $k=5$.

Table 44. Non-response Adjusted Factor by Race for k=5

<i>i</i>	Day type: DAYT	Race	Age	Sample Patron Completers	Wt3-Completers+Refusers: WT3	Non-Response Adjustment Factor (k=3)	Refusal adjusted Weight (WT4)
					$w_{j5}^{(0)}$	$A_{i(5)}$	$w_{j5}^{(1)}$
1	1=weekday	White	51+	1	1,956	7.13	13,940
2	2=weekend	Black	18-29	1	715	3.80	2,718
3	2=weekend	Black	30-50	1	715	6.80	4,863
4	2=weekend	White	51+	1	715	7.13	5,096
				4			

Non-Response Adjustment when age is missing (k=6).

The sixth missing data pattern has age missing, but gender and race known. Among the sampled patrons who refused the survey, the distribution of weights by gender and race is given in Table 45.

Table 45. Distribution of Wt3 Weights for Sampled Patrons who Refused by Demographics of Refusal Pattern k=6

<i>i</i>	Race	Gender	Refusals n	Refusals WT3	Refusals Total WT3
					$M_{i(6)}$
1	Black	Fem	87	1,186	103,183
2	Black	Male	152	1,181	179,460
3	Asian	Fem	240	1,284	308,180
4	Asian	Male	407	1,346	548,013
5	White	Fem	538	1,017	547,385
6	White	Male	818	1,079	882,934
7	Other	Fem	64	1,161	74,321
8	Other	Male	113	1,056	119,297
			2,419		2,762,773

We use this distribution to estimate the weight for sampled patrons who refused. For each stratum indexed by i , we estimate the weight for sampled patrons who refuse with this missing data pattern, such that

$$\hat{M}_{i(k)} = \left(\frac{M_{i(k)}}{M^*} \right) M_k, \text{ where } M_k \text{ is } 225,151 \text{ (from Table 28) and } M^* = 2,762,773 \text{ from Table 45. Using these}$$

values, and similar total weights for sample patrons with completed surveys, $N_{i(k)}$, we construct a table corresponding the response weights and total weights (Table 46). The total weight is given by

$$T_{i(k)} = N_{i(k)} + \hat{M}_{i(k)}, \text{ with a non-response adjustment factor given by } \frac{T_{i(k)}}{N_{i(k)}}.$$

Table 46. Non-response Adjusted Factor by Race and Gender for k=6

i	Race	Gender	Sampled Patron Completers	Total Wt3 Completers	Estimated Total Wt3 for Refusals	Estimated Total Wt3	Non-Response Adjustment Factor (k=6)
				$N_{i(k)}$	$\hat{M}_{i(k)}$	$T_{i(k)}$	$A_{i(6)}$
1	Black	Fem	2	2,672	8,409	11,080	4.15
2	Black	Male	3	2,146	14,625	16,771	7.82
3	Asian	Fem	5	4,817	25,115	29,932	6.21
4	Asian	Male	6	9,256	44,660	53,916	5.83
5	White	Fem	11	9,109	44,609	53,718	5.90
6	White	Male	9	8,919	71,954	80,874	9.07
7	Other	Fem	1	715	6,057	6,772	9.47
8	Other	Male	3	3,387	9,722	13,109	3.87
			40	41,021	225,151	266,172	

The adjusted weights are given by $w_{jk}^{(1)} = \left(\frac{T_{i(k)}}{N_{i(k)}} \right) w_{jk}^{(0)}$. Table 47 details the weights for the patrons who completed the survey.

Table 47. Non-response Adjusted Factor by Race and Gender for k=6

i	Day type: DAYT	Race	Gender	Sample Patron Completers	Wt3-Completers+Refusers: WT3	Non-Response Adjustment Factor (k=3)	Refusal adjusted Weight (WT4)
					$w_{j6}^{(0)}$	$A_{i(6)}$	$w_{j6}^{(1)}$
1	1=weekday	Black	Fem	1	1,956	4.15	8,114
2	1=weekday	Asian	Fem	1	1,956	6.21	12,156
3	1=weekday	Asian	Male	4	1,956	5.83	11,396
4	1=weekday	White	Fem	1	1,956	5.90	11,537
5	1=weekday	White	Male	2	1,956	9.07	17,739
6	1=weekday	Other	Male	1	1,956	3.87	7,572
7	2=weekend	Black	Fem	1	715	4.15	2,966
8	2=weekend	Black	Male	3	715	7.82	5,590
9	2=weekend	Asian	Fem	4	715	6.21	4,444
10	2=weekend	Asian	Male	2	715	5.83	4,166

11	2=weekend	White	Fem	10	715	5.90	4,218
12	2=weekend	White	Male	7	715	9.07	6,485
13	2=weekend	Other	Fem	1	715	9.47	6,772
14	2=weekend	Other	Male	2	715	3.87	2,768
				40			

Non-Response Adjustment when race, gender, and age are not missing (k=7).

The seventh missing data pattern has no missing demographic data. Among the sampled patrons who refused the survey, the distribution of weights by gender and race is given in Table 48.

Table 48. Distribution of Wt3 Weights for Sampled Patrons who Refused by Demographics of Refusal Pattern =7

<i>i</i>	Race	Gender	Age	Refusals n	Refusals WT3	Refusals Total WT3
						$M_{i(7)}$
1	Black	Fem	18-29	17	1,445	24,570
2	Black	Fem	30-50	46	1,228	56,482
3	Black	Fem	51+	24	922	22,130
4	Black	Male	18-29	38	1,303	49,519
5	Black	Male	30-50	87	1,115	96,977
6	Black	Male	51+	27	1,221	32,964
7	Asian	Fem	18-29	37	1,252	46,322
8	Asian	Fem	30-50	121	1,228	148,600
9	Asian	Fem	51+	82	1,381	113,259
10	Asian	Male	18-29	71	1,257	89,257
11	Asian	Male	30-50	180	1,350	242,926
12	Asian	Male	51+	156	1,384	215,831
13	White	Fem	18-29	104	966	100,448
14	White	Fem	30-50	224	976	218,546
15	White	Fem	51+	210	1,088	228,391
16	White	Male	18-29	169	943	159,350
17	White	Male	30-50	330	1,050	346,488
18	White	Male	51+	319	1,182	377,095
19	Other	Fem	18-29	18	1,129	20,321
20	Other	Fem	30-50	35	1,176	41,168
21	Other	Fem	51+	11	1,167	12,832
22	Other	Male	18-29	27	991	26,758
23	Other	Male	30-50	67	1,012	67,779
24	Other	Male	51+	19	1,303	24,760
				2,419		2,762,773

We use this distribution to estimate the weight for sampled patrons who refused. There was at least one patron in each of the strata in Table 48 who completed a survey.

As a result, we use these strata to estimate the weight for sampled patrons who refuse with this missing data

pattern, such that $\hat{M}_{i(k)} = \left(\frac{M_{i(k)}}{M^*} \right) M_k$, where M_k is 2,268,711 (from Table 28) and $M^* = 2,762,773$ from Table

48. Using these values, and similar total weights for sample patrons with completed surveys, $N_{i(k)}$, we construct a table corresponding the response weights and total weights (Table 49). The total weight is given by $T_{i(k)} = N_{i(k)} + \hat{M}_{i(k)}$, with a non-response adjustment factor given by $\frac{T_{i(k)}}{N_{i(k)}}$.

Table 49. Non-response Adjusted Factor by Race, Age and Gender for k=7

<i>i</i>	Race	Gender	Age :AGEM	Sampled Patron Completers	Total Wt3 Completers	Estimated Total Wt3 for Refusals	Estimated Total Wt3	Non-Response Adjustment Factor (k=7)
					$N_{i(k)}$	$\hat{M}_{i(k)}$	$T_{i(k)}$	$A_{i(7)}$
1	Black	Fem	18-29	4	4,102	20,176	24,278	5.92
2	Black	Fem	30-50	6	8,015	46,382	54,396	6.79
3	Black	Fem	51+	8	9,445	18,173	27,618	2.92
4	Black	Male	18-29	7	6,248	40,664	46,912	7.51
5	Black	Male	30-50	12	13,547	79,635	93,182	6.88
6	Black	Male	51+	9	8,919	27,069	35,988	4.03
7	Asian	Fem	18-29	10	10,876	38,038	48,914	4.50
8	Asian	Fem	30-50	8	9,445	122,026	131,471	13.9
9	Asian	Fem	51+	6	8,015	93,005	101,020	12.6
10	Asian	Male	18-29	5	6,058	73,295	79,353	13.1
11	Asian	Male	30-50	5	8,541	199,484	208,024	24.4
12	Asian	Male	51+	7	7,489	177,234	184,723	24.7
13	White	Fem	18-29	14	12,496	82,485	94,981	7.60
14	White	Fem	30-50	30	28,904	179,464	208,368	7.21
15	White	Fem	51+	86	102,467	187,548	290,015	2.83
16	White	Male	18-29	17	15,882	130,854	146,736	9.24
17	White	Male	30-50	35	38,686	284,526	323,212	8.35
18	White	Male	51+	57	76,761	309,660	386,421	5.03
19	Other	Fem	18-29	4	2,861	16,687	19,548	6.83
20	Other	Fem	30-50	7	6,248	33,806	40,054	6.41
21	Other	Fem	51+	10	12,117	10,537	22,654	1.87
22	Other	Male	18-29	3	2,146	21,973	24,119	11.2
23	Other	Male	30-50	5	7,300	55,658	62,958	8.62
24	Other	Male	51+	6	6,774	20,332	27,106	4.00
				361	413,341	2,268,711	2,682,052	

The adjusted weights are given by $w_{jk}^{(1)} = \left(\frac{T_{i(k)}}{N_{i(k)}} \right) w_{jk}^{(0)}$.

Table 50 details the weights for these patrons who completed the survey.

Table 50. Non-response Adjusted Factor by Race, Gender and Age for k=7

<i>i</i>	Day type: DAYT	Race	Gender	Age	Sample Patron Completers	Wt3- Completers+Refusers: WT3	Non-Response Adjustment Factor (k=7)	Refusal Adjusted Weight (WT4)
1	1=weekday	Black	Fem	18-29	1	1,956	5.92	11,579
2	1=weekday	Black	Fem	30-50	3	1,956	6.79	13,278
3	1=weekday	Black	Fem	51+	3	1,956	2.92	5,720
4	1=weekday	Black	Male	18-29	1	1,956	7.51	14,689
5	1=weekday	Black	Male	30-50	4	1,956	6.88	13,456
6	1=weekday	Black	Male	51+	2	1,956	4.03	7,894
7	1=weekday	Asian	Fem	18-29	3	1,956	4.50	8,799
8	1=weekday	Asian	Fem	30-50	3	1,956	13.9	27,231
9	1=weekday	Asian	Fem	51+	3	1,956	12.6	24,658
10	1=weekday	Asian	Male	18-29	2	1,956	13.1	25,624
11	1=weekday	Asian	Male	30-50	4	1,956	24.4	47,651
12	1=weekday	Asian	Male	51+	2	1,956	24.7	48,256
13	1=weekday	White	Fem	18-29	2	1,956	7.60	14,871
14	1=weekday	White	Fem	30-50	6	1,956	7.21	14,103
15	1=weekday	White	Fem	51+	33	1,956	2.83	5,537
16	1=weekday	White	Male	18-29	3	1,956	9.24	18,075
17	1=weekday	White	Male	30-50	11	1,956	8.35	16,345
18	1=weekday	White	Male	51+	29	1,956	5.03	9,848
19	1=weekday	Other	Fem	30-50	1	1,956	6.41	12,542
20	1=weekday	Other	Fem	51+	4	1,956	1.87	3,658
21	1=weekday	Other	Male	30-50	3	1,956	8.62	16,873
22	1=weekday	Other	Male	51+	2	1,956	4.00	7,829
23	2=weekend	Black	Fem	18-29	3	715	5.92	4,233
24	2=weekend	Black	Fem	30-50	3	715	6.79	4,854
25	2=weekend	Black	Fem	51+	5	715	2.92	2,091
26	2=weekend	Black	Male	18-29	6	715	7.51	5,370
27	2=weekend	Black	Male	30-50	8	715	6.88	4,920
28	2=weekend	Black	Male	51+	7	715	4.03	2,886
29	2=weekend	Asian	Fem	18-29	7	715	4.50	3,217
30	2=weekend	Asian	Fem	30-50	5	715	13.9	9,956
31	2=weekend	Asian	Fem	51+	3	715	12.6	9,015
32	2=weekend	Asian	Male	18-29	3	715	13.1	9,368
33	2=weekend	Asian	Male	30-50	1	715	24.4	17,421
34	2=weekend	Asian	Male	51+	5	715	24.7	17,642
35	2=weekend	White	Fem	18-29	12	715	7.60	5,437
36	2=weekend	White	Fem	30-50	24	715	7.21	5,156
37	2=weekend	White	Fem	51+	53	715	2.83	2,024
38	2=weekend	White	Male	18-29	14	715	9.24	6,608
39	2=weekend	White	Male	30-50	24	715	8.35	5,976
40	2=weekend	White	Male	51+	28	715	5.03	3,601
41	2=weekend	Other	Fem	18-29	4	715	6.83	4,887
42	2=weekend	Other	Fem	30-50	6	715	6.41	4,585
43	2=weekend	Other	Fem	51+	6	715	1.87	1,337
44	2=weekend	Other	Male	18-29	3	715	11.2	8,040
45	2=weekend	Other	Male	30-50	2	715	8.62	6,169
46	2=weekend	Other	Male	51+	4	715	4.00	2,862
					361			

Trimming Weights

We describe the procedure for trimming raked weights next. Let w_{\min} represent the minimum weight, w_{mean} represent the mean weight, and w_{\max} represent the maximum weight. These values correspond to $w_{\min} = 1,337.25$, $w_{mean} = 6931.24$, and $w_{\max} = 48,255.85$ in the 2022 Encore Boston Harbor patron survey (for Wt4). We define the trimmed weight by setting the minimum and maximum weight to be a simple multiplier, m , times the average weight, w_{mean} . The initial trimmed weight is given by

$$w_{i,m}^0 = \begin{cases} w_{\max,m} & \text{if } w_i \geq w_{\max,m} \\ w_i & \\ w_{\min,m} & \text{if } w_i \leq w_{\min,m} \end{cases} .$$

where $w_{\max,m} = m(w_{mean})$ and $w_{\min,m} = (w_{mean})/m$. By changing the minimum and maximum weight, the total weight is changed. In order to insure that the total weight is equal to the total population size, we adjust the initial trimmed weight by a factor $\frac{T}{T_m}$, where $T = \sum_{i=1}^n w_i$ represents the total weight prior to trimming, and

$T_m = \sum_{i=1}^n w_{i,m}^0$ represents the total weight after trimming weights to a multiple of the mean weight. The final

step in creating the trimmed weight is to multiply the initial trimmed weight by $\frac{T}{T_m}$, to form the trimmed weight

$$w_{i,m} = \left(\frac{T}{T_m} \right) w_{i,m}^0 .$$

In the Baseline General Population Survey (Volberg et al., 2015), we determined that using a value of $m = 8$ would result in the most accurate estimator. Multiplying the average weight by 8, $w_{\max,m} = 55,450$, while dividing the average weight by 8 results in $w_{\min,m} = 866.41$. The actual maximum and minimum weight falls within the range of 1337 to 48,256. As a result, based on the criteria of $m = 8$, no weight trimming is required.

We further examined the distribution of weights for the $n = 440$ complete surveys. While the five highest weights range from 41,605 to 48,256, the next largest weight is 27,231. This weight is between 56% to 65% of the value of the five highest weights. Since there was a relatively large difference in these weights, and since a high variance in weights can inflate the variance of weighted estimators, we decided to trim the seven highest weights to 27,231.

The total weight prior to trimming is given by $T = \sum_{i=1}^{n=440} w_i = 3,049,744.51$, while the total weight after trimming (but prior to adjusting) is 2,953,086.38. We define the raked trimmed weight by multiplying the trimmed weights by the factor $\frac{T}{T_m} = \frac{3,049,744.51}{2,953,086.38}$. By trimming and adjusting these weights, the standard deviation in weights is reduced from 6,154 to 5,115.

After trimming and adjusting, the final weight for the Encore Boston Harbor patron survey is WT6, with $w_{\min} = 1381.02$, $w_{mean} = 6931.24$, and $w_{\max} = 28,122.31$.

Encore Boston Harbor 2022 Patron Survey Weight Data Set

The data set of patron survey weights has 440 records corresponding to the 440 complete patron surveys. The weight variable is WT6, and has a minimum value of 1,381 and a maximum value of 28,122. A weight can be interpreted as the number of exiting patrons represented by the particular patron respondent.

Appendix G: Access, Visitation Frequency, Reason for Visit, Duration of Stay, and Venue Experience

Table 51. Patron Access to Encore Boston Harbor by day

		Monday				Saturday				Combined			
		N ¹	N ²	Weighted %	95% CI	N ¹	N ²	Weighted %	95% CI	N ¹	N ²	Weighted %	95% CI
How did you get here (Check all that apply)	Own vehicle or someone else's car	124	1,337,199	82.6	(74.2, 88.6)	235	1,126,468	82.2	(76.5, 86.7)	359	2,463,667	82.4	(77.4, 86.4)
	Rented car			--		8	44,810	3.3	(1.6, 6.7)	12	87,118	2.9	(1.5, 5.6)
	By taxi, rideshare or limo	11	137,838	8.5	(4.2, 16.3)	27	130,751	9.5	(6.5, 13.8)	38	268,589	9.0	(6.0, 13.2)
	By charter bus, shuttle, private coach, or runner van			--				--		6	53,153	1.8	(0.6, 5.3)
	By public transportation (such as MBTA or commuter rail)	7	72,218	4.5	(2.0, 9.7)	13	69,367	5.1	(2.6, 9.6)	20	141,585	4.7	(2.8, 7.9)
	By water			--				--				--	
	By bicycle			--				--				--	
	By foot (walked here)			--				--		6	33,333	1.1	(0.5, 2.6)
Part of my trip involved travel by airplane)			--				--		6	38,298	1.3	(0.5, 3.6)	
Any problems getting here (Check all that apply)	No problems	138	1,423,954	89.8	(81.4, 94.7)	256	1,233,628	90.2	(85.6, 93.5)	394	2,657,582	90.0	(85.4, 93.3)
	Got lost			--				--				--	
	Lots of traffic	8	105,290	65.2	(28.1, 90.0)	16	82,680	61.9	(40.9, 79.2)	24	187,969	63.7	(41.1, 81.5)
	Difficulty finding parking			--		6	39,854	29.8	(14.1, 52.4)	7	67,977	23.0	(9.5, 46.1)
	Long wait for transportation			--		0	0	0.0	(,)			--	
	Limited sidewalks	0	0	0.0	(,)			--				--	
	Road construction			--				--		6	43,713	14.8	(5.9, 32.4)
How often have you visited this facility?	This is my first visit	17	194,865	12.5	(7.5, 20.0)	65	314,343	23.5	(18.5, 29.4)	82	509,209	17.6	(13.8, 22.2)
	>=4 times a week	18	213,446	13.7	(8.1, 22.3)	19	115,319	8.6	(5.0, 14.4)	37	328,765	11.4	(7.7, 16.5)
	2-3 times a week	36	358,348	23.0	(16.0, 31.8)	45	228,966	17.1	(12.4, 23.1)	81	587,314	20.3	(15.8, 25.6)
	Once a week	25	261,821	16.8	(10.9, 25.1)	16	77,010	5.8	(3.1, 10.4)	41	338,831	11.7	(8.1, 16.5)
	2-3 times a month	19	205,490	13.2	(7.9, 21.2)	40	194,892	14.6	(10.3, 20.2)	59	400,382	13.8	(10.1, 18.6)
	Once a month	13	179,213	11.5	(6.7, 19.1)	32	144,210	10.8	(7.3, 15.6)	45	323,423	11.2	(7.9, 15.5)
	< once a month	14	144,945	9.3	(5.2, 16.1)	56	263,379	19.7	(14.9, 25.5)	70	408,324	14.1	(10.7, 18.3)

¹Unweighted N refers to the total number of respondents who answered this question.

²Weighted N is the estimated total number of patrons who visited Encore Boston Harbor in past year.

Note: A dash indicates that the cell size is less than 6.

Note: Italics indicates estimates are unreliable, relative standard error >30%.

Table 52. Frequency of visits to Encore Boston Harbor by Geographic Origin

		Host and surrounding community				Other municipalities in MA				Outside of MA or unknown			
		Weighted				Weighted				Weighted			
		N ¹	N ²	%	95% CI	N ¹	N ²	%	95% CI	N ¹	N ²	%	95% CI
How often have you visited this facility?	1=less than monthly	35	256,108	20.7	(14.2, 29.2)	64	350,090	34.0	(26.1, 42.8)	53	311,335	49.4	(36.9, 62.0)
	2=monthly	41	261,086	21.1	(14.8, 29.2)	45	323,878	31.4	(23.0, 41.3)	18	138,840	22.0	(12.8, 35.3)
	3=weekly	86	717,687	58.1	(48.6, 67.0)	52	356,824	34.6	(26.1, 44.2)	21	180,399	28.6	(17.9, 42.4)

¹Unweighted N refers to the total number of respondents who answered this question.

²Weighted N is the estimated total number of patrons who visited Encore Boston Harbor in past year.

Table 53. Frequency of visits to Encore Boston Harbor by Race/Ethnicity

		Hispanic				White alone				Black alone				Asian alone			
		Weighted				Weighted				Weighted				Weighted			
		N ¹	N ²	%	95% CI	un2	n2	p2	ci2	un3	n3	p3	ci3	un4	n4	p4	ci4
How often have you visited this facility?	1=less than monthly	11	62,012	28.7	(15.7, 46.6)	100	590,442	40.0	(33.0, 47.5)	7	51,428	21.9	(9.9, 41.6)	13	101,141	14.5	(6.9, 27.9)
	2=monthly	11	49,583	23.0	(11.5, 40.7)	58	352,845	23.9	(18.0, 31.0)	14	67,313	28.6	(16.0, 45.8)	12	176,296	25.3	(14.0, 41.3)
	3=weekly	16	104,267	48.3	(30.2, 66.8)	83	531,492	36.0	(29.2, 43.4)	22	116,246	49.5	(32.9, 66.1)	25	420,301	60.2	(44.2, 74.4)

¹Unweighted N refers to the total number of respondents who answered this question.

²Weighted N is the estimated total number of patrons who visited EBH in Everett.

Note: A dash indicates that the cell size is less than 6

Note: Italics indicates estimates are unreliable, relative standard error > 30%

Table 54. Did Encore Boston Harbor Prompt Visit to Town or State by day of data collection

		Monday				Saturday				Combined			
		N ¹	N ²	Weighted		N ¹	N ²	Weighted		N ¹	N ²	Weighted	
				%	95% CI			%	95% CI			%	95% CI
Did Encore Boston Harbor prompt your visit to this town or state?	No	58	601,276	37.2	(28.7, 46.5)	87	392,354	28.4	(22.9, 34.6)	145	993,630	33.1	(27.8, 38.9)
	Yes	91	1,016,538	62.8	(53.5, 71.3)	196	989,593	71.6	(65.4, 77.1)	287	2,006,131	66.9	(61.1, 72.2)
Patrons from MA: What was your main reason for visiting <u>Everett</u> today?	To visit Encore Boston Harbor	78	860,362	66.0	(55.6, 75.0)	159	790,664	75.6	(68.9, 81.2)	237	1,651,027	70.2	(63.8, 76.0)
	For shopping or recreation other than the casino	8	68,921	5.3	(2.5, 10.9)	9	45,881	4.4	(2.1, 8.8)	17	114,802	4.9	(2.9, 8.2)
	To visit friends or family			--				--		7	69,268	3.0	(1.1, 7.6)
	For business or work			--				--				--	
	I live here	15	132,537	10.2	(5.5, 17.9)	22	90,795	8.7	(5.6, 13.2)	37	223,332	9.5	(6.4, 13.9)
	Some other reason	17	186,983	14.3	(8.4, 23.3)	17	74,344	7.1	(4.3, 11.6)	34	261,327	11.1	(7.4, 16.3)
Patrons from outside MA: What was your main reason for visiting <u>Massachusetts</u> today?	To visit Encore Boston Harbor	13	156,176	49.8	(29.7, 70.0)	37	198,929	59.2	(45.3, 71.9)	50	355,104	54.7	(42.2, 66.7)
	For shopping or recreation other than the casino			--				--				--	
	To visit friends or family			--		10	42,660	12.7	(6.5, 23.4)	12	55,797	8.6	(4.6, 15.6)
	For business or work			--				--				--	
	I live here			--				--		9	74,047	11.4	(5.3, 22.8)
	Some other reason			--		10	48,200	14.4	(6.3, 29.5)	15	90,097	13.9	(7.5, 24.3)

¹Unweighted N refers to the total number of respondents who answered this question.

²Weighted N is the estimated total number of patrons who visited Encore Boston Harbor in past year.

Note: A dash indicates that the cell size is less than 6.

Note: Italics indicates estimates are unreliable, relative standard error >30%.

Table 55. Length of Stay in Massachusetts among Patrons from Outside Massachusetts by day of data collection

		Monday				Saturday				Combined			
		N ¹	Weighted			N ¹	Weighted			N ¹	Weighted		
			N ²	%	95% CI		N ²	%	95% CI		N ²	%	95% CI
How many days are you visiting MA?	One day or less	<i>8</i>	<i>88,477</i>	<i>30.0</i>	<i>(14.5, 52.2)</i>	31	164,392	52.1	(38.8, 65.2)	39	252,869	41.5	(29.8, 54.2)
	More than one day	18	206,025	70.0	(47.8, 85.5)	35	150,958	47.9	(34.8, 61.2)	53	356,983	58.5	(45.8, 70.2)
How many days are you visiting MA?	Mean (95% CI)			--		148	1,587,602	2.0	(1.3, 2.8)	429	2,947,016	1.8	(1.3, 2.2)
	Median (95% CI)			--		148	1,587,602	1.0	(1.0, 1.0)	429	2,947,016	1.0	(1.0, 1.0)

¹Unweighted N refers to the total number of respondents who answered this question.

²Weighted N is the estimated total number of patrons who visited Encore Boston Harbor in past year.

Note: A dash indicates that the cell size is less than 6.

Note: Italics indicates estimates are unreliable, relative standard error >30%.

Table 56. Patron Visit Experience by day of data collection

		Monday				Saturday				Combined			
		Weighted				Weighted				Weighted			
		N ¹	N ²	%	95% CI	N ¹	N ²	%	95% CI	N ¹	N ²	%	95% CI
Do you have a loyalty or rewards card with the casino?	No	28	333,691	20.4	(13.7, 29.4)	91	450,327	32.6	(26.8, 39.0)	119	784,018	26.0	(21.2, 31.4)
	Yes	123	1,299,202	79.6	(70.6, 86.3)	192	930,728	67.4	(61.0, 73.2)	315	2,229,930	74.0	(68.6, 78.8)
Did you have an enjoyable time during your visit today?	No	16	174,357	10.8	(6.3, 18.0)	25	138,479	10.1	(6.3, 15.9)	41	312,837	10.5	(7.3, 14.9)
	Yes	132	1,436,740	89.2	(82.0, 93.7)	257	1,229,019	89.9	(84.1, 93.7)	389	2,665,760	89.5	(85.1, 92.7)
What did you like the most about your visit here today (Pick up to 3 things)	Playing the games	102	1,134,478	72.2	(63.4, 79.5)	183	898,599	66.0	(59.3, 72.0)	285	2,033,077	69.3	(63.8, 74.3)
	Easy access to games	32	331,662	21.1	(14.4, 29.8)	47	229,802	16.9	(12.4, 22.5)	79	561,464	19.1	(14.8, 24.3)
	Different food and beverage options	18	196,648	12.5	(7.5, 20.0)	40	202,950	14.9	(10.7, 20.4)	58	399,598	13.6	(10.1, 18.1)
	Friendliness of the casino staff	42	423,950	27.0	(19.8, 35.6)	69	333,128	24.5	(19.0, 30.9)	111	757,078	25.8	(21.1, 31.2)
	Non-gambling entertainment			--		10	52,879	3.9	(2.0, 7.2)	13	83,055	2.8	(1.5, 5.2)
	Convenient parking	30	333,534	21.2	(14.5, 29.9)	60	275,539	20.2	(15.4, 26.1)	90	609,073	20.8	(16.3, 26.0)
	Variety of game choices	14	115,178	7.3	(4.1, 12.7)	35	181,882	13.4	(9.1, 19.2)	49	297,059	10.1	(7.3, 13.9)
	Quality of the food and beverage	11	124,491	7.9	(4.0, 14.9)	23	117,519	8.6	(5.4, 13.6)	34	242,010	8.2	(5.5, 12.3)
	Friendliness of the food and beverage			--		16	89,511	6.6	(3.7, 11.5)	21	150,154	5.1	(3.0, 8.6)
	Way the facility looks and feels inside	12	125,598	8.0	(4.4, 14.2)	30	151,347	11.1	(7.7, 15.8)	42	276,945	9.4	(6.7, 13.1)
	Facility is non smoking	17	177,039	11.3	(6.5, 18.8)	42	172,929	12.7	(9.1, 17.4)	59	349,969	11.9	(8.7, 16.2)
	Shops and retail			--				--		6	38,775	1.3	(0.5, 3.3)
	How easy it was to get here	15	143,897	9.2	(5.3, 15.4)	30	159,805	11.7	(7.8, 17.2)	45	303,702	10.4	(7.4, 14.3)
	None of the above	8	78,366	5.0	(2.4, 10.3)	15	55,751	4.1	(2.4, 6.9)	23	134,117	4.6	(2.8, 7.4)
Would you return to this facility?	No			--		6	23,278	1.7	(0.7, 3.9)	9	73,332	2.4	(1.0, 6.0)
	Yes	138	1,450,111	89.1	(80.4, 94.2)	247	1,198,746	87.6	(82.4, 91.3)	385	2,648,857	88.4	(83.6, 91.9)
	Maybe	9	127,820	7.8	(3.8, 15.7)	29	147,205	10.8	(7.2, 15.8)	38	275,025	9.2	(6.1, 13.5)

¹Unweighted N refers to the total number of respondents who answered this question.

²Weighted N is the estimated total number of patrons who visited Encore Boston Harbor in past year.

Note: A dash indicates that the cell size is less than 6.

Note: Italics indicates estimates are unreliable, relative standard error >30%.

Appendix H: Geographic Origin and Demographic Characteristics

Table 57. Geographic Origin by Day of Collection

		Monday				Saturday				Combined			
		Weighted				Weighted				Weighted			
		N ¹	N ²	%	95% CI	N ¹	N ²	%	95% CI	N ¹	N ²	%	95% CI
Geographic origin	Host and surrounding communities	62	720,344	43.8	(34.9, 53.1)	109	553,283	39.4	(33.1, 46.1)	171	1,273,626	41.8	(36.1, 47.7)
	Other municipalities in MA	61	599,220	36.4	(28.3, 45.3)	111	512,586	36.5	(30.5, 43.0)	172	1,111,806	36.5	(31.2, 42.1)
	Outside of MA or unknown	29	326,439	19.8	(13.4, 28.3)	68	337,873	24.1	(18.8, 30.3)	97	664,313	21.8	(17.4, 27.0)

¹Unweighted N refers to the total number of respondents who answered this question.

²Weighted N is the estimated total number of patrons who visited Encore Boston Harbor in past year.

Table 58. Demographics by Day of Data Collection

		Monday				Saturday				Combined			
		Weighted				Weighted				Weighted			
		N ¹	N ²	%	95% CI	N ¹	N ²	%	95% CI	N ¹	N ²	%	95% CI
Gender	Female	69	579,728	35.2	(27.3, 44.1)	149	589,311	42.0	(35.8, 48.5)	218	1,169,039	38.3	(33.0, 43.9)
	Male	72	942,861	57.3	(48.2, 65.9)	124	740,222	52.7	(46.1, 59.2)	196	1,683,082	55.2	(49.4, 60.8)
	Prefer not to say	11	123,414	7.5	(4.1, 13.4)	15	74,209	5.3	(3.2, 8.7)	26	197,623	6.5	(4.2, 9.8)
Race	Hispanic	11	88,178	5.8	(2.9, 11.3)	27	127,684	9.7	(6.5, 14.4)	38	215,862	7.6	(5.2, 11.0)
	White alone	87	838,197	54.9	(45.0, 64.4)	168	722,451	55.1	(48.0, 62.0)	255	1,560,648	55.0	(48.8, 61.1)
	Black alone	12	104,655	6.9	(3.7, 12.4)	31	130,332	9.9	(6.9, 14.1)	43	234,987	8.3	(5.9, 11.5)
	Asian alone	24	452,562	29.6	(20.6, 40.6)	28	254,674	19.4	(13.3, 27.5)	52	707,236	24.9	(19.0, 31.9)
	Some other race alone			--				--				--	
	Two or more races			--		13	60,595	4.6	(2.6, 7.9)	18	101,069	3.6	(2.1, 5.9)
Age	<30	12	147,877	10.5	(5.6, 18.7)	53	310,598	26.7	(20.8, 33.6)	65	458,475	17.8	(13.7, 22.9)
	30-50	36	589,619	41.9	(32.0, 52.4)	76	461,302	39.7	(32.7, 47.1)	112	1,050,921	40.9	(34.5, 47.6)
	51+	80	671,195	47.6	(37.9, 57.6)	112	390,982	33.6	(26.9, 41.0)	192	1,062,177	41.3	(35.2, 47.7)
	Mean (95% CI)	128	1,408,692	49.6	(46.6, 52.6)	241	1,162,881	43.9	(41.4, 46.3)	369	2,571,573	47.0	(45.0, 49.0)
	Median (95% CI)	128	1,408,692	48.0	(43.0, 54.8)	241	1,162,881	42.0	(38.0, 46.1)	369	2,571,573	45.0	(42.0, 48.0)
Education	High school or less	34	311,014	20.6	(14.3, 28.7)	68	330,615	24.6	(19.1, 31.1)	102	641,629	22.5	(18.1, 27.6)
	Some college or Bachelors	90	1,007,797	66.8	(57.4, 75.0)	156	758,618	56.5	(49.6, 63.1)	246	1,766,415	61.9	(56.0, 67.5)
	Beyond Bachelor's degree	16	191,099	12.7	(7.4, 20.8)	52	253,873	18.9	(14.2, 24.7)	68	444,972	15.6	(11.8, 20.4)
Employment	1=employed	89	1,071,920	70.3	(61.8, 77.7)	190	971,403	73.1	(66.7, 78.7)	279	2,043,323	71.6	(66.3, 76.4)
	2=unemployed			--		6	27,425	2.1	(0.9, 4.8)	8	39,053	1.4	(0.7, 2.8)
	3=retired	42	347,961	22.8	(16.5, 30.7)	48	186,550	14.0	(10.1, 19.2)	90	534,511	18.7	(14.8, 23.5)
	4=student/homemaker /disabled	9	92,647	6.1	(3.0, 12.0)	29	142,859	10.8	(7.1, 16.0)	38	235,506	8.3	(5.7, 11.9)
Marital Status	Never married	42	530,084	35.4	(26.5, 45.4)	67	376,165	27.9	(22.2, 34.6)	109	906,249	31.8	(26.3, 38.0)
	Living with partner/Married/ Widowed	74	740,253	49.4	(39.9, 59.0)	183	882,082	65.5	(58.8, 71.6)	257	1,622,335	57.0	(50.8, 63.0)
	Divorced or Separated	23	228,703	15.3	(9.5, 23.5)	24	88,367	6.6	(4.3, 10.0)	47	317,070	11.1	(7.8, 15.7)
Military status	Yes, now on active duty			--		9	38,257	2.9	(1.4, 5.6)	13	78,923	2.8	(1.4, 5.3)
	Yes, on active duty in the past but not currently	12	111,229	7.4	(4.1, 13.2)	19	86,681	6.5	(4.0, 10.3)	31	197,911	7.0	(4.7, 10.2)
	No never served in the military	124	1,343,846	89.8	(83.4, 94.0)	246	1,209,650	90.6	(86.4, 93.6)	370	2,553,496	90.2	(86.5, 93.0)
Annual household	less than \$15,000	9	102,584	6.8	(3.2, 14.0)	21	124,461	9.4	(5.6, 15.2)	30	227,045	8.0	(5.2, 12.3)
	15,000 - \$29,000	14	113,663	7.6	(4.2, 13.3)	13	58,978	4.4	(2.5, 7.9)	27	172,641	6.1	(4.0, 9.3)

		Monday				Saturday				Combined			
		Weighted				Weighted				Weighted			
		N ¹	N ²	%	95% CI	N ¹	N ²	%	95% CI	N ¹	N ²	%	95% CI
Income	30,000 - \$49,000	14	123,958	8.3	(4.6, 14.4)	39	171,749	12.9	(9.3, 17.8)	53	295,708	10.5	(7.6, 14.1)
	50,000 - \$69,000	26	333,279	22.2	(14.9, 31.9)	34	178,707	13.5	(9.5, 18.7)	60	511,985	18.1	(13.6, 23.7)
	70,000 - \$99,000	24	262,784	17.5	(11.2, 26.4)	43	215,011	16.2	(11.5, 22.3)	67	477,794	16.9	(12.7, 22.2)
	100,000 - \$124,999	20	221,128	14.7	(9.0, 23.2)	38	179,826	13.6	(9.5, 19.0)	58	400,954	14.2	(10.4, 19.1)
	125,000 - \$149,999	15	150,042	10.0	(5.8, 16.7)	22	92,342	7.0	(4.4, 10.8)	37	242,384	8.6	(5.9, 12.3)
	150,000 or more	17	192,301	12.8	(7.6, 20.7)	62	306,312	23.1	(17.8, 29.3)	79	498,614	17.6	(13.7, 22.5)

¹Unweighted N refers to the total number of respondents who answered this question.

²Weighted N is the estimated total number of patrons who visited Encore Boston Harbor in past year.

Note: Italics indicates estimates are unreliable, relative standard error >30%.

Note: Those with blank cell have a sample size of five or less.

Table 59. Demographics by Geographic Origin

		Host and surrounding communities				Other municipalities in MA				Outside of MA or unknown			
		Weighted				Weighted				Weighted			
		N1	N2	%	95% CI	N1	N2	%	95% CI	N1	N2	%	95% CI
Gender	Female	80	500,332	39.3	(33.4, 45.4)	93	445,846	40.1	(34.7, 45.7)	45	222,861	33.6	(27.0, 40.7)
	Male	81	689,078	54.1	(47.9, 60.2)	73	633,226	57.0	(51.2, 62.5)	42	360,778	54.3	(46.4, 62.0)
	Prefer not to say	10	84,217	6.6	(4.2, 10.2)	6	32,733	2.9	(1.7, 5.0)	10	80,673	12.1	(7.8, 18.4)
Race	Hispanic	21	130,134	10.7	(7.6, 14.8)	14	65,987	6.2	(4.1, 9.0)			--	
	White alone	80	481,172	39.6	(33.9, 45.5)	118	745,351	69.4	(63.2, 75.1)	57	334,124	61.0	(51.3, 69.8)
	Black alone	31	182,738	15.0	(11.6, 19.3)	7	33,275	3.1	(1.8, 5.2)			--	
	Asian alone	26	379,079	31.2	(24.7, 38.4)	15	177,885	16.6	(11.5, 23.2)	11	150,272	27.4	(18.9, 38.0)
	Some other race alone			--						0	0	0.0	(,)
	Two or more races			--		9	47,007	4.4	(2.8, 6.7)	6	24,678	4.5	(2.6, 7.7)
	Age	<30	30	198,713	18.1	(14.1, 22.9)	21	127,233	13.0	(9.6, 17.3)	14	132,530	26.9
	30-50	41	458,756	41.8	(35.0, 48.9)	46	399,849	40.8	(34.4, 47.5)	25	192,315	39.0	(30.2, 48.5)
	51+	75	440,309	40.1	(33.8, 46.8)	84	453,280	46.2	(40.1, 52.5)	33	168,588	34.2	(25.6, 43.9)
	Mean (95% CI)	146	1,097,778	46.3	(44.4, 48.2)	151	980,362	48.2	(46.2, 50.2)	72	493,434	46.3	(42.8, 49.7)
	Median (95% CI)	146	1,097,778	43.4	(40.9, 48.0)	151	980,362	47.3	(41.4, 52.0)	72	493,434	45.0	(42.0, 49.0)
Education	High school or less	48	317,473	26.5	(21.5, 32.1)	32	183,283	16.8	(13.1, 21.3)	22	140,873	25.0	(18.2, 33.2)
	Some college or Bachelors	96	716,869	59.8	(53.5, 65.8)	100	699,959	64.1	(58.5, 69.4)	50	349,587	62.0	(53.3, 70.0)
	Beyond Bachelor's degree	19	163,808	13.7	(9.6, 19.1)	36	208,048	19.1	(15.1, 23.8)	13	73,115	13.0	(8.4, 19.5)
Employment	1=employed	99	789,550	67.3	(61.4, 72.7)	116	805,148	74.9	(69.8, 79.3)	64	448,625	74.2	(66.3, 80.8)
	2=unemployed			--				--		0	0	0.0	(,)
	3=retired	38	227,933	19.4	(15.2, 24.5)	37	221,743	20.6	(16.4, 25.5)	15	84,835	14.0	(9.4, 20.5)
	4=student/homemaker /disabled	20	131,782	11.2	(8.0, 15.5)	9	32,860	3.1	(1.9, 4.8)	9	70,864	11.7	(7.2, 18.4)
Marital Status	Never married	60	499,815	41.7	(35.4, 48.2)	33	252,557	24.0	(19.0, 29.8)	16	153,878	25.9	(18.6, 34.9)
	Living with partner/Married/ Widowed	81	569,750	47.5	(41.2, 53.9)	117	692,306	65.8	(59.5, 71.5)	59	360,279	60.7	(51.6, 69.1)
	Divorced or Separated	21	129,948	10.8	(7.7, 15.0)	14	107,653	10.2	(6.7, 15.3)	12	79,469	13.4	(8.1, 21.2)
Military status	Yes, now on active duty	8	39,910	3.4	(2.0, 5.5)			--				--	
	Yes, on active duty in the past but not currently	13	82,957	7.0	(4.6, 10.5)	10	78,520	7.3	(4.8, 11.0)	8	36,435	6.4	(3.9, 10.2)

		Host and surrounding communities				Other municipalities in MA				Outside of MA or unknown			
		Weighted				Weighted				Weighted			
		N1	N2	%	95% CI	N1	N2	%	95% CI	N1	N2	%	95% CI
	No never served in the military	142	1,058,181	89.6	(85.8, 92.4)	153	986,501	91.7	(88.0, 94.4)	75	508,814	88.7	(82.3, 92.9)
Annual household income	less than \$15,000	16	93,014	7.8	(5.3, 11.2)	9	81,024	7.5	(4.4, 12.6)			--	
	15,000 - \$29,000	14	87,770	7.3	(4.9, 10.9)	9	59,091	5.5	(3.4, 8.6)			--	
	30,000 - \$49,000	25	129,972	10.8	(8.0, 14.5)	17	101,320	9.4	(6.6, 13.1)	11	64,416	11.7	(7.3, 18.2)
	50,000 - \$99,000	53	464,922	38.8	(32.6, 45.4)	51	365,248	33.8	(28.2, 40.0)	23	159,609	29.0	(21.4, 38.0)
	100,000 - \$149,999	35	290,822	24.3	(19.1, 30.3)	43	240,374	22.3	(17.9, 27.4)	17	112,142	20.4	(14.2, 28.4)
	150,000 or more	20	131,649	11.0	(7.9, 15.1)	37	231,972	21.5	(17.1, 26.7)	22	134,993	24.6	(17.6, 33.1)
Annual household income (collapsed)	1=Less than \$50,000	55	310,756	25.9	(21.3, 31.2)	35	241,435	22.4	(17.6, 28.0)	20	143,202	26.0	(18.9, 34.7)
	2=\$50,000-<\$100,000	53	464,922	38.8	(32.6, 45.4)	51	365,248	33.8	(28.2, 40.0)	23	159,609	29.0	(21.4, 38.0)
	3=\$100,000 and more	55	422,471	35.3	(29.4, 41.6)	80	472,346	43.8	(38.0, 49.8)	39	247,135	44.9	(36.2, 54.0)

¹Unweighted N refers to the total number of respondents who answered this question.

²Weighted N is the estimated total number of patrons who visited Encore Boston Harbor in past year.

³Student, homemaker, disabled were combined into "Other" because of small sample sizes in each.

Note: Italics indicates estimates are unreliable, relative standard error >30%.

Note: Those with blank cell have a sample size of five or less.

Table 60. Demographics by Race/Ethnicity

		Hispanic				White only				Black only				Asian only			
		Weighted				Weighted				Weighted				Weighted			
		N ¹	N ²	%	95% CI	N ¹	N ²	%	95% CI	N ¹	N ²	%	95% CI	N ¹	N ²	%	95% CI
	Total	38	215,862	7.6	(6.0, 9.7)	255	1,560,648	55.0	(50.9, 59.0)	43	234,987	8.3	(6.6, 10.3)	52	707,236	24.9	(21.0, 29.4)
Region	Host/surrounding community	21	130,134	60.3	(48.2, 71.2)	80	481,172	30.8	(26.7, 35.3)	31	182,738	77.8	(68.4, 85.0)	26	379,079	53.6	(43.2, 63.7)
	Live in MA	14	65,987	30.6	(21.0, 42.2)	118	745,351	47.8	(43.1, 52.5)	7	33,275	14.2	(8.5, 22.7)	15	177,885	25.2	(17.3, 35.0)
	Live outside of MA or missing zip					57	334,124	21.4	(17.7, 25.6)					11	150,272	21.2	(14.0, 30.9)
Gender	Female	20	79,740	36.9	(26.8, 48.3)	138	627,429	40.2	(35.9, 44.7)	16	86,130	36.6	(26.4, 48.2)	28	287,296	40.6	(31.1, 51.0)
	Male	17	127,759	59.2	(47.4, 70.0)	115	921,551	59.0	(54.5, 63.4)	24	136,203	58.0	(46.6, 68.6)	21	380,166	53.8	(43.4, 63.8)
	Prefer not to say																
Age	<30	8	53,389	27.9	(17.9, 40.7)	30	225,911	15.6	(12.3, 19.7)	9	45,935	21.3	(14.0, 31.2)	13	105,360	17.5	(11.0, 26.5)
	30-50	13	101,089	52.8	(39.7, 65.5)	62	516,577	35.8	(31.0, 40.9)	14	113,052	52.5	(40.9, 63.9)	13	255,104	42.3	(31.0, 54.4)
	51+	12	36,899	19.3	(12.2, 29.0)	144	701,121	48.6	(43.7, 53.5)	16	56,343	26.2	(18.2, 36.0)	13	242,722	40.2	(29.3, 52.2)
	Mean (95% CI)	33	191,378	39.7	(36.9, 42.5)	236	1,443,609	50.0	(48.3, 51.7)	39	215,330	42.4	(39.6, 45.1)	39	603,187	45.5	(42.2, 48.7)
	Median (95% CI)	33	191,378	37.4	(35.1, 41.6)	236	1,443,609	49.0	(47.1, 52.4)	39	215,330	40.0	(37.0, 46.8)	39	603,187	43.3	(40.0, 52.2)
Education	High school or less	9	46,105	22.2	(14.3, 32.8)	56	326,499	20.9	(17.4, 25.0)	12	52,223	22.8	(15.4, 32.3)	13	144,683	21.7	(14.5, 31.0)
	Some college or Bachelors	24	140,571	67.8	(56.1, 77.6)	153	963,912	61.8	(57.1, 66.2)	25	145,648	63.5	(52.3, 73.5)	29	429,971	64.4	(53.7, 73.8)
	Beyond Bachelors					46	270,236	17.3	(14.1, 21.0)					7	92,807	13.9	(7.8, 23.6)
Employment	1=employed	29	157,362	77.6	(64.0, 87.1)	162	1,059,493	68.2	(63.9, 72.2)	31	183,717	78.2	(69.0, 85.2)	34	498,435	76.6	(67.0, 84.1)
	2=unemployed					70	385,560	24.8	(21.2, 28.9)					7	90,757	14.0	(8.1, 22.9)
	3=retired					19	90,721	5.8	(4.2, 8.1)					6	56,884	8.7	(4.8, 15.4)
Marital status	4=student/homemaker/d isabled																
	Never married	11	68,741	31.8	(21.6, 44.2)	56	444,106	28.9	(24.5, 33.8)	15	98,043	41.7	(31.0, 53.3)	18	238,930	36.3	(26.4, 47.5)
	Living with partner/married/widowed	23	118,534	54.9	(42.3, 66.9)	164	911,083	59.4	(54.5, 64.0)	21	98,791	42.0	(31.7, 53.1)	27	359,363	54.5	(43.4, 65.2)
Ever served in military	Divorced or separated					30	179,473	11.7	(9.1, 15.0)	7	38,154	16.2	(9.4, 26.7)				
	Yes, now on active duty					19	124,619	8.0	(5.8, 10.8)								
	Yes, on active duty in the past but not currently																
Income	No never served in the military	33	175,836	81.5	(68.0, 90.1)	232	1,401,383	89.8	(86.4, 92.4)	36	201,786	85.9	(77.7, 91.4)	44	627,555	96.4	(93.0, 98.2)
	1=Less than \$50,000	15	76,159	36.7	(25.6, 49.4)	54	339,025	21.9	(18.2, 26.1)	16	74,183	32.4	(23.3, 43.0)	15	153,580	23.0	(15.6, 32.5)
	2=\$50,000-<\$100,000	13	78,602	37.9	(26.6, 50.7)	84	555,361	35.9	(31.4, 40.6)	13	81,993	35.8	(25.4, 47.7)	13	251,723	37.7	(27.4, 49.2)
3=\$100,000 and more	9	52,738	25.4	(15.7, 38.3)	114	651,910	42.2	(37.6, 46.9)	13	73,038	31.9	(22.0, 43.6)	21	262,159	39.3	(29.4, 50.1)	

¹Unweighted N refers to the total number of respondents who answered this question.

²Weighted N is the total number of patrons in EBH Springfield in the past year

³Student, homemaker, disabled were combined into "Other" because of small sample sizes in each

Note: A dash indicates that the cell size is less than 6

Table 61. Host and Surrounding Communities Resident Patron Demographics Compared to the Massachusetts Population

		Encore Boston Harbor Patrons				Host and surrounding community in 2020 ³	
		Host and Surrounding Community				%	SE
		N ¹	N ²	%	SE		
Gender	Female	80	500,332	39.3	4.7	48.8	0.7
	Male	81	689,078	54.1	4.8	51.2	0.7
	Prefer not to say	10	84,217	6.6	2.3		
Race/ Ethnicity	Hispanic	21	130,134	10.7	2.8	17.3	0.6
	White alone	80	481,172	39.6	4.6	54.3	0.7
	Black alone	31	182,738	15.0	3.0	13.1	0.5
	Asian alone	26	379,079	31.2	5.4	11.2	0.4
	Some other race alone					0.9	0.1
	Two or more races					3.2	0.2
Age	18-20					6.9	0.3
	21-24	16	114,589	10.4	2.8	9.8	0.4
	25-34	22	166,482	15.2	3.4	27.7	0.6
	35-54	44	436,505	39.8	5.5	29.1	0.6
	55-64	33	219,659	20.0	4.4	11.6	0.4
	65-79	30	154,824	14.1	2.9	11.2	0.4
	80+					3.6	0.2
Education	Less than high school	12	80,661	6.7	2.5	10.3	0.4
	High School or GED	36	236,812	19.8	3.6	19.5	0.5
	Some college	50	322,270	26.9	4.3	22.3	0.6
	Bachelor's Degree	46	394,599	32.9	4.9	27.4	0.6
	Masters, PHD or professional	19	163,808	13.7	3.7	20.4	0.5
Annual Household Income	Less than \$15,000	16	93,014	7.8	2.3	7.7	0.4
	\$15,000-<30,000	14	87,770	7.3	2.3	6.4	0.3
	\$30,000-<50,000	25	129,972	10.8	2.5	9.6	0.4
	\$50,000-<100,000	53	464,922	38.8	5.1	22.9	0.6
	\$100,000-<150,000	35	290,822	24.3	4.4	19.9	0.6
	\$150,000 and more	20	131,649	11.0	2.8	33.5	0.7

¹Unweighted N refers to the total number of respondents who answered this question.

²Weighted N is the estimated total number of patrons who visited Encore Boston Harbor in past year

³Source: U.S. Census Bureau, 2020 American Community Survey PUMS

Note: Italics indicates estimates are unreliable, relative standard error > 30%

Note: Those with blank cell have a sample size of five or less.

Appendix I: Patron Activities

Table 62. Gambling Activities Participated in by day of data collection

		Monday				Saturday				Combined			
		Weighted				Weighted				Weighted			
		N ¹	N ²	%	95% CI	N ¹	N ²	%	95% CI	N ¹	N ²	%	95% CI
Gambling activity in Encore Boston Harbor (Check all that apply)	Did not gamble	14	160,285	9.9	(5.8, 16.7)	31	162,684	11.8	(8.2, 16.7)	45	322,968	10.8	(7.8, 14.8)
	Slots	103	1,004,759	62.3	(52.7, 71.1)	191	869,550	63.1	(56.3, 69.4)	294	1,874,309	62.7	(56.7, 68.3)
	Table games	45	619,285	38.4	(29.5, 48.2)	92	507,482	36.8	(30.4, 43.7)	137	1,126,767	37.7	(31.9, 43.8)
	Lottery	7	97,727	6.1	(2.7, 13.1)	14	59,945	4.4	(2.5, 7.5)	21	157,672	5.3	(3.1, 8.9)
Where have you visited casinos in the past year (Check all that apply)	Did not visit other casinos	40	369,877	23.5	(17.0, 31.7)	106	507,225	37.8	(31.4, 44.6)	146	877,103	30.1	(25.2, 35.5)
	Massachusetts	28	325,648	20.9	(14.0, 29.9)	47	233,259	17.4	(12.6, 23.5)	75	558,907	19.3	(14.8, 24.7)
	Connecticut	72	815,055	52.2	(42.8, 61.5)	91	428,785	32.0	(26.2, 38.5)	163	1,243,839	42.9	(37.0, 49.0)
	Rhode Island	44	493,034	31.6	(23.4, 41.2)	52	237,963	17.8	(13.2, 23.5)	96	730,997	25.2	(20.1, 31.0)
	New Jersey			--		13	71,797	5.4	(3.1, 9.2)	18	113,299	3.9	(2.3, 6.5)
	New York	7	76,834	4.9	(2.3, 10.3)	9	48,457	3.6	(1.8, 7.0)	16	125,291	4.3	(2.5, 7.3)
	Pennsylvania			--		7	44,808	3.4	(1.6, 7.0)	10	96,899	3.3	(1.6, 6.8)
	Maine			--		22	101,921	7.6	(4.9, 11.7)	26	136,502	4.7	(3.0, 7.3)
	Nevada	17	172,720	11.1	(6.5, 18.1)	28	154,501	11.5	(7.7, 16.9)	45	327,221	11.3	(8.1, 15.6)
	Canadian casinos			--		7	36,676	2.7	(1.2, 6.1)	8	54,101	1.9	(0.8, 4.3)
	Asian casinos			--									
	European casinos			--									
	Online casinos			--		7	34,425	2.6	(1.2, 5.4)	10	75,184	2.6	(1.2, 5.4)
	Other	12	147,376	9.4	(5.1, 16.9)	14	62,341	4.7	(2.7, 8.0)	26	209,718	7.2	(4.5, 11.4)
Number of states visited casino in past year	0	46	431,359	26.2	(19.4, 34.4)	118	563,297	40.1	(33.8, 46.8)	164	994,656	32.6	(27.7, 38.0)
	1	55	671,674	40.8	(32.0, 50.2)	103	531,826	37.9	(31.5, 44.7)	158	1,203,500	39.5	(33.8, 45.4)
	2	26	273,652	16.6	(10.7, 24.9)	33	147,927	10.5	(7.4, 14.8)	59	421,579	13.8	(10.2, 18.6)
	3	16	172,007	10.4	(6.0, 17.5)	21	94,957	6.8	(4.2, 10.6)	37	266,964	8.8	(5.9, 12.7)
	4+	9	97,310	5.9	(2.8, 12.2)	13	65,735	4.7	(2.6, 8.2)	22	163,045	5.4	(3.2, 8.8)
Pattern of states visited casino in past year	1=none	39	358,109	22.8	(16.3, 30.8)	104	502,905	37.4	(31.1, 44.3)	143	861,014	29.5	(24.7, 34.9)
	2=MA only	6	92,083	5.9	(2.5, 13.1)	17	111,707	8.3	(4.7, 14.2)	23	203,790	7.0	(4.3, 11.2)
	3=CT only	25	300,613	19.1	(12.5, 28.1)	39	189,861	14.1	(10.2, 19.3)	64	490,475	16.8	(12.6, 22.1)
	4=MA and CT only			--				--				--	
	5=MA and CT and other states	12	125,371	8.0	(4.1, 14.8)	17	69,278	5.2	(3.1, 8.5)	29	194,649	6.7	(4.2, 10.4)
	6=MA and CT and other states and out			--				--		6	39,297	1.4	(0.5, 3.5)

		Monday				Saturday				Combined			
		Weighted				Weighted				Weighted			
		N ¹	N ²	%	95% CI	N ¹	N ²	%	95% CI	N ¹	N ²	%	95% CI
	of US												
	7=MA and CT and other states and out of US and online					0	0	0.0	(,)				
	8=(MA or CT) and (other states or out of US or online)	29	312,654	19.9	(13.3, 28.6)	41	199,038	14.8	(10.8, 20.0)	70	511,692	17.6	(13.4, 22.7)
	9=NOT(MA or CT) and (other states or out of US or online)	26	291,617	18.5	(12.3, 26.9)	53	261,298	19.4	(14.5, 25.6)	79	552,915	19.0	(14.7, 24.1)

¹Unweighted N refers to the total number of respondents who answered this question.

²Weighted N is the estimated total number of patrons who visited Encore Boston Harbor in past year.

Note: A dash indicates that the cell size is less than 6. Note: Italics indicates estimates are unreliable, relative standard error >30%.

Table 63. Patterns of Gambling Activity

Activities	UN ¹	N ²	% ²	95% CI ²
Total	387	2,667,177		
Slots	237	1,455,962	54.6	(48.2, 60.8)
Table Games	88	770,978	28.9	(23.2, 35.4)
Lottery			--	
Slots and Table games	41	282,565	10.6	(7.3, 15.1)
Slots and Lottery	9	65,878	2.5	(1.1, 5.3)
Table games and Lottery			--	
Slots, Table games and Lottery	7	69,902	2.6	(1.0, 6.7)

Table 64. Gambling Activities by Geographic Origin

		Host and surrounding community				Other municipalities in MA				Outside of MA or unknown			
		Weighted				Weighted				Weighted			
		N ¹	N ²	%	95% CI	N ¹	N ²	%	95% CI	N ¹	N ²	%	95% CI
Did not gamble	No	155	1,160,148	93.2	(87.6, 96.4)	148	945,623	86.4	(78.9, 91.5)	84	561,407	86.2	(75.2, 92.8)
	Yes	12	83,937	6.8	(3.6, 12.4)	21	149,235	13.6	(8.5, 21.1)	12	89,796	13.8	(7.2, 24.7)
Slots	No	52	458,478	36.8	(28.1, 46.6)	52	367,758	33.6	(25.2, 43.2)	34	289,601	44.5	(32.3, 57.3)
	Yes	115	785,607	63.2	(53.4, 71.9)	117	727,099	66.4	(56.8, 74.8)	62	361,602	55.5	(42.7, 67.7)
Table games	No	107	704,761	56.6	(46.8, 66.0)	121	768,171	70.2	(60.6, 78.2)	67	390,446	60.0	(46.6, 71.9)
	Yes	60	539,324	43.4	(34.0, 53.2)	48	326,687	29.8	(21.8, 39.4)	29	260,757	40.0	(28.0, 53.4)
Lottery	No	161	1,183,959	95.2	(87.2, 98.3)	160	1,057,992	96.6	(92.9, 98.4)	90	590,523	90.7	(79.3, 96.1)
	Yes	6	60,126	4.8	(1.7, 12.8)	9	36,866	3.4	(1.6, 7.1)	6	60,680	9.3	(3.9, 20.7)

¹Unweighted N refers to the total number of respondents who answered this question.

²Weighted N is the estimated total number of patrons who visited Encore Boston Harbor in past year.

Note: A dash indicates that the cell size is less than 6.

Note: Italics indicates estimates are unreliable, relative standard error >30%.

Table 65. Gambling Activities by Loyalty Card Membership

	Loyalty card membership							
	No				Yes			
	Weighted				Weighted			
	N ¹	N ²	%	95% CI	N ¹	N ²	%	95% CI
Slots	55	327,727	17.5	(12.8, 23.4)	239	1,546,581	82.5	(76.6, 87.2)
Table games	47	336,913	29.9	(21.4, 40.1)	90	789,855	70.1	(59.9, 78.6)
Lottery	7	46,160	29.3	(11.5, 56.8)	14	111,512	70.7	(43.2, 88.5)

¹Unweighted N refers to the total number of respondents who answered this question.

²Weighted N is the estimated total number of patrons who visited Encore Boston Harbor in past year.

Note: A dash indicates that the cell size is less than 6.

Note: Italics indicates estimates are unreliable, relative standard error >30%.

Table 66. Non-gambling Activities Participated in Encore Boston Harbor by Day of data collection

		Monday				Saturday				Combined			
		N ¹	N ²	Weighted		N ¹	N ²	Weighted		N ¹	N ²	Weighted	
				%	95% CI			%	95% CI			%	95% CI
Non-gambling activity in Encore Boston Harbor (Check all that apply)	Food or beverage	101	1,108,075	68.4	(59.2, 76.4)	190	928,210	67.6	(61.2, 73.5)	291	2,036,286	68.1	(62.4, 73.3)
	Hotel	25	324,183	20.0	(13.2, 29.2)	42	208,166	15.2	(10.9, 20.8)	67	532,349	17.8	(13.4, 23.2)
	Shopping	22	301,967	18.6	(11.8, 28.2)	30	178,435	13.0	(8.7, 19.1)	52	480,402	16.1	(11.6, 21.8)
	Waterfront related activities	8	128,007	7.9	(3.7, 16.1)	17	89,760	6.5	(3.7, 11.3)	25	217,767	7.3	(4.4, 11.8)
	Entertainment	12	219,129	13.5	(7.6, 22.9)	38	193,104	14.1	(10.1, 19.3)	50	412,233	13.8	(9.8, 19.0)
	Spa or salon			--		9	34,861	2.5	(1.2, 5.2)	14	95,747	3.2	(1.6, 6.5)
	Other			--		7	25,487	1.9	(0.8, 4.1)	11	65,495	2.2	(1.1, 4.5)
None	38	374,997	23.2	(16.4, 31.6)	55	241,335	17.6	(13.4, 22.8)	93	616,332	20.6	(16.3, 25.6)	

¹Unweighted N refers to the total number of respondents who answered this question.

²Weighted N is the estimated total number of patrons who visited Encore Boston Harbor in past year.

Note: A dash indicates that the cell size is less than 6.

Note: Italics indicates estimates are unreliable, relative standard error >30%.

Table 67. Non-gambling Activities in Encore Boston Harbor by Geographic Origin

		Host and surrounding community				Other municipalities in MA				Outside of MA or unknown			
		N ¹	N ²	Weighted		N ¹	N ²	Weighted		N ¹	N ²	Weighted	
				%	95% CI			%	95% CI			%	95% CI
Non-gambling activity in Encore Boston Harbor (Check all that apply)	Food or beverage	106	804,189	64.9	(55.4, 73.4)	118	778,111	70.3	(61.5, 77.8)	67	453,985	70.2	(57.2, 80.6)
	Hotel	20	191,535	15.5	(9.0, 25.2)	24	200,365	18.1	(11.3, 27.6)	23	140,448	21.7	(13.6, 32.8)
	Shopping	19	195,258	15.8	(9.3, 25.5)	25	226,417	20.4	(13.0, 30.6)	8	58,727	9.1	(3.4, 22.0)
	Waterfront related activities	11	108,936	8.8	(4.3, 17.2)	10	93,379	8.4	(3.8, 17.7)				
	Entertainment	22	199,741	16.1	(9.8, 25.3)	16	120,843	10.9	(5.9, 19.4)	12	91,649	14.2	(6.8, 27.4)
	Spa or salon	6	60,574	4.9	(1.7, 13.2)			--				--	
	Other			--				--				--	
None	41	308,439	24.9	(17.6, 33.9)	39	204,174	18.4	(13.2, 25.2)	13	103,719	16.0	(8.0, 29.5)	

¹Unweighted N refers to the total number of respondents who answered this question.

²Weighted N is the estimated total number of patrons who visited Encore Boston Harbor in past year.

Note: A dash indicates that the cell size is less than 6.

Note: Italics indicates estimates are unreliable, relative standard error >30%.

Table 68. Patterns of Gambling Activities with Non-gambling Activities in Encore Boston Harbor

Gambling activity	Non gambling activities in Encore Boston Harbor	Did not participate in gambling activity				Did participate in gambling activity			
		UN ¹	N ²	% ²	95% CI ²	UN ¹	N ²	% ²	95% CI ²
DID NOT GAMBLE		387	2,667,177	89.2	(85.2, 92.2)	45	322,968	10.8	(7.8, 14.8)
	Food or beverage	262	1,816,622	68.3	(62.2, 73.8)	28	212,099	67.8	(50.9, 81.1)
	Hotel	62	496,729	18.7	(13.9, 24.6)			--	
	Shopping	48	445,225	16.7	(11.9, 23.0)			--	
	Waterfront related activities	22	204,492	7.7	(4.5, 12.8)			--	
	Entertainment	45	379,584	14.3	(10.0, 20.0)			--	
	Spa or salon	11	73,588	2.8	(1.2, 6.3)			--	
	Other	9	46,525	1.8	(0.8, 3.6)			--	
	None	84	563,637	21.2	(16.6, 26.6)	8	48,105	15.4	(6.7, 31.6)
SLOTS		138	1,115,837	37.3	(31.7, 43.3)	294	1,874,309	62.7	(56.6, 68.3)
	Food or beverage	88	681,032	61.6	(51.0, 71.2)	202	1,347,688	72.2	(65.7, 77.8)
	Hotel	19	163,259	14.8	(8.3, 24.8)	48	369,089	19.8	(14.3, 26.7)
	Shopping	16	179,193	16.2	(9.2, 27.1)	36	301,209	16.1	(10.9, 23.3)
	Waterfront related activities	10	79,738	7.2	(3.1, 16.0)	14	131,332	7.0	(3.7, 13.1)
	Entertainment	26	231,896	21.0	(13.5, 31.1)	24	180,337	9.7	(5.7, 16.0)
	Spa or salon			--		11	73,588	3.9	(1.7, 8.9)
	Other			--		7	39,088	2.1	(0.9, 4.7)
	None	28	259,232	23.4	(15.5, 33.8)	64	352,510	18.9	(14.4, 24.4)
TABLE GAMES		295	1,863,378	62.3	(56.2, 68.1)	137	1,126,767	37.7	(31.9, 43.8)
	Food or beverage	200	1,311,614	71.0	(64.5, 76.8)	90	717,106	63.6	(53.0, 73.1)
	Hotel	43	298,136	16.2	(11.4, 22.3)	24	234,213	20.8	(12.9, 31.8)
	Shopping	32	266,668	14.4	(9.6, 21.1)	20	213,734	19.0	(11.1, 30.4)
	Waterfront related activities	15	109,387	5.9	(3.2, 10.8)	9	101,683	9.0	(3.9, 19.6)
	Entertainment	22	122,383	6.6	(4.1, 10.6)	28	289,850	25.7	(17.0, 37.0)
	Spa or salon	9	47,506	2.6	(1.2, 5.6)			--	
	Other	7	42,807	2.3	(0.9, 5.8)			--	
	None	61	335,568	18.2	(13.7, 23.7)	31	276,174	24.5	(16.5, 34.8)
LOTTERY		411	2,832,474	94.7	(91.0, 96.9)	21	157,672	5.3	(3.0, 8.9)
	Food or beverage	274	1,902,242	67.6	(61.7, 73.0)	16	126,479	80.2	(56.7, 92.6)
	Hotel	59	448,753	15.9	(11.8, 21.2)	8	83,596	53.0	(27.6, 76.9)
	Shopping	48	440,925	15.7	(11.2, 21.4)			--	
	Waterfront related activities	22	200,616	7.1	(4.2, 11.9)			--	
	Entertainment	47	372,393	13.2	(9.3, 18.4)			--	
	Spa or salon	11	58,360	2.1	(1.0, 4.1)			--	
	Other	11	65,495	2.3	(1.1, 4.7)			0	
	None	89	591,003	21.0	(16.6, 26.2)			--	

¹Unweighted N refers to the total number of respondents who answered this question.

²Weighted N is the estimated total number of patrons who visited Encore Boston Harbor in past year.

Note: A dash indicates that the cell size is less than 6.

Note: Italics indicates estimates are unreliable, relative standard error >30%.

Table 69. Non-gambling Activities Participated Off-site by Day of Data collection

		Monday				Saturday				Combined			
		N ¹	Weighted			N ¹	Weighted			N ¹	Weighted		
			N ²	%	95% CI		N ²	%	95% CI		N ²	%	95% CI
Non-gambling activity off-site (Check all that apply)	Attended an event, show, exhibit	38	504,296	33.2	(24.3, 43.5)	87	454,080	34.1	(27.8, 41.0)	125	958,376	33.6	(27.9, 39.9)
	...Boston Duck Boats	9	110,266	7.3	(3.2, 15.6)	20	112,768	8.5	(5.1, 13.6)	29	223,035	7.8	(4.9, 12.3)
	...USS Constitution			--		8	34,849	2.6	(1.3, 5.4)	11	60,858	2.1	(1.0, 4.3)
	...New England Aquarium	6	91,458	6.0	(2.5, 13.7)	21	119,968	9.0	(5.4, 14.7)	27	211,426	7.4	(4.6, 11.7)
	...TD Gardens	14	171,100	11.3	(6.2, 19.6)	32	177,310	13.3	(9.2, 19.0)	46	348,410	12.2	(8.6, 17.0)
	...Museum of Science	8	90,518	6.0	(2.8, 12.3)	17	84,039	6.3	(3.5, 11.1)	25	174,557	6.1	(3.8, 9.8)
	...Some other Boston location	9	89,287	5.9	(2.6, 12.6)	28	151,481	11.4	(7.6, 16.7)	37	240,768	8.4	(5.7, 12.3)
	Went to live entertainment show concert or performance	6	75,419	5.0	(2.0, 12.0)	11	60,646	4.6	(2.1, 9.5)	17	136,065	4.8	(2.6, 8.7)
	Bought food or beverage in a restaurant, cafe or other food outlet	25	301,176	19.8	(13.1, 28.9)	52	296,337	22.2	(16.6, 29.2)	77	597,514	21.0	(16.3, 26.6)
	Visited a local bar, pub, or nightclub	10	109,110	7.2	(3.4, 14.4)	41	213,843	16.1	(11.8, 21.4)	51	322,953	11.3	(8.2, 15.4)
	Retail shopping, like downtown shop or mall	16	156,749	10.3	(6.0, 17.2)	21	122,133	9.2	(5.5, 15.0)	37	278,882	9.8	(6.7, 14.0)
	Stayed at hotel outside the casino			--		21	126,305	9.5	(5.7, 15.3)	23	149,411	5.2	(3.2, 8.5)
	Took public transportation around the city			--		8	61,703	4.6	(1.9, 10.6)	10	87,242	3.1	(1.4, 6.4)
	Bought fuel or other goods at a gas station	11	104,990	6.9	(3.6, 12.7)	23	132,293	9.9	(6.1, 15.7)	34	237,283	8.3	(5.6, 12.2)
	Spent money on other entertainment (amusement park, golf course, movie theater)	9	98,895	6.5	(3.2, 12.8)	16	87,636	6.6	(4.0, 10.8)	25	186,531	6.5	(4.2, 10.1)
	Nothing	46	455,687	30.0	(22.3, 39.0)	92	385,884	29.0	(23.5, 35.1)	138	841,572	29.5	(24.6, 35.0)

¹Unweighted N refers to the total number of respondents who answered this question.

²Weighted N is the estimated total number of patrons who visited Encore Boston Harbor in past year.

Note: A dash indicates that the cell size is less than 6.

Note: Italics indicates estimates are unreliable, relative standard error >30%.

Table 70. Non-gambling Activities Off-site by Geographic Origin

	Host and surrounding community				Other municipalities in MA				Outside of MA or unknown			
	N ¹	N ²	Weighted		N ¹	N ²	Weighted		N ¹	N ²	Weighted	
			%	95% CI			%	95% CI			%	95% CI
Attended an event, show, exhibit	53	451,990	38.8	(29.2, 49.2)	40	272,094	25.4	(17.9, 34.7)	32	234,292	38.3	(26.3, 51.8)
Went to live entertainment show concert or performance	8	70,970	6.1	(2.4, 14.3)	7	60,914	5.7	(2.4, 13.0)			--	
Bought food or beverage in a restaurant, cafe or other food outlet	29	234,405	20.1	(13.0, 29.7)	26	199,024	18.6	(12.2, 27.1)	22	164,085	26.8	(16.4, 40.6)
Visited a local bar, pub, or nightclub	15	83,566	7.2	(4.1, 12.3)	18	108,302	10.1	(6.0, 16.5)	18	131,084	21.4	(12.4, 34.4)
Retail shopping, like downtown shop or mall	17	129,179	11.1	(6.4, 18.6)	11	82,593	7.7	(3.7, 15.2)	9	67,110	11.0	(5.2, 21.8)
Stayed at hotel outside the casino	7	60,871	5.2	(2.1, 12.2)			--		13	76,479	12.5	(6.5, 22.6)
Took public transportation around the city			--				--				--	
Bought fuel or other goods at a gas station	17	114,663	9.8	(5.6, 16.7)	8	51,009	4.8	(2.3, 9.7)	9	71,611	11.7	(5.3, 23.7)
Spent money on other entertainment (amusement park, golf course, movie theater)	12	81,104	7.0	(3.6, 12.9)	9	64,137	6.0	(2.9, 12.1)			--	
Nothing	45	291,732	25.0	(17.9, 33.8)	69	424,472	39.6	(31.0, 48.8)	24	125,367	20.5	(12.8, 31.0)

¹Unweighted N refers to the total number of respondents who answered this question

²Weighted N is the estimated total number of patrons who visited Encore Boston Harbor in past year

Note: A dash indicates that the cell size is less than 6

Note: Italics indicates estimates are unreliable, relative standard error >30%

Table 71. Patterns of Gambling Activities with Non-gambling Activities Off-site

Gambling activity	Non gambling activities off-site	Did not participate in activity				Did participate in activity			
		UN ¹	N ²	% ²	95% CI ²	UN ¹	N ²	% ²	95% CI ²
DID NOT GAMBLE		387	2,667,177	89.2	(85.2, 92.2)	45	322,968	10.8	(7.8, 14.8)
	Attended an event, show, exhibit	112	875,452	34.2	(28.1, 41.0)	12	78,335	27.8	(15.3, 45.0)
	Went to live entertainment show concert or performance	17	136,065	5.3	(2.9, 9.6)			--	
	Bought food or beverage in a restaurant, cafe or other food outlet	69	528,956	20.7	(15.8, 26.6)	8	68,558	24.3	(11.5, 44.2)
	Visited a local bar, pub, or nightclub	45	288,775	11.3	(8.0, 15.7)			--	
	Retail shopping, like downtown shop or mall	33	250,898	9.8	(6.6, 14.4)			--	
	Stayed at hotel outside the casino	21	135,434	5.3	(3.1, 8.9)			--	
	Took public transportation around city	9	83,524	3.3	(1.5, 7.0)			--	
	Bought fuel or other goods at a gas station	33	230,913	9.0	(6.1, 13.2)			--	
	Spent money on other entertainment (amusement park, golf course, movie theater)	23	165,810	6.5	(4.1, 10.2)			--	
	Nothing	128	771,184	30.2	(24.9, 36.0)	10	70,388	25.0	(12.4, 43.9)
SLOTS		138	1,115,837	37.3	(31.7, 43.3)	294	1,874,309	62.7	(56.6, 68.3)
	Attended an event, show, exhibit	41	351,115	34.0	(24.2, 45.3)	83	602,671	33.4	(26.6, 41.0)
	Went to live entertainment show concert or performance	6	72,738	7.0	(2.7, 17.2)	11	63,327	3.5	(1.7, 7.1)
	Bought food or beverage in a restaurant, cafe or other food outlet	22	231,065	22.4	(14.2, 33.3)	55	366,449	20.3	(14.9, 27.0)
	Visited a local bar, pub, or nightclub	19	131,523	12.7	(7.4, 20.9)	31	184,732	10.2	(6.8, 15.1)
	Retail shopping, like downtown shop or mall	11	85,687	8.3	(4.2, 15.5)	26	193,195	10.7	(6.8, 16.5)
	Stayed at hotel outside the casino	9	61,744	6.0	(2.7, 12.5)	14	87,667	4.8	(2.5, 9.2)
	Took public transportation around city			--		6	55,389	3.1	(1.2, 7.8)
	Bought fuel or other goods at a gas station	8	61,977	6.0	(2.7, 12.8)	26	175,306	9.7	(6.2, 14.9)
	Spent money on other entertainment (amusement park, golf course, movie theater)	10	73,611	7.1	(3.6, 13.5)	15	112,920	6.2	(3.4, 11.0)
	Nothing	36	283,508	27.4	(19.0, 37.8)	102	558,064	30.9	(25.0, 37.5)
TABLE GAMES		295	1,863,378	62.3	(56.2, 68.1)	137	1,126,767	37.7	(31.9, 43.8)
	Attended an event, show, exhibit	83	565,352	32.1	(25.6, 39.4)	41	388,435	36.0	(25.8, 47.6)
	Went to live entertainment show concert or performance	7	39,863	2.3	(0.8, 5.8)	10	96,202	8.9	(4.1, 18.2)
	Bought food or beverage in a restaurant, cafe or other food outlet	54	362,508	20.6	(15.2, 27.3)	23	235,005	21.8	(13.8, 32.6)

Gambling activity	Non gambling activities off-site	Did not participate in activity				Did participate in activity			
		UN ¹	N ²	% ²	95% CI ²	UN ¹	N ²	% ²	95% CI ²
	Visited a local bar, pub, or nightclub	28	169,233	9.6	(6.2, 14.5)	22	147,022	13.6	(8.2, 21.7)
	Retail shopping, like downtown shop or mall	26	193,432	11.0	(7.0, 16.8)	11	85,450	7.9	(3.9, 15.4)
	Stayed at hotel outside the casino	14	77,878	4.4	(2.4, 8.1)	9	71,533	6.6	(3.0, 14.1)
	Took public transportation around city			--				--	
	Bought fuel or other goods at a gas station	22	149,232	8.5	(5.3, 13.3)	12	88,051	8.2	(4.1, 15.6)
	Spent money on other entertainment (amusement park, golf course, movie theater)	15	124,842	7.1	(4.0, 12.3)	10	61,689	5.7	(2.9, 11.0)
	Nothing	98	557,450	31.7	(25.6, 38.4)	40	284,122	26.3	(18.3, 36.2)
LOTTERY		411	2,832,474	94.7	(91.0, 96.9)	21	157,672	5.3	(3.0, 8.9)
	Attended an event, show, exhibit	115	876,886	32.6	(26.8, 39.0)	9	76,900	50.3	(24.5, 75.9)
	Went to live entertainment show concert or performance	15	124,973	4.6	(2.4, 8.8)			--	
	Bought food or beverage in a restaurant, cafe or other food outlet	73	569,454	21.2	(16.3, 27.1)			--	
	Visited a local bar, pub, or nightclub	45	274,154	10.2	(7.2, 14.2)			--	
	Retail shopping, like downtown shop or mall	37	278,882	10.4	(7.1, 14.9)			--	
	Stayed at hotel outside the casino	21	137,694	5.1	(3.0, 8.6)			--	
	Took public transportation around city	10	87,242	3.2	(1.5, 6.8)			--	
	Bought fuel or other goods at a gas station	29	190,386	7.1	(4.6, 10.7)			--	
	Spent money on other entertainment (amusement park, golf course, movie theater)	23	157,694	5.9	(3.7, 9.2)			--	
	Nothing	132	818,089	30.4	(25.3, 36.2)	6	23,483	15.4	(5.2, 37.3)

¹Unweighted N refers to the total number of respondents who answered this question.

²Weighted N is the estimated total number of patrons who visited Encore Boston Harbor in past year.

Note: A dash indicates that the cell size is less than 6.

Note: Italics indicates estimates are unreliable, relative standard error >30%.

Table 72. Non-gambling Activities Off-site by Did Encore Boston Harbor Prompt Visit to Town, among Massachusetts Patrons

	EBH did not prompt visit to town				EBH did prompt visit to town			
	N ¹	N ²	Weighted		N ¹	N ²	Weighted	
			%	95% CI			%	95% CI
Attended an event, show, exhibit	29	221,907	33.7	(22.1, 47.7)	63	497,268	31.9	(24.5, 40.3)
Went to live entertainment show concert or performance	4	<i>41,395</i>	<i>6.3</i>	<i>(1.8, 20.0)</i>	<i>11</i>	<i>90,489</i>	<i>5.8</i>	<i>(2.8, 11.6)</i>
Bought food or beverage in a restaurant, cafe or other	16	128,366	19.5	(11.1, 32.0)	39	305,062	19.6	(13.7, 27.2)
Visited a local bar, pub, or nightclub	8	<i>45,425</i>	<i>6.9</i>	<i>(3.4, 13.6)</i>	25	146,444	9.4	(6.0, 14.4)
Retail shopping, like downtown shop or mall	7	<i>60,099</i>	<i>9.1</i>	<i>(4.0, 19.6)</i>	21	151,673	9.7	(5.8, 15.9)
Stayed at hotel outside the casino	4	<i>33,455</i>	<i>5.1</i>	<i>(1.6, 15.3)</i>	6	<i>39,477</i>	<i>2.5</i>	<i>(0.9, 6.9)</i>
Took public transportation around city	2	<i>25,540</i>	<i>3.9</i>	<i>(0.9, 15.3)</i>	5	<i>34,439</i>	<i>2.2</i>	<i>(0.7, 6.7)</i>
Bought fuel or other goods at a gas station	5	<i>38,391</i>	<i>5.8</i>	<i>(2.2, 14.3)</i>	20	127,282	8.2	(4.9, 13.3)
Spent money on other entertainment (amusement park, golf course, movie theater)	8	<i>53,645</i>	<i>8.2</i>	<i>(3.7, 16.9)</i>	<i>13</i>	<i>91,595</i>	<i>5.9</i>	<i>(3.2, 10.7)</i>
Nothing	27	159,787	24.3	(15.7, 35.6)	86	546,246	35.0	(27.9, 42.9)

¹Unweighted N refers to the total number of respondents who answered this question.

²Weighted N is the estimated total number of patrons who visited Encore Boston Harbor in past year.

Note: A dash indicates that the cell size is less than 6.

Note: Italics indicates estimates are unreliable, relative standard error >30%.

Table 73. Non-gambling Activities Off-site by Did Encore Boston Harbor Prompt Visit to Town, among Patrons from outside Massachusetts

	EBH did not prompt visit to town				EBH did prompt visit to town			
	N ¹	N ²	Weighted		N ¹	N ²	Weighted	
			%	95% CI			%	95% CI
Attended an event, show, exhibit	17	105,733	38.3	(22.0, 57.8)	15	128,559	38.2	(22.3, 57.1)
Went to live entertainment show concert or performance	0	0	0.0	(,)	2	<i>4,181</i>	<i>1.2</i>	<i>(0.3, 5.0)</i>
Bought food or beverage in a restaurant, cafe or other	14	104,583	37.9	(20.8, 58.7)	8	<i>59,502</i>	<i>17.7</i>	<i>(8.0, 34.8)</i>
Visited a local bar, pub, or nightclub	11	<i>82,626</i>	<i>29.9</i>	<i>(15.1, 50.7)</i>	7	<i>48,458</i>	<i>14.4</i>	<i>(5.9, 31.2)</i>
Retail shopping, like downtown shop or mall	6	<i>39,847</i>	<i>14.4</i>	<i>(6.0, 30.8)</i>	3	<i>27,263</i>	<i>8.1</i>	<i>(2.0, 27.2)</i>
Stayed at hotel outside the casino	7	<i>37,626</i>	<i>13.6</i>	<i>(6.2, 27.5)</i>	6	<i>38,853</i>	<i>11.6</i>	<i>(4.1, 28.6)</i>
Took public transportation around city	0	0	0.0	(,)	3	<i>27,263</i>	<i>8.1</i>	<i>(2.0, 27.2)</i>
Bought fuel or other goods at a gas station	3	<i>16,061</i>	<i>5.8</i>	<i>(1.8, 17.4)</i>	6	<i>55,550</i>	<i>16.5</i>	<i>(6.4, 36.2)</i>
Spent money on other entertainment (amusement park, golf course, movie theater)	1	<i>6,171</i>	<i>2.2</i>	<i>(0.3, 14.5)</i>	3	<i>35,119</i>	<i>10.4</i>	<i>(3.1, 29.9)</i>
Nothing	5	<i>19,277</i>	<i>7.0</i>	<i>(2.5, 17.9)</i>	19	106,091	31.5	(18.7, 48.0)

¹Unweighted N refers to the total number of respondents who answered this question.

²Weighted N is the estimated total number of patrons who visited Encore Boston Harbor in past year.

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Table 74 COVID-19 Pandemic Impacts on Gambling by day of collection

		Monday				Saturday				Combined			
		Weighted				Weighted				Weighted			
		N ¹	N ²	%	95% CI	N ¹	N ²	%	95% CI	N ¹	N ²	%	95% CI
Has the COVID-19 pandemic increased the amount of online gambling you have done?	1=No	123	1,309,096	84.9	(76.2, 90.8)	237	1,123,711	84.1	(78.2, 88.6)	360	2,432,807	84.5	(79.4, 88.5)
	2=Yes	20	232,977	15.1	(9.2, 23.8)	38	213,074	15.9	(11.4, 21.8)	58	446,051	15.5	(11.5, 20.6)
What impact, if any, has the COVID-19 pandemic had on your overall gambling behavior?	It has had no impact on my gambling	82	873,686	59.8	(49.9, 68.9)	176	833,611	63.1	(56.2, 69.5)	258	1,707,296	61.4	(55.2, 67.1)
	Overall I have gambled less	33	334,081	22.8	(16.0, 31.6)	64	285,575	21.6	(16.6, 27.6)	97	619,657	22.3	(17.8, 27.5)
	Overall I have gambled more	20	254,435	17.4	(10.8, 26.8)	33	201,180	15.2	(10.7, 21.3)	53	455,614	16.4	(12.1, 21.8)

¹Unweighted N refers to the total number of respondents who answered this question.

²Weighted N is the estimated total number of patrons who visited Encore Boston Harbor in past year.

Note: A dash indicates that the cell size is less than 6.

Note: Italics indicates estimates are unreliable, relative standard error >30%.

Table 75. COVID-19 Pandemic Impacts on Gambling by geographic origin

		Host and surrounding community				Other municipalities in MA				Outside of MA or unknown			
		Weighted				Weighted				Weighted			
		N ¹	N ²	%	95% CI	N ¹	N ²	%	95% CI	N ¹	N ²	%	95% CI
Has the COVID-19 pandemic increased the amount of online gambling you have done?	1=No	141	1,021,400	85.2	(76.6, 91.1)	144	907,872	84.6	(76.0, 90.5)	75	503,535	82.9	(70.0, 90.9)
	2=Yes	22	176,749	14.8	(8.9, 23.4)	22	165,198	15.4	(9.5, 24.0)	14	104,104	17.1	(9.1, 29.9)
What impact, if any, has the COVID-19 pandemic had on your overall gambling behavior?	It has had no impact on my gambling	101	718,693	62.1	(52.1, 71.1)	98	608,429	56.8	(47.4, 65.7)	59	380,174	68.7	(54.7, 80.0)
	Overall I have gambled less	36	225,548	19.5	(13.3, 27.6)	44	297,355	27.8	(20.0, 37.1)	17	96,755	17.5	(10.0, 28.7)
	Overall I have gambled more	23	213,860	18.5	(11.5, 28.3)	23	165,534	15.4	(9.9, 23.3)	7	76,220	13.8	(5.9, 28.8)

¹Unweighted N refers to the total number of respondents who answered this question.

²Weighted N is the estimated total number of patrons who visited Encore Boston Harbor in past year.

Note: A dash indicates that the cell size is less than 6.

Note: Italics indicates estimates are unreliable, relative standard error >30%.

Appendix J: Expenditures

Analysis of expenditures and economic modeling were based on data collected from the following:

- What specific gambling activities they engaged in during their visit to Encore Boston Harbor and their net gambling expenditure on these activities during their visit (questions 15 and 16)
- What non-gambling activities they spent money on within Encore Boston Harbor (e.g., food, shopping, entertainment) and their total spending on these things during their visit (questions 12 and 13)
- What other things they spent money on during their trip to the local area outside of the casino itself (e.g., hotel, shopping, restaurants), and how much in total they spent on these things (questions 20 and 21)
- If there was not a casino in Massachusetts, whether they would have spent the money they spent on gambling in another state, and if so, which state (questions 22 and 23)
- Due to casinos in Massachusetts, spending less in other areas (question 24)
- Due to casinos in Massachusetts, MA lottery spending changed (question 25)
- For Massachusetts residents, main reason for visiting Springfield (used with expenditure information for economic modeling) (question 5)
- For non-Massachusetts residents, main reason for visiting Massachusetts (used with expenditure information for economic modeling) (question 6)

Table 76. Self-reported Expenditures at Encore Boston Harbor by Day of Collection and Residency

		Mondays					Saturdays					Combined					
		Unweighted N	Weighted N	Average (95% C.I.)	Median	Total (95% C.I.)	Unweighted N	Weighted N	Average (95% C.I.)	Median	Total (95% C.I.)	Unweighted N	Weighted N	Average (95% C.I.)	Median	Total (95% C.I.)	% of Total
MA Patrons	Gambling	104	1,115,136	276.4 (170.0, 382.7)	175.2	308,172,009 (172,113,028, 444,230,991)	176	835,072	340.6 (216.0, 465.2)	108.3	284,409,167 (171,902,842, 396,915,491)	280	1,950,208	303.9 (222.9, 384.8)	134.4	592,581,176 (420,931,383, 764,230,969)	79.0%
	Non-Gambling at Encore Boston Harbor	87	982,386	231.0 (97.4, 364.7)	48.3	226,954,966 (85,438,967, 368,470,964)	156	763,304	288.4 (158.4, 418.5)	59.3	220,161,008 (116,255,643, 324,066,373)	243	1,745,690	256.1 (161.8, 350.4)	51.0	447,115,973 (274,253,713, 619,978,233)	79.7%
	Non-Gambling outside Encore Boston Harbor	63	719,641	293.0 (131.1, 454.9)	81.0	210,862,867 (77,183,386, 344,542,349)	123	639,288	324.8 (184.2, 465.4)	106.9	207,649,698 (106,549,589, 308,749,806)	186	1,358,930	308.0 (199.7, 416.3)	95.1	418,512,565 (253,603,123, 583,422,008)	82.1%
Non-MA Patrons	Gambling	15	192,874	208.4 (15.7, 401.1)	62.8	40,195,668 (363,002, 80,754,337)	56	284,770	410.6 (200.1, 621.2)	205.2	116,934,561 (45,478,183, 188,390,939)	71	477,643	329.0 (174.6, 483.4)	132.9	157,130,228 (75,509,194, 238,751,263)	21.0%
	Non-Gambling at Encore Boston Harbor	15	171,389	96.4 (19.3, 173.5)	34.6	16,516,259 (36,486, 32,996,033)	59	301,513	322.0 (103.9, 540.1)	94.9	97,084,794 (24,342,489, 169,827,098)	74	472,902	240.2 (93.7, 386.8)	73.1	113,601,053 (39,220,441, 187,981,665)	20.3%
	Non-Gambling outside Encore Boston Harbor	18	217,968	234.8 (123.8, 345.7)	99.9	51,174,047 (12,670,398, 89,677,697)	41	213,748	187.3 (117.5, 257.1)	79.8	40,035,634 (21,868,698, 58,202,569)	59	431,716	211.3 (143.9, 278.7)	91.1	91,209,681 (49,102,493, 133,316,869)	17.9%
All Patrons	Gambling	119	1,308,009	266.3 (170.9, 361.8)	135.7	348,367,677 (207,257,834, 489,477,520)	232	1,119,842	358.4 (250.9, 465.9)	122.9	401,343,727 (270,487,421, 532,200,034)	351	2,427,851	308.8 (237.1, 380.5)	130.7	749,711,404 (564,825,759, 934,597,050)	100.0%
	Non-Gambling at Encore Boston Harbor	102	1,153,775	211.0 (96.1, 325.9)	47.4	243,471,225 (101,265,520, 385,676,930)	215	1,064,817	297.9 (186.0, 409.9)	81.3	317,245,801 (191,986,391, 442,505,211)	317	2,218,592	252.7 (172.2, 333.3)	53.2	560,717,026 (375,207,028, 746,227,024)	100.0%
	Non-Gambling outside Encore Boston Harbor	81	937,609	279.5 (152.4, 406.6)	86.9	262,036,915 (123,694,721, 400,379,108)	164	853,036	290.4 (182.2, 398.5)	97.4	247,685,332 (145,781,183, 349,589,481)	245	1,790,645	284.7 (200.5, 368.8)	95.2	509,722,246 (341,920,120, 677,524,373)	100.0%

Note: Italics indicates estimates are unreliable, relative standard error >30%.

Table 77. Self-reported Expenditures at Encore Boston Harbor by Race/Ethnicity

		Unweighted N	Weighted N	Average (95% C.I.)	Median	Total (95% C.I.)	% of Total
Hispanic	Gambling	30	169,357	279.5 <i>(81.3, 477.7)</i>	142.7 (60.0, 225.3)	47,336,573 (11,939,644, 82,733,502)	6.9%
	Non-Gambling at Encore Boston Harbor	26	147,361	297.3 <i>(89.8, 504.9)</i>	90.2 (28.8, 151.6)	43,815,999 (11,902,965, 75,729,034)	8.1%
	Non-Gambling outside Encore Boston Harbor	27	148,930	382.0 <i>(88.5, 675.6)</i>	160.2 (45.9, 274.6)	56,897,247 (8,613,692, 105,180,801)	11.9%
White alone	Gambling	215	1,276,676	255.9 (196.8, 315.0)	146.3 (91.7, 200.8)	326,690,443 (243,161,366, 410,219,520)	47.9%
	Non-Gambling at Encore Boston Harbor	190	1,164,476	199.9 (116.6, 283.1)	49.8 (30.7, 68.9)	232,764,046 (131,510,447, 334,017,646)	42.8%
	Non-Gambling outside Encore Boston Harbor	135	860,384	180.2 (139.4, 221.0)	89.2 (70.1, 108.4)	155,058,546 (113,195,711, 196,921,381)	32.5%
Black alone	Gambling	39	217,428	278.1 <i>(62.1, 494.0)</i>	109.3 (35.0, 183.6)	60,466,640 (9,574,285, 111,358,995)	8.9%
	Non-Gambling at Encore Boston Harbor	32	179,820	442.0 <i>(37.9, 846.1)</i>	75.5 (30.4, 120.5)	79,481,307 (4,022,220, 154,940,395)	14.6%
	Non-Gambling outside Encore Boston Harbor	29	155,524	284.0 <i>(44.3, 523.7)</i>	80.3 (43.5, 117.1)	44,168,696 (4,132,132, 84,205,260)	9.2%
Asian alone	Gambling	38	594,102	360.6 (145.8, 575.4)	117.5 (32.8, 267.7)	214,238,118 (70,063,179, 358,413,057)	31.4%
	Non-Gambling at Encore Boston Harbor	38	553,525	314.6 <i>(87.1, 542.1)</i>	42.0 (-10.6, 94.5)	174,142,587 (35,768,160, 312,517,013)	32.0%
	Non-Gambling outside Encore Boston Harbor	32	503,089	378.8 <i>(139.7, 617.9)</i>	98.8 (51.3, 146.3)	190,563,453 (45,696,206, 335,430,700)	39.9%

Italics indicates estimates are unreliable, relative standard error > 30%

Table 78. Self-reported Gambling Expenditures at Encore Boston Harbor by Gambling Behavior

	Unweighted N	Weighted N	Average (95% C.I.)	Median	Total (95% C.I.)
Slots	211	1,289,870	281.2 (188.6, 373.8)	<i>181.9</i>	362,709,876 (235,647,864, 489,771,888)
Table Games	81	715,008	302.5 (201.9, 403.1)	<i>271.0</i>	216,280,175 (131,204,171, 301,356,179)
Slots and Table games	39	270,095	527.0 (181.2, 872.9)	<i>111.9</i>	142,349,421 (23,786,412, 260,912,431)

Italics indicates estimates are unreliable, relative standard error > 30%

Table 79. Encore Boston Harbor Revenue

WYNN RESORTS, LIMITED AND SUBSIDIARIES SUPPLEMENTAL DATA SCHEDULE (dollars in thousands, except for win per unit per day, ADR, and REVPAR) (unaudited) (continued)				
	Three Months Ended March 31,		Percent Change	
	2022	2021		
Encore Boston Harbor Supplemental Information				
Operating revenues				
Casino	\$ 148,748	\$ 111,479	33.4	
Rooms	15,689	4,715	232.7	
Food and beverage	18,162	9,327	94.7	
Entertainment, retail and other	8,197	4,569	79.4	
Total	\$ 190,796	\$ 130,090	46.7	
Adjusted Property EBITDA (6)	\$ 55,250	\$ 30,363	82.0	
Casino Statistics:				
Average number of table games	184	199	(7.5)	
Table drop (2)	\$ 346,195	\$ 234,562	47.6	
Table games win (1)	\$ 76,792	\$ 49,377	55.5	
Table games win %	22.2%	21.1%		
Table games win per unit per day	\$ 4,637	\$ 2,752	68.5	
Average number of slot machines	2,776	1,889	47.0	
Slot machine handle	\$ 1,183,314	\$ 913,795	29.5	
Slot machine win (3)	\$ 95,296	\$ 74,820	27.4	
Slot machine win per unit per day	\$ 381	\$ 440	(13.4)	
Poker rake	\$ 784	\$ —	—	
Room statistics:				
Occupancy	80.5%	71.0%		
ADR (4)	\$ 324	\$ 276	17.4	
REVPAR (5)	\$ 261	\$ 196	33.2	
Note: The results of Encore Boston Harbor for the three months ended March 31, 2021 were impacted by certain COVID-19 pandemic related protective measures and operating schedule modifications. Encore Boston Harbor's room statistics have been computed based on 36 days of operations for the three months ended March 31, 2021, representing the actual number of days the hotel was open.				
(1) Table games win is shown before discounts, commissions and the allocation of casino revenues to rooms, food and beverage and other revenues for services provided to casino customers on a complimentary basis.				
(2) In Macau, table drop is the amount of cash that is deposited in a gaming table's drop box plus cash chips purchased at the casino cage. In Las Vegas, table drop is the amount of cash and net markers issued that are deposited in a gaming table's drop box. At Encore Boston Harbor, table drop is the amount of cash and gross markers that are deposited in a gaming table's drop box.				
(3) Slot machine win is calculated as gross slot machine win minus progressive accruals and free play.				
(4) ADR is average daily rate and is calculated by dividing total room revenues including complimentary (less service charges, if any) by total rooms occupied.				
(5) REVPAR is revenue per available room and is calculated by dividing total room revenues including complimentary (less service charges, if any) by total rooms available.				
(6) Refer to accompanying reconciliations of Operating Income (Loss) to Adjusted Property EBITDA and Net Loss Attributable to Wynn Resorts, Limited to Adjusted Property EBITDA.				
View source version on businesswire.com: https://www.businesswire.com/news/home/20220510005055/en/				

Table 80. Would Have Spent Money Gambling in Another State by day of collection

		Mondays				Saturdays				Combined			
		N ¹	Weighted			N ¹	Weighted			N ¹	Weighted		
			N ²	%	95% CI		N ²	%	95% CI		N ²	%	95% CI
If there wasn't a casino in MA, would have you chosen to spend money you spent here today on gambling in another state?	Yes	85	851,681	58.6	(48.7, 67.9)	128	584,958	49.4	(42.4, 56.5)	213	1,436,639	54.5	(48.2, 60.6)
Where would you have to choose to spend money on gambling? (Check all that apply)	Connecticut	68	695,637	83.9	(72.7, 91.0)	83	360,288	63.0	(52.5, 72.4)	151	1,055,925	75.4	(67.7, 81.7)
	Rhode Island	42	460,277	55.5	(42.9, 67.4)	50	217,609	38.0	(28.5, 48.6)	92	677,885	48.4	(39.9, 57.0)
	New Jersey	10	126,016	15.2	(7.8, 27.5)	9	39,897	7.0	(3.5, 13.4)	19	165,914	11.8	(7.0, 19.4)
	New York	12	199,354	24.0	(13.9, 38.3)	13	82,885	14.5	(8.0, 24.9)	25	282,238	20.1	(13.2, 29.5)
	Pennsylvania			--				--		10	106,914	7.6	(3.5, 16.0)
	Maine	9	73,607	8.9	(4.3, 17.5)	15	57,947	10.1	(5.9, 16.8)	24	131,554	9.4	(5.9, 14.7)
	Nevada	16	161,112	19.4	(11.7, 30.6)	23	111,190	19.4	(12.2, 29.6)	39	272,302	19.4	(13.7, 26.9)
	Canada			--				--		6	62,483	4.5	(1.8, 10.5)
	Asia			--		0	0	0.0	(. . .)			--	
	Europe			--				--				--	
	Online			--				--				--	
Other			--		7	36,695	6.4	(2.8, 14.0)	11	71,419	5.1	(2.6, 9.7)	
As a result of the casinos in Massachusetts, are you spending less in any of the following areas? (Check all that apply)	Other forms of gambling	29	337,052	22.6	(15.4, 32.0)	44	228,750	17.4	(12.5, 23.7)	73	565,802	20.2	(15.5, 25.8)
	Live entertainment	18	249,894	16.8	(10.2, 26.4)	37	199,487	15.2	(10.7, 21.1)	55	449,381	16.0	(11.7, 21.6)
	Recreation and non-live entertainment	9	113,968	7.7	(3.7, 15.2)	13	70,138	5.3	(2.8, 10.1)	22	184,106	6.6	(3.9, 10.8)
	Restaurants and bars	29	339,449	22.8	(15.5, 32.2)	45	244,605	18.6	(13.6, 25.0)	74	584,054	20.8	(16.1, 26.5)
	Hotels and Travel	28	344,353	23.1	(15.5, 33.0)	34	191,674	14.6	(10.0, 20.8)	62	536,027	19.1	(14.3, 25.1)
	Retail items (clothing, furniture, recreational goods)	13	118,675	8.0	(4.1, 14.8)	23	140,542	10.7	(6.7, 16.7)	36	259,217	9.2	(6.2, 13.5)
	Housing and household items (groceries, rent, mortgage, utilities,	7	78,873	5.3	(2.2, 12.5)	16	95,343	7.3	(4.2, 12.4)	23	174,216	6.2	(3.7, 10.2)

		Mondays				Saturdays				Combined			
		Weighted				Weighted				Weighted			
		N ¹	N ²	%	95% CI	N ¹	N ²	%	95% CI	N ¹	N ²	%	95% CI
	personal)												
	Health care (doctors visits, medication, health insurance, etc)	6	76,356	5.1	(2.0, 12.4)			--		11	108,446	3.9	(1.8, 8.0)
	Transportation			--		10	73,368	5.6	(2.6, 11.6)	15	144,976	5.2	(2.8, 9.4)
	Other services			--						9	103,711	3.7	(1.6, 8.4)
	Putting money in savings	24	262,644	17.6	(11.4, 26.4)	33	207,054	15.8	(10.9, 22.2)	57	469,698	16.8	(12.5, 22.1)
	Nothing	53	528,612	35.5	(27.1, 44.9)	135	599,479	45.7	(38.9, 52.6)	188	1,128,091	40.3	(34.6, 46.2)

¹Unweighted N refers to the total number of respondents who answered this question.

²Weighted N is the estimated total number of patrons who visited Encore Boston Harbor in the past year.

Note: A dash indicates that the cell size is less than 6.

Note: Italics indicates estimates are unreliable, relative standard error >30%.

Table 81. Would Have Spent Money Gambling in Another State by Geographic Origin

		Host and surrounding community				Other municipalities in MA				Outside of MA or unknown			
		Weighted				Weighted				Weighted			
		N ¹	N ²	%	95% CI	N ¹	N ²	%	95% CI	N ¹	N ²	%	95% CI
If there wasn't a casino in MA, would you have chosen to spend money you spent here today on gambling in another state?	Yes	74	580,592	54.1	(44.0, 63.9)	94	573,820	56.3	(46.5, 65.6)	45	282,227	51.9	(38.3, 65.3)
Where would you have to choose to spend money on gambling? (Check all that apply)	Connecticut	49	427,148	75.5	(62.9, 84.9)	77	483,499	86.8	(78.0, 92.4)	25	145,279	52.2	(34.0, 69.7)
	Rhode Island	32	283,209	50.1	(35.4, 64.8)	50	323,158	58.0	(46.0, 69.1)	10	71,518	25.7	(12.3, 46.0)
	New Jersey			--		12	78,716	14.1	(7.7, 24.5)			--	
	New York	9	130,516	23.1	(11.6, 40.7)	9	67,498	12.1	(6.1, 22.6)	7	84,225	30.2	(14.1, 53.4)
	Pennsylvania			--				--				--	
	Maine	7	39,155	6.9	(2.6, 17.4)	7	49,627	8.9	(4.0, 18.4)	10	42,772	15.4	(7.7, 28.4)
	Nevada	12	103,122	18.2	(9.6, 31.8)	23	154,471	27.7	(18.0, 40.1)			--	
	Canada			--				--				--	
	Asia			--				--		0	0	0.0	(. , .)
	Europe			--		0	0	0.0	(. , .)			--	
	Online			--		0	0	0.0	(. , .)			--	
Other			--				--				--		
As a result of the casinos in Massachusetts, are you spending less in any of the following areas? (Check all that apply)	Other forms of gambling	33	265,453	22.8	(15.3, 32.5)	29	197,091	18.7	(12.4, 27.2)	11	103,259	17.8	(8.8, 32.6)
	Live entertainment	26	207,056	17.8	(11.2, 26.9)	16	120,168	11.4	(6.5, 19.2)	13	122,158	21.1	(10.8, 37.1)
	Recreation and non-live entertainment	7	69,097	5.9	(2.2, 14.8)	12	89,353	8.5	(4.5, 15.4)			--	
	Restaurants and bars	37	299,749	25.7	(17.7, 35.8)	25	172,281	16.3	(10.6, 24.3)	12	112,024	19.3	(10.5, 32.9)
	Hotels and Travel	29	290,445	24.9	(16.5, 35.8)	24	184,102	17.4	(11.0, 26.5)	9	61,479	10.6	(4.9, 21.4)
	Retail items (clothing, furniture, recreational goods)	13	113,751	9.8	(4.9, 18.5)	11	62,109	5.9	(3.2, 10.7)	12	83,357	14.4	(7.6, 25.6)
	Housing and household items (groceries, rent,	11	93,785	8.0	(3.8, 16.4)	9	53,168	5.0	(2.5, 9.8)			--	

		Host and surrounding community				Other municipalities in MA				Outside of MA or unknown			
		Weighted				Weighted				Weighted			
		N ¹	N ²	%	95% CI	N ¹	N ²	%	95% CI	N ¹	N ²	%	95% CI
	mortgage, utilities, personal)												
	Health care (doctors visits, medication, health insurance, etc)			--				--				--	
	Transportation	6	77,242	6.6	(2.5, 16.2)	7	45,158	4.3	(1.9, 9.2)			--	
	Other services			--				--				--	
	Putting money in savings	30	275,834	23.7	(15.9, 33.7)	20	149,855	14.2	(8.8, 22.1)	7	44,009	7.6	(3.5, 15.5)
	Nothing	60	366,123	31.4	(23.6, 40.5)	82	501,714	47.5	(38.3, 56.9)	46	260,254	44.9	(32.4, 58.0)

¹Unweighted N refers to the total number of respondents who answered this question.

²Weighted N is the estimated total number of patrons who visited Encore Boston Harbor in past year.

Note: A dash indicates that the cell size is less than 6.

Note: Italics indicates estimates are unreliable, relative standard error >30%.

Figure 31. Economic Modeling: Map of Regions Used in Economic Modeling

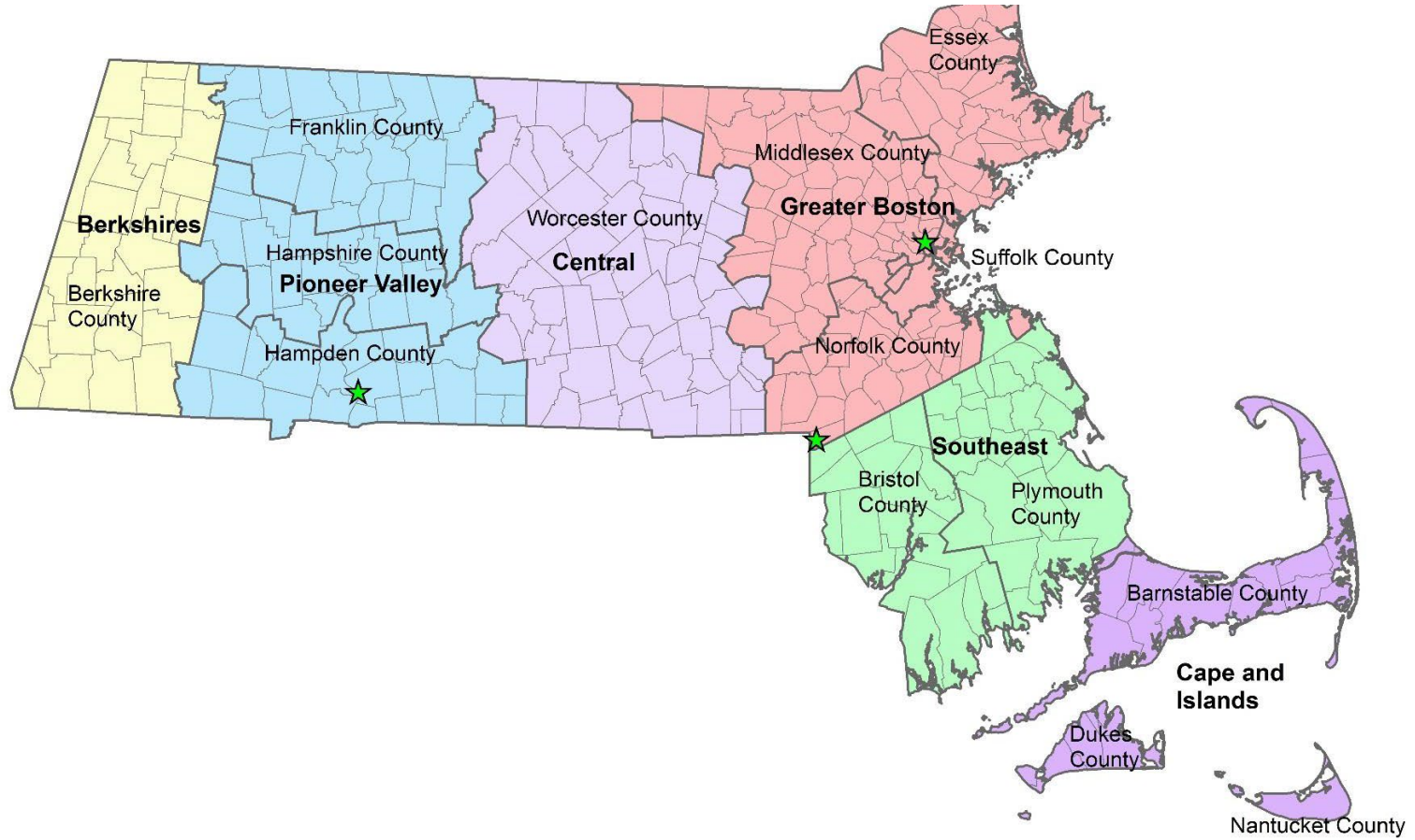


Table 82. Share of Reallocated In-state On-site Patron Spending by REMI Region

REMI region	Share of Gambling Spending	Share of Non-Gambling MGM Springfield Spending
Central	---	---
Greater Boston	99.8%	<i>99.1%</i>
Southeast	---	---

Note: A dash indicates that the cell size is less than 6.

Note: Italics indicates estimates are unreliable, relative standard error >30%.

Table 83. Share of Reallocated In-State Incidental On-Site Patron Spending by REMI Region

REMI region	Share of Gambling Spending	Share of Non-Gambling MGM Springfield Spending
Pioneer Valley	---	---
Central	---	---
Greater Boston	<i>100.0%</i>	<i>99.4%</i>
Southeast	---	---
Cape and Islands	---	---

Note: A dash indicates that the cell size is less than 6.

Note: Italics indicates estimates are unreliable, relative standard error >30%.

Table 84. Share of Off-site Non-gambling Spending by Patron Type

Patron group	Share of Off-site Spending
1=Recaptured In-State	59.7%
2=Reallocated In-State	16.8%
3=Reallocated In-State Incidental	<i>5.5%</i>
4=New Out-of-State	<i>11.3%</i>
5=Captured Out-of-State Incidental	<i>3.2%</i>
6=Reallocated Out-of-State Incidental	<i>3.6%</i>

Note: A dash indicates that the cell size is less than 6.

Note: Italics indicates estimates are unreliable, relative standard error >30%.

Table 85. Casino Patron Off-site Spending by REMI Region

REMI region	Share of Off-site Spending
Pioneer Valley	---
Central	---
Greater Boston	97.5%
Southeast	---
Cape and Islands	---

Note: A dash indicates that the cell size is less than 6.

Note: Italics indicates estimates are unreliable, relative standard error >30%.

Table 86. Expenditure Proportion by Annual Household Income

Annual household income		Non-gambling activities in EBH				Gambling activities in EBH				Non-gambling activities outside EBH			
		UN ¹	N ²	95% CI ²		UN ¹	N ²	95% CI ²		UN ¹	N ²	95% CI ²	
Total	Mean (95% CI)	303	2,125,060	259	(175, 343)	341	2,351,753	300	(229, 371)	244	1,779,074	285	(200, 369)
	Median (95% CI)			53	(27, 79)			116	(70, 162)			95	(75, 115)
	Total (95% CI)			550,240,970	(367,266,042, 733,215,899)			705,387,814	(529,908,575, 880,867,052)			506,401,872	(342,947,500, 669,856,244)
	% of total expenditure			1				1				1	
Less than \$30,000	Mean (95% CI)	41	300,068	173	(62, 283)	46	332,975	234	(100, 369)	33	228,511	216	(10, 422)
	Median (95% CI)			61	(9, 113)			96	(29, 164)			41	(12, 71)
	Total (95% CI)			51,800,309	(19,984,280, 83,616,337)			78,003,218	(31,007,289, 124,999,146)			49,329,512	(3,128,232, 95,530,792)
	% of total expenditure			0.09				0.11				0.10	
\$30,000 – 69,999	Mean (95% CI)	88	641,255	153	(72, 233)	91	659,523	194	(124, 265)	67	471,663	178	(64, 291)
	Median (95% CI)			45	(10, 80)			94	(66, 122)			88	(53, 122)
	Total (95% CI)			97,860,932	(48,484,280, 147,237,583)			128,184,597	(83,575,285, 172,793,909)			83,788,579	(31,821,183, 135,755,975)
	% of total expenditure			0.18				0.18				0.17	
\$70,000 - 99,999	Mean (95% CI)	45	331,198	268	(62, 474)	57	419,994	290	(143, 436)	42	338,923	381	(158, 604)
	Median (95% CI)			45	(-33, 123)			146	(25, 267)			162	(-4, 328)
	Total (95% CI)			88,720,137	(23,393,320, 154,046,955)			121,680,141	(57,363,663, 185,996,619)			129,052,008	(41,654,648, 216,449,369)
	% of total expenditure			0.16				0.17				0.25	
\$100,000 or more	Mean (95% CI)	129	852,539	366	(190, 542)	147	939,262	402	(255, 549)	102	739,977	330	(185, 475)
	Median (95% CI)			80	(53, 106)			156	(85, 226)			106	(52, 160)
	Total (95% CI)			311,859,593	(150,069,550, 473,649,635)			377,519,858	(226,378,178, 528,661,538)			244,231,773	(122,082,663, 366,380,882)

Annual household income		Non-gambling activities in EBH			Gambling activities in EBH			Non-gambling activities outside EBH		
		UN ¹	N ²	95% CI ²	UN ¹	N ²	95% CI ²	UN ¹	N ²	95% CI ²
% of total expenditure		0.57			0.54			0.48		

¹Unweighted N refers to the total number of respondents who answered this question.

²Weighted N is the estimated total number of patrons who visited Encore Boston Harbor in the past year.

Note: A dash indicates that the cell size is less than 6.

Note: Italics indicates estimates are unreliable, relative standard error >30%.

Table 87. Expenditures (in \$) by Income (4 categories) among EBH Patrons who live in Massachusetts

Annual household income		Non-gambling activities in EBH				Gambling activities in EBH				Non-gambling activities outside EBH			
		UN ¹	N ²	95% CI ²		UN ¹	N ²	95% CI ²		UN ¹	N ²	95% CI ²	
Total	Mean (95% CI)	237	1,704,449	259	(162, 355)	275	1,905,661	289	(210, 368)	187	1,366,026	307	(199, 415)
	Median (95% CI)			50	(31, 69)			115	(69, 162)			95	(74, 116)
	Total (95% CI)			441,316,305	(270,003,968, 612,628,642)			551,065,859	(388,979,932, 713,151,786)			419,507,182	(256,919,920, 582,094,443)
	% of total expenditure			1				1				1	
Less than \$30,000	Mean (95% CI)	36	250,091	159	(38, 279)	40	270,574	207	(53, 361)	29	176,000	230	(-31, 490)
	Median (95% CI)			44	(-2, 89)			75	(15, 135)			37	(8, 65)
	Total (95% CI)			39,643,527	(11,935,061, 67,351,994)			55,920,260	(13,606,338, 98,234,182)			40,398,185	(-5,335,935, 86,132,305)
	% of total expenditure			0.09				0.10				0.10	
\$30,000 – 69,999	Mean (95% CI)	72	534,522	155	(62, 248)	75	552,822	168	(111, 225)	56	391,975	190	(54, 326)
	Median (95% CI)			45	(8, 82)			94	(65, 123)			86	(50, 122)
	Total (95% CI)			82,796,977	(34,841,379, 130,752,575)			92,781,092	(59,701,480, 125,860,705)			74,401,848	(22,011,183, 126,792,513)
	% of total expenditure			0.19				0.17				0.18	
\$70,000 - 99,999	Mean (95% CI)	31	239,573	351	(68, 634)	44	325,137	280	(126, 435)	27	235,000	483	(182, 785)
	Median (95% CI)			67	(-38, 172)			166	(58, 273)			200	(20, 380)
	Total (95% CI)			84,024,391	(18,095,622, 149,953,160)			91,231,633	(36,615,016, 145,848,250)			113,603,490	(25,489,614, 201,717,367)
	% of total expenditure			0.19				0.17				0.27	
\$100,000 or more	Mean (95% CI)	98	680,262	345	(146, 544)	116	757,128	411	(244, 578)	75	563,052	339	(152, 526)
	Median (95% CI)			58	(29, 88)			174	(99, 249)			98	(76, 120)
	Total (95% CI)			234,851,410	(84,986,093, 384,716,726)			311,132,874	(167,266,239, 454,999,509)			191,103,658	(70,328,292, 311,879,025)

Annual household income		Non-gambling activities in EBH			Gambling activities in EBH			Non-gambling activities outside EBH		
		UN ¹	N ²	95% CI ²	UN ¹	N ²	95% CI ²	UN ¹	N ²	95% CI ²
% of total expenditure				0.53			0.56			0.46

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Table 88. Expenditures (in \$) by Income (4 categories) among EBH Patrons who live in Host and Surrounding Communities

Annual household income		Non-gambling activities in EBH				Gambling activities in EBH				Non-gambling activities outside EBH			
		UN ¹	N ²		95% CI ²	UN ¹	N ²		95% CI ²	UN ¹	N ²		95% CI ²
Total	Mean (95% CI)	117	872,079	273	(115, 431)	139	1,041,125	272	(153, 390)	101	783,913	314	(150, 479)
	Median (95% CI)			50	(29, 70)			99	(71, 127)			92	(68, 116)
	Total (95% CI)			238,272,881	(91,510,213, 385,035,548)			283,072,008	(146,435,114, 419,708,902)			246,482,772	(100,213,596, 392,751,947)
	% of total expenditure			1				1				1	
Less than \$30,000	Mean (95% CI)	22	132,329	237	(20, 455)	26	160,393	266	(13, 518)	18	105,596	327	(-101, 754)
	Median (95% CI)			37	(-8, 81)			88	(20, 156)			42	(-18, 104)
	Total (95% CI)			31,411,892	(3,235,242, 59,588,543)			42,602,186	(53,606, 85,150,766)			34,506,449	(-11,542,162, 80,555,061)
	% of total expenditure			0.13				0.15				0.14	
\$30,000 – 69,999	Mean (95% CI)	40	300,156	170	(14, 326)	39	310,048	125	(84, 167)	30	224,742	94	(58, 129)
	Median (95% CI)			41	(0, 82)			83	(15, 150)			81	(38, 123)
	Total (95% CI)			51,090,945	(5,618,863, 96,563,027)			38,859,590	(21,851,427, 55,867,753)			21,066,743	(10,765,290, 31,368,196)
	% of total expenditure			0.21				0.14				0.09	
\$70,000 - 99,999	Mean (95% CI)	17	129,407	421	(-47, 890)	25	200,234	287	(59, 516)	17	147,063	460	(48, 873)
	Median (95% CI)			69	(-48, 186)			167	(23, 311)			180	(-34, 394)
	Total (95% CI)			54,501,013	(-7,540,293, 116,542,318)			57,503,854	(7,241,090, 107,766,617)			67,734,535	(-10,736,119, 146,205,188)
	% of total expenditure			0.23				0.20				0.27	
\$100,000 or more	Mean (95% CI)	38	310,186	326	(-28, 681)	49	370,451	389	(113, 665)	36	306,512	402	(82, 722)
	Median (95% CI)			49	(15, 84)			120	(6, 234)			98	(52, 144)
	Total (95% CI)			101,269,030	(-22,681,988, 225,220,049)			144,106,378	(24,092,112, 264,120,643)			123,175,044	(6,237,889, 240,112,200)

Annual household income	Non-gambling activities in EBH			Gambling activities in EBH			Non-gambling activities outside EBH		
	UN ¹	N ²	95% CI ²	UN ¹	N ²	95% CI ²	UN ¹	N ²	95% CI ²
% of total expenditure			0.43			0.51			0.50

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Appendix K: Responsible Gambling and GameSense

Table 89. Strategies to keep gambling within personally affordable limits by day of collection

		Mondays				Saturdays				Combined			
		Weighted				Weighted				Weighted			
		N ¹	N ²	%	95% CI	N ¹	N ²	%	95% CI	N ¹	N ²	%	95% CI
Strategies to keep gambling within personally affordable limits	I avoid using ATMs at the casino	60	645,637	44.4	(35.0, 54.3)	108	518,584	41.5	(34.8, 48.6)	168	1,164,221	43.1	(37.1, 49.3)
	I took a break to cool off	28	322,357	22.2	(14.9, 31.7)	34	175,649	14.1	(9.9, 19.6)	62	498,007	18.4	(13.9, 24.1)
	I thought of gambling as fun, not as a way to make money	43	449,494	31.0	(22.7, 40.6)	77	388,537	31.1	(24.8, 38.1)	120	838,032	31.0	(25.6, 37.1)
	I did not CHASE my losses	22	238,361	16.4	(10.7, 24.3)	56	284,367	22.8	(17.2, 29.5)	78	522,728	19.4	(15.1, 24.4)
	I left the casino while I was ahead	40	431,524	29.7	(21.6, 39.3)	60	251,669	20.1	(15.4, 25.9)	100	683,193	25.3	(20.3, 31.1)
	I stuck with a limit for how much I could LOSE during a single visit	45	470,581	32.4	(24.2, 41.9)	84	325,398	26.0	(20.8, 32.0)	129	795,979	29.5	(24.3, 35.2)
	I talked to a GameSense advisor at Encore Boston Harbor and/or accessed a GameSense kiosk			--				--				--	
	other			--		7	47,480	3.8	(1.5, 9.1)	11	108,836	4.0	(2.0, 7.8)

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Table 90. Strategies to keep gambling within personally affordable limits by geographic origin

		Host and surrounding community				Other municipalities in MA				Outside of MA or unknown			
		Weighted				Weighted				Weighted			
		N ¹	N ²	%	95% CI	N ¹	N ²	%	95% CI	N ¹	N ²	%	95% CI
Strategies to keep gambling within personally affordable limits	I avoid using ATMs at the casino	74	552,555	49.2	(39.3, 59.2)	63	401,555	38.9	(30.0, 48.5)	31	210,111	38.5	(26.1, 52.5)
	I took a break to cool off	33	269,938	24.0	(16.2, 34.1)	17	138,888	13.4	(8.0, 21.6)	12	89,181	16.3	(8.0, 30.4)
	I thought of gambling as fun, not as a way to make money	44	351,224	31.3	(22.6, 41.6)	48	314,299	30.4	(22.5, 39.7)	28	172,508	31.6	(20.6, 45.1)
	I did not CHASE my losses	31	201,235	17.9	(12.0, 25.9)	28	178,748	17.3	(11.5, 25.2)	19	142,745	26.1	(15.7, 40.3)
	I left the casino while I was ahead	44	310,948	27.7	(19.9, 37.2)	39	278,260	26.9	(19.0, 36.7)	17	93,985	17.2	(9.1, 30.2)
	I stuck with a limit for how much I could LOSE during a single visit	44	285,753	25.5	(17.6, 35.3)	59	372,058	36.0	(27.6, 45.4)	26	138,168	25.3	(16.3, 37.1)
	I talked to a GameSense advisor at Encore Boston Harbor and/or accessed a GameSense kiosk			--				--				--	
	other			--		8	72,440	7.0	(3.2, 14.7)			--	

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Table 91. What impact have these strategies had on your ability to play within your limits by day of data collection

		Mondays				Saturdays				Combined			
		Weighted				Weighted				Weighted			
		N ¹	N ²	%	95% CI	N ¹	N ²	%	95% CI	N ¹	N ²	%	95% CI
What impact have these strategies had on your ability to play within your limits	Strong impact	50	474,622	33.7	(25.3, 43.4)	85	412,838	33.1	(26.7, 40.1)	135	887,461	33.4	(27.9, 39.4)
	Modest impact	45	479,421	34.1	(25.4, 44.0)	72	353,745	28.3	(22.5, 35.0)	117	833,166	31.4	(25.9, 37.4)
	Weak impact	11	146,750	10.4	(5.4, 19.2)	20	108,985	8.7	(5.3, 14.1)	31	255,736	9.6	(6.2, 14.6)
	No impact	24	306,868	21.8	(14.3, 31.7)	76	372,684	29.9	(23.7, 36.9)	100	679,552	25.6	(20.4, 31.6)

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Table 92. What impact have these strategies had on your ability to play within your limits by geographic origin

		Host and surrounding community				Other municipalities in MA				Outside of MA or unknown			
		Weighted				Weighted				Weighted			
		N ¹	N ²	%	95% CI	N ¹	N ²	%	95% CI	N ¹	N ²	%	95% CI
What impact have these strategies had on your ability to play within your limits	Strong impact	51	342,662	31.1	(22.8, 40.8)	51	372,428	36.2	(27.4, 46.0)	33	172,371	32.9	(22.2, 45.7)
	Modest impact	53	450,536	40.9	(31.2, 51.3)	48	301,707	29.3	(21.6, 38.3)	16	80,923	15.4	(9.1, 25.0)
	Weak impact	15	152,489	13.8	(7.5, 24.2)	12	82,451	8.0	(4.2, 14.8)			--	
	No impact	27	156,178	14.2	(9.0, 21.5)	46	273,305	26.5	(19.0, 35.7)	27	250,069	47.7	(34.0, 61.8)

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Appendix L: License Plate Collection Instrument

2022 EBH LICENSE PLATE SURVEY TALLY SHEET

Use new sheet for each floor – Use  in boxes below

Date	Names	Start time this form	End time this form	Location X
				B1 _____ B2 _____
				B3 _____ B4 _____

	Car/Motorcycle
Massachusetts	
Connecticut	
Rhode Island	
New Hampshire	
New York	
New Jersey	
Maine	
Vermont	
Pennsylvania	
Other	