SEIGMA SOCIAL AND ECONOMIC IMPACTS OF GAMBLING IN MASSACHUSETTS

UNIVERSITY OF MASSACHUSETTS SCHOOL OF PUBLIC HEALTH AND HEALTH SCIENCES

PATRON AND LICENSE PLATE SURVEY REPORT: MGM SPRINGFIELD 2019

This report presents the results of the first patron survey at MGM Springfield, completed in 2019. This and future patron surveys are 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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October 15, 2020

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Rachel A. Volberg, Research Professor, University of Massachusetts Amherst School of Public Health and Health Sciences, is the study Principal Investigator and responsible for the overall leadership of the project as well as oversight of the patron survey design, implementation, and analysis.

Acknowledgements

Initial financial support for Social and Economic Impacts of Gambling in Massachusetts (SEIGMA) study came in 2013 from the Massachusetts Gaming Commission under ISA MGC10500003UMS15A. The multi-year project was competitively bid via the Massachusetts Gaming Commission Request for Response (MGC-RA-2012) for Research Services and awarded to the University of Massachusetts Amherst in April 2013. In June 2019 the Massachusetts Gaming Commission issued a subsequent Request for Response (BD-19-1068-1700-1-40973) for Research Services and the University of Massachusetts Amherst was awarded the contract effective January 2020.

We want to thank the management and staff of MGM Springfield for allowing our teams to be on-site and for their assistance with our logistical needs. Their cooperation and ability to supply us with needed information ensured smooth data collection during our eight visits to the casino. Additionally, we appreciate the time and effort of the patrons who agreed to participate in the survey.

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: Rebecca Loveland, Senior Research Manager; Rod Motamedi, Senior Research Manager; and Carrie Bernstein, State Data Center Manager/Lead Research Analyst. Special thanks to SEIGMA social team member Valerie Evans, Biostatistician and Project Manager, for reviewing the data and editing the report.

The project also received assistance from Tara Graham and Shane O'Heir, students in Isenberg School of Management, Department of Hospitality and Tourism Management, who assisted with pre-collection administrative tasks and post-survey field data review. We would also like to thank the Springfield branch of Accountemps & OfficeTeam, a Robert Half affiliate, for their efforts in recruiting the 37 surveyors who represented UMass with professionalism and hospitality.

As always, we thank the Massachusetts Gaming Commission for their continued vision and guidance over the course of the SEIGMA project. The Commission's broad vision for the expansion of gambling in Massachusetts and commitment to the research needed to maximize the benefits and minimize the harms related to gambling in the Commonwealth made this project possible.

Suggested Citation:

Salame, L., Williams, R.J., Zorn, M., Peake, T., Stanek, E.J., Mazar, A., & Volberg, R.A. (2020), *Patron and License Plate Survey Report: MGM Springfield 2019*. Amherst, MA: School of Public Health and Health Sciences, University of Massachusetts Amherst.

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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 MGM Springfield 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.

Methodologically, a significant effort was made to capture a sample of patrons that was as representative as possible. This included: conducting the survey 6 to 12 months after the venue opened to allow patronage to settle; sampling in both winter and summer months to take account of potential seasonal differences in patronage; 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 (6pm-12am) and non-peak (11am-5pm) times; and keeping track of the demographics of refusals to allow for corrective weighting. The 2019 MGM Springfield Patron Survey was fielded in a two-week period in Feb/Mar 2019 and again in Jul/Aug 2019. It was self-administered and took an average of 5-10 minutes to complete. A total of 878 surveys were collected, which represents a response rate of 21.2%.

Geographically, almost 60% of the patrons were from Massachusetts, with 41.5% coming from the host (Springfield) and surrounding communities (Agawam, Chicopee, Holyoke, East Longmeadow, Longmeadow, Ludlow, West Springfield, Wilbraham, Hampden, and Northampton). Less than 1% were international patrons.

Compared to the adult Massachusetts population, the gender distribution of the patrons was very similar. They were, however, more likely to be Hispanic, and less likely to be White or Asian. They tended to be older as well, with a higher proportion in the 35-64 age range compared to the adult Massachusetts population. Their educational attainment was similar, though a bit more likely to have some college education below a degree. In terms of household income, the patrons were quite different compared to the adult population of Massachusetts. Patrons were more likely to have household incomes less than $50,000 (33.5% vs. 24.5%), with in-state patrons even more so (38.0%). They were also less likely to have household incomes greater than $100,000 (34.9% vs. 49.4%), with again a greater disparity for in-state patrons (30.3%). This suggests that MGM Springfield patrons, and particularly those from Massachusetts, have a lower household income than the adult Massachusetts population.

When looking at visitation, we found that more than half of those surveyed (53.5%) were regular visitors, coming 2-3 times a month or more, with nearly a third (32.8%) visiting once a week or more. That percentage is higher (43.6%) for those coming from the host or surrounding communities. Most of the patrons got to MGM Springfield by car (91.5%), and experienced no problem getting there. A reported 92.1% had an enjoyable visit and 87.7% of them indicated that they would return. MGM Springfield was the motivator for 58.5% patrons to visit the area, with this being especially true for out-of-state visitors (70.1%).

Most of the patrons (83.6%) participated in some sort of gambling activity during their visit. Not surprisingly slot machines were the most popular game (66.5%) although nearly a third of the patrons (28.3%) reported playing table games. Only 2.2% of the patrons reported purchasing lottery tickets while on site. Three-quarters of the patrons reported having an 'M life Rewards' loyalty card. Notably 88.3% indicated they had gambled at other casinos in the past year, with the most frequent locations being Connecticut (66.7%) and other gambling venues in Massachusetts (45.0%). Other gambling venues visited in the past year included Rhode Island (12.0%), Nevada (10.5%), and New York (9.0%).

Although 28.2% of the patrons did not report any spending on non-gambling activities at MGM Springfield, the majority bought food and beverage on site (61.4%), while some (13.9%) engaged in other entertainment or activities, such as the cinema, arcade, bowling, spa, etc., and an even smaller percent (6.3%) reported shopping on-site. The survey identified only a small number of guests (7.5%) who stayed at the hotel. Half of the patrons did not report any spending on non-gambling activities outside of MGM Springfield. Small numbers of patrons reported spending for off-site food or beverage (22.8%) and bars, pubs, or nightclubs (10.5%). A small number of patrons (11.6%) reported spending on an event, show, exhibit, etc. in Springfield.

MGM Springfield patrons reported a median expenditure of $73 on gambling at the casino during their visit (mean of $239), $39 on non-gambling activities at the casino (mean of $220), and $64 on non-gambling activities outside the casino (mean of $293). When looking at the expenditures by household income, income groups below the median household income in Massachusetts (i.e., $70,000) account for 49% of MGM Springfield gambling revenue, 43% of non-gambling revenue at MGM Springfield, and 60% of non-gambling revenue outside of MGM Springfield. The lowest and highest income groups contribute proportionally more gambling revenue relative to their prevalence in the population, with the lower middle-income groups contributing proportionally less.

An important social issue concerns whether people with lower incomes contribute disproportionately more to gambling revenues than people with higher incomes. The data suggests casino gambling at MGM Springfield is regressive, both in terms of the representation of patrons in the casino and their portion of gambling expenditure, which is similar to the findings of research done elsewhere. A fine-grained analysis of the MA patrons who spent money gambling at MGM Springfield showed that the 19% of the patrons with the lowest household incomes (less than $30,000 per year) spent proportionally more on gambling (30%) compared to their prevalence in the general adult population of MA (14%). The opposite was true for the 30% of the patrons with the highest incomes (over $100,000), who accounted for only 34% of the gambling spending but represent 49% of the state's adult population. Similar patterns were found for lower-middle-income patrons (represented a higher percentage of their spending compared to their population) and middle-income patrons (represented a smaller percentage of their spending compared to their population). An analysis focusing on just the host and surrounding communities produced with similar results.

Two important goals of the Massachusetts casino law were to capture new spending from out-of-state casino patrons, and recapture Massachusetts residents' spending at out-of-state casinos. Based on the survey results, it appears that MGM Springfield was successful with both goals. In fact, the majority of the spending at MGM Springfield can be attributed to either out-of-state patrons who otherwise would not have visited Massachusetts or in-state patrons who otherwise would have gambled out-of-state had there not been a casino in Massachusetts.

Out-of-state patrons, who represent capture of new spending, accounted for 42.5% of the $259 million in gambling revenue at MGM Springfield from October 2018 – September 2019, while also contributing 37.5% of the $83 million in non-gambling revenue at MGM Springfield. They were responsible for 27.1% of the estimated $77 million in non-gambling spending outside of MGM Springfield from October 2018 – September 2019. Overall, these visitors represent 38.7% of the combined gambling and non-gambling revenue/spending.

Looking at recaptured spending from all patrons, 52.7% reported that they would have spent their money at a casino in another state if there were no casinos in Massachusetts with the great majority (91.1%) indicating that they would have gambled at a casino in Connecticut. Given the casino's geographic location, it is not surprising that residents of Pioneer Valley constitute the largest share of recaptured gambling spending (88.4%) as well as non-gambling MGM Springfield spending (80.6%). These figures should be viewed, however, with an understanding of the patrons' reallocated spending; 46.1% reported spending less money on other things because of Massachusetts casinos, with less spending specifically on: other types of gambling (18.3%), restaurants/bars (16.0%), hotels and travel (10.2%), live entertainment (8.9%), and putting money into savings (8.9%).

The majority of casino patrons did not report using responsible gambling strategies (including the utilization of GameSense). Only 8.1% of patrons reported speaking with a GameSense advisor, with the majority of these interactions being characterized as 'small talk.'

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., 63.6% Massachusetts for License Plates and 59.4% for Patron Survey). There was an even closer match for estimated expenditure (63.6% for Massachusetts for License Plates and 61.3% for Patron Survey).The results of the License Plate Survey methodology 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.

While an in-depth comparison of Patron Survey data across the multiple Massachusetts casinos will be included in the more integrative impact reports mentioned above, we have provided a brief comparison between the Patron Survey results of Plainridge Park Casino (2016) and MGM Springfield (2019). Notably, MGM Springfield attracted a much higher percentage of patrons from the host and surrounding communities compared to Plainridge Park Casino (41.5% vs. 11.4%). Additionally, MGM Springfield was more successful at attracting patrons from out-of-state (40.6% vs. 22.1%). Other differences in the demographic characteristics, gambling behavior, and expenditures of patrons at the two Massachusetts casinos are also noted.

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 MGM Springfield patron survey data as were used to analyze Plainridge Park 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. Please see the Methodology and Limitations sections in the full report for additional information.

Patron Survey

Introduction

The SEIGMA research plan calls 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, with the MGM Springfield survey conducted in 2019, to be followed by a survey at Encore Boston Harbor in 2021. Future patron surveys will occur at Plainridge Park Casino in 2022, MGM Springfield in 2023, and Encore Boston Harbor in 2024, and Plainridge Park Casino again in 2025.

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.

MGM Springfield

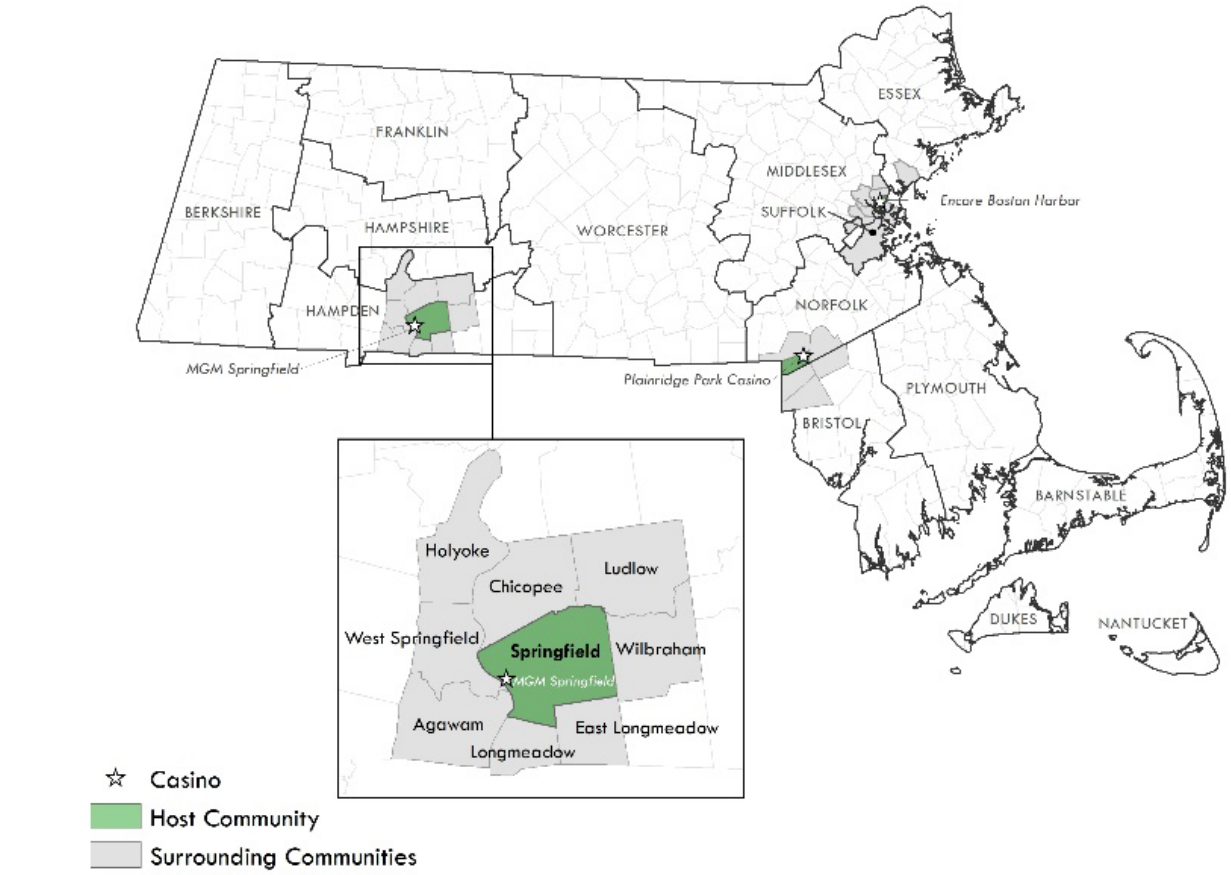
The Expanded Gaming Act authorized up to three casino resorts and one slot parlor. MGM Resorts International was awarded a gaming license for a casino resort in Springfield on June 14, 2014 and MGM Springfield opened to the public on August 24, 2018.

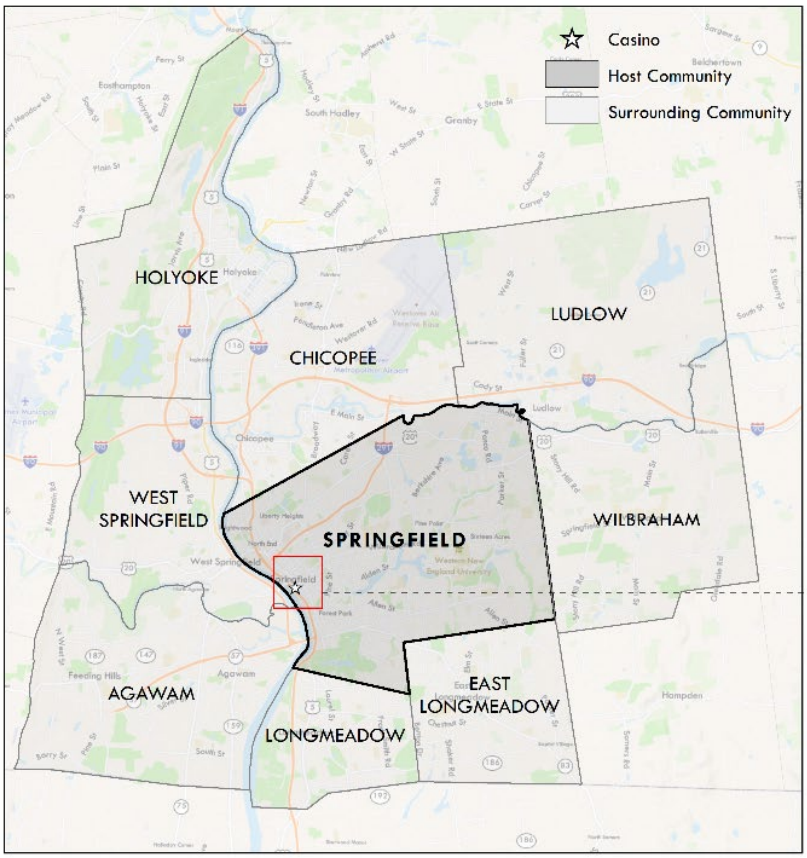
MGM Springfield is part of MGM Resorts International, a global gaming entertainment company with 30 properties worldwide, employing 83,000 people globally. MGM Springfield is open 24 hours and offers 2,500 slot machines, 93 gaming tables, and 23 poker tables (Figure 1). Additionally, there are approximately 7 locations on-site for purchasing the full range of lottery products. The facility offers a variety of non-gambling services and amenities, include a 251-room hotel, spa, several restaurants and shops, convention space, movie theater, bowling alley, seasonal ice-skating rink and farmers market, and live entertainment. Valet parking and free self-parking are available at their multi-level parking garage (Figure 2).

Figure 1. MGM Springfield

Photo credit: MGM Springfield

Figure 2. Map of Springfield and Surrounding Communities





Methodology

Ethical Approval

The protocol entitled "Social and Economic Impacts of Gambling in Massachusetts: MGM Patron Survey" (#2018-5193), which included data collection procedures and all survey materials, received expedited Institutional Review Board (IRB) approval on December 7, 2018 for three years. In addition to internal IRB compliance, all necessary personnel received Collaborative Institutional Training Initiative (CITI) certification.

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 6-12 months after the casino opened to allow patronage volume and demographic characteristics to settle (i.e., Feb/March 2019 and Jul/Aug 2019); (2) splitting the data collection between the winter and the summer to take account of potential seasonal differences in patronage; (3) spreading each data collection period over a two week time span; and (4) sampling during both peak (Saturday) and non-peak (Monday) days as well as during peak (6pm-12am) and non-peak (11am-5pm) hours. Each site visit was for a 6-hour fixed period of time, sampling every 6th exiting patron. The length of time on site and the sampling number (i.e., every 6th 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 1,000 completed surveys. Table 1 identifies the eight specific dates and times the survey was fielded.

Table 1. Patron Survey Schedule

Survey Day	Day of Week	Date	Time
1	Saturday	2/23/2019	11am-5pm
2	Monday	2/25/2019	6pm-12am
3	Saturday	3/2/2019	6pm-12am
4	Monday	3/4/2019	11am-5pm
5	Saturday	7/27/2019	11am-5pm
6	Monday	7/29/2019	6pm-12am
7	Saturday	8/3/2019	6pm-12am
8	Monday	8/5/2019	11am-5pm

Survey Team and Patron Recruitment

Laurie Salame, J.D., Senior Lecturer in the Isenberg School of Management, Department of Hospitality and Tourism Management and SEIGMA Expert Advisor, led the survey team, along with Alissa Mazar, Ph.D., SEIGMA Research Associate and Project Manager. Thirty-seven surveyors were hired to administer the surveys (16-22 during any given shift) through Accountemps & OfficeTeam, a Springfield-based Robert Half affiliate professional recruiting firm. These surveyors were supervised on-site at all times by Ms. Salame and Dr. Mazar.

Each surveyor received up to five hours of training, including CITI certification as well as 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 3-8 surveyors, wearing vests clearly identifying them as part of UMass Amherst, were stationed at the casino's three primary entry and exit points, as determined by pre-survey visits and information provided by MGM Springfield[2]. These exits were all located on the southwest side of the complex, as follows: the main exit near the elevators; the adjacent valet parking area; and the bus and ride share pick up/drop off area.[3] Tables staffed by surveyors were placed near these exits displaying the University of Massachusetts banner as well as "Frequently Asked Questions" hand-outs in English, Spanish, and Mandarin. (See Figure 22 in Appendix A for MGM Springfield Main Floor plan with the exits and survey locations indicated.)

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 6th person exiting was reached,[4] another team member **(solicitor)** approached that patron 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 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 or just using the free parking), 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. 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 SurveyGizmo). The table monitor then provided the patron 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, Mandarin, and Spanish; the electronic version was available only in English. A total of 822 people opted for the electronic questionnaire and 56 completed the printed questionnaire (9 in Spanish and none in Mandarin). 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,

[2] Estimates indicated that nearly 90% of the patrons entered/exited via the elevators (leading to the parking garage) and the valet parking area (which also has access to the garage stairwell).

[3] Note that from 12pm-2pm of each Monday day visit, the team staffing the bus area temporarily set up at the South End Market (food court) to sample patrons who might be exiting there after getting lunch. However, the number of people exiting in that location was very low.

[4] When people were departing in groups, the counter continued to count each exiting patron and the person who was judged to be the 6th exiting patron was approached. In the rare situation when people were 'tied' as the 6th patron, i.e. walking towards the exit side-by-side, the solicitor randomly selected which person to approach. This was true during times when there were exiting bus patrons as well.

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 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 6-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.

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, and which other activities they would have spent their money on if they had not come to this venue.

Utilization of responsible gambling measures such as GameSense

Patrons were asked about their utilization of various responsible gambling strategies including the GameSense program. Respondents who indicated they had spoken with a GameSense advisor were asked additional questions about the number of interactions and the nature of these interactions. (Note: questions in this section were chosen by the Cambridge Health Alliance Division on Addictions, which is conducting a specific evaluation of the GameSense program).

Demographics

Finally, 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.

Obtained Sample and Response Rate

As detailed in Table 2 below, by counting every 6th person exiting the casino, the surveyors tracked a total of 4686 people. Of those, 417 people were not eligible to complete the survey.[5] Due to business

[5] Ineligible people consisted of three groups: a) those who were not permanently leaving (this was the largest

volume and staffing, 132 people were also "missed". In total, 4137 eligible patrons were invited or "solicited" to participate in the survey. A total of 878 patrons agreed, for an overall response rate of 21.2%. Response rates for individual questions were above 80% for all but two of the questions (year of birth and having used a GameSense kiosk), as shown in Table 14 in Appendix D. Refusal rates were examined by season, day of week and time of day, with significant differences only being found by season (more refusals in the summer; see Table 15 in Appendix D).

Table 2. Obtained Sample

Day	Day of Week	Date	Time	Every 6th Person Leaving	Ineligible People	Missed People	Eligible Patrons Solicited	Refusals	Completed Surveys
1	Saturday	2/23/2019	11am-5pm	713	58	9	646	512	134
2	Monday	2/25/2019	6pm-12am	299	15	8	276	197	79
3	Saturday	3/2/2019	6pm-12am	1159	132	28	999	770	229
4	Monday	3/4/2019	11am-5pm	365	48	10	307	242	65
5	Saturday	7/27/2019	11am-5pm	399	24	15	360	276	84
6	Monday	7/29/2019	6pm-12am	342	23	7	312	254	58
7	Saturday	8/3/2019	6pm-12am	980	83	33	864	697	167
8	Monday	8/5/2019	11am-5pm	429	34	22	373	311	62
Total				4686	417	132	4137	3259	878

Data Cleaning

All paper surveys were manually entered into SurveyGizmo. A random sample of 10% of the records were selected and the accuracy of these entries verified. All SurveyGizmo 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). This analytical approach 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). Winsorization of all values greater than 4 standard deviations was also used for self-reported *non*-gambling expenditure. Seventeen percent of the respondents reported gambling expenditure wins, which were set to zero. Less than 1% of gambling expenditures, non-gambling expenditures at MGM Springfield, and non-gambling expenditures outside of MGM Springfield were winsorized.[6]

group, and included a large number who were temporarily going outside to smoke), b) patrons who had already completed the survey, and c) people who were not MGM Springfield patrons (i.e. people who were utilizing the free parking and non-uniformed MGM Springfield employees).

[6] Winsorizing and setting wins to zero was also utilized in the PPC 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 PPC data cleaning procedures derived from the approach utilized in our population surveys, which were, in turn, drawn from the larger 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 MGM Springfield expenditure data in Table 16 of Appendix D. While the approach used for PPC produced a 96%

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 'Demography Accuracy Test' (see Appendix E) 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 present study. This was administered to the 27 surveyors. An average of 89.1% of all pictures were correctly identified by the 27 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 89.7% (32.3/36) pictures correct, ranging from 78% to 100% depending on the surveyor. These results confirm that the ability of the surveyors to correctly identify age range, gender, and race/ethnicity of survey refusals was quite high, which provides support for the validity of our weighting procedure.

The process of assigning weights to MGM Springfield patron survey respondents was similar to that used for Plainridge Park Casino survey respondents as described in Salame et al. (2017). The Plainridge Park Casino patron survey divided the 12-month period after Plainridge Park Casino opening 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 MGM Springfield patron survey weighting was similar to the Plainville Park Casino patron survey design. However, it differed in one respect, in that automatic exit counts recorded by TRAF-SYS were not available at the time of this writing for MGM Springfield. As a result, the development of weights to make the patron's response representative of all patrons over 12-months also differed. Appendix F describes the MGM Springfield Patron survey weighting procedure.

match between estimated expenditures and casino revenues, the match was less robust for MGM Springfield producing estimates that were 1.79 times higher than casino revenues.

Results

The results of the patron survey provide a nuanced picture of who patronizes MGM Springfield, 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.

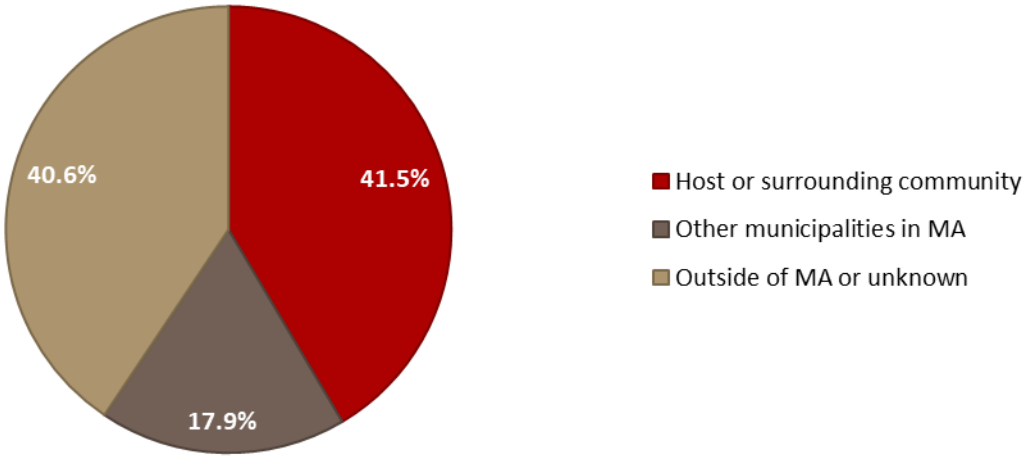
Geographic Origin

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 and municipalities in close proximity to the venue that are likely to be impacted by the venue[7]); (2) other communities in Massachusetts; and (3) outside of Massachusetts. In total:

- 41.5% of patrons were from the host (Springfield) or surrounding communities (Agawam, Chicopee, Holyoke, East Longmeadow, Longmeadow, Ludlow, West Springfield, Wilbraham, Hampden, and Northampton)
- 17.9% of patrons were from other communities in Massachusetts
- 39% of patrons were from outside of Massachusetts
- 0.9% of patrons did not enter a zip code, but reported that they live in the United States
- 0.7% 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 52 in Appendix G

[7] 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 53 (Appendix G), there were no significant differences in geographic origin of patrons by season in which data collection took place.

Demographics

Table 3 illustrates that the gender of casino patrons was evenly distributed (52.4% male versus 47.4% female). The majority of patrons were White (67.5%), with smaller proportions of patrons classified as Hispanic (16.5%), or Black (6.4%). The majority of patrons were middle-aged or older, with a mean age of 49 years. Educational attainment was relatively high, with 79.6% 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 54 in Appendix G shows that the majority of patrons were employed (70.8%), and almost one fifth of patrons (17.6%) were retired. About six in ten patrons were married, living with a partner, or widowed (61.7%) and 13.8% were divorced or separated. Finally, about one in twelve patrons (8.1%) had served in the military.

Compared to the general adult Massachusetts population (18+) from the 2018 American Community Survey, patrons from Massachusetts were similar to the Massachusetts population in terms of gender. However, they were somewhat more likely to be Hispanic, and less likely to be White or Asian. A higher proportion of casino patrons were aged 35-64. In terms of education, they were more likely to have some college education below a degree, but otherwise with similar educational attainment. Finally, they were more likely to have a household income between $50K - $100K and less likely to have a household income >$100K suggesting MGM Springfield patrons, and specifically Massachusetts residents, have a lower household income than the general adult Massachusetts population. Patron demographics compared to the Massachusetts population for the Host and Surrounding Communities can be found in the Appendices (Table 55 in Appendix G).

It is important to note that Table 3 provides a 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 5 through 7 below which illustrate differences in age, education, and household income by geographic origin.

Table 3. Patron Demographics Compared to the Massachusetts Population

		MGM Springfield Patrons								MA in 2018[3]	
		Entire Sample				MA residents					
		N[1]	N[2]	%	SE	N[1]	N[2]	%	SE	%	SE
Gender	Female	480	1,207,954	47.4	2.0	290	747,028	49.1	2.7	47.9	0.3
	Male	360	1,336,944	52.4	2.0	201	768,686	50.5	2.7	52.1	0.3
	Transgender/other			NA				NA		NA	NA
Race/ Ethnicity	Hispanic	131	410,291	16.5	1.7	80	244,341	16.3	2.1	10.6	0.2
	White alone	558	1,678,327	67.5	2.0	337	1,025,898	68.3	2.7	73.4	0.2
	Black alone	76	159,174	6.4	0.8	42	92,633	6.2	1.1	6.6	0.1
	Asian alone	22	130,519	5.3	1.2			NA		6.8	0.1
	Some other race alone			NA				NA		1.0	0.1
	Two or more races			NA				NA		1.5	0.1
Age	18-20			NA				NA		5.5	0.1
	21-24	35	131,100	7.1	1.4	22	85,718	7.9	2.0	7.1	0.1
	25-34	91	288,410	15.5	1.8	63	195,683	18.1	2.5	17.9	0.2
	35-54	216	697,188	37.6	2.3	118	377,146	34.9	3.0	31.9	0.2
	55-64	148	409,543	22.1	1.9	86	247,390	22.9	2.7	17.1	0.2
	65-79	104	279,686	15.1	1.6	52	144,255	13.4	2.1	15.4	0.2
	80+	16	47,147	2.5	0.7			NA		5.1	0.1
Education	Less than high school	29	85,401	3.4	0.8	18	47,872	3.2	0.9	9.4	0.2
	High School or GED	146	430,753	17.0	1.5	89	291,353	19.4	2.2	24.0	0.2
	Some college	324	998,986	39.5	2.0	192	615,048	40.9	2.7	25.5	0.2
	Bachelor's Degree	191	562,259	22.2	1.7	115	326,975	21.7	2.2	23.5	0.2
	Master's or Professional Degree	120	354,283	14.0	1.4	65	189,566	12.6	1.7	15.2	0.2
	Doctorate	25	96,178	3.8	0.9			NA		2.5	0.1
Annual Household Income	Less than $15,000	53	137,807	5.9	0.9	40	99,087	7.1	1.3	6.1	0.1
	$15,000-<30,000	67	231,092	9.8	1.3	42	169,585	12.1	2.0	7.8	0.1
	$30,000-<50,000	137	416,713	17.8	1.6	81	262,680	18.8	2.2	10.6	0.2
	$50,000-<100,000	256	740,764	31.6	2.0	149	442,786	31.7	2.6	26.2	0.2
	$100,000-<150,000	148	439,631	18.7	1.6	79	221,364	15.8	1.9	20.6	0.2
	$150,000 and more	111	380,451	16.2	1.6	60	202,139	14.5	2.1	28.8	0.2

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

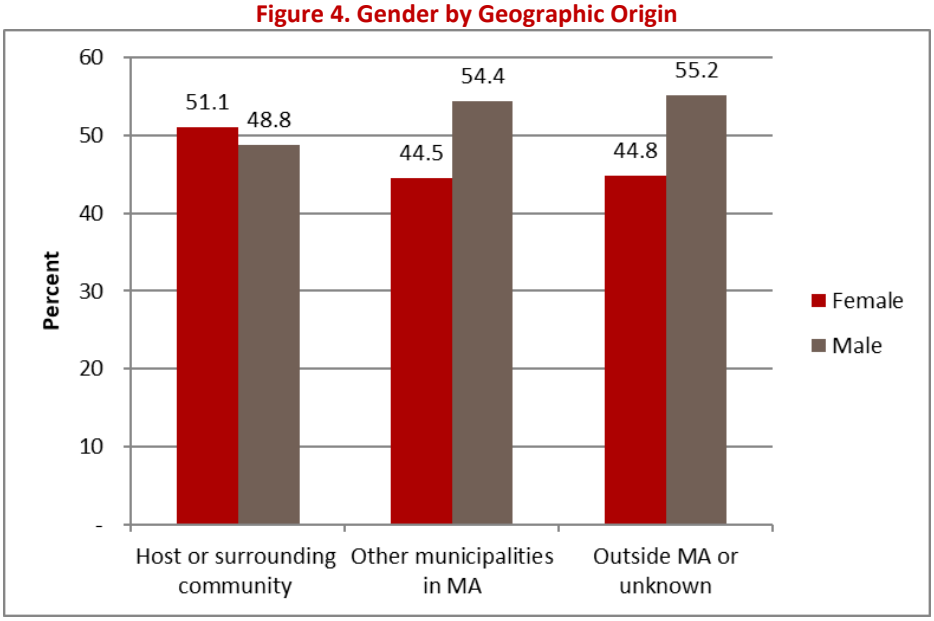
[2]Weighted N is the estimated total number of patrons who visited MGM Springfield in 2019.

[3]Source: U.S. Census Bureau, 2018 American Community Survey PUMS.

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

Figure 4 to Figure 7 present the demographics of patrons broken out by geographic origin. Figure 4 illustrates that 51.1% of patrons were from the host or surrounding community, 44.5% were from other municipalities in Massachusetts, and 44.8% were from outside of Massachusetts or had an unknown origin. There was no significant gender difference by geographic origin.

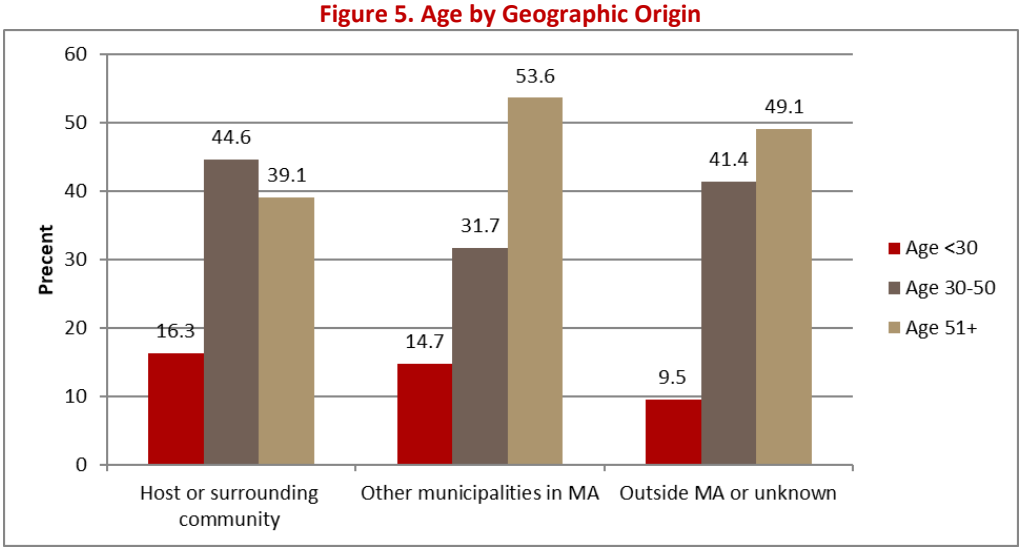
Figure 4. Gender by Geographic Origin



Note: This information is also contained in Table 54 in Appendix G

Figure 5 shows that there were significant differences in age among patrons from different geographic regions. The host and surrounding communities had a higher percentage of younger patrons compared to the other regions. This is reflected in the mean ages as well, with the mean of 46 years for the host and surrounding communities, compared to 50 years old for the other regions.

Figure 5. Age by Geographic Origin

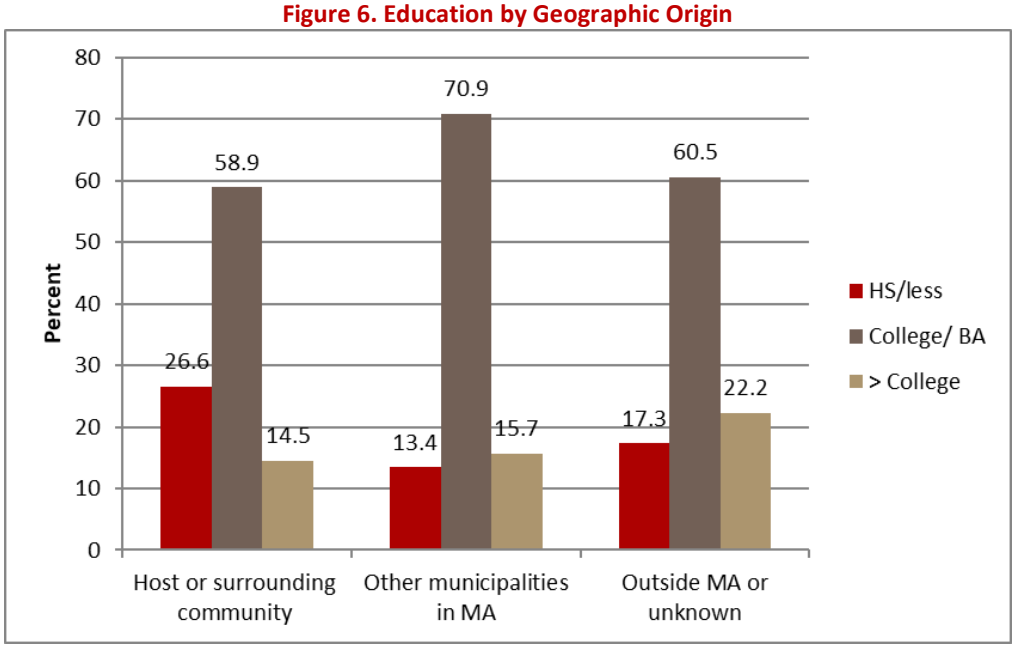


Note: This information is also contained in Table 54 in Appendix G

Figure 6 demonstrates that 26.6% of patrons from the host or surrounding communities, 13.4% patrons from other Massachusetts municipalities and 17.3% of patrons from outside of Massachusetts or origin

unknown had a high school education or less. The difference in education by geographic origin is statistically significant.

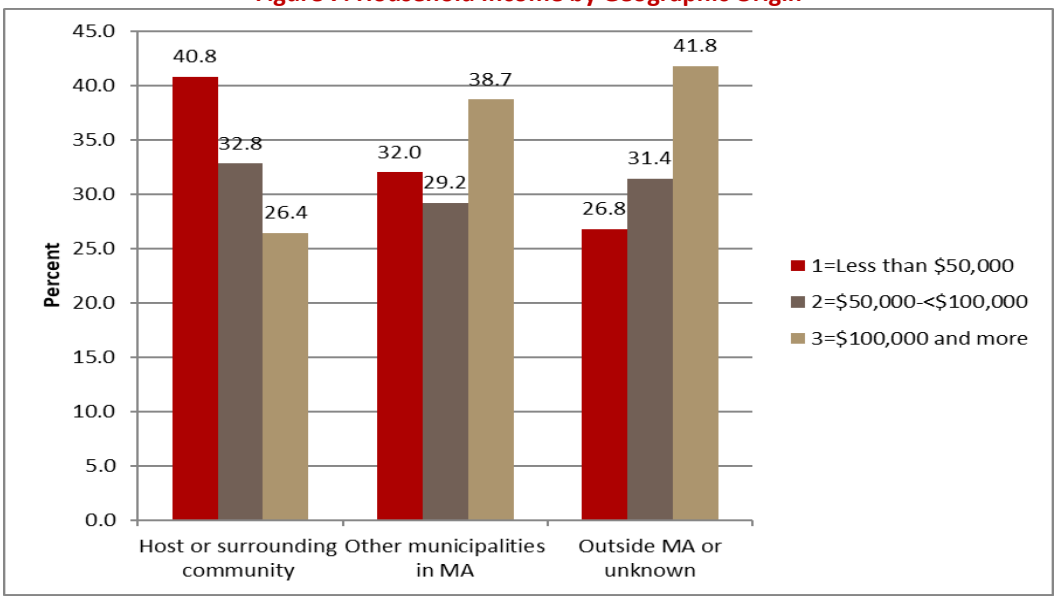
Figure 6. Education by Geographic Origin



Note: This information is also contained in Table 54 in Appendix G

Figure 7 shows that 40.8% of patrons from the host or surrounding communities, 32.0% patrons from other Massachusetts municipalities and 26.8% of patrons from outside of Massachusetts or origin unknown had an annual household income of $50,000 or less. The difference in income by geographic origin is statistically significant.

Figure 7. Household Income by Geographic Origin



Note: This information is also contained in Table 54 in Appendix G

While not presented graphically, patrons from the host and surrounding communities were also significantly more likely to be Hispanic (19.0%) compared with those from other municipalities in

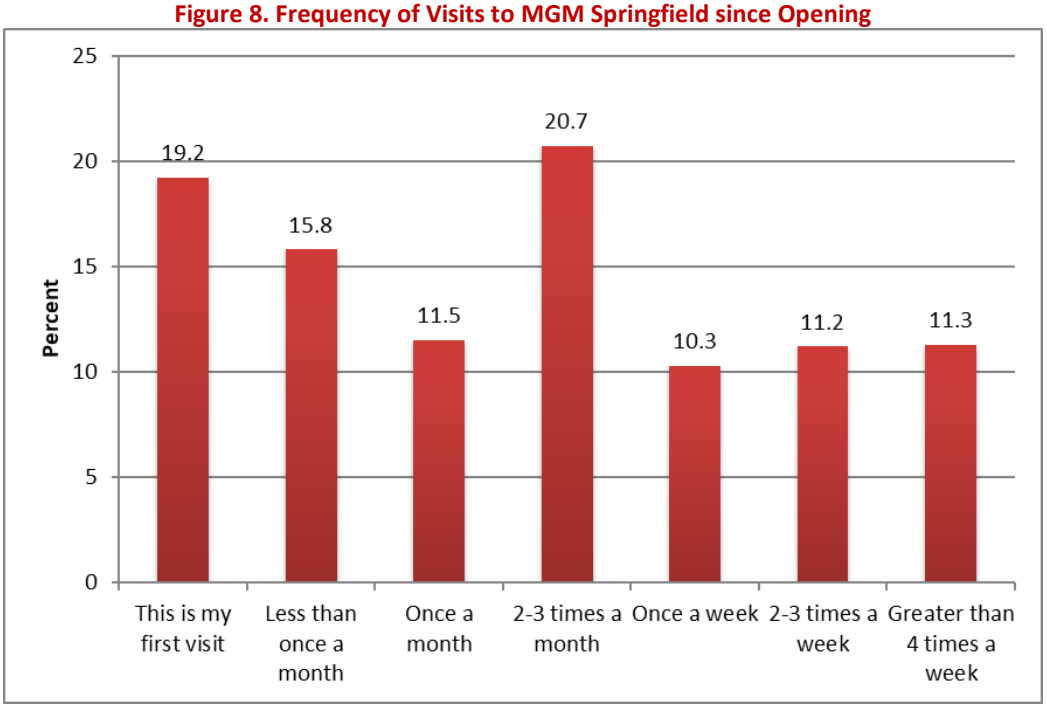
Massachusetts (7.2%). Almost three quarters (70.2%) of patrons from the host and surrounding communities, 74.2% of patrons from other Massachusetts municipalities, and 69.8% of patrons from outside of Massachusetts or origin unknown were employed. The difference in employment by geographic region is not statistically significant. Table 54 in Appendix G presents this and additional information about the demographic differences across the three geographic groups.

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 94.2% of patrons reported experiencing no problems in getting to the casino, with most people coming in their own or someone else's car (91.5%) (Table 56 in Appendix H).

When asked how often they have visited the facility since it opened, Figure 8 shows that 19.2% indicated that this was their first visit to MGM Springfield. Another 15.8% of patrons reported they visited MGM Springfield less than once a month, 32.2% reported they visited 1-3 times per month, and 32.8% reported they visited once a week or more often.[8]

Figure 8. Frequency of Visits to MGM Springfield since Opening

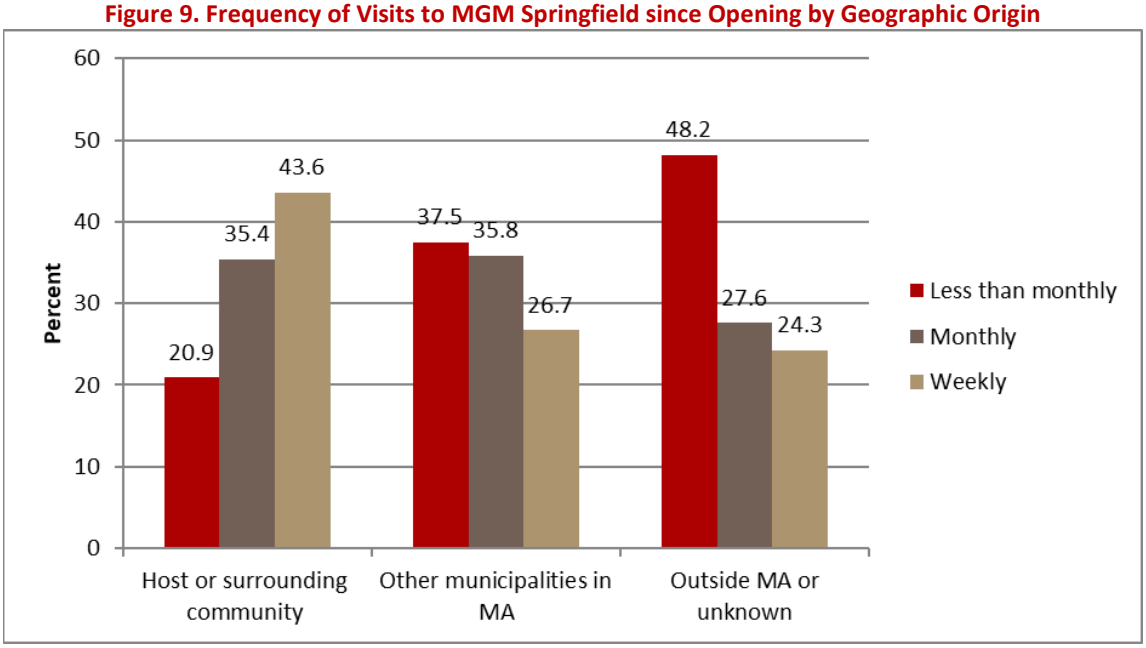


Note: This information is also contained in Table 56 in Appendix H

[8] Over half of patrons (53.5%) 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. While regular patrons are more likely to be included in the sample and, as a result, make an equivalent contribution to self-reported expenditure, this is a sampling issue that we fully expected but do not find to be problematic. We believe the sample to be representative of MGM Springfield patrons in terms of expenditure profile and geographic origin. In that sense, we have captured the typical visitor. However, we acknowledge that the survey participants may not be entirely representative in terms of their demographic profile. That information will be obtained in the Follow-up General Population Survey, currently planned for Fall 2021.

Figure 9 shows that about 43.6% of the patrons from host and surrounding communities visited MGM Springfield on a weekly basis or more compared to only 26.7% of patrons from other municipalities in Massachusetts and 24.3% of patrons from outside of Massachusetts. The difference is statistically significant (Table 57 in Appendix H).

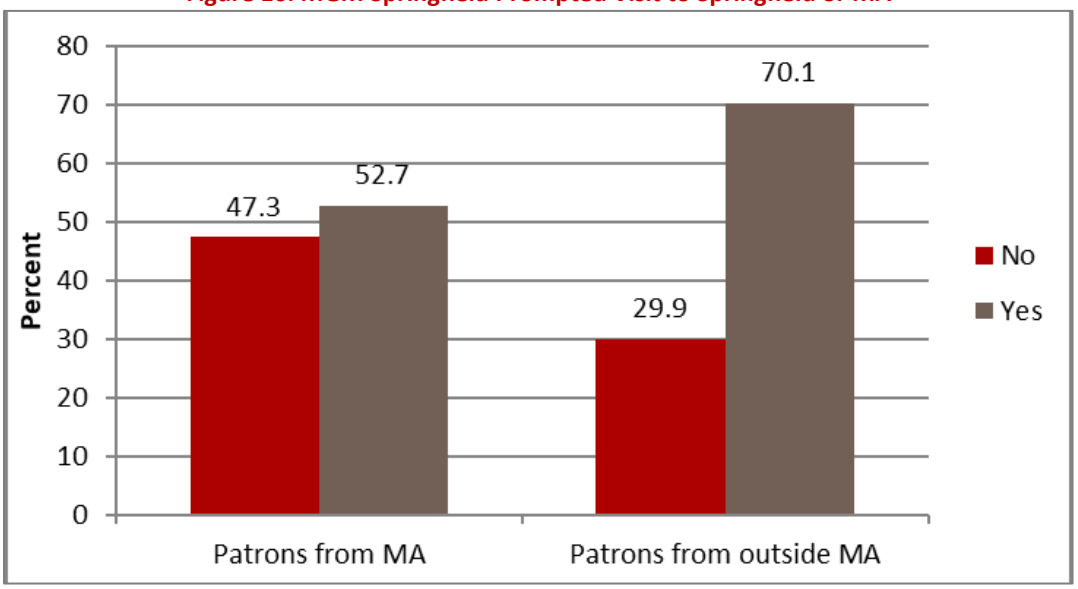
Figure 9. Frequency of Visits to MGM Springfield since Opening by Geographic Origin



Note: Table 57 in Appendix H also contains this information

A total of 58.5% of patrons reported that it was MGM Springfield that prompted them to visit Springfield and/or Massachusetts (see Table 58 in Appendix H). Figure 10 shows that out-of-state patrons were much more likely to visit the area because of the casino compared to patrons from Massachusetts (70.1% versus 52.7%).

Figure 10. MGM Springfield Prompted Visit to Springfield or MA



Note: Table 58 in Appendix H also contains this information

Among patrons from outside Massachusetts, 75.7% reported visiting Massachusetts for one day or less and 24.3% stayed for two or more days, with an overall average of 1.9 days (see Table 59 in Appendix H).

Finally, a majority of patrons (92.1%) reported having an enjoyable experience at MGM Springfield and 87.7% indicated they would return. When asked what three things they liked most about their visit, 'playing the games' was the most common thing endorsed (57.7%), followed by convenient parking (37.3%), the friendliness of the casino staff (25.2%), and the ease in getting there (22.3%) (see Table 60 in Appendix H).

Patron Activities

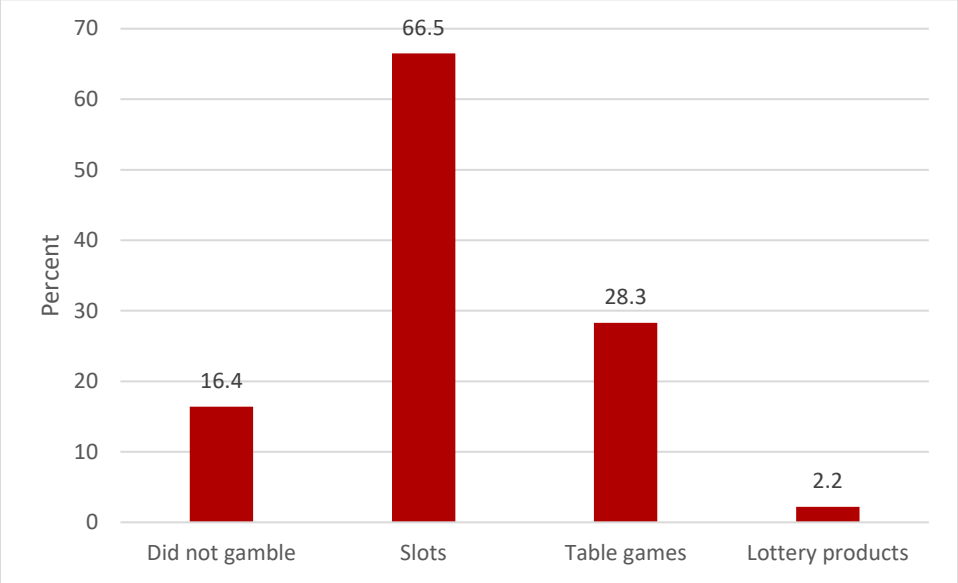
Patrons were asked a series of questions about the gambling and non-gambling activities they participated in during this visit, both within the casino and off-site. The questions included:

- What different types of gambling they participated in on-site during this visit
- Whether they were a member of the M life Rewards Loyalty Program®
- 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

Gambling Activities

In this section, we analyze the gambling behavior of the patrons. A total of 16.4% of patrons indicated they did not gamble during their visit, illustrating that gambling is not the only factor drawing people to MGM Springfield. Nonetheless, most patrons did gamble. As shown in Figure 11, the large majority played slots (66.5%), while 28.3% played table games, and 2.2% bought lottery tickets (see Table 60 in Appendix I).

Figure 11. Gambling Activities Participated In



Note: This information is also contained in Table 61 in Appendix I

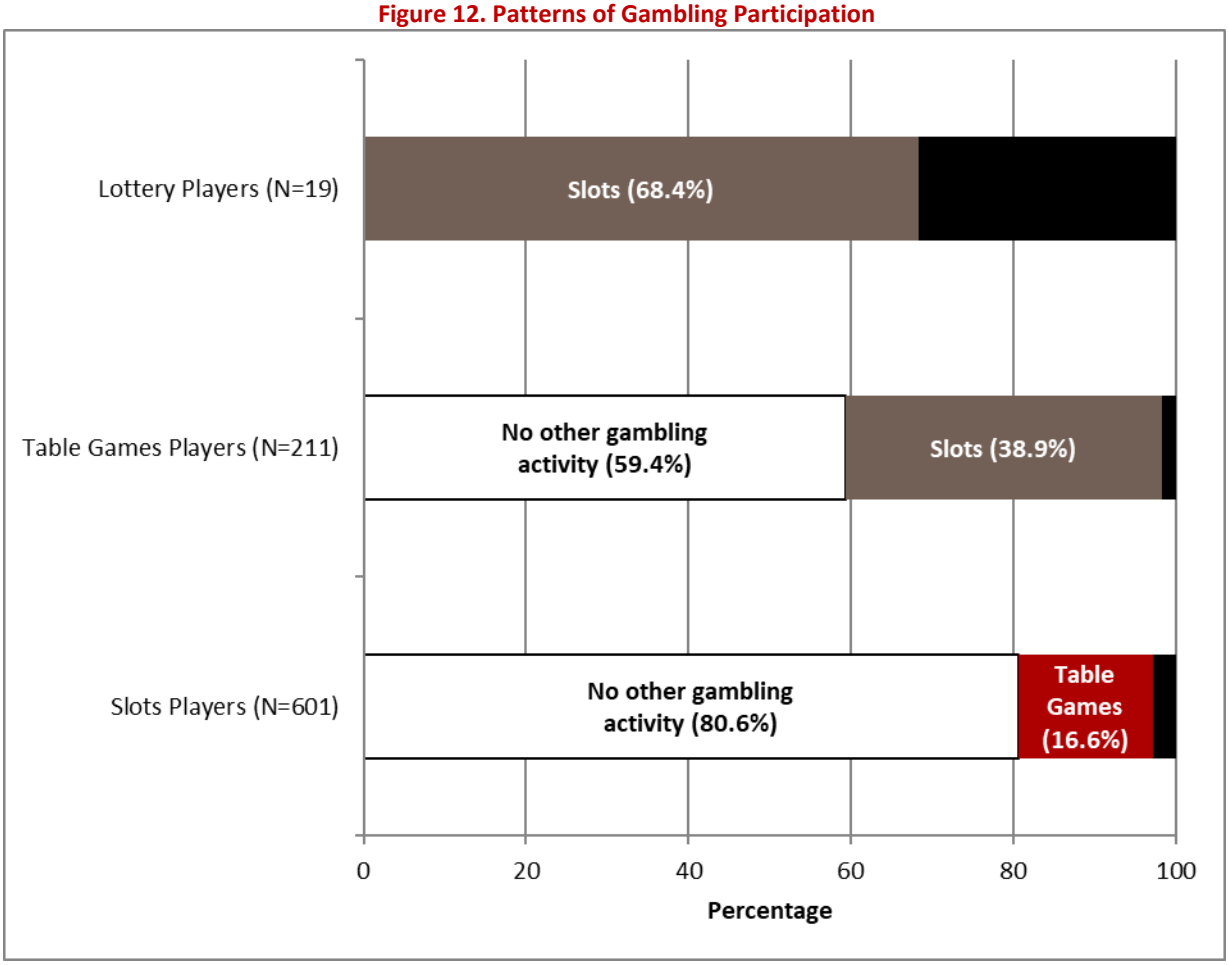
When looking at gambling participation by geographic origin, Table 63 in Appendix I shows that 22.5% of patrons from the host/surrounding communities, 12.4% of patrons from other Massachusetts municipalities, and 12.1% of patron from outside of Massachusetts or with origin unknown did not

gamble. The difference by geographic origin is statistically significant.

A total of 75.0% of patrons reported that they had an M life Rewards Loyalty Program® card. Loyalty card membership was highest among patrons who played slots (82.6%). Among patrons who played table games and among those who bought lottery tickets, loyalty card membership was 80.3% and 79.4% respectively (see Table 64 in Appendix I).

Next, we examined the patterns of gambling activities in which patrons participated. The bottom bar in Figure 12 illustrates that among the 601 slots players, 80.6% did not participate in any other gambling activity and 16.6% played table games, but not lottery. Among the 211 table game players, 59.4% did not participate in any other gambling activity and 38.9% played slots, but not lottery. Among the 19 lottery players, 68.4% played slots, but not table games.

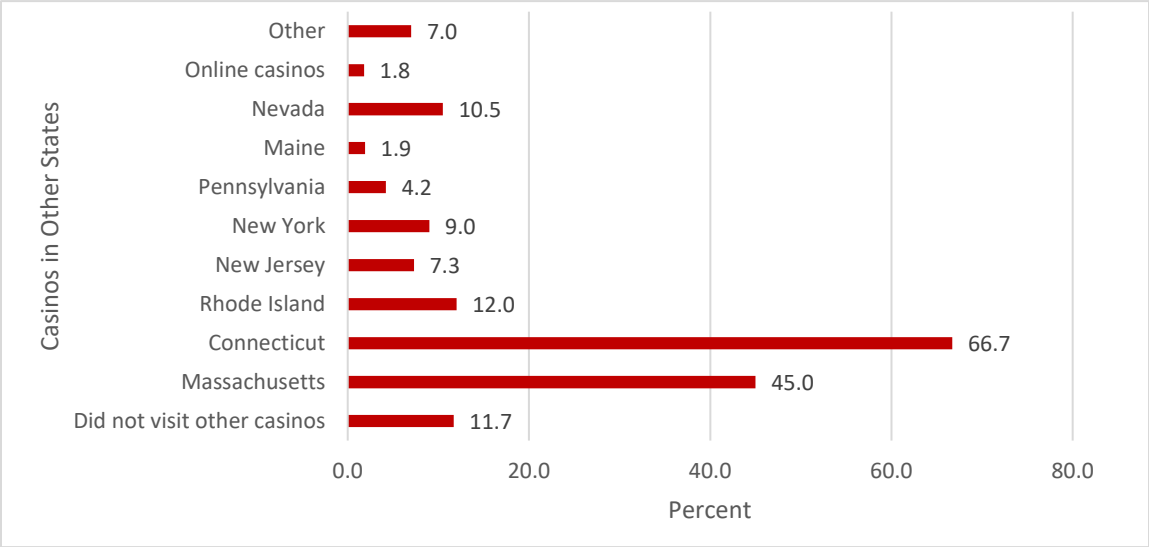
Figure 12. Patterns of Gambling Participation



Areas shaded in black indicate estimates are unreliable (relative standard error >30%).
Note: Table 62 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 state they visited for casinos. A total of 41.9% reported going to one state, 26.3% reported going to two states, 13.0% reported going to three states, and 7.1% reported going to four or more states (see Table 60 in Appendix I which also contains details about the specific state patterns observed). Only 11.7% of patrons had not visited another casino. As seen in Figure 13, the majority of patrons reported visiting casinos in Connecticut (66.7%) and Massachusetts (45.0%).

Figure 13. Other States Where Patrons Visited Casinos in Past Year

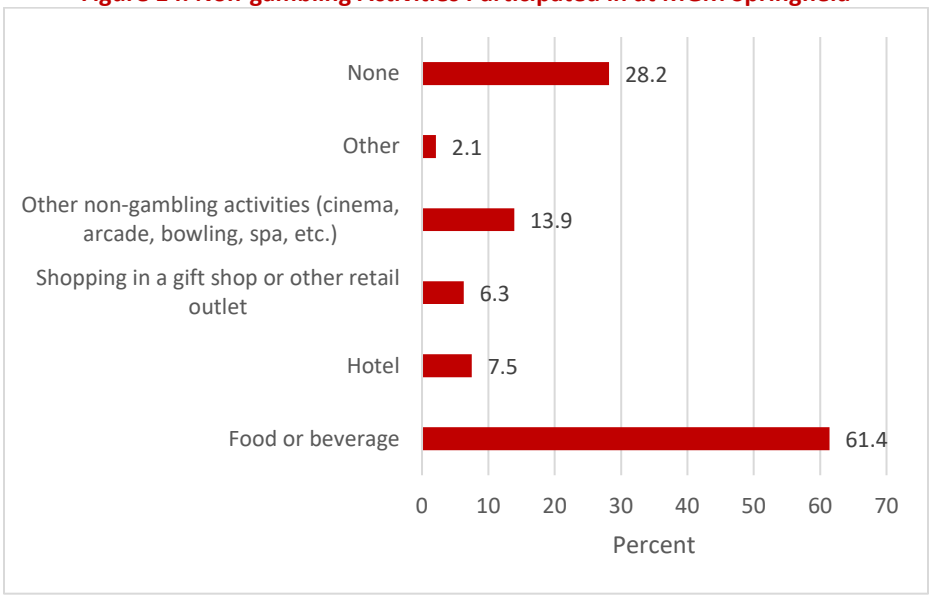


Note: Table 61 in Appendix I also contains this information

Non-gambling Activities at MGM Springfield

In this section, we examine the non-gambling activities that patrons reported spending money on during their visit (Figure 14). A majority (61.4%) reported buying food and beverage at the casino, 13.9% said they spent money on non-gambling entertainment (cinema, arcade, bowling, spa), 7.5% stayed at the hotel, 6.3% purchased items at a gift shop or other retail outlet, and 2.1% reported spending on "other" things. Twenty-eight percent of the patrons reported not participating in any non-gambling activities while at MGM Springfield (see Table 65 in Appendix I).

Figure 14. Non-gambling Activities Participated in at MGM Springfield



Note: This information is also contained in Table 65 in Appendix I

When considering non-gambling activities at MGM Springfield by geographic origin, the only statistically significant difference concerned the fact that only 8.6% of patrons from outside of Massachusetts or

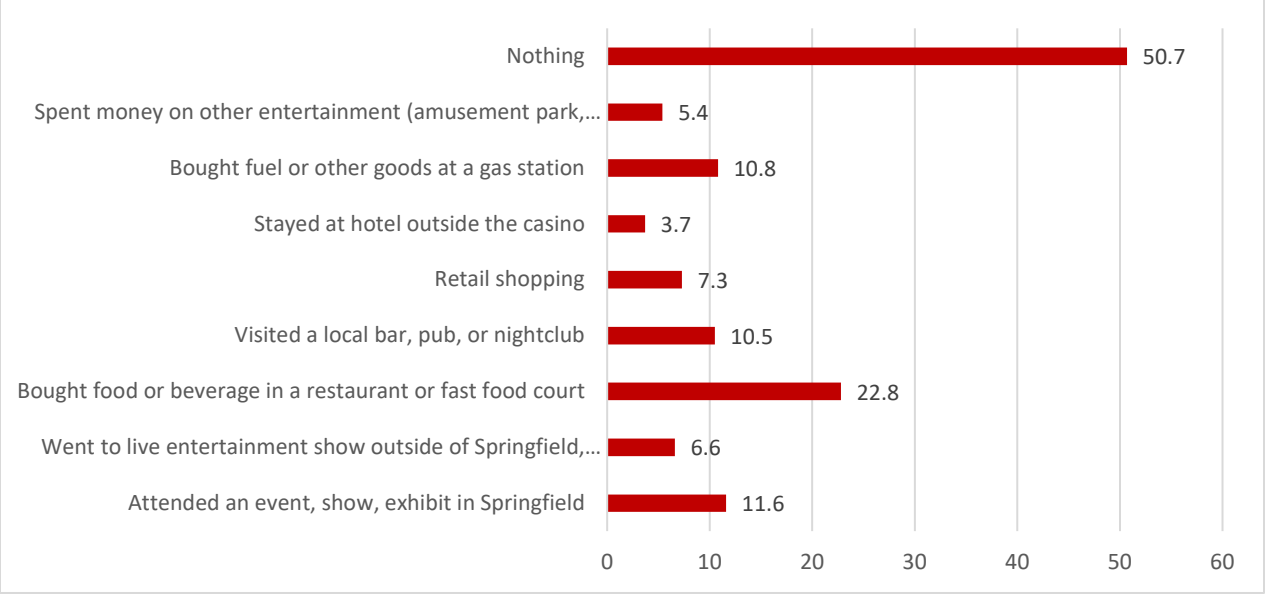
origin unknown spent money on non-gambling entertainment (cinema, arcade, bowling, spa) compared to 18.6% of patrons from the host/surrounding communities, and 14.8% of patrons from other Massachusetts municipalities (see Table 66 in Appendix I).

Next, we examined the relationship between type of gambling engaged in and non-gambling spending at MGM Springfield (see Table 67 in Appendix I). Significantly fewer patrons who played slots (7.7%) spent money on non-gambling entertainment (cinema, arcade, bowling, spa), compared to the 15.3% who played table games, 21.4% of patrons who played the lottery, and 36.3% of the patrons who did not gamble. Another statistically significant difference is that fewer patrons who played slots (6.0%) purchased items at a gift shop or other retail outlet compared to 25.8% of patrons who played the lottery. Among patrons who did not gamble at all, 13.6% also reported not spending money on non-gambling activities in MGM Springfield, compared to 31.6% of the patrons who played slots and 28.2% of patrons who played table games. The difference is statistically significant.

Non-gambling Activities Outside MGM Springfield

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 15, half of patrons (50.7%) reported not participating in any off-site activities. However, 22.8% bought food and beverage off-site, 11.6% attended an event, show or exhibit in Springfield, 10.8% bought fuel or other goods at a gas station, and 10.5% visited a local bar, pub or nightclub (see Table 68 in Appendix I). Among the patrons who attended an activity in Springfield, 36.2% went to the MassMutual Center, 33.1% went to some other Springfield location, and 24.7% went to the Basketball Hall of Fame. When considering non-gambling activities off-site by geographic origin, Table 67 in Appendix I found there to be no statistically significant differences by geographic origin.

Figure 15. Non-gambling Activities Participated in Off-site



Note: Table 68 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 70 in Appendix I). Among the patrons who played slots, 23.4% bought food or beverage off-site, compared to 19.5% of patrons who played table games, 46.1% of patrons who bought lottery products, and 23.1% of patrons who did not gamble at all. The difference is not statistically significant. Among the patrons who bought lottery products, 47.0% bought fuel or other

goods at a gas station compared to 9.6% of patrons who played slots and 15.1% of patrons who played table games. This difference is also statistically significant.

Among the Massachusetts patrons who indicated that their visit to Springfield was prompted by MGM Springfield, 24.8% bought food or beverage off-site and 10.1% bought fuel or other goods at a gas station (see Table 71 in Appendix I). Among the out-of-state patrons who decided to visit Massachusetts because of MGM Springfield, 23.2% bought food or beverage off-site and 11.5% bought fuel or other goods at a gas station (see Table 72 in Appendix I). The difference is not statistically significant.

Patron Expenditures

Due to a coding error with SurveyGizmo, the software used to collect patron responses, the question asked of patrons coming from outside of Massachusetts, *"Was MGM the reason you came to Massachusetts)"* was skipped for the first two days of data collection. Responses to this question for these patrons needed to be imputed and, therefore, missing values were replaced for all measures used in the expenditure analyses using a multiple imputation statistical technique.[9]

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 MGM Springfield, and non-gambling activities outside of MGM Springfield as a function of Massachusetts or non-Massachusetts residency and season of data collection.

For all patrons combined, the median self-reported gambling expenditure was $73.30, the median non-gambling expenditure at the casino was $39.00, and the median non-gambling expenditure outside the casino was $74.00.[10] The last column illustrates the percentage of self-reported expenditure accounted for as a function of Massachusetts versus non-Massachusetts residency. As seen, and reported in Figure 16, Massachusetts residents accounted for 57.5% of all reported gambling expenditure, 62.5% of all reported non-gambling expenditure at the casino, and 72.9% of non-gambling expenditure outside of the casino.

[9] Analyses were run for each of the imputed datasets and the results of these 100 imputations were then pooled using Rubin's rule (Rubin, 2004) to account for variability incurred through introduction of the imputed data. Relative efficiency was close to 1.0 for all variables, indicating that the 100 imputations were sufficient.

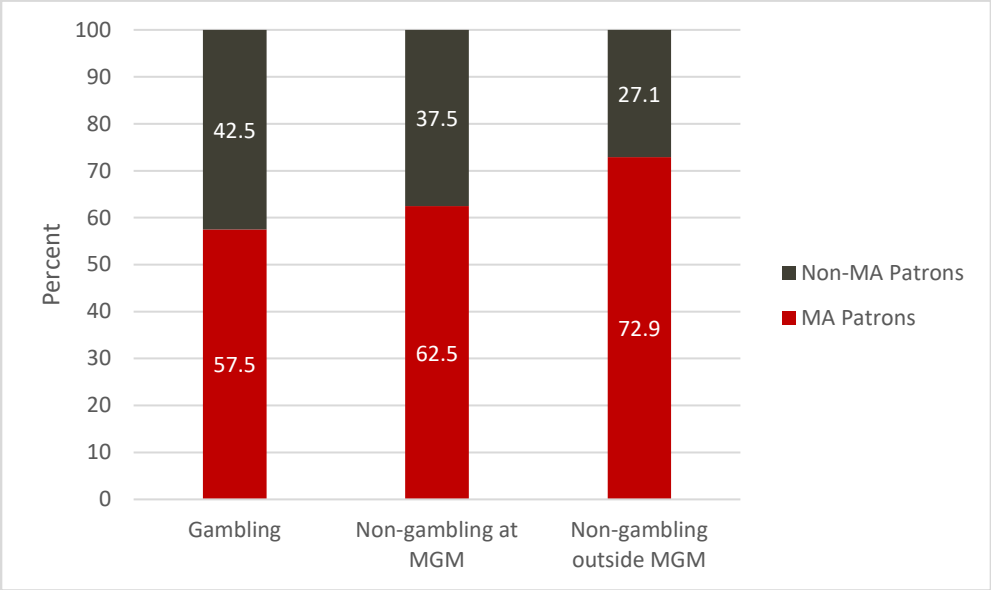
[10] The respective means are $238.80 for gambling, $219.80 for non-gambling at MGM Springfield, and $292.60 for non-gambling outside of MGM Springfield. However, the mean values are less reliable due to the influence of a small number of high values.

Table 4. Self-reported Expenditures at MGM Springfield by Season and Residency

		Winter					Summer					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	237	725,145	206.2 (135.8, 276.7)	$57	149,550,112 (93,770,694, 205,329,529)	*169*	*555,393*	*282.1 (106.3, 457.9)*	*$70*	156,684,836 *(*54,080,169*,* 259,289,502*)*	406	1,280,539	239.1 (152.9, 325.4)	$63	306,234,947 (189,428,720, 423,041,174)	57.5%
	Non-Gambling at MGM	211	625,327	153.2 (98.2, 208.1)	$32	95,777,975 (59,097,898, 132,458,052)	152	489,973	343.5 (154.1, 532.9)	$45	168,336,872 (72,408,343, 264,265,401)	363	1,115,299	236.8 (147.5, 326.1)	$37	264,114,848 (161,121,089, 367,108,606)	62.5%
	Non-Gambling outside MGM	142	447,017	214.1 (126.3, 301.9)	$52	95,722,913 (53,376,023, 138,069,803)	*100*	332,222	*555.3 (145.5, 965.0)*	*$79*	184,457,632 *(*40,324,321*,* 328,590,943*)*	242	779,240	359.6 (174.9, 544.2)	$59	280,180,545 (129,795,828, 430,565,263)	72.9%
Non-MA Patrons	Gambling	190	535,647	241.0 (148.0, 334.0)	$93	129,089,937 (75,739,517, 182,440,357)	139	413,598	234.8 (152.8, 316.9)	$72	97,097,972 (60,177,075, 134,018,868)	329	949,245	238.3 (174.8, 301.8)	$82	226,187,908 (161,311,188, 291,064,629)	42.5%
	Non-Gambling at MGM	*152*	421673	*227.8 (80.6, 375.0)*	$40	96,064,449 *(*31,971,216*,* 160,157,682*)*	121	385,072	161.8 (96.2, 227.4)	$36	62,299,191 (34,771,480, 89,826,903)	273	806,745	196.3 (113.0 279.6)	$39	158,363,640 (88,578,165, 228,149,116)	37.5%
	Non-Gambling outside MGM	95	286,093	175.3 (104.9, 245.8)	$66	50,155,820 (27,269,259, 73,042,382)	79	248,573	217.9 (126.8, 309.0)	$83	54,158,845 (28,437,251, 79,880,439)	174	534,666	195.1 (138.3, 251.9)	$75	104,314,665 (69,833,359, 138,795,971)	27.1%
All Patrons	Gambling	427	1,260,792	221.0 (164.4, 277.6)	$74	278,640,048 (201,440,366, 355,839,730)	308	968,991	261.9 (155.0, 368.8)	$72	253,782,807 (144,739,933, 362,825,682)	735	2,229,783	238.8 (182.3, 295.2)	$73	532,422,856 (398,828,641, 666,017,070)	100.0%
	Non-Gambling at MGM	362	1,047,000	183.2 (115.0, 251.5)	$37	191,842,424 (117,640,352, 266,044,496)	274	875,045	263.6 (153.2, 373.9)	$41	23,063,6064 (130,800,996, 330,471,132)	636	1,922,045	219.8 (157.3, 282.4)	$39	422,478,488 (298,024,806, 546,932,170)	100.0%
	Non-Gambling outside MGM	237	733,110	199.0 (138.5, 259.4)	$56	145,878,733 (97,593,228, 194,164,238)	*179*	*580,796*	*410.9 (170.6, 651.1)*	*$84*	238,616,477 *(*92,204,459*,* 385,028,496*)*	416	1,313,906	292.6 (180.2, 405.1)	$64	384,495,210 (230,203,627, 538,786,793)	100.0%

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

Figure 16. Percent of Expenditures by Massachusetts Residency



New Revenue/Spending

While the *relative expenditure proportions* by Massachusetts or non-Massachusetts residency are likely accurate, the actual amounts reported are almost certainly inaccurate due to the inherent unreliability of self-reported gambling expenditure (Williams, Volberg, Stevens et al., 2017; Wood & Williams, 2007). As evidence of this unreliability, the aggregated self-reported gambling expenditure in Table 4 (extrapolated to the population of patrons over 12 months) is $532 million, whereas MGM Springfield reported only $259,164,062 in gambling revenue between October 2018 to September 2019 (see Table 73 in Appendix J). Similarly, the aggregated self-reported non-gambling expenditure at MGM Springfield by patrons in Table 4 is $422 million, whereas MGM Springfield reported only $83,683,643 (see Table 72 in Appendix J). It is possible that some of the reported on-site spending by casino patrons went to entities leasing space within the casino, which at the time of writing features a cinema and a jewelry store among other tenants.

Thus, 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. This results in an estimated:

- $149,019,336 of gambling revenue coming from Massachusetts residents and $110,144,726 from non-Massachusetts residents between October 2018 and September 2019.
- $52,302,277 of non- gambling revenue at MGM Springfield coming from Massachusetts residents and $31,381,366 from non-Massachusetts residents in calendar year 2019.

There are no reliable figures for revenue to businesses outside of MGM Springfield. However, a reasonable approach to estimating this figure is to use the actual total non-gambling revenue reported by MGM Springfield (i.e., $83,683,643) divided by the self-reported non-gambling expenditure in MGM Springfield reported in the Patron Survey (i.e., $422,478,488) = 0.1981.[11] Applying this proportion to

[11] The proportion needed to project Patron Survey self-reported gambling expenditure to actual gambling revenue could also have been used. We did not use this proportion because we believe the Patron Survey likely oversampled winners and undersampled losers to some extent. The reason for this assumption is that gambling

self-reported non-gambling expenditure outside of MGM Springfield ($384,495,210) results in an estimated:

- $76,159,996 being spent by MGM Springfield patrons on non-gambling activities outside of MGM Springfield between October 2018 to September 2019, with $55,520,637 being spent by Massachusetts residents, and $20,639,359 being spent by non-Massachusetts residents.

Adding all three areas of spending – gambling expenditure, non-gambling expenditure at MGM Springfield, and non-gambling expenditure outside of MGM Springfield – produces an estimated total gambling and non-gambling expenditure of $256,842,250 by Massachusetts residents and $162,165,451 by non-Massachusetts residents. Thus, in total, we estimate that Massachusetts residents account for 61.3% of all combined gambling and non-gambling expenditure and non-Massachusetts residents account for 38.7%.

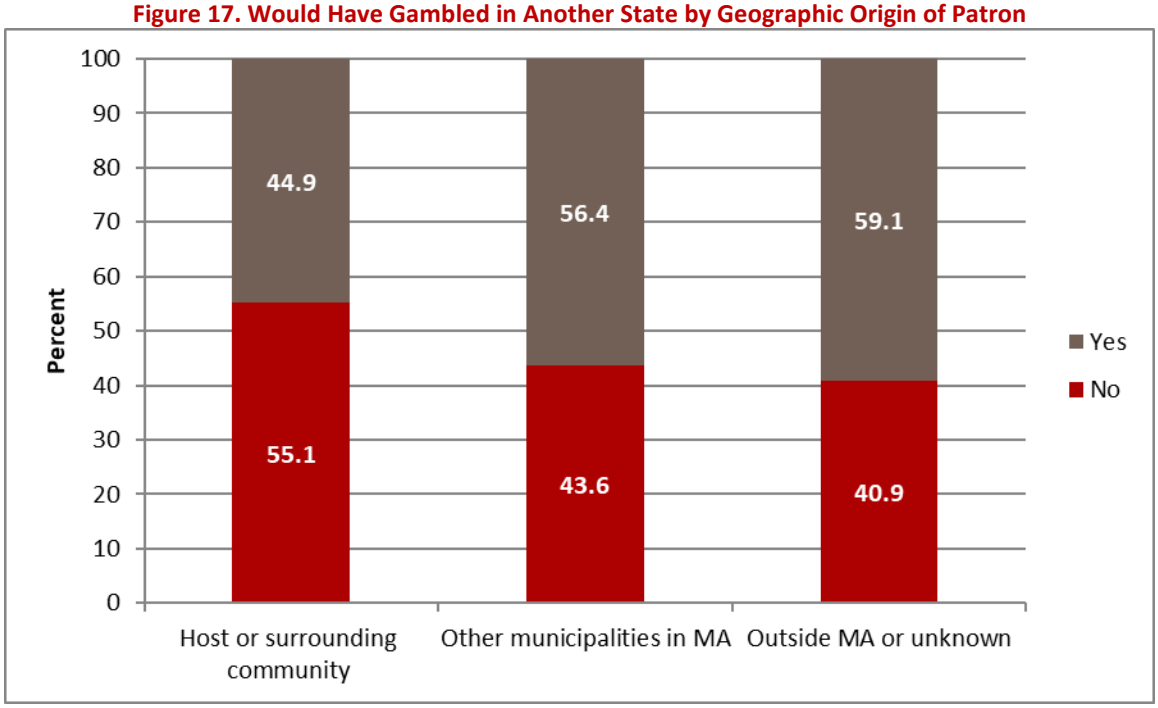
Recaptured Spending

The previous section quantified an important economic impact of MGM Springfield, which is the extent to which it captures out-of-state revenue. As discussed, we find that trips to MGM Springfield generate more money from in-state residents than from out-of-state residents. However, there are two other economic impacts of importance. One is the extent to which MGM Springfield has '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 MGM Springfield 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 MGM Springfield. Patron survey data informs the subsequent economic modeling, which utilizes the PI+ economic impact model produced by Regional Economic Models Incorporated (REMI). This present report discusses the proportion of spending accounted for by different types of patrons. The results of the economic modeling are included in a separate report on the first year of operations for MGM Springfield (Peake, 2020).

A total of 52.7% of patrons reported that if there was not a casino in Massachusetts, they would have gambled in another state (see Table 74 in Appendix J). Figure 17 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. This figure shows that 44.9% of patrons from the host and surrounding communities, 56.4% of patrons from other municipalities in Massachusetts and 59.1% of patrons from outside of Massachusetts or origin unknown reported being likely to gamble in another state. The difference is statistically significant. Among patrons who said that they would have gambled in another state, 91.1% indicated this would have been Connecticut and 15.2% indicated they would have gambled in Rhode Island (see Table 74 in Appendix J). These findings illustrate that MGM Springfield is indeed attracting significant numbers of Massachusetts residents and out-of-state patrons, who would have gone to other states to gamble.

revenue is known to constitute 76% of all revenue at MGM Springfield. However, in the present analysis, gambling accounts for only 56% of self-reported expenditures (i.e., $532,422,856/($532,422,856+$422,478,488)).

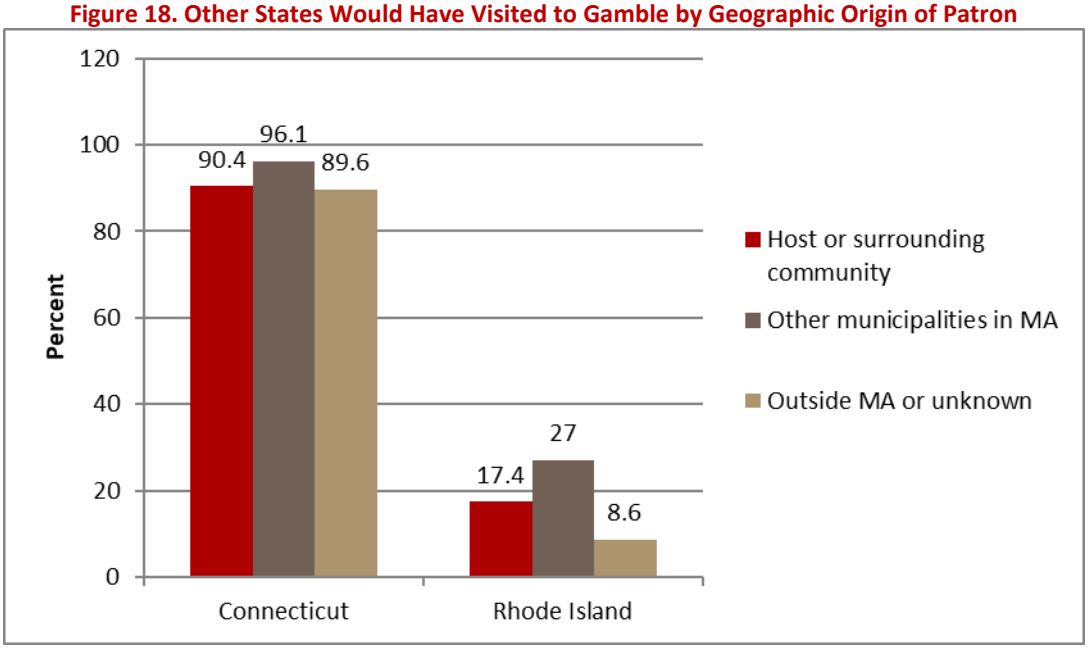
Figure 17. Would Have Gambled in Another State by Geographic Origin of Patron



Note: This information is also contained in Table 74 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 13 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 18 shows that 17.4% of patrons from the host and surrounding communities identified Rhode Island as a state to visit, while 27.0% of the patrons from elsewhere in Massachusetts and only 8.6% of the patrons from outside the state or origin unknown identified Rhode Island as a state to visit. The difference is statistically significant.

Figure 18. Other States Would Have Visited to Gamble by Geographic Origin of Patron

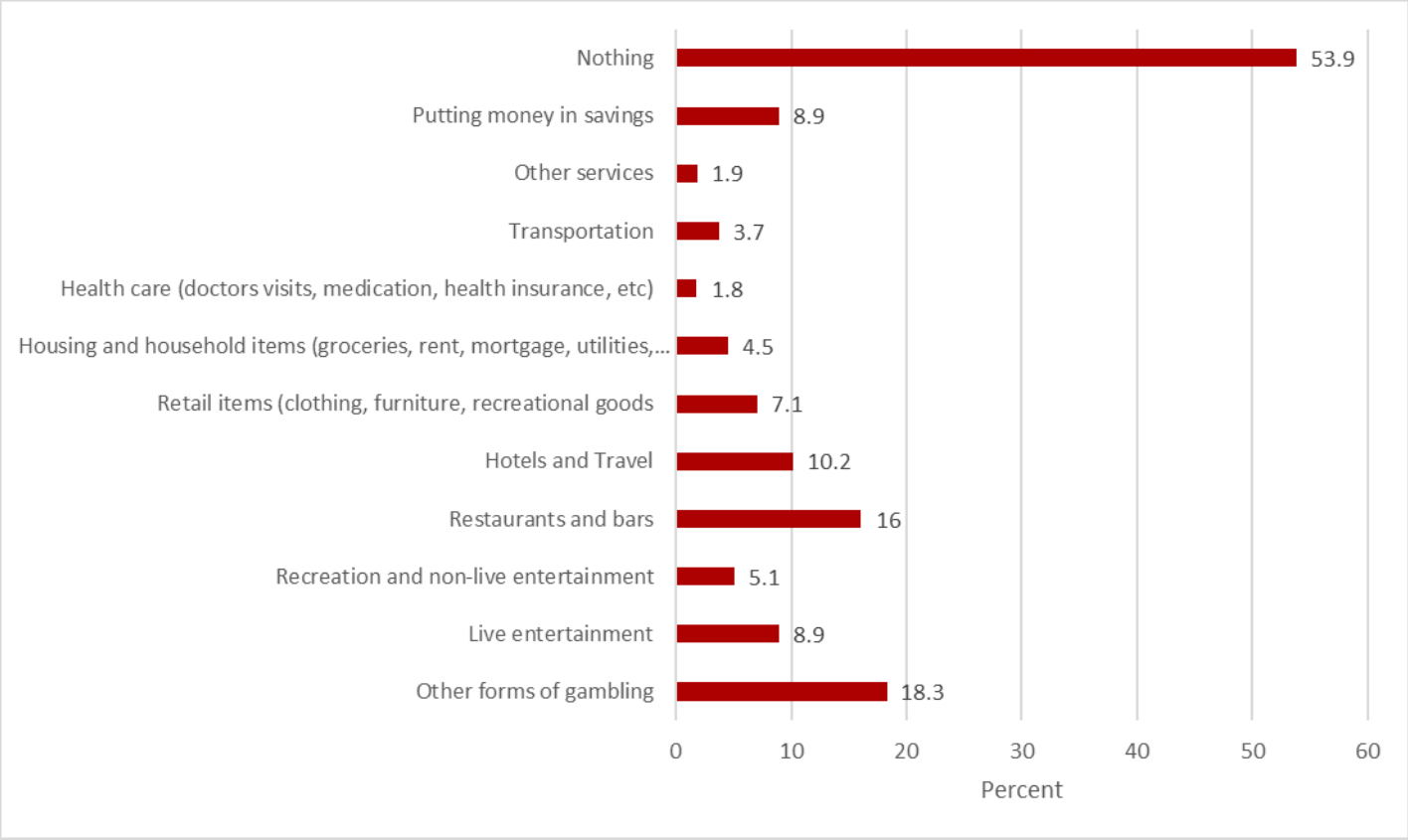


Note: This information is also contained in Table 75 in Appendix J

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 if what they did buy was unavailable, tracking reallocated spending can be a challenge, but it is important to make every effort to estimate it, as those 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 are spending less money on as a result of having casinos in Massachusetts. A total of 53.9% of patrons indicated that there is nothing that they spent less money on as a result of casinos in Massachusetts. For the 46.1% 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 19 below (see Table 74 in Appendix J). The most common items reported were other forms of gambling (such as lottery products, bingo, or horse racing), followed by spending in restaurants and bars, hotels and travel, putting money into savings, and live entertainment. Patrons from the host and surrounding communities were more likely to report spending less money on other forms of gambling than patrons from outside of Massachusetts. The difference is statistically significant (see Table 75 in Appendix J).

Figure 19. 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 74 in Appendix J also contains this information.

Economic Modeling

From an economic perspective, there are six basic types of casino patrons. Table 5 shows the patron types who are defined by, then aligned with how they answered certain questions in the survey. These patron types were used to determine how spending by that patron type was treated in the 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	N/A
3	Reallocated In-State Incidental	In-State	No	No	N/A
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 MGM Springfield 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 elsewhere in the modeling process. 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 is only used to model shifts in spending throughout the Massachusetts economy, and since the on-site spending of recaptured in-state patrons would have occurred outside of Massachusetts, it is not included in the model.

Reallocated in-state patrons are people from Massachusetts who would not have visited Springfield 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 in Massachusetts other than gambling. 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 MGM Springfield did not prompt their visit to Springfield. They may live in the city itself, or they may have been running errands or visiting family in Springfield. Put simply, these patrons would have been in Springfield 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 MGM Springfield since they indicated that the casino did not prompt their visit to Springfield. 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 MGM Springfield. 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 MGM Springfield.

Captured out-of-state incidental patrons are people who would have visited Massachusetts regardless of whether or not MGM Springfield 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 MGM Springfield did not prompt their visit to Massachusetts. These patrons, however, reported that they would have spent the money that they spent at MGM Springfield 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 game, or to visit with family. It is probable, however, that the length and expenditure of the stay would have been less if MGM Springfield did not exist. These patrons do not have an effect on the model. Their spending at MGM Springfield 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 MGM Springfield, and who would not have otherwise spent the money they spent at MGM Springfield 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 MGM Springfield 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 casino reallocating the spending of these patrons from a regional consumption basket, it is reallocated from a basket of goods and services frequently consumed by out-of-state tourists in Massachusetts.

Shares of Recaptured and Reallocated Spending

Table 6 shows that recaptured in-state patrons contribute to a narrow plurality of both gambling and non-gambling spending at MGM Springfield (38.5% and 31.9%, respectively). The next largest group in terms of share of spending is new out-of-state patrons, who make up 35.4% of gambling spending at MGM Springfield and 31.7% of the non-gambling spending at MGM Springfield. Reallocated in-state casino visitors represent 9.3% of gambling spending, reallocated in-state incidental visitors represent 9.6% of gambling spending, captured out-of-state incidental patrons represent 5.2% of gambling spending, and reallocated out-of-state incidental visitors represent 1.9% of gambling spending. Reallocated in-state incidental visitors represent 22.4% of non-gambling spending at MGM Springfield, while new out-of-state patrons represent 31.7% of non-gambling spending at MGM Springfield. In other words, the majority of spending at MGM Springfield can be attributed to either in-state patrons who would have otherwise have gambled out-of-state (recaptured in-state patrons) or out-of-state patrons who otherwise would not have visited Massachusetts (new out-of-state patrons).

Table 6. Share of On-site Spending by Patron Type[12]

Patron group	Share of Gambling Spending	Share of Non-Gambling MGM Spending
1=Recaptured In-State	38.5%	31.9%
2=Reallocated In-State	9.3%	8.2%
3=Reallocated In-State Incidental	9.6%	22.4%
4=New Out-of-State	35.4%	31.7%
5=Captured Out-of-State Incidental	5.2%	NA
6=Reallocated Out-of-State Incidental	1.9%	NA

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

[12] Three respondents who were missing patron type were excluded from these calculations.

The economic modeling exercise is based on a six-region division of the state (Figure 24 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 Pioneer Valley region which includes Springfield and several of the surrounding communities contribute 88.4% of gambling spending and 80.6% of non-gambling MGM Springfield spending. Most of the remaining recaptured gambling spending comes from the Central (4.2%), Greater Boston (3.6%) and Berkshire (2.2%) regions. Most of the remaining recaptured non-gambling spending comes from the Central (3.3%) region.

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

REMI region	Share of Gambling Spending	Share of Non-Gambling MGM Spending
Berkshire	2.2%	NA
Pioneer Valley	88.4%	80.6%
Central	4.2%	3.3%
Greater Boston	3.6%	NA
Southeast	NA	NA
Cape and Islands	NA	NA

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

Table 76 and Table 77 in Appendix J provide details of reallocated in-state on-site and incidental patron spending by REMI Region. In addition, Table 78 and Table 79 in Appendix J display off-site non-gambling spending, and casino patron off-site spending by REMI region.

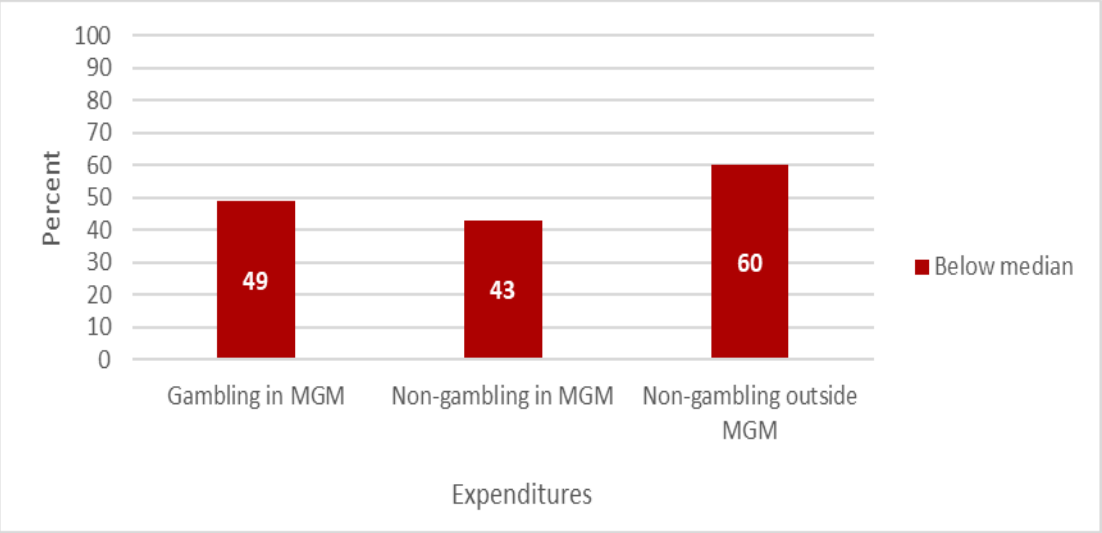
Expenditure by Household Income

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. Almost all studies that have examined this issue have found that gambling is indeed usually economically regressive (Williams, Rehm, & Stevens, 2011). However, 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.

Figure 20 shows patron expenditures on gambling and non-gambling amenities at MGM Springfield as well as expenditures on non-gambling amenities outside the casino by household income group. As a reference point, the median household income for Massachusetts in 2017 was $77,378[13] (U.S. Census, 2019). Figure 20 illustrates that income groups below the median Massachusetts household income (i.e., below $70,000 category) comprise 50.8% of the population and account for almost 50 percent of both of gambling revenue (49%) and non-gambling expenditures at MGM Springfield (43%), while they represent a majority of the non-gambling expenditures outside of MGM Springfield (60%).

[13] https://www.census.gov/quickfacts/fact/table/MA/INC110218

Figure 20. Expenditure Proportion for Households with Annual Income Below Median ($70K)



Note: Table 80 in Appendix J also contains this information

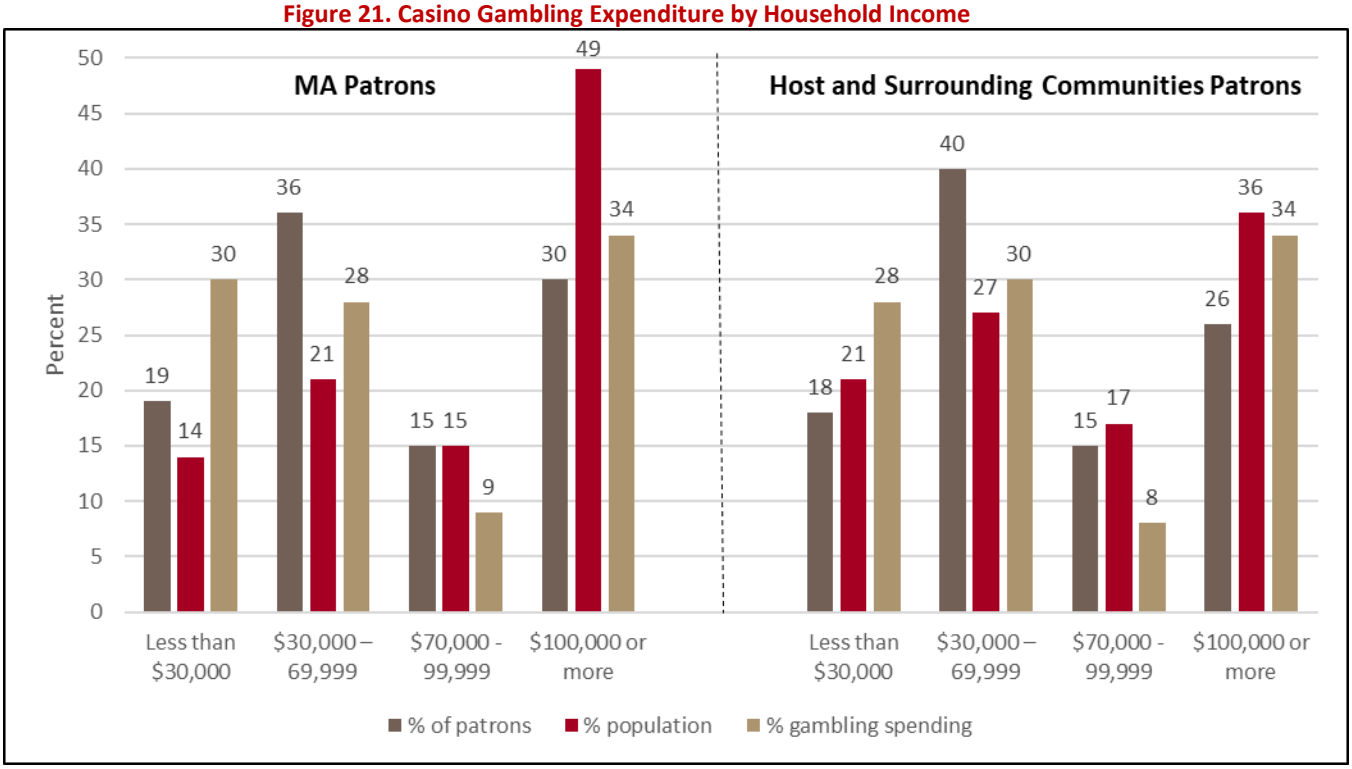
Figure 21 provides a more fine-grained analysis of gambling spending as a function of income group for MA patrons and the sub-group of patrons from the host and surrounding communities only. Looking at groups of patrons by household income, this impact can be analyzed in two ways. In the first instance, 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). When viewed together, these data show that casino gambling at MGM Springfield appears to be regressive, which tends to support findings from other research.

For all MA patrons, the lowest income groups (i.e., below $30,000) represent 19% of the patrons but only 14% of the general population; this group spent proportionally more on gambling (30%) relative to their prevalence in the general population (14%). For patrons from the host and surrounding communities with the lowest incomes, they are not overrepresented in the casino as they only represent 18% of the patrons but 21% of the population of the same area. However, they disproportionately account for 28% of the gambling spending.

The opposite is true for patrons with the highest incomes ($100,000 and over). For all MA patrons, this group was underrepresented in the casino since they represent only 30% of the patrons but 49% of the MA population.[14] This disparity continues as they only represent 34% of the gambling expenditures. Patrons from the host and surrounding communities with the highest incomes represent only 26% of the patrons but 36% of the population of the same area, and account for 34% of the gambling spending. As the graph shows, similar patterns hold true for the lower-middle-income patrons (who represent a higher percentage of spending than their population) and middle-income (who represent a much lower percentage of spending than their population).

[14] It should be noted, however, that only 30.3% of Massachusetts MGM Springfield patrons had incomes greater than $100,000. Thus, their per capita spending is higher than per capita spending by patrons with lower incomes.

Figure 21. Casino Gambling Expenditure by Household Income



Note: Table 81 and Table 82 in Appendix J also contains this information

Responsible Gambling and GameSense

The Patron Survey included questions concerning knowledge of the randomness of slot machines, responsible gambling behavior, and knowledge and utilization of GameSense. The GameSense Info Center is an on-site resource for gamblers to find out more about how the games work, their odds, gambling fallacies, and signs of problem gambling. GameSense Advisors are funded by the Massachusetts Gaming Commission and are trained by the Massachusetts Council on Compulsive Gambling. GameSense centers are staffed from 10am-2am every day.

As shown in Table 8, about three quarters of the patrons (75.8%) correctly identified that the chances of winning the jackpot on a slot machine are the same regardless of when the previous jackpot occurred. However, only a minority of patrons reported utilizing responsible gambling strategies. The most common strategy that patrons endorsed was sticking to a limit for how much they could lose during a single casino visit (43.6%), followed by avoid using ATM's at the casino (34.8%), and thinking of gambling as fun (28.5%). Seventeen percent of patrons reported not chasing losses, and only 12% reported taking a break to cool off.

Among the patrons who spoke to a GameSense advisor, about two thirds (66.9%) had no more than 5 interactions and 51.3% reported that the interaction was mostly small talk, while 35.8% reported that they spoke about gambling and how to avoid gambling problems.

Table 8. Responsible Gambling and GameSense Questions

		N[1]	N[2]	%
Which gives you the best chance of winning the jackpot on a slot machine?	Playing a slot machine that has not had a jackpot in over a month	146	445,046	19.0
	Playing a slot machine that had a jackpot an hour ago	45	120,127	5.1
	Your chances of winning the jackpot are the same on both machines	580	1,772,696	75.8
Strategies to keep gambling within personally affordable limits	I avoid using ATMs at the casino	263	790,859	34.8
	I took a break to cool off	89	277,517	12.2
	I used PlayMyWay	NA		
	I think of gambling as fun, not as a way to make money	227	647,491	28.5
	I did not CHASE my losses	127	383,235	16.9
	I left the casino while I was ahead	201	618,645	27.2
	I stuck with a limit for how much I could LOSE during a single casino visit	334	989,428	43.6
Have you ever used a GameSense kiosk at MGM?	1=No	432	1,256,763	82.7
	2=Yes	81	263,775	17.3
Have you ever taken any written materials from the GameSense Kiosk at MGM	1=No	691	2,040,580	82.8
	2=Yes	123	424,559	17.2
Have you spoken with a GameSense Advisor at MGM	1=No	716	2,146,651	91.9
	2=Yes	63	188,659	8.1
How many interactions have you had with a GameSense Advisor at MGM?	1-5	45	124,724	66.9
	6-10	12	48,659	26.1
	11-20	NA		
	More than 20	NA		
How would you describe your conversation with a GameSense Advisor?	Mostly make small talk	36	94,963	51.3
	We mostly spoke about gambling and how to avoid gambling problems	15	66,309	35.8
	Something else			NA

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

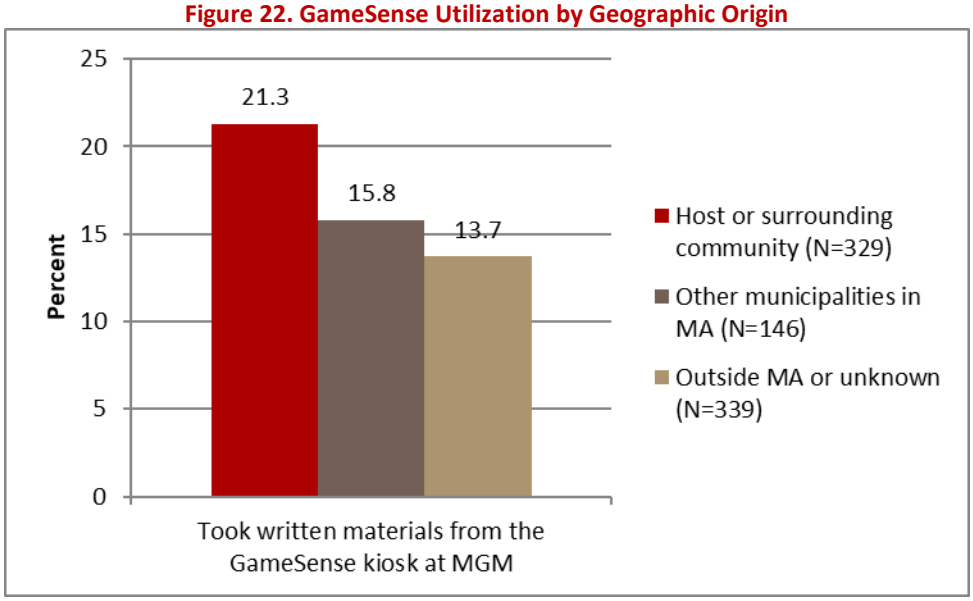
[2]Weighted N is the estimated total number of patrons who visited MGM Springfield in past year.

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

Note: This information is presented by season in Table 82 in Appendix K.

As shown in Figure 22, 21.3% patrons from the host or surrounding communities took written materials from a GameSense kiosk at MGM Springfield, while 13.7% of the patrons from outside of Massachusetts or origin unknown did. The difference is not statistically significant.

Figure 22. GameSense Utilization by Geographic Origin



Note: Table 83 in Appendix K also contains this information

Casino Patron Comparisons

While a more in-depth comparison of Patron Survey data between the multiple Massachusetts casinos will be included in our more integrative "Social and Economic Impacts of Expanded Gambling in Massachusetts" reports, we wanted to take advantage of this opportunity to conclude with some key comparisons of the results of the Patron Survey at MGM Springfield with the results of the Patron Survey carried out at Plainridge Park Casino in 2016 (Salame et al., 2017). The two venues, which opened in 2015 and 2018, 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 first important difference between the two venues is where they draw patrons from geographically. While 11.4% of patrons at Plainridge Park Casino came from the host and MGC-designated surrounding communities, 41.5% of patrons at MGM Springfield came from the communities hosting and surrounding the casino. A far smaller proportion of patrons at MGM Springfield came from elsewhere in Massachusetts (17.9%) compared to Plainridge Park Casino (66.5%). There was also a substantial difference in the proportion of patrons at the two venues drawn from outside the Commonwealth (22.1% at PPC compared with 40.6% at MGM Springfield).

Another important difference between the two venues relates to the demographic characteristics of the patrons. At Plainridge Park Casino, 81.8% of the patrons identified as White compared with 67.5% of the patrons at MGM Springfield. The largest difference in the race/ethnicity of patrons at the two venues is that 4.5% of patrons at Plainridge Park Casino identified as Hispanic compared with 16.5% of patrons at MGM Springfield. Given the demographic profile of Springfield and surrounding communities as well as the proportion of MGM Springfield patrons drawn from the host and surrounding communities, this is hardly a surprise, but it is certainly worth noting. Beyond race/ethnicity, it is also interesting that patrons at MGM Springfield were somewhat younger, more likely to be employed, and less likely to be retired than patrons at Plainridge Park Casino.

With regard to the gambling behavior of patrons at the two venues, the greater availability of non-

gambling amenities at MGM Springfield likely contributed to the much higher proportion of MGM patrons who indicated that they did not gamble during their visit (16.4%) compared to the proportion of Plainridge Park Casino patrons (3.5%). Another interesting difference relates to frequency of visits by patrons at the two venues. While 13.5% of patrons at Plainridge Park Casino indicated that this was their first visit to the venue, 19.2% of MGM Springfield patrons were making their first visit to the venue. In contrast, 39.3% of PPC patrons indicated that they visited the venue once a week or more often, compared to 32.8% of MGM patrons. However, a closer look reveals that 43.6% of MGM patrons from the host and surrounding communities visited the venue once a week or more often compared to 18.2% of PPC patrons from the host and surrounding communities.

Another interesting comparison relates to gambling and non-gambling expenditures by patrons at the two venues. First, it is notable that the proportion of total spending by Massachusetts-based patrons was somewhat higher at Plainridge Park Casino (79.1%) compared to MGM Springfield (61.3%). This difference is consistent across gambling and non-gambling expenditures with the greatest difference for on-site non-gambling amenities where Massachusetts-based patrons accounted for 92.1% of spending at Plainridge Park Casino compared to 62.5% of spending at MGM Springfield. On the flip side, out-of-state patrons accounted for a higher proportion of total spending at MGM Springfield (38.7%) compared with Plainridge Park Casino (20.9%) with out-of-state patrons accounting for nearly twice the proportion of expenditures on gambling and three times the proportion of expenditures on on-site non-gambling amenities at MGM Springfield compared with Plainridge Park Casino. Taken together, these numbers suggest that MGM Springfield has been more successful at attracting out-of-state residents to spend money in Massachusetts that they would not otherwise have spent in-state.

It is also notable that the proportion of recaptured spending by Massachusetts residents was lower among MGM Springfield patrons while the proportion of reallocated spending was higher among MGM Springfield patrons compared with Plainridge Park Casino patrons. The proportion of recaptured spending by Massachusetts residents at MGM Springfield was 52.7% while the proportion of reallocated spending was 46.1%. This compares to 69.8% recaptured spending by Massachusetts residents at Plainridge Park Casino and 16.3% reallocated spending. These results suggest that MGM Springfield's success at attracting new out-of-state spending may be somewhat balanced by a greater reliance on reallocated spending by Massachusetts residents rather than success at recapturing money that Massachusetts residents would have spent at out-of-state casinos.

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 the same methodologic and analytic procedures were used for both MGM Springfield and PPC patron surveys in order to maintain consistency across venues.

First, the development of projected expenditure totals for all MGM Springfield 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 MGM Springfield 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. However, it is not our intent to identify actual expenditures by patrons but rather to use proportional information to estimate expenditures by geographical origin. The analytic approach used in this report, as in previous reports, is based on experimental evidence from sensitivity analyses. Although the match obtained with MGM Springfield expenditures was not as robust as that found with PPC, 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.

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 MGM Springfield'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 warrant further investigation.

License Plate Survey

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.

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 NEGRP approach as well as to synchronize the administration of our License Plate Survey with the administration of the Patron Survey. These differences as listed in Table 9. Note also that the MGM Springfield license plate survey excluded vehicles parked on floors 7 and 8 of the garage because, although not marked exclusively so, these floors are designated as employee parking floors. Also, no counts were made for buses, as none were parked on site.

Table 9. Differences in the NEGRP and SEIGMA License Plate Surveys

Methodology	NEGRP	SEIGMA
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
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 variation in patronage that occurs at different times of year.
Time	9-11am + 2-4pm + 7-9pm + 12am-2am every day during the time span	11am-5pm or 6pm-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.
Calculation of the Casino's Annual Percentage of Patrons from Each State	Weekday • % of cars from State X on Thu & Fri *.667 *.88 + % of buses from State X on Thu & Fri * .667 * .12 Weekend • % of cars from State X on Sat & Sun *.303 *.88 + % of buses from State X on Sat & Sun * .303 * .12	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: for MGM Springfield there were no bused parked on site).

Methodology	NEGRP	SEIGMA
Calculation of the Casino's Annual Percentage of Patrons from Each State	Holiday • % of cars from State X on Mon * .030 *.88 + % of buses from State X on Mon * .030 * .12[1] • Percentage of Patrons from State X = [(Weekend% * 2) + (Holiday% * 2)] + [Weekday%/2][2]	Straight count of number plates from each state. Full size buses are given a value of 12 cars. Half size buses are given a value of 6 cars.
Calculation of the Amount of Casino Revenue deriving from Each State	Annual total revenue for that facility divided by % of patronage from that state.	Annual total revenue for that facility divided by % of patronage from that state.

[1] .667, .303, and .030 are the percentages of weekdays, weekend days, and holidays, respectively, in a typical calendar year. The adjustment factors of .838 and .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 do not know how the counted license plates totals are related to the total number of vehicles using the garage in a day. We simply know that license plate counts were done twice on a weekday (Monday) and twice on a weekend day (Saturday) in the summer/fall, and in the winter/spring. Since there are 5 weekdays and 2 weekend days, we assign a weight of 5 for each count on weekdays, and a count of 2 for each count on weekends. The weights are multiplied by the counts for each time period.

Results

The unweighted proportion of Massachusetts license plates is presented in Table 10.

Table 10. Unweighted License Plate Counts

Collection Period	Total # of License Plates	Total # MA License Plates	Percent of MA License Plates
Weekday-summer/fall	2,064	1,385	67.1%
Weekday-winter/spring	2,202	1,515	68.8%
Weekend-summer/fall	2,595	1,450	55.9%
Weekend-winter/spring	3,333	1,867	56.0%
Total	10,194	6,217	61.0%

Table 11 reports the geographic origin of all license plates during all of the sampling periods after weighting.

Table 11. Geographic Origin of License Plates at MGM Springfield (weighted)

Winter Dates	MA	CT	NY	NH	NJ	VT	PA	RI	ME	Other	Total
Sat 2/23 11a-5p	1302	842	170	76	18	56	16	8	14	72	**2574**
Mon 2/25 6p-12a	2460	1100	230	75	60	55	35	40	30	185	**4270**
Sat 3/2 6p-12a	2432	1252	116	64	32	22	28	26	16	104	**4092**
Mon 3/4 11a-5p	5115	1140	135	55	35	35	70	25	15	140	**6765**

Total #	**11309**	**4334**	**651**	**270**	**145**	**168**	**149**	**99**	**75**	**501**	**17701**
%	**63.9%**	**24.5%**	**3.7%**	**1.5%**	**0.8%**	**1.0%**	**0.8%**	**0.6%**	**0.4%**	**2.8%**	**100%**
Summer Dates	**MA**	**CT**	**NY**	**NH**	**NJ**	**VT**	**PA**	**RI**	**ME**	**Other**	**Total**
Sat 7/27 11a-5p	702	410	96	40	22	26	10	14	12	62	**1394**
Mon 7/29 6p-12a	2405	1055	240	45	10	55	30	5	5	175	**4025**
Sat 8/3 6p-12a	2198	1084	194	72	38	52	12	26	6	114	**3796**
Mon 8/5 11a-5p	4520	1235	175	60	40	25	20	15	10	195	**6295**
Total #	**9825**	**3784**	**705**	**217**	**110**	**158**	**72**	**60**	**33**	**546**	**15510**
%	**63.4%**	**24.4%**	**4.6%**	**1.4%**	**0.7%**	**1.0%**	**0.5%**	**0.4%**	**0.2%**	**3.5%**	**100%**
Totals	**MA**	**CT**	**NY**	**NH**	**NJ**	**VT**	**PA**	**RI**	**ME**	**Other**	**Total**
Winter	11309	4334	651	270	145	168	149	99	75	501	17701
Summer	9825	3784	705	217	110	158	72	60	33	546	15510
Total #	**21134**	**8118**	**1356**	**487**	**255**	**326**	**221**	**159**	**108**	**1047**	**33211**
%	**63.6%**	**24.4%**	**4.1%**	**1.5%**	**0.8%**	**0.7%**	**0.7%**	**0.5%**	**0.3%**	**3.2%**	**100%**

Table 12 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 10 individuals in the Patron Survey whose geographic origin was unknown.

Table 12. Geographic Origin of Patrons as Determined by the Patron versus License Plate Survey

	MA	**CT**	**NY**	**NH**	**NJ**	**VT**	**PA**	**RI**	**ME**	**Other**	**Out of country**	**TOTAL**
Patron Survey	59.4%	28.8%	2.8%	1.9%	0.2%	2.0%	0.8%	0.3%	0.1	3.2%	0.7%	100.0%
License Plate Survey	63.6%	24.4%	4.1%	1.5%	**0.8%**	**0.7%**	**0.7%**	**0.5%**	**0.3%**	**3.2%**	0%	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 63.6% of all revenue comes from Massachusetts residents and 36.4% comes from non-Massachusetts residents. As indicated earlier in the report, results from the Patron Survey show that 61.3% of all gambling and non-gambling expenditure comes from Massachusetts residents and 38.7% comes from non-Massachusetts residents. Table 13 displays this comparison.

Table 13. Percentage of Revenue Accounted for by Patron versus License Plate Surveys

	MA residents	**Non-MA residents**
Patron Survey	61.3%	38.7%
License Plate Survey	63.6%	36.4%

Conclusion

The MGM Springfield License Plate Survey appears to closely approximate the Patron Survey in estimating the geographic origin of the overall casino patronage as well as 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 MGM Springfield 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 61.3% of total expenditure, in terms of subcategories, these residents accounted for 57.5% of gambling expenditure and 62.5% of non-gambling expenditure at MGM Springfield, and 72.9% of non-gambling expenditure outside of MGM Springfield (see Figure 16). 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 MGM Springfield. This more detailed information is required for the economic modelling analyses that are included in the first MGM Springfield 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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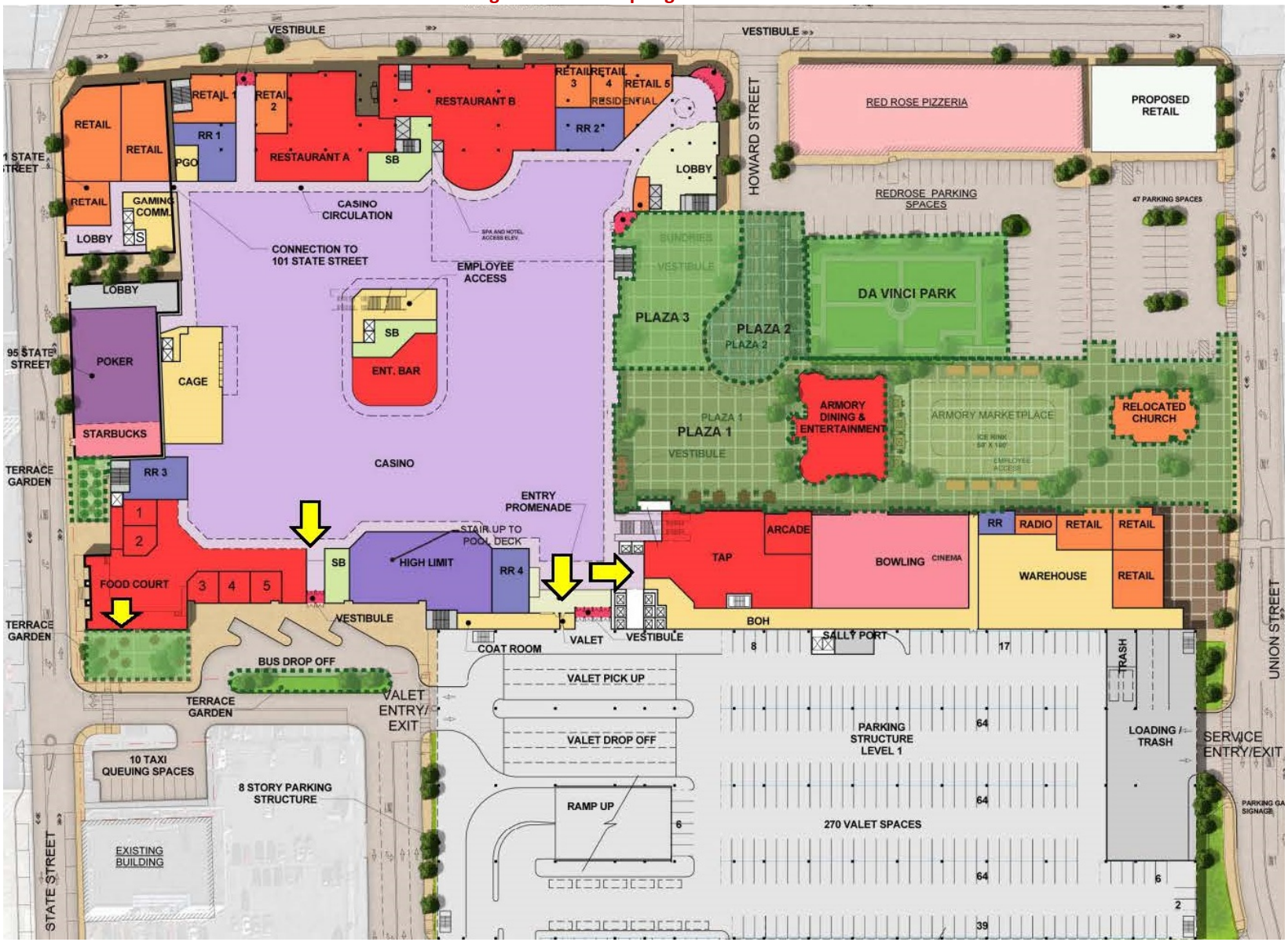
Appendix A: MGM Springfield Main Floor

Figure 23. MGM Springfield Main Floor



Note: Survey locations and main MGM Springfield exits indicated with yellow arrows

Appendix B: Survey Team Script

MGM Patron Survey Scripts (use laminated Spanish/Chinese 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:

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

Person only using free parking or employee: 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 and Mandarin, 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 #.

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

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 Dunkin gift card*
- *Record survey # and initials on inventory sheet (save survey number with inventory sheet)*

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

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:

2	0

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 write in your country of origin:

_____

We would like to learn about how you got to MGM Springfield today and your experience at the facility.

2. How did you get to MGM Springfield today? ***Check all that apply.***

- ☐ My own vehicle or in someone else's car
- ☐ By airplane
- ☐ By rental car
- ☐ By public transportation (such as subway or bus)
- ☐ By other ground transportation (such as charter bus, taxi, Uber, Lyft, limousine, or shuttle)
- ☐ By bicycle
- ☐ By foot (walked here)

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 MGM Springfield opened in August, how often have you visited this facility?

- ◯ 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 to 6.

5. What was your ***main*** reason for visiting Springfield today?

- ◯ To visit MGM Springfield
- ◯ For shopping or recreation other than the casino
- ◯ To visit friends or family
- ◯ For business or work
- ◯ 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 MGM Springfield
- ◯ For shopping or recreation other than the casino
- ◯ To visit friends or family
- ◯ For business or work
- ◯ I live here
- ◯ 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: _____

9. Do you have a loyalty or rewards card with MGM (e.g., M life Rewards)?

- ◯ 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 MGM Springfield today.

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

- ◯ Food or beverage
- ◯ Hotel
- ◯ Shopping in a gift shop or other retail outlet
- ◯ Other non-gambling entertainment or activities, such as cinema, arcade, bowling, spa, etc.
- ◯ Other ➔ please specify: _____
- ◯ None ➔ GO TO QUESTION 14

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

$

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

- ◯ I did not gamble today ➔ GO TO QUESTION 16
- ◯ Slots
- ◯ Table Games (poker, blackjack, craps, roulette, baccarat, pai gow, etc.)
- ◯ Lottery Products (scratch tickets, etc.)

15. 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 to a plus sign (+) if you are going home with more than you started with.

-$

16. Where were the casinos you visited in the past year? ***Check all that apply.***

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

17. 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 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.

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

- ◯ Attended an event, show, exhibit, etc. in Springfield at (check all that apply):
  - ◯ The MassMutual Center
  - ◯ City Stage
  - ◯ Symphony Hall
  - ◯ The Basketball Hall of Fame
  - ◯ The Springfield Museums
  - ◯ Some other Springfield location(s)
- ◯ Went to a live entertainment show, concert, or performance at some other venue outside of Springfield but in Massachusetts
- ◯ Bought food or beverage in a restaurant or fast food outlet
- ◯ Visited a local bar, pub, or nightclub
- ◯ Retail shopping, like at a store or mall
- ◯ Stayed at a hotel outside of the casino
- ◯ Bought fuel or other goods at a gas station
- ◯ Spent money on other entertainment (for example, an amusement park, golf course, etc.)
- ◯ Nothing → GO TO QUESTION 20

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

$ _____

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

- ◯ Yes
- ◯ No → GO TO QUESTION 22

21. Where? ***Check all that apply.***

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

22. 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 (doctor's 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

23. 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

Please continue to the next page.

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.

24. What is your gender?

- ◯ Female
- ◯ Male
- ◯ Transgender/other

25. In what year were you born?

☐☐☐☐

26. At present, are you…?

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

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

- ◯ Never attended school or only attended kindergarten
- ◯ Grades 1 through 8
- ◯ Grades 9 through 11
- ◯ Regular high school diploma or GED
- ◯ Trade or technical school
- ◯ Some college credit, but less than 1 year of college credit
- ◯ 1 or more years of college credit, no degree
- ◯ Associate degree
- ◯ Bachelor's degree
- ◯ Master's degree
- ◯ Professional degree beyond a bachelor's degree
- ◯ Doctorate degree

28. Are you currently...?

- ◯ 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

29. 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, now on active duty
- ◯ Yes, on active duty in the past, but not during the last 12 months
- ◯ No, but currently training for the Reserves or National Guard only ➔ GO TO QUESTION 31
- ◯ No, never served in the military ➔ GO TO QUESTION 31

30. When did you serve on active duty in the U.S. Armed Forces? ***Check all that apply.***

- ◯ September 2001 or later
- ◯ August 1990 to August 2001 (including Persian Gulf War)
- ◯ September 1980 to July 1990
- ◯ May 1975 to August 1980
- ◯ Vietnam era (August 1964 to April 1975)
- ◯ March 1961 to July 1964
- ◯ Korean war (July 1950 to January 1955)
- ◯ World War II (December 1941 to December 1946)
- ◯ February 1955 to February 1961
- ◯ January 1947 to June 1950
- ◯ November 1941 or earlier

31. Is your approximate annual household income 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

32. Are you Hispanic or Latino?

- ◯ Yes
- ◯ No

33. Which one or more of the following would you say is your race? ***Check all that apply.***

- ◯ White or Caucasian
- ◯ 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: _____

Please continue to the next page.

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

34. Which gives you the best chance of winning the jackpot on a slot machine?

- ◯ Playing a slot machine that has not had a jackpot in over a month.
- ◯ Playing a slot machine that had a jackpot an hour ago.
- ◯ Your chances of winning the jackpot are the same on both machines.

35. 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 a break to cool off.
- ◯ I used *PlayMyWay*.
- ◯ 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.

36. Have you ever used a *GameSense* kiosk at MGM Springfield? (The *GameSense* kiosks are green stand-alone devices providing information and services on a computer screen.)

- ◯ Yes
- ◯ No

37. Have you ever taken any written materials, like brochures, from the *GameSense* Info Center at MGM Springfield?

- ◯ Yes
- ◯ No

38. Have you ever spoken with a *GameSense* Advisor at MGM Springfield?

- ◯ Yes
- ◯ No ➔ YOU ARE DONE WITH THE SURVEY, SEE THANK YOU MESSAGE AT THE END OF THIS SECTION.

39. How many interactions have you had with a *GameSense* Advisor at MGM Springfield?

- ◯ 1-5
- ◯ 6-10
- ◯ 11-20
- ◯ More than 20

40. How would you describe your conversation(s) with a *GameSense* Advisor? (Please choose ***one response*** that best characterizes your conversations as a whole.)

- ◯ We mostly made small talk.
- ◯ We mostly spoke about gambling and how to avoid gambling problems.
- ◯ Something else (please specify:) _____

_____

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 refer to the information on our handout.

Appendix D: Item Response Rate and Refusal Rate

Table 14. Item Response Rate (%) by Data Collection Mode

	Question	iPAD	Print
1	Do you live in the US?	100.0	100.0
2	How did you get here today?	99.6	100.0
3	Did you have any problems getting here?	95.4	100.0
4	Since this facility opened in August, how often have you visited this facility?	98.2	98.2
5	What was the main reason for visiting Springfield today?	98.7	98.2
6	What was the main reason for visiting Massachusetts today?	87.3	98.2
7	On this trip, how many days are you visiting Massachusetts?	99.3	92.9
8	Please enter the number of days you are visiting Massachusetts on this trip	97.3	92.9
9	Do you have a loyalty or rewards card with MGM?	98.9	96.4
10	Overall, did you have an enjoyable time during your visit today?	98.7	96.4
11	Do you think you would return to this facility?	98.7	96.4
12	What non-gambling activities did you spend money on today **on-site** in MGM Springfield?	98.5	92.9
13	How much money in total did you—not including your family or friends, just ***you***—spend on these non-gambling activities today?	93.4	82.1
14	If you gambled today, which gambling activities or games did you play	98.2	96.4
15	How much did you—not including your family or friends, just ***you***—spend on these activities today?	91.2	91.1
16	Where were the casinos you visited in the past year?	98.1	98.2
17	What do you like the most about your visit here today?	97.3	96.4
18	What else did you do in MA outside of MGM during your visit today?	96.7	89.3
18	Where did you attend an event, show, exhibit, etc. in Springfield	96.7	89.3
19	How much in total do you estimate you spent on activities outside of MGM during your visit to this area today?	83.1	85.7
20	If there wasn't a casino in Massachusetts, would you have chosen to spend the money you spent here on gambling in another state?	89.2	87.5
21	Which state would you have spent money at a casino in?	88.7	83.9
22	As a result of the casinos in MA, are you spending less in any of the following areas?	93.3	85.7
23	As a result of casinos in MA, has your spending on MA lottery, including scratch tickets and Keno?	92.1	91.1
24	What is your gender?	95.9	98.2
25	In what year were you born?	67.9	94.6
26	At present are you married?	94.8	98.2
27	What is your highest degree or level of school you have completed?	95.1	94.6
28	Are you currently...(employment)	95.1	94.6
29	Have you ever served in active duty in the US Armed Forces, military reserves, or National Guard?	93.9	89.3
30	When did you serve on active duty in the US Armed Forces?	93.7	89.3
31	Is your approximate annual household income from all sources	88.4	80.4
32	Are you Hispanic or Latino?	93.3	87.5
33	What is your race?	92.0	89.3
34	Which gives you the best chance of winning the jackpot on a slot machine?	88.2	82.1
35	Strategies to keep gambling within personally affordable limits	85.6	87.5
36	Have you ever used a GameSense kiosk at MGM?	56.9	80.4
37	Have you ever taken any written materials from the GameSense Kiosk at MGM?	92.9	89.3
38	Have you spoken with a GameSense Advisor at MGM?	88.8	87.5
39	How many interactions have you had with a GameSense Advisor at MGM?	88.7	87.5
40	How would you describe your conversation with a GameSense Advisor?	88.7	85.7

Table 15. Refusal Rate by Season, Day of Week, and Time of Day

	# refused		# accepted	total	refusal rate	p-value[16]
Season	Winter	1721	507	2228	0.772442	0.00920
	Summer	1538	371	1909	0.805657	
Day of week	Saturday	2255	614	2869	0.785988	0.67349
	Monday	1004	264	1268	0.791798	
Time of day	11am-5pm	1341	345	1686	0.795374	0.32112
	6pm-12am	1918	533	2451	0.782538	

[16] Chi-square test for independence.

Table 16. Patron-reported Gambling Expenditures Compared to MGM-reported Gambling Revenue (weighted) (n=664)

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 /MGM-reported Gambling Revenue[1]
Did not winsorize wins or losses	0	-265	94	-449	-81	-$531,247,765	$189,290,652	-$902,763,334	-$159,732,196	2.05
Winsorize wins and losses	2	-149	25	-197	-101	-$299,252,227	$50,090,594	-$397,563,662	-$200,940,793	1.15
	3	-162	30	-220	-104	-$325,252,005	$60,286,897	$443,575,443	$206,928,566	1.26
	4	-170	35	-238	-103	-$341,746,004	$70,020,006	-$479,172,349	-$204,319,659	1.32
Winsorize losses	2	-144	26	-195	-92	-$287,765,484	$52,888,548	-$391,568,386	-$183,962,582	1.11
	3	-158	30	-217	-99	-$316,946,602	$61,506,767	-$437,664,247	-$196,228,958	1.22
	4	-169	35	-238	-101	-$339,470,115	$70,575,695	-$477,987,095	-$200,953,135	1.31
Winsorize losses (wins set to $0)	4	-231	31	-293	-169	-$463,020,087	$64,580,820	-$589,771,090	-$336,269,083	1.79

[1]MGM Springfield-reported gambling revenue: $259,164,062

Appendix E: Demographic Accuracy Test

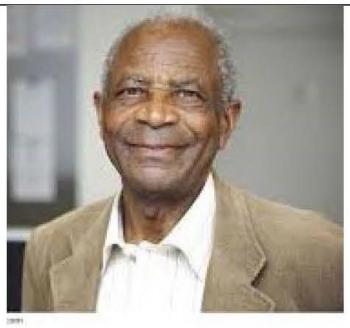
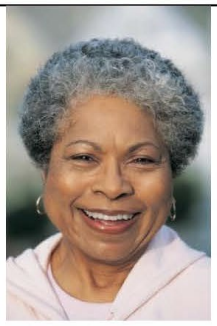
Name:_____ Date:_____

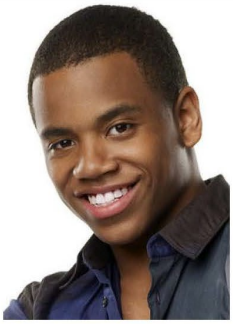
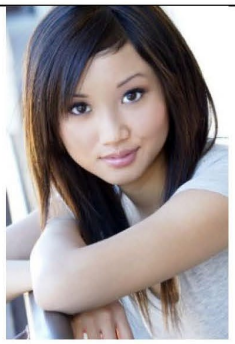
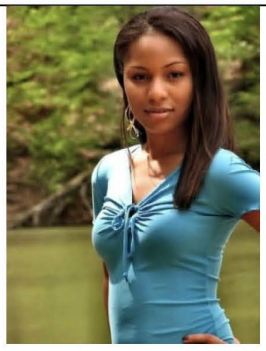
- Please refer to the pictures show on your handout.
- For each picture estimate the gender, race, and age of each person shown.
- Please do this task yourself without any assistance.
- Record your answers below using the following key:

		<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

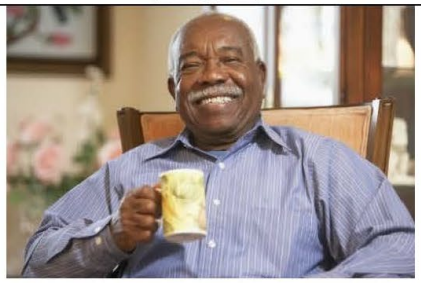
Answers:

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 each of two 26-week calendar periods: the winter/spring period, and the summer/fall period following the opening of the MGM Springfield casino on August 24, 2018. In each period, the hours of a week were divided into 'weekday hours' (including the 114 hours from 12PM Sunday evening to 6 PM Friday evening) and 'weekend hours' (including the 54 hours from 6PM Friday to 12PM Sunday). During each of these periods, patron survey data were collected for 12 hours. The 12 hours were divided into two six-hour intervals: 11AM-5PM, and 6-12PM. The key features of the survey design are summarized in the following table.

Table 17. MGM Springfield Patron Survey Design

Calendar Periods	Weekday/Weekend Hours	Data Collection Intervals
Winter/Spring (Dec-May)	Weekday (Monday-6PM Friday)	Monday: 11AM-5PM
		Monday: 6-12PM
	Weekend (6PM Friday-Sunday)	Saturday: 11AM-5PM
		Saturday: 6-12PM
Summer/Fall (June-Nov)	Weekday (Monday-6PM Friday)	Monday: 11AM-5PM
		Monday: 6-12PM
	Weekend (6PM Friday-Sunday)	Saturday: 11AM-5PM
		Saturday: 6-12PM

During the winter/spring period, weekday data collection intervals were from 6-12PM on Monday, 2/25/2019, and from 11AM-5PM on Monday 3/4/2019. During the winter/spring period, weekend data collection intervals were from 11AM-5PM on Saturday, 2/23/2019, and from 6-12PM on Saturday, 3/2/2019. During the summer/fall period, weekday data collection intervals were from 6-12PM on Monday, 7/29/2019, and from 11AM-5PM on Monday 8/5/2019. During the summer/fall period, weekend data collection intervals were from 11AM-5PM on Saturday, 7/27/2019, and from 6-12PM on Saturday, 8/3/2019. In each six-hour data collection interval, an effort was made to ask every 6^{th} exiting person from the garage, valet, and bus 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).

Determining the Sampling Fraction of Exiting Patrons

We define four strata based on two 26-week calendar periods, and weekday/weekend hours. The calendar periods correspond to the winter/spring period (Dec., Jan., Feb., March, April, and May) and the summer/fall period (June, July, August, Sept., Oct. and Nov.). We define the weekday hours as beginning at 12:01AM Monday and ending at 6PM on Friday. The weekend hours are defined as beginning at 6:01PM Friday and ending at 12:00 Midnight Sunday. The strata are indexed by $t = 1,...,T = 4$, where

$t = 1$ corresponds to the Summer/Fall weekday hours;
$t = 2$ corresponds to the Summer/Fall weekend hours;
$t = 3$ corresponds to the Winter/Spring weekday hours;
$t = 4$ corresponds to the Winter/Spring 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.

Based on the interval surveyed at MGM Springfield, 10.5% of the total hours in the stratum were survey hours during the weekdays, while 22.2% of the total hours in the stratum were survey hours during the weekends. If the same number of patrons exited MGM Springfield 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 MGM Springfield, we could use such data to make such estimates. Unfortunately, a count of the number of exiting patrons at MGM Springfield each hour were 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 MGM Springfield. The data available from the Plainville Park Casino are the 2016 TRAFSYS patron entry data. Using these data, we calculate the proportion of exiting patrons at Plainville that we would expect if the MGM Springfield patron sampling protocol was used in Plainville. 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 18.

Table 18. MGM Springfield Sampling Fraction Based on Sample Time and Based on 2016 Plainridge Park Casino Exit Data with a Similar Design

			MGM Springfield Patron Times			Plainridge Park Casino
Time	Calendar Period	Weekday, Weekend	Interval Surveyed (Hours) A	Hours in Interval B	Sampling Fraction (% of hours) C=100*(A/B)	Sampling Fraction based on TRAFSYS Data
1	Summer/Fall	Weekday	12	114	10.5%	14.1%
2	Summer/Fall	Weekend	12	54	22.2%	36.8%
3	Winter/Spring	Weekday	12	114	10.5%	14.1%
4	Winter/Spring	Weekday	12	54	22.2%	37.8%

The percentages indicate that the sampling interval used in the MGM Springfield 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 MGM Springfield casinos, we would expect the percent of patrons exiting during the sampling period at MGM Springfield to

more closely match the percent reported from Plainridge Park (Table 18) 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 MGM Springfield casino in 2019.

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

We use the sampling fractions of exiting patrons in Table 18 based on the Plainville TRAFSYS data to define a weight for the s^{th} sampled patron in stratum t given by $w_{st1} = \frac{6}{f_t}$. The multiplier of 6 is used since every 6th exiting patron was requested to complete a patron survey. These weights are given in Table 19 for each stratum.

Table 19. Weight for an Average Week for Sampled Patrons at the MGM Springfield in 2019 by Calendar Period and Weekday/Weekend

t	Calendar Period	Interval (Weekday, Weekend)	Estimated Sampling Fraction based on TRAFSYS Data (f_t)	Sampling Weight (per week) [$w_{t1}=6/(f_t)$]	Sampling Weight (annual) [$w_{t2}=26(w_{t1})$]
1	Summer/Fall	Weekday	14.1%	42.48	1104.45
2	Summer/Fall	Weekend	36.8%	16.32	424.32
3	Winter/Spring	Weekday	14.1%	42.46	1104.02
4	Winter/Spring	Weekday	37.8%	15.85	412.18

The sampling weight in Table 19 is the average number of exiting patron represented by each exiting patron asked to complete a patron survey during a survey week. Since there are 26 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 $w_{st2} = 26\left(w_{st1}\right)$.

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 19 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 MGM Springfield.

We use the data collected during the MGM Springfield patron survey to estimate the n1umber 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 MGM Springfield patron survey workers attempted to ask every 6th person exiting the casino to complete a patron survey. The disposition of the persons asked to complete a survey upon exiting MGM Springfield is given Table 20. Notice that most of those asked to complete a survey either did so (n=878), or refused to complete the survey (n=3,259). However, some persons asked to complete a survey (n=312) were not exiting the casino (but just stepping outside). Others (n=46) indicated that they were not casino patrons, and others (n=59) 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=132). Although a separate

count of the number of persons exiting the casino was made (see the last column in Table 20), 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 20. Disposition of Persons Asked to Complete a Patron Survey at MGM Springfield and Count of Exiting Persons

Date	Calendar Periods	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 Persons
8/5/2019	Summer/Fall (June-Nov)	Weekday (Monday-6PM Friday)	Monday: 11AM-5 PM	62	311	23	8	3	22	2,521
7/29/2019			Monday: 6-12PM	58	254	19	3	1	7	1,989
7/27/2019		Weekend (6PM Friday-Sunday)	Saturday: 11AM-5PM	84	276	19	1	4	15	2,401
8/3/2019			Saturday: 6-12PM	167	697	71	4	8	33	5,743
3/4/2019	Winter/Spring (Dec-May)	Weekday (Monday-6PM Friday)	Monday: 11AM-5 PM	65	242	22	23	3	10	2,223
2/25/2019			Monday: 6-12PM	79	197	12	1	2	8	1,812
2/23/2019		Weekend (6PM Friday-Sunday)	Saturday: 11AM-5PM	134	512	45	2	11	9	4,006
3/2/2019			Saturday: 6-12PM	229	770	101	4	27	28	7,647
			Totals	**878**	**3,259**	**312**	**46**	**59**	**132**	**28,342**

We use the data in Table 20 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 18. These results are given in Table 21.

We include several other columns in Table 21 (Columns F, G, I and J) with the collapsed data based on Table 20. 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 89.6% and 92.3% 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 4,257.

Table 21. Exiting Patron Survey 'Ask' Dispositions and Estimated Total 'Asks' of Exiting Patrons

Calendar Periods	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	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
Summer/ Fall	Weekday	120	565	42	11	4	742	92.3%	29	27	712
	Weekend	251	973	90	5	12	1,331	92.0%	48	44	1,268
Winter/ Spring	Weekday	144	439	34	24	5	646	90.2%	18	16	599
	Weekend	363	1,282	146	6	38	1,835	89.6%	37	33	1,678
										Total	**4,257**

The number of 'asks' of exiting patrons can be estimated in a different manner. We illustrate this in Table 22 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 20. Using the estimate of the percent of exiting persons that are first time exiting patrons from Column G in Table 21, we estimate the count of exiting patrons (Column C in Table 22). Dividing this number by 6 results in an estimate of the number of exiting patron survey 'asks' (corresponding to 4,289).

Table 22. Directly Estimating Exiting Patron 'Asks' Based on Exiting Person Counts

Calendar Periods	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/6
Summer/ Fall	Weekday	4,510	92.3%	4,164	694
	Weekend	8,144	92.0%	7,489	1,248
Winter/ Spring	Weekday	4,035	90.2%	3,641	607
	Weekend	11,653	89.6%	10,446	1,741
				Total	**4,290**

The estimate of the number of exiting patron survey 'asks' from Table 22 is less than 1% higher than the estimate made in Table 23 (corresponding to 4,257 'asks'). We use the estimate of the 'asks' corresponding to 4,257 from Table 21 in determining weights. We note that using the estimate of the number of 'asks' from Table 21, and the weight associated with an 'ask' in Table 20Table 19, we can estimate the total number of exiting patrons in a 1 year period. This estimate corresponds to 2,677,352 as illustrated in Table 23.

Table 23. Estimate of Annual Patron Exits from MGM Springfield 2019

Calendar Period	Weekday/ Weekend Hours	Estimated Total 'Asks' of Exiting Patrons	Sampling Weight (annual) w_{t2}	Estimated Total Exiting MGM Patrons 2019
		A	B	C=A(B)
Summer/ Fall	Weekday	712	1104.45	786,368
	Weekend	1,268	424.32	538,041
Winter/ Spring	Weekday	599	1104.02	661,306
	Weekend	1,678	412.18	691,637
	Total	**4,257**	**Total**	**2,677,352**

The weights in Table 23 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 24.

Table 24. Number of 'Asks' and Total Weight for MGM Springfield Patron Survey by Season-Weekday/Weekend

	STATUS							
	Complete		Missing		Refusal		All	
t	N	Sum	N	Sum	N	Sum	N	Sum
1=Summer-wkday	120	132,534	27	29,820	565	624,014	712	786,368
2=Summer-wkend	251	106,504	44	18,670	973	412,863	1,268	538,038
3=Winter-wkday	144	158,979	16	17,664	439	484,665	599	661,308
4=Winter-wkend	363	149,621	33	13,602	1,282	528,415	1,678	691,638
All	878	547,639	120	79,756	3,259	2,049,957	4,257	2,677,352

Accounting for Missed 'Asks' to Complete a Patron Survey

We estimate in Table 24 that there were a total of 120 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 3,259 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 season- 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 season-weekday/weekend period, w_{t3} is also identical for survey completers and refusers. These weights are illustrated in Table 25.

Table 25. Number of 'Asks' and Total Weight for MGM Springfield Patron Survey by Season-Weekday/Weekend

	Complete				Refusal				All			
	W2	Wt3			W2	Wt3			W2	Wt3		
	n	Wt2	Wt3	Total	n	Wt2	Wt3	Total	n	Wt2	Wt3	Total
t												
1=Summer-wkday	120	1,104	1,148	137,758	565	1,104	1,148	648,610	685	1,104	1,148	786,368
2=Summer-wkend	251	424	440	110,333	973	424	440	427,705	1,224	424	440	538,038
3=Winter-wkday	144	1,104	1,134	163,342	439	1,104	1,134	497,966	583	1,104	1,134	661,308
4=Winter-wkend	363	412	420	152,623	1,282	412	420	539,015	1,645	412	420	691,638
All	878	624	642	564,056	3,259	629	648	2,113,297	4,137	628	647	2,677,352

The weight after accounting for missing 'asks' given by w_{t3} is larger than the weight w_{t2} for all $t=1,...,4$. Notice that summing theses weights over the 4,137 patrons that either completed or refused the survey totals to 2,677,352, 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 420 to 1148 depending on the season/weekday-weekend periods (Table 25). Without accounting for demographics, we could adjust the weight for sample patrons due to non-response in each stratum. For example, for the Summer-Weekday stratum the non-response adjustment

corresponds to multiplying the initial weight of 1148 by 1 over the proportion of estimated patrons who completed response (i.e. 786,368/137,758), to obtain the new weight, i.e. 6,553. When this weight is totaled over the 120 sampled patrons completing the survey, the total matches (up to rounding) the estimated total patron visits, i.e., 786,368.

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 26.

Table 26. Initial Weight (Wt3) for MGM Springfield Patron Survey by Season and Weekday/Weekend 2019

Season	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=Summer-wkday	120	1,147.98	137,758	565	1,147.98	648,610	685	1,147.98	786,368
2=Summer-wkend	251	439.57	110,333	973	439.57	427,705	1,224	439.57	538,038
3=Winter-wkday	144	1,134.32	163,342	439	1,134.32	497,966	583	1,134.32	661,308
4=Winter-wkend	363	420.45	152,623	1,282	420.45	539,015	1,645	420.45	691,638
All	878	642.43	564,056	3,259	648.45	2,113,297	4,137	647.17	2,677,352

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 27 for sample patrons who completed the survey, and in Table 28 for sample patrons who either completed the survey, or refused response.

Table 27. Weight (Wt3) Totals for 2019 MGM Springfield Patron Survey Completers by Gender, Race, and Age

Wt3		Completed Survey				
		Age				
		18-29	30-50	51+	Miss	All
Fem	Black	3,709	21,854	24,387	12,287	62,237
	Asian	440	1,319	2,160	420	4,338
	White	21,627	43,440	84,104	57,372	206,543
	Other	440	6,285	5,983	3,020	15,727
	Miss	.	1,574	6,360	9,370	17,304
Male	Black	3,156	15,084	9,356	11,809	39,405
	Asian	1,280	3,884	2,703	3,137	11,004
	White	17,241	45,444	58,467	41,870	163,022
	Other	2,269	2,027	1,568	3,989	9,853
	Miss	.	2,027	1,280	3,714	7,022

Miss	White	.	440	420	841	1,701
	Other	.	1,134	.	420	1,555
	Miss	.	.	.	24,345	24,345
All		50,160	144,511	196,789	172,595	564,056

Table 28. Weight (Wt3) Totals for 2019 MGM Springfield Patron Survey for ALL 'Asks' by Gender, Race, and Age (including 'asks' completing or refusing the survey)

Wt3		Age				
		18-29	30-50	51+	Miss	All
Fem	Black	27,089	81,561	56,957	12,287	177,894
	Asian	11,608	30,624	21,467	420	64,120
	White	96,028	317,598	418,156	57,372	889,154
	Other	19,184	58,430	22,657	3,020	103,291
	Miss	.	1,574	6,360	9,370	17,304
Male	Black	22,776	73,020	45,643	11,809	153,249
	Asian	16,519	44,365	30,516	3,137	94,537
	White	127,487	363,392	499,757	41,870	1,032,506
	Other	18,546	61,826	26,316	3,989	110,676
	Miss	.	2,027	1,280	3,714	7,022
Miss	White	.	440	420	841	1,701
	Other	.	1,134	.	420	1,555
	Miss	.	.	.	24,345	24,345
All		339,237	1,035,991	1,129,529	172,595	2,677,352

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 29). For example, Table 28 illustrates that 32 patrons completed the survey, but failed to provide demographic data

on race, sex, and age. The total weight for these 32 patrons is 24,345. The total weight for other missing demographic patterns for completed surveys are calculated in a similar manner. The total weight, 564,056, matches the total weight assigned to completed patron surveys in Tables 25, 26, and 27.

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 2,113,296 (see Table 29). 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 29. For example, the weight (Wt4) of 115,558 in the first row of Table 29 is equal to the sum of the weight for completers (i.e. 24,345) plus the proportional weight for refusers, i.e. $91{,}213 = \frac{24{,}345}{564{,}056}(2{,}113{,}296)$.

Table 29. Weight (Wt3) Totals for Complete and Refusals by Missing Demographics Patterns for Patrons Completing the Survey with Proportional Allocation of Refusal Weights

k	Race	Gender	Age	# Complete Surveys n_k	Completed Survey Wt3 Sum N_k	Refused Survey Wt3 Sum M_k	Wt4 Adj.for Missing Demos T_k
1	Missing	Missing	Missing	32	24,345	91,213	115,558
2	Missing	Reported	Missing	22	13,084	49,022	62,106
3	Missing	Reported	Reported	18	11,241	42,117	53,358
4	Reported	Missing	Missing	3	1,261	4,726	5,987
5	Reported	Missing	Reported	3	1,994	7,472	9,466
6	Reported	Reported	Missing	210	133,904	501,686	635,589
7	Reported	Reported	Reported	590	378,225	1,417,061	1,795,286
				878	564,056	2,113,296	2,677,351

We introduce some notation to define this process in general. Let $k = 1,...,7$ represent the seven missing data patterns corresponding to rows of Table 29. Next, let N_k represent the total initial weight for the completed surveys with a missing data pattern. For example, when $k=1$, $N_1 = 23{,}345$. We define $N = \sum_{k=1}^{7} N_k$ as the total initial weight assigned to completed patron surveys (i.e. $N = 564{,}056$). Similarly, let M represent the total initial weight assigned to refusals (i.e., $M = 2{,}113{,}296$). 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 29. 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 $j = 1,...,n_k$ 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 season-weekday/weekend period (as indicated in Table 26).

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 29.

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 $j=1,\ldots,n_1=32$ sampled patrons who completed the survey (with missing demographic data) so that the total weight is T_k (i.e. $T_1=115,558$). The adjusted weights are given by $w_{jk}^{(1)}=A_1 w_{jk}^{(0)}$, where $A_1=\frac{T_1}{N_1}$ and $N_1=24,345$. Table 30 details the weights for these patrons.

Table 30. List of Weights and Total Weight after Adjusting for Refusals (k=1)

Season-Weekday/Weekend t	# of Patrons n_{t1}	W3 $w_{j1}^{(0)}$	W4 $w_{j1}^{(1)}$	Total of Wt $n_{t1}w_{j1}^{(1)}$
1=Summer-wkday	5	1,148	5,449	27,245
2=Summer-wkend	6	440	2,086	12,519
3=Winter-wkday	10	1,134	5,384	53,842
4=Winter-wkend	11	420	1,996	21,953
	32			115,558

Notice that the total weight, $w_{jt}^{(1)}$, when summed over $t=1,\ldots,4$ 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 $i=1,\ldots,I_k$ 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 31.

Table 31. Distribution of Wt3 Weights for Sampled Patrons who Refused by Demographics of Refusal Pattern k=2

Gender i	Refusals n	Refusals WT3	Refusals Total WT3 $M_{i(2)}$
Female	1,475	641	945,613
Male	1,784	655	1,167,683
	3,259		2,113,297

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 ($i=1$), $M_{1(2)}=945,613$, while for males, $M_{2(2)}=1,167,683$. From Table 29 when $k=2$, the total weight for sampled patrons who refused is $M_2=49,022$. Using this total, the estimated total weight assigned to female $(i=1)$ sample patrons who refused with missing data pattern $k=2$ is

$$\begin{aligned}\hat{M}_{i(k)}&=\left(\frac{M_{i(k)}}{M}\right)M_k\\&=\left(\frac{945,613}{2,113,297}\right)49,022.\\&=21,935\end{aligned}$$

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

Table 32. Non-response Adjusted Factor by Gender for k=2

i	Gender	Sampled Patron Completers $n_{i(2)}$	Total Wt3 Completers $N_{i(2)}$	Estimated Total Wt3 for Refusals $\hat{M}_{i(2)}$	Non-response Estimated Total Wt3 $T_{i(2)}$	Adjustment Factor $A_{i(2)}$
1	Female	15	9,370	21,935	31,305	3.34
2	Male	7	3,714	27,086	30,801	8.29
		22	13,084	49,022	62,106	

The adjusted weights are given by WT4, which we represent by $w_{jk}^{(1)}=A_{i(k)}w_{jk}^{(0)}$. Table 33 details the weights for these patrons.

Table 33. Adjustment for Refusals for Missing Demographic Patterns k=1,2

k=1

Season-Weekday :SEAS	Gender	Sampled Patron Completers	Wt3 Weight	Refusal Adjustment Factor	Wt4 Weight
1=Summer-wkday	Miss	5	1,071	4.75	5,081
2=Summer-wkend	Miss	6	440	4.75	2,086
3=Winter-wkday	Miss	10	1,134	4.75	5,384
4=Winter-wkend	Miss	11	420	4.75	1,996
total		32			

k=2

		Sampled		Refusal	

Season-Weekday :SEAS	Gender	Patron Completers	Wt3 Weight	Adjustment Factor	Wt4 Weight
1=Summer-wkday	Fem	4	1,017	3.34	3,398
2=Summer-wkend	Fem	8	440	3.34	1,469
2=Summer-wkend	Male	3	470	8.29	3,897
3=Winter-wkday	Male	1	1,134	8.29	9,406
4=Winter-wkend	Fem	3	420	3.34	1,405
4=Winter-wkend	Male	3	420	8.29	3,486
==========		==========			
total		22			

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 34 .

Table 34. Distribution of Wt3 Weights for Sampled Patrons Refused by Demographics of Refusal Pattern k=3

Gender	Age	Refusals n	Refusals WT3	Refusals Total WT3
Fem	18-29	213	600	127,695
Fem	30-50	656	633	415,314
Fem	51+	606	664	402,604
Male	18-29	263	614	161,382
Male	30-50	717	664	476,165
Male	51+	804	659	530,136
		=========		=========
		3,259		2,113,297

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. For this reason, we drop the corresponding rows in Table 34, summarizing the refusal distribution as in Table 35.

Table 35. 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	656	633	415,314
Fem	51+	606	664	402,604
Male	30-50	717	664	476,165
Male	51+	804	659	530,136
		=========		=========
		2,783		1,824,220

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 42,117 (from Table 29) and $M^* = 1{,}824{,}220$ from Table 35. 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 $T_{i(k)} = N_{i(k)} + \hat{M}_{i(k)}$, 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

$$\begin{aligned}\hat{M}_{i(k)} &= \left(\frac{M_{i(k)}}{M}\right) M_k \\ &= \left(\frac{415{,}314}{1{,}824{,}220}\right) 42{,}117 . \\ &= 9{,}589\end{aligned}$$

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

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

i	Gender	Age	Sampled Patron Completers	Total Wt3 Completers $N_{i(k)}$	Estimated Total Wt3 for Refusals $\hat{M}_{i(k)}$	Estimated Total Wt3 $T_{i(k)}$	Non-Response Adjustment Factor (k=3) $A_{i(3)}$
1	Fem	30-50	2	1,574	9,589	11,163	7.0923
2	Fem	51+	10	6,360	9,295	15,655	2.4616
3	Male	30-50	3	2,027	10,994	13,021	6.4232
4	Male	51+	3	1,280	12,240	13,520	10.5587
			18	11,241	42,117	53,358	

The adjusted weights are given by $w_{jk}^{(1)} = A_{i(k)} w_{jk}^{(0)}$. Table 37 details the weights for these patrons.

Table 37. Non-response Adjusted Factor by Gender-Age for k=3

i	Season-Weekday :SEAS	Gender	Age	Sample Patron Completers	Completers+ Refusers: WT3 $w_{j3}^{(0)}$	Non-response Adjustment Factor (k=3) $A_{i(3)}$	Refusal adjusted Weight (WT4) $w_{j3}^{(1)}$
1	1=Summer-wkday	Fem	51+	1	1,148	2.46	2,826
2	1=Summer-wkday	Male	30-50	1	1,148	6.42	7,374
3	2=Summer-wkend	Fem	30-50	1	440	7.09	3,118
4	2=Summer-wkend	Male	30-50	2	440	6.42	2,823
5	2=Summer-wkend	Male	51+	1	440	10.6	4,641
6	3=Winter-wkday	Fem	30-50	1	1,134	7.09	8,045
7	3=Winter-wkday	Fem	51+	2	1,134	2.46	2,792
8	4=Winter-wkend	Fem	51+	7	420	2.46	1,035
9	4=Winter-wkend	Male	51+	2	420	10.6	4,439
				18			

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 38.

Table 38. 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	329	698	229,501
Asian	208	689	143,314
White	2,447	634	1,552,095
Other	275	685	188,387
	3,259		2,113,297

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 Blacks or Asian race patrons are in this stratum.

Table 39. Distribution of Wt3 Weights for Sampled Patrons who Refused Where There was at Least One Patron Response for Refusal Pattern k=4

Race	Refusals n	Refusals WT3	Refusals Total WT3 $M_{i(4)}$
White	2,447	634	1,552,095
Other	275	685	188,387
	2,722		1,740,482

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 4,726 (from Table 29) and $M^* = 1,740,482$ from Table 39. 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 40). 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 40. Non-response Adjusted Factor by Race for k=4

i	Race	Sampled Patron Completers	Total Wt3 Completers $N_{i(k)}$	Estimated Total Wt3 for Refusals $\hat{M}_{i(k)}$	Estimated Total Wt3 $T_{i(k)}$	Wt3 Non-response Adjustment factor $A_{i(4)}$
1	White	2	841	4,214	5,055	6.01
2	Other	1	420	512	932	2.22
		3	1,261	4,726	5,987	

The adjusted weights are given by $w_{jk}^{(1)} = \left(\frac{T_{i(k)}}{N_{i(k)}} \right) w_{jk}^{(0)}$. Table 36 details the weights for these patrons who completed the survey.

Table 41. Non-response Adjusted Factor by Race for k=4

i	Season-Weekday :SEAS	Race	Sample Patron Completers	Wt3-Completers+ Refusers: WT3 $w_{j4}^{(0)}$	Non-response Adjustment Factor (k=4) $A_{i(4)}$	Refusal adjusted Weight (WT4) $w_{j4}^{(1)}$
1	4=Winter-wkend	White	2	420	6.01	2,528
2	4=Winter-wkend	Other	1	420	2.22	932
			3			

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 42.

Table 42. Distribution of Wt3 Weights for Sampled Patrons who Refused by Demographics of Refusal Pattern k=5

Race	Age	Refusals n	Refusals WT3	Refusals Total WT3
Black	18-29	59	729	43,000
Black	30-50	161	731	117,643
Black	51+	109	632	68,858
Asian	18-29	40	660	26,407
Asian	30-50	103	678	69,787
Asian	51+	65	725	47,120
White	18-29	322	573	184,647
White	30-50	949	624	592,106
White	51+	1,176	659	775,342
Other	18-29	55	637	35,022
Other	30-50	160	700	111,944
Other	51+	60	690	41,421
		3,259		2,113,297

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 white 30-50 year old patron, one white 51+ year old patron, and one 'other race' 30-50 year old patron. We limit the refusal race by age strata to those that had some survey respondents, as illustrated in Table 43.

Table 43. 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 $M_{i(5)}$

White	30-50	949	624	592,106
White	51+	1,176	659	775,342
Other	30-50	160	700	111,944
		2,285		1,479,391

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 7,472 (from Table 29) and $M^* = 1{,}479{,}391$ from Table 43. 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 44). 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 44. Non-response Adjusted Factor by Race for k=5

i	Race	Age	Sampled Patron Completers $N_{i(k)}$	Total Wt3 Completers $\hat{M}_{i(k)}$	Estimated Total Wt3 for Refusals $T_{i(k)}$	Estimated Total Wt3 $A_{i(5)}$	Wt3 Non-response Adjustment factor
1	White	30-50	1	440	2,991	3,430	7.80
2	White	51+	1	420	3,916	4,336	10.3
3	Other	30-50	1	1,134	565	1,700	1.50
			3	1,994	7,472	9,466	

The adjusted weights are given by $w_{jk}^{(1)} = \left(\frac{T_{i(k)}}{N_{i(k)}} \right) w_{jk}^{(0)}$. Table 45 details the weights for the patrons who completed the survey with missing data pattern $k = 5$.

Table 45. Non-response Adjusted Factor by Race for k=5

i	Season-Weekday :SEAS	Race	Age	Sample Patron Completers	Completers+ Refusers: WT3 $w_{j5}^{(0)}$	Non-Response Adjustment Factor (k=5) $A_{i(5)}$	Refusal adjusted Weight(WT4) $w_{j5}^{(1)}$
1	2=Summer-wkend	White	30-50	1	440	7.80	3,430
2	3=Winter-wkday	Other	30-50	1	1,134	1.50	1,700
3	4=Winter-wkend	White	51+	1	420	10.3	4,336
				3			

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 46.

Table 46. Distribution of Wt3 Weights for Sampled Patrons who Refused by Demographics of Refusal Pattern k=6

i	Race	Gender	Refusals n	Refusals WT3	Refusals Total WT3 $M_{i(6)}$
1	Black	Fem	168	688	115,657
2	Black	Male	161	707	113,844
3	Asian	Fem	86	695	59,781
4	Asian	Male	122	685	83,533
5	White	Fem	1,095	623	682,611
6	White	Male	1,352	643	869,484
7	Other	Fem	126	695	87,564
8	Other	Male	149	677	100,823
			3,259		2,113,297

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 $\hat{M}_{i(k)} = \left(\frac{M_{i(k)}}{M^*} \right) M_k$, where M_k is 501,686 (from Table 29) and $M^* = 2{,}113{,}297$ from Table 46. 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 47). 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 47. Non-response Adjusted Factor by Race and Gender for k=6

i	Race	Gender	Sampled Patron Completers	Total Wt3 Completers $N_{i(k)}$	Estimated Total Wt3 for Refusals $\hat{M}_{i(k)}$	Estimated Total Wt3 $T_{i(k)}$	Non-response Adjustment Factor (k=6) $A_{i(6)}$
1	Black	Fem	17	12,287	27,456	39,743	3.23
2	Black	Male	16	11,809	27,026	38,835	3.29
3	Asian	Fem	1	420	14,192	14,612	34.8
4	Asian	Male	4	3,137	19,830	22,967	7.32
5	White	Fem	96	57,372	162,048	219,421	3.82
6	White	Male	63	41,870	206,411	248,281	5.93
7	Other	Fem	7	3,020	20,787	23,807	7.88
8	Other	Male	6	3,989	23,935	27,923	7.00
			210	133,904	501,686	635,590	

The adjusted weights are given by $w_{jk}^{(1)} = \left(\frac{T_{i(k)}}{N_{i(k)}} \right) w_{jk}^{(0)}$. Table 48 details the weights for the patrons who completed the survey.

Table 48. Non-response Adjusted Factor by Race and Gender for k=6

Season-Weekday	Sample Patron	Completers+ Refusers:	Non-Response Adjustment	Wt3-Refusal adjusted

i	:SEAS	Race	Gender	Completers	WT3 $w_{j6}^{(0)}$	Factor (k=6) $A_{i(6)}$	Weight (WT4) $w_{j6}^{(1)}$
1	1=Summer-wkday	Black	Fem	2	1,148	3.23	3,713
2	1=Summer-wkday	Black	Male	2	1,148	3.29	3,775
3	1=Summer-wkday	Asian	Male	2	1,148	7.32	8,405
4	1=Summer-wkday	White	Fem	4	1,148	3.82	4,390
5	1=Summer-wkday	White	Male	9	1,148	5.93	6,807
6	2=Summer-wkend	Black	Fem	6	440	3.23	1,422
7	2=Summer-wkend	Black	Male	3	440	3.29	1,446
8	2=Summer-wkend	White	Fem	28	440	3.82	1,681
9	2=Summer-wkend	White	Male	14	440	5.93	2,607
10	2=Summer-wkend	Other	Fem	4	440	7.88	3,466
11	2=Summer-wkend	Other	Male	2	440	7.00	3,077
12	3=Winter-wkday	Black	Fem	5	1,134	3.23	3,669
13	3=Winter-wkday	Black	Male	5	1,134	3.29	3,730
14	3=Winter-wkday	White	Fem	19	1,134	3.82	4,338
15	3=Winter-wkday	White	Male	12	1,134	5.93	6,726
16	3=Winter-wkday	Other	Male	2	1,134	7.00	7,941
17	4=Winter-wkend	Black	Fem	4	420	3.23	1,360
18	4=Winter-wkend	Black	Male	6	420	3.29	1,383
19	4=Winter-wkend	Asian	Fem	1	420	34.8	14,612
20	4=Winter-wkend	Asian	Male	2	420	7.32	3,078
21	4=Winter-wkend	White	Fem	45	420	3.82	1,608
22	4=Winter-wkend	White	Male	28	420	5.93	2,493
23	4=Winter-wkend	Other	Fem	3	420	7.88	3,315
24	4=Winter-wkend	Other	Male	2	420	7.00	2,943
				==========			
				210			

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 49.

Table 49. Distribution of Wt3 Weights for Sampled Patrons who Refused by Demographics of Refusal Pattern k=7

i	Race	Gender	Age	Refusals n	Refusals WT3	Refusals Total WT3 $M_{i(7)}$
1	Black	Fem	18-29	28	835	23,380
2	Black	Fem	30-50	84	711	59,706
3	Black	Fem	51+	56	582	32,571
4	Black	Male	18-29	31	633	19,620
5	Black	Male	30-50	77	752	57,937
6	Black	Male	51+	53	685	36,287
7	Asian	Fem	18-29	16	698	11,169
8	Asian	Fem	30-50	45	651	29,305
9	Asian	Fem	51+	25	772	19,307
10	Asian	Male	18-29	24	635	15,238
11	Asian	Male	30-50	58	698	40,482
12	Asian	Male	51+	40	695	27,813
13	White	Fem	18-29	142	524	74,401
14	White	Fem	30-50	452	607	274,157
15	White	Fem	51+	501	667	334,053
16	White	Male	18-29	180	612	110,246

17	White	Male	30-50	497	640	317,948
18	White	Male	51+	675	654	441,289
19	Other	Fem	18-29	27	694	18,745
20	Other	Fem	30-50	75	695	52,145
21	Other	Fem	51+	24	695	16,674
22	Other	Male	18-29	28	581	16,277
23	Other	Male	30-50	85	704	59,799
24	Other	Male	51+	36	687	24,747
				3,259		2,113,297

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 49 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 1,417,061 (from Table 29) and $M^* = 2{,}113{,}297$ from Table 49. 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 50). 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 50. Non-Response Adjusted Factor by Race and Gender for k=7

i	Race	Gender	Age	Sampled Patron Completers	Total Wt3 Completers $N_{i(k)}$	Estimated Total Wt3 for Refusals $\hat{M}_{i(k)}$	Estimated Total Wt3 $T_{i(k)}$	Wt3 Non-response Adjustment factor $A_{i(7)}$
1	Black	Fem	18-29	7	3,709	15,678	19,386	5.23
2	Black	Fem	30-50	31	21,854	40,036	61,890	2.83
3	Black	Fem	51+	35	24,387	21,840	46,227	1.90
4	Black	Male	18-29	4	3,156	13,156	16,312	5.17
5	Black	Male	30-50	22	15,084	38,849	53,933	3.58
6	Black	Male	51+	15	9,356	24,332	33,688	3.60
7	Asian	Fem	18-29	1	440	7,489	7,929	18.0
8	Asian	Fem	30-50	3	1,319	19,650	20,969	15.9
9	Asian	Fem	51+	5	2,160	12,946	15,106	6.99
10	Asian	Male	18-29	3	1,280	10,218	11,498	8.98
11	Asian	Male	30-50	4	3,884	27,145	31,028	7.99
12	Asian	Male	51+	3	2,703	18,650	21,353	7.90
13	White	Fem	18-29	32	21,627	49,889	71,516	3.31
14	White	Fem	30-50	70	43,440	183,835	227,275	5.23
15	White	Fem	51+	130	84,104	223,997	308,101	3.66
16	White	Male	18-29	27	17,241	73,925	91,166	5.29
17	White	Male	30-50	68	45,444	213,199	258,643	5.69
18	White	Male	51+	105	58,467	295,904	354,372	6.06
19	Other	Fem	18-29	1	440	12,569	13,009	29.6
20	Other	Fem	30-50	8	6,285	34,966	41,250	6.56
21	Other	Fem	51+	9	5,983	11,181	17,164	2.87
22	Other	Male	18-29	2	2,269	10,915	13,183	5.81
23	Other	Male	30-50	3	2,027	40,098	42,125	20.8

24	Other	Male	51+	2	1,568	16,594	18,162	11.6
				590	378,225	1,417,061	1,795,286	

The adjusted weights are given by $w_{jk}^{(1)} = \left(\frac{T_{i(k)}}{N_{i(k)}} \right) w_{jk}^{(0)}$. Table 51 details the weights for these patrons who completed the survey.

Table 51. Non-Response Adjusted Factor by Race, Gender and Age for k=7

i	Season-Weekday :SEAS	Race	Gender	Age	Sample Patron Completers	Completers+ Refusers: WT3 $w_{j7}^{(0)}$	Non-response Adjustment Factor(k=7) $A_{i(7)}$	Wt3-Refusal adjust Weight(WT4) $w_{j7}^{(1)}$
1	1=Summer-wkday	Black	Fem	18-29	9	1,148	5.23	6,000
2	1=Summer-wkday	Black	Fem	30-50	29	1,148	2.83	3,251
3	1=Summer-wkday	Black	Fem	51+	16	1,148	1.90	2,176
4	1=Summer-wkday	Black	Male	18-29	4	1,148	5.17	5,933
5	1=Summer-wkday	Black	Male	30-50	19	1,148	3.58	4,105
6	1=Summer-wkday	Black	Male	51	17	1,148	3.60	4,133
7	1=Summer-wkday	Asian	Fem	18-29	6	1,148	18.0	20,707
8	1=Summer-wkday	Asian	Fem	30-50	9	1,148	15.9	18,254
9	1=Summer-wkday	Asian	Fem	51+	7	1,148	6.99	8,030
10	1=Summer-wkday	Asian	Male	18-29	4	1,148	8.98	10,309
11	1=Summer-wkday	Asian	Male	30-50	12	1,148	7.99	9,172
12	1=Summer-wkday	Asian	Male	51+	8	1,148	7.90	9,069
13	1=Summer-wkday	White	Fem	18-29	14	1,148	3.31	3,796
14	1=Summer-wkday	White	Fem	30-50	74	1,148	5.23	6,006
15	1=Summer-wkday	White	Fem	51+	127	1,148	3.66	4,205
16	1=Summer-wkday	White	Male	18-29	27	1,148	5.29	6,070
17	1=Summer-wkday	White	Male	30-50	83	1,148	5.69	6,534
18	1=Summer-wkday	White	Male	51+	131	1,148	6.06	6,958
19	1=Summer-wkday	Other	Fem	18-29	6	1,148	29.6	33,974
20	1=Summer-wkday	Other	Fem	30-50	21	1,148	6.56	7,535
21	1=Summer-wkday	Other	Fem	51+	6	1,148	2.87	3,293
22	1=Summer-wkday	Other	Male	18-29	5	1,148	5.81	6,671
23	1=Summer-wkday	Other	Male	30-50	14	1,148	20.8	23,856
24	1=Summer-wkday	Other	Male	51+	7	1,148	11.6	13,294
25	2=Summer-wkend	Black	Fem	18-29	6	440	5.23	2,298
26	2=Summer-wkend	Black	Fem	30-50	36	440	2.83	1,245
27	2=Summer-wkend	Black	Fem	51+	33	440	1.90	833
28	2=Summer-wkend	Black	Male	18-29	8	440	5.17	2,272
29	2=Summer-wkend	Black	Male	30-50	23	440	3.58	1,572
30	2=Summer-wkend	Black	Male	51+	21	440	3.60	1,583
31	2=Summer-wkend	Asian	Fem	18-29	5	440	18.0	7,929
32	2=Summer-wkend	Asian	Fem	30-50	17	440	15.9	6,990
33	2=Summer-wkend	Asian	Fem	51+	10	440	6.99	3,075
34	2=Summer-wkend	Asian	Male	18-29	6	440	8.98	3,947
35	2=Summer-wkend	Asian	Male	30-50	15	440	7.99	3,512
36	2=Summer-wkend	Asian	Male	51+	10	440	7.90	3,473
37	2=Summer-wkend	White	Fem	18-29	66	440	3.31	1,454
38	2=Summer-wkend	White	Fem	30-50	188	440	5.23	2,300
39	2=Summer-wkend	White	Fem	51+	175	440	3.66	1,610
40	2=Summer-wkend	White	Male	18-29	43	440	5.29	2,324
41	2=Summer-wkend	White	Male	30-50	175	440	5.69	2,502

Table 51 (Continued) Non-response Adjusted Factor by Race, Gender and Age for k=7

i	Season-Weekday :SEAS	Race	Gender	Age	Sample Patron Completers	Completers+ Refusers: WT3 $w_{j7}^{(0)}$	Non-response Adjustment Factor(k=7) $A_{i(7)}$	Wt3-Refusal adjust Weight(WT4) $w_{j7}^{(1)}$
42	2=Summer-wkend	White	Male	51+	230	440	6.06	2,664
43	2=Summer-wkend	Other	Fem	18-29	10	440	29.6	13,009
44	2=Summer-wkend	Other	Fem	30-50	21	440	6.56	2,885
45	2=Summer-wkend	Other	Fem	51+	7	440	2.87	1,261
46	2=Summer-wkend	Other	Male	18-29	8	440	5.81	2,554
47	2=Summer-wkend	Other	Male	30-50	19	440	20.8	9,135
48	2=Summer-wkend	Other	Male	51+	13	440	11.6	5,090
49	3=Winter-wkday	Black	Fem	18-29	8	1,134	5.23	5,929
50	3=Winter-wkday	Black	Fem	30-50	16	1,134	2.83	3,212
51	3=Winter-wkday	Black	Fem	51+	9	1,134	1.90	2,150
52	3=Winter-wkday	Black	Male	18-29	7	1,134	5.17	5,863
53	3=Winter-wkday	Black	Male	30-50	24	1,134	3.58	4,056
54	3=Winter-wkday	Black	Male	51+	6	1,134	3.60	4,084
55	3=Winter-wkday	Asian	Fem	30-50	5	1,134	15.9	18,037
56	3=Winter-wkday	Asian	Fem	51+	5	1,134	6.99	7,934
57	3=Winter-wkday	Asian	Male	18-29	3	1,134	8.98	10,186
58	3=Winter-wkday	Asian	Male	30-50	13	1,134	7.99	9,063
59	3=Winter-wkday	Asian	Male	51+	9	1,134	7.90	8,961
60	3=Winter-wkday	White	Fem	18-29	16	1,134	3.31	3,751
61	3=Winter-wkday	White	Fem	30-50	57	1,134	5.23	5,935
62	3=Winter-wkday	White	Fem	51+	80	1,134	3.66	4,155
63	3=Winter-wkday	White	Male	18-29	28	1,134	5.29	5,998
64	3=Winter-wkday	White	Male	30-50	87	1,134	5.69	6,456
65	3=Winter-wkday	White	Male	51+	101	1,134	6.06	6,875
66	3=Winter-wkday	Other	Fem	18-29	4	1,134	29.6	33,569
67	3=Winter-wkday	Other	Fem	30-50	11	1,134	6.56	7,445
68	3=Winter-wkday	Other	Fem	51+	6	1,134	2.87	3,254
69	3=Winter-wkday	Other	Male	18-29	3	1,134	5.81	6,592
70	3=Winter-wkday	Other	Male	30-50	20	1,134	20.8	23,572
71	3=Winter-wkday	Other	Male	51+	7	1,134	11.6	13,135
72	4=Winter-wkend	Black	Fem	18-29	12	420	5.23	2,198
73	4=Winter-wkend	Black	Fem	30-50	34	420	2.83	1,191
74	4=Winter-wkend	Black	Fem	51+	33	420	1.90	797
75	4=Winter-wkend	Black	Male	18-29	16	420	5.17	2,173
76	4=Winter-wkend	Black	Male	30-50	33	420	3.58	1,503
77	4=Winter-wkend	Black	Male	51+	24	420	3.60	1,514
78	4=Winter-wkend	Asian	Fem	18-29	6	420	18.0	7,584
79	4=Winter-wkend	Asian	Fem	30-50	17	420	15.9	6,686
80	4=Winter-wkend	Asian	Fem	51+	8	420	6.99	2,941
81	4=Winter-wkend	Asian	Male	18-29	14	420	8.98	3,776
82	4=Winter-wkend	Asian	Male	30-50	22	420	7.99	3,359
83	4=Winter-wkend	Asian	Male	51+	16	420	7.90	3,322
84	4=Winter-wkend	White	Fem	18-29	78	420	3.31	1,390
85	4=Winter-wkend	White	Fem	30-50	203	420	5.23	2,200
86	4=Winter-wkend	White	Fem	51+	249	420	3.66	1,540
87	4=Winter-wkend	White	Male	18-29	109	420	5.29	2,223
88	4=Winter-wkend	White	Male	30-50	220	420	5.69	2,393
89	4=Winter-wkend	White	Male	51+	318	420	6.06	2,548
90	4=Winter-wkend	Other	Fem	18-29	8	420	29.6	12,443
91	4=Winter-wkend	Other	Fem	30-50	30	420	6.56	2,760

Table 51 (Continued) Non-response Adjusted Factor by Race, Gender and Age for k=7

i	Season-Weekday :SEAS	Race	Gender	Age	Sample Patron Completers	Completers+ Refusers: WT3 $w_{j7}^{(0)}$	Non-response Adjustment Factor(k=7) $A_{i(7)}$	Wt3-Refusal adjust Weight(WT4) $w_{j7}^{(1)}$
92	4=Winter-wkend	Other	Fem	51+	14	420	2.87	1,206
93	4=Winter-wkend	Other	Male	18-29	14	420	5.81	2,443
94	4=Winter-wkend	Other	Male	30-50	35	420	20.8	8,737
95	4=Winter-wkend	Other	Male	51+	11	420	11.6	4,869
					3,849			

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 $w_{\min}=797.00$, $w_{mean}=3,046.15$, and $w_{\max}=23,855.68$ in the 2019 MGM Springfield 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

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

where $w_{\max,m}=m\left(w_{mean}\right)$ and $w_{\min,m}=\left(w_{mean}\right)/m$. 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 $T_m=\sum_{i=1}^{n} w_{i,\mathrm{m}}^{0}$ 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

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

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, $w_{\max,m}=24,369$, while dividing the average weight by 8 results in $w_{\min,m}=380.77$. The actual maximum and minimum weight falls within the range of 380 to 24,369. As a result, based on the criteria of $m=8$, no weight trimming is required.

We further examined the distribution of weights for the $n=878$ complete surveys. While the maximum weight is $w_{\max}=23,855.68$, the next largest weight is 14,612. This weight is 61% of the value of the maximum weight. 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 maximum weight to the second largest value of 14,612. By trimming the one weight, the standard deviation in weights is reduced from 2,026 to

1,947.

The total weight prior to trimming is given by $T = \sum_{i=1}^{n=878} w_i = 2,674,520$. This value remains the same after trimming and adjustment. This is an estimate of the total number of exiting patrons in a 12 month period.

After trimming and adjusting, the final weight for the MGM Springfield patron survey is WT5, with $w_{\min} = 799.75$, $w_{mean} = 3,046.15$, and $w_{\max} = 14,663.68$.

MGM Springfield 2019 Patron Survey Weight Data Set

The data set of patron survey weights has 878 records corresponding to the 878 complete patron surveys. The weight variable is WT5, and has a minimum value of 800 and a maximum value of 14,664. A weight can be interpreted as the number of exiting patrons represented by the particular patron respondent.

Appendix G: Geographic Origin and Demographic Characteristics

Table 52. Geographic Origin by Season

		Winter				Summer				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 or surrounding community	211	639,405	43.2	(38.2, 48.3)	146	469,888	39.3	(33.5, 45.4)	357	1,109,293	41.5	(37.7, 45.4)
	Other municipalities in MA	85	244,877	16.6	(13.0, 20.8)	69	234,742	19.6	(15.1, 25.2)	154	479,619	17.9	(15.0, 21.3)
	Outside of MA or unknown	211	595,183	40.2	(35.4, 45.3)	156	490,426	41.0	(35.2, 47.2)	367	1,085,609	40.6	(36.8, 44.5)

[1]Unweighted N refers to the total number of respondents who answered this question.
[2]Weighted N is the estimated total number of patrons who visited MGM Springfield in past year.

Table 53. Demographics by Season

		Winter				Summer				Combined			
		Weighted				Weighted				Weighted			
		N[1]	N[2]	%	95% CI	N[1]	N[2]	%	95% CI	N[1]	N[2]	%	95% CI
Gender	Female	270	672,919	48.3	(43.1, 53.5)	210	535,035	46.2	(40.2, 52.4)	480	1,207,954	47.4	(43.4, 51.3)
	Male	211	718,423	51.5	(46.3, 56.7)	149	618,521	53.5	(47.3, 59.5)	360	1,336,944	52.4	(48.4, 56.4)
	Transgender/other			---				---				---	
Hispanic/ Latino	Yes	54	165,781	12.3	(9.0, 16.4)	56	202,954	18.2	(13.4, 24.2)	110	368,735	14.9	(12.0, 18.4)
	No	415	1,186,595	87.7	(83.6, 91.0)	291	913,806	81.8	(75.8, 86.6)	706	2,100,401	85.1	(81.6, 88.0)
Race	Hispanic	68	192,161	14.1	(10.7, 18.3)	63	218,130	19.5	(14.6, 25.5)	131	410,291	16.5	(13.5, 20.0)
	White alone	345	997,166	73.1	(67.9, 77.6)	213	681,161	60.8	(54.2, 67.0)	558	1,678,327	67.5	(63.4, 71.4)
	Black alone	37	82,640	6.1	(4.2, 8.6)	39	76,534	6.8	(4.7, 9.8)	76	159,174	6.4	(5.0, 8.2)
	Asian alone	*9*	*46,646*	*3.4*	*(1.5, 7.4)*	13	83,872	7.5	(4.3, 12.9)	22	130,519	5.3	(3.3, 8.2)
	Some other race alone	*10*	*30,726*	*2.3*	*(1.1, 4.7)*	*7*	*28,809*	*2.6*	*(0.9, 6.9)*	*17*	*59,535*	*2.4*	*(1.3, 4.4)*
	Two or more races			---		*11*	*31,731*	*2.8*	*(1.4, 5.8)*	*15*	*47,180*	*1.9*	*(1.0, 3.5)*
Age	<30	38	100,323	10.4	(7.3, 14.6)	39	144,522	16.2	(11.4, 22.5)	77	244,846	13.2	(10.3, 16.8)
	30-50	125	412,008	42.8	(36.7, 49.1)	91	347,801	39.0	(32.0, 46.4)	216	759,810	41.0	(36.3, 45.8)
	51+	179	450,962	46.8	(40.8, 52.9)	139	399,662	44.8	(37.8, 52.0)	318	850,624	45.8	(41.2, 50.5)
	Mean (95% CI)	342	963,293	49.7	(47.8, 51.6)	269	891,986	48.2	(45.8, 50.5)	611	1,855,279	48.9	(47.4, 50.5)
	Median (95% CI)	342	963,293	50.0	(46.8, 53.0)	269	891,986	49.0	(46.0, 51.6)	611	1,855,279	49.0	(47.0, 51.0)
Education	High school or less	105	289,252	20.9	(17.1, 25.4)	70	226,902	19.8	(15.2, 25.3)	175	516,154	20.4	(17.4, 23.8)
	Some college or Bachelors	291	827,577	59.9	(54.6, 64.9)	224	733,668	64.0	(57.9, 69.7)	515	1,561,245	61.8	(57.8, 65.6)
	Beyond Bachelor's degree	84	265,135	19.2	(15.3, 23.8)	61	185,326	16.2	(12.3, 21.0)	145	450,461	17.8	(14.9, 21.1)
Employment	1=employed	346	1,010,400	73.1	(68.3, 77.4)	238	779,394	68.0	(62.1, 73.4)	584	1,789,795	70.8	(67.1, 74.3)
	2=unemployed	*8*	*25,263*	*1.8*	*(0.9, 3.9)*	*7*	*38,408*	*3.4*	*(1.5, 7.3)*	15	63,671	2.5	(1.4, 4.4)
	3=retired	80	215,356	15.6	(12.2, 19.6)	79	229,374	20.0	(15.8, 25.0)	159	444,730	17.6	(14.9, 20.7)
	4=student/homemaker/disabled	46	131,374	9.5	(6.8, 13.1)	31	98,505	8.6	(5.7, 12.7)	77	229,879	9.1	(7.0, 11.7)
Marital Status	Never married	113	351,482	25.6	(21.1, 30.7)	77	262,697	23.0	(18.1, 28.8)	190	614,179	24.4	(21.0, 28.2)
	Living with partner/Married/ Widowed	309	845,581	61.5	(56.2, 66.6)	224	707,046	62.0	(55.6, 67.9)	533	1,552,628	61.7	(57.7, 65.6)
	Divorced or Separated	58	177,265	12.9	(9.7, 16.9)	53	170,962	15.0	(10.9, 20.2)	111	348,227	13.8	(11.2, 17.0)

		Winter				Summer				Combined			
			Weighted				Weighted				Weighted		
		N[1]	N[2]	%	95% CI	N[1]	N[2]	%	95% CI	N[1]	N[2]	%	95% CI
Military status	No	437	1,255,648	92.4	(89.1, 94.8)	320	1,017,145	91.4	(87.2, 94.2)	757	2,272,793	91.9	(89.5, 93.9)
	Yes	35	102,836	7.6	(5.2, 10.9)	28	96,203	8.6	(5.8, 12.8)	63	199,039	8.1	(6.1, 10.5)
Annual household income	less than $15,000	31	70,758	5.4	(3.7, 8.0)	22	67,049	6.4	(4.0, 10.2)	53	137,807	5.9	(4.3, 7.9)
	15,000 - $29,000	43	146,085	11.2	(8.1, 15.4)	24	85,007	8.1	(5.0, 12.9)	67	231,092	9.8	(7.5, 12.8)
	30,000 - $49,000	79	242,709	18.7	(14.7, 23.5)	58	174,004	16.6	(12.4, 21.9)	137	416,713	17.8	(14.8, 21.2)
	50,000 - $69,000	71	207,461	16.0	(12.3, 20.5)	60	190,647	18.2	(13.6, 24.0)	131	398,108	17.0	(14.0, 20.5)
	70,000 - $99,000	77	194,277	15.0	(11.7, 18.9)	48	148,379	14.2	(10.1, 19.4)	125	342,656	14.6	(12.0, 17.7)
	100,000 - $124,999	51	148,304	11.4	(8.4, 15.3)	43	139,891	13.4	(9.5, 18.4)	94	288,194	12.3	(9.8, 15.3)
	125,000 - $149,999	29	75,138	5.8	(3.8, 8.7)	25	76,299	7.3	(4.7, 11.2)	54	151,437	6.5	(4.8, 8.7)
	150,000 or more	67	214,775	16.5	(12.8, 21.0)	44	165,677	15.8	(11.4, 21.6)	111	380,451	16.2	(13.3, 19.7)

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

[2]Weighted N is the estimated total number of patrons who visited MGM Springfield 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 54. Demographics by Geographic Origin

		Host or 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
Gender	Female	212	538,713	51.1	(47.0,	78	208,315	44.5	(38.3,	190	460,925	44.8	(40.9,
	Male	131	514,097	48.8	(44.7,	70	254,589	54.4	(48.0,	159	568,258	55.2	(51.2,
	Transgender/other			---				---		0	0	0.0	(,)
Hispanic/ Latino	Yes	61	194,646	19.0	(15.9,	11	33,147	7.2	(4.1,	38	140,942	14.3	(11.3,
	No	272	827,446	81.0	(77.3,	137	429,040	92.8	(87.8,	297	843,915	85.7	(82.0,
Race	Hispanic	69	211,195	20.3	(17.1,	11	33,147	7.2	(4.1,	51	165,950	16.9	(13.7,
	White alone	215	672,348	64.6	(60.5,	122	353,550	76.5	(69.3,	221	652,429	66.4	(62.2,
	Black alone	37	76,978	7.4	(5.8, 9.4)			---		34	66,542	6.8	(5.3, 8.6)
	Asian alone	*9*	*51,138*	*4.9*	*(3.1, 7.8)*			---		*9*	*49,888*	*5.1*	*(3.2, 7.9)*
	Some other race alone			---				---		*10*	*25,305*	*2.6*	*(1.6, 4.0)*
	Two or more races			---				---		*8*	*22,104*	*2.3*	*(1.2, 4.1)*
Age	<30	41	122,029	16.3	(13.1,	12	48,742	14.7	(9.4,	24	74,074	9.5	(7.2,
	30-50	96	333,966	44.6	(39.8,	32	104,881	31.7	(25.3,	88	320,963	41.4	(36.7,
	51+	109	292,447	39.1	(34.5,	59	177,256	53.6	(45.9,	150	380,922	49.1	(44.4,
	Mean (95% CI)	246	748,441	46.4	(44.9,	103	330,878	50.8	(48.1,	262	775,959	50.6	(49.1,
	Median (95% CI)	246	748,441	46.0	(44.5,	103	330,878	53.6	(48.4,	262	775,959	50.0	(49.8,
Education	High school or less	84	277,648	26.6	(23.0,	23	61,578	13.4	(10.0,	68	176,928	17.3	(14.5,
	Some college or Bachelor's	205	616,391	58.9	(54.9,	102	325,632	70.9	(65.0,	208	619,222	60.5	(56.5,
	Beyond Bachelor's degree	52	151,594	14.5	(12.0,	23	72,074	15.7	(11.7,	70	226,793	22.2	(18.9,
Employment	Employed	240	740,184	70.2	(66.4,	110	343,846	74.2	(68.4,	234	705,765	69.8	(66.1,
	Unemployed	*6*	*20,110*	*1.9*	*(1.1, 3.3)*			---		*6*	*30,716*	*3.0*	*(1.7, 5.4)*
	Retired	61	177,117	16.8	(14.1,	24	64,216	13.9	(10.3,	74	203,397	20.1	(17.2,
	Other[3]	36	116,360	11.0	(8.6, 14.0)	*12*	*42,690*	*9.2*	*(6.0,*	29	70,828	7.0	(5.4, 9.1)
Marital status	Never married	83	267,871	25.7	(22.3,	28	103,069	22.0	(16.8,	79	243,239	24.2	(20.7,
	Living with partner/Married/Widowed	205	608,431	58.4	(54.3, 62.5)	102	290,287	62.0	(55.3, 68.3)	226	653,910	65.0	(61.0, 68.8)
	Divorced or Separated	52	164,709	15.8	(13.0,	20	74,696	16.0	(11.5,	39	108,822	10.8	(8.6,
Military status	No	316	952,586	92.7	(90.1,	132	420,413	91.8	(88.2,	309	899,795	91.3	(88.7,
	Yes	21	75,280	7.3	(5.4, 9.9)	14	37,709	8.2	(5.7,	28	86,050	8.7	(6.7,

		Host or 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
									11.8)				11.3)
Annual household income	less than $15,000	28	67,518	7.1	(5.3, 9.3)	*12*	*31,569*	*7.1*	*(4.8, 10.5)*	*13*	*38,720*	*4.1*	*(2.7, 6.1)*
	15,000 - $29,000	28	106,574	11.2	(8.6, 14.4)	14	63,011	14.2	(9.7, 20.3)	25	61,507	6.5	(4.9, 8.6)
	30,000 - $49,000	67	215,214	22.6	(19.1, 26.4)	*14*	*47,465*	*10.7*	*(7.2, 15.6)*	56	154,033	16.2	(13.4, 19.5)
	50,000 - $69,000	56	173,049	18.1	(15.1, 21.7)	19	71,655	16.2	(11.4, 22.4)	56	153,404	16.2	(13.3, 19.6)
	70,000 - $99,000	51	140,010	14.7	(12.0, 17.9)	23	58,072	13.1	(9.6, 17.5)	51	144,574	15.2	(12.5, 18.5)
	100,000 - $124,999	31	91,875	9.6	(7.4, 12.4)	19	53,552	12.1	(8.7, 16.5)	44	142,767	15.0	(12.2, 18.4)
	125,000 - $149,999	*13*	*34,560*	*3.6*	*(2.4, 5.4)*	16	41,377	9.3	(6.6, 13.1)	25	75,500	8.0	(5.9, 10.6)
	150,000 or more	38	125,161	13.1	(10.5, 16.3)	22	76,977	17.3	(12.6, 23.4)	51	178,313	18.8	(15.6, 22.4)
Annual household income (collapsed)	1=Less than $50,000	123	389,306	40.8	(36.6, 45.1)	40	142,046	32.0	(26.0, 38.7)	94	254,260	26.8	(23.3, 30.6)
	2=$50,000-<$100,000	107	313,059	32.8	(28.9, 36.9)	42	129,727	29.2	(23.5, 35.7)	107	297,978	31.4	(27.6, 35.5)
	3=$100,000 and more	82	251,596	26.4	(22.8, 30.3)	57	171,906	38.7	(32.6, 45.3)	120	396,580	41.8	(37.7, 46.1)

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

[2]Weighted N is the estimated total number of patrons who visited MGM Springfield in past year.

[3]Student, 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 55. Host and Surrounding Community Resident Patron Demographics Compared to the Massachusetts Population

		MGM Springfield Patrons				Host and Surrounding Communities 2018[3]	
		Host and Surrounding Community Residents					
		N[1]	N[2]	%	SE	%	SE
Gender	Female	212	538,713	51.1	3.2	46.9	0.9
	Male	131	514,097	48.8	3.2	53.1	0.9
	Transgender/other						
Race/Ethnicity	Hispanic	69	211,195	20.3	2.7	18.8	0.8
	White alone	215	672,348	64.6	3.1	70.7	0.9
	Black alone	37	76,978	7.4	1.4	6.3	0.5
	Asian alone	*9*	*51,138*	*4.9*	*1.8*	2.7	0.4
	Some other race alone					0.5	0.1
	Two or more races					0.9	0.2
Age	18-20					6.4	0.5
	21-24	16	58,451	7.8	2.1	7.0	0.5
	25-34	49	153,247	20.5	3.1	16.3	0.7
	35-54	89	279,673	37.4	3.7	31.0	0.8
	55-64	52	150,568	20.1	3.0	17.9	0.7
	65-79	35	90,072	12.0	2.3	16.3	0.6
	80+					5.2	0.4
Education	Less than high school	*16*	*44,989*	*4.3*	*1.3*	13.4	0.7
	HS or GED	68	232,658	22.3	2.8	28.4	0.8
	Some college	129	410,647	39.3	3.1	30.3	0.8
	BA	76	205,744	19.7	2.4	16.6	0.6
	Graduate or professional degree	46	136,209	13.0	2.1	9.8	0.5
	PHD	*6*	*15,385*	*1.5*	*0.6*	1.4	0.2
Annual household income	Less than $15,000	28	67,518	7.1	1.5	8.6	0.5
	$15,000-<30,000	28	106,574	11.2	2.2	12.2	0.6
	$30,000-<50,000	67	215,214	22.6	2.9	15.2	0.7
	$50,000-<100,000	107	313,059	32.8	3.1	28.2	0.8
	$100,000-<150,000	44	126,435	13.3	2.2	20.0	0.7
	$150,000 and more	38	125,161	13.1	2.3	15.8	0.6

[1]Unweighted N refers to the total number of respondents who answered this question.
[2]Weighted N is the estimated total number of patrons who visited MGM Springfield in past year
[3]Source: U.S. Census Bureau, 2018 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 H: Access, Visitation Frequency, Reason for Visit, Duration of Stay, and Venue Experience

Table 56. Patron Access to MGM Springfield by Season

		Winter				Summer				Combined			
				Weighted				Weighted				Weighted	
		N[1]	N[2]	%	95% CI	N[1]	N[2]	%	95% CI	N[1]	N[2]	%	95% CI
How did you get here (Check all that apply)	Own vehicle or someone else's car	456	1,353,290	91.8	(88.7, 94.0)	347	1,088,523	91.2	(86.2, 94.6)	803	2,441,813	91.5	(88.9, 93.6)
	Airplane	*6*	*25,689*	*1.7*	*(0.7, 4.5)*					*8*	*31,487*	*1.2*	*(0.5, 2.7)*
	Rental car	*6*	*19,538*	*1.3*	*(0.5, 3.2)*	*8*	*36,918*	*3.1*	*(1.5, 6.5)*	14	56,457	2.1	(1.2, 3.8)
	Public transportation (such as subway or bus)	*14*	*29,249*	*2.0*	*(1.1, 3.6)*	*6*	*21,691*	*1.8*	*(0.7, 4.4)*	20	50,940	1.9	(1.1, 3.2)
	Other ground transportation (charter bus, taxi, Uber, Lyft, limo, or shuttle)	20	50,636	3.4	(2.1, 5.6)			---		25	62,865	2.4	(1.5, 3.7)
	Bicycle			---				---				---	
	Foot (walked here)	*7*	*21,611*	*1.5*	*(0.6, 3.3)*			---		*10*	*48,858*	*1.8*	*(0.8, 3.9)*
Any problems getting here (Check all that apply)	No problems	453	1,323,488	93.5	(90.5, 95.5)	341	1,099,860	95.2	(90.8, 97.5)	794	2,423,348	94.2	(91.9, 95.9)
	Got lost	*7*	*16,579*	*1.2*	*(0.5, 2.5)*					10	*20,280*	*0.8*	*(0.4, 1.5)*
	Lots of traffic	*7*	*20,759*	*1.5*	*(0.6, 3.3)*	*6*	*20,782*	*1.8*	*(0.7, 4.7)*	13	*41,541*	*1.6*	*(0.8, 3.1)*
	Difficulty finding parking	16	42,130	3.0	(1.7, 5.1)	*6*	*27,987*	*2.4*	*(0.9, 6.4)*	22	70,117	2.7	(1.6, 4.5)
	Long wait for transportation			---				---				---	
	Limited bike lanes			---				---		*6*	*25,253*	*1.0*	*(0.4, 2.6)*
	Road construction			---				---				---	
How often have you visited this facility?	>=4 times a week	53	174,624	11.9	(8.9, 15.8)	35	122,667	10.5	(7.1, 15.1)	88	297,291	11.3	(8.9, 14.1)
	2-3 times a week	58	174,625	11.9	(9.0, 15.7)	38	119,683	10.2	(7.0, 14.6)	96	294,308	11.2	(8.9, 13.9)
	Once a week	47	136,892	9.3	(6.7, 12.8)	40	133,962	11.4	(8.1, 15.9)	87	270,853	10.3	(8.1, 12.9)
	2-3 times a month	88	297,273	20.3	(16.3, 25.0)	76	249,365	21.3	(16.6, 26.9)	164	546,638	20.7	(17.6, 24.3)
	Once a month	52	142,753	9.7	(7.1, 13.2)	44	161,298	13.8	(10.0, 18.8)	96	304,051	11.5	(9.2, 14.4)
	< once a month	79	232,830	15.9	(12.5, 20.0)	69	182,502	15.6	(12.0, 20.0)	148	415,332	15.8	(13.2, 18.7)
	This is my first visit	124	305,893	20.9	(17.3, 25.0)	59	201,260	17.2	(12.8, 22.7)	183	507,153	19.2	(16.4, 22.5)

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

[2]Weighted N is the estimated total number of patrons who visited MGM Springfield 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 57. Frequency of visits to MGM Springfield by Geographic Origin

		Host or 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	85	228,141	20.9	(16.6, 26.1)	65	175,987	37.5	(28.9, 47.0)	181	518,357	48.2	(42.2, 54.2)
	2=monthly	120	386,364	35.4	(29.8, 41.5)	45	167,728	35.8	(26.4, 46.3)	95	296,597	27.6	(22.5, 33.3)
	3=weekly	145	475,996	43.6	(37.6, 49.9)	40	125,418	26.7	(19.3, 35.8)	86	261,038	24.3	(19.4, 29.9)

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

[2]Weighted N is the estimated total number of patrons who visited MGM Springfield in past year.

Table 58. Did MGM Springfield Prompt Visit to Town or State by Season

		Winter				Summer				Combined			
				Weighted				Weighted				Weighted	
		N[1]	N[2]	%	95% CI	N[1]	N[2]	%	95% CI	N[1]	N[2]	%	95% CI
Did MGM Springfield prompt your visit to this town or state?	No	166	487,002	42.3	(36.7, 48.1)	149	480,692	40.8	(34.9, 47.1)	315	967,694	41.5	(37.4, 45.8)
	Yes	233	665,603	57.7	(51.9, 63.3)	213	696,551	59.2	(52.9, 65.1)	446	1,362,154	58.5	(54.2, 62.6)
Patrons from MA: What was your main reason for visiting Springfield today?	To visit MGM Springfield	150	460,087	52.9	(46.1, 59.6)	103	363,650	52.5	(44.4, 60.6)	253	823,737	52.7	(47.5, 57.9)
	For shopping or recreation other than the casino	25	66,067	7.6	(4.7, 12.0)	21	48,912	7.1	(4.4, 11.2)	46	114,979	7.4	(5.3, 10.2)
	To visit friends or family	*10*	*42,246*	*4.9*	*(2.2, 10.5)*	*9*	*33,354*	*4.8*	*(2.3, 10.0)*	19	75,599	4.8	(2.8, 8.3)
	For business or work	*12*	*37,309*	*4.3*	*(2.3, 7.9)*	*7*	*28,101*	*4.1*	*(1.8, 8.9)*	19	65,411	4.2	(2.5, 6.8)
	I live here	59	174,313	20.0	(15.3, 25.9)	43	122,247	17.7	(12.5, 24.3)	102	296,560	19.0	(15.4, 23.3)
	Some other reason	35	89,562	10.3	(7.0, 14.9)	25	95,909	13.9	(8.8, 21.1)	60	185,471	11.9	(8.8, 15.8)
Patrons from outside MA: What was your main reason for visiting Massachusetts today?	To visit MGM Springfield	83	205,515	72.6	(61.7, 81.4)	110	332,901	68.6	(58.6, 77.1)	193	538,417	70.1	(62.7, 76.6)
	For shopping or recreation other than the casino			---		*7*	*22,009*	*4.5*	*(1.8, 10.7)*	*12*	*37,274*	*4.9*	*(2.5, 9.1)*
	To visit friends or family			---		15	46,231	9.5	(5.3, 16.5)	19	54,028	7.0	(4.2, 11.6)
	For business or work			---				---		*6*	*18,900*	*2.5*	*(0.9, 6.6)*
	I live here			---				---				---	
	Some other reason	12	40,527	14.3	(8.0, 24.4)	*15*	*58,042*	*12.0*	*(6.3, 21.5)*	27	98,569	12.8	(8.2, 19.5)

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

[2]Weighted N is the estimated total number of patrons who visited MGM Springfield 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 59. Length of Stay in Massachusetts among Patrons from Outside Massachusetts by Season

		Winter				Summer				Combined			
			Weighted				Weighted				Weighted		
		N[1]	N[2]	%	95% CI	N[1]	N[2]	%	95% CI	N[1]	N[2]	%	95% CI
How many days are you visiting MA?	One day or less	164	440,997	76.0	(68.0, 82.5)	120	363,396	75.3	(65.2, 83.2)	284	804,393	75.7	(69.5, 80.9)
	More than one day	41	139,342	24.0	(17.5, 32.0)	32	119,220	24.7	(16.8, 34.8)	73	258,563	24.3	(19.1, 30.5)
How many days are you visiting MA?	Mean (95% CI)	196	555,483	1.8	(1.3, 2.3)	145	459,010	1.9	(1.2, 2.7)	341	1,014,493	1.9	(1.4, 2.3)
	Median (95% CI)	196	555,483	1.0	(1.0, 1.0)	145	459,010	1.0	(1.0, 1.0)	341	1,014,493	1.0	(1.0, 1.0)

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

[2]Weighted N is the estimated total number of patrons who visited MGM Springfield 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 60. Patron Visit Experience by Season

		Winter				Summer				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	126	358,666	24.5	(20.4, 29.2)	90	303,695	25.6	(20.5, 31.5)	216	662,362	25.0	(21.7, 28.6)
	Yes	374	1,104,593	75.5	(70.8, 79.6)	277	880,859	74.4	(68.5, 79.5)	651	1,985,453	75.0	(71.4, 78.3)
Did you have an enjoyable time during your visit today?	No	41	134,096	9.2	(6.5, 12.8)	23	74,298	6.3	(3.9, 10.1)	64	208,394	7.9	(6.0, 10.4)
	Yes	458	1,323,887	90.8	(87.2, 93.5)	343	1,105,461	93.7	(89.9, 96.1)	801	2,429,348	92.1	(89.6, 94.0)
What did you like the most about your visit here today (Pick up to 3 things)	Playing the games	281	812,389	56.9	(51.7, 61.9)	214	686,678	58.8	(52.5, 64.7)	495	1,499,067	57.7	(53.7, 61.6)
	Easy access to games	88	276,386	19.3	(15.5, 23.8)	52	179,236	15.3	(11.1, 20.9)	140	455,622	17.5	(14.6, 20.9)
	Different food and beverage options	68	191,523	13.4	(10.4, 17.2)	55	165,173	14.1	(10.5, 18.8)	123	356,696	13.7	(11.3, 16.6)
	Friendliness of the casino staff	112	328,105	23.0	(18.9, 27.5)	97	325,798	27.9	(22.4, 34.1)	209	653,904	25.2	(21.8, 28.9)
	Non-gambling entertainment	39	91,521	6.4	(4.5, 9.0)	36	101,846	8.7	(5.7, 13.0)	75	193,367	7.4	(5.7, 9.7)
	Convenient parking	175	539,284	37.7	(32.8, 42.9)	138	428,624	36.7	(31.0, 42.8)	313	967,908	37.3	(33.5, 41.2)
	Variety of game choices	57	181,776	12.7	(9.5, 16.8)	44	115,748	9.9	(7.0, 13.8)	101	297,523	11.5	(9.2, 14.2)
	Quality of the food and beverage	44	114,747	8.0	(5.8, 11.0)	32	83,193	7.1	(4.7, 10.6)	76	197,941	7.6	(5.9, 9.8)
	Friendliness of the food and beverage	32	101,153	7.1	(4.8, 10.3)	25	86,670	7.4	(4.7, 11.5)	57	187,823	7.2	(5.4, 9.6)
	Way the facility looks and feels inside	61	165,633	11.6	(8.8, 15.2)	45	155,281	13.3	(9.5, 18.3)	106	320,914	12.4	(10.0, 15.2)
	Shops and retail	*11*	*36,212*	*2.5*	*(1.2, 5.2)*			---		*15*	*54,470*	*2.1*	*(1.1, 3.9)*
	How easy it was to get here	119	347,435	24.3	(20.2, 28.9)	77	233,005	19.9	(15.6, 25.1)	196	580,441	22.3	(19.3, 25.7)
	None of the above	30	77,218	5.4	(3.6, 8.0)	21	62,726	5.4	(3.2, 8.8)	51	139,944	5.4	(3.9, 7.4)
Would you return to this facility?	No	*12*	*32,527*	*2.2*	*(1.2, 4.2)*	*10*	*24,538*	*2.1*	*(1.1, 4.0)*	22	57,065	2.2	(1.4, 3.4)
	Yes	430	1,266,134	87.2	(83.6, 90.2)	317	1,042,380	88.2	(84.1, 91.4)	747	2,308,514	87.7	(85.0, 89.9)
	Maybe	56	152,573	10.5	(7.9, 13.9)	40	114,458	9.7	(6.8, 13.7)	96	267,031	10.1	(8.1, 12.6)

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

[2]Weighted N is the estimated total number of patrons who visited MGM Springfield 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 I: Patron Activities

Table 61. Gambling Activities Participated in by Season

		Winter				Summer				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 MGM Springfield (Check all that apply)	Did not gamble	77	211,756	14.6	(11.4, 18.5)	60	218,821	18.6	(14.1, 24.2)	137	430,577	16.4	(13.6, 19.6)
	Slots	353	999,306	69.0	(63.9, 73.6)	248	746,876	63.5	(57.2, 69.3)	601	1,746,182	66.5	(62.6, 70.2)
	Table games	123	414,596	28.6	(24.0, 33.7)	88	329,601	28.0	(22.6, 34.2)	211	744,197	28.3	(24.8, 32.2)
	Lottery	*9*	*28,618*	*2.0*	*(1.0, 4.0)*	*10*	*29,253*	*2.5*	*(1.2, 5.0)*	19	57,871	2.2	(1.3, 3.6)
Where have you visited casinos in the past year (Check all that apply)	Did not visit other casinos	62	177,162	12.2	(9.2, 16.0)	42	131,353	11.1	(7.8, 15.6)	104	308,514	11.7	(9.4, 14.5)
	Massachusetts	206	640,437	44.1	(39.1, 49.3)	164	543,009	46.1	(39.9, 52.3)	370	1,183,446	45.0	(41.1, 49.0)
	Connecticut	339	986,135	68.0	(63.0, 72.6)	241	769,238	65.3	(59.1, 70.9)	580	1,755,373	66.7	(62.9, 70.4)
	Rhode Island	49	149,352	10.3	(7.4, 14.2)	52	165,760	14.1	(10.3, 19.0)	101	315,112	12.0	(9.5, 14.9)
	New Jersey	31	87,143	6.0	(4.0, 8.9)	30	105,684	9.0	(5.8, 13.6)	61	192,827	7.3	(5.4, 9.8)
	New York	43	136,366	9.4	(6.7, 13.0)	33	99,770	8.5	(5.7, 12.4)	76	236,136	9.0	(6.9, 11.5)
	Pennsylvania	17	48,669	3.4	(2.0, 5.5)	*18*	*60,655*	*5.1*	*(2.7, 9.5)*	35	109,323	4.2	(2.7, 6.3)
	Maine	*12*	*30,531*	*2.1*	*(1.1, 3.9)*	*6*	*19,684*	*1.7*	*(0.7, 4.1)*	18	50,215	1.9	(1.1, 3.2)
	Nevada	44	140,203	9.7	(7.0, 13.2)	39	135,620	11.5	(8.1, 16.0)	83	275,824	10.5	(8.3, 13.2)
	Online casinos	*10*	*31,262*	*2.2*	*(1.1, 4.3)*	*6*	*16,821*	*1.4*	*(0.6, 3.3)*	16	48,083	1.8	(1.1, 3.1)
	Other	30	81,916	5.6	(3.8, 8.4)	32	101,876	8.6	(5.8, 12.8)	62	183,792	7.0	(5.2, 9.3)
Number of states visited casino in past year	0	62	177,162	12.2	(9.2, 16.0)	42	131,353	11.1	(7.8, 15.6)	104	308,514	11.7	(9.4, 14.5)
	1	214	623,260	43.0	(38.0, 48.1)	149	477,626	40.5	(34.6, 46.7)	363	1,100,885	41.9	(38.0, 45.8)
	2	140	385,624	26.6	(22.4, 31.2)	92	306,220	26.0	(20.9, 31.8)	232	691,844	26.3	(23.0, 29.9)
	3	51	174,166	12.0	(8.8, 16.2)	50	166,597	14.1	(10.3, 19.1)	101	340,763	13.0	(10.4, 16.0)
	4+	30	90,865	6.3	(4.2, 9.3)	31	97,066	8.2	(5.3, 12.6)	61	187,931	7.1	(5.3, 9.6)
Pattern of states visited casino in past year	1=None	62	177,162	12.2	(9.2, 16.0)	42	131,353	11.1	(7.8, 15.6)	104	308,514	11.7	(9.4, 14.5)
	2=MA only	49	158,372	10.9	(8.0, 14.7)	40	131,535	11.2	(7.9, 15.6)	89	289,907	11.0	(8.7, 13.8)
	3=CT only	143	390,790	26.9	(22.7, 31.6)	88	271,535	23.0	(18.3, 28.6)	231	662,325	25.2	(22.0, 28.7)
	4=MA and CT only	74	218,801	15.1	(11.8, 19.1)	52	168,980	14.3	(10.6, 19.1)	126	387,781	14.7	(12.2, 17.7)
	5=MA and CT and other states	36	135,981	9.4	(6.4, 13.4)	33	107,157	9.1	(6.1, 13.4)	69	243,138	9.2	(7.0, 12.1)
	6=MA or CT and other states	107	284,996	19.6	(16.1, 23.8)	82	281,419	23.9	(18.8, 29.8)	189	566,415	21.5	(18.4, 25.0)
	7=Other states besides MA or CT	26	84,974	5.9	(3.8, 9.0)	27	86,883	7.4	(4.8, 11.1)	53	171,857	6.5	(4.8, 8.8)

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

[2]Weighted N is the estimated total number of patrons who visited MGM Springfield 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 62. Patterns of Gambling Activity

Activity	Other activities	Did participate in activity			
		UN[1]	N[2]	% [2]	95% CI[2]
SLOTS	Total	601	1,746,182		
	None	500	1,406,616	80.6	(76.2,84.3)
	Table Games	85	289,270	16.6	(13.1,20.8)
	Lottery	***11***	***39,608***	***2.3***	***(1.2,4.3)***
	Table games and Lottery			---	
TABLE GAMES	Total	211	744,197		
	None	120	441,838	59.4	(51.4, 66.9)
	Slots	85	289,270	38.9	(31.4, 46.9)
	Lottery			---	
	Slots and Lottery			---	
LOTTERY	Total	19	57,871		
	None			---	
	Table Games			---	
	Slots	11	39,608	68.4	(45.1,85.1)
	Slots and Table games			---	

[1]Unweighted N refers to the total number of respondents who answered this question.
[2]Weighted N is the estimated total number of patrons who visited MGM Springfield in past year
Note: A dash indicates that the cell size is less than 6
Note: Italics indicates and bold estimates are unreliable, relative standard error > 30%

Table 63. Gambling Activities by Geographic Origin

		Host or 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	264	832,896	77.5	(72.0, 82.2)	133	416,688	87.6	(79.1, 93.0)	327	946,013	87.9	(82.9, 91.7)
	Yes	83	242,051	22.5	(17.8, 28.0)	19	58,835	12.4	(7.0, 20.9)	35	129,691	12.1	(8.3, 17.1)
Slots	No	126	405,967	37.8	(31.9, 44.0)	45	152,504	32.1	(23.6, 42.0)	89	321,521	29.9	(24.4, 36.0)
	Yes	221	668,981	62.2	(56.0, 68.1)	107	323,019	67.9	(58.0, 76.4)	273	754,183	70.1	(64.0, 75.6)
Table games	No	273	814,005	75.7	(69.7, 80.9)	110	327,640	68.9	(59.3, 77.1)	267	740,332	68.8	(62.6, 74.4)
	Yes	74	260,942	24.3	(19.1, 30.3)	42	147,882	31.1	(22.9, 40.7)	95	335,372	31.2	(25.6, 37.4)
Lottery	No	345	1,072,326	99.8	(99.0, 99.9)	150	470,455	98.9	(95.8, 99.7)	347	1,025,522	95.3	(92.0, 97.3)
	Yes			---				---		15	50,181	4.7	(2.7, 8.0)

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

[2]Weighted N is the estimated total number of patrons who visited MGM Springfield 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 64. 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	107	301,947	17.4	(14.1, 21.2)	490	1,434,017	82.6	(78.8, 85.9)
Table games	41	146,111	19.7	(14.1, 26.9)	169	595,684	80.3	(73.1, 85.9)
Lottery			---		15	45,965	79.4	(54.6, 92.5)

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

[2]Weighted N is the estimated total number of patrons who visited MGM Springfield 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. Non-gambling Activities Participated in MGM Springfield by Season

		Winter				Summer				Combined			
			Weighted				Weighted				Weighted		
		N[1]	N[2]	%	95% CI	N[1]	N[2]	%	95% CI	N[1]	N[2]	%	95% CI
Non-gambling activity in MGM Springfield (Check all that apply)	Food or beverage	311	897,767	61.6	(56.5, 66.4)	230	723,453	61.2	(54.9, 67.1)	541	1,621,220	61.4	(57.4, 65.2)
	Hotel	30	108,134	7.4	(5.0, 10.9)	25	89,416	7.6	(4.6, 12.2)	55	197,551	7.5	(5.5, 10.1)
	Shopping in a gift shop or other retail outlet	34	110,257	7.6	(5.1, 11.1)	19	55,242	4.7	(2.7, 8.0)	53	165,499	6.3	(4.5, 8.6)
	Other non-gambling entertainment or activities, such as cinema, arcade, bowling, spa, etc.	72	203,481	14.0	(10.8, 17.8)	55	162,422	13.7	(10.1, 18.5)	127	365,903	13.9	(11.4, 16.7)
	Other	*8*	*22,011*	*1.5*	*(0.7, 3.3)*	*10*	*34,099*	*2.9*	*(1.4, 5.8)*	18	56,110	2.1	(1.2, 3.6)
	None	142	426,748	29.3	(24.8, 34.1)	96	317,192	26.8	(21.7, 32.7)	238	743,940	28.2	(24.7, 31.9)

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

[2]Weighted N is the estimated total number of patrons who visited MGM Springfield 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 in MGM Springfield by Geographic Origin

		Host or 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
Food or beverage	1=No	137	442,623	40.5	(34.6, 46.7)	61	198,873	41.8	(32.5, 51.8)	123	378,330	35.3	(29.7, 41.3)
	2=Yes	213	649,710	59.5	(53.3, 65.4)	91	276,649	58.2	(48.2, 67.5)	237	694,861	64.7	(58.7, 70.3)
Hotel	1=No	332	1,027,309	94.0	(90.0, 96.5)	143	451,269	94.9	(89.8, 97.5)	332	964,917	89.9	(84.7, 93.5)
	2=Yes	18	65,024	6.0	(3.5, 10.0)	*9*	*24,253*	*5.1*	*(2.5, 10.2)*	28	108,274	10.1	(6.5, 15.3)
Shopping in a gift shop or other retail outlet	1=No	328	1,024,404	93.8	(89.8, 96.3)	147	465,778	98.0	(95.0, 99.2)	334	985,365	91.8	(87.5, 94.8)
	2=Yes	22	67,929	6.2	(3.7, 10.2)			---		26	87,826	8.2	(5.2, 12.5)
Other non-gambling entertainment or activities, such as cinema, arcade, bowling, spa, etc.	1=No	278	889,609	81.4	(76.5, 85.6)	132	404,919	85.2	(75.9, 91.2)	325	980,615	91.4	(87.6, 94.1)
	2=Yes	72	202,723	18.6	(14.4, 23.5)	20	70,603	14.8	(8.8, 24.1)	35	92,577	8.6	(5.9, 12.4)
Other	1=No	344	1,077,985	98.7	(96.8, 99.5)	148	461,847	97.1	(91.5, 99.1)	352	1,045,104	97.4	(94.2, 98.8)
	2=Yes	*6*	*14,348*	*1.3*	*(0.5, 3.2)*			---		*8*	*28,088*	*2.6*	*(1.2, 5.8)*
None	1=No	254	773,074	70.8	(64.8, 76.1)	103	328,068	69.0	(59.4, 77.2)	267	795,965	74.2	(68.6, 79.1)
	2=Yes	96	319,259	29.2	(23.9, 35.2)	49	147,454	31.0	(22.8, 40.6)	93	277,226	25.8	(20.9, 31.4)

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

[2]Weighted N is the estimated total number of patrons who visited MGM Springfield 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. Patterns of Gambling Activities with Non-gambling Activities in MGM Springfield

Gambling activity	Non gambling activities in MGM Springfield	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		724	2,195,596	83.6	(80.4, 86.4)	137	430,577	16.4	(13.6, 19.6)
	Food or beverage	459	1,368,254	62.6	(58.3, 66.7)	79	240,600	55.9	(45.7, 65.6)
	Hotel	43	150,953	6.9	(4.8, 9.8)	*12*	*46,598*	*10.8*	*(5.8, 19.3)*
	Shopping in a gift shop or other retail outlet	41	119,332	5.5	(3.8, 7.8)	*12*	*46,167*	*10.7*	*(5.4, 20.0)*
	Other non-gambling entertainment or activities, such as cinema, arcade, bowling, spa, etc.	70	209,411	9.6	(7.4, 12.4)	57	156,493	36.3	(27.5, 46.3)
	Other	*14*	*39,332*	*1.8*	*(1.0, 3.4)*			---	
	None	217	676,677	31.0	(27.1, 35.1)	18	58,465	13.6	(7.9, 22.3)
SLOTS		260	879,992	33.5	(29.8, 37.4)	601	1,746,182	66.5	(62.6, 70.2)
	Food or beverage	157	511,108	58.1	(50.8, 65.0)	381	1,097,746	63.2	(58.5, 67.7)
	Hotel	21	85,113	9.7	(6.1, 15.0)	34	112,438	6.5	(4.2, 9.8)
	Shopping in a gift shop or other retail outlet	16	61,106	6.9	(3.9, 12.1)	37	104,393	6.0	(4.1, 8.7)
	Other non-gambling entertainment or activities, such as cinema, arcade, bowling, spa, etc.	76	231,888	26.4	(20.6, 33.0)	51	134,015	7.7	(5.7, 10.4)
	Other			---		*13*	*38,397*	*2.2*	*(1.2, 4.2)*
	None	52	186,109	21.1	(15.9, 27.6)	183	549,032	31.6	(27.3, 36.2)
TABLE GAMES		650	1,881,977	71.7	(67.8, 75.2)	211	744,197	28.3	(24.8, 32.2)
	Food or beverage	402	1,150,872	61.5	(56.9, 65.9)	136	457,983	61.5	(53.6, 68.9)
	Hotel	35	118,686	6.3	(4.3, 9.2)	20	78,864	10.6	(6.2, 17.5)
	Shopping in a gift shop or other retail outlet	36	114,359	6.1	(4.1, 8.9)	17	51,140	6.9	(3.9, 11.9)
	Other non-gambling entertainment or activities, such as cinema, arcade, bowling, spa, etc.	94	252,247	13.5	(10.7, 16.8)	33	113,657	15.3	(10.5, 21.7)
	Other	*11*	*30,383*	*1.6*	*(0.8, 3.1)*	*6*	*22,103*	*3.0*	*(1.1, 7.5)*
	None	180	525,206	28.1	(24.1, 32.4)	55	209,935	28.2	(21.7, 35.8)
LOTTERY		842	2,568,303	97.8	(96.4, 98.7)	19	57,871	2.2	(1.3, 3.6)
	Food or beverage	524	1,567,413	61.3	(57.3, 65.1)	14	41,441	71.6	(44.6, 88.8)
	Hotel	49	182,644	7.1	(5.1, 9.9)	*6*	*14,907*	*25.8*	*(10.8, 49.8)*
	Shopping in a gift shop or other retail outlet	48	153,557	6.0	(4.3, 8.4)				
	Other non-gambling entertainment or activities, such as cinema, arcade, bowling, spa, etc.	121	353,504	13.8	(11.3, 16.8)	*6*	*12,399*	*21.4*	*(8.9, 43.2)*
	Other	16	51,060	2.0	(1.1, 3.5)			---	
	None	232	723,873	28.3	(24.8, 32.1)			---	

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

[2]Weighted N is the estimated total number of patrons who visited MGM Springfield 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. Non-gambling Activities Participated Off-site by Season

		Winter				Summer				Combined			
			Weighted				Weighted				Weighted		
		N[1]	N[2]	%	95% CI	N[1]	N[2]	%	95% CI	N[1]	N[2]	%	95% CI
Non-gambling activity off-site (Check all that apply)	Attended an event, show, exhibit in Springfield	64	156,418	11.1	(8.5, 14.5)	46	143,258	12.2	(8.8, 16.7)	110	299,676	11.6	(9.4, 14.3)
	MassMutual Center	30	72,320	46.2	(33.1, 59.9)	*9*	*36,126*	*25.2*	*(13.0, 43.3)*	39	108,445	36.2	(26.6, 47.1)
	City Stage			---				---		*8*	*19,641*	*6.6*	*(2.9, 13.9)*
	Symphony Hall			---				---				---	
	Basketball Hall of Fame	*8*	*16,941*	*10.8*	*(5.2, 21.1)*	16	57,085	39.8	(24.7, 57.2)	24	74,026	24.7	(16.3, 35.6)
	Springfield Museums			---		*8*	*32,951*	*23.0*	*(11.4, 41.0)*	13	43,287	14.4	(8.0, 24.7)
	Some other Springfield location	18	43,032	27.5	(17.1, 41.1)	17	56,172	39.2	(24.0, 56.9)	35	99,204	33.1	(23.5, 44.3)
	Went to live entertainment show outside of Springfield, but in MA	23	73,493	5.2	(3.2, 8.4)	30	95,754	8.2	(5.3, 12.3)	53	169,247	6.6	(4.8, 9.0)
	Bought food or beverage in a restaurant or fast food court	112	318,234	22.7	(18.7, 27.3)	83	269,387	23.0	(18.1, 28.7)	195	587,621	22.8	(19.6, 26.4)
	Visited a local bar, pub, or nightclub	44	167,147	11.9	(8.5, 16.5)	32	103,336	8.8	(5.8, 13.3)	76	270,483	10.5	(8.1, 13.6)
	Retail shopping	34	95,478	6.8	(4.6, 10.0)	33	92,857	7.9	(5.4, 11.5)	67	188,335	7.3	(5.6, 9.6)
	Stayed at hotel outside the casino	16	42,785	3.0	(1.8, 5.2)	15	52,450	4.5	(2.5, 7.9)	31	95,235	3.7	(2.5, 5.5)
	Bought fuel or other goods at a gas station	41	128,668	9.2	(6.5, 12.8)	43	150,313	12.8	(9.1, 17.8)	84	278,981	10.8	(8.5, 13.7)
	Spent money on other entertainment (amusement park, golf course)	20	73,350	5.2	(3.0, 9.0)	18	65,198	5.6	(3.3, 9.1)	38	138,548	5.4	(3.7, 7.8)
	Nothing	257	702,826	50.1	(44.9, 55.3)	187	601,833	51.4	(45.2, 57.6)	444	1,304,659	50.7	(46.7, 54.7)

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

[2]Weighted N is the estimated total number of patrons who visited MGM Springfield 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 Off-site by Geographic Origin

		Host or 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
Attended an event, show, exhibit in	No	285	899,036	85.5	(80.7, 89.2)	134	425,618	90.4	(83.3, 94.6)	316	950,168	90.4	(86.6, 93.1)
	Yes	55	153,072	14.5	(10.8, 19.3)	16	45,345	9.6	(5.4, 16.7)	39	101,259	9.6	(6.9, 13.4)
Went to live entertainment show outside of Springfield,	No	312	951,586	90.4	(85.5, 93.8)	142	443,562	94.2	(87.7, 97.4)	338	1,010,10	96.1	(93.2, 97.8)
	Yes	28	100,522	9.6	(6.2, 14.5)	*8*	*27,401*	*5.8*	*(2.6, 12.3)*	17	41,324	3.9	(2.2, 6.8)
Bought food or beverage in a restaurant or fast food court	No	257	808,364	76.8	(71.2, 81.7)	119	368,917	78.3	(68.8, 85.5)	274	809,596	77.0	(71.5, 81.7)
	Yes	83	243,744	23.2	(18.3, 28.8)	31	102,045	21.7	(14.5, 31.2)	81	241,832	23.0	(18.3, 28.5)
Visited a local bar, pub, or nightclub	No	307	942,121	89.5	(84.9, 92.9)	134	413,560	87.8	(78.3, 93.5)	328	948,333	90.2	(84.9, 93.7)
	Yes	33	109,986	10.5	(7.1, 15.1)	*16*	*57,402*	*12.2*	*(6.5, 21.7)*	27	103,095	9.8	(6.3, 15.1)
Retail shopping	No	309	971,809	92.4	(88.6, 95.0)	143	442,107	93.9	(86.9, 97.3)	326	972,246	92.5	(88.9, 95.0)
	Yes	31	80,298	7.6	(5.0, 11.4)	*7*	*28,855*	*6.1*	*(2.7, 13.1)*	29	79,182	7.5	(5.0, 11.1)
Stayed at hotel outside the casino	No	327	1,007,1	95.7	(92.3, 97.7)	146	460,962	97.9	(94.1, 99.3)	341	1,011,12	96.2	(92.9, 98.0)
	Yes	*13*	*44,935*	*4.3*	*(2.3, 7.7)*			---		*14*	*40,300*	*3.8*	*(2.0, 7.1)*
Bought fuel or other goods at a gas station	No	312	965,559	91.8	(87.4, 94.7)	134	413,515	87.8	(78.9, 93.3)	315	916,443	87.2	(82.4, 90.8)
	Yes	28	86,549	8.2	(5.3, 12.6)	16	57,447	12.2	(6.7, 21.1)	40	134,985	12.8	(9.2, 17.6)
Spent money on other entertainment (amusement park, golf course)	No	318	983,323	93.5	(89.7, 95.9)	143	432,296	91.8	(81.1, 96.7)	346	1,020,33 0	97.0	(94.0, 98.6)
	Yes	22	68,784	6.5	(4.1, 10.3)	*7*	*38,666*	*8.2*	*(3.3, 18.9)*	*9*	*31,097*	*3.0*	*(1.4, 6.0)*
Nothing	No	167	530,476	50.4	(44.2, 56.6)	67	224,213	47.6	(38.0, 57.4)	167	515,150	49.0	(42.9, 55.1)
	Yes	173	521,632	49.6	(43.4, 55.8)	83	246,749	52.4	(42.6, 62.0)	188	536,278	51.0	(44.9, 57.1)

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

[2]Weighted N is the estimated total number of patrons who visited MGM Springfield in past year

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Table 70. Patterns of Gambling Activities with Non-gambling Activities Off-site

		Did not participate in gambling activity				Did participate in gambling activity			
Gambling activity	**Non gambling activities off-site**	**UN[1]**	**N[2]**	**% [2]**	**95% CI[2]**	**UN[1]**	**N[2]**	**% [2]**	**95% CI[2]**
DID NOT GAMBLE		724	2,195,596	83.6	(80.4, 86.4)	137	430,577	16.4	(13.6, 19.6)
	Attended an event, show, exhibit in Springfield	86	231,807	10.8	(8.5, 13.7)	24	67,869	16.1	(10.3, 24.3)
	Went to live entertainment show outside of Springfield, but in MA	42	124,680	5.8	(4.1, 8.2)	*11*	*44,567*	*10.5*	*(5.2, 20.3)*
	Bought food or beverage in a restaurant or fast food court	160	484,828	22.7	(19.2, 26.5)	33	97,726	23.1	(15.7, 32.8)
	Visited a local bar, pub, or nightclub	60	210,205	9.8	(7.2, 13.2)	16	60,278	14.3	(8.3, 23.3)
	Retail shopping	57	168,383	7.9	(5.9, 10.5)	*9*	*17,442*	*4.1*	*(2.1, 8.0)*
	Stayed at hotel outside the casino	28	74,674	3.5	(2.3, 5.2)			---	
	Bought fuel or other goods at a gas station	71	247,857	11.6	(8.9, 14.9)	*13*	*31,124*	*7.4*	*(4.0, 13.2)*
	Spent money on other entertainment (amusement park, golf course)	31	115,113	5.4	(3.5, 8.1)	*7*	*23,435*	*5.5*	*(2.3, 12.5)*
	Nothing	386	1,125,043	52.6	(48.2, 57.0)	55	171,404	40.6	(31.1, 50.8)
SLOTS		260	879,992	33.5	(29.8, 37.4)	601	1,746,182	66.5	(62.6, 70.2)
	Attended an event, show, exhibit in Springfield	40	116,064	13.4	(9.5, 18.6)	70	183,612	10.8	(8.3, 14.0)
	Went to live entertainment show outside of Springfield, but in MA	17	66,551	7.7	(4.4, 13.2)	36	102,696	6.1	(4.1, 8.8)
	Bought food or beverage in a restaurant or fast food court	57	186,542	21.5	(16.2, 28.0)	136	396,011	23.4	(19.5, 27.7)
	Visited a local bar, pub, or nightclub	29	112,668	13.0	(8.8, 18.8)	47	157,816	9.3	(6.5, 13.2)
	Retail shopping	16	37,941	4.4	(2.5, 7.5)	50	147,883	8.7	(6.4, 11.8)
	Stayed at hotel outside the casino	*6*	*30,349*	*3.5*	*(1.4, 8.3)*	25	64,886	3.8	(2.5, 5.8)
	Bought fuel or other goods at a gas station	33	115,831	13.4	(9.1, 19.1)	51	163,150	9.6	(7.0, 13.1)
	Spent money on other entertainment (amusement park, golf course)	*13*	*54,220*	*6.3*	*(3.4, 11.1)*	25	84,328	5.0	(3.0, 8.1)
	Nothing	109	359,826	41.5	(34.6, 48.7)	332	936,621	55.3	(50.4, 60.1)
TABLE GAMES		650	1,881,977	71.7	(67.8, 75.2)	211	744,197	28.3	(24.8, 32.2)
	Attended an event, show, exhibit in Springfield	80	215,190	11.7	(9.2, 14.9)	30	84,486	11.7	(7.8, 17.1)
	Went to live entertainment show outside of Springfield, but in MA	40	127,792	7.0	(4.8, 10.0)	*13*	*41,455*	*5.7*	*(3.1, 10.2)*
	Bought food or beverage in a restaurant or fast food court	151	441,336	24.0	(20.3, 28.3)	42	141,217	19.5	(14.0, 26.4)
	Visited a local bar, pub, or nightclub	53	172,385	9.4	(6.8, 12.8)	23	98,098	13.5	(8.4, 21.0)
	Retail shopping	50	143,827	7.8	(5.7, 10.6)	16	41,998	5.8	(3.3, 10.1)
	Stayed at hotel outside the casino	22	71,352	3.9	(2.4, 6.2)	*9*	*23,883*	*3.3*	*(1.6, 6.8)*
	Bought fuel or other goods at a gas station	55	169,390	9.2	(6.8, 12.4)	29	109,591	15.1	(10.1, 21.9)
	Spent money on other entertainment (amusement park, golf course)	27	91,978	5.0	(3.1, 7.9)	*11*	*46,570*	*6.4*	*(3.3, 12.0)*
	Nothing	343	952,348	51.9	(47.2, 56.5)	98	344,099	47.5	(39.6, 55.5)

Gambling activity	Non gambling activities off-site	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]
LOTTERY		842	2,568,303	97.8	(96.4, 98.7)	19	57,871	2.2	(1.3, 3.6)
	Attended an event, show, exhibit in Springfield	105	286,838	11.4	(9.2, 14.1)			---	
	Went to live entertainment show outside of Springfield, but in MA	49	160,076	6.4	(4.6, 8.8)			---	
	Bought food or beverage in a restaurant or fast food court	184	557,046	22.2	(19.0, 25.8)	9	25,507	46.1	(23.3, 70.7)
	Visited a local bar, pub, or nightclub	71	255,978	10.2	(7.8, 13.3)			---	
	Retail shopping	62	166,717	6.7	(5.0, 8.8)			---	
	Stayed at hotel outside the casino	28	87,989	3.5	(2.3, 5.3)			---	
	Bought fuel or other goods at a gas station	77	253,003	10.1	(7.8, 12.9)	7	25,978	47.0	(23.5, 71.8)
	Spent money on other entertainment (amusement park, golf course)	34	128,562	5.1	(3.4, 7.6)			---	
	Nothing	438	1,288,482	51.4	(47.3, 55.5)			---	

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

[2]Weighted N is the estimated total number of patrons who visited MGM Springfield 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. Non-gambling Activities Off-site by Did MGM Springfield Prompt Visit to Town, among Massachusetts Patrons

		MGM did not prompt visit to town				MGM did prompt visit to town			
			Weighted				Weighted		
		N[1]	N[2]	%	95% CI	N[1]	N[2]	%	95% CI
Attended an event, show, exhibit in Springfield	No	202	623,997	86.7	(81.4, 90.7)	211	689,814	87.5	(81.6, 91.7)
	Yes	38	95,437	13.3	(9.3, 18.6)	31	98,441	12.5	(8.3, 18.4)
Went to live entertainment show outside of Springfield, but in MA	No	222	667,163	92.7	(87.7, 95.8)	225	714,911	90.7	(84.6, 94.5)
	Yes	18	52,271	7.3	(4.2, 12.3)	17	73,344	9.3	(5.5, 15.4)
Bought food or beverage in a restaurant or fast food court	No	185	572,973	79.6	(73.2, 84.9)	185	592,772	75.2	(67.9, 81.3)
	Yes	55	146,461	20.4	(15.1, 26.8)	57	195,484	24.8	(18.7, 32.1)
Visited a local bar, pub, or nightclub	No	216	633,930	88.1	(81.1, 92.7)	217	706,371	89.6	(84.2, 93.3)
	Yes	24	85,504	11.9	(7.3, 18.9)	25	81,884	10.4	(6.7, 15.8)
Retail shopping	No	217	660,903	91.9	(87.0, 95.0)	227	737,633	93.6	(88.9, 96.4)
	Yes	23	58,531	8.1	(5.0, 13.0)	15	50,622	6.4	(3.6, 11.1)
Stayed at hotel outside the casino	No	233	696,429	96.8	(92.8, 98.6)	232	756,325	95.9	(92.1, 98.0)
	Yes	*7*	*23,005*	*3.2*	*(1.4, 7.2)*	*10*	*31,930*	*4.1*	*(2.0, 7.9)*
Bought fuel or other goods at a gas station	No	221	657,334	91.4	(85.8, 94.9)	218	708,591	89.9	(83.8, 93.8)
	Yes	19	62,101	8.6	(5.1, 14.2)	24	79,665	10.1	(6.2, 16.2)
Spent money on other entertainment (amusement park, golf course)	No	221	649,751	90.3	(83.5, 94.5)	232	750,488	95.2	(90.6, 97.6)
	Yes	19	69,683	9.7	(5.5, 16.5)	*10*	*37,767*	*4.8*	*(2.4, 9.4)*
Nothing	No	119	358,068	49.8	(42.2, 57.4)	112	390,469	49.5	(42.2, 56.9)
	Yes	121	361,366	50.2	(42.6, 57.8)	130	397,787	50.5	(43.1, 57.8)

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

[2]Weighted N is the estimated total number of patrons who visited MGM Springfield 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 MGM Springfield Prompt Visit to Town, among Patrons from outside Massachusetts

		MGM did not prompt visit to state				MGM did prompt visit to state			
			Weighted				Weighted		
		N[1]	N[2]	%	95% CI	N[1]	N[2]	%	95% CI
Attended an event, show, exhibit in Springfield	No	52	173,78	81.4	(68.9, 89.7)	175	490,90	92.2	(87.0, 95.4)
	Yes	14	39,617	18.6	(10.3, 31.1)	15	41,707	7.8	(4.6, 13.0)
Went to live entertainment show outside of Springfield, but in MA	No	62	198,59	93.1	(79.2, 97.9)	181	514,32	96.6	(93.3, 98.3)
	Yes			---		*9*	*18,289*	*3.4*	*(1.7, 6.7)*
Bought food or beverage in a restaurant or fast food court	No	*50*	*157,94*	*74.0*	*(59.2, 84.8)*	*145*	*409,15*	*76.8*	*(69.4, 82.9)*
	Yes	16	55,457	26.0	(15.2, 40.8)	45	123,46	23.2	(17.1, 30.6)
Visited a local bar, pub, or nightclub	No	56	178,69	83.7	(66.2, 93.1)	181	498,39	93.6	(87.0, 96.9)
	Yes	*10*	*34,705*	*16.3*	*(6.9, 33.8)*	*9*	*34,225*	*6.4*	*(3.1, 13.0)*
Retail shopping	No	59	191,27	89.6	(77.8, 95.5)	174	493,30	92.6	(87.8, 95.6)
	Yes	*7*	*22,127*	*10.4*	*(4.5, 22.2)*	16	39,312	7.4	(4.4, 12.2)
Stayed at hotel outside the casino	No	59	188,76	88.5	(74.6, 95.2)	185	520,70	97.8	(94.4, 99.1)
	Yes	*7*	*24,636*	*11.5*	*(4.8, 25.4)*			---	
Bought fuel or other goods at a gas station	No	55	176,63	82.8	(69.5, 91.0)	168	471,61	88.5	(82.5, 92.7)
	Yes	11	36,767	17.2	(9.0, 30.5)	22	61,005	11.5	(7.3, 17.5)
Spent money on other entertainment (amusement park, golf course)	No	60	189,68	88.9	(76.0, 95.3)	187	525,23	98.6	(95.4, 99.6)
	Yes	*6*	*23,717*	*11.1*	*(4.7, 24.0)*			---	
Nothing	No	43	152,84	71.6	(58.3, 82.0)	80	219,19	41.2	(33.4, 49.4)
	Yes	23	60,556	28.4	(18.0, 41.7)	110	313,42	58.8	(50.6, 66.6)

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

[2]Weighted N is the estimated total number of patrons who visited MGM Springfield 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 MGM Springfield and their net gambling expenditure on these activities during their visit (questions 14 and 15)
- What non-gambling activities they spent money on within MGM Springfield (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 18 and 19)
- 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 20 and 21)
- Due to casinos in Massachusetts, spending less in other areas (question 22)
- Due to casinos in Massachusetts, MA lottery spending changed (question 23)
- 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 73. MGM Springfield Revenue

Month	Slot + Table Game Outlay[1]	Slot Hold %[1]	Slot Revenue[1]	Table games Revenue[1]	Lottery Gross Sales[2,3,4,5]	TOTAL Gambling Revenue	TOTAL Non-gambling Revenue[6]	TOTAL Revenue
August 23-31 2018	$72,621,687.59	10.12%	$7,347,491.15	$2,109,485.75	Not available	Not available	Not provided	
September 2018	$190,008,079.79	9.55%	$18,149,752.36	$8,802,344.03	Not available	Not available	Not provided	
October 2018	$165,684,708.76	8.83%	$14,623,791.66	$7,618,950.75	$125,865	$22,368,607.41	Not provided	
November 2018	$169,212,827.87	7.90%	$13,371,904.09	$7,876,010.00	$118,512	$21,366,426.09	Not provided	
December 2018	$194,256,132.87	7.34%	$14,255,518.22	$7,327,706.82	$100,349	$21,683,574.04	Not provided	
January 2019	$180,774,602.44	7.24%	$13,096,336.30	$6,601,717.58	$101,482	$19,799,535.88	Not provided	
February 2019	$169,329,411.36	8.58%	$14,526,578.53	$6,974,299.77	$108,248	$21,609,126.30	Not provided	
March 2019	$203,173,511.00	9.14%	$18,579,179.14	$7,104,994.85	$149,175	$25,833,348.99	Not provided	
April 2019	$174,951,842.06	8.84%	$15,472,211.97	$6,345,874.37	$100,280	$21,918,366.34	Not provided	
May 2019	$184,134,841.59	8.75%	$16,102,673.07	$6,182,892.50	$91,759	$22,377,324.57	Not provided	
June 2019	$174,747,251.51	8.41%	$14,695,510.20	$5,258,959.10	$170,942	$20,125,411.30	Not provided	
July 2019	$175,634,675.49	8.83%	$15,508,688.62	$4,889,916.76	$126,793	$20,525,398.38	Not provided	
August 2019	$182,218,726.41	8.58%	$15,633,227.43	$5,332,944.78	$188,846	$21,155,018.21	Not provided	
September 2019	$172,558,984.89	8.58%	$14,813,909.23	$5,439,786.50	$148,229	$20,401,924.73	Not provided	
12 Month Total	**$2,146,677,516.25**		**$180,679,528.46**	**$76,954,053.78**	**$1,530,480.00**	**$259,164,062.24**	**$83,683,643**	**$342,847,705.24**

[1] https://massgaming.com/wp-content/uploads/Revenue-MGM-11-2019.pdf
[2] https://massgaming.com/wp-content/uploads/2-28-19-Commission-Meeting-Materials.pdf
[3] https://massgaming.com/wp-content/uploads/MGM-Springfield-Quarterly-Report-2019-Q1.pdf
[4] https://massgaming.com/wp-content/uploads/MGM-Springfield-Quarterly-Report-2019-Q2.pdf
[5] https://massgaming.com/wp-content/uploads/MGM-Springfield-Quarterly-Report-2019-Q3.pdf
[6] Supplied by Jose Delgado from MGM. Does not include revenues from tenants of MGM.

Table 74. Would Have Spent Money Gambling in Another State by Season

		Winter				Summer				Combined			
			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 have you chosen to spend money you spent here today on gambling in another state?	Yes	257	724,664	49.1	(44.0, 54.2)	208	681,365	57.1	(51.1, 63.2)	465	1,406,029	52.7	(48.8, 56.6)
Where would you have to choose to spend money on gambling? (Check all that apply)	Connecticut	233	662,572	91.4	(87.6, 95.3)	188	618,853	90.8	(86.4, 95.3)	421	1,281,425	91.1	(88.2, 94.1)
	Rhode Island	43	110,018	15.2	(10.3, 20.0)	36	104,243	15.3	(9.4, 21.2)	79	214,261	15.2	(11.4, 19.1)
	New Jersey	18	53,282	7.4	(3.8, 10.9)	22	83,239	12.2	(6.1, 18.3)	40	136,520	9.7	(6.2, 13.2)
	New York	27	67,828	9.4	(5.6, 13.2)	27	74,080	10.9	(6.2, 15.5)	54	141,908	10.1	(7.1, 13.1)
	Pennsylvania	*6*	*19,745*	*2.7*	*(0.5, 4.9)*	*9*	*34,743*	*5.1*	*(0.4, 9.8)*	*15*	*54,488*	*3.9*	*(1.3, 6.5)*
	Maine	13	34,536	4.8	(2.0, 7.5)			--		17	61,764	4.4	(2.1, 6.7)
	Nevada	22	54,462	7.5	(4.3, 10.8)	12	43,807	6.4	(2.4, 10.5)	34	98,270	7.0	(4.4, 9.6)
	Online			--		*7*	*25,750*	*3.8*	*(0.7, 6.8)*	*12*	*38,011*	*2.7*	(1.0, 4.4)
	Other			--		*9*	*26,975*	*4.0*	*(1.0, 6.9)*	*11*	*35,041*	*2.5*	*(0.8, 4.2)*
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	86	266,323	18.1	(13.9, 22.2)	68	221,166	18.5	(13.7, 23.3)	155	487,489	18.3	(15.1, 21.4)
	Live entertainment	42	131,655	8.9	(6.0, 11.9)	36	105,166	8.8	(5.5, 12.1)	79	236,821	8.9	(6.7, 11.1)
	Recreation and non-live entertainment	20	70,307	4.8	(2.1, 7.4)	20	66,745	5.6	(2.8, 8.4)	41	137,052	5.1	(3.2, 7.1)
	Restaurants and bars	73	236,902	16.1	(12.2, 19.9)	58	190,069	15.9	(11.5, 20.4)	131	426,971	16.0	(13.1, 18.9)
	Hotels and Travel	35	113,456	7.7	(4.9, 10.5)	43	159,009	13.3	(9.0, 17.7)	78	272,466	10.2	(7.7, 12.7)
	Retail items (clothing, furniture, recreational goods	29	98,500	6.7	(3.9, 9.5)	25	90,377	7.6	(4.2, 10.9)	54	188,876	7.1	(4.9, 9.2)
	Housing and household items (groceries, rent, mortgage, utilities,	21	61,046	4.1	(2.2, 6.1)	21	58,729	4.9	(2.4, 7.4)	43	119,775	4.5	(2.9, 6.1)

		Winter				Summer				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)	*10*	*28,516*	*1.9*	*(0.7, 3.2)*	*7*	*19,292*	*1.6*	*(0.3, 2.9)*	17	47,808	1.8	(0.9, 2.7)
	Transportation	17	51,198	3.5	(1.6, 5.4)	16	47,627	4.0	(1.7, 6.3)	33	98,825	3.7	(2.2, 5.2)
	Other services	*9*	*32,037*	*2.2*	*(0.6, 3.7)*	*6*	*18,516*	*1.6*	*(0.2, 3.0)*	15	50,553	1.9	(0.8, 3.0)
	Putting money in savings	46	136,604	9.3	(6.4, 12.1)	31	102,016	8.6	(5.0, 12.1)	77	238,620	8.9	(6.7, 11.2)
	Nothing	286	807,372	54.7	(49.6, 59.8)	202	630,734	52.9	(46.7, 59.0)	489	1,438,106	53.9	(50.0, 57.8)

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

[2]Weighted N is the estimated total number of patrons who visited MGM Springfield in 2019.

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

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

Table 75. Would Have Spent Money Gambling in Another State by Geographic Origin

		Host/Surrounding community				Live other municipalities in Massachusetts				Live outside Massachusetts or zip code 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 have you chosen to spend money you spent here today on gambling in another state?	Yes	164	498,091	44.9	(38.8, 51.0)	88	270,478	56.4	(46.7, 66.1)	213	637,460	59.1	(53.1, 65.0)
Where would you have to choose to spend money on gambling? (Check all that apply)	Connecticut	147	450,359	90.4	(85.2, 95.6)	84	259,941	96.1	(92.4, 99.8)	190	571,126	89.6	(84.9, 94.3)
	Rhode Island	36	86,585	17.4	(11.2, 23.6)	22	72,961	27.0	(14.9, 39.0)	21	54,714	8.6	(4.5, 12.6)
	New Jersey	*12*	*28,695*	*5.8*	*(2.2, 9.3)*			--		24	90,760	14.2	(7.8, 20.7)
	New York	15	43,320	8.7	(3.8, 13.6)	8	22,467	8.3	(1.7, 14.9)	31	76,120	11.9	(7.4, 16.5)
	Pennsylvania			--				--		8	*31,895*	*5.0*	*(0.3, 9.8)*
	Maine	*10*	*30,015*	*6.0*	*(2.0, 10.1)*			--				--	
	Nevada	15	36,718	7.4	(3.5, 11.3)	*7*	*25,584*	*9.5*	*(1.7, 17.2)*	12	*35,967*	*5.6*	*(2.2, 9.1)*
	Online	*6*	*22,176*	*4.5*	*(0.5, 8.4)*			--				--	
	Other			--				--		6	20,408	3.2	(0.5, 5.9)
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	82	263,078	23.7	(18.5, 29.0)	19	83,216	17.4	(8.8, 25.9)	53	141,195	13.1	(9.2, 16.9)
	Live entertainment	34	99,434	9.0	(5.5, 12.4)	*12*	*35,943*	*7.5*	*(3.0, 12.0)*	32	101,443	9.4	(5.8, 13.0)
	Recreation and non-live entertainment	18	55,777	5.0	(2.3, 7.8)			--		17	52,123	4.8	(2.3, 7.3)
	Restaurants and bars	53	189,473	17.1	(12.2, 22.0)	21	71,050	14.8	(8.3, 21.4)	56	166,448	15.4	(11.1, 19.7)
	Hotels and Travel	28	92,662	8.4	(4.9, 11.9)	15	60,624	12.6	(5.9, 19.4)	35	119,179	11.0	(7.0, 15.0)
	Retail items (clothing, furniture, recreational goods	21	70,272	6.3	(3.2, 9.5)	*11*	*49,316*	*10.3*	*(4.0, 16.5)*	22	69,288	6.4	(3.2, 9.6)
	Housing and household items (groceries, rent, mortgage, utilities, personal	21	57,784	5.2	(2.5, 7.9)			--		17	50,876	4.7	(2.2, 7.2)

		Host/Surrounding community				Live other municipalities in Massachusetts				Live outside Massachusetts or zip code unknown			
			Weighted				Weighted				Weighted		
		N[1]	N[2]	%	95% CI	N[1]	N[2]	%	95% CI	N[1]	N[2]	%	95% CI
	Health care (doctors visits, medication, health insurance, etc)	*9*	*26,115*	*2.4*	*(0.7, 4.0)*			--				--	
	Transportation	*11*	*35,659*	*3.2*	*(1.0, 5.4)*			--		17	50,258	4.7	(2.1, 7.2)
	Other services	*9*	*28,749*	*2.6*	*(0.7, 4.5)*			--				--	
	Putting money in savings	34	103,953	9.4	(5.8, 12.9)	16	48,911	10.2	(4.7, 15.7)	27	85,756	7.9	(4.6, 11.3)
	Nothing	188	562,233	50.7	(44.6, 56.8)	94	271,010	56.5	(46.8, 66.2)	207	604,863	56.0	(50.0, 62.0)

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

[2]Weighted N is the estimated total number of patrons who visited MGM Springfield 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 24. Economic Modeling: Map of Regions Used in Economic Modeling

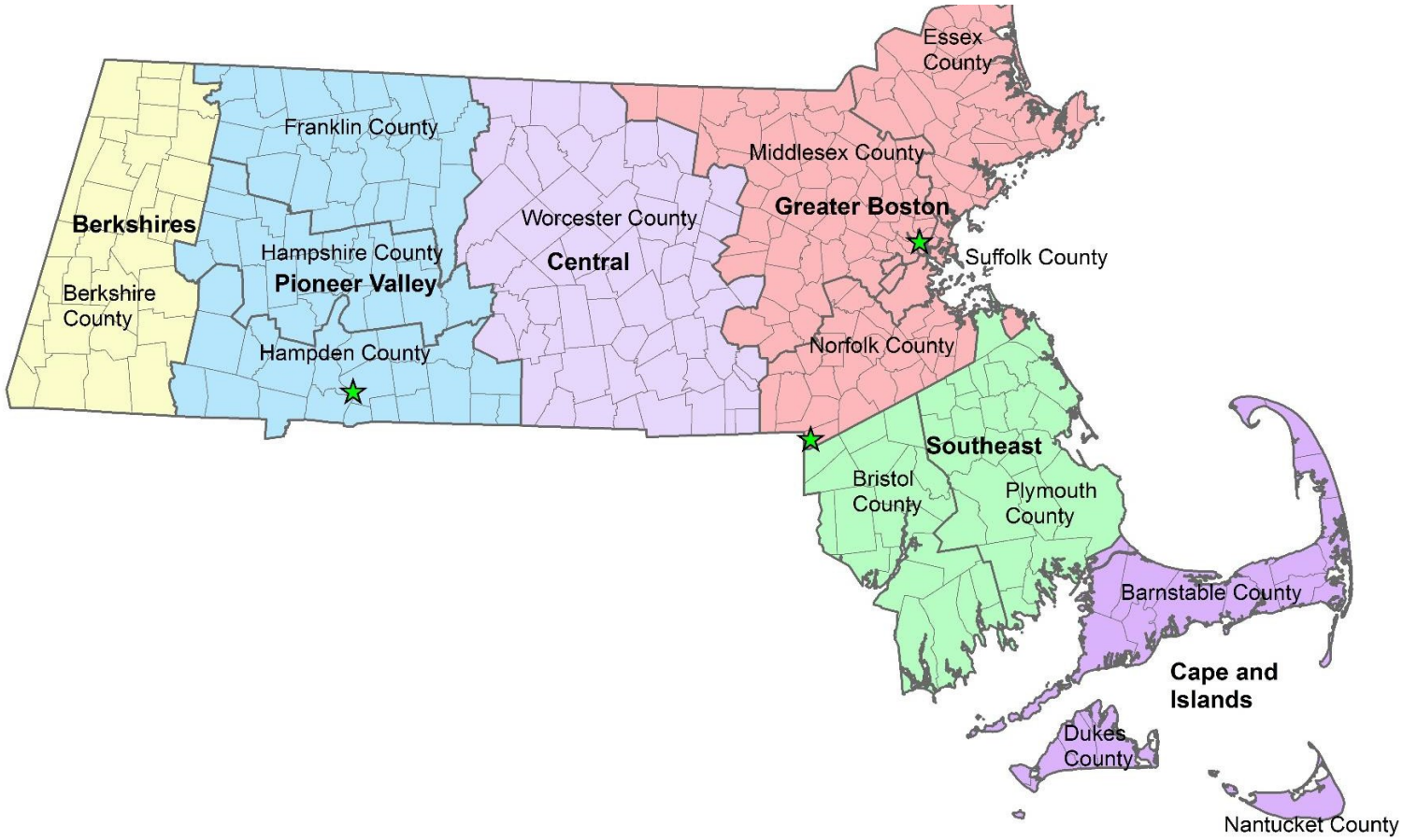

Table 76. Share of Reallocated In-state On-site Patron Spending by REMI Region

REMI region	Share of Gambling Spending	Share of Non-Gambling MGM Spending
Berkshire	---	---
Pioneer Valley	93.0%	94.3%
Central	---	---
Greater Boston	---	---
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 77. Share of Reallocated In-State Incidental On-Site Patron Spending by REMI Region

REMI region	Share of Gambling Spending	Share of Non-Gambling MGM Spending
Berkshire	---	---
Pioneer Valley	92.8%	98.0%
Central	---	---
Greater Boston	---	---
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 78. Share of Off-site Non-gambling Spending by Patron Type

Patron group	Share of Off-site Spending
1=Recaptured In-State	45.8%
2=Reallocated In-State	13.3%
3=Reallocated In-State Incidental	13.8%
4=New Out-of-State	15.9%
5=Captured Out-of-State Incidental	6.9%
6=Reallocated Out-of-State Incidental	4.3%

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

Table 79. Casino Patron Off-site Spending by REMI Region

REMI region	Share of Off-site Spending
Berkshire	---
Pioneer Valley	93.5%
Central	*1.4%*
Greater Boston	*3.2%*
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 80. Expenditure Proportion by Annual Household Income (Above/Below Median)

		Non-gambling activities in MGM				Gambling activities in MGM				Non-gambling activities outside MGM			
Annual household income		**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)	633	1,915,946	220	(158, 283)	735	2,229,783	239	(182, 295)	413	1,307,807	294	(181, 407)
	Median (95% CI)			$39	(31, 47)			$73	(54, 93)			$65	(45, 85)
	Total (95% CI)			422,478,488	(298,024,905, 546,932,070)			532,422,856	(398,828,796, 666,016,915)			384,495,210	(230,203,689, 538,786,731)
	% of total expenditure			1.00				1.00				1.00	
Less than $70,000	Mean (95% CI)	315	971,087	186	(128, 245)	363	1,115,402	236	(152, 320)	*217*	*715,430*	*323*	*(131, 514)*
	Median (95% CI)			$36	(27, 44)			$65	(46, 84)			$70	(48, 92)
	Total (95% CI)			181,060,870	(120,355,194, 241,766,547)			263,360,167	(164,433,262, 362,287,071)			231,023,221	(88,747,851, 373,298,590)
	% of total expenditure			0.43				0.49				0.60	
$70,000 or more	Mean (95% CI)	318	944,859	255	(144, 367)	371	1,114,382	241	(171, 312)	196	592,376	2589	(168, 349)
	Median (95% CI)			$41	(30, 52)			$88	(68, 108)			$61	(37, 85)
	Total (95% CI)			241,417,617	(133,124,037, 349,711,198)			269,062,689	(184,440,153, 353,685,225)			153,471,989	(94,936,056, 212,007,922)
	% of total expenditure			0.57				0.51				0.40	

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

[2]Weighted N is the estimated total number of patrons who visited MGM Springfield in 2019.

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

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

Table 81. Expenditures (in $) by Income (4 categories) among MGM Patrons who live in Massachusetts

Annual household income		Non-gambling activities in MGM				Gambling activities in MGM				Non-gambling activities outside MGM			
		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)	363	1,115,299	237	(147, 326)	406	1,280,539	239	(153, 325)	242	779,240	360	(175, 544)
	Median (95% CI)			37	(28, 46)			63	(43, 83)			59	(38, 80)
	Total (95% CI)			264,114,848	(161,130,306, 367,099,390)			306,234,947	(189,439,714, 423,030,181)			280,180,545	(129,801,944, 430,559,146)
	% of total expenditure			1				1				1	
Less than $30,000	Mean (95% CI)	* ***64***	***206,063***	***217***	***(82, 352)***	* ***69***	***229,831***	***394***	***(62, 727)***	* ***49***	***160,292***	***237***	***(45, 428)***
	Median (95% CI)	*		***38***	***(8, 67)***			61	(33, 90)			55	(23, 86)
	Total (95% CI)			44,827,067	(15,242,235, 74,411,900)			90,886,888	(9,121,804, 172,651,971)			38,105,707	(4,540,278, 71,671,137)
	% of total expenditure			0.17				0.30				0.14	
$30,000 – 69,999	Mean (95% CI)	129	417,957	185	(84, 285)	142	465,405	182	(105, 258)	* ***90***	***318,506***	***460***	***(51, 869)***
	Median (95% CI)			30	(21, 40)			55	(30, 80)	*		***66***	***(11, 122)***
	Total (95% CI)			77,319,113	(32,907,054, 121,731,171)			84,540,839	(45,168,444, 123,913,234)			146,534,447	(11,055,018, 282,013,876)
	% of total expenditure			0.29				0.28				0.52	
$70,000 - 99,999	Mean (95% CI)	* ***56***	***150,721***	***168***	***(38, 297)***	71	190,779	142	(87, 197)	39	108,962	238	(109, 368)
	Median (95% CI)	*		***27***	***(9, 44)***	*		***49***	***(12, 86)***	*		***83***	***(-40, 205)***
	Total (95% CI)			25,347,752	(4,290,244, 46,405,259)			27,186,553	(13,984,649, 40,388,456)			26,015,608	(7,898,997, 44,132,220)
	% of total expenditure			0.10				0.09				0.09	
$100,000 or more	Mean (95% CI)	* ***114***	***340,559***	***342***	***(104, 580)***	124	394,524	262	(125, 400)	* ***64***	***191,480***	***363***	***(130, 595)***

Annual household income		Non-gambling activities in MGM			Gambling activities in MGM			Non-gambling activities outside MGM		
		UN[1]	N[2]	95% CI[2]	UN[1]	N[2]	95% CI[2]	UN[1]	N[2]	95% CI[2]
	Median (95% CI)		47	(26, 67)		87	(44, 130)		51	(23, 79)
	Total (95% CI)		116,620,916	(33,372,183, 199,869,649)		103,620,667	(44,501,737, 162,739,598)		69,524,782	(21,687,384, 117,362,181)
	% of total expenditure		0.44			0.34			0.25	

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

[2]Weighted N is the estimated total number of patrons who visited MGM Springfield in 2019.

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

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

Table 82. Expenditures (in $) by Income (4 categories) among MGM Patrons who live in Host and Surrounding Communities

Annual household income		Non-gambling activities in MGM				Gambling activities in MGM				Non-gambling activities outside MGM			
		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)	363	1,115,299	237	(147, 326)	406	1,280,539	239	(153, 325)	242	779,240	360	(175, 544)
	Median (95% CI)			37	(28, 46)			63	(43, 83)			59	(38, 80)
	Total (95% CI)			264,114,848	(161,130,306, 367,099,390)			306,234,947	(189,439,714, 423,030,181)			280,180,545	(129,801,944, 430,559,146)
	% of total expenditure			1				1				1	
Less than $30,000	Mean (95% CI)	*	***64***	***206,063***	***217***	***(82, 352)***	*	***69***	***229,831***	***394***	***(62, 727)***	*	***49***	***160,292***	***237***	***(45, 428)***
	Median (95% CI)	*			***38***	***(8, 67)***				61	(33, 90)				55	(23, 86)
	Total (95% CI)				44,827,067	(15,242,235, 74,411,900)				90,886,888	(9,121,804, 172,651,971)				38,105,707	(4,540,278, 71,671,137)
	% of total expenditure				0.17					0.30					0.14	
$30,000 – 69,999	Mean (95% CI)		129	417,957	185	(84, 285)		142	465,405	182	(105, 258)	*	***90***	***318,506***	***460***	***(51, 869)***
	Median (95% CI)				30	(21, 40)				55	(30, 80)	*			***66***	***(11, 122)***
	Total (95% CI)				77,319,113	(32,907,054, 121,731,171)				84,540,839	(45,168,444, 123,913,234)				146,534,447	(11,055,018, 282,013,876)
	% of total expenditure				0.29					0.28					0.52	
$70,000 - 99,999	Mean (95% CI)	*	***56***	***150,721***	***168***	***(38, 297)***		71	190,779	142	(87, 197)		39	108,962	238	(109, 368)
	Median (95% CI)	*			***27***	***(9, 44)***	*			***49***	***(12, 86)***	*			***83***	***(-40, 205)***
	Total (95% CI)				25,347,752	(4,290,244, 46,405,259)				27,186,553	(13,984,649, 40,388,456)				26,015,608	(7,898,997, 44,132,220)
	% of total expenditure				0.10					0.09					0.09	
$100,000 or more	Mean (95% CI)	*	***114***	***340,559***	***342***	***(104, 580)***		124	394,524	262	(125, 400)	*	***64***	***191,480***	***363***	***(130, 595)***

Annual household income		Non-gambling activities in MGM			Gambling activities in MGM			Non-gambling activities outside MGM		
		UN[1]	N[2]	95% CI[2]	UN[1]	N[2]	95% CI[2]	UN[1]	N[2]	95% CI[2]
	Median (95% CI)		47	(26, 67)		87	(44, 130)		51	(23, 79)
	Total (95% CI)		116,620,916	(33,372,183, 199,869,649)		103,620,667	(44,501,737, 162,739,598)		69,524,782	(21,687,384, 117,362,181)
	% of total expenditure		0.44			0.34			0.25	

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

[2]Weighted N is the estimated total number of patrons who visited MGM Springfield in 2019.

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Appendix K: Responsible Gambling and GameSense

Table 83. GameSense Measures by Season

		Winter				Summer				Combined			
			Weighted				Weighted				Weighted		
		N[1]	N[2]	%	95% CI	N[1]	N[2]	%	95% CI	N[1]	N[2]	%	95% CI
Which gives you the best chance of winning the jackpot on a slot machine?	Playing a slot machine that has not had a jackpot in over a month	83	244,810	19.1	(15.1, 24.0)	63	200,237	18.9	(14.3, 24.6)	146	445,046	19.0	(15.9, 22.6)
	Playing a slot machine that had a jackpot an hour ago	30	87,444	6.8	(4.5, 10.2)	15	32,683	3.1	(1.7, 5.4)	45	120,127	5.1	(3.7, 7.2)
	Your chances of winning the jackpot are the same on both machines	333	948,090	74.0	(68.9, 78.6)	247	824,606	78.0	(72.2, 82.8)	580	1,772,696	75.8	(72.0, 79.2)
Strategies to keep gambling within personally affordable limits	I avoid using ATMs at the casino	152	419,147	33.7	(28.8, 38.9)	111	371,712	36.2	(30.1, 42.9)	263	790,859	34.8	(30.9, 38.9)
	I took a break to cool off	46	138,515	11.1	(8.1, 15.2)	43	139,002	13.5	(9.6, 18.8)	89	277,517	12.2	(9.7, 15.3)
	I used PlayMyWay	*7*	*22,193*	*1.8*	*(0.7, 4.4)*	*8*	*30,843*	*3.0*	*(1.3, 6.7)*	*15*	*53,036*	*2.3*	*(1.3, 4.3)*
	I thought of gambling as fun, not as a way to make money	123	345,000	27.7	(23.2, 32.7)	104	302,491	29.5	(23.9, 35.7)	227	647,491	28.5	(24.9, 32.4)
	I did not CHASE my losses	66	191,681	15.4	(11.9, 19.7)	61	191,555	18.7	(14.0, 24.5)	127	383,235	16.9	(13.9, 20.3)
	I left the casino while I was ahead	114	342,156	27.5	(22.9, 32.6)	87	276,489	27.0	(21.5, 33.2)	201	618,645	27.2	(23.6, 31.2)
	I stuck with a limit for how much I could LOSE during a single casino visit	193	512,375	41.2	(36.0, 46.5)	141	477,054	46.5	(39.9, 53.2)	334	989,428	43.6	(39.4, 47.8)
Have you ever used a GameSense kiosk at MGM?	1=No	269	743,739	82.4	(77.1, 86.8)	163	513,024	83.0	(75.1, 88.8)	432	1,256,763	82.7	(78.3, 86.3)
	2=Yes	53	158,531	17.6	(13.2, 22.9)	28	105,244	17.0	(11.2, 24.9)	81	263,775	17.3	(13.7, 21.7)
Have you ever taken any written	1=No	391	1,109,707	83.3	(78.6, 87.1)	300	930,873	82.2	(76.1, 87.0)	691	2,040,580	82.8	(79.1, 85.9)

		Winter				Summer				Combined			
			Weighted				Weighted				Weighted		
		N[1]	N[2]	%	95% CI	N[1]	N[2]	%	95% CI	N[1]	N[2]	%	95% CI
materials from the GameSense Kiosk at MGM?	2=Yes	71	222,884	16.7	(12.9, 21.4)	52	201,675	17.8	(13.0, 23.9)	123	424,559	17.2	(14.1, 20.9)
Have you spoken with a GameSense Advisor at MGM?	1=No	416	1,190,211	92.4	(89.2, 94.7)	300	956,440	91.3	(86.6, 94.5)	716	2,146,651	91.9	(89.3, 93.9)
	2=Yes	35	97,608	7.6	(5.3, 10.8)	28	91,051	8.7	(5.5, 13.4)	63	188,659	8.1	(6.1, 10.7)
How many interactions have you had with a GameSense Advisor at MGM?	1-5	27	72,222	74.0	(54.0, 87.3)	18	52,501	59.1	(34.8, 79.6)	45	124,724	66.9	(50.8, 79.8)
	6-10	*6*	*22,633*	*23.2*	*(10.4, 43.9)*	*6*	*26,025*	*29.3*	*(11.9, 55.9)*	12	48,659	26.1	(14.4, 42.5)
	11-20			---				---				---	
	More than 20			---				---				---	
How would you describe your conversation with a GameSense Advisor?	Mostly make small talk	22	56,576	58.7	(39.3, 75.7)	14	38,386	43.2	(23.1, 65.8)	36	94,963	51.3	(36.5, 65.8)
	We mostly spoke about gambling and how to avoid gambling problems	8	27,551	28.6	(14.0, 49.6)	7	38,758	43.6	(22.1, 67.9)	15	66,309	35.8	(21.9, 52.5)
	Something else			---		6	11,723	13.2	(5.3, 29.2)	10	24,009	13.0	(6.6, 24.0)

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

[2]Weighted N is the estimated total number of patrons who visited MGM Springfield 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 84. GameSense Utilization by Geographic Origin

		Host or 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
Have you ever used a GameSense kiosk at MGM?	1=No	172	505,922	78.5	(70.9, 84.6)	68	208,987	81.9	(69.9, 89.8)	192	541,855	87.2	(81.2, 91.5)
	2=Yes	39	138,280	21.5	(15.4, 29.1)	14	46,186	18.1	(10.2, 30.1)	28	79,310	12.8	(8.5, 18.8)
Have you ever taken any written materials from the GameSense Kiosk at MGM?	1=No	265	803,390	78.7	(72.8, 83.7)	128	379,960	84.2	(73.2, 91.2)	298	857,230	86.3	(80.8, 90.4)
	2=Yes	64	217,055	21.3	(16.3, 27.2)	18	71,426	15.8	(8.8, 26.8)	41	136,079	13.7	(9.6, 19.2)
Have you spoken with a GameSense Advisor at MGM?	1=No	282	851,869	89.2	(84.1, 92.8)	133	409,818	95.0	(89.4, 97.7)	301	884,964	93.3	(89.5, 95.7)
	2=Yes	32	102,981	10.8	(7.2, 15.9)	*7*	*21,692*	*5.0*	*(2.3, 10.6)*	24	63,986	6.7	(4.3, 10.5)

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

[2]Weighted N is the estimated total number of patrons who visited MGM Springfield in past year.

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

Appendix L: License Plate Collection Instrument

2019 MGM SPRINGFIELD LICENSE PLATE SURVEY TALLY SHEET
Use new sheet for each floor and each lot

Date	Names	Start time this form	End time this form	Location

Lot Check list: Garage Fl#_____ Union Street_____ Oversize lot_____

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

Page_____of_____