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: PLAINRIDGE PARK CASINO 2016

Abstract

This report presents the results of the first patron survey at Plainridge Park Casino, completed in 2016. 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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Authorship

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We want to thank the management and staff of the Plainridge Park Casino for allowing our teams to be on-site and for their assistance with our logistical needs. From compliance to security to conference services, their cooperation 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.

The project received support from research assistant Brook Frye, who supervised the surveyors on-site during each visit as well as assisting with data management and cleaning. We would also like to thank the 32 student surveyors who represented UMass with professionalism and hospitality.

The patron survey project was a collaboration between SEIGMA's social and economic teams. 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, Research Manager; and Carrie Bernstein, State Data Center Manager/Lead Research Analyst.

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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 patron surveys at all licensed gaming facilities in the state. These surveys would enable the research team to ascertain the geographic origin and demographics of people patronizing Massachusetts casinos. Asking patrons directly about their gambling and non-gambling expenditures during casino visits would help the MGC and other stakeholders better understand the economic impacts of the new gambling establishments on the Commonwealth. Through economic analysis, the data would offer a glimpse into the amount of spending that is "new" to the state or "recaptured" back to the state. It would also shed light on the amount of spending which has been "reallocated" from other activities and products. The surveys would also be 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. The research plan calls for patron surveys to be conducted at all Massachusetts casinos shortly after opening and repeated at regular intervals.

Located in Plainville, MA, Plainridge Park has been the home to harness racing and simulcast horse racing since 1999. It is currently owned and operated by Penn National Gaming. Plainridge Park Casino (PPC) became Massachusetts' first casino when it opened its doors on June 24, 2015. In addition to its existing racing offerings, the property now contains 1,250 slot machines and several electronic table games. Patron surveys at this venue took place during the winter and summer of 2016 and will be repeated in 2018.

Given the purpose of the patron surveys, 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. One of the important and unique aspects of this survey was the great lengths the team took to capture a sample of patrons that was as representative as possible. This included: conducting the survey 6-12 months after the venue had opened in order to allow patronage to settle; sampling patronage in both winter and summer months and during peak and non-peak days and times; and appropriately weighting the sample to account for response bias. In total, 479 surveys were completed for a response rate of 22.4%.

Key Findings

The geographic origin of patrons is important in understanding the economic impact of PPC. 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. In total:

- 11.4% of patrons were from the host (Plainville) or surrounding communities (Attleboro, Foxborough, Mansfield, North Attleboro, Wrentham)
- 66.5% of patrons were from other communities in Massachusetts
- 19.2% of patrons were from outside of Massachusetts
- 2.9% of patrons did not enter a zip code, thus their origin is unknown

Compared to the general adult Massachusetts population, demographically, patrons were:

- substantially older
- somewhat more likely to be White
- more likely to have obtained higher education
- more likely to have an annual household income between $50,000 and $100,000

The great majority of patrons (87.0%) played the slot machines, with much smaller proportions playing electronic table games (12.3%) and betting on horse racing (7.7%). Over three-quarters of patrons (77.8%) reported that they had a Marquee Rewards® loyalty card. Nearly 90% of patrons had visited casinos in other jurisdictions in the past year with the majority having visited casinos in Connecticut (72.3%) and Rhode Island (55.9%).

Concerning patron participation in non-gambling activities at PPC and off-site:

- at the casino, over a third of patrons (35.0%) reported not participating in any non-gambling activities
- 59.7% reported buying food or beverages at the casino
- the majority of patrons (67.2%) did not participate in any off-site activities
- 21.4% bought food or beverages off-site, 11.2% went to retail outlets off-site, and 3.2% spent money on other entertainment

In terms of their self-reported spending, PPC patrons reported an average expenditure of:

- $96.39 on gambling at the casino during their visit
- $63.99 on non-gambling amenities at the casino during their visit
- $73.26 on non-gambling activities outside the casino during their visit

These data were used to estimate the total amount of gambling and non-gambling expenditures for all PPC patrons as well as the proportion of spending attributable to Massachusetts and non-Massachusetts residents. Overall:

- Massachusetts residents are estimated to account for 78.6% of all gambling revenue at PPC, 92.1% of non-gambling revenue at PPC, and 78.9% of non-gambling spending outside of PPC. This represents $134 million, $6 million, and $3 million respectively.
- Collectively, Massachusetts residents are estimated to account for 79.1% of all gambling and non-gambling revenue with non-Massachusetts residents accounting for 20.9%

To inform the economic model, six groups of casino patrons were identified based on: (1) where they were from, (2) whether they would have gambled elsewhere if PPC did not exist, and (3) whether PPC prompted their visit to the area. In particular, “recaptured” and “reallocated” patron spending are two expenditure groups that are especially important in understanding the economic impact of PPC. “Recaptured” spending is spending by Massachusetts residents who would otherwise have spent their money at an out-of-state casino. “Reallocated” spending is spending by Massachusetts residents who would have spent their money on other goods and services within the state had PPC not opened. Results showed that:

- 69.8% of patrons reported they would have gambled in another state (i.e., Connecticut or Rhode Island) if there was not a casino in Massachusetts
- Over half of overall gambling and non-gambling spending at Plainridge Park Casino (58.3% and 50.4%, respectively) is estimated to be “recaptured” spending by Massachusetts residents
- A total of 16.3% of gambling spending by Massachusetts residents is estimated to have been “reallocated” from other goods and services
- Residents of the Greater Boston region (which includes Plainville and several surrounding communities) account for the majority of recaptured gambling spending (49.7%) and recaptured non-gambling spending (66.4%) at the casino. Most of the remaining recaptured spending is accounted for by residents of the Southeast region. Patrons from Greater Boston and the

Southeast regions represent over 85% of reallocated gambling and non-gambling spending at the casino.

We also examined patron expenditures as a function of household income. While comprising 50% of the population, income groups below the median household income in Massachusetts (i.e., $70,000) account for 54.4% of PPC gambling revenue, 37.8% of non-gambling revenue at PPC, and 42.3% of non-gambling revenue outside of PPC. A more fine-grained analysis shows that both the lowest and highest income groups contributed proportionally less gambling revenue relative to their prevalence in the population, with the lower middle income groups contributing proportionally more.

A small number of questions in the patron survey assessed patrons' experiences with GameSense, the responsible gambling educational program required by the Massachusetts gambling law. There was fairly high awareness of the GameSense program (59.9% of patrons). Among patrons with an awareness of GameSense, 17.4% reported interacting with a GameSense Advisor. Among this group of patrons, one out of four (24.7%) reported changing the way they gambled as a result of this interaction.

Of final note, the License Plate Survey estimated that 82.9% of overall gambling and non-gambling revenue was derived from Massachusetts residents, which is close to the 79.1% calculated by the more precise Patron Survey. Thus, the License Plate Survey methodology in the present study does provide a reasonable approximation to the Patron Survey, which lends support to previous estimates of out-of-state Massachusetts casino expenditures reported by the Northeastern Gaming Research Project.

Limitations

Due to the nature of patron surveys, which are based on an intercept convenience sample, there are limitations to the results, which the reader should keep in mind. These limitations include: the non-randomness of the sample; asking hypothetical questions about spending; and the performance of the Demographic Accuracy Test to understand non-response bias.

First, the development of projected expenditure totals for all PPC 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 PPC patron. Using Google visitation data, 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. Therefore, reported results should be viewed in this context and with this limitation.

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). There may be 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 asked were critical in establishing the counterfactuals necessary to understand PPC's impact on patron spending.

Finally, while the Demographic Accuracy Test developed to assess the accuracy of the UMass student surveyors in estimating the demographic characteristics of eligible patrons performed well, the question of how the results of this test translate into accurate assessments during data collection requires further investigation. In future surveys, all surveyors will complete the test and their performance in the field will be evaluated further.

Patron Survey

Introduction

Purpose

The original research plan for the Social and Economic Impacts of Gambling in Massachusetts (SEIGMA) study clearly identified the need for patron surveys. Patron surveys accomplish several goals related to the socioeconomic impacts of expanded gambling. More specifically, they establish:

1. **The geographic origin and demographic characteristics of people patronizing Massachusetts casinos**
    - The geographic origin of patrons helps identify whether the impacts of the facility are localized, statewide, or multistate.
    - Geographic origin is the only method available for estimating the amount of out-of-state patronage. The spending of these out-of-state patrons represents "new" revenue to the state, which has important economic value.[1]
    - 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.

2. **The amount of monetary recapture**
    - Knowing the amount of money that Massachusetts residents reported that they would have spent at out-of-state casinos if the new casino did not exist allows us to understand what share of patron spending can be considered "recaptured" to Massachusetts.

3. **The amount of casino patron spending on other on-site and off-site amenities**
    - Casino visitation often generates beneficial economic spin-offs to other sectors of the economy. These include hotels, car rentals, gas stations, food, and other forms of entertainment. The size of these economic spin-offs can be estimated from the self-report of casino patrons.

4. **The extent to which casino-related spending is reallocating money that would have been spent on other activities and products**
    - 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:

5. **Patrons' perceptions and experience with the new venues**

6. **Awareness and impact of responsible gambling measures such as the GameSense program**

This report addresses each of these issues.

[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.

Plainridge Park Casino

Plainridge Park Casino is a harness racing track and slot machine parlor located in Plainville, Massachusetts. It is owned and operated by Penn National Gaming. The track opened for simulcast wagering on March 17, 1999 and held its first day of live racing a month later on April 19, 1999.

The Expanded Gaming Act, passed in 2011, authorized up to three casino resorts and one slot parlor. Penn National was awarded the gaming license for a slot parlor at Plainridge Park on February 28, 2014. On June 24, 2015, Plainridge Park Casino opened to the public. In addition to simulcast horse racing and seasonal live harness racing, the facility houses 1,250 slot machines, several electronic table games, and several instant ticket and lottery ticket machines/terminals.

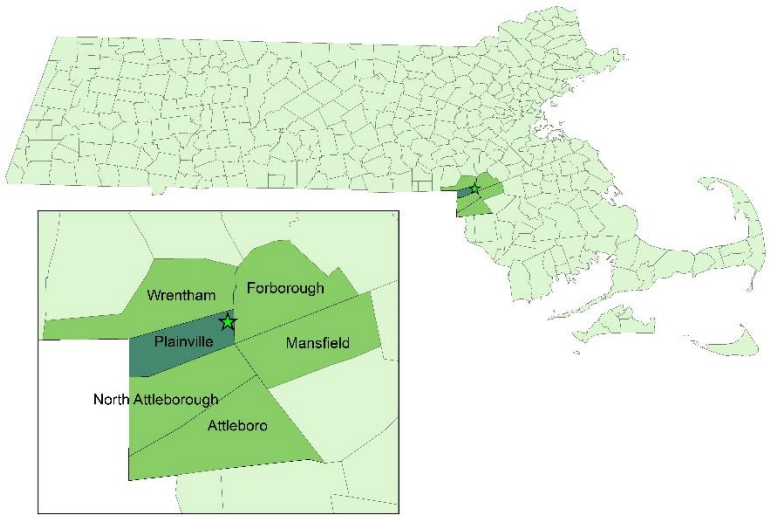
Plainridge Park Casino is open 24 hours and contains several restaurants, lounges, and food court eateries, with nightly entertainment available at one of its lounges. The venue has 1,620 parking spaces. Plainridge Park Casino is the first of the new gambling venues to open in Massachusetts, with MGM Springfield slated to open in September 2018 and Wynn Boston Harbor slated to open in June 2019.

Figure 1 Plainridge Park Casino

Photo credit: Plainridge Park Casino

Figure 2 below shows the location of Plainville and the MGC-designated surrounding communities.

Figure 2 Map of Plainville and surrounding communities



Methodology

Ethical Approval

The protocol entitled "Social and Economic Impacts of Gambling in Massachusetts: Plainridge Park Casino Patron Survey" (#2015-2859), which included data collection procedures and all survey materials, received expedited Institutional Review Board (IRB) approval on February 22, 2016, with the approval being renewed on December 27, 2016. 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 2016 and Jul/Aug 2016); (2) splitting the data collection between the winter and the summer to take account of potential seasonal differences in patronage;[2] (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 (6 -10 pm) and non-peak (12 – 4 pm) hours. Each site visit was for a 4-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 500 completed surveys. Table 1 identifies the specific dates and times as well as the number of completed surveys collected during each sampling period.

Table 1 Patron Survey Schedule and Completion Numbers[3]

Survey Day	Day of Week	Date	Time	# Available	# Non-exits	# missed	# Refusals	# Surveys
1	Saturday	2/20/2016	12-4 pm	446	99	30	242	75
2	Monday	2/22/2016	6-10 pm	162	22	11	91	38
3	Saturday	2/27/2016	6-10 pm	546	76	17	338	115
4	Monday	2/29/2016	12-4 pm	262	41	17	159	45
5	Saturday	7/30/2016	12-4 pm	347	62	13	223	49
6	Monday	8/1/2016	6-10 pm	223	31	8	140	44
7	Saturday	8/6/2016	6-10 pm	478	83	19	308	68
8	Monday	8/8/2016	12-4 pm	232	27	0	160	45
Total				2696	441	115	1661	479

Survey Team and Patron Recruitment

SEIGMA Expert Advisor Laurie Salame, J.D., Senior Lecturer in the Isenberg School of Management, Department of Hospitality and Tourism Management, led the survey team. Thirty-two University of Massachusetts (UMass) undergraduate students (11-14 during any given shift) administered the surveys. These surveyors were supervised on-site at all times by Ms. Salame and Brook Frye, a graduate student research assistant. UMass transportation services provided transport for surveyors to and from the venue. While on-site, surveyors brought their own food and beverage and utilized only the restrooms. Each surveyor received up to five hours of training, including CITI certification, to ensure professional,

[2] Online research conducted by Robert Williams found that northeastern United States summer casino revenues tend to be ~20% higher than revenues at other times of the year, which is in part due to increased "tourist" traffic.
[3] Refusal rates were examined by season, day of week and time of day. Significant differences were only found by season (see Table 15 in Appendix C).

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 3-6 student surveyors, wearing UMass attire and Plainridge Park Casino visitor credentials, were stationed near each of the three exits beside a small table with chairs. The table displayed the University of Massachusetts banner as well as "Frequently Asked Questions" hand-outs in English, Spanish, and Mandarin.

The roles of the team members were as follows:

- One team member (**the counter**) counted and kept a tally of all patrons exiting the venue.

- When the 6th person exiting was reached,[4] another team member (**the solicitor**) approached that patron and, using a specific script (see Appendix A), asked if they had 5-10 minutes to complete a short, self-administered, confidential survey and receive a $5 Dunkin Donuts gift card as compensation. If the patron indicated they were not exiting the facility (i.e., just going outside to smoke or use the ATM), the solicitor recorded a "non-exit." If the patron declined to participate, the solicitor recorded, to the best of their ability, the gender, race, and age range of that patron.

- If the patron agreed to participate, the solicitor escorted the patron to the table where another team member (**the 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). The table monitor then provided the patron a survey number along with either an iPad to complete the survey electronically (via SurveyGizmo) 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 in only English. A total of 287 people opted for the electronic questionnaire and 192[5] completed the printed questionnaire (9 in Mandarin and 1 in Spanish). The purpose of the self-administered format was to maximize the validity of responses to potentially sensitive questions (e.g., gambling expenditure, income). However, when requested, the survey questions were asked orally and the interviewer entered the responses (this option was rarely used). When the survey was complete, the interviewer gave the patron a $5 gift card 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 4-hour period.

The final obtained sample size was 479, which was 96% of the desired sample size of 500.

[4] When people were departing in groups, the counter continued to count each exiting patron and the person to come out of the group who was 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. To reassure patrons, Ms. Salame coordinated with the bus drivers to ensure that they did not leave until the last patron had completed the survey. There was only one occasion when a bus had to wait for a patron to finish and the wait was only a few minutes.

[5] The high number of paper surveys was primarily due to the team's inability to get online with the iPads on February 27th, a busy Saturday night. Thus, 105 of the 115 surveys collected that night were completed using the print version.

Questionnaire

The questionnaire contained five sections. The content of each section is presented briefly here and the full questionnaire is included in Appendix B.

Demographics

The questionnaire asked respondents about their 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 other SEIGMA surveys.

Access to and experience in 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 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 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

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.

Experience with the GameSense program

Patrons were asked if they were aware of the GameSense program in the venue and had spoken to a GameSense Advisor. Respondents who responded positively were asked further questions about their GameSense experience. (Note: questions in this section were chosen by the Cambridge Health Alliance Division on Addictions, who are conducting a specific evaluation of the GameSense program).

Data Cleaning

All paper surveys were manually entered into SurveyGizmo; a random sample of 20% 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 et al., 2017; Wood & Williams, 2007). Consequently, the present study adopted a protocol used in previous research which has been shown to improve the validity of self-reported expenditures. More specifically, this involved winsorizing all extreme values greater than 4 standard deviations from the average and converting all reported wins to zero (Volberg et al., 2015; Williams et al., 2017; Wood & Williams, 2007).

(Note: winsorization of all values greater than 4 standard deviations was also used for self-reported *non*-gambling expenditure).[6]

Response Rate

The survey response rate refers to the proportion of eligible individuals who completed a survey. The response rate is an important indicator of the potential for bias in a survey since individuals who choose not to complete a survey may differ from those who do in meaningful ways. It should be noted that while the risk of obtaining a biased sample increases as a function of lower response rates, the sample will still be representative unless there are systematic differences in the characteristics of people opting versus not opting to do the survey.

In the present situation, every 6th individual exiting the casino during the data collection periods was considered an eligible respondent. The surveyors approached a total of 2,140 patrons exiting the casino and invited them to complete the survey. A total of 479 patrons agreed and all 479 completed the survey. This represents a response rate of 22.4%.[7] Response rates for individual questions were all above 88.5%, as shown in Appendix C.

Weighting the Data

Weighting the data in this report was done to correct for sampling biases based on: (1) seasonality and period of the week and (2) certain types of people being more or less likely to answer the questionnaire. This weighting was done to make the sample more representative of the population of PPC casino patrons in calendar year 2016.

Accounting for Differences in Patron Volume by Season and Period of Week

The first step of the weighting procedure accounts for differences in patron volume based on season and period of the week. Data collection took place in both the winter and summer in order to account for any potential seasonal differences in patronage.[8] While there were significant differences in the patronage volumes in the winter and summer, these differences were small in magnitude.[9] Nonetheless, to increase the precision of our estimates, our weights adjust for seasonality. In addition, our weighting also accounts for the significant difference in patronage volume based on weekdays versus weekends.

PPC uses a bi-directional counting system from TRAFSYS.com that can distinguish between people entering and exiting the casino. At our request, PPC provided the SEIGMA research team with entry counts by hour and day of the week for each month in calendar year 2016. We consider these data to be a better source for weighting than the visitation data from Google Analytics (used to plan the Patron Survey). The entry counts track passages into the casino but do not count unique patrons, since persons exiting and reentering the casino (i.e., for smoking, etc.) are counted each time they enter the casino. The entry counts also do not distinguish between patrons and PPC employees.

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[6] Twenty-five percent of the respondents reported gambling expenditure wins, which were set to zero. About 1% of respondents who reported gambling expenditures had their losses winsorized. Winsorizing of expenditures occurred for less than 1% of respondents who reported non-gambling expenditures in PPC and a little over 1% of the respondents who reported non-gambling expenditures out of PPC.

[7] An additional 115 patrons exited the casino and were not solicited to complete a survey due to all surveyors being occupied with other participants (even though they were the 6th person leaving the venue). If these 115 patrons were included in the calculations, the response rate would be 21.2%.

[8] The detailed tables found in Appendix F present the data separately for winter, summer, and combined.

[9] While the magnitude of the differences tended to be small, the fact that there were significant differences confirms the importance of conducting future Patron Surveys in both winter and summer.

The SEIGMA team reviewed the TRAFSYS data relative to the study design assumptions made for the Patron Survey based on Google Analytics data. Based on the TRAFSYS data, there were 97.3% more entry counts on Saturdays versus Mondays in 2016. These two days had the highest and lowest entry counts of any day in the week. This confirmed that Saturday was the peak visitation day.

The 4-hour time periods of 6-10 PM and 12-4 PM were selected as periods of relatively high volume, with one period reflecting peak volume. Based on TRAFSYS data, Saturday entry counts from 6-10 PM were 15.7% higher than 12-4 PM entry counts. In contrast, Monday entry counts from 12-4 PM were 88.2% higher than 6-10 PM counts. For each day, the high volume 4-hour entry period was the highest volume period during the day.

These entry patterns suggested that the week be divided into 'weekday' and 'weekend' periods. We defined weekdays as beginning at 12:01 AM Monday and ending at 6 PM on Friday. Weekends were defined as beginning at 6:01 PM Friday and ending at 12:00 midnight Sunday. Using these definitions and TRAFSYS data, 55.5% of the entries occurred during the weekdays while 44.5% of the entries occurred during the weekend. These weekday/weekend percentages were relatively stable across the months in 2016. Using the TRAFSYS data for 2016, there were more entries counted in the Summer compared to the Winter. The 2016 TRAFSYS entry data from PPC was used to account for differences in patron volume by season (Fall/Winter and Spring/Summer) and period of the week (weekday/weekend).[10]

Table 2 Entry Counts from TRAFSYS in 2016 by Season (Percent of Winter Counts)

Season (2016)	Percent of Winter Counts
Spring (March-May)	106.0%
Summer (June-August)	107.7%
Fall (Sept.-Nov.)	96.6%
Winter (Dec.-Feb.)	100.0%

The specifics of our weighting calculations are presented in Appendix E.

Weighting to Account for Refusal Rate

The next 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. The following section presents the results of this analysis.

Rater Accuracy of Demographic Characteristics

After pilot testing and refinement, a *Demographic Accuracy Test* (Appendix D) was constructed that consisted of 36 photographs of people with known demographic characteristics. These 36 photographs comprised 18 males, 18 females; 12 individuals age 18-29, 12 individuals age 30-49, and 12 individuals

[10] Table 2, which presents the TRAFSYS data, shows that while patronage was 7.7% higher in the summer, it did not reach the 20% increase that was anticipated.

age 50 and older; 12 Caucasians, 12 Asians, and 12 Blacks. The 12 UMass students employed in the summer 2016 Plainridge Park Casino Patron Survey took the *Demographic Accuracy Test* and were asked to identify the gender, age category, and ethnic/racial category of each picture. The demographics of the students themselves were as follows: 6 males, 6 females; 11 aged less than 30, 1 in the 30-50 age grouping; 6 Caucasians, 5 Asians, and 1 Black.

Student surveyors identified each picture correctly between 25% (#30: 30-50 Asian female) and 100% (11 pictures) of the time, with an overall average of 86.1% correct identification. All of the errors on #30 involved raters identifying this person to be older than she actually was. However, this appears to be a problem with the selected image, rather than difficulty with these demographic characteristics, as the accuracy for the picture displaying the other 30-50 year old Asian female (#23) was 83.3%. (Removing #30 increases the overall rating accuracy to 87.9%). In general, there was no significant difference in the correct identification of the pictures as a function of the demographic features they contained:

- Male pictures were correctly identified 88.0% of the time compared to 84.7% for female pictures; t (34) = .755, p = .455 (2 tail)
- Age < 30 pictures were correctly identified 82.6% of the time, compared to 83.3% for age 30-50 pictures, and 92.4% for age 50+ pictures; F (2, 33) = 1.244, p = .301 (2 tail)
- Caucasian pictures were correctly identified 88.2% of the time, compared to 80.6% for Asian pictures, and 89.6% for Black pictures; F (2, 33) = 1.174, p = .322 (2 tail)

Individual student surveyors had an accuracy ranging from 80.6% to 91.7%, with an average accuracy of 86.1%. There was no significant difference in the accuracy of raters as a function of their gender or race/ethnicity:

- Male raters had an average accuracy of 87.5% compared to 84.7% for female raters; t (10) = .953, p = .363 (2 tail)
- Caucasian raters had an average accuracy of 88.9% compared to 83.4% for non-Caucasian raters; t (10) = 1.341, p = .210 (2 tail)

These results indicate that the accuracy of the student surveyors was quite high, without any significant difference in accuracy as a function of demographic characteristics of the pictures being rated or the demographic characteristics of the raters themselves.

Based on the test performance of the raters, we concluded that it was reasonable to combine the demographic characteristics of people who completed the survey with the assessed demographic characteristics of people who refused to do the survey in order to establish the demographic characteristics of the total population of casino patrons during the survey periods. This allowed us to then create weights for the completed surveys so that their demographic profile (gender, race/ethnicity, and age range) matched the gender, race/ethnicity, and age range profile of the population of casino patrons. In general, refusal rates (and weights) were somewhat higher for males, people younger than 50, and non-Caucasians.

Unless otherwise noted, all reported results represent these weighted values.

Results

The results of the patron survey provide a nuanced picture of who patronizes Plainridge Park Casino, 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 and Demographic Characteristics of Patrons

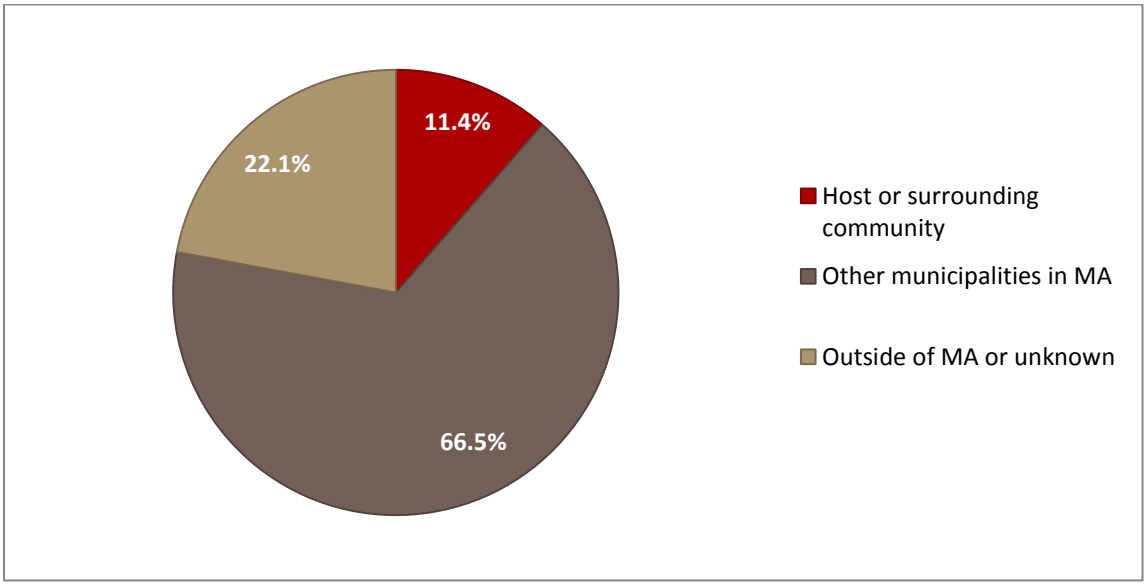
Geographic Origin

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[11]); (2) other communities in Massachusetts; and (3) outside of Massachusetts. In total:

- 11.4% of patrons were from the host (Plainville) or surrounding communities (Attleboro, Foxborough, Mansfield, North Attleboro, Wrentham)
- 66.5% of patrons were from other communities in Massachusetts
- 19.2% of patrons were from outside of Massachusetts
- 2.9% of patrons did not enter a zip code, thus their origin is unknown

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

Figure 3 Geographic Origin of Patrons



Note: This information is also contained in Table 48 in Appendix F

[11] Information about host and surrounding community designation can be found on the Massachusetts Gaming Commission's website: http://massgaming.com/about/2017-community-mitigation-fund/host-surrounding-communities/

As seen in Table 48, there were no significant differences in geographic origin of patrons by season in which data collection took place.

Demographic Profile

Table 3 below illustrates that the gender of casino patrons was evenly distributed (51.6% male versus 48.3% female). The overwhelming majority of patrons were White (81.8%), with much smaller proportions of patrons classified as Hispanic (4.5%), or Black (5.1%). The majority of patrons were middle-aged or older, with a mean age of 56 years. Educational attainment was relatively high, with 78.4% 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 2 (as this information was not available from the Massachusetts census), Table 49 in Appendix F shows that the majority of patrons were employed (59.1%), and almost one third of patrons (30.5%) were retired. Almost seven in ten patrons were married, living with a partner, or widowed (68.1%) and 13.6% were divorced or separated. Finally, about one in seven patrons (15.9%) had served in the military.

Demographics Compared to the Massachusetts Population

Table 3 compares key demographic characteristics of patrons to the general adult Massachusetts population from the 2015 Census. This table shows that the Plainridge Park Casino patrons from Massachusetts were similar to the Massachusetts population in terms of gender. However, they were substantially older, somewhat more likely to be White, more likely to have attended some college or to have a Bachelor's degree, and more likely to have an annual household income between $50,000 and $100,000.

Table 3 Patron Demographics Compared to Massachusetts Population

		Plainridge Park Casino Patrons								Massachusetts 2015[3]	
		Entire Sample				MA residents					
		N[1]	N[2]	%	SE	N[1]	N[2]	%	SE	%	SE
Gender	Female	262	892,889	48.3	2.8	204	693,564	47.6	3.2	47.9	0.3
	Male	203	954,709	51.6	2.8	166	759,783	52.2	3.2	52.1	0.3
	Transgender/other			NSF				NSF		NA	NA
Race/ Ethnicity	Hispanic	21	81,949	4.5	1.2			NSF		9.6	0.2
	White alone	380	1,504,476	81.8	2.5	304	1,186,567	82.5	2.8	75.5	0.2
	Black alone	24	93,618	5.1	1.4	19	56,187	3.9	1.1	6.4	0.1
	Asian alone			NSF				NSF		6.4	0.1
	Some other race			NSF				NSF		0.8	0.1
	Two or more races			NSF				NSF		1.3	0.1
Age	18-20			NSF				NSF		5.6	0.1
	21-24			NSF				NSF		7.3	0.1
	25-34	22	98,118	5.8	1.4	19	88,167	6.5	1.7	17.4	0.2
	35-54	132	594,216	34.8	2.9	106	451,425	33.3	3.1	33.6	0.2
	55-64	133	437,516	25.7	2.6	104	338,921	25.0	2.9	16.8	0.2
	65-79	124	484,545	28.4	2.6	101	396,293	29.3	2.9	13.9	0.2
	80+	16	59,763	3.5	1.0	13	48,358	3.6	1.1	5.3	0.1
Education	Less than high	28	87,474	4.7	1.0	20	65,473	4.5	1.1	9.7	0.2
	HS or GED	83	312,211	16.9	2.0	66	259,463	17.9	2.4	25.5	0.2
	Some college	184	742,445	40.2	2.8	147	566,189	39.1	3.1	26.2	0.2
	BA	110	487,427	26.4	2.7	91	387,150	26.7	3.1	22.4	0.2

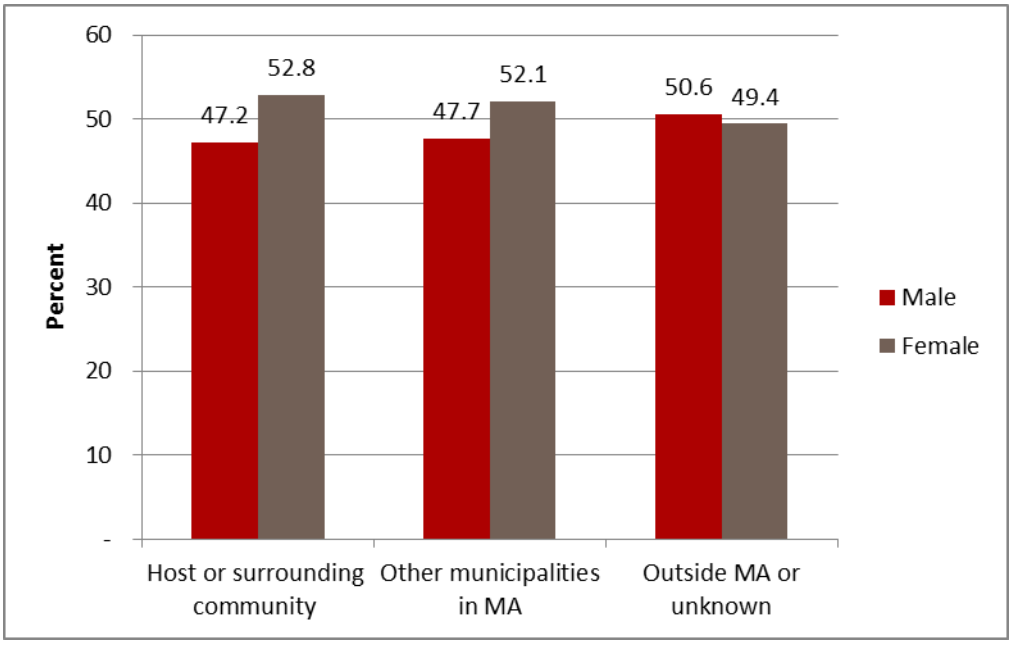
		Plainridge Park Casino Patrons								Massachusetts 2015[3]	
		Entire Sample				MA residents					
		N[1]	N[2]	%	SE	N[1]	N[2]	%	SE	%	SE
	Graduate or professional degree	54	198,275	10.7	1.6	41	153,834	10.6	1.8	13.7	0.2
	PHD			---				---		2.4	0.1
Annual household income	Less than $15,000	24	110,267	6.3	1.5	16	79,173	5.8	1.7	6.9	0.1
	$15,000-<30,000	39	137,592	7.9	1.4	32	111,984	8.2	1.6	8.7	0.2
	$30,000-<50,000	69	278,910	15.9	2.0	52	205,882	15.0	2.2	12.6	0.2
	$50,000-<100,000	168	702,738	40.2	2.9	133	542,569	39.6	3.2	27.9	0.2
	$100,000-<150,000	76	310,285	17.7	2.5	61	252,916	18.5	2.9	20.6	0.2
	$150,000 and more	61	208,894	11.9	1.7	52	177,410	13.0	1.9	23.2	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 Plainridge Park Casino in 2016
[3]Source: U.S. Census Bureau, 2015 American Community Survey PUMS
Note: Insufficient information (NSF) indicates estimates are unreliable, relative standard error >30%

Demographics by Geographic Origins

Figure 4-Figure 6 present the demographics of patrons broken out by geographic region. Figure 4 illustrates that 52.8% of patrons from host or surrounding community, 52.1% of the patrons from other municipalities in Massachusetts, and 49.4% of patrons from outside of Massachusetts or where origin was unknown were male. There was not a significant gender difference by geographic origin.

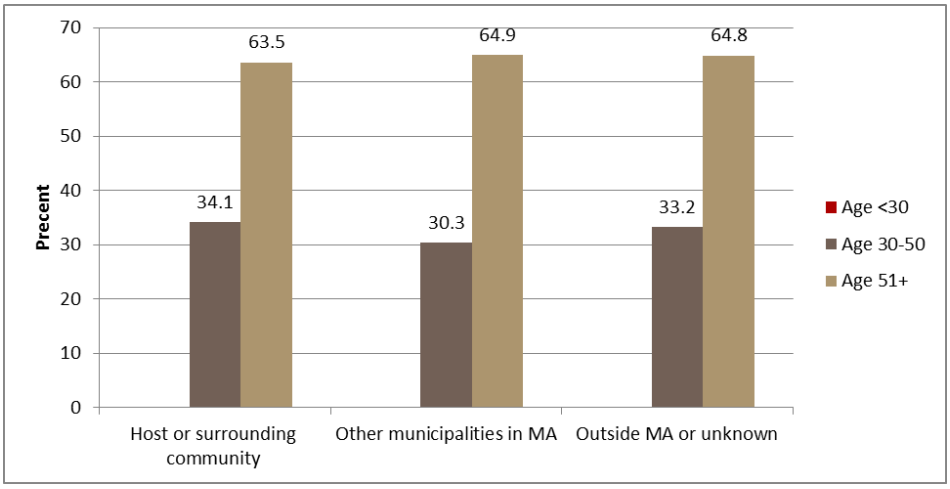
Figure 4 Gender by Geographic Origin



Note: This information is also contained in Table 50 in Appendix F

Figure 5 shows that there were no significant differences in age among patrons from different geographic regions. This is reflected in the mean and median ages as well, with the mean ranging from 54.1 to 56.9 across the three regions and the median ranging between 57 and 58 across the three regions.

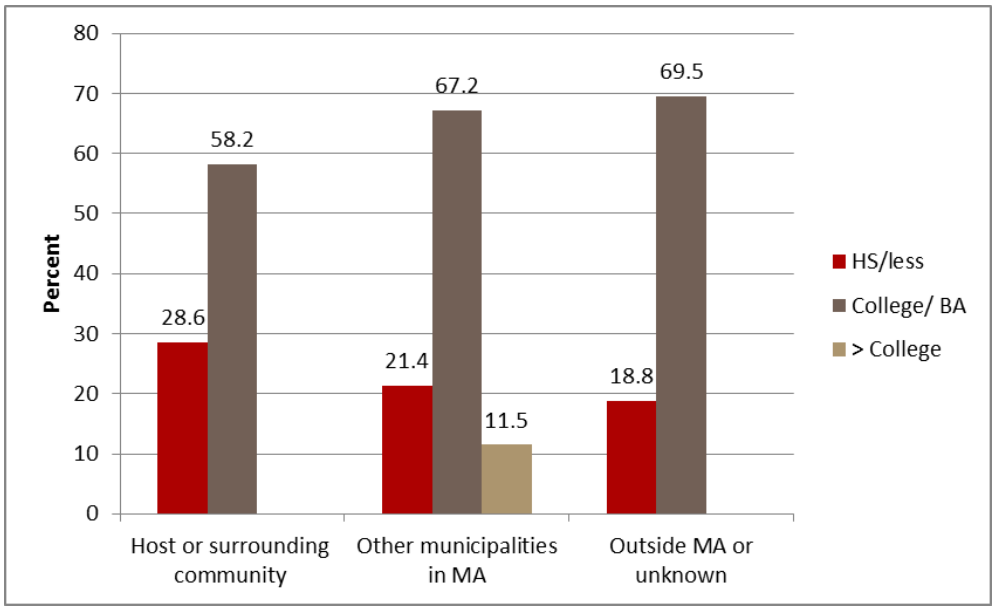
Figure 5 Age by Geographic Origin



Note: Some data are not shown due to unreliable estimates or cell size less than 6
Note: This information is also contained in Table 50 in Appendix F

Figure 6 demonstrates that 28.6% of patrons from the host or surrounding communities, 21.4% patrons from other Massachusetts municipalities and 18.8% of patrons from outside of Massachusetts or origin unknown had a high school education or less. The difference in education by geographic region is not statistically significant.

Figure 6 Education by Geographic Origin



Note: Some data are not shown due to unreliable estimates or cell size less than 6
Note: This information is also contained in Table 50 in Appendix F

While not presented graphically, patrons from the host and surrounding communities were significantly more likely to be White (97.0%) compared with those from other municipalities in Massachusetts (80.1%) or from outside Massachusetts or origin unknown (79.2%). Almost three quarters (72.0%) of patrons from the host and surrounding communities, 56.2% of patrons from other Massachusetts municipalities, and 60.8% of patrons from outside of Massachusetts or origin unknown were employed. The difference in employment by geographic region is not statistically significant. Table 50 in Appendix F

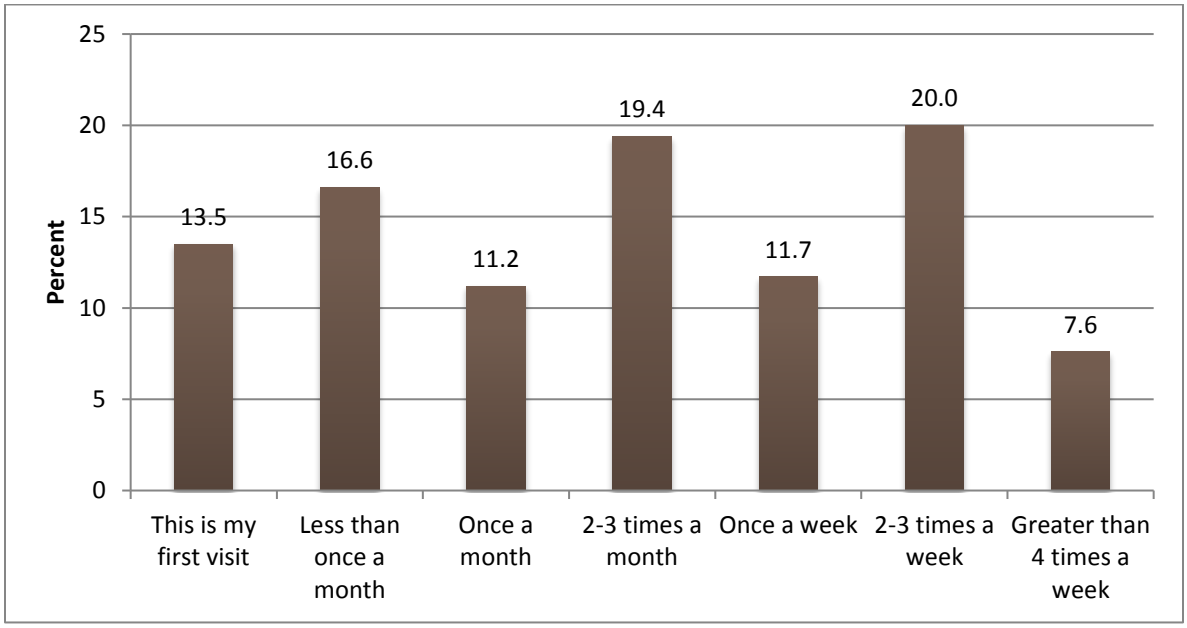
presents this and additional information about the demographic differences across the three geographic groups.

Patron Experience with the Venue

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 97.7% of patrons reported experiencing no problems in getting to the casino, with most people coming in their own or someone else's car (96.0%) (Table 51 in Appendix G).

When asked how often they have visited the facility since it opened, Figure 7 shows that 13.5% indicated that this was their first visit to Plainridge Park Casino. Another 16.6% of patrons reported that they visited PPC less than once a month, 30.6% reported that they visited 1-3 times per month, and 39.3% reported that they visited once a week or more.

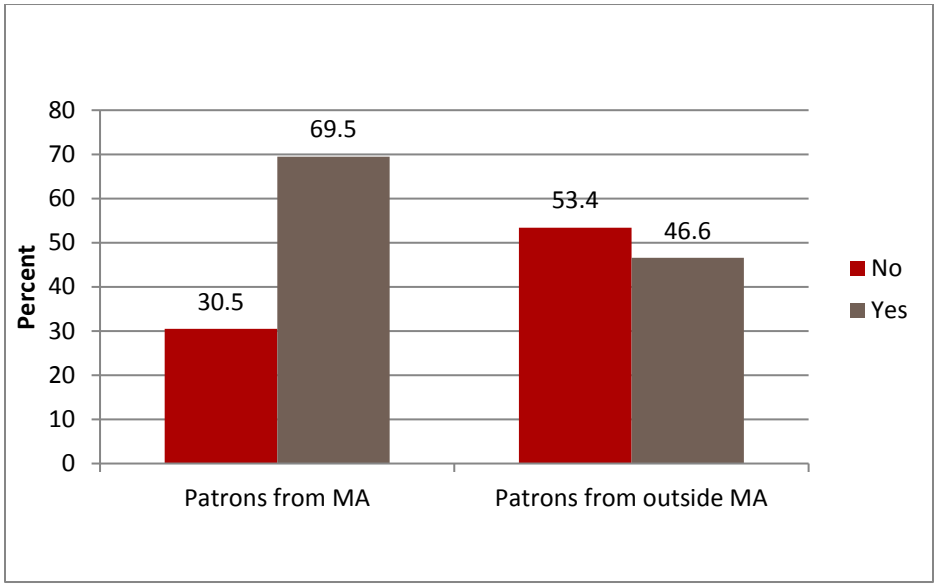
Figure 7 Frequency of Visits to Plainridge Park Casino Since Opening



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

About 64% of the patrons reported that it was Plainridge Park Casino that prompted them to visit Plainville and/or Massachusetts (see Table 52 in Appendix G). Figure 8 shows that Massachusetts patrons were much more likely to visit because of the casino compared to patrons not from Massachusetts (69.5% versus 46.6%).

Figure 8 Plainridge Park Casino Prompted Visit to Town or State



Note: Table 52 in Appendix G also contains this information

Among patrons from outside Massachusetts, 55.1% visited Massachusetts for one day or less and 44.9% stayed for two or more days, with an overall average of 3.4 days (see Table 53 in Appendix G).

Finally, a majority of patrons (87.2%) reported having an enjoyable experience and 83.8% indicated they would return to the facility. When asked what three things they liked most about their visit, patrons indicated that gambling was overwhelmingly the most common thing endorsed (65.9%), followed by convenient parking (37.7%), the ease in getting there (34.4%), and the friendliness of the casino staff (24.3%) (see Table 54 in Appendix G).

Patron Activities

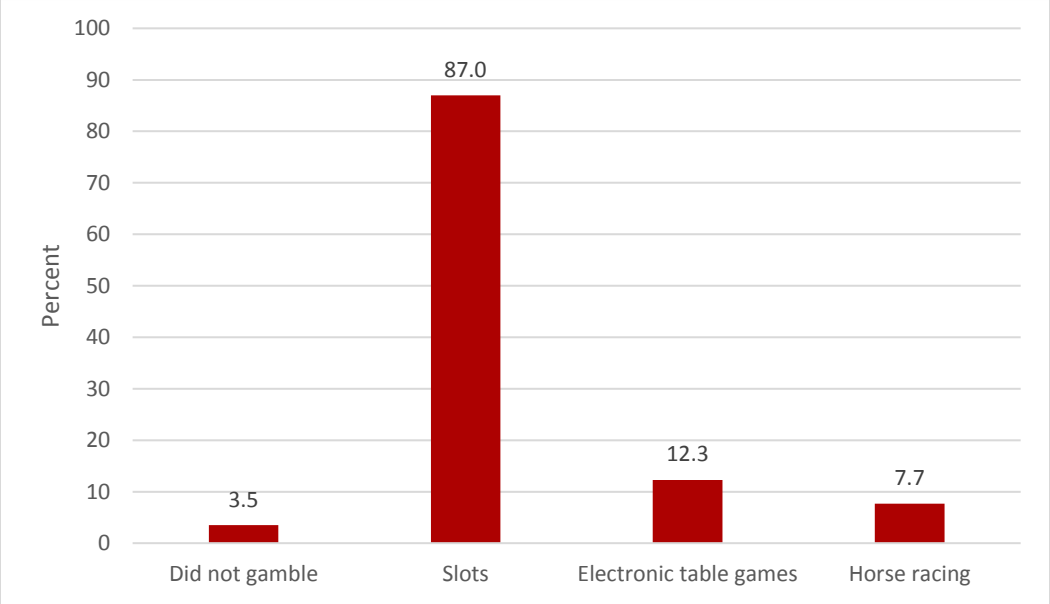
Patrons were asked a series of questions about the gambling and non-gambling activities they participated in during this visit, both within the casino and off-site. The questions included:

- What different gambling formats they participated in on-site during this visit
- Whether they were a member of the Marquee Rewards® 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. The first thing of note is that only 3.5% of patrons did not gamble during their visit. Thus, it is clear that gambling is the motivating factor drawing people to Plainridge Park Casino. As shown in Figure 9, the large majority of patrons played slots (87.0%), while 12.3% played electronic table games, and 7.7% bet on horse racing (see Table 55 in Appendix H).

Figure 9 Gambling Activities Participated In



Note: Some data are not shown due to unreliable estimates or cell size less than 6
Note: This information is also contained in Table 55 in Appendix H

When looking at gambling participation by geographic origin, Table 56 in Appendix H shows that 82.0% of patrons from the host/surrounding communities, 85.9% of patrons from other Massachusetts municipalities, and 93.5% of patron from outside of Massachusetts or with origin unknown played slots. The difference by geographic origin is not statistically significant.

A total of 77.8% of patrons reported that they had a Marquee Rewards® loyalty card. Loyalty card membership was highest among patrons who played slots (82.7%). Among patrons who played electronic table games and among those who bought lottery tickets, loyalty card membership was 74.4% and 75.7% respectively. Loyalty card membership was significantly lower among patrons who bet on horse racing (46.7%) compared to slots players (see Table 57 in Appendix H).

Next, we examined the patterns of gambling activities in which patrons participated. The first rows of Table 4 illustrate that among the patrons who played slots, 8.6% also played electronic table games, whereas among patrons who did not play slots, 36.9% played electronic (E) table games. In general, slot play was highest among people who played the lottery (79.4%), followed by people who played electronic table games (61.0%), followed by people who bet on horse racing (38.4%).

Table 4 Patterns of Gambling Participation

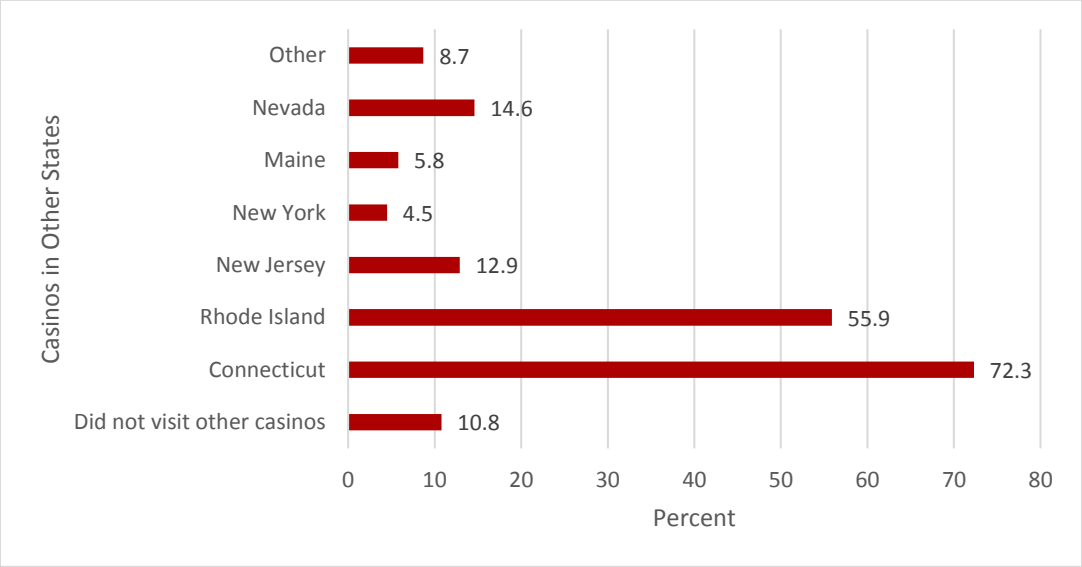
		Did <u>not</u> participate in activity				<u>Did</u> participate in activity			
Activity	Other activities	UN[1]	N[2]	% [2]	95% CI[2]	UN[1]	N[2]	% [2]	95% CI[2]
SLOTS		55	239,522	13.0	(9.6, 17.3)	407	1,609,551	87.0	(82.7, 90.4)
	E Table Games	21	88,489	36.9	(23.2, 53.1)	32	138,185	8.6	(5.8, 12.5)
	Horse Racing	17	87,318	36.5	(22.7, 52.8)			NSF	
	Lottery			NSF				NSF	
E. TABLE GAMES		409	1,622,399	87.7	(83.6, 91.0)	53	226,674	12.3	(9.0, 16.4)
	Slots	375	1,471,366	90.7	(86.5, 93.7)	32	138,185	61.0	(44.6, 75.2)
	Horse Racing	27	131,393	8.1	(5.3, 12.1)			NSF	
	Lottery			NSF				NSF	

Activity	Other activities	Did not participate in activity				Did participate in activity			
		UN[1]	N[2]	% [2]	95% CI[2]	UN[1]	N[2]	% [2]	95% CI[2]
HORSE RACING		433	1,707,371	92.3	(88.7, 94.9)	29	141,702	7.7	(5.1, 11.3)
	Slots	395	1,555,166	91.1	(87.2, 93.9)	12	54,385	38.4	(21.4, 58.8)
	E Table Games	51	216,365	12.7	(9.3, 17.1)			NSF	
	Lottery			NSF				NSF	
LOTTERY		448	1,800,491	97.4	(95.2, 98.6)	14	48,582	2.6	(1.4, 4.8)
	Slots	396	1,570,961	87.3	(82.9, 90.6)	11	38,590	79.4	(45.5, 94.7)
	E Table Games	52	224,110	12.4	(9.1, 16.7)			NSF	
	Horse Racing	26	135,476	7.5	(5.0, 11.2)			NSF	

[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 Plainridge Park Casino in 2016
Note: Insufficient information (NSF) indicates estimates are unreliable, relative standard error >30%

Patrons were also asked if they had visited other casinos in the past year prior to the opening of Plainridge Park Casino, and if so, which specific state they visited for casinos. As shown in Figure 10, only 10.8% of patrons had not visited another casino. A majority of patrons reported visiting casinos in Connecticut (72.3%) and Rhode Island (55.9%).

Figure 10 Other States Where Patrons Visited Casinos in Past Year



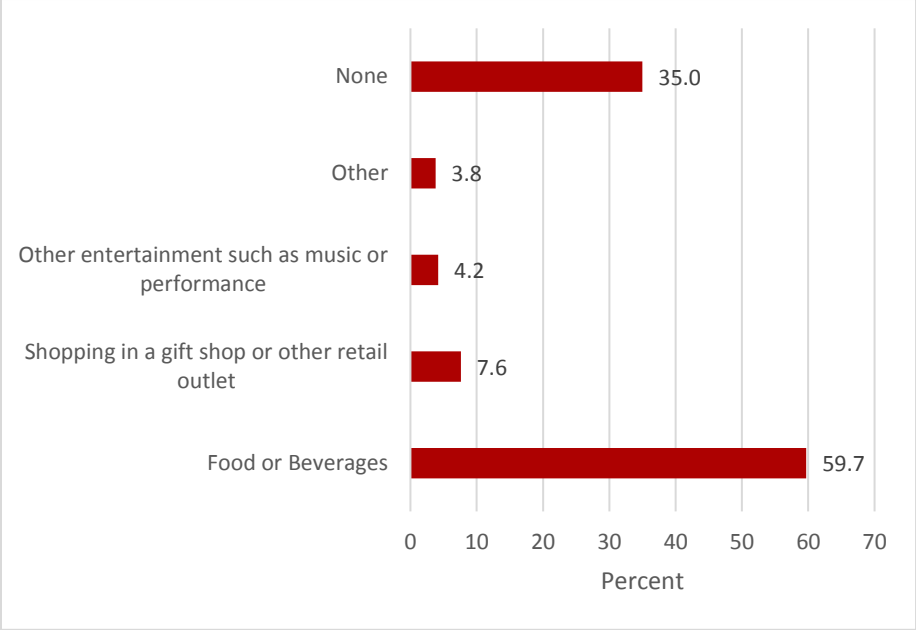
Note: Some data are not shown due to unreliable estimates or cell size less than 6
Note: Table 55 in Appendix H also contains this information

Among those who reported patronizing casinos in other states, 34.8% reporting going to one state, 35.3% reported going to two states, 12.9% reported going to three states, 8.0% reported going to four or more states (see Table 55 in Appendix H which also contains details about the specific state patterns observed).

Non-gambling Activities at Plainridge Park Casino

In this section, we examine the non-gambling activities that patrons participated in on-site during their visit. Thirty-five percent of the patrons did not participate in any non-gambling activities while at Plainridge Park Casino. A majority of patrons (59.7%) reported buying food and beverage while at the casino, while 7.6% purchased items at a gift shop or other retail outlet, 4.2% attended music or other entertainment events, and 3.8% reported engaging in "other" activities (see Table 58 in Appendix H).

Figure 11 Non-gambling Activities Participated in at Plainridge Park Casino



Note: This information is also contained in Table 58 in Appendix H

When considering non-gambling activities at Plainridge Park Casino by geographic origin, Table 59 in Appendix H shows that 47.4% of patrons from the host/surrounding communities, 61.8% of patrons from other Massachusetts municipalities and 59.6% of patrons from outside of Massachusetts or origin unknown bought food or beverage while in the casino. The difference is not statistically significant.

Next, we examined the relationship between gambling activities and non-gambling activities at Plainridge Park Casino (see Table 60 in Appendix H). Among the patrons who played slots, 57.7% bought food or beverage while 57.2% of the patrons who played electronic table games and 81.7% of patrons who played the lottery bought food or beverages. The difference is not statistically significant.

Non-Gambling Activities Outside Plainridge Park Casino

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 12, a majority of patrons (67.2%) did not participate in any off-site activities. However, 21.4% bought food and beverage off-site, 11.2% went to retail outlets off-site, 3.2% spent money on other entertainment (such as amusement parks, bowling, or a museum) (Table 61 in Appendix H).

Figure 12 Non-gambling Activities Participated in Off-Site

Note: Some data are not shown due to unreliable estimates or cell size less than 6
Note: Table 61 in Appendix H also contains this information

When considering non-gambling activities off-site by geographic origin, Table 62 in Appendix H shows that 19.5% of patrons from other municipalities in Massachusetts bought food or beverage off-site, while 29.5% of patrons from the host or surrounding communities and 22.6% of patrons from outside of Massachusetts or origin unknown bought food or beverage off-site. There is not a statistically significant difference by geographic origin.

Next, we examined the relationship between gambling activities at the casino and non-gambling activities off-site (see Table 63 in Appendix H). Among the patrons who played slots, 20.8% bought food or beverage off-site while 25.9% of patrons who played electronic table games and 37.1% of patrons who bet on horse racing bought food or beverage off-site (37.1%). The difference is not statistically significant.

Among the Massachusetts patrons who decided to visit Plainville because of Plainridge Park Casino, 20.0% bought food or beverage off-site (see Table 64 in Appendix H). Among the out-of-state patrons who decided to visit Massachusetts because of Plainridge Park Casino, 28.7% bought food or beverage off-site (see Table 65 in Appendix H). The difference is not statistically significant.

Expenditures

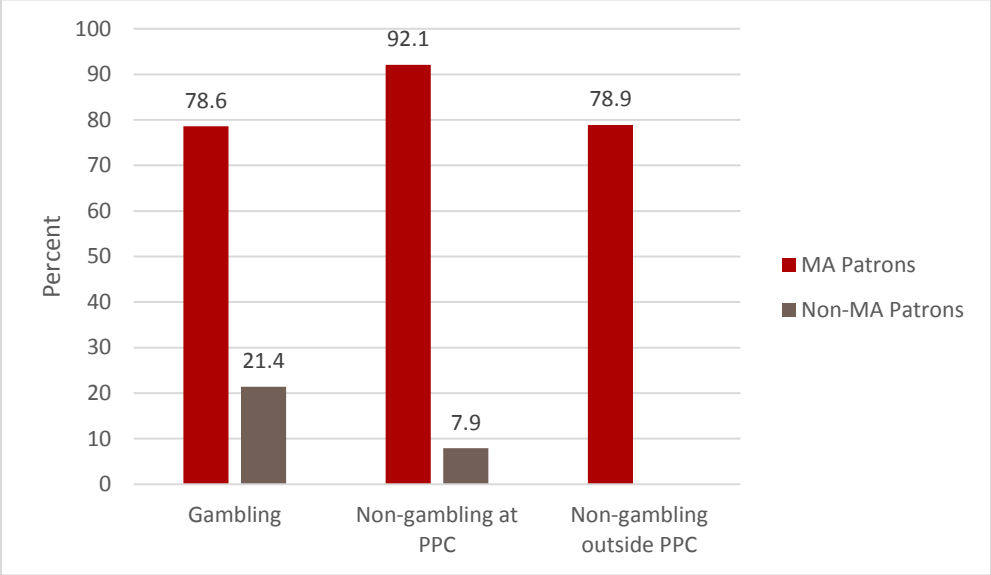
In addition to asking whether they participated in gambling activities, non-gambling activities at the casino, and non-gambling activities outside the casino, patrons were asked to estimate their total expenditure in each of these categories. The subset of questions used for the analyses in the present section can be found in Figure 21 in Appendix I.

Averages, Medians, and Totals for All Patron Survey Respondents

Table 66 in Appendix I presents the average, median, and total self-reported expenditures on gambling activities, non-gambling activities at Plainridge Park Casino, and non-gambling activities outside of Plainridge Park Casino. For all patrons combined, the average self-reported gambling expenditure was $96.39, the average non-gambling expenditure at the casino was $63.99, and the average non-gambling expenditure outside the casino was $73.26. The last column of the table illustrates that Massachusetts

residents accounted for 78.6% of all reported gambling expenditure, 92.1% of all reported non-gambling expenditure at the casino, and 78.9% of non-gambling expenditure outside of the casino.

Figure 13: Percent of Expenditures by Massachusetts Residency



Note: Some data are not shown due to unreliable estimates or cell size less than 6
Note: Table 66 in Appendix I also contains this information

Projected Expenditure Totals for All Plainridge Park Casino Patrons in 2016

The next step involved using the data from the Patron Survey to estimate the *total* amount of gambling and non-gambling expenditure for *all* Plainridge Park Casino patrons in 2016, and the percentage of this expenditure that could be attributed to Massachusetts versus non-Massachusetts residents. The steps used in these calculations are:

Total Gambling Expenditure in 2016 as a Function of Massachusetts Residency

1. Plainridge Park Casino reported $171,946,834 to the Massachusetts Gaming Commission in gambling revenue from January 2016 to December 2016 (see Table 68 in Appendix I).
2. Figure 13 and Table 66 show that, based on Patron Survey data, Massachusetts residents accounted for 78.6% of self-reported gambling expenditure and non-Massachusetts residents accounted for 21.4% of self-reported gambling expenditure.
3. Applying these proportions to actual gambling revenue, we estimate that a total of $135,150,290 of gambling revenue came from Massachusetts residents and $36,796,644 from non-Massachusetts residents in calendar year 2016.

Total Non-Gambling Expenditure at Plainridge Park Casino in 2016 as a Function of Massachusetts Residency

1. The 2016 Penn National Annual Report (p.54)[12] shows that Plainridge Park Casino had approximately $6,500,000 in non-gambling revenue in calendar year 2016 (see Table 68 in Appendix I).
2. Figure 13 and Table 66 show that, based on Patron Survey data, Massachusetts residents accounted for 92.1% of self-reported non-gambling expenditure at Plainridge Park Casino and non-

[12] The full report can be found on the Penn National website: http://phx.corporate-ir.net/phoenix.zhtml?c=120420&p=irol-sec

Massachusetts residents accounted for 7.9% of self-reported non-gambling expenditure at Plainridge Park Casino.

3. Applying these proportions to actual non-gambling revenue, we estimate that $$5,986,500 of non-gambling revenue at Plainridge Park Casino came from Massachusetts residents and $513,500 from non-Massachusetts residents.

Total Non-Gambling Expenditure Outside of Plainridge Park Casino in 2016 as a Function of Massachusetts Residency

1. The first step in this determination is calculating the multiplication factor to be applied to non-gambling Plainridge Park Casino expenditure reported in the Patron Survey (i.e., $66,250,834) to arrive at total non-gambling revenue reported by Penn National for Plainridge Park Casino (i.e., $6,500,000) = 0.0981.[13]
2. This same multiplication factor of 0.0981 is then applied to self-reported total Patron Survey non-gambling expenditure outside of Plainridge Park Casino for both Massachusetts residents ($32,554,634) and non-Massachusetts residents (which was much lower but is not reported due to relative standard error >30%)(see Table 66 in Appendix I).
3. We estimate that a total of $3,193,999 was spent on non-gambling activities outside of Plainridge Park Casino by Massachusetts residents in calendar year 2016, with a much smaller amount spent by non-Massachusetts residents.

Total Gambling and Non-Gambling Expenditure in 2016 as a Function of Massachusetts Residency

Adding gambling expenditure, non-gambling expenditure at PPC, and non-gambling expenditure outside of PPC produces a total of $144,330,789 ($135,150,290 + $5,986,500 + $3,193,999) for Massachusetts residents and $38,162,919 for non-Massachusetts residents.

In total, we estimate that Massachusetts residents account for 79.1% of all gambling and non-gambling expenditure and non-Massachusetts residents account for 20.9% of gambling and non-gambling expenditure.

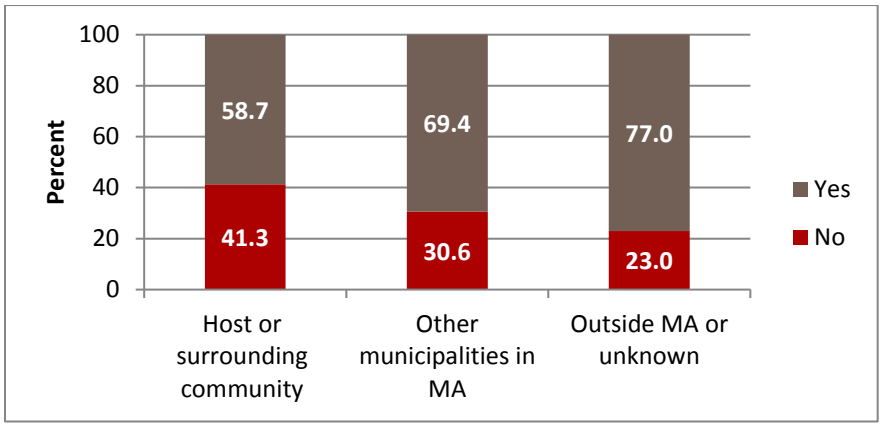
Recaptured and Reallocated Spending

The previous section quantified an important economic impact of Plainridge Park Casino, which is the extent to which it captures out-of-state revenue. However, there are two other economic impacts of importance. One is the extent to which Plainridge Park Casino 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 Plainridge Park Casino 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 Plainridge Park Casino. Patron survey data informs the subsequent economic modeling, which utilizes the PI+ economic impact model produced by Regional Economic Models Incorporated (REMI). The present report is limited to descriptive information about 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 Plainridge Park Casino (Peake & Motamedi, 2017).

[13] The multiplication factor needed to project Patron Survey self-reported *gambling expenditure* to actual gambling revenue could also have been used. We did not use this multiplication factor because we believe the Patron Survey likely oversampled winners and undersampled big losers to some extent. The reason for this assumption is that gambling revenue is known to constitute 96.3% of all revenue at Plainridge Park Casino. However, in the present analysis, gambling accounts for only 71.2% of self-reported expenditures (i.e., $163,924,726/ ($163,924,726+$66,250,834)).

A total of 69.8% of patrons reported that if there was not a casino in Massachusetts, they would have gambled in another state (see Table 70 in Appendix I). Figure 14 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. Figure 14 shows that 58.7% of patrons from the host and surrounding communities, 69.4% of patrons from other municipalities in Massachusetts and 77.0% of patrons from outside of Massachusetts or origin unknown reported being likely to gamble in another state. The difference is not statistically significant. Among patrons who said that they would have gambled in another state, 74.3% indicated this would have been Connecticut and 68.1% indicated they would have gambled in Rhode Island (see Table 70 in Appendix I).

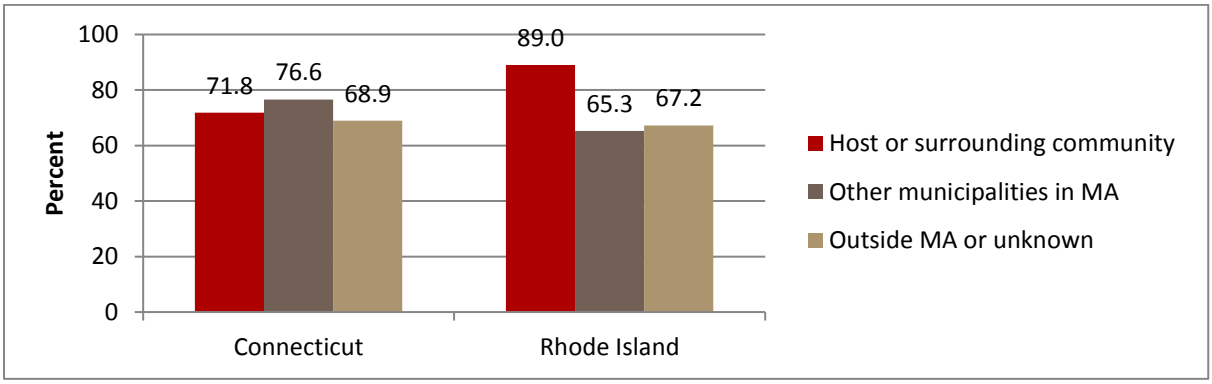
Figure 14 Would Have Gambled in Another State by Geographic Origin of Patron



Note: This information is also contained in Table 71 in Appendix I

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 Plainville. This is consistent with the earlier Figure 10, which showed that these were the two states *actually* visited most in the past year for casino gambling outside of Massachusetts. Figure 15 shows that 89% of patrons from the host and surrounding communities identified Rhode Island as a state to visit, while 65.3% of the patrons from elsewhere in Massachusetts or and 67.2% of the patrons from outside the state identified Rhode Island as a state to visit.

Figure 15 Other States Would Have Visited to Gamble by Geographic Origin of Patron

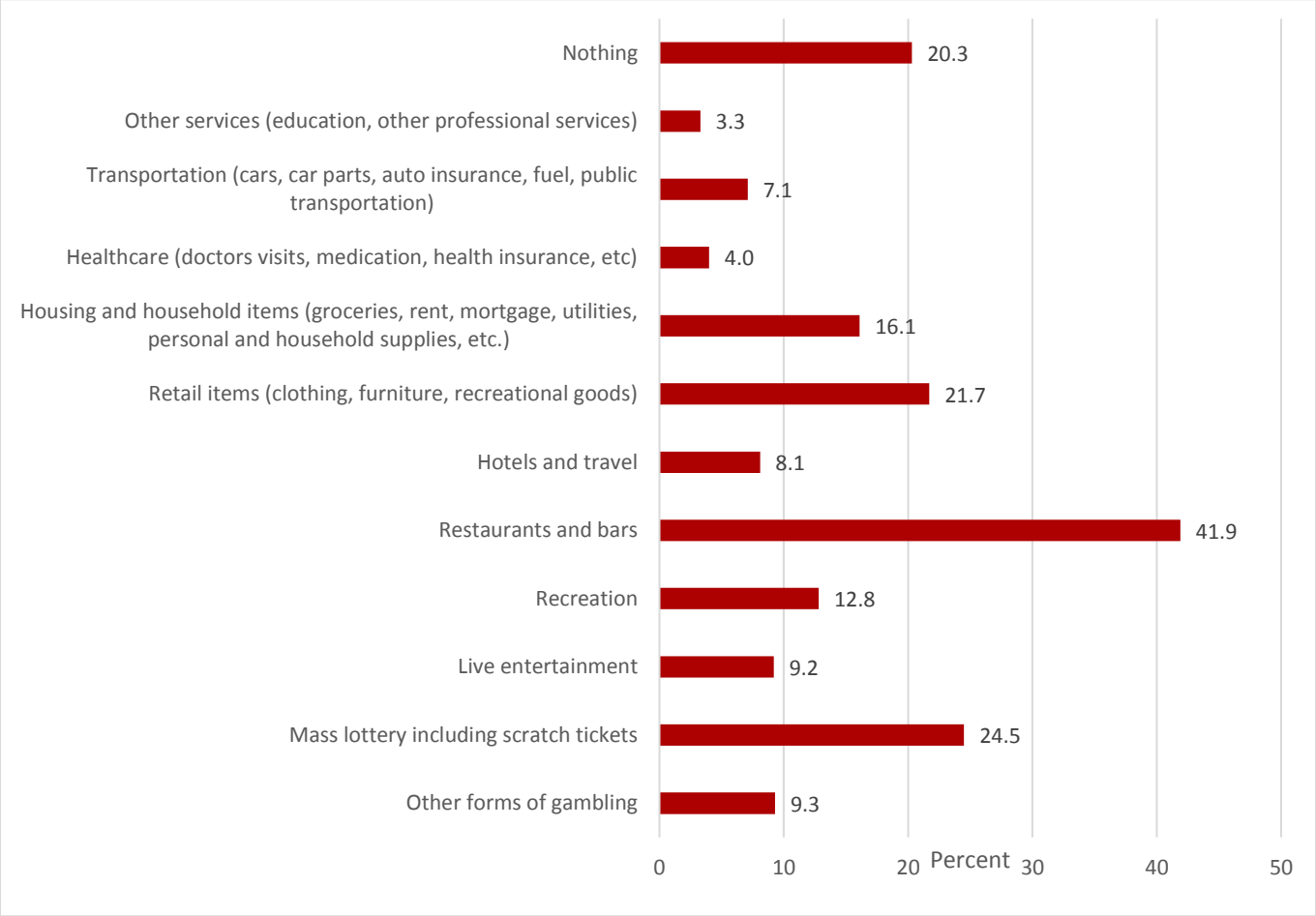


Note: This information is also contained in Table 71 in Appendix I

Patrons were also asked what they would have spent their money on if they had not spent money on gambling. A total of 79.7% of patrons indicated that if they had not spent their money on gambling at Plainridge Park Casino they would have spent it on other goods and services. The specific goods and

services they would have spent money on are shown in Figure 16 below. The most common expenditure items reported were restaurants and bars, followed by lottery tickets, retail items, and various housing and household items.

Figure 16 Would Have Spent Money on if not Gambling



Note: Table 71 in Appendix I also contains this information

Patron Types for Economic Modeling

From an economic perspective, there are six basic types of casino patrons. Table 5 shows the patron types 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

Patron Code	Patron Type	Q1 Origin	Q20 Would have gambled elsewhere	Q5 Casino prompted visit (from MA)	Q6 Casino prompted visit (not from MA)
1	Recaptured In-State	In-State	Yes	N/A	N/A
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	N/A	N/A	Yes
5	Captured Out-of-State Incidental	Out-of-State	Yes	N/A	No
6	Reallocated Out-of-State Incidental	Out-of-State	No	N/A	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 Plainridge Park Casino 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.

Reallocated in-state patrons are people from Massachusetts who would not have visited Plainville were it not for the casino, but who also would not have gambled out-of-state. In other words, these are patrons who, were it not for the casino, would have likely spent their money on goods and services other than gambling. 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 Plainridge Park Casino did not prompt their visit to Plainville. They may live in the town itself, or they may have been running errands or visiting family in Plainville. Put simply, these patrons would have been in Plainville 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 would not have occurred if not for the existence of Plainridge Park Casino. 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 Plainridge Park Casino. 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 Plainridge Park Casino.

Captured out-of-state incidental patrons are people who would have visited Massachusetts regardless of whether or not Plainridge Park Casino 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 Plainridge Park

Casino did not prompt their visit to Massachusetts. These patrons, however, reported that they would have spent the money that they spent at Plainridge Park Casino 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 could have been less if Plainridge Park Casino did not exist. These patrons do not have an effect on the model. Their spending at Plainridge Park Casino 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 Plainridge Park Casino, and who would not have otherwise spent the money they spent at Plainridge Park Casino 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 Plainridge Park Casino 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 majority of both gambling and non-gambling spending at Plainridge Park Casino (58.3% and 50.4%, respectively). The next largest group in terms of share of spending is reallocated in-state casino visitors, who make up 16.3% of gambling spending at Plainridge Park. Reallocated in-state casino visitors represent 4.0% of gambling spending and captured out-of-state incidental patrons both represent 5.8% of gambling spending. The share of spending attributed to reallocated out-of-state incidental patrons is too small to report. All of these proportions slightly decrease when taking into account survey respondents who did not complete the questions necessary to identify a patron type.

Table 6 Share of On-Site Spending by Patron Type[14]

Patron group	Share of Gambling Spending	Share of Non-Gambling PPC Spending
1=Recaptured In-State	58.3%	50.4%
2=Reallocated In-State	16.3%	NSF
3=Reallocated In-State Incidental	4.0%	4.1%
4=New Out-of-State	NSF	NSF
5=Captured Out-of-State Incidental	5.8%	NSF
6=Reallocated Out-of-State Incidental	NSF	NSF

Note: Insufficient information (NSF) indicates estimates are unreliable, relative standard error >30%

Regional Shares of Recaptured and Reallocated Spending

The economic modeling exercise is based on a six-region division of the state (Figure 22 in Appendix I presents a map of the regions used in the economic modeling exercise). Of the spending by recaptured in-state patrons, those from the large Greater Boston region which includes Plainville and several of the surrounding communities contribute 49.7% of gambling spending and 66.4% of non-gambling PPC spending. Most of the remaining spending (36.2% of recaptured gambling spending and 19.3% of recaptured non-gambling spending) comes from the Southeast region. Every other region of Massachusetts accounts for less than 10% of both gambling and non-gambling PPC spending. There were no recaptured patrons from the Berkshires region.

[14] Fourteen respondents who were missing patron type were excluded from these calculations.

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

REMI region	Share of Gambling Spending	Share of Non-Gambling PPC Spending
Pioneer Valley	NSF	NSF
Central	NSF	NSF
Greater Boston	49.7%	66.4%
Southeast	36.2%	19.3%
Cape and Islands	NSF	NSF

Note: Insufficient information (NSF) indicates estimates are unreliable, relative standard error >30%

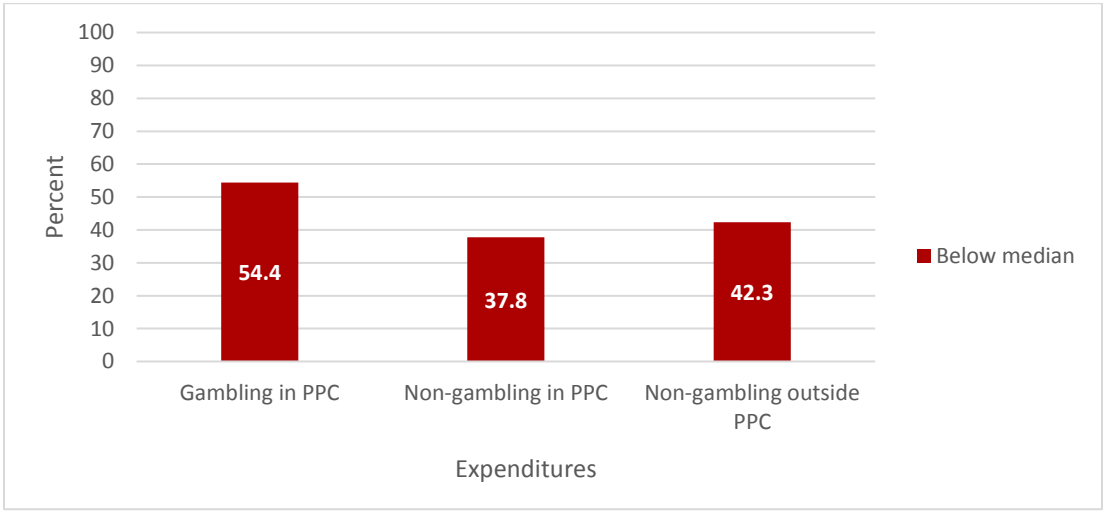
Table 72-Table 75 in Appendix I display shares of reallocated in state on-site patron spending, reallocated in state incidental on-site patron spending, off-site non-gambling spending, and casino patron off-site spending by REMI region.

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 primarily contribute to total gambling revenue.

Figure 17 shows patron expenditures on gambling and non-gambling amenities at Plainridge Park Casino 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 2015 was $70,628 (U.S. Census, 2016).

Figure 17 Expenditure Proportion for Households with Annual Income Below Median ($70,000)

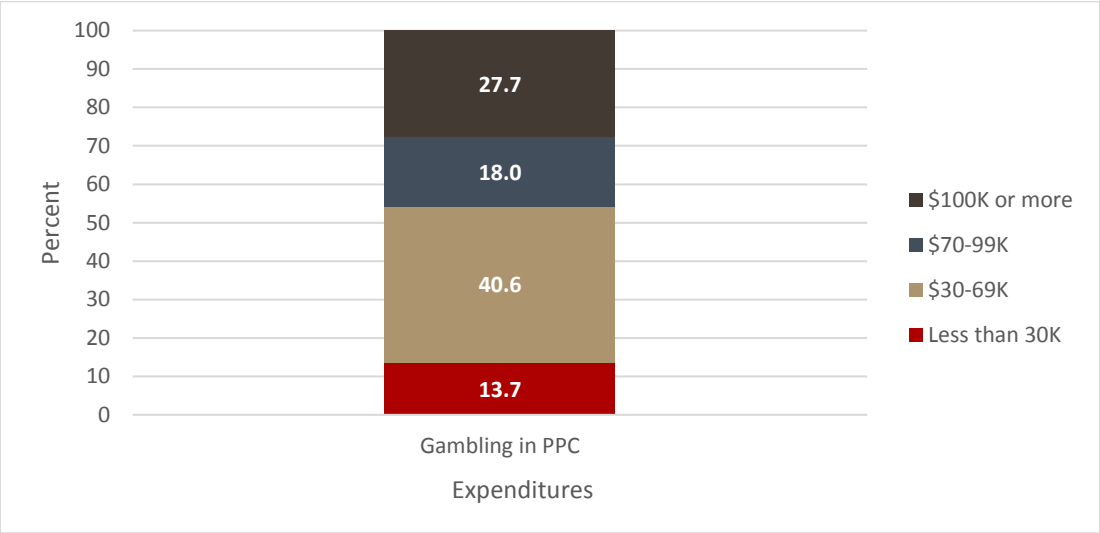


Note: Table 76 in Appendix I also contains this information

Figure 17 illustrates that despite comprising 50% of the population, income groups below the median Massachusetts household income (i.e., below $70,000 category) account for a slight majority (54.4%) of

gambling revenue, although a minority of both non-gambling expenditures at PPC (37.8%)as well as non-gambling expenditures outside of PPC (42.3%).

Figure 18 Gambling expenditures by annual household income



Note: Table 77 in Appendix I also contains this information

Figure 18 provides a more fine-grained analysis of gambling spending as a function of income group. Focusing just on gambling spending (which accounts for the great majority of all spending), the lowest income groups (i.e., below $29,999) spent proportionally less on gambling (13.7%) relative to their prevalence in the general population (15.6%) as did the highest income groups ($100,000 and over) who account for 27.7% of gambling expenditures while representing 43.9% of the Massachusetts population.[15] In contrast, the middle and lower middle income groups ($30,000-$49,999, $50,000 - $69,999, $70,000 - $99,999) spend proportionally more, accounting for 58.6% of total gambling expenditures while representing 40.5% of the population. Thus, these data tend to support findings from other research, showing that casino gambling at Plainridge Park Casino appears to be slightly regressive.

GameSense

Plainridge Park Casino hosts GameSense, a responsible gambling program originally developed in British Columbia. Like many jurisdictions, casinos in Massachusetts are required to offer a self-exclusion program. The Massachusetts law also specifies that casinos must have information about problem gambling and available services prominently displayed. However, the Massachusetts law is unique in additionally requiring that all casinos provide "complimentary on-site space for an independent substance abuse and mental health counseling service to be selected by the commission" (Mass. Gen. Laws. Ch. 23K §9).

The Massachusetts Council on Compulsive Gambling describes GameSense as follows:

> The GameSense Info Center, located at the garage entrance to Plainridge Park Casino, is an on-site resource for gamblers to find out more about the games or to take a break. GameSense Advisors are funded by the Massachusetts Gaming Commission, and are

[15] It should be noted, however, that only 31.5% of MA PPC patrons had incomes greater than $100,000. Thus, their per capita spending is higher than per capita spending by patrons with lower incomes.

trained by the Massachusetts Council on Compulsive Gambling. Each casino in Massachusetts will include a GameSense Info Center. GameSense Advisors are on hand at the Plainridge Park Casino from 10AM-2AM every day, with helpful presentations to separate gambling myths and facts (GameSense Info Center, 2017).

In partnership with the Cambridge Health Alliance Division on Addictions (which is conducting a more thorough evaluation of GameSense), the Patron Survey included questions concerning patrons' experiences with the GameSense program. As shown in Table 8, there is fairly high awareness of the GameSense program with 59.9% of people reporting being familiar with it. In contrast, a much smaller percentage of people reported interacting with a GameSense Advisor. Among the patrons who were aware of GameSense, 6.8% had interacted with the GameSense staff on the casino floor and 10.6% had interacted with the GameSense staff in the GameSense Information Center (representing 10.2% of all patrons).

The overwhelming majority of patrons who spoke to a GameSense Advisor were satisfied with the information offered (98.6%) and about half of them (55.3%) reported learning something new about gambling. While over half of the patrons who interacted with a GameSense Advisor reported that the interaction did not influence their gambling (54.1%), about one out of four of these patrons (24.7%) reported changing the way they gambled. The majority of the patrons who changed the way they gambled (58.5%) reported that they reduced both the time and the money they gambled as a result of interacting with a GameSense Advisor.

Table 8 GameSense Measures

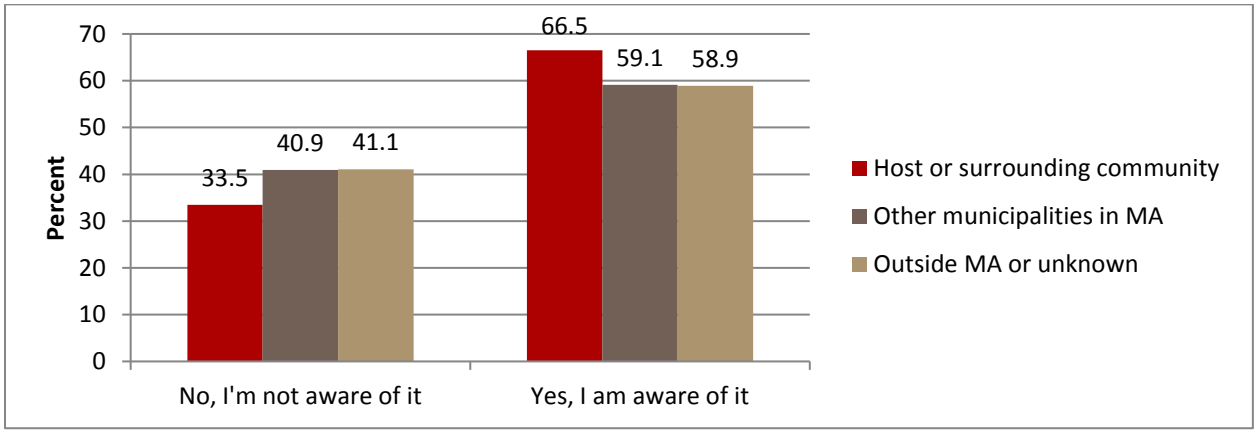
		N[1]	N[2]	%	95% CI
Are you aware of the GameSense program?	No, I'm not aware of it	196	729,791	40.1	(34.8, 45.6)
	Yes, I am aware of it	259	1,090,310	59.9	(54.4, 65.2)
Have you spoken with a GameSense Advisor?	No	209	881,919	82.5	(76.5, 87.3)
	Yes on the casino floor	18	72,747	6.8	(4.0, 11.2)
	Yes in the GameSense Info Center	28	113,735	10.6	(7.0, 15.8)
Were you satisfied with the information offered by the GameSense Advisor?	No			NSF	
	Yes	47	195,732	98.6	(90.6, 99.8)
Did you learn something new about gambling?	No	21	89,836	44.7	(29.6, 60.8)
	Yes	28	111,144	55.3	(39.2, 70.4)
Did your interaction with the GameSense Advisor change the way you gamble?	No	28	109,840	54.1	(37.9, 69.5)
	Yes, I've changed the way I think about my gambling			NSF	
	Yes, I've changed the way I gamble	11	50,220	24.7	(13.3, 41.4)

		N[1]	N[2]	%	95% CI
As a result of interacting with the GameSense Advisor:	I have reduced the time I spend gambling	7	29,358	58.5	(26.4, 84.7)
	I have increased the time I spend gambling			NSF	
	There has been no change in the time I spend gambling			NSF	
As a result of interacting with the GameSense Advisor:	I have reduced the money I spend gambling	7	29,358	58.5	(26.4, 84.7)
	I have increased the money I spend gambling			NSF	
	There has been no change in the money I spend gambling			NSF	

[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 Plainridge Park Casino in 2016
Note: Insufficient information (NSF) indicates estimates are unreliable, relative standard error >30%
Note: This information is presented by season in Table 78 in Appendix J

As shown in Figure 19, 66.5% patrons from the host or surrounding communities were aware of GameSense, while less than 60% of the other patrons were aware of GameSense.

Figure 19 GameSense Awareness by Geographic Origin



Note: Table 79 in Appendix J also contains this information

As mentioned, the Cambridge Health Alliance Division on Addictions is conducting deeper analyses of this data along with other data on GameSense. Their report to the Massachusetts Gaming Commission in the Fall of 2017 will expand upon these results.

Summary of Findings

In this section, we summarize the findings from the Patron Survey. In the following section, we present the results of a separate methodology that was implemented during the Patron Survey. The License Plate Survey was used to test how well the Patron Survey performs in relation to a simpler and less expensive method for estimating casino patron origin and spending. License plate surveys have been carried out every two years at numerous New England casinos and the results formed the basis for assumptions about the amount of Massachusetts gambling revenue lost to other states prior to the introduction of casinos in the Commonwealth.

The majority of patrons were from Massachusetts with 11.4% from Plainville or MGC-designated surrounding communities and 66.5% from other communities in Massachusetts. Demographically, the patrons were evenly distributed in terms of gender, overwhelmingly White (81.8%), and middle-aged or older with a mean age of 56 years. Educational attainment was quite high (78.4% had attended college or university) while household income was variable. The majority of patrons were employed (59.1%) and another 30.5% were retired. Comparison to the general adult Massachusetts population shows that the patrons were substantially older, somewhat more likely to be White, more likely to have obtained higher education and more likely to have an annual household income between $50,000 and $100,000. There were some differences in demographic characteristics by geographic origin.

Over 95% of patrons drove to the casino in their own or someone else's car and very few reported experiencing problems getting to the venue. About one-third of the patrons (30.6%) reported visiting the casino several times a month and another third reported visiting once a week or more often (39.3%). A majority of patrons (87.1%) reported having an enjoyable experience at the venue; 65.9% indicated that gambling was their favorite aspect of their visit.

Patrons were asked about their gambling and non-gambling activities at the venue and their non-gambling activities outside the venue. The great majority of patrons (87.0%) played the slot machines with much smaller proportions playing electronic table games, betting on horse racing and playing the lottery. Over three-quarters of the patrons (77.8%) reported that they had a Marquee Rewards® loyalty card. Nearly 90% of the patrons had visited casinos in other jurisdictions in the past year with the majority having visited casinos in Connecticut (72.3%) and Rhode Island (55.9%).

Over a third of patrons (35.0%) did not participate in any non-gambling activities at the casino while 59.7% reported buying food or beverages at the casino. While the majority of patrons (67.2%) did not participate in any off-site activities, 21.4% bought food or beverages off-site, 11.2% went to retail outlets off-site, and 3.2% spent money on other entertainment.

One important economic impact of the new casino is the extent to which it captures out-of-state revenue. In addition to their activities, patrons were asked to estimate their spending on gambling at the casino, non-gambling activities at the casino, and non-gambling activities outside the casino. The average self-reported gambling expenditure was $96.39, the average non-gambling expenditure at the casino was $63.99, and the average non-gambling expenditure outside the casino was $73.26. This data was used to estimate the total amount of gambling and non-gambling expenditures for all PPC patrons as well as the proportion of spending attributable to non-Massachusetts residents. The analysis shows that Massachusetts residents account for 79.1% of all gambling and non-gambling expenditures by casino patrons while non-Massachusetts residents account for 20.9% of these expenditures.

Two additional important economic impacts are "recaptured" spending by Massachusetts residents who would otherwise have spent their money at an out-of-state casino and "reallocated" spending by Massachusetts residents from other businesses in the Commonwealth to Plainridge Park Casino. This

information is needed to inform the subsequent modeling of the overall economic impacts of the casino on the Massachusetts economy. A total of 69.8% of patrons reported that they would have gambled in another state if there was not a casino in Massachusetts, with the majority indicating that this would have been Connecticut or Rhode Island. When asked what they would have spent their money on if they had not spent it on gambling, 79.7% indicated that they would have spent it on other goods and services, including restaurants and bars, lottery tickets, retail items and housing and household items.

For economic modeling purposes, six groups of casino patrons were identified based on their answers to questions about where they were from, whether they would have gambled elsewhere if PPC did not exist, and whether PPC prompted their visit to Plainville. Over half of gambling and non-gambling spending at Plainridge Park Casino (58.3% and 50.4% respectively) was "recaptured" spending by Massachusetts residents. "Reallocated" spending by Massachusetts residents accounted for 16.3% of patrons' gambling spending.

The economic model is based on a six-region division of the state. The majority of recaptured gambling spending (49.7%) and recaptured non-gambling spending at the casino (66.4%) is accounted for by residents of the Greater Boston region, which includes Plainville and several of the surrounding communities. Most of the remaining recaptured spending is accounted for by residents of the Southeast region. Patrons from Greater Boston and the Southeast regions represent over 85% of reallocated gambling and non-gambling spending at the casino.

In another analysis, we examined patron expenditures on gambling and non-gambling amenities at Plainridge Park Casino and non-gambling amenities outside the casino by household income. While comprising 50% of the population, income groups below the median household income in Massachusetts accounted for 54.4% of PPC gambling revenue, 37.8% of non-gambling revenue at PPC, and 42.3% of non-gambling revenue outside of PPC. A more fine-grained analysis showed that both the lowest and highest income groups contributed proportionally less gambling revenue relative to their prevalence in the population, with the lower middle income groups contributing proportionally more.

A small number of questions in the patron survey assessed patrons' experiences with GameSense, the responsible gambling program required by the Massachusetts gambling law. While there was fairly high awareness of the GameSense program (59.9%), only 17.4% of people who were aware of the program had an interactiion with a GameSense Advisor. Of these individuals, 24.7% reported that the interaction altered they way they gambled.

Limitations

In considering the results of the Patron Survey, it is important to understand the limitations of this component of the SEIGMA study. These include limitations associated with the sampling strategy developed for the survey, those associated with asking hypothetical questions about spending, and those related to the performance of the Demographic Accuracy Test.

First, the development of projected expenditure totals for all PPC 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 choose a sampling design which best reflected the average PPC patron. Using Google visitation data, days and times of the week were purposefully selected to attempt to increase representativeness. Nonetheless, randomness is not an attribute of the patron sample. Therefore, reported results should be viewed in this context and with this limitation.

In general, there are 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 might do and what they would have actually done. Due to the limits of hypothetical questions, we avoided asking such questions whenever possible. Nonetheless, some hypothetical questions were necessary to garner an understanding of PPC's impact on patron spending.

In addition to asking about hypothetical scenarios, the survey questionnaire asked about money "you" (i.e., the patron completing the survey) spent. Those who came as a couple or in a group may have misinterpreted this question. For instance, the patron taking the survey may have paid for their partner's gambling or non-gambling amenities. Such hypotheticals could have occurred and the respondent would have had to make a decision on what to report. We do believe that such situations were rare and did not substantially alter the survey results. In addition, no respondents commented on being confused with this question.

UMass student surveyors employed in the Summer (July/August 2016) completed a Demographic Accuracy Test. UMass student surveyors employed in the Winter (February 2016), however, did not complete this test since it was not until after our first data collection trip that we determined that the demographic accuracy of the surveyors ought to be tested. In future Patron Surveys, all surveyors will complete the Demographic Accuracy Test. It also should be noted that there are no publications addressing how the Demographic Accuracy Test translates into the ability to accurately assess the demographics of randomly selected individuals during data collection.

License Plate Survey

Introduction

The purpose of the SEIGMA license plate count was twofold. The first purpose 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 be potentially 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 K. 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.

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	12-4pm or 6-10pm 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	<u>Weekday</u> • % of cars from State X on Thu & Fri * .667 *.88 + % of buses from State X on Thu & Fri * .667 * .12 <u>Weekend</u> • % 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.

Methodology	NEGRP	SEIGMA
Calculation of the Casino's Annual Percentage of Patrons from Each State	<u>Holiday</u> • % 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 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.
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 for the License Plate Survey

The goal of the license place count was to estimate the proportion of out-of-state patrons. We made a number of assumptions in developing weights for the license plate survey. We assumed that vehicle occupancy was constant for all vehicles and that those occupants had the same residence as the license plate. We also assumed that vehicles arrived in the parking lot in a random manner over the day, so that there was a relatively constant proportion of in-state license plate vehicles at any one time. However, we did not assume that the number of vehicles in the parking lot was constant over time. We developed weights to estimate the total number of vehicles in the parking lot on a given day. The weights make use of TRANSYS.com entry data for Plainridge Park Casino. Since the license plate data was collected in a particular period, only certain vehicles (those arriving prior to the collection) could be observed. We used this information and Google Analytics to estimate that the typical visit duration is 1-3.5 hours and to develop weights for license plate data on weekdays and weekends.

Assumptions for Weight Development

We assumed that TRANSYS.com entry count data was proportional to the number of vehicles in the parking lot. In order to develop a weight for a survey day, we used the entry count data to estimate the proportion of vehicles present in the parking lot at the time of the License Plate Survey.

Monday: 12-4 PM

We assumed that data collection took 1 hour on Monday, from 12-1 PM. Casino entry count data are available each hour. Vehicles for persons entering the casino from 12-1 PM were considered to have a 50% chance of being included in the vehicle survey since these individuals may have arrived after the surveyors completed their count. We assumed there was a 100% chance that the vehicles were in the parking lot if the entry to the casino was in the hour prior to 12 noon. We assigned lower probabilities to earlier time periods based on the assumed typical visit duration of 1-3.5 hours. These assignments are given in the second column of Table 10.

Other Collection Periods

Additional columns in Table 10 indicate the percentages assigned in other data collection periods and days. We assumed a 2-hour license plate collection period occurred on Saturdays due to the higher volume of casino entry counts.

Table 10 Percent of Vehicles assumed to be in the Parking Lot based on Entry Counts to the Plainridge Park Casino in 2016

Monday	12-4PM Collection	6-10 PM Collection	Saturday	12-4PM Collection	6-10 PM Collection
8:00 AM	0%		8:00 AM	0%	
9:00 AM	25%		9:00 AM	25%	
10:00 AM	50%		10:00 AM	50%	
11:00 AM	75%		11:00 AM	75%	
12:00 PM	100%		12:00 PM	100%	
1:00 PM	50%		1:00 PM	100%	
2:00 PM	0%	0%	2:00 PM	50%	0%
3:00 PM		25%	3:00 PM	0%	25%
4:00 PM		50%	4:00 PM		50%
5:00 PM		75%	5:00 PM		75%
6:00 PM		100%	6:00 PM		100%
7:00 PM		50%	7:00 PM		100%
8:00 PM		0%	8:00 PM		50%
9:00 PM			9:00 PM		0%
10:00 PM			10:00 PM		
11:00 PM			11:00 PM		

License Plate Weighting Procedure

Using these assumptions and the TRAFSYS data, we calculated the total casino entry counts V_{st} for the License Plate Survey time periods. The time periods are stratified by calendar period (Spring/Summer or Fall/Winter) and then by weekday/weekend time periods. We index these strata by $t = 1,\ldots,T = 4$, where

$t = 1$ corresponds to the Spring/Summer weekday time period (i.e. Monday);
$t = 2$ corresponds to the Spring/Summer weekend time period (i.e. Saturday);
$t = 3$ corresponds to the Fall/Winter weekday time period (i.e. Monday);
$t = 4$ corresponds to the Fall/Winter weekend time period (i.e. Saturday).

We estimate the total casino entry count for vehicles by adjusting counts near the start of the day, including 75% of entry counts who arrive between midnight and 1AM, 50% of entry counts who arrive between 11PM and midnight on the previous day, and 25% of the entry counts who arrive between 10-11PM on the previous day. Using these assumptions, we total the 'vehicle' entry counts for each calendar period and weekday/weekend, denoted by V_t . The vehicle sampling fraction for a calendar period and weekday/weekend is given by $f_{vt} = \frac{V_{st}}{V_t}$. These sampling fractions are used to assign an average weekly weight of $w_{vt} = \frac{1}{f_{vt}}$ to each vehicle count in the License Plate Survey. Since there are 26 weeks in each calendar period, the 2016 weight assigned to each license plate, $j = 1,\ldots,V_{st}$ is given by

$w_{vjt0} = 26(f_{vt})$, or equivalently as $w_{vjt0} = 26\left(\frac{V_t}{V_{st}}\right)$. These weights are given for each calendar period and weekday/weekend in Table 11.

Table 11 Vehicle Weight for License Plate Survey in Plainville 2016 by Calendar Period and Weekday/Weekend

Calendar Period	Weekday/Weekend Period	2016 Vehicle Weight
Spring/Summer	Weekday	359.6
Spring/Summer	Weekend	144.9
Fall/Winter	Weekday	301.6
Fall/Winter	Weekend	132.4

License Plate Survey Results

Table 12 reports the geographic origin of all license plates during all of the sampling periods.

Table 12 Geographic Origin of License Plates at Plainridge Park Casino

	MA	RI	NH	CT	NY	ME	NJ	PA	VT	Other	TOTAL
Sat Feb 20 12 - 4 pm	92,018	11,386	4,899	1,456	662	265	132	265	0	794	111,878
Mon Feb 22 6 - 10 pm	99,528	14,175	3,318	1,508	0	0	0	0	0	1,206	119,735
Sat Feb 27 6 - 10 pm	127,369	16,020	6,620	1,456	132	132	132	530	0	662	153,054
Mon Feb 29 12 – 4 pm	107,370	13,572	2,413	905	302	0	0	0	302	302	125,164
WINTER TOTAL	426,284	55,154	17,249	5,326	1,096	397	265	794	302	2,964	509,832
WINTER %	83.61%	10.82%	3.38%	1.04%	0.21%	0.08%	0.05%	0.16%	0.06%	0.58%	100.00%
Sat Jul 30 12 – 4 pm	84,042	11,882	3,912	1,304	435	145	435	0	0	2,029	104,183
Mon Aug 1 6 – 10 pm	153,190	22,655	4,675	1,438	719	719	719	360	360	4,315	189,150

	MA	RI	NH	CT	NY	ME	NJ	PA	VT	Other	TOTAL
Sat Aug 6 6 – 10 pm	117,659	11,447	6,086	1,304	580	869	0	0	145	2,029	140,118
Mon Aug 8 12 – 6 pm	145,998	16,901	5,394	1,079	360	1,798	360	360	0	2,877	175,125
SUMMER TOTAL	500,888	62,885	20,067	5,125	2,093	3,532	1,514	719	505	11,249	608,576
SUMMER %	82.30%	10.33%	3.30%	0.84%	0.34%	0.58%	0.25%	0.12%	0.08%	1.85%	100.00%

Note: there were only 3 buses counted during the survey, all of which were from Massachusetts

Table 13 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 14 individuals in the Patron Survey whose geographic origin was unknown.

Table 13 Geographic Origin of Patrons as Determined by the Patron versus License Plate Survey

	MA	RI	Other	TOTAL
Patron Survey	77.9%	12.0%	10.0%	100.0%
License Plate Survey	82.9%	10.6%	6.6%	100.0%

The next step in our analysis was to compare estimates of the percentage of revenue derived from Massachusetts versus non-Massachusetts residents in the Patron Survey and the License Plate Survey. The methodology historically used to determine proportional share of revenue from License Plate Surveys is to assume that this corresponds directly to the proportion of license plates from each state (i.e., the implication is that, on average, people spend the same amount regardless of origin). Using this approach, the License Plate Survey results suggest that 82.9% of all revenue comes from Massachusetts residents and 17.1% comes from non-Massachusetts residents. As indicated earlier in the report, results from the Patron Survey show that 79.1% of all gambling and non-gambling expenditure comes from Massachusetts residents and 20.9% comes from non-Massachusetts residents. Table 14 displays this comparison.

Table 14 Percentage of Revenue Accounted for by Patron versus License Plate Surveys

	MA residents	Non-MA residents
Patron Survey	79.1%	20.9%
License Plate Survey	82.9%	17.1%

Summary of Findings

The 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.

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 79.1% of total expenditure, in terms of subcategories, these residents accounted for 78.6% of gambling expenditure, 92.1% of non-gambling expenditure at Plainridge Park Casino, and 78.9% of non-gambling expenditure outside of Plainridge Park Casino (see Figure 13 and Table 66 in Appendix I). The methodology utilized by the Patron Survey allowed for the collection of this more detailed spending information. Furthermore, unlike the License Plate Survey, the Patron Survey allows for estimates of non-gambling expenditure outside of Plainridge Park Casino.

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: Survey Team Script

Scripts (use laminated Spanish/Chinese scripts if needed with paper survey only)

Solicitor:

Initial Approach:

- Hi, I'm _____, a student from the University of Massachusetts.
- Are you heading out for the [day/evening]?
- *No:* Ok, thank you, perhaps we will see you when you leave. *(Record on refusal tally)*
    - *Yes: (Go to next script)*

Describe survey:

- I'm part of a research team doing a survey here.
- Would you have 5-10 minutes to complete an anonymous survey right over here? *(point/indicate over to table)*
- If so, we'd like to give you a $5 Dunkin gift card as a thank you.

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.
    - *No: (Continue to next script)*

Walk patron to table where Table Monitor awaits. Solicitor 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 on refusal tally)*
- We can move over to this private seating area if you are ready to begin.

NOW ok to give them IPad or paper version and a survey #.

Survey Zip Code:
International: 00000
Unknown/no give: 99999

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 B: Patron Survey Questionnaire

SEIGMA SOCIAL AND ECONOMIC IMPACTS OF GAMBLING IN MASSACHUSETTS

UNIVERSITY OF MASSACHUSETTS SCHOOL OF PUBLIC HEALTH AND HEALTH SCIENCES

Instructions for completing the booklet

This booklet contains several types of questions.

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

- [x] Yes
- [ ] No

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

- [x] Connecticut
- [ ] Rhode Island
- [x] New Jersey
- [ ] New York

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

0	1	0	5	3

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
- [x] No - GO TO QUESTION 22

1. To get started with the survey, please enter your home zip code:

☐☐☐☐☐

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

2. How did you get here today? **Check all that apply.**

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

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

- ☐ No problems
- ☐ Got lost
- ☐ Lots of traffic
- ☐ Long wait for transportation
- ☐ Road construction

4. Since this facility opened in June, how often have you visited this facility?

- ◯ 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
- ◯ This is my first visit

If you live in Massachusetts, please answer Question 5.

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

5. Did Plainridge Park Casino prompt your visit to this town?

- ◯ Yes → **GO TO QUESTION 9**
- ◯ No → **GO TO QUESTION 9**

If you live in Massachusetts, go to Question 9.

6. Did Plainridge Park Casino prompt your visit to Massachusetts?

- ◯ Yes
- ◯ No

7. 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 this casino company?

- ◯ 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 Plainridge Park Casino today.

12. What non-gambling activities did you spend money on today on-site in the Plainridge Park Casino? **Check all that apply.**

- ☐ Food or beverage
- ☐ Shopping in a gift shop or other retail outlet
- ☐ Other entertainment, such as music or a performance
- ☐ Other ➔ please specify: _____
- ☐ None ➔ **GO TO QUESTION 14**

13. How much money in total did 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
- ☐ Electronic table games
- ☐ Horse racing
- ☐ Lottery

15. How much did you spend on these activities? (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 have you visited casinos in the past year prior to Plainridge Park Casino opening? **Check all that apply.**

- ☐ Did not visit any casino in the past year before Plainridge Park Casino
- ☐ 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 outside of the casino facility during this visit (for example, on your way in or out of the casino or during your visit to this town or state)? **Check all that apply.**

- ☐ Bought food or beverage in a restaurant or fast food outlet
- ☐ Retail shopping, like at a store or mall
- ☐ Stayed at a hotel outside of the casino
- ☐ Went to a live entertainment show, concert, or performance
- ☐ Spent money on other entertainment (for example an amusement park, bowling, museum, etc.)
- ☐ Nothing → **GO TO QUESTION 20**

19. How much in total do you estimate you spent on activities outside of Plainridge Park Casino during your visit to this area?

$ _____

20. If there wasn't a casino 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. If you hadn't come here today, what would have you spent your money on instead? If you are not sure, make your best guess. **Check all that apply.**

- ☐ Other forms of gambling (e.g., bingo, horse racing)
- ☐ Massachusetts Lottery, including scratch tickets and keno
- ☐ 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.)
- ☐ Nothing

Please continue to the next page.

You are almost done. Just a few more questions left.

23. Are you aware of the GameSense program?

- ◯ No, I'm not aware of it ➤ **GO TO QUESTION 34**
- ◯ Yes, I'm aware of it

24. Have you spoken with a GameSense Advisor?

- ◯ Yes, on the casino floor
- ◯ Yes, in the GameSense Info Center
- ◯ No ➤ **GO TO QUESTION 34**

25. Were you satisfied with the information offered by the GameSense Advisor?

- ◯ Yes
- ◯ No

26. Did you learn something new about gambling?

- ◯ Yes
- ◯ No

27. Did your interaction with the GameSense Advisor change the way you gamble?

- ◯ No ➤ **GO TO QUESTION 30**
- ◯ Yes, I've changed how I think about my gambling, but I have not changed how I actually gamble ➤ **GO TO QUESTION 30**
- ◯ Yes, I've changed how I actually gamble

28. As a result of interacting with the Gamesense Advisor:

- ◯ I have reduced the time I spend gambling
- ◯ I have increased the time I spend gambling
- ◯ There has been no change in the time I spend gambling

29. As a result of interacting with the Gamesense Advisor:

- ◯ I have reduced the money I spend gambling
- ◯ I have increased the money I spend gambling
- ◯ There has been no change in the money I spend gambling

To what extent do you agree or disagree with each of these statements?

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
30. The GameSense Advisor was caring.					
31. The GameSense Advisor was helpful.					
32. The GameSense Advisor was knowledgeable.					
33. The GameSense Advisor listened to me.					

Please continue to the next page.

You have reached the final section. In closing, we would like some demographic information about you. Of course, like the rest of the survey, your responses to these questions will be confidential.

34. What is your gender?

- ◯ Female
- ◯ Male
- ◯ Transgender/other

35. In what year were you born?

☐☐☐☐

36. At present are you…?

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

37. What is your highest degree or level or 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

38. 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

39. 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 41**
- ◯ No, never served in the military ➤ **GO TO QUESTION 41**

40. 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

41. 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

42. Are you Hispanic or Latino?

- ◯ Yes
- ◯ No

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

- ☐ White or Caucasian
- ☐ Black or African-American
- ☐ Asian
- ☐ Native Hawaiian or other Pacific Islander
- ☐ Native American or Alaskan Native
- ☐ Some other race, please specify: _____

Thank you!

You have reached the end of the survey.

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.

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

Appendix C: Refusal Rate and Item Response Rate

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

		# refused	# accepted	total	refusal rate	p-value[16]
Season	Winter	830	273	1103	0.752493	0.00673
	Summer	831	206	1037	0.80135	
Day of week	Saturday	1111	307	1418	0.783498	0.25427
	Monday	550	172	722	0.761773	
Time of day	12-4pm	784	214	998	0.785571	0.32927
	6-10pm	877	265	1142	0.767951	

[16] Chi-square test for independence.

Table 16 Item Response Rate (%) by Data Collection Mode

	Question	iPad	Print
2	How did you get here today?	88.5	99.5
3	Did you have any problems getting here?	98.3	98.4
4	Since this facility opened in June, how often have you visited this facility?	99.0	99.0
5	Did Plainridge Park Casino prompt your visit to this town?	99.3	99.0
6	Did Plainridge Park Casino prompt your visit to Massachusetts?	99.7	98.4
7	How many days are you visiting Massachusetts?	97.6	92.7
8	Please enter the number of days you are visiting Massachusetts	96.5	90.1
9	Do you have a loyalty or rewards card with this casino company?	100.0	99.0
10	Overall, did you have an enjoyable time during your stay?	99.7	99.5
11	Do you think you would return to this facility?	99.7	99.5
12	What non-gambling activities did you spend money on today on-site in the Plainridge Park Casino?	99.0	91.1
13	How much money in total did you spend on these non-gambling activities today?	91.3	86.5
14	If you gambled today, which gambling activities or games did you play?	99.3	92.2
15	How much did you spend on these (gambling) activities?	96.5	89.1
16	Where have you visited casinos in the past year prior to Plainridge Park Casino opening?	98.3	90.6
17	What do you like the most about your visit here today?	98.6	89.1
18	What else did you do outside of the casino facility during this visit?	95.5	93.2
19	How much in total do you estimate you spent on activities outside of Plainridge Park Casino during your visit to this area?	94.1	91.7
20	If there wasn't a casino in Massachusetts, would you have chosen to spend the money you spent here today on gambling in another state?	98.6	95.8
21	Where?	98.6	91.7
22	If you hadn't come here today, what would you have spent your money on instead?	98.6	95.3
23	Are you aware of the GameSense program?	98.6	89.6
24	Have you spoken with a GameSense Advisor?	97.6	89.1
25	Were you satisfied with the information offered by the GameSense Advisor?	98.6	88.5
26	Did you learn something new about gambling?	98.3	89.6
27	Did your interaction with the GameSense Advisor change the way you gamble?	98.6	88.5
28	As a result of interacting with the GameSense Advisor (time):	98.6	88.5
29	As a result of interacting with the GameSense Advisor (money):	98.6	88.5
30	The GameSense Advisor was caring	99.0	88.5
31	The GameSense Advisor was helpful	98.6	88.5
32	The GameSense Advisor was knowledgeable	98.6	88.5
33	The GameSense Advisor listened to me	98.6	88.5
34	What is your gender?	98.3	95.8
35	What year were you born?	88.5	92.7
36	Marital status	97.9	95.3
37	What is your highest degree or level of school you have completed?	97.9	95.3
38	Employment status	97.6	94.8
39	Have you ever served in active duty in the US Armed Forces, military reserves, or National Guard?	96.9	91.7
40	When did you serve on active duty in the U.S. Armed Forces?	96.9	91.7
41	Approximate annual household income from all sources	92.3	89.6
42	Are you Hispanic or Latino?	92.3	93.8
43	Which one or more of the following would you say is your race?	95.8	96.4

Appendix D: Demographic Accuracy Test

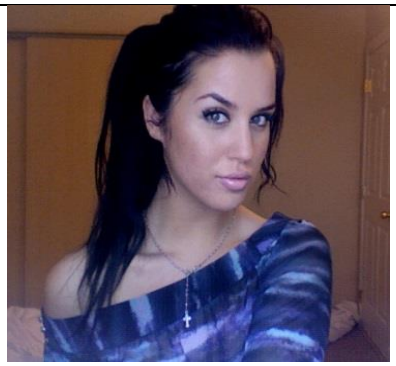
Name:_____ Date:_____

- 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
	African Amer	G	H	I
Female	White	J	K	L
	Asian	M	N	O
	African Amer	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	

#	Photo		#	Photo
9			10	
11			12	
13			14	
15			16	

#	Photo	#	Photo
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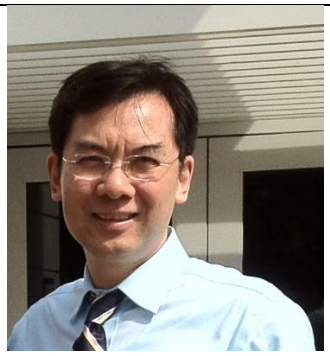
19		20	
21		22	
23		24	

#	Photo	#	Photo
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27		28	
29		30	
31		32	

#	Photo		#	Photo
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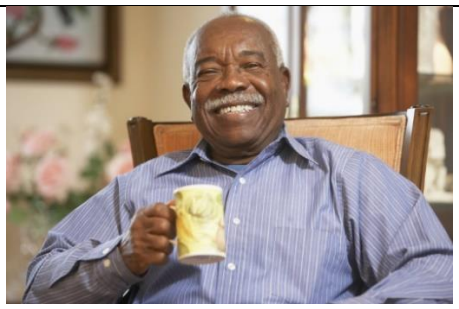
35			36	

Appendix E: Weighting Calculations

Accounting for Differences in Patron Volume by Season and Period of the Week

We used the 2016 TRAFSYS entry data from Plainridge Park Casino to account for patron volume. These data consist of average entry counts by hour for each day of the week for 2016. First, entry data will be stratified by calendar period (Spring/Summer or Fall/Winter) and then by weekday/weekend time periods. We index these strata by $t = 1,...,T = 4$, where

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

Next, using the TRAFSYS data, the total number of entry counts during an average week in each stratum, E_t is calculated, along with the total number of entry counts during the 8 hours corresponding to the survey interview period (from 12 PM-4 PM and 6 PM-10 PM), E_t^* . By dividing E_t^* by E_t , the sampling fraction, $f_t = \frac{E_t^*}{E_t}$ for each stratum is determined. Using the 2016 TRAFSYS data, these sampling fraction are given in Table 17.

Table 17 Sampling Fractions for Entry Counts from TRAFSYS in 2016 by Stratum

Calendar Period	Weekday/Weekend Period	Sampling Fraction
Spring/Summer	Weekday	9.75%
Spring/Summer	Weekend	26.52%
Fall/Winter	Weekday	10.75%
Fall/Winter	Weekend	28.66%

A sampling fraction in Table 17Table 17 is the percent of casino entries in the Patron Survey Interview Period that would be expected in an average week for each stratum. For example, we expect 9.75% of the weekday casino entries in the Spring/Summer to be in the 8 hour interview period (i.e. on Monday from 12 PM-4 PM and 6 PM-10 PM).

Since the Patron Survey was conducted on exiting patrons, while the TRAFSYS data counts number of entries to the casino, we need to relate casino entries to casino exits to use the sampling fractions. In order to relate the casino entries to the exits, we assume that the number of casino entries is proportional to the number of casino exits in each day. This assumption is approximately true, since most patrons enter and exit the casino on the same day.

We use the sampling fractions in Table 17 to define a weight for the s^{th} sampled patron in stratum t given by $w_{st} = \frac{6}{f_t}$. The multiplier of 6 is used since every 6th exiting patron was requested to complete a patron survey. These weights are given in Table 18 for each stratum.

Table 18 Weight for an Average Week for Sampled Patrons in Plainville 2016 by Calendar Period and Weekday/Weekend

Calendar Period	Weekday/Weekend Period	Week Weight for Sampled Patrons
Spring/Summer	Weekday	61.6
Spring/Summer	Weekend	22.6
Fall/Winter	Weekday	55.8
Fall/Winter	Weekend	20.9

Let n_t represent the number of sampled patrons in stratum t, where $s = 1,\ldots,n_t$ indexes the sampled patron. These values can be obtained from Table 1. By summing the weights in Table 18 for sampled patrons in a stratum, we obtain an estimate of the total number of exiting patrons on an average week in the stratum given by $N_t = \sum_{s=1}^{n_t} w_{st}$. These totals for the strata are given in Table 19.

Table 19 Estimated Total Patrons on an Average Week in Plainville 2016 by Calendar Period and Weekday/Weekend

Calendar Period	Weekday/Weekend Period	Sampled Patrons n(t)	Estimated Patrons N(t)
Spring/Summer	Weekday	389	23,946
Spring/Summer	Weekend	648	14,660
Fall/Winter	Weekday	333	18,587
Fall/Winter	Weekend	770	16,122

By totaling the estimated number of patrons during weekdays and weekends, we obtain the average number of patrons per week in a calendar period. This total is 11.2% higher in the Spring/Summer calendar period relative to the Fall/Winter calendar period.

The weights in Table 18 when summed over sampled patrons total to the average weekly number of exiting patrons, as illustrated in Table 19. We modify these weights so that when weights are totaled over all sampled patrons, the total weight corresponds to the estimated total number of patron visits in 2016. Since the weights in Table 18 are for an average week, and there are 26 weeks in each calendar period, we define the initial weight for a sampled patron as $w_{it0} = 26\left(w_{it}\right)$. These weights, when summed over all sampled patrons, estimate the total number of patron visits in 2016 based on the Patron Survey. This total is 1,906,243 (Table 20).

Table 20 Initial Weight for Plainridge Patron Survey by Season and Weekday/weekend 2016

Season	Complete			Refusal			All		
	Sample Patrons	Initial Weight	Estimated Total Patron Visits	Sample Patrons	Initial Weight	Estimated Total Patron Visits	Sample Patrons	Initial Weight	Estimated Total Patron Visits
1=Summer-wkday	89	1,600.68	142,460	300	1,600.68	480,203	389	1,600.68	622,663
2=Summer-wkend	117	588.20	68,819	531	588.20	312,332	648	588.20	381,151
3=Winter-wkday	83	1,451.29	120,457	250	1,451.29	362,822	333	1,451.29	483,279
4=Winter-wkend	190	544.35	103,426	580	544.35	315,723	770	544.35	419,149
All	479	908.48	435,163	1,661	885.66	1,471,080	2,140	890.77	1,906,243

Accounting for Survey Non-Response

We adjust the initial 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_{st0}, range from 544.35 to 1600.68 depending on the season/weekday-weekend periods (Table 20). 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 1600.68 by 1 over the proportion of estimated patrons who completed response (i.e. 622,663/142,460), to obtain the new weight, i.e. 6,996.239. When this weight is totaled over the 89 sampled patrons completing the survey, the total matches the estimated total patron visits, i.e., 622,663.

We apply a similar procedure to accounting for age, gender, and race. The initial weight, w_{st0}, for each sampled patron is given in Table 20. We cross-classify sampled patrons who completed the survey by age, gender, and race, and in each cell, sum the initial weights. The initial weight totals are given in Table 21 for sample patrons who completed the survey, and in Table 22 for all sampled patrons. Notice that the total for all sampled patrons is 1,906,243, the estimated total number of patron visits in 2016.

Table 21 Initial Weight Totals for 2016 Plainridge Patron Survey by Gender, Race, and Age

Initial Wts		Complete				
		1=18-29	2=30-50	3=51+	4=Missing	All
Fem	Black	1,089	5,592	16,469	.	23,149
	Asian	.	3,278	1,451	4,185	8,913
	White	5,785	40,468	136,591	8,595	191,439
	Other	1,601	588	1,721	588	4,498
	Miss	.	3,746	1,601	1,677	7,023

Male	Black	.	2,189	3,128	1,601	6,918
	Asian	.	4,685	12,115	1,601	18,400
	White	4,805	25,654	106,137	13,566	150,162
	Other	.	1,633	2,722	544	4,899
	Miss	1,601	.	2,733	2,039	6,373
Miss	Black	.	1,451	.	.	1,451
	Asian	.	.	.	588	588
	White	.	544	.	4,729	5,273
	Miss	.	.	.	6,075	6,075
All		14,880	89,828	284,667	45,787	435,163

Table 22 Initial Weight for Plainridge Patron Survey by Season and Weekday/weekend 2016

Initial Wts		All Sampled Patrons				
		1=18-29	2=30-50	3=51+	4=Missing	All
Fem	Black	2,177	30,875	32,054	.	65,107
	Asian	2,689	18,667	34,770	4,185	60,311
	White	33,149	216,862	492,395	8,595	751,001
	Other	1,601	9,335	8,533	588	20,057
	Miss	.	3,746	1,601	1,677	7,023
Male	Black	9,791	26,305	21,599	1,601	59,296
	Asian	9,627	24,668	26,108	1,601	62,004
	White	33,644	213,915	551,229	13,566	812,355
	Other	5,636	31,833	11,316	544	49,329
	Miss	1,601	.	2,733	2,039	6,373
Miss	Black	.	1,451	.	.	1,451
	Asian	.	.	.	588	588
	White	.	544	.	4,729	5,273
	Miss	.	.	.	6,075	6,075
All		99,915	578,203	1,182,338	45,787	1,906,243

If demographic variables 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. For this reason, we first account for missing demographic data prior to post-stratification.

As a first step, we total the weights by missing data patterns for the demographic variables (Table 23). For example, Table 23 illustrates that six patrons completed the survey, but failed to provide demographic data on race, sex, and age. Totalling the weights for these six patrons, the total weight is 6,075. The total weight for other missing demographic patterns for completed surveys are each calculated in a similar manner. The total weight, 435,163, matches the total weight assigned to completed patron surveys in Table 20 and Table 21.

In the Patron Survey, demographic characteristics of patrons refusing to complete the survey were recorded based on surveyor's observation. For this reason, there was no missing demographic data for survey refusals. The total weight associated with the refusals is 1,471,080 (see Table 20). If this total weight was associated entirely with the last row of Table 23 for 'Refused', there would be no weight for refusals associated with any other missing data pattern for demographics. In effect, by adjusting for non-response, the weight for patrons completing the survey with some missing demographic data would be under represented.

In order to avoid this problem, we make the assumption that if a completed survey was obtained from each patron that refused the survey, then the missing data pattern for demographics would be proportional to the missing data pattern for demographics that was observed among patrons completing the survey. With this assumption, we assign "Refused" weights proportional to Completed Survey weights in Table 23. For example, the weight of 20,535 in the first row of Table 23 for "Refused" is equal to $20{,}535 = \frac{6{,}075}{435{,}163}\left(1{,}471{,}079\right)$.

Table 23 Initial Weight Totals for Missing Data Patterns by Demographics for Sampled Patrons based on Completion and Refusals for Surveys

					Completed Surveys	Refused	
k	Race	Gender	Age	n_k	N_k	M_k	T_k
1	Missing	Missing	Missing	6	6,075	20,535	26,610
2	Missing	Reported	Missing	5	3,716	12,563	16,280
3	Missing	Reported	Reported	8	9,680	32,724	42,405
4	Reported	Missing	Missing	6	5,317	17,974	23,292
5	Reported	Missing	Reported	2	1,996	6,746	8,742
6	Reported	Reported	Missing	30	30,679	103,711	134,390
7	Reported	Reported	Reported	422	377,700	1,276,824	1,654,523
				479	435,163	1,471,079	1,906,243

We introduce some notation to define this process. Let $k = 1,...,7$ represent the seven missing data patterns corresponding to rows of Table 23 and N_k represent the total initial weight for the completed surveys with a missing data pattern. We define $N = \sum_{k=1}^{7} N_k$ as the total initial weight assigned to completed patron surveys (i.e. $N = 435{,}163$). Similarly, let M represent the total initial weight assigned

to refusals (i.e., $M=1{,}471{,}079$). 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 the last two columns of Table 23. 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 initial weight assigned to a sampled patron is represented by w_{it0} , where i indexes the sampled patrons in stratum (calendar period and weekday/weekend) t . We index the sampled patrons with completed surveys in missing data stratum k by $j=1,\ldots,n_k$, and represent the initial weight for the patron by $w_{jk}^{(0)}$. We note that the initial weights are not identical for each patron in stratum k .

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 23.

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 $j=1,\ldots,6$ sampled patrons who completed by survey (with missing demographic data) so that the total weight is T_k . The adjusted weights are given by $w_{jk}^{(1)}=\left(\frac{T_k}{N_k}\right)w_{jk}^{(0)}$. Table 24 details the weights for these patrons.

Table 24 Non-Response Adjusted Weights for Sampled Patrons Completing the Survey with Age, Race, and Gender Missing (k=1)

j	Time Strata (t)	Initial Weight $w_{j1}^{(0)}$	Adjusted Weight $w_{j1}^{(1)}$
1	2=Summer-wkend	588	2,577
2	2=Summer-wkend	588	2,577
3	3=Winter-wkday	1,451	6,357
4	3=Winter-wkday	1,451	6,357
5	3=Winter-wkday	1,451	6,357
6	4=Winter-wkend	544	2,385
		6,075	26,610

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 25.

.

Table 25 Refusal distribution of Initial weights by Gender for k=2

i	Gender	Sampled Patron Refusals	Total Initial Weight $M_{i(k)}$
1	1=Female	758	668,476
2	2=Male	903	802,604
		1661	1,471,080

We estimate the weight for sampled patrons who refused in missing data pattern k by $\hat{M}_{i(k)} = \left(\frac{M_{i(k)}}{M} \right) M_k$. 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 26).

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 26 Non-response Adjusted Weights by Gender for k=2

i	Gender	Sampled Patron Completers	Total Initial Wt Completers $N_{i(k)}$	Estimated Total Initial Wt Refusals $\hat{M}_{i(k)}$	Total Initial Wt $T_{i(k)}$	Non-Response Adjustment Factor
1	1=Female	3	1,677	5,709	7,386	4.40
2	2=Male	2	2,039	6,854	8,894	4.36
			3,716	12,563	16,280	

The adjusted weights are given by $w_{jk}^{(1)} = \left(\frac{T_{i(k)}}{N_{i(k)}} \right) w_{jk}^{(0)}$. Table 27 details the weights for these patrons.

Table 27 Non-Response Adjusted Weights for Sampled Patrons Completing the Survey with Age and Race Missing (k=2)

j	Time Strata (t)	Gender	Initial Weight $w_{j2}^{(0)}$	Non-Response Adjustment Factor	Adjusted Weight $w_{j2}^{(1)}$
1	2=Summer-wkend	1=Female	588	4.40	2,591
2	4=Winter-wkend	1=Female	544	4.40	2,398
3	4=Winter-wkend	1=Female	544	4.40	2,398
4	2=Summer-wkend	2=Male	588	4.36	2,565
5	3=Winter-wkday	2=Male	1,451	4.36	6,329
			3,716		16,280

Non-Response Adjustment 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 28.

Table 28 Refusal distribution of Initial weights by Gender and Age for k=3

i	Gender	Age	Sampled Patron Refusals	Total Initial Weight $M_{i(k)}$
1	1=Female	1=18-29	39	31,142
2	1=Female	2=30-50	273	225,815
3	1=Female	3=51+	446	411,520
4	2=Male	1=18-29	61	53,893
5	2=Male	2=30-50	307	262,560
6	2=Male	3=51+	535	486,152
			1661	1,471,080

We use this distribution to estimate the weight for sampled patrons who refused. However, inspection of the gender and age distributions for patrons who completed the survey with this missing data pattern reveals that there are no females in the age group 18-29, and no males in the age group 30-50. For this reason, we drop the corresponding rows in Table 28, summarizing the refusal distribution as in Table 29.

Table 29 Refusal distribution of Initial weights by Gender and Age for k=3 where there is at least one completed survey

i	Gender	Age	Sampled Patron Refusals	Total Initial Weight
1	1=Female	2=30-50	273	225,815
2	1=Female	3=51+	446	411,520
3	2=Male	1=18-29	61	53,893
4	2=Male	3=51+	535	486,152
			1315	1,177,379

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 32,724 (from Table 23) and $M^* = 1{,}177{,}379$ from Table 29. 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 30). 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 30 Non-response Adjusted Weights by Gender for k=3

i	Gender	Age	Sampled Patron Completers	Total Initial Wt Completers $N_{i(k)}$	Estimated Total Initial Wt Refusals $\hat{M}_{i(k)}$	Total Initial Wt $T_{i(k)}$	Non-Response Adjustment Factor
1	1=Female	2=30-50	3	3,746	6,276	10,022	2.68
2	1=Female	3=51+	1	1,601	11,438	13,038	8.15
3	2=Male	1=18-29	1	1,601	1,498	3,099	1.94
4	2=Male	3=51+	3	2,733	13,512	16,245	5.94
				9,680	32,724	42,404	

The adjusted weights are given by $w_{jk}^{(1)} = \left(\frac{T_{i(k)}}{N_{i(k)}} \right) w_{jk}^{(0)}$. Table 31 details the weights for these patrons.

Table 31 Non-Response Adjusted Weights for Sampled Patrons Completing the Survey with Race Missing (k=3)

j	Time Strata (t)	Gender	Age	Initial Weight $w_{j3}^{(0)}$	Non-Response Adjustment Factor	Adjusted Weight $w_{j3}^{(1)}$
1	1=Summer-wkday	1=Female	2=30-50	1,601	2.68	4,283
2	1=Summer-wkday	1=Female	2=30-50	1,601	2.68	4,283
3	4=Winter-wkend	1=Female	2=30-50	544	2.68	1,456
4	1=Summer-wkday	1=Female	3=51+	1,601	8.15	13,038
5	1=Summer-wkday	2=Male	1=18-29	1,601	1.94	3,099
6	1=Summer-wkday	2=Male	3=51+	1,601	5.94	9,514
7	2=Summer-wkend	2=Male	3=51+	588	5.94	3,496
8	4=Winter-wkend	2=Male	3=51+	544	5.94	3,235
				9,680		42,404

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 32.

Table 32 Refusal distribution of Initial weights by Race for k=4

i	Race	Sampled Patron Refusals	Total Initial Weight
1	1=Black	117	94,336
2	2=Asian	98	95,001
3	3=White	1377	1,221,754
4	4=Other	69	59,989
		1661	1,471,080

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 'Other' race patrons are in this stratum.

Table 33 Refusal distribution of Initial weights by Race for k=4 with at least one completed survey

i	Race	Sampled Patron Refusals	Total Initial Weight
1	2=Asian	98	95,001
2	3=White	1377	1,221,754
		1475	1,316,756

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 17,974 (from Table 23) and $M^* = 1{,}316{,}756$ from Table 33. 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 34). 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 34 Non-response Adjusted Weights by Race for k=4

i	Race	Sampled Patron Completers	Total Initial Wt Completers $N_{i(k)}$	Estimated Total Initial Wt Refusals $\hat{M}_{i(k)}$	Total Initial Wt $T_{i(k)}$	Non-Response Adjustment Factor
1	2=Asian	1	588	1,297	1,885	3.20
2	3=White	5	4,729	16,678	21,406	4.53
			5,317	17,974	23,292	

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

Table 35 details the weights for these patrons who completed the survey.

Table 35 Non-Response Adjusted Weights for Sampled Patrons Completing the Survey with Age and Gender Missing (k=4)

j	Time Strata (t)	Race	Initial Weight $w_{j4}^{(0)}$	Non-Response Adjustment Factor	Adjusted Weight $w_{j4}^{(1)}$
1	2=Summer-wkend	2=Asian	588	3.20	1,885
2	1=Summer-wkday	3=White	1,601	4.53	7,246
3	2=Summer-wkend	3=White	588	4.53	2,663
4	3=Winter-wkday	3=White	1,451	4.53	6,570
5	4=Winter-wkend	3=White	544	4.53	2,464
6	4=Winter-wkend	3=White	544	4.53	2,464
			5,317		23,292

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 36.

Table 36 Refusal distribution of Initial weights by Age and Race for k=5

i	Age	Race	Sampled Patron Refusals	Total Initial Weight
1	1=18-29	1=Black	13	10,880
2	1=18-29	2=Asian	12	12,316
3	1=18-29	3=White	70	56,203
4	1=18-29	4=Other	5	5,636
5	2=30-50	1=Black	61	49,399
6	2=30-50	2=Asian	40	35,373
7	2=30-50	3=White	432	364,655
8	2=30-50	4=Other	47	38,947
9	3=51+	1=Black	43	34,056
10	3=51+	2=Asian	46	47,312
11	3=51+	3=White	875	800,896
12	3=51+	4=Other	17	15,407
			1661	1,471,080

We use this distribution to estimate the weight for sampled patrons who refused. However, only two patrons completed the survey with this missing data pattern, as illustrated in Table 37.

Table 37 Refusal distribution of Initial weights by Age and Race for k=5 where there is at least one Completed Survey

i	Age	Race	Sampled Patron Refusals	Total Initial Weight
1	2=30-50	1=Black	61	49,399
2	2=30-50	3=White	432	364,655
			493	414,055

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 6,746 (from Table 23) and $M^* = 414{,}055$ from Table 38. Using these values, and similar total weights for sample patrons with completed surveys, $N_{i(k)}$, we construct a table corresponding the response weights and total weights (Table 38). 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 38 Non-response Adjusted Weights by Race for k=5

i	Age	Race	Sampled Patron Completers	Total Initial Wt Completers $N_{i(k)}$	Total Initial Wt Refusals $\hat{M}_{i(k)}$	Total Initial Wt $T_{i(k)}$	Non-Response Adjustment Factor
1	2=30-50	1=Black	1	1,451	805	2,256	1.55
2	2=30-50	3=White	1	544	5,941	6,486	11.9
				1,996	6,746	8,742	

The adjusted weights are given by $w_{jk}^{(1)} = \left(\frac{T_{i(k)}}{N_{i(k)}} \right) w_{jk}^{(0)}$. Table 39 details the weights for these patrons who completed the survey.

Table 39 Non-Response Adjusted Weights for Sampled Patrons Completing the Survey with Age and Gender Missing (k=5)

j	Time Strata (t)	Age	Race	Initial Weight $w_{j3}^{(0)}$	Adjustment Factor	Adjusted Weight $w_{j3}^{(1)}$
1	3=Winter-wkday	2=30-50	1=Black	1,451	1.55	2,256
2	4=Winter-wkend	2=30-50	3=White	544	11.91	6,486
				1,996		8,742

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 40.

Table 40 Refusal distribution of Initial weights by Age and Race for k=6

i	Gender	Race	Sampled Patron Refusals	Total Initial Weight
1	1=Female	1=Black	52	41,957
2	1=Female	2=Asian	56	51,397
3	1=Female	3=White	629	559,562
4	1=Female	4=Other	21	15,559
5	2=Male	1=Black	65	52,378
6	2=Male	2=Asian	42	43,604
7	2=Male	3=White	748	662,192
8	2=Male	4=Other	48	44,430
			1661	1,471,080

We use this distribution to estimate the weight for sampled patrons who refused. However, no black females completed the survey with this missing data pattern, so that we limit the distribution of weights for refusals as illustrated in Table 41.

Table 41 Refusal distribution of Initial weights by Age and Race for k=6 where there is at least one Completed Survey

Obs	Gender	Race	Sampled Patron Refusals	Total Initial Weight
1	1=Female	2=Asian	56	51,397
2	1=Female	3=White	629	559,562
3	1=Female	4=Other	21	15,559
4	2=Male	1=Black	65	52,378
5	2=Male	2=Asian	42	43,604
6	2=Male	3=White	748	662,192
7	2=Male	4=Other	48	44,430
			1609	1,429,123

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 103,711 (from Table 23) and $M^* = 1{,}429{,}123$ from Table 41. 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 42). 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 42 Non-response Adjusted Weights by Race for k=6

i	Gender	Race	Sampled Patron Completers	Total Initial Wt Completers $N_{i(k)}$	Estimated Total Initial Wt Refusals $\hat{M}_{i(k)}$	Total Initial Wt $T_{i(k)}$	Non-Response Adjustment Factor
1	1=Female	2=Asian	4	4,185	3,730	7,914	1.89
2	1=Female	3=White	10	8,595	40,607	49,202	5.72
3	1=Female	4=Other	1	588	1,129	1,717	2.92
4	2=Male	1=Black	1	1,601	3,801	5,402	3.37
5	2=Male	2=Asian	1	1,601	3,164	4,765	2.98
6	2=Male	3=White	12	13,566	48,055	61,621	4.54
7	2=Male	4=Other	1	544	3,224	3,769	6.92
				30,679	103,711	134,390	

The adjusted weights are given by $w_{jk}^{(1)} = \left(\frac{T_{i(k)}}{N_{i(k)}} \right) w_{jk}^{(0)}$. Table 43 details the weights for these patrons who completed the survey.

Table 43 Non-Response Adjusted Weights for Sampled Patrons Completing the Survey With Age and Gender Missing (k=6)

	Time Strata (t)	Gender	Race	Initial Weight $w_{j5}^{(0)}$	Non-Response Adjustment Factor	Adjusted Weight $w_{j5}^{(1)}$
1	1=Summer-wkday	1=Female	2=Asian	1,601	1.89	3,027
2	2=Summer-wkend	1=Female	2=Asian	588	1.89	1,112
3	3=Winter-wkday	1=Female	2=Asian	1,451	1.89	2,745
4	4=Winter-wkend	1=Female	2=Asian	544	1.89	1,030
5	1=Summer-wkday	1=Female	3=White	1,601	5.72	9,163
6	1=Summer-wkday	1=Female	3=White	1,601	5.72	9,163
7	2=Summer-wkend	1=Female	3=White	588	5.72	3,367
8	2=Summer-wkend	1=Female	3=White	588	5.72	3,367
9	2=Summer-wkend	1=Female	3=White	588	5.72	3,367
10	3=Winter-wkday	1=Female	3=White	1,451	5.72	8,308
11	4=Winter-wkend	1=Female	3=White	544	5.72	3,116
12	4=Winter-wkend	1=Female	3=White	544	5.72	3,116
13	4=Winter-wkend	1=Female	3=White	544	5.72	3,116
14	4=Winter-wkend	1=Female	3=White	544	5.72	3,116
15	2=Summer-wkend	1=Female	4=Other	588	2.92	1,717
16	1=Summer-wkday	2=Male	1=Black	1,601	3.37	5,402
17	1=Summer-wkday	2=Male	2=Asian	1,601	2.98	4,765
18	1=Summer-wkday	2=Male	3=White	1,601	4.54	7,271
19	1=Summer-wkday	2=Male	3=White	1,601	4.54	7,271
20	1=Summer-wkday	2=Male	3=White	1,601	4.54	7,271
21	1=Summer-wkday	2=Male	3=White	1,601	4.54	7,271
22	2=Summer-wkend	2=Male	3=White	588	4.54	2,672
23	2=Summer-wkend	2=Male	3=White	588	4.54	2,672
24	3=Winter-wkday	2=Male	3=White	1,451	4.54	6,592
25	3=Winter-wkday	2=Male	3=White	1,451	4.54	6,592
26	3=Winter-wkday	2=Male	3=White	1,451	4.54	6,592
27	4=Winter-wkend	2=Male	3=White	544	4.54	2,473
28	4=Winter-wkend	2=Male	3=White	544	4.54	2,473
29	4=Winter-wkend	2=Male	3=White	544	4.54	2,473
30	4=Winter-wkend	2=Male	4=Other	544	6.92	3,769
				30,679		134,390

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 44.

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Table 44 Refusal distribution of Initial weights by Sex, Race, and Age for k=7

Obs	Gender	Race	Age	Sampled Patron Refusals	Total Initial Weight
1	1=Female	1=Black	1=18-29	2	1,089
2	1=Female	1=Black	2=30-50	29	25,283
3	1=Female	1=Black	3=51+	21	15,585
4	1=Female	2=Asian	1=18-29	3	2,689
5	1=Female	2=Asian	2=30-50	22	15,390
6	1=Female	2=Asian	3=51+	31	33,318
7	1=Female	3=White	1=18-29	34	27,364
8	1=Female	3=White	2=30-50	208	176,394
9	1=Female	3=White	3=51+	387	355,804
10	1=Female	4=Other	2=30-50	14	8,747
11	1=Female	4=Other	3=51+	7	6,812
12	2=Male	1=Black	1=18-29	11	9,791
13	2=Male	1=Black	2=30-50	32	24,116
14	2=Male	1=Black	3=51+	22	18,471
15	2=Male	2=Asian	1=18-29	9	9,627
16	2=Male	2=Asian	2=30-50	18	19,983
17	2=Male	2=Asian	3=51+	15	13,993
18	2=Male	3=White	1=18-29	36	28,839
19	2=Male	3=White	2=30-50	224	188,261
20	2=Male	3=White	3=51+	488	445,092
21	2=Male	4=Other	1=18-29	5	5,636
22	2=Male	4=Other	2=30-50	33	30,199
23	2=Male	4=Other	3=51+	10	8,595
				1661	1,471,080

We note that there are no 18-29 year old females of 'other' race among sampled patrons who refused the survey. We use this distribution to estimate the weight for sampled patrons who refused. However, no 18-29 year old non-white males completed the survey with this missing data pattern, and no 18-29 Asian females completed the survey with this missing data pattern, so that we limit the distribution of weights for refusals as illustrated in Table 45. We also note that there was one 18-29 year old female of 'other' race who completed the survey. For this age, gender, race combination, there was no non-response.

Table 45 Refusal distribution of Initial weights by Age and Race for k=7 where there is at least one Completed Survey

Obs	Gender	Race	Age	Sampled Patron Refusals	Total Initial Weight
1	1=Female	1=Black	1=18-29	2	1,089
2	1=Female	1=Black	2=30-50	29	25,283
3	1=Female	1=Black	3=51+	21	15,585
4	1=Female	2=Asian	2=30-50	22	15,390
5	1=Female	2=Asian	3=51+	31	33,318
6	1=Female	3=White	1=18-29	34	27,364
7	1=Female	3=White	2=30-50	208	176,394
8	1=Female	3=White	3=51+	387	355,804
9	1=Female	4=Other	1=18-29	0	0
10	1=Female	4=Other	2=30-50	14	8,747
11	1=Female	4=Other	3=51+	7	6,812
12	2=Male	1=Black	2=30-50	32	24,116
13	2=Male	1=Black	3=51+	22	18,471
14	2=Male	2=Asian	2=30-50	18	19,983
15	2=Male	2=Asian	3=51+	15	13,993
16	2=Male	3=White	1=18-29	36	28,839
17	2=Male	3=White	2=30-50	224	188,261
18	2=Male	3=White	3=51+	488	445,092
19	2=Male	4=Other	2=30-50	33	30,199
20	2=Male	4=Other	3=51+	10	8,595
				1633	1,443,337

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 1,276,824 (from Table 23) and $M^* = 1{,}443{,}337$ from Table 45. Using these values, and similar total weights for sample patrons with completed surveys, $N_{i(k)}$, we construct a table corresponding the response weights and total weights (Table 46). The total weight is given by $T_{i(k)} = N_{i(k)} + \hat{M}_{i(k)}$, with a non-response adjustment factor given by $\frac{T_{i(k)}}{N_{i(k)}}$.

Table 46 Non-response Adjusted Weights by Race for k=7

i	Gender	Race	Age	Sampled Patron Completers	Total Initial Wt Completers	Estimated Total Initial Wt Refusals	Total Initial Wt	Non-Response Adjustment Factor
1	1=Female	1=Black	1=18-29	2	1,089	963	2,052	1.88
2	1=Female	1=Black	2=30-50	5	5,592	22,367	27,958	5.00
3	1=Female	1=Black	3=51+	14	16,469	13,787	30,256	1.84
4	1=Female	2=Asian	2=30-50	4	3,278	13,614	16,892	5.15
5	1=Female	2=Asian	3=51+	1	1,451	29,474	30,926	21.3
6	1=Female	3=White	1=18-29	5	5,785	24,207	29,992	5.18
7	1=Female	3=White	2=30-50	48	40,468	156,044	196,512	4.86
8	1=Female	3=White	3=51+	156	136,591	314,756	451,347	3.30
9	1=Female	4=Other	1=18-29	1	1,601	0	1,601	1.00
10	1=Female	4=Other	2=30-50	1	588	7,738	8,326	14.2
11	1=Female	4=Other	3=51+	3	1,721	6,026	7,747	4.50
12	2=Male	1=Black	2=30-50	2	2,189	21,334	23,523	10.7
13	2=Male	1=Black	3=51+	4	3,128	16,340	19,468	6.22
14	2=Male	2=Asian	2=30-50	5	4,685	17,678	22,363	4.77
15	2=Male	2=Asian	3=51+	11	12,115	12,379	24,494	2.02
16	2=Male	3=White	1=18-29	7	4,805	25,512	30,317	6.31
17	2=Male	3=White	2=30-50	29	25,654	166,542	192,196	7.49
18	2=Male	3=White	3=51+	116	106,137	393,744	499,880	4.71
19	2=Male	4=Other	2=30-50	3	1,633	26,715	28,348	17.4
20	2=Male	4=Other	3=51+	5	2,722	7,603	10,325	3.79
					377,700	1,276,824	1,654,523	

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

Table 47 Non-Response Adj. Wts for Sampled Patrons Completing the Survey (no missing demographics) (k=7)

Time Strata (t)	Gender	Race	Age	n of Completers	Initial Weight	Non-Response Adj. Factor	Adjusted Weight
4=Winter-wkend	1=Female	1=Black	1=18-29	2	544	1.88	1,026
1=Summer-wkday	1=Female	1=Black	2=30-50	1	1,601	5.00	8,003
3=Winter-wkday	1=Female	1=Black	2=30-50	2	1,451	5.00	7,256
4=Winter-wkend	1=Female	1=Black	2=30-50	2	544	5.00	2,722
1=Summer-wkday	1=Female	1=Black	3=51+	4	1,601	1.84	2,941
2=Summer-wkend	1=Female	1=Black	3=51+	2	588	1.84	1,081
3=Winter-wkday	1=Female	1=Black	3=51+	5	1,451	1.84	2,666
4=Winter-wkend	1=Female	1=Black	3=51+	3	544	1.84	1,000
1=Summer-wkday	1=Female	2=Asian	2=30-50	1	1,601	5.15	8,250
2=Summer-wkend	1=Female	2=Asian	2=30-50	1	588	5.15	3,031
4=Winter-wkend	1=Female	2=Asian	2=30-50	2	544	5.15	2,805
3=Winter-wkday	1=Female	2=Asian	3=51+	1	1,451	21.31	30,926
1=Summer-wkday	1=Female	3=White	1=18-29	2	1,601	5.18	8,298
2=Summer-wkend	1=Female	3=White	1=18-29	1	588	5.18	3,049
3=Winter-wkday	1=Female	3=White	1=18-29	1	1,451	5.18	7,524
4=Winter-wkend	1=Female	3=White	1=18-29	1	544	5.18	2,822
1=Summer-wkday	1=Female	3=White	2=30-50	6	1,601	4.86	7,773
2=Summer-wkend	1=Female	3=White	2=30-50	17	588	4.86	2,856
3=Winter-wkday	1=Female	3=White	2=30-50	8	1,451	4.86	7,047
4=Winter-wkend	1=Female	3=White	2=30-50	17	544	4.86	2,643
1=Summer-wkday	1=Female	3=White	3=51+	26	1,601	3.30	5,289
2=Summer-wkend	1=Female	3=White	3=51+	35	588	3.30	1,944
3=Winter-wkday	1=Female	3=White	3=51+	25	1,451	3.30	4,796
4=Winter-wkend	1=Female	3=White	3=51+	70	544	3.30	1,799
1=Summer-wkday	1=Female	4=Other	1=18-29	1	1,601	1.00	1,601
2=Summer-wkend	1=Female	4=Other	2=30-50	1	588	14.16	8,326
2=Summer-wkend	1=Female	4=Other	3=51+	2	588	4.50	2,648
4=Winter-wkend	1=Female	4=Other	3=51+	1	544	4.50	2,451
1=Summer-wkday	2=Male	1=Black	2=30-50	1	1,601	10.75	17,202
2=Summer-wkend	2=Male	1=Black	2=30-50	1	588	10.75	6,321
2=Summer-wkend	2=Male	1=Black	3=51+	1	588	6.22	3,661
3=Winter-wkday	2=Male	1=Black	3=51+	1	1,451	6.22	9,032
4=Winter-wkend	2=Male	1=Black	3=51+	2	544	6.22	3,388
1=Summer-wkday	2=Male	2=Asian	2=30-50	1	1,601	4.77	7,640
3=Winter-wkday	2=Male	2=Asian	2=30-50	1	1,451	4.77	6,927
4=Winter-wkend	2=Male	2=Asian	2=30-50	3	544	4.77	2,598
1=Summer-wkday	2=Male	2=Asian	3=51+	4	1,601	2.02	3,236
2=Summer-wkend	2=Male	2=Asian	3=51+	2	588	2.02	1,189
3=Winter-wkday	2=Male	2=Asian	3=51+	2	1,451	2.02	2,934
4=Winter-wkend	2=Male	2=Asian	3=51+	3	544	2.02	1,101
2=Summer-wkend	2=Male	3=White	1=18-29	2	588	6.31	3,711
3=Winter-wkday	2=Male	3=White	1=18-29	1	1,451	6.31	9,157
4=Winter-wkend	2=Male	3=White	1=18-29	4	544	6.31	3,434
1=Summer-wkday	2=Male	3=White	2=30-50	3	1,601	7.49	11,992
2=Summer-wkend	2=Male	3=White	2=30-50	8	588	7.49	4,407
3=Winter-wkday	2=Male	3=White	2=30-50	7	1,451	7.49	10,873
4=Winter-wkend	2=Male	3=White	2=30-50	11	544	7.49	4,078
1=Summer-wkday	2=Male	3=White	3=51+	24	1,601	4.71	7,539
2=Summer-wkend	2=Male	3=White	3=51+	30	588	4.71	2,770
3=Winter-wkday	2=Male	3=White	3=51+	18	1,451	4.71	6,835
4=Winter-wkend	2=Male	3=White	3=51+	44	544	4.71	2,564
4=Winter-wkend	2=Male	4=Other	2=30-50	3	544	17.36	9,449
4=Winter-wkend	2=Male	4=Other	3=51+	5	544	3.79	2,065
				==========			
				422			

Trimming the 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 $w_{\min}=1000.07$, $w_{mean}=3979.63$, and $w_{\max}=30,925.68$ in the 2016 Patron survey. We define 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

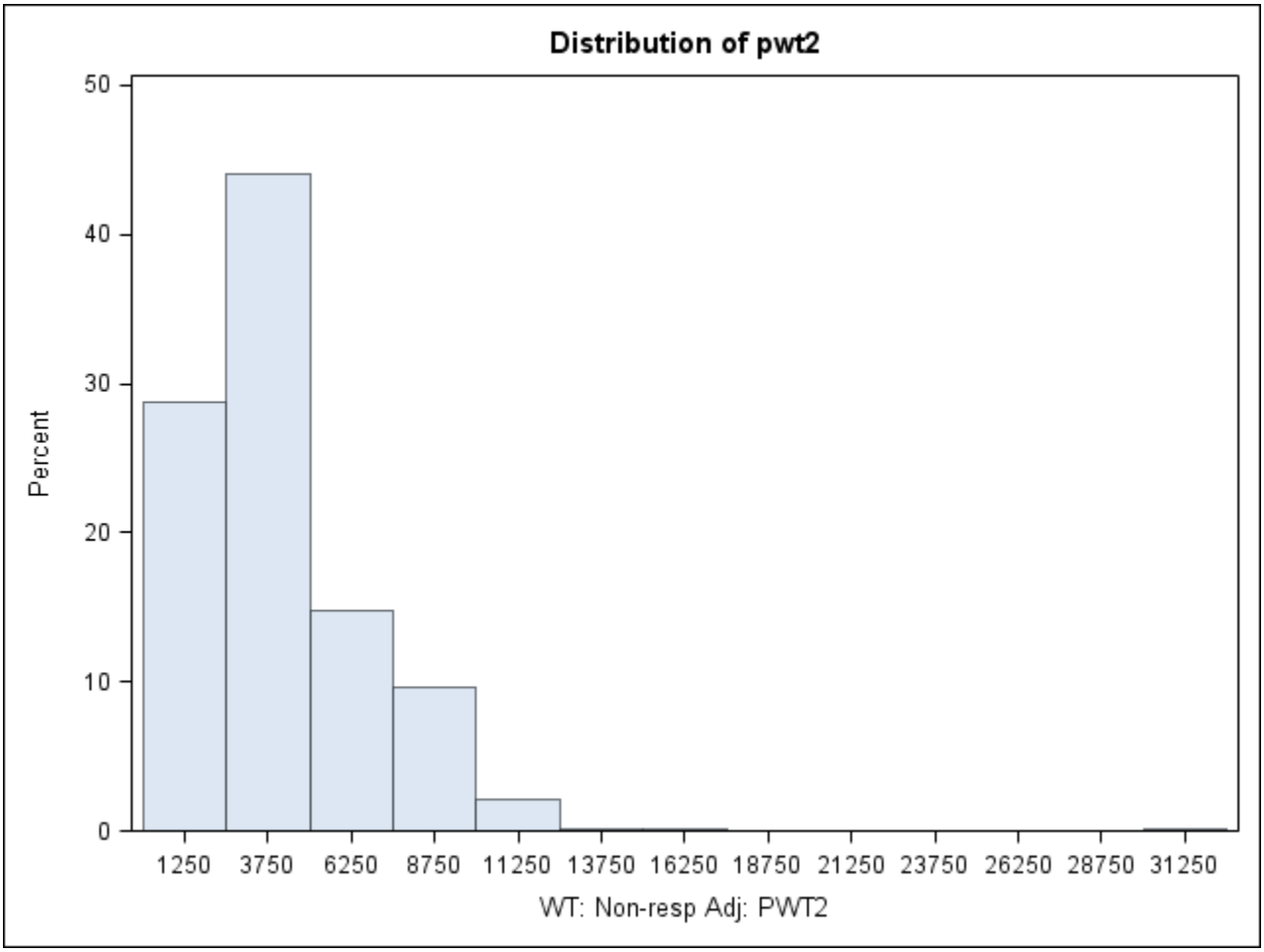
$$w_{i,m}=\left(\frac{T}{T_m}\right)w_{i,\mathrm{m}}^{0}.$$

In the Baseline General Population Survey (Volberg et al., 2017), we determined that using a value of $m=8$ would result in the most accurate estimator. Multiplying the average weight by 8, $w_{\max,m}=31,837.04$, while dividing the average weight by 8 results in $w_{\min,m}=497.45$. The actual maximum and minimum weight falls within the range of $w_{\min,m}=497.45$ to $w_{\max,m}=31,837.04$. As a result, no weight trimming is needed.

Summary of Weights

A histogram of the weights for the Patron Survey is given in Figure 20. The mean weight is 3979.63, with a standard deviation of 2743.12.

Figure 20 Distribution of Weights for 2016 Patron Survey



Appendix F: Geographic Origin and Demographic Characteristics

Table 48 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	33	127,753	12.7	(8.7, 18.2)	22	89,905	10.0	(6.2, 15.8)	55	217,658	11.4	(8.5, 15.2)
	Other municipalities in MA	185	674,339	67.0	(59.9, 73.5)	138	593,204	65.9	(57.8, 73.1)	323	1,267,543	66.5	(61.2, 71.4)
	Outside of MA or unknown	55	203,798	20.3	(15.1, 26.6)	46	217,241	24.1	(17.7, 31.9)	101	421,040	22.1	(17.9, 27.0)

[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 Plainridge Park Casino in 2016

Table 49 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	150	465,590	48.2	(40.7, 55.8)	112	427,299	48.4	(40.4, 56.4)	262	892,889	48.3	(42.8, 53.8)
	Male	114	498,604	51.6	(44.0, 59.1)	89	456,105	51.6	(43.6, 59.6)	203	954,709	51.6	(46.1, 57.1)
	Transgender/other			---				---				---	
Hispanic/ Latino	No	246	900,298	96.6	(92.8, 98.4)	178	787,794	94.0	(88.3, 97.0)	424	1,688,092	95.4	(92.3, 97.3)
	Yes	*9*	*31,804*	*3.4*	*(1.6, 7.2)*	*12*	*50,145*	*6.0*	*(3.0, 11.7)*	21	81,949	4.6	(2.7, 7.7)
Race	Hispanic	*9*	*31,804*	*3.3*	*(1.5, 7.0)*	*12*	*50,145*	*5.8*	*(2.9, 11.3)*	21	81,949	4.5	(2.6, 7.4)
	White alone	218	786,833	81.2	(72.9, 87.5)	162	717,642	82.4	(74.8, 88.0)	380	1,504,476	81.8	(76.3, 86.2)
	Black alone	*14*	*45,426*	*4.7*	*(2.4, 8.9)*	*10*	*48,191*	*5.5*	*(2.4, 12.3)*	24	93,618	5.1	(3.0, 8.6)
	Asian alone	*12*	*60,505*	*6.2*	*(2.2, 16.3)*	*13*	*45,035*	*5.2*	*(2.7, 9.6)*	*25*	*105,540*	*5.7*	*(3.0, 10.7)*
	Some other race alone	*6*	*29,248*	*3.0*	*(1.2, 7.7)*			---		*7*	*37,574*	*2.0*	*(0.9, 4.8)*
	Two or more races			---				---		*6*	*16,519*	*0.9*	*(0.3, 2.4)*
Age	<30	*9*	*35,292*	*3.9*	*(1.8, 8.3)*	*7*	*31,768*	*4.0*	*(1.7, 8.9)*	*16*	*67,060*	*3.9*	*(2.2, 6.9)*
	30-50	59	301,121	33.2	(26.0, 41.4)	43	233,762	29.2	(21.7, 38.1)	102	534,883	31.4	(26.0, 37.3)
	51+	181	569,887	62.9	(54.7, 70.4)	133	533,839	66.8	(57.9, 74.6)	314	1,103,726	64.7	(58.8, 70.2)
	Mean (95% CI)	249	906,300	55.5	(53.2, 57.8)	183	799,369	57.4	(54.9, 59.8)	432	1,705,669	56.4	(54.7, 58.0)
	Median (95% CI)	249	906,300	56.0	(52.9, 59.0)	183	799,369	59.0	(55.0, 61.9)	432	1,705,669	57.0	(55.1, 59.1)
Education	High school or less	63	206,348	21.1	(16.1, 27.3)	48	193,338	22.2	(16.3, 29.5)	111	399,686	21.7	(17.7, 26.2)
	Some college or Bachelor's	175	676,317	69.3	(62.5, 75.4)	119	553,554	63.6	(55.7, 70.9)	294	1,229,871	66.6	(61.5, 71.4)
	Beyond Bachelor's degree	29	92,976	9.5	(6.3, 14.1)	30	123,115	14.2	(9.6, 20.5)	59	216,091	11.7	(8.8, 15.4)
Employment	Employed	155	578,215	59.5	(52.1, 66.5)	117	507,477	58.7	(50.5, 66.4)	272	1,085,691	59.1	(53.6, 64.4)
	Unemployed	*9*	*37,587*	*3.9*	*(1.8, 8.3)*			---		*11*	*44,820*	*2.4*	*(1.2, 4.9)*
	Retired	84	284,220	29.2	(23.3, 36.0)	60	276,859	32.0	(24.9, 40.0)	144	561,078	30.5	(25.8, 35.7)
	Other[3]	17	72,116	7.4	(4.3, 12.4)	18	73,575	8.5	(5.0, 14.0)	35	145,691	7.9	(5.4, 11.4)
Marital status	Never married	39	179,034	18.4	(13.0, 25.4)	26	158,081	18.1	(12.2, 26.0)	65	337,115	18.3	(14.1, 23.3)
	Living with partner/Married/Widowed	192	657,682	67.7	(60.0, 74.5)	148	599,536	68.6	(60.2, 76.0)	340	1,257,218	68.1	(62.5, 73.2)
	Divorced or Separated	33	135,232	13.9	(9.4, 20.2)	26	116,273	13.3	(8.5, 20.3)	59	251,506	13.6	(10.1, 18.1)
	No	225	816,334	84.8	(78.8, 89.3)	162	702,108	83.3	(76.3, 88.6)	387	1,518,443	84.1	(79.7, 87.7)

		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	Yes	36	146,449	15.2	(10.7, 21.2)	31	140,556	16.7	(11.4, 23.7)	67	287,005	15.9	(12.3, 20.3)
Annual household income	less than $15,000	*12*	*50,233*	*5.4*	*(2.7, 10.5)*	*12*	*60,034*	*7.3*	*(3.9, 13.5)*	*24*	*110,267*	*6.3*	*(4.0, 9.9)*
	15,000 - $29,000	25	85,722	9.2	(5.9, 14.2)	14	51,870	6.3	(3.6, 11.0)	39	137,592	7.9	(5.5, 11.1)
	30,000 - $49,000	34	116,678	12.5	(8.6, 17.9)	35	162,231	19.8	(14.0, 27.2)	69	278,910	15.9	(12.4, 20.3)
	50,000 - $69,000	40	156,723	16.8	(11.9, 23.3)	41	191,580	23.4	(17.1, 31.2)	81	348,302	19.9	(15.8, 24.8)
	70,000 - $99,000	57	206,773	22.2	(16.5, 29.2)	30	147,663	18.0	(12.1, 26.1)	87	354,436	20.3	(16.0, 25.4)
	100,000 - $124,999	31	108,366	11.6	(7.8, 17.1)	18	81,646	10.0	(5.9, 16.3)	49	190,012	10.9	(7.9, 14.8)
	125,000 - $149,999	*15*	*86,180*	*9.3*	*(4.3, 18.9)*	*12*	*34,093*	*4.2*	*(2.1, 8.1)*	*27*	*120,273*	*6.9*	*(3.8, 12.1)*
	150,000 or more	37	119,507	12.8	(8.9, 18.1)	24	89,387	10.9	(7.0, 16.7)	61	208,894	11.9	(9.0, 15.7)

[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 Plainridge Park Casino in 2016
[3]Student, homemaker, disabled were combined into "Other" because of small sample sizes in each
Note: A dash indicates that the cell size is less than 6
Note: Italics indicates estimates are unreliable, relative standard error > 30%

Table 50 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	32	102,804	47.2	(32.7, 62.2)	172	590,760	47.7	(41.0, 54.5)	58	199,325	50.6	(38.6, 62.5)
	Male	23	114,854	52.8	(37.8, 67.3)	143	644,929	52.1	(45.3, 58.8)	37	194,926	49.4	(37.5, 61.4)
	Transgender/other	0	0	0.0				---		0	0	0.0	
Hispanic/Latino	No	52	209,705	97.9	(91.5, 99.5)	287	1,125,957	94.6	(90.0, 97.1)	85	352,430	96.5	(91.7, 98.6)
	Yes			---		*14*	*64,810*	*5.4*	*(2.9, 10.0)*			---	
Race	Hispanic			---		*14*	*64,810*	*5.3*	*(2.8, 9.7)*			---	
	White alone	48	200,898	97.0	(90.6, 99.1)	256	985,669	80.1	(72.9, 85.7)	76	317,908	79.2	(66.7, 87.8)
	Black alone	0	0	0.0		19	56,187	4.6	(2.7, 7.7)			---	
	Asian alone	0	0	0.0		*16*	*75,647*	*6.1*	*(2.6, 13.7)*	*9*	*29,893*	*7.4*	*(3.5, 15.3)*
	Some other race alone	0	0	0.0		*6*	*35,124*	*2.9*	*(1.1, 6.9)*			---	
	Two or more races			---				---				---	
Age	<30			---		*12*	*54,879*	*4.8*	*(2.5, 9.0)*			---	
	30-50	16	71,001	34.1	(20.4, 51.1)	67	347,475	30.3	(24.0, 37.4)	19	116,407	33.2	(21.4, 47.5)
	51+	33	132,362	63.5	(46.8, 77.5)	218	743,924	64.9	(57.7, 71.5)	63	227,441	64.8	(50.7, 76.7)
	Mean (95% CI)	51	208,399	54.1	(49.5, 58.8)	297	1,146,278	56.6	(54.6, 58.7)	84	350,993	56.9	(53.4, 60.3)
	Median (95% CI)	51	208,399	57.6	(48.4, 61.5)	297	1,146,278	57.0	(54.9, 60.0)	84	350,993	58.0	(51.9, 60.0)
Education	High school or less	16	61,283	28.6	(16.9, 44.1)	70	263,652	21.4	(16.5, 27.2)	25	74,750	18.8	(12.0, 28.1)
	Some college or Bachelor's	29	124,707	58.2	(42.8, 72.2)	209	828,632	67.2	(60.7, 73.0)	56	276,532	69.5	(58.6, 78.6)
	Beyond Bachelor's degree	*9*	*28,171*	*13.2*	*(6.3, 25.6)*	36	141,536	11.5	(8.0, 16.2)	*14*	*46,384*	*11.7*	*(6.3, 20.5)*
Employment	Employed	41	156,685	72.0	(56.2, 83.7)	174	687,054	56.2	(49.5, 62.8)	57	241,953	60.8	(48.8, 71.6)
	Unemployed	0	0	0.0		*10*	*40,025*	*3.3*	*(1.5, 6.9)*			---	
	Retired	12	48,636	22.3	(12.0, 37.7)	103	396,341	32.4	(26.6, 38.9)	29	116,101	29.2	(19.7, 40.9)
	Other[3]			---		25	98,232	8.0	(5.1, 12.5)	*8*	*35,122*	*8.8*	*(4.2, 17.7)*
Marital status	Never married			---		48	237,164	19.3	(14.2, 25.6)	13	76,336	19.0	(10.8, 31.3)
	Living with partner/Married/Widowed	45	170,976	79.4	(62.7, 89.8)	222	813,539	66.2	(59.4, 72.5)	73	272,702	67.8	(54.7, 78.6)
	Divorced or Separated			---		44	177,620	14.5	(10.3, 19.9)	*10*	*53,216*	*13.2*	*(6.2, 26.1)*

		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
	No	43	172,486	79.8	(65.1, 89.3)	268	1,053,588	87.3	(82.5, 90.9)	76	292,368	76.5	(63.8, 85.8)
	Yes	*11*	*43,716*	*20.2*	*(10.7, 34.9)*	40	153,581	12.7	(9.1, 17.5)	16	89,709	23.5	(14.2, 36.2)
Annual household income	less than $15,000			---		14	74,716	6.4	(3.5, 11.3)	*8*	*31,094*	*8.2*	*(3.7, 17.4)*
	15,000 - $29,000	*6*	*18,269*	*9.4*	*(3.7, 22.0)*	26	93,714	8.0	(5.2, 12.1)	*7*	*25,608*	*6.8*	*(3.0, 14.7)*
	30,000 - $49,000			---		48	184,769	15.7	(11.5, 21.1)	17	73,027	19.3	(11.6, 30.3)
	50,000 - $69,000			---		61	267,936	22.8	(17.4, 29.2)	15	56,048	14.8	(8.6, 24.3)
	70,000 - $99,000	*9*	*33,900*	*17.4*	*(8.5, 32.5)*	58	216,415	18.4	(13.8, 24.2)	20	104,122	27.5	(16.9, 41.5)
	100,000 - $124,999	*8*	*36,116*	*18.6*	*(8.7, 35.4)*	32	118,562	10.1	(6.8, 14.8)	*9*	*35,334*	*9.3*	*(4.5, 18.3)*
	125,000 - $149,999	*6*	*21,144*	*10.9*	*(4.4, 24.3)*	15	77,094	6.6	(2.8, 14.6)	*6*	*22,035*	*5.8*	*(2.3, 14.2)*
	150,000 or more	*10*	*35,181*	*18.1*	*(9.4, 32.1)*	42	142,229	12.1	(8.6, 16.7)	*9*	*31,484*	*8.3*	*(3.8, 17.3)*

[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 Plainridge Park Casino in 2016[3]Student, homemaker, disabled were combined into "Other" because of small sample sizes in each

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

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

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

Table 51 Patron Access to Plainridge Park Casino 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)	My own vehicle or someone else's car	250	910,944	96.5	(93.1, 98.2)	178	792,050	95.5	(89.8, 98.1)	428	1,702,995	96.0	(93.1, 97.7)
	By airplane			---				---				---	
	By rental car			---				---		*6*	*26,512*	*1.5*	*(0.5, 4.1)*
	By other	*7*	*26,124*	*2.8*	*(1.2, 6.1)*			---		*11*	*43,874*	*2.5*	*(1.3, 4.7)*
	By foot	*6*	*22,288*	*2.4*	*(0.9, 5.9)*			---		*7*	*23,477*	*1.3*	*(0.5, 3.2)*
Any problems getting here (Check all that apply)	No problems	265	974,182	98.7	(96.4, 99.6)	196	847,678	96.6	(92.1, 98.5)	461	1,821,860	97.7	(95.5, 98.8)
	Got lost			---				---				---	
	Lots of traffic			---				---		*7*	*30,509*	*1.6*	*(0.7, 3.6)*
	Road construction			---				---				---	
How often have you visited this facility?	>=4 times a week	18	69,020	6.9	(4.1, 11.3)	*13*	*73,626*	*8.5*	*(4.4, 15.6)*	31	142,646	7.6	(5.0, 11.4)
	2-3 times a week	36	173,320	17.2	(11.2, 25.6)	44	201,167	23.1	(16.9, 30.8)	80	374,487	20.0	(15.4, 25.4)
	Once a week	33	125,480	12.5	(8.6, 17.8)	20	94,745	10.9	(6.8, 16.9)	53	220,226	11.7	(8.8, 15.5)
	2-3 times a month	57	195,172	19.4	(14.4, 25.6)	44	169,512	19.5	(14.1, 26.2)	101	364,684	19.4	(15.7, 23.9)
	Once a month	35	129,045	12.8	(8.8, 18.4)	21	80,788	9.3	(5.8, 14.5)	56	209,832	11.2	(8.3, 14.9)
	< once a month	50	162,768	16.2	(11.8, 21.8)	38	149,228	17.1	(12.0, 23.8)	88	311,997	16.6	(13.1, 20.8)
	This is my first visit	44	151,084	15.0	(10.8, 20.6)	21	101,775	11.7	(7.2, 18.3)	65	252,859	13.5	(10.2, 17.5)

[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 Plainridge Park Casino in 2016
Note: A dash indicates that the cell size is less than 6
Note: Italics indicates estimates are unreliable, relative standard error > 30%

Table 52 Did Plainridge Park Casino 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 PPC prompt your visit to this town or state?	No	96	348,614	35.2	(28.6, 42.4)	77	317,090	35.8	(28.6, 43.8)	173	665,704	35.5	(30.5, 40.8)
	Yes	173	641,453	64.8	(57.6, 71.4)	127	568,183	64.2	(56.2, 71.4)	300	1,209,636	64.5	(59.2, 69.5)
Patrons from MA: Did PPC prompt your visit to this town?	No	70	237,562	29.8	(23.1, 37.4)	54	210,732	31.4	(23.9, 40.0)	124	448,294	30.5	(25.4, 36.2)
	Yes	147	560,297	70.2	(62.6, 76.9)	105	459,876	68.6	(60.0, 76.1)	252	1,020,174	69.5	(63.8, 74.6)
Patrons from outside MA: Did PPC prompt your visit to MA?	No	26	111,052	57.8	(41.9, 72.2)	23	106,358	49.6	(32.8, 66.4)	49	217,410	53.4	(41.6, 64.9)
	Yes	26	81,156	42.2	(27.8, 58.1)	22	108,307	50.5	(33.6, 67.2)	48	189,463	46.6	(35.1, 58.4)

[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 Plainridge Park Casino in 2016
Note: A dash indicates that the cell size is less than 6

Table 53 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	29	98,334	62.1	(43.3, 77.8)	18	83,983	48.7	(31.3, 66.4)	47	182,316	55.1	(42.2, 67.4)
	More than one day	14	60,120	37.9	(22.2, 56.7)	19	88,502	51.3	(33.6, 68.7)	33	148,622	44.9	(32.6, 57.8)
How many days are you visiting MA?	Mean (95% CI)	38	137,556	2.1	(1.4, 2.9)	34	159,504	4.4	(2.2, 6.6)	72	297,059	3.4	(2.1, 4.6)
	Median (95% CI)	38	137,556	1.0	(1.0, 1.0)	*34*	*159,504*	*1.0*	*(1.0, 5.0)*	72	297,059	1.0	(1.0, 2.0)

[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 Plainridge Park Casino in 2016
Note: Italics indicates estimates are unreliable, relative standard error > 30%

Table 54 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 this casino?	No	65	236,541	23.7	(18.1, 30.4)	42	185,548	20.6	(14.9, 27.9)	107	422,089	22.2	(18.1, 27.0)
	Yes	206	763,351	76.3	(69.6, 81.9)	164	714,803	79.4	(72.1, 85.1)	370	1,478,154	77.8	(73.0, 81.9)
Did you have an enjoyable time during your visit today?	No	30	112,399	11.2	(7.4, 16.6)	26	131,940	14.7	(9.5, 22.1)	56	244,339	12.8	(9.5, 17.2)
	Yes	242	890,928	88.8	(83.4, 92.6)	179	765,739	85.3	(77.9, 90.5)	421	1,656,667	87.2	(82.8, 90.5)
What did you like the most about your visit here today (Pick up to 3 things)	Playing the games	167	629,915	66.6	(59.2, 73.3)	134	568,562	65.2	(57.1, 72.6)	301	1,198,477	65.9	(60.5, 71.0)
	Easy access to games	38	184,662	19.5	(13.0, 28.2)	26	137,109	15.7	(10.4, 23.1)	64	321,770	17.7	(13.2, 23.3)
	Different food and beverage options	22	87,507	9.2	(5.6, 15.0)	16	76,561	8.8	(5.0, 15.1)	38	164,068	9.0	(6.2, 13.0)
	Friendliness of the casino staff	63	245,120	25.9	(19.9, 33.0)	42	196,669	22.6	(16.4, 30.1)	105	441,789	24.3	(19.9, 29.3)
	Non-gambling entertainment	*11*	*34,253*	*3.6*	*(1.8, 7.2)*	*6*	*13,387*	*1.5*	*(0.7, 3.5)*	17	47,640	2.6	(1.5, 4.5)
	Convenient parking	108	370,330	39.2	(32.2, 46.6)	75	314,728	36.1	(28.9, 44.1)	183	685,058	37.7	(32.6, 43.1)
	Variety of game choices	31	93,294	9.9	(6.6, 14.6)	26	146,301	16.8	(11.4, 24.1)	57	239,594	13.2	(9.9, 17.4)
	Quality of the food and beverage	*13*	*63,971*	*6.8*	*(3.6, 12.4)*	16	70,157	8.0	(4.7, 13.5)	29	134,128	7.4	(4.9, 11.0)
	Friendliness of the food and beverage	*13*	*53,019*	*5.6*	*(3.1, 10.1)*	*8*	*36,882*	*4.2*	*(2.0, 8.8)*	21	89,902	5.0	(3.1, 7.8)
	Way the facility looks and feels inside	22	79,516	8.4	(5.1, 13.7)	22	97,466	11.2	(7.1, 17.2)	44	176,982	9.7	(6.9, 13.5)
	Shops and retail			---		0	0	0.0				---	
	How easy it was to get here	88	325,378	34.4	(27.6, 41.9)	66	299,854	34.4	(27.1, 42.5)	154	625,233	34.4	(29.4, 39.8)
	None of the above	*12*	*47,707*	*5.0*	*(2.5, 10.0)*	*11*	*37,916*	*4.4*	*(2.3, 8.1)*	23	85,622	4.7	(2.9, 7.6)

		Winter				Summer				Combined			
			Weighted				Weighted				Weighted		
		N[1]	N[2]	%	95% CI	N[1]	N[2]	%	95% CI	N[1]	N[2]	%	95% CI
Would you return to this facility?	No	*9*	*31,432*	*3.1*	*(1.4, 6.9)*	*7*	*35,762*	*4.0*	*(1.7, 9.2)*	16	67,193	3.5	(2.0, 6.3)
	Yes	223	817,402	81.5	(75.2, 86.4)	175	775,544	86.4	(80.1, 90.9)	398	1,592,946	83.8	(79.5, 87.3)
	Maybe	40	154,493	15.4	(10.9, 21.3)	23	86,374	9.6	(6.0, 15.0)	63	240,866	12.7	(9.6, 16.5)

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[2]Weighted N is the estimated total number of patrons who visited Plainridge Park Casino in 2016
Note: A dash indicates that the cell size is less than 6
Note: Italics indicates estimates are unreliable, relative standard error > 30%

Appendix H: Patron Activities

Table 55 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 PPC (Check all that apply)	Did not gamble	*8*	*21,414*	*2.2*	*(1.0, 4.9)*	*9*	*43,511*	*4.9*	*(2.3, 10.2)*	17	64,925	3.5	(2.0, 6.2)
	Slots	231	858,093	89.2	(83.3, 93.2)	176	751,458	84.7	(77.8, 89.7)	407	1,609,551	87.0	(82.7, 90.4)
	Electronic table games	31	126,151	13.1	(8.7, 19.4)	22	100,524	11.3	(7.2, 17.4)	53	226,674	12.3	(9.0, 16.4)
	Horse racing	*10*	*40,084*	*4.2*	*(1.9, 8.8)*	19	101,618	11.5	(7.2, 17.8)	29	141,702	7.7	(5.1, 11.3)
	Lottery	*9*	*35,894*	*3.7*	*(1.7, 7.9)*			---		*14*	*48,582*	*2.6*	*(1.4, 4.8)*
Where have you visited casinos in the past year prior to PPC (Check all that apply)	Did not visit other casinos	26	95,767	10.0	(6.4, 15.3)	25	102,251	11.6	(7.4, 17.7)	51	198,018	10.8	(7.9, 14.6)
	Connecticut	194	739,329	77.4	(70.9, 82.8)	135	586,665	66.7	(58.6, 73.9)	329	1,325,994	72.3	(67.1, 76.9)
	Rhode Island	151	541,459	56.7	(48.7, 64.3)	113	483,213	54.9	(46.8, 62.8)	264	1,024,672	55.9	(50.2, 61.4)
	New Jersey	34	128,402	13.4	(9.2, 19.3)	23	108,176	12.3	(8.0, 18.5)	57	236,578	12.9	(9.7, 17.0)
	New York	*11*	*38,433*	*4.0*	*(2.0, 7.9)*	*12*	*43,436*	*4.9*	*(2.6, 9.3)*	23	81,868	4.5	(2.8, 7.1)
	Pennsylvania	*6*	*20,003*	*2.1*	*(0.9, 4.9)*			---		*11*	*39,481*	*2.2*	*(1.1, 4.1)*
	Maine	21	66,133	6.9	(4.2, 11.2)	*10*	*40,258*	*4.6*	*(2.3, 9.0)*	31	106,392	5.8	(3.9, 8.6)
	Nevada	36	168,257	17.6	(11.4, 26.2)	21	99,277	11.3	(7.1, 17.4)	57	267,534	14.6	(10.5, 19.8)
	Online casinos	*7*	*24,069*	*2.5*	*(1.1, 5.7)*			---		*11*	*36,929*	*2.0*	*(1.0, 3.9)*
	Other	26	76,720	8.0	(5.1, 12.4)	17	82,447	9.4	(5.5, 15.5)	43	159,167	8.7	(6.1, 12.2)
Number of states visited casino in past year prior to PPC	0	20	71,815	7.5	(4.6, 12.1)	23	92,768	10.6	(6.6, 16.4)	43	164,584	9.0	(6.4, 12.5)
	1	82	286,603	30.0	(23.6, 37.3)	73	351,289	39.9	(32.2, 48.2)	155	637,892	34.8	(29.6, 40.3)
	2	93	375,959	39.4	(31.8, 47.4)	67	272,191	31.0	(24.2, 38.7)	160	648,151	35.3	(30.1, 41.0)
	3	38	150,894	15.8	(11.1, 22.0)	20	85,774	9.8	(6.0, 15.5)	58	236,668	12.9	(9.7, 17.0)
	4	*14*	*43,048*	*4.5*	*(2.4, 8.2)*	14	69,706	7.9	(4.5, 13.6)	28	112,753	6.1	(4.0, 9.2)
	5	*7*	*23,265*	*2.4*	*(1.1, 5.3)*			---		*9*	*28,065*	*1.5*	*(0.8, 3.1)*
	6			---		0	0	0.0				---	
	7			---				---				---	

		Winter				Summer				Combined			
			Weighted				Weighted				Weighted		
		N[1]	N[2]	%	95% CI	N[1]	N[2]	%	95% CI	N[1]	N[2]	%	95% CI
Pattern of states visited casino in past year prior to PPC	1=None	20	71,815	7.5	(4.6, 12.1)	23	92,768	10.5	(6.6, 16.4)	43	164,584	9.0	(6.4, 12.5)
	2=CT and RI	120	434,981	45.5	(38.1, 53.2)	79	331,101	37.7	(30.3, 45.6)	199	766,082	41.8	(36.5, 47.2)
	3=CT, not RI	74	304,348	31.9	(24.5, 40.3)	56	255,564	29.1	(22.2, 37.1)	130	559,911	30.5	(25.3, 36.3)
	4=RI, not CT	31	106,478	11.1	(7.4, 16.5)	34	152,112	17.3	(12.0, 24.3)	65	258,590	14.1	(10.7, 18.3)
	5=Other, not CT or RI	*11*	*37,626*	*3.9*	*(2.0, 7.5)*	*8*	*47,839*	*5.4*	*(2.5, 11.3)*	19	85,465	4.7	(2.8, 7.7)

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 Plainridge Park Casino in 2016
Note: A dash indicates that the cell size is less than 6
Note: Italics indicates estimates are unreliable, relative standard error > 30%

Table 56 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	49	193,499	91.3	(72.5, 97.7)	305	1,211,310	97.5	(94.6, 98.9)	91	379,339	96.1	(89.6, 98.6)
	yes			---		*9*	*31,063*	*2.5*	*(1.1, 5.4)*			---	
Slots	no	*8*	*38,068*	*18.0*	*(8.0, 35.5)*	39	175,644	14.1	(9.9, 19.8)	*8*	*25,811*	*6.5*	*(3.1, 13.4)*
	yes	45	173,791	82.0	(64.5, 92.0)	275	1,066,729	85.9	(80.2, 90.1)	87	369,031	93.5	(86.6, 96.9)
Electronic table games	no	49	184,048	86.9	(68.4, 95.3)	276	1,079,721	86.9	(81.5, 90.9)	84	358,629	90.8	(83.4, 95.1)
	yes			---		38	162,651	13.1	(9.1, 18.5)	*11*	*36,213*	*9.2*	*(4.9, 16.6)*
Horse racing	no	50	199,689	94.3	(81.7, 98.4)	293	1,137,775	91.6	(86.8, 94.7)	90	369,906	93.7	(84.4, 97.6)
	yes					21	104,597	8.4	(5.3, 13.2)			---	
Lottery	no	53	211,859	100.0		300	1,193,791	96.1	(92.9, 97.9)	95	394,842	100.0	
	yes	0	0	0.0		*14*	*48,582*	*3.9*	*(2.1, 7.1)*	0	0	0.0	

[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 Plainridge Park Casino in 2016Note: A dash indicates that the cell size is less than 6
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Table 57 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	70	277,457	17.3	(13.3, 22.2)	335	1,326,096	82.7	(77.8, 86.7)
Electronic table	15	56,411	25.6	(14.2, 41.6)	36	164,265	74.4	(58.4, 85.8)
Horse racing	17	75,531	53.3	(33.3, 72.3)	12	66,171	46.7	(27.7, 66.7)
Lottery		---			10	36,791	75.7	(43.6, 92.6)

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[2]Weighted N is the estimated total number of patrons who visited Plainridge Park Casino in 2016
Note: A dash indicates that the cell size is less than 6

Table 58 Non-gambling Activities Participated in Plainridge Park Casino 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 PPC (Check all that apply)	Food or beverage	152	584,181	61.0	(53.5, 68.1)	117	512,684	58.3	(50.2, 65.9)	269	1,096,865	59.7	(54.2, 65.0)
	Shopping in a gift shop or other retail outlet	*19*	*93,071*	*9.7*	*(4.8, 18.8)*	*12*	*47,213*	*5.4*	*(2.9, 9.8)*	31	140,284	7.6	(4.5, 12.6)
	Other entertainment such as music or performance	16	52,089	5.4	(3.1, 9.3)	*10*	*25,454*	*2.9*	*(1.5, 5.5)*	26	77,542	4.2	(2.8, 6.4)
	Other	*10*	*25,893*	*2.7*	*(1.4, 5.2)*	*7*	*44,302*	*5.0*	*(2.3, 10.6)*	17	70,195	3.8	(2.2, 6.5)
	None	89	326,886	34.1	(27.4, 41.6)	74	315,355	35.8	(28.6, 43.8)	163	642,241	35.0	(29.9, 40.3)

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Table 59 Non-gambling Activities in Plainridge Park Casino 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	no	29	110,236	52.6	(37.0, 67.8)	122	471,978	38.2	(31.9, 44.9)	39	158,428	40.4	(29.3, 52.6)
	yes	23	99,150	47.4	(32.2, 63.0)	191	764,047	61.8	(55.1, 68.1)	55	233,669	59.6	(47.4, 70.7)
Shopping in gift shop or other retail outlet	no	50	203,886	97.4	(89.9, 99.4)	292	1,126,999	91.2	(84.0, 95.3)	86	366,339	93.4	(86.0, 97.1)
	yes			---		*21*	*109,026*	*8.8*	*(4.7, 16.0)*	*8*	*25,758*	*6.6*	*(2.9, 14.0)*
Other entertainment such as music or performance	no	46	193,086	92.2	(83.2, 96.6)	298	1,190,397	96.3	(93.6, 97.9)	89	376,483	96.0	(89.3, 98.6)
	yes	*6*	*16,300*	*7.8*	*(3.4, 16.8)*	15	45,628	3.7	(2.1, 6.4)			---	
Other	no	48	199,737	95.4	(87.9, 98.3)	303	1,191,731	96.4	(92.9, 98.2)	91	375,845	95.9	(86.0, 98.9)
	yes			---		*10*	*44,294*	*3.6*	*(1.8, 7.1)*			---	
None	no	27	109,611	52.3	(36.8, 67.4)	210	841,632	68.1	(61.6, 73.9)	59	244,023	62.2	(49.9, 73.1)
	yes	25	99,775	47.7	(32.6, 63.2)	103	394,393	31.9	(26.1, 38.4)	35	148,073	37.8	(26.9, 50.1)

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Table 60 Patterns of Gambling Activities with Non-gambling Activities in Plainridge Park Casino

Gambling activity	Non gambling activities in PPC	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]
SLOTS		55	239,522	13.0	(9.6, 17.3)	407	1,609,551	87.0	(82.7, 90.4)
	Food or beverage	36	171,889	71.8	(56.9, 83.0)	231	918,824	57.7	(51.8, 63.4)
	Shopping in a gift shop or other retail outlet					29	126,768	8.0	(4.6, 13.5)
	Other entertainment such as music or performance					24	73,583	4.6	(3.0, 7.1)
	Other	*7*	*34,832*	*14.5*	*(6.5, 29.4)*	*10*	*35,363*	*2.2*	*(1.1, 4.6)*
	None	*12*	*36,057*	*15.1*	*(7.9, 26.8)*	151	606,185	38.1	(32.5, 44.0)
PLAYED ELECTRONIC TABLE GAMES		409	1,622,399	87.7	(83.6, 91.0)	53	226,674	12.3	(9.0, 16.4)
	Food or beverage	236	961,125	59.9	(54.0, 65.5)	31	129,587	57.2	(41.1, 71.9)
	Shopping in a gift shop or other retail outlet	26	116,594	7.3	(4.0, 12.8)				
	Other entertainment such as music or performance	21	65,175	4.1	(2.5, 6.5)				
	Other	15	55,117	3.4	(1.9, 6.1)				
	None	146	567,499	35.4	(30.0, 41.1)	17	74,742	33.0	(19.9, 49.4)
BET ON HORSE RACING		433	1,707,371	92.3	(88.7, 94.9)	29	141,702	7.7	(5.1, 11.3)
	Food or beverage	249	998,720	59.1	(53.4, 64.6)	18	91,992	64.9	(44.1, 81.2)
	Shopping in a gift shop or other retail outlet	29	130,181	7.7	(4.5, 13.0)				
	Other entertainment such as music or performance	25	74,978	4.4	(2.9, 6.8)				
	Other	*14*	*52,553*	*3.1*	*(1.7, 5.7)*				
	None	156	612,737	36.3	(31.0, 41.9)	*7*	*29,505*	*20.8*	*(9.0, 41.0)*
PLAYED LOTTERY		448	1,800,491	97.4	(95.2, 98.6)	14	48,582	2.6	(1.4, 4.8)
	Food or beverage	257	1,051,000	59.0	(53.3, 64.3)	10	39,712	81.7	(56.7, 93.9)
	Shopping in a gift shop or other retail outlet	28	132,554	7.4	(4.3, 12.6)			---	
	Other entertainment such as music or performance	25	74,978	4.2	(2.7, 6.5)			---	
	Other	17	70,195	3.9	(2.3, 6.7)			---	
	None	161	637,734	35.8	(30.6, 41.3)			---	

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Table 61 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)	Bought food or beverage in a restaurant or fast food outlet	61	202,150	21.0	(15.9, 27.3)	45	185,019	21.8	(15.9, 29.2)	106	387,170	21.4	(17.4, 26.1)
	Retail shopping like at store or mall	33	145,981	15.2	(9.5, 23.5)	19	56,161	6.6	(3.9, 10.9)	52	202,142	11.2	(7.7, 16.0)
	Stayed at a hotel outside of the casino			---				---		*7*	*29,518*	*1.6*	*(0.7, 3.7)*
	Went to a live entertainment show, concert or performance	*6*	*23,949*	*2.5*	*(1.1, 5.8)*			---		*10*	*38,232*	*2.1*	*(1.1, 4.2)*
	Spent money on other entertainment (e.g. amusement park, bowling, museum)	*9*	*32,668*	*3.4*	*(1.6, 7.0)*			---		14	57,488	3.2	(1.8, 5.7)
	Nothing	174	637,063	66.3	(58.3, 73.4)	122	579,153	68.2	(60.3, 75.2)	296	1,216,216	67.2	(61.6, 72.3)

[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 Plainridge Park Casino in 2016
Note: A dash indicates that the cell size is less than 6
Note: Italics indicates estimates are unreliable, relative standard error > 30%

Table 62 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
Bought food or beverage in a restaurant or fast food outlet	no	41	153,451	70.5	(54.7, 82.6)	239	968,591	80.5	(74.8, 85.1)	67	301,031	77.4	(66.7, 85.4)
	yes	14	64,207	29.5	(17.4, 45.3)	65	234,986	19.5	(14.9, 25.2)	27	87,977	22.6	(14.6, 33.3)
Retail shopping like at store or mall	no	48	194,402	89.3	(78.0, 95.2)	274	1,077,370	89.5	(82.5, 93.9)	79	336,329	86.5	(77.5, 92.2)
	yes	*7*	*23,256*	*10.7*	*(4.8, 22.0)*	30	126,207	10.5	(6.1, 17.5)	15	52,679	13.5	(7.8, 22.5)
Stayed at hotel outside of the casino	no	55	217,658	100.0		299	1,182,693	98.3	(95.6, 99.3)	92	380,375	97.8	(89.6, 99.6)
	yes	0	0	0.0				---				---	
Went to a live entertainment show, concert or performance	no	55	217,658	100.0		295	1,172,180	97.4	(94.7, 98.7)	93	382,173	98.2	(88.5, 99.8)
	yes	0	0	0.0		*9*	*31,396*	*2.6*	*(1.3, 5.3)*			---	
Spent money on other entertainment (e.g. amusement park, bowling, museum)	no	54	210,823	96.9	(80.8, 99.6)	295	1,166,298	96.9	(93.7, 98.5)	90	375,634	96.6	(89.3, 98.9)
	yes			---		*9*	*37,278*	*3.1*	*(1.5, 6.3)*			---	
Nothing	no	20	87,559	40.2	(26.4, 55.8)	99	387,212	32.2	(25.8, 39.3)	38	119,256	30.7	(21.4, 41.9)
	yes	35	130,099	59.8	(44.2, 73.6)	205	816,364	67.8	(60.7, 74.2)	56	269,752	69.3	(58.1, 78.6)

[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 Plainridge Park Casino in 2016
Note: A dash indicates that the cell size is less than 6
Note: Italics indicates estimates are unreliable, relative standard error > 30%

Table 63 Patterns of Gambling Activities with Non-gambling Activities Off-site

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]
SLOTS		55	239,522	13.0	(9.6, 17.3)	407	1,609,551	87.0	(82.7, 90.4)
	Food or beverage in a restaurant or fast food	12	61,076	26.5	(14.6, 43.2)	92	319,551	20.8	(16.6, 25.7)
	Retail shopping like a store or mall	*6*	*19,357*	*8.4*	*(3.2, 20.3)*	46	182,785	11.9	(7.9, 17.4)
	Stayed at a hotel off-site			---				---	
	Went to a live entertainment show, concert or performance			---		*8*	*31,865*	*2.1*	*(1.0, 4.5)*
	Spent money on other entertainment, such as amusement park, bowling, museum			---		*11*	*46,322*	*3.0*	*(1.6, 5.7)*
	Nothing	35	148,744	64.5	(47.9, 78.2)	251	1,036,743	67.4	(61.4, 73.0)
PLAYED ELECTRONIC TABLE GAMES		409	1,622,399	87.7	(83.6, 91.0)	53	226,674	12.3	(9.0, 16.4)
	Food or beverage in a restaurant or fast food	89	321,882	20.9	(16.6, 25.9)	15	58,745	25.9	(14.7, 41.5)
	Retail shopping like a store or mall	45	179,771	11.7	(7.7, 17.2)	*7*	*22,371*	*9.9*	*(4.4, 20.5)*
	Stayed at a hotel off-site	*6*	*26,920*	*1.7*	*(0.7, 4.1)*			---	
	Went to a live entertainment show, concert or performance	*8*	*31,865*	*2.1*	*(0.9, 4.4)*			---	
	Spent money on other entertainment, such as amusement park, bowling, museum	*11*	*50,149*	*3.3*	*(1.7, 6.2)*			---	
	Nothing	250	1,021,311	66.3	(60.1, 71.9)	36	164,176	72.4	(57.0, 83.9)
BET ON HORSE RACING		433	1,707,371	92.3	(88.7, 94.9)	29	141,702	7.7	(5.1, 11.3)
	Food or beverage in a restaurant or fast food	92	328,013	20.2	(16.1, 25.0)	12	52,614	37.1	(20.4, 57.7)
	Retail shopping like a store or mall	52	202,142	12.4	(8.6, 17.7)			---	
	Stayed at a hotel off-site	*6*	*27,719*	*1.7*	(0.7, 4.0)			---	
	Went to a live entertainment show, concert or performance	*9*	*34,463*	*2.1*	(1.0, 4.4)			---	
	Spent money on other entertainment, such as amusement park, bowling, museum	*12*	*48,920*	*3.0*	(1.6, 5.5)				
	Nothing	271	1,105,737	68.0	(62.1, 73.4)	15	79,750	56.3	(36.1, 74.6)

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]
PLAYED LOTTERY		448	1,800,491	97.4	(95.2, 98.6)	14	48,582	2.6	(1.4, 4.8)
	Food or beverage in a restaurant or fast food	97	363,157	21.0	(16.9, 25.9)	*7*	*17,470*	*41.3*	*(16.9, 71.0)*
	Retail shopping like a store or mall	52	202,142	11.7	(8.0, 16.7)			---	
	Stayed at a hotel off-site	*7*	*29,518*	*1.7*	*(0.8, 3.8)*			---	
	Went to a live entertainment show, concert or performance	*8*	*32,519*	*1.9*	*(0.9, 4.0)*			---	
	Spent money on other entertainment, such as amusement park, bowling, museum	*13*	*56,459*	*3.3*	*(1.8, 5.9)*			---	
	Nothing	448	1,800,491	97.4	(95.2, 98.6)			---	

[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 Plainridge Park Casino in 2016

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

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

Table 64 Non-gambling Activities Off-site by Did Plainridge Park Casino Prompt Visit to Town, among Massachusetts Patrons

		PPC did not prompt visit to town				PPC did prompt visit to town			
			Weighted				Weighted		
		N[1]	N[2]	%	95% CI	N[1]	N[2]	%	95% CI
Bought food or beverage in a restaurant or fast food outlet	no	93	329,869	78.1	(68.4, 85.5)	186	783,790	80.0	(73.4, 85.3)
	yes	26	92,478	21.9	(14.5, 31.6)	51	195,788	20.0	(14.7, 26.6)
Retail shopping like at store or mall	no	104	375,574	88.9	(81.5, 93.6)	215	878,477	89.7	(81.0, 94.6)
	yes	15	46,773	11.1	(6.4, 18.5)	*22*	*101,101*	*10.3*	*(5.4, 19.0)*
Stayed at hotel outside of the casino	no	118	419,490	99.3	(95.3, 99.9)	234	964,938	98.5	(95.1, 99.6)
	yes			---				---	
Went to a live entertainment show, concert or performance	no	114	409,271	96.9	(92.5, 98.8)	234	964,645	98.5	(94.9, 99.6)
	yes			---				---	
Spent money on other entertainment (e.g. amusement park, bowling, museum)	no	117	416,769	98.7	(94.8, 99.7)	230	944,430	96.4	(92.2, 98.4)
	yes			---		*7*	*35,148*	*3.6*	*(1.6, 7.8)*
Nothing	no	44	145,732	34.5	(25.6, 44.6)	74	319,911	32.7	(25.3, 41.0)
	yes	75	276,614	65.5	(55.4, 74.4)	163	659,667	67.3	(59.0, 74.7)

[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 Plainridge Park Casino in 2016
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 Off-site by Did Plainridge Park Casino Prompt Visit to Town, among Patrons from outside Massachusetts

		PPC did not prompt visit to state				PPC did prompt visit to state			
			Weighted				Weighted		
		N[1]	N[2]	%	95% CI	N[1]	N[2]	%	95% CI
Bought food or beverage in a restaurant or fast food outlet	no	33	160,725	82.7	(67.6, 91.6)	32	135,073	71.3	(55.1, 83.4)
	yes	*11*	*33,587*	*17.3*	*(8.4, 32.4)*	16	54,390	28.7	(16.6, 44.9)
Retail shopping like at store or mall	no	36	172,800	88.9	(77.3, 95.0)	42	160,095	84.5	(68.9, 93.1)
	yes	*8*	*21,513*	*11.1*	*(5.0, 22.7)*	*6*	*29,368*	*15.5*	*(6.9, 31.1)*
Stayed at hotel outside of the casino	no	43	192,514	99.1	(93.5, 99.9)	47	182,628	96.4	(78.4, 99.5)
	yes			---				---	
Went to a live entertainment show, concert or performance	no	44	194,313	100		47	182,628	96.4	(78.4, 99.5)
	yes	0	0	0.0				---	
Spent money on other entertainment (e.g. amusement park, bowling, museum)	no	42	188,803	97.2	(88.2, 99.4)	46	181,598	95.8	(79.9, 99.3)
	yes			---				---	
Nothing	no	17	49,590	25.5	(14.3, 41.4)	20	67,867	35.8	(22.3, 52.1)
	yes	27	144,722	74.5	(58.6, 85.7)	28	121,595	64.2	(47.9, 77.7)

[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 Plainridge Park Casino in 2016
Note: A dash indicates that the cell size is less than 6
Note: Italics indicates estimates are unreliable, relative standard error > 30%

Appendix I: Expenditures

Figure 21 Questions Specific to Expenditure Analysis and Economic Modeling

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 Plainridge Park Casino and their net gambling expenditure on these activities during their visit (questions 14 and 15)
- What non-gambling activities they spent money on within Plainridge Park Casino (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)
- If they had not come to Plainridge Park Casino, what, if anything, they would have spent their money on instead (question 22)
- For Massachusetts residents, whether Plainridge Park Casino prompted their visit to Plainville (used with expenditure information for economic modeling) (question 5)
- For non-Massachusetts residents, whether Plainridge Park Casino prompted their visit to Massachusetts (used with expenditure information for economic modeling) (question 6)

Table 66 Self-Reported Expenditures During Trip to Plainridge Park Casino by Season

		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	193	718,294	93.1 (70.0, 116.4)	40.00	66,894,799 (49,912,645, 83,876,953)	144	619,643	100.1 (69.3, 130.9)	43.48	62,022,782 (39,966,663, 84,078,901)	337	1,337,937	96.36 (77.32, 115.39)	40.00	128,917,582 (102,312,005, 155,523,158)	78.6%
	Non-Gambling at PPC	120	452,883	*93.7 (35.5, 152.0)*	25.94	42,449,540 (10,585,094, 743,13,986)	92	400,136	46.4 (25.4, 67.5)	20.00	18,576,523 (9,537,637, 27,615,410)	212	853,018	71.54 (37.66, 105.42)	23.57	61,026,063 (28,097,223, 93,954,904)	92.1%
	Non-Gambling outside PPC	65	256,867	79.9 (58.0, 101.8)	*50.27*	20,525,663 (11,167,746, 29,883,580)	50	203,168	*59.2 (21.1, 97.4)*	*23.61*	12,028,971 (3,535,294, 20,522,649)	115	460,034	70.77 (49.62, 91.91)	40.00	32,554,634 (20,075,631, 45,033,637)	78.9%
Non-MA Patrons	Gambling	44	170,515	105.3 (22.9, 187.7)	40.00	17,954,067 (3,037,148, 32,870,986)	40	192,243	88.7 (33.2, 144.3)	40.00	17,053,077 (5,185,128, 28,921,027)	84	362,759	96.50 (47.80, 145.20)	40.00	35,007,144 (16,075,219, 53,939,070)	21.4%
	Non-Gambling at PPC	30	112,546	35.3 (17.9, 52.6)	*15.77*	3,967,238 (1,601,888, 6,332,587)	15	69,816	18.0 (9.0, 27.1)	*10.00*	1,257,533 (401,268, 2,113,798)	45	182,362	28.65 (16.86, 40.44)	12.00	5,224,770 (2,725,272, 7,724,269)	7.9%
	Non-Gambling outside PPC	17	54,101	60.3 (29.3, 91.4)	*25.00*	3,263,575 (846,021, 5,681,129)	16	48900	111.0 (39.2, 182.8)	*50.00*	5,429,344 (669,841, 10,188,846)	33	103,002	84.40 (44.50, 124.29)	*46.41*	*8,692,919* (3,381,492, 14,004,346)	21.1%
All Patrons	Gambling	237	888,809	95.5 (70.8, 120.1)	40.00	84,848,866 (62,678,830, 107,018,902)	184	811,886	97.4 (70.4, 124.4)	40.00	79,075,860 (54,372,857, 103,778,863)	421	1,700,696	96.39 (78.16, 114.61)	40.00	163,924,726 (132,406,702, 195,442,750)	100.0%
	Non-Gambling at PPC	150	565,429	82.1 (34.1, 130.1)	25.00	46,416,777 (14,507,250, 78,326,305)	107	469,951	42.2 (24.1, 60.3)	20.00	19,834,056 (10,775,504, 28,892,609)	257	1,035,380	63.99 (35.55, 92.42)	20.00	66,250,834 (33,305,327, 99,196,341)	100.0%
	Non-Gambling outside PPC	82	310968	76.5 (57.4, 95.6)	50.00	23,789,238 (14,180,217, 33,398,259)	66	252,068	69.3 (34.8, 103.7)	30.00	17,458,315 (7,776,341, 27,140,290)	148	563,036	73.26 (54.50, 92.02)	40.00	41,247,553 (27,854,786, 54,640,320)	100.0%

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

Table 67 Expenditures ($) 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 activities	Mean (95% CI)	243	911,915	97.5	(73.1, 121.9)	188	822,841	98.8	(72.1, 125.5)	431	1,734,757	98.1	(80.1, 116.1)
	Median (95% CI)	243	911,915	40.0	(19.3, 50.0)	188	822,841	40.0	(21.6, 60.0)	431	1,734,757	40.0	(30.0, 50.0)
Non-gambling activities on-site	Mean (95% CI)	156	584,562	81.6	(35.1, 128.1)	109	475,559	42.4	(24.4, 60.3)	265	1,060,121	64.0	(36.2, 91.8)
	Median (95% CI)	156	584,562	25.0	(20.0, 36.4)	109	475,559	20.0	(10.0, 23.9)	265	1,060,121	20.0	(20.0, 25.5)
Non-gambling activities off-site	Mean (95% CI)	84	316,154	77.1	(58.3, 95.8)	66	252,068	69.3	(34.8, 103.7)	150	568,223	73.6	(55.0, 92.2)
	Median (95% CI)	*84*	*316,154*	*50.0*	*(30.0, 100.0)*	66	252,068	30.0	(20.0, 50.0)	150	568,223	40.0	(29.1, 54.8)

[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 Plainridge Park Casino in 2016
Note: A dash indicates that the cell size is less than 6
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Table 68 Plainridge Park Casino Revenue

Month	Slot + Table Game Outlay	Hold %	Slot + Table Game Net Revenue	Horse Racing Net Revenue	Lottery Gross Sales	TOTAL Gambling Revenue	TOTAL Non-Gambling Revenue	TOTAL Revenue
June 24-30, 2015	$60,641,793.30	10.12%	$6,137,976.28	$552,417.87				
July 2015	$182,591,860.53	9.94%	$18,155,783.86	$1,634,020.55				
August 2015	$166,244,497.24	9.16%	$15,228,050.58	$1,370,524.55	$579,000			
September 2015	$146,966,787.00	8.59%	$12,625,157.80	$1,136,264.20				
October 2015	$149,099,458.52	8.64%	$12,876,375.54	$1,158,873.80				
November 2015	$138,983,092.23	8.59%	$11,939,949.56	$1,074,595.46	$479,326			
December 2015	$135,626,938.11	8.31%	$11,267,254.41	$1,014,052.90				
TOTAL 2015		**9.05%**	**$88,230,548.03**	**$7,940,749.33**	**$1,058,325[17]**	**~$97,229,622**	**~$5,400,000[18]**	**~$102,629,622**
January 2016	$147,802,417.63	8.48%	$12,531,140.69	$1,127,802.66				
February 2016	$153,714,821.12	8.24%	$12,669,678.44	$1,140,271.06	$705,304			
March 2016	$181,989,615.17	7.42%	$13,496,232.21	$1,214,660.90				
April 2016	$174,794,153.72	7.61%	$13,306,466.10	$1,197,581.95				
May 2016	$174,847,659.99	7.71%	$13,488,794.58	$1,213,991.51	$758,852			
June 2016	$160,637,888.04	7.67%	$12,324,076.83	$1,109,166.91				
July 2016	$185,086,244.23	7.50%	$13,877,522.81	$1,248,979.75				
August 2016	$178,035,850.86	7.36%	$13,108,810.68	$1,179,792.96	$738,116			
September 2016	$175,079,907.48	7.32%	$12,811,933.93	$1,153,074.05				
October 2016	$174,655,386.21	7.20%	$12,576,794.69	$1,131,911.52				
November 2016	$161,018,352.82	7.58%	$12,211,659.58	$1,099,049.36	$748,919			
December 2016	$150,328,264.95	8.41%	$12,638,807.06	$1,137,492.64				
TOTAL 2016		**7.68%**	**$155,041,917.60**	**$13,953,925.27**	**$2,951,191[2]**	**$171,946,833.87**	**~$6,500,000[19]**	**~178,446,833.87,**

Note: The 2016 gambling revenue figures differ slightly from the figures reported by Plainridge Park Casino http://massgaming.com/wp-content/uploads/Plainridge-Park-Casino-Quarterly-Report-2016-Q4.pdf

[17] Data reported to the Massachusetts Gaming Commission: http://massgaming.com/wp-content/uploads/Plainridge-Park-Casino-Quarterly-Report-2016-Q4.pdf
[18] Data from the 2015 Penn National Annual Report (p.61): http://phx.corporate-ir.net/phoenix.zhtml?c=120420&p=irol-reportsannual
[19] Data from the 2016 Penn National Annual Report (p.54) (see link in footnote above)

Table 69 Expenditures ($) by Loyalty Card Membership

		Loyalty card membership							
		No				Yes			
				Weighted				Weighted	
		N[1]	N[2]	%	95% CI	N[1]	N[2]	%	95% CI
Everyone	Mean (95% CI)	87	342,441	58.9	(37.9, 79.9)	342	1,386,318	108	(86.0, 129.8)
	Median (95% CI)	87	342,441	40.0	(5.3, 48.2)	342	1,386,318	40.0	(28.0, 60.0)
Among those who played **Slots**	Mean (95% CI)	67	260,852	56.4	(38.2, 74.7)	325	1,296,080	107	(84.6, 128.6)
	Median (95% CI)	*67*	*260,852*	*40.0*	*(5.5, 57.6)*	325	1,296,080	40.0	(27.2, 60.0)
Among those who played **Electronic table games**	Mean (95% CI)	*15*	*56,411*	*83.9*	*(25.9, 141.8)*	*36*	*164,265*	*153*	*(50.2, 255.6)*
	Median (95% CI)	*15*	*56,411*	*39.3*	*(0.0, 100.0)*	*36*	*164,265*	*34.6*	*(0.0, 100.0)*
Among those who bet on **Horse racing**	Mean (95% CI)	*16*	*72,761*	*71.0*	*(-2.9, 145.0)*	*12*	*66,171*	*54.2*	*(14.9, 93.4)*
	Median (95% CI)	*16*	*72,761*	*6.8*	*(-0.0, 50.0)*	*12*	*66,171*	*4.6*	*(0.0, 77.3)*
Among those who bought **Lottery tickets**	Mean (95% CI)			---		*10*	*36,791*	*81.1*	*(-0.2, 162.5)*
	Median (95% CI)			---		*10*	*36,791*	*0.0*	*(0.0, 68.2)*

[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 Plainridge Park Casino in 2016
Note: A dash indicates that the cell size is less than 6
Note: Italics indicates estimates are unreliable, relative standard error > 30%

Table 70 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?	No	82	324,336	33.2	(26.1, 41.3)	58	237,756	26.9	(20.5, 34.4)	140	562,093	30.2	(25.2, 35.7)
	Yes	185	651,969	66.8	(58.7, 73.9)	142	646,099	73.1	(65.6, 79.5)	327	1,298,069	69.8	(64.3, 74.8)
Where would you have to choose to spend money on gambling? (Check all that apply)	Connecticut	135	491,438	76.7	(69.0, 83.0)	101	452,291	71.9	(62.5, 79.7)	236	943,729	74.3	(68.4, 79.5)
	Rhode Island	123	435,759	68.0	(59.3, 75.7)	95	428,708	68.1	(58.3, 76.6)	218	864,467	68.1	(61.6, 74.0)
	New Jersey	*11*	*49,598*	*7.7*	*(3.8, 15.3)*	*7*	*28,126*	*4.5*	*(2.0, 9.7)*	18	77,724	6.1	(3.5, 10.4)
	New York	*6*	*19,792*	*3.1*	*(1.1, 8.6)*	*6*	*16,264*	*2.6*	*(1.0, 6.2)*	*12*	*36,056*	*2.8*	*(1.4, 5.7)*
	Pennsylvania			---		0	0	0.0				---	
	Maine	*11*	*31,568*	*4.9*	*(2.5, 9.3)*			---		16	53,305	4.2	(2.4, 7.2)
	Nevada	*9*	*42,253*	*6.6*	*(3.1, 13.5)*	*6*	*19,948*	*3.2*	*(1.3, 7.4)*	15	62,201	4.9	(2.7, 8.7)
	Online			---				---				---	
	Other			---				---		*6*	*19,538*	*1.5*	*(0.6, 3.6)*

		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 you hadn't come here, what would have you spent your money on instead? (Check all that apply)	Other forms of gambling	17	70,906	7.2	(4.0, 12.6)	25	103,087	11.7	(7.6, 17.5)	42	173,993	9.3	(6.6, 13.0)
	Mass lottery, including scratch tickets and keno	50	215,363	22.0	(15.4, 30.3)	49	240,539	27.2	(20.4, 35.3)	99	455,903	24.5	(19.6, 30.1)
	Live entertainment (concerts, theater, live sports, etc)	28	100,720	10.3	(6.6, 15.6)	*17*	*69,893*	*7.9*	*(4.3, 14.3)*	45	170,613	9.2	(6.4, 13.0)
	Recreation and non-live entertainment (parks, clubs, museums, etc)	30	128,248	13.1	(8.7, 19.2)	22	109,510	12.4	(7.6, 19.7)	52	237,757	12.8	(9.3, 17.2)
	Restaurants and bars	111	447,225	45.6	(38.1, 53.4)	83	333,092	37.7	(30.4, 45.7)	194	780,318	41.9	(36.5, 47.5)
	Hotels and travel	22	114,939	11.7	(6.4, 20.5)	*9*	*36,778*	*4.2*	*(2.0, 8.3)*	31	151,717	8.1	(5.0, 13.1)
	Retail items (clothing, furniture, electronics, recreational goods, etc)	65	235,305	24.0	(18.5, 30.6)	41	169,664	19.2	(13.6, 26.5)	106	404,969	21.7	(17.6, 26.5)
	Housing and household items (groceries, rent, mortgage, utilities, personal and household supplies)	38	150,650	15.4	(10.7, 21.6)	32	149,675	16.9	(11.5, 24.2)	70	300,325	16.1	(12.4, 20.7)
	Health care (doctor's visits, medication, insurance)	*8*	*36,044*	*3.7*	*(1.7, 7.9)*	*8*	*39,247*	*4.4*	*(2.1, 9.1)*	16	75,292	4.0	(2.4, 6.9)
	Transportation (cars, car parts, auto insurance, fuel, public transportation)	19	92,298	9.4	(5.6, 15.5)	*9*	*40,266*	*4.6*	*(2.3, 9.0)*	28	132,564	7.1	(4.7, 10.7)
	Other services	*10*	*40,751*	*4.2*	*(2.0, 8.4)*			---		15	62,096	3.3	(1.9, 5.9)
	Nothing	61	208,937	21.3	(16.1, 27.7)	36	169,608	19.2	(13.5, 26.5)	97	378,545	20.3	(16.3, 25.0)

[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 Plainridge Park Casino in 2016

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

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

Table 71 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?	No	23	89,807	41.3	(27.5, 56.5)	96	379,797	30.6	(24.4, 37.7)	21	92,489	23.0	(14.4, 34.6)
	Yes	32	127,851	58.7	(43.5, 72.5)	219	859,728	69.4	(62.3, 75.6)	76	310,490	77.0	(65.4, 85.6)
Where would you have to choose to spend money on gambling? (Check all that apply)	Connecticut	21	90,441	71.8	(51.0, 86.2)	164	651,740	76.6	(69.4, 82.5)	51	201,548	68.9	(55.4, 79.8)
	Rhode Island	27	112,066	89.0	(70.5, 96.5)	140	555,716	65.3	(57.5, 72.4)	51	196,685	67.2	(51.9, 79.6)
	New Jersey			---		*12*	*50,766*	*6.0*	*(3.1, 11.2)*			---	
	New York			---		*7*	*17,385*	*2.0*	*(0.9, 4.7)*			---	
	Pennsylvania			---		0	0	0.0				---	
	Maine			---		*8*	*32,813*	*3.9*	*(1.8, 8.2)*	*7*	*15,697*	*5.4*	*(2.5, 11.3)*
	Nevada			---		*12*	*51,701*	*6.1*	*(3.2, 11.3)*			---	
	Online	0	0	0.0	(,)	0	0	0.0				---	
	Other	0	0	0.0	(,)			---				---	

		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 you hadn't come here, what would have you spent your money on instead? (Check all that apply)	Other forms of gambling	*6*	*32,817*	*15.1*	*(6.2, 32.2)*	27	99,628	8.0	(5.2, 12.3)	*9*	*41,549*	*10.2*	*(5.0, 19.8)*
	Mass lottery, including scratch tickets and keno	*10*	*43,892*	*20.2*	*(10.0, 36.5)*	75	340,032	27.4	(21.3, 34.6)	*14*	*71,979*	*17.7*	*(9.5, 30.7)*
	Live entertainment (concerts, theater, live sports, etc)			---		33	120,691	9.7	(6.6, 14.2)	*8*	*40,846*	*10.1*	*(4.0, 23.2)*
	Recreation and non-live entertainment (parks, clubs, museums, etc)			---		39	181,687	14.7	(10.3, 20.4)	*10*	*48,938*	*12.1*	*(5.4, 24.8)*
	Restaurants and bars	25	108,428	49.8	(34.9, 64.8)	133	525,804	42.4	(35.8, 49.4)	36	146,085	36.0	(25.5, 48.0)
	Hotels and travel			---		*20*	*118,144*	*9.5*	*(5.2, 16.8)*	*10*	*30,929*	*7.6*	*(3.8, 14.8)*
	Retail items (clothing, furniture, electronics, recreational goods, etc)	13	41,009	18.8	(10.4, 31.8)	64	248,054	20.0	(15.3, 25.7)	29	115,906	28.6	(18.9, 40.7)
	Housing and household items (groceries, rent, mortgage, utilities, personal and household supplies)	*6*	*17,453*	*8.0*	*(3.1, 19.3)*	51	219,646	17.7	(13.1, 23.5)	*13*	*63,225*	*15.6*	*(8.0, 28.1)*
	Health care (doctor's visits, medication, insurance)			---		*12*	*64,130*	*5.2*	*(2.8, 9.3)*			---	
	Transportation (cars, car parts, auto insurance, fuel, public transportation)			---		17	84,393	6.8	(4.0, 11.5)	*9*	*43,044*	*10.6*	*(5.0, 21.0)*
	Other services			---		*12*	*54,917*	*4.4*	*(2.3, 8.2)*			---	
	Nothing	14	52,546	24.1	(13.7, 39.0)	54	213,851	17.2	(12.8, 22.9)	29	112,148	27.6	(18.6, 39.0)

[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 Plainridge Park Casino in 2016

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

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

Figure 22 Economic Modeling: Map of Regions Used in Economic Modeling

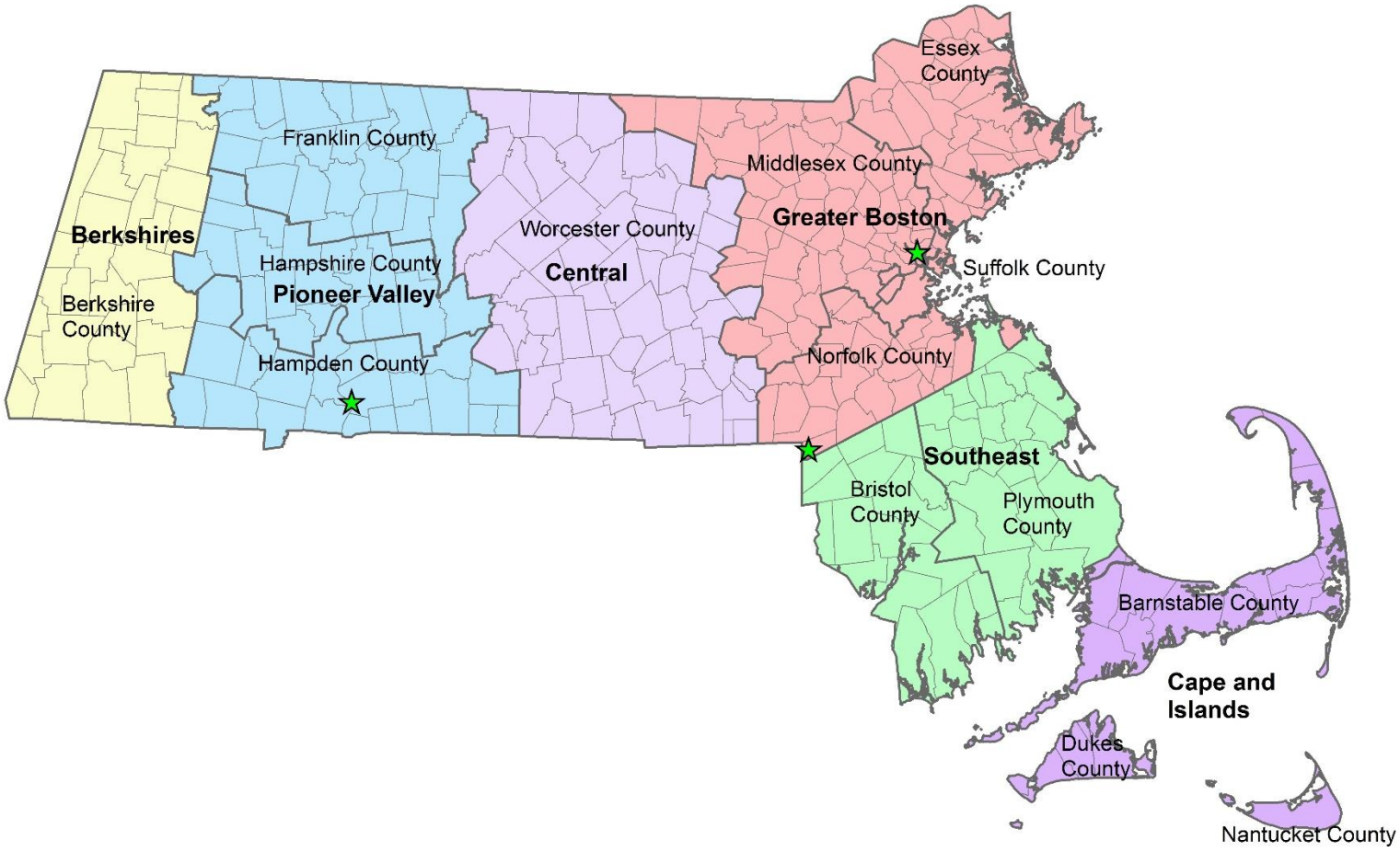

Table 72 Share of Reallocated In-State On-Site Patron Spending by REMI Region

REMI region	Share of Gambling Spending	Share of Non-Gambling PPC Spending
Central	---	---
Greater Boston	*48.1%*	*90.9%*
Southeast	*48.1%*	*7.6%*

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

Table 73 Share of Reallocated In-State Incidental On-Site Patron Spending by REMI Region

REMI region	Share of Gambling Spending	Share of Non-Gambling PPC Spending
Pioneer Valley	---	---
Central	---	---
Greater Boston	*62.6%*	*47.9%*
Southeast	*28.8%*	*25.5%*
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 74 Share of Off-Site Non-Gambling Spending by Patron Type

Patron group	Share of Off-Site Spending
1=Recaptured In-State	49.2%
2=Reallocated In-State	*18.0%*
3=Reallocated In-State Incidental	*11.7%*
4=New Out-of-State	*11.8%*
5=Captured Out-of-State Incidental	*8.3%*
6=Reallocated Out-of-State Incidental	---

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

Table 75 Casino Patron Off-Site Spending by REMI Region

REMI region	Share of Off-site Spending
Central	---
Greater Boston	*88.3%*
Southeast	---

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

Table 76 Expenditure Proportion by annual household income (above/below median)

Annual Household Income		Non-gambling activities in PPC				Gambling activities in PPC				Non-gambling activities outside PPC			
		UN[1]	N[2]	% [2]	95% CI[2]	UN[1]	N[2]	% [2]	95% CI[2]	UN[1]	N[2]	% [2]	95% CI[2]
Total	Mean (95% CI)	245	982,773	$66	(36, 96)	403	1,630,397	$98	(79, 117)	140	540,692	$75	(56, 94)
	Median (95% CI)	245	982,773	$20	(20, 25)	403	1,630,397	$40	(30, 50)	140	540,692	$40	(29, 59)
	Total (95% CI)	245	982,773	$64,960,606	(32,011,217, 97,909,996)	403	1,630,397	$159,926,890	(128,373,811, 191,479,968)	140	540,692	$40,555,707	(27,238,376, 53,873,037)
	% of total expenditure	100.0%				100.0%				100%			
Less than $70,000	Mean (95% CI)	112	468,104	$52	(33, 72)	196	818,460	$106	(75, 137)	61	240,431	$71	(36, 106)
	Median (95% CI)	112	468,104	$20	(13, 25)	196	818,460	$40	(20, 60)	61	240,431	$30	(20, 50)
	Total (95% CI)	112	468,104	$24,548,647	(14,240,003, 34,857,292)	196	818,460	$86,928,334	(59,129,899, 114,726,769)	61	240,431	$17,163,119	(7,448,193, 26,878,045)
	% of total expenditure	37.8%				54.4%				42.3%			
$70,000 or more	Mean (95% CI)	*133*	*514,669*	*$79*	*(26, 131)*	207	811,936	$90	(69, 111)	79	300,261	$78	(57, 98)
	Median (95% CI)	133	514,669	$24	(20, 30)	207	811,936	$40	(20, 50)	*79*	*300,261*	*$50*	*(30, 96)*
	Total (95% CI)	*133*	*514,669*	*$40,411,959*	*(8,861,736, 71,962,182)*	207	811,936	$72,998,556	(54,961,641, 91,035,471)	79	300,261	$23,392,588	(13,934,478, 32,850,697)
	% of total expenditure	*62.2%*				45.6%				57.7%			

[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 Plainridge Park Casino in 2016
Note: A dash indicates that the cell size is less than 6
Note: Italics indicates estimates are unreliable, relative standard error > 30%

Table 77 Expenditure Proportion by annual household income (4 categories)

Annual Household Income		Non-gambling activities in PPC				Gambling activities in PPC				Non-gambling activities outside PPC			
		UN[1]	N[2]	% [2]	95% CI[2]	UN[1]	N[2]	% [2]	95% CI[2]	UN[1]	N[2]	% [2]	95% CI[2]
Total	Mean (95% CI)	245	982,773	$66	(36, 96)	403	1,630,397	$98	(79, 117)	140	540,692	$75	(56, 94)
	Median (95% CI)	245	982,773	$20	(20, 25)	403	1,630,397	$40	(30, 50)	140	540,692	$40	(29, 59)
	Total (95% CI)	245	982,773	$64,960,606	(32,011,217, 97,909,996)	403	1,630,397	$159,926,890	(128,373,811, 191,479,968)	140	540,692	$40,555,707	(27,238,376, 53,873,037)
	% of total expenditure	100.0%				100.0%				100%			
Less than $30,000	Mean (95% CI)	31	126,419	$57	(25, 89)	59	232,048	$95	(58, 131)	19	77,095	$46	(23, 69)
	Median (95% CI)	*31*	*126,419*	*$20*	*(10, 39)*	*59*	*232,048*	*$52*	*(20, 100)*	*19*	*77,095*	*$20*	*(9, 100)*
	Total (95% CI)	*31*	*126,419*	*$7,212,748*	*(2,720,910, 11,704,585)*	59	232,048	$21,984,026	(11,569,970, 32,398,081)	*19*	*77,095*	*$3,554,524*	*(1,114,022, 5,995,026)*
	% of total expenditure	*11.1%*				13.7%				*8.8%*			
$30,000 - 69,999	Mean (95% CI)	81	341,685	$51	(26, 75)	137	586,413	$111	(70, 152)	*42*	*163,335*	*$83*	*(34, 133)*
	Median (95% CI)	81	341,685	$20	(13, 25)	137	586,413	$40	(18, 60)	42	163,335	$31	(20, 52)
	Total (95% CI)	81	341,685	$17,335,900	(7,949,153, 26,722,646)	137	586,413	$64,944,308	(38,726,769, 91,161,848)	*42*	*163,335*	*$13,608,595*	*(4,163,756, 23,053,434)*
	% of total expenditure	26.7%				40.6%				*33.6%*			
$70,000 - 99,999	Mean (95% CI)	49	190,467	$48	(29, 66)	81	332,179	$86	(57, 116)	27	90,393	$62	(34, 90)
	Median (95% CI)	*49*	*190,467*	*$21*	*(12, 40)*	81	332,179	$40	(19, 55)	*27*	*90,393*	*$32*	*(23, 91)*
	Total (95% CI)	49	190,467	$9,062,634	(4,988,600, 13,136,668)	81	332,179	$28,707,577	(16,996,025, 40,419,128)	*27*	*90,393*	*$5,597,332*	*(2,169,625, 9,025,040)*
	% of total expenditure	14.0%				18.0%				*13.8%*			
$100,000 or more	Mean (95% CI)	*84*	*324,202*	*$97*	*(17, 177)*	126	479,757	$92	(63, 122)	52	209,868	$85	(58, 111)
	Median (95% CI)	84	324,202	$23	(20, 34)	*126*	*479,757*	*$31*	*(5, 56)*	*52*	*209,868*	*$50*	*(31, 103)*
	Total (95% CI)	*84*	*324,202*	*$31,349,325*	*(-10,002, 62,708,651)*	126	479,757	$44,290,979	(29,844,344, 58,737,614)	52	209,868	$17,795,255	(8,889,338, 26,701,173)

Annual Household Income		Non-gambling activities in PPC				Gambling activities in PPC				Non-gambling activities outside PPC			
		UN[1]	N[2]	% [2]	95% CI[2]	UN[1]	N[2]	% [2]	95% CI[2]	UN[1]	N[2]	% [2]	95% CI[2]
	% of total expenditure		*48.3%*				27.7%				43.9%		

[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 Plainridge Park Casino in 2016
Note: A dash indicates that the cell size is less than 6
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Appendix J: GameSense

Table 78 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
Are you aware of the GameSense program?	No, I'm not aware of it	142	493,632	51.6	(43.8, 59.2)	54	236,159	27.4	(20.8, 35.2)	196	729,791	40.1	(34.8, 45.6)
	Yes, I am aware of it	117	463,850	48.4	(40.8, 56.2)	142	626,460	72.6	(64.8, 79.2)	259	1,090,310	59.9	(54.4, 65.2)
Have you spoken with a GameSense Advisor?	No	99	394,409	86.0	(76.5, 92.0)	110	487,509	80.0	(71.5, 86.4)	209	881,919	82.5	(76.5, 87.3)
	Yes on the casino floor			---		*13*	*48,590*	*8.0*	*(4.2, 14.5)*	18	72,747	6.8	(4.0, 11.2)
	Yes in the GameSense Info Center	*11*	*40,076*	*8.7*	*(4.2, 17.2)*	17	73,658	12.1	(7.2, 19.5)	28	113,735	10.6	(7.0, 15.8)
Were you satisfied with the information offered by the GameSense Advisor?	No	0	0	0.0				---				---	
	Yes	17	66,797	100		30	128,935	97.9	(86.2, 99.7)	47	195,732	98.6	(90.6, 99.8)
Did you learn something new about gambling?	No	*7*	*29,841*	*44.7*	*(20.4, 71.8)*	14	59,994	44.7	(26.8, 64.1)	21	89,836	44.7	(29.6, 60.8)
	Yes	10	36,956	55.3	(28.2, 79.6)	18	74,188	55.3	(35.9, 73.2)	28	111,144	55.3	(39.2, 70.4)
Did your interaction with the GameSense Advisor change the way you gamble?	No	*8*	*26,686*	*40.0*	*(18.2, 66.5)*	20	83,154	61.1	(40.7, 78.2)	28	109,840	54.1	(37.9, 69.5)
	Yes, I've changed the way I think about my gambling	*6*	*31,469*	*47.1*	*(22.1, 73.6)*			---		*9*	*42,917*	*21.1*	*(10.4, 38.3)*
	Yes, I've changed the way I gamble			---		*8*	*41,579*	*30.5*	*(15.1, 52.0)*	11	50,220	24.7	(13.3, 41.4)
As a result of interacting with the GameSense Advisor:	I have reduced the time I spend gambling			---		*6*	*26,794*	*64.4*	*(25.5, 90.6)*	7	29,358	58.5	(26.4, 84.7)
	I have increased the time I spend gambling	0	0	0.0				---				---	
	There has been no change in the time I spend gambling			---				---				---	
As a result of interacting with the GameSense Advisor:	I have reduced the money I spend gambling			---		*6*	*26,794*	*64.4*	*(25.5, 90.6)*	7	29,358	58.5	(26.4, 84.7)
	I have increased the money I spend gambling			---				---				---	

		Winter				Summer				Combined			
			Weighted				Weighted				Weighted		
		N[1]	N[2]	%	95% CI	N[1]	N[2]	%	95% CI	N[1]	N[2]	%	95% CI
	There has been no change in the money I spend gambling			---				---				---	
The GameSense Advisor was caring	Strongly agree	12	45,510	68.1	(37.2, 88.5)	*10*	*36,443*	*26.1*	*(13.2, 45.1)*	22	81,953	39.7	(25.8, 55.6)
	Agree			---		18	80,833	57.9	(38.5, 75.2)	23	102,120	49.5	(34.0, 65.1)
	No opinion	0	0	0.0				---				---	
The GameSense Advisor was helpful	Strongly agree	11	38,675	57.9	(29.8, 81.6)	*11*	*33,520*	*25.7*	*(13.4, 43.7)*	22	72,194	36.6	(23.4, 52.2)
	Agree			---		14	69,030	52.9	(33.8, 71.2)	19	94,589	48.0	(32.4, 64.0)
	No opinion			---				---				---	
	Disagree	0	0	0.0				---				---	
	Strongly disagree	0	0	0.0				---				---	
The GameSense Advisor was knowledgeable	Strongly agree	12	45,510	68.1	(37.2, 88.5)	*11*	*33,520*	*25.7*	*(13.4, 43.7)*	23	79,029	40.1	(26.1, 55.9)
	Agree			---		15	67,054	51.4	(32.3, 70.1)	20	88,341	44.8	(29.6, 61.1)
	No opinion	0	0	0.0				---				---	
	Strongly disagree	0	0	0.0				---				---	
The GameSense Advisor listened to me	Strongly agree	12	45,510	68.1	(37.2, 88.5)	12	46,361	35.6	(19.6, 55.5)	24	91,871	46.6	(31.4, 62.5)
	Agree			---		14	65,472	50.2	(31.3, 69.1)	19	86,759	44.0	(28.8, 60.4)
	No opinion	0	0	0.0				---				---	

[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 Plainridge Park Casino in 2016
Note: A dash indicates that the cell size is less than 6
Note: Italics indicates estimates are unreliable, relative standard error > 30%

Table 79 GameSense Awareness 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
Are you aware of the GameSense program?	No, I'm not aware of it	19	71,063	33.5	(20.5, 49.5)	137	497,668	40.9	(34.5, 47.7)	40	161,060	41.1	(29.9, 53.3)
	Yes, I am aware of it	34	141,261	66.5	(50.5, 79.5)	171	718,145	59.1	(52.3, 65.5)	54	230,904	58.9	(46.7, 70.1)

[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 Plainridge Park Casino in 2016
Note: A dash indicates that the cell size is less than 6
Note: Italics indicates estimates are unreliable, relative standard error > 30%

Appendix K: License Plate Collection Instrument

SEIGMA SOCIAL AND ECONOMIC IMPACTS OF GAMBLING IN MASSACHUSETTS

UNIVERSITY OF MASSACHUSETTS SCHOOL OF PUBLIC HEALTH AND HEALTH SCIENCES

PLAINRIDGE PARK CASINO PATRON SURVEY -- LICENSE PLATE COUNT FORM

Date:_____ **Start time:**_____ **End time:**_____ **Names:**_____

Lot Check list: **Garage**____ **Lot H**____ **Lot I**____ **Lot J**____ **Lot K**____

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

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