



UNIVERSITY OF MASSACHUSETTS SCHOOL OF PUBLIC HEALTH AND HEALTH SCIENCES

The Economic Impacts of Plainridge Park Casino: Four Years of Operations

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Executive Summary

Background

This report analyzes the first four years of operation at Plainridge Park Casino (PPC). To do so, the UMass Donahue Institute ([UMDI](#)), as part of the [SEIGMA](#) research team, focused on measuring the direct effects of PPC by assessing employment, wages, vendor spending, taxes, revenues, and visitation. This report discusses the direct impacts of operations at PPC and how they have changed in the years following the casino's first year of operation. This study does not employ a full economic impact analysis as recent information on patron behavior—which is an important component of a full economic impact study—is necessary. This information on patron behavior is not available as patron surveys are not conducted every year. However, the direct contributions of casino operations—based on operating data collected from PPC and data from the Massachusetts Gaming Commission (MGC)—have continued to be tabulated.

Along with being the first casino in Massachusetts after the passing of the Expanded Gaming Act, PPC's corporate owner, Penn National Gaming, holds the state's only slots-parlor license, as opposed to other casinos which have resort casino licenses. The slots-parlor agreement was for a minimum capital investment of \$125 million for a facility holding up to 1,250 slot machines and a \$25 million license fee. As a slots-parlor, PPC is taxed at 49 percent of its annual gross gaming revenue. PPC integrated its new operations with a preexisting racetrack, which opened in 1999 and remains the only live harness racing track in Massachusetts. The casino is located in the southwestern tip of Norfolk County, hosted by the town of Plainville, on the border with Rhode Island. For the purposes of our county-based economic impact model, Plainville is situated within the Metro Boston Region. Surrounding communities, as designated by the MGC, include Attleboro, Foxboro, Mansfield, North Attleborough, and Wrentham. Fiscal Year 2018 was significant for PPC as it was the last full year where PPC was the sole casino operating in Massachusetts, as MGM Springfield opened in August of 2018 and Encore Boston Harbor opened in June of 2019, both of which are resort-style casinos. While it's still early for us to draw conclusions on how the introduction of these new facilities will affect business at PPC, the SEIGMA research team looks forward to continuing its study of this emerging market in the coming years.

This report covering the second, third, and fourth years of operations stands in contrast to the analysis of PPC's first year, which employed a full economic impact analysis using information on patron behavior during that year of operation. Individual employment data was aggregated by payroll date, resulting in an official count of how many individuals were working at PPC on any given day for the purpose of this study. Analysis of detailed payroll data began with the very first paycheck cut in July of 2015, up until the last paycheck for Fiscal Year 2019. The use of payroll data gives the research team the ability to analyze dynamic areas of interest about employment at the casino, including positions, compensation, and places of residence. It is important to note that there may be small discrepancies in the exact number of workers from paycheck to paycheck, such as those who have begun working but have yet to receive their first paycheck or those who are no longer working but are still receiving their last paycheck. Since PPC opened so close to the start of the Massachusetts 2016 fiscal year (PPC opened on June 24, 2015 and the Massachusetts 2016 fiscal year began on July 1, 2016), we have followed the convention of reporting these data in terms of fiscal years. As we begin to report on the operations of the other casinos, this convention may change.

Key Findings:

Employment and Wages

- While average annual employment at PPC has remained relatively steady in recent years, the number of hours worked by employees has been increasing, with a 23 percent jump between fiscal years 2018 and 2019.
- Payroll employment at Plainridge Park Casino has declined since its opening in the summer of 2015. The casino employed just over 450 employees at the end of Fiscal Year 2019, compared to its peak of 555 in Fiscal Year 2016.
- Most of PPC's employees live in close proximity to the casino, with the majority living in either Plainville or one of nine nearby municipalities. Pawtucket, Rhode Island, North Attleborough, and Attleboro, Massachusetts house the largest proportion of these workers in Fiscal Year 2019.
- Most of PPC's out-of-state employees live in Rhode Island, and the towns of Pawtucket, Providence, Warwick and Woonsocket, Rhode Island make the list of the top 10 cities and towns in which employees live.
- Mean hourly wages are consistently higher for workers in the Metro Boston Region throughout the time series, a trend much less prominent in median wages, suggesting that this region is home to the higher-wage workers within the casino.
- Full-time employees have constituted the majority of PPC's workforce in the first four fiscal years of operation. Median hourly wages for full-time workers have increased faster than those of their part-time counterparts.

Vendor Spending

- PPC spent less money on private sector vendors in Fiscal Year 2019, while increasing its payments to charitable organizations.
- The major private sector industries on which PPC spent money in Fiscal Year 2019 are Wholesale Trade; Professional, Scientific, and Technical Services; Utilities; Miscellaneous Manufacturing; and Performing Arts and Spectator Sports.
- In terms of regional spending, most of PPC's private sector spending was made to vendors outside of Massachusetts, making up just over half of total private sector spending (54.5 percent). Spending in the Metro Boston Region follows next (26.3 percent). These two regions make up just over 80 percent of all of private sector spending in Fiscal Year 2019.
- In-state spending on private vendors dropped in Fiscal Year 2019, while out-of-state spending has seen a gradual increase. Spending in the Wholesale Trade industry has decreased in-state while simultaneously increasing out of state, making up much of this discrepancy.

Revenues, Taxes, and Visitation

- While there is some variability in month-to-month visitation at PPC, each successive fiscal year from Fiscal Year 2016 to Fiscal Year 2019 has seen lower visitation than the previous year.
- Average annual gross gaming revenue brought in per PPC patron has increased by 27 percent from Fiscal Year 2016 to Fiscal Year 2019. This rise in revenue has come even as visitation has fallen, suggesting a change in patron behavior.
- While PPC's average monthly employment declined after its first year, revenue is trending upwards nonetheless.

Introduction

This report describes direct impacts of operation by Plainridge Park Casino (PPC) in Plainville, Massachusetts in a time series fashion from its opening in July of 2015 until June of 2019, reporting in fiscal years (i.e., July 1-June 30). This iteration of PPC’s operating report focuses on its most recent fiscal years of operation.

In November of 2011, Governor Deval Patrick signed the Expanded Gaming Act, which allows for the creation of up to three commercial resort-style casinos and one slots-parlor. To reduce internal competition among casinos and maximize their potential benefits, the Commonwealth was divided into three regions, shown in Figure 1, with each region able to attract only one full resort-style casino license. The slots-parlor license was not geographically limited. To date, two full resort-style licenses in Regions A and B have been awarded. In Region B, MGM Springfield opened in Springfield, Massachusetts in August of 2018. In Region A, Encore Boston Harbor opened in Everett, Massachusetts in June of 2019, joining PPC in this region. Plainridge Park Casino—the subject of this report—is the singular slots-parlor.

Figure 1: Massachusetts Gaming Commission Regions



Source: Massachusetts Gaming Commission

Plainridge Park Casino is located in the northeast corner of Plainville, Massachusetts near the intersection of Route 1 and Interstate 495. This site was formerly the home of Plainridge Racecourse, which has now been integrated into the casino facility. The final structures on the casino property include the racetrack used for harness racing, a grandstand and simulcast building, the casino, and a parking garage.

For this report, our analysis of direct impacts uses the same six county-based economic regions as used in our economic modeling reports (Figure 2). The six county-based regions provide more refined geographic detail on spending and employment impacts within Massachusetts. Regions in Massachusetts include Metro Boston, Southeast, Central, Pioneer Valley, Berkshires, and Cape and Islands. Tables in the report refer to “Rest of Massachusetts”, defined as the remainder of regions in Massachusetts that have not been specifically mentioned in a table. The category “Rest of

Nation/World” is also used to portray activity from other parts of the U.S. and the world, with much of this activity taking place in Rhode Island and other New England states. Due to its location in Norfolk County, PPC falls within the Metro Boston Region. Official surrounding communities, as designated by the MGC, include Attleboro, Foxboro, Mansfield, North Attleborough, and Wrentham (Figure 3).

Figure 2: REMI Regions

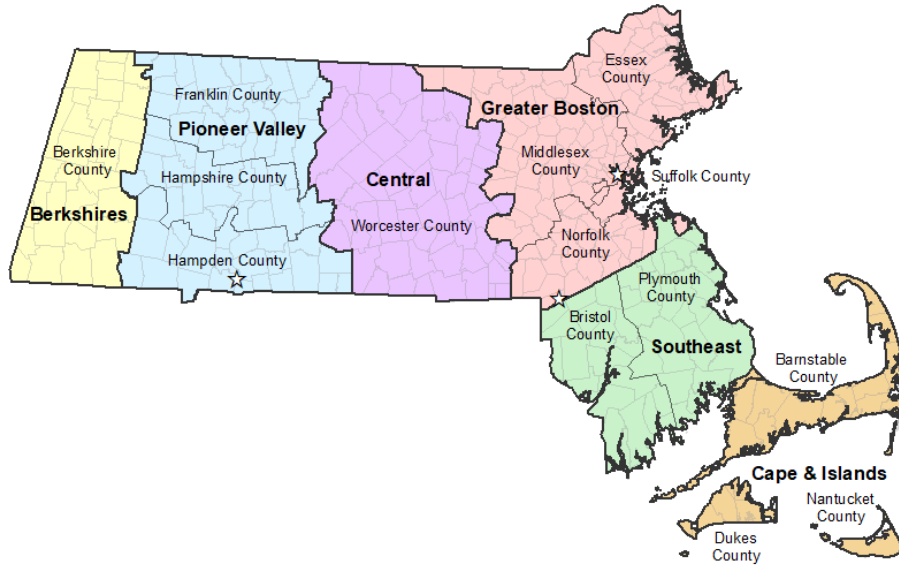
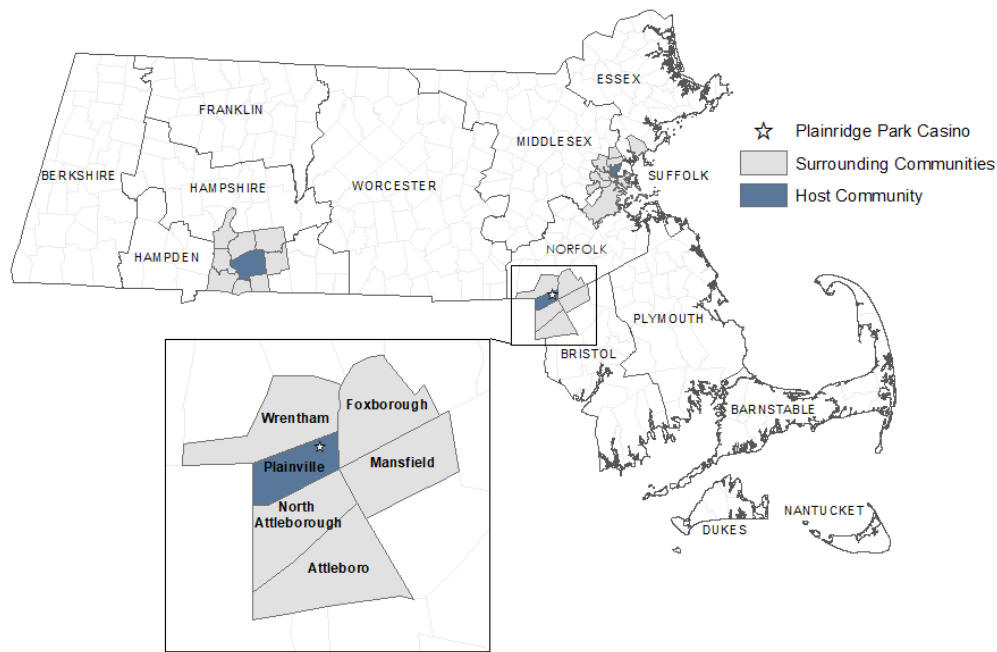


Figure 3: Host and Surrounding Communities



Direct Impacts of Casino Operations

The Importance of Direct Impacts

The term casino operations refers to all of the economic activities that take place in the course of running the casino. For the purposes of understanding the economic impact of a casino, these are considered primary activities. Plainridge Park Casino's operations have an immediate effect on the Massachusetts economy by hiring staff, paying them wages, and purchasing intermediate goods and services. It is important to monitor these trends of primary spending which act as a basis for greater secondary effects. The direct impact of PPC's spending on its own staff is that it creates and supports their positions. This primary spending on payroll then initiates secondary effects by creating new demand in Massachusetts as these employees spend their new paychecks. PPC's primary spending on intermediate goods and services—such as food, slot machines, and performers—supports employment and business expansion in other establishments. PPC's spending on vendors creates secondary effects as the owners and employees who sell the goods and services then spend their earnings. The following sections detail the ways in which PPC's primary spending and operations had a direct impact on the Massachusetts economy.

Employment and Wages

This section examines employment and wage data at PPC. These data include occupations, hours worked, income, and places of residence. On average, over the past four fiscal years, 468 workers were employed at PPC on any given day. Collectively, employees worked just under 900,000 hours over the course of a fiscal year, which earned them about \$18 million. The majority of these employees live in close proximity to the casino, including municipalities just over the border in Rhode Island. The highest paid workers live in the Metro Boston Region. Part-time employees working in either the casino operations or finance and administration organizational groups account for most of PPC's employees.

Employment, Hours Worked, and Wages Paid

Average monthly employment was at its highest level in the first year of PPC's operation. However, wages paid and hours worked have just recently reached their peak (Table 1). In the two most recent years, total hours worked and wages paid to employees both increased, despite average monthly employment remaining relatively constant. In the latest year, Fiscal Year 2019, PPC employees worked more hours than ever at 1,028,702 hours annually, despite having nearly the lowest number of employees working on average. This was a 23 percent increase over Fiscal Year 2018, the biggest change in hours worked between fiscal years since PPC's opening. The wages paid to workers in Fiscal Year 2019 also reached an all-time high of just over \$20,000,000.

Table 1: Payroll Employment, Hours Worked, and Wages Paid at PPC

Region	FY 2016	FY 2017	FY 2018	FY 2019
	Average Annual Payroll Employment			
Metro Boston	139	111	100	94
Southeast	221	192	177	175
Rest of MA	22	22	19	17
Rest of Nation / World	131	138	150	164
Total	513	464	446	449
Hours Worked				
Metro Boston	248,007	195,163	186,120	207,957
Southeast	391,334	334,262	328,513	407,609
Rest of MA	40,433	40,561	39,947	40,628
Rest of Nation / World	243,371	242,902	279,406	372,509
Total	923,145	812,889	833,986	1,028,702
Wages Paid				
Metro Boston	\$5,161,841	\$5,218,272	\$7,605,766	\$5,342,007
Southeast	\$6,145,781	\$5,693,154	\$5,549,625	\$7,192,470
Rest of MA	\$707,876	\$856,661	\$738,155	\$1,012,181
Rest of Nation / World	\$4,430,625	\$4,612,420	\$5,270,626	\$7,023,549
Total	\$16,446,124	\$16,380,507	\$19,164,171	\$20,570,207

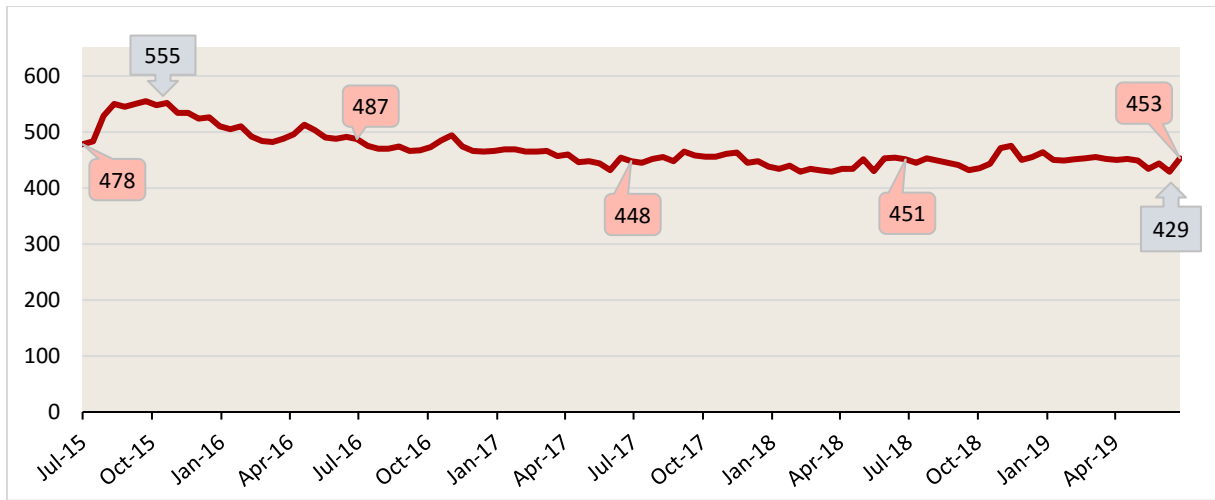
Source: Plainridge Park Casino, UMDI Calculation

PPC employees primarily live in nearby regions, with most employees residing in the northern part of Bristol County (in the Southeast Region), northeastern Rhode Island (in the Rest of Nation/World Region), and the western portion of Norfolk County (in the Metro Boston Region) (Table 1). The Southeast Region is at the top of the list in regards to where most employees are coming from, but out-of-state employment has been increasing over the past four fiscal years, accounting for nearly the same number of employees as the Southeast Region. It is important to note that the majority of these out-of-state workers are from nearby Rhode Island. Employees from other areas are declining in number, most notably from the Metro Boston area, which was previously among the top contributors of employees.

Payroll Employment

The graph below (Figure 4) shows the number of individuals employed at PPC for each biweekly reporting of payroll. The number of people employed at PPC hit its maximum in Fiscal Year 2016 at 555 employees, before gradually declining over the course of that fiscal year. From Fiscal Year 2017 on, employment numbers have steadied, only dipping as low as 429 employees in Fiscal Years 2018 and 2019. Overall, the average number of workers at PPC on any given day has largely leveled off, with around 450 individuals employed at the casino at the end of the last three fiscal years.

Figure 4: Payroll Employment at PPC



Source: Plainridge Park Casino, UMDI Calculation

Employment by Place of Residence

In analyzing employee residency, it is clear that while PPC employees live as far away as eastern Connecticut and Central Massachusetts, the majority of PPC’s employees are clustered in the area around the casino (Table 2). In fact, across all four fiscal years of operation, the majority of employees have come from 10 communities in close proximity to the casino, including the designated surrounding communities of North Attleborough, Attleboro, and Mansfield. Pawtucket, Rhode Island, and Massachusetts cities North Attleborough and Attleboro collectively are home to almost one third of all PPC employees.

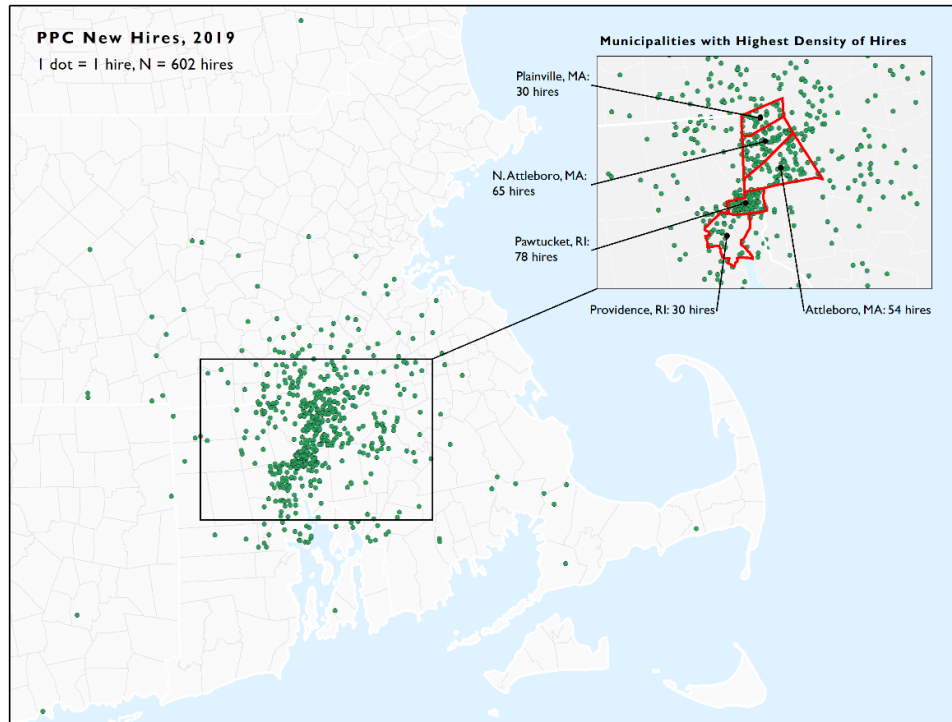
Table 2: Top 10 Cities and Towns by PPC Employment

Place	FY 2016	FY 2017	FY 2018	FY 2019
	Average Monthly Employment			
Pawtucket, RI	28	41	50	57
North Attleborough, MA	52	45	46	52
Attleboro, MA	53	49	52	43
Plainville, MA	34	26	27	25
Providence, RI	20	19	23	23
Franklin, MA	18	18	16	18
Mansfield, MA	20	18	15	17
Taunton, MA	21	16	13	15
Warwick, RI	5	5	8	10
Woonsocket, RI	7	8	8	9
	Share of Employment			
Pawtucket, RI	5.4%	8.8%	11.2%	12.6%
North Attleboro, MA	10.1%	9.7%	10.2%	11.5%
Attleboro, MA	10.4%	10.5%	11.6%	9.6%
Plainville, MA	6.7%	5.6%	6.1%	5.5%
Providence, RI	3.8%	4.2%	5.2%	5.0%
Franklin, MA	3.5%	3.9%	3.6%	4.0%
Mansfield, MA	3.9%	3.9%	3.3%	3.7%
Taunton, MA	4.1%	3.5%	2.9%	3.4%
Warwick, RI	1.0%	1.1%	1.7%	2.2%
Woonsocket, RI	1.4%	1.7%	1.9%	1.9%

Source: Plainridge Park Casino, UMDI Calculation

Figure 5 depicts the concentration of PPC employee residency in Fiscal Year 2019. The dot map style of data visualization places dots randomly within a geographical area in order to provide a sense of density. For a visualization of previous years, please see Appendix A.

Figure 5: Hires at PPC by Place of Residence



Source: Plainridge Park Casino, UMDI Calculation

The residence of employees at PPC is clustered around the casino and, as distance from the casino increases, the residence of employees roughly follows the major highways of the area, such as I-495 and Route 1. As shown in Table 3, the median distance between PPC and the centroid of the zip code associated with each PPC employee has changed very little, although decreasing over the years. The mean distance of the residence of PPC employees is more volatile. Between fiscal years 2018 and 2019, the mean distance dropped dramatically by 10 miles. This suggests that some of the employees living the farthest from PPC may have moved closer or are no longer employed at the facility. It also may reflect employees who relocated from far away simply updating their addresses.

Table 3: Distance of Hires from Plainridge Park Casino

Fiscal Year	Distance in Miles	
	Mean	Median
2016	17.4	19.6
2017	27.8	20.0
2018	31.9	18.2
2019	21.0	18.0

Source: Plainridge Park Casino, UMDI Calculation

Wages and Occupation

After calculating hourly wages, it is apparent that in the first four fiscal years of operation, mean hourly wages¹ at PPC rose faster than median hourly wages. Analysis of mean and median wages over time shows that pay increases were more pronounced among those workers making higher than average incomes² (Table 4). Mean wages in the Metro Boston Region have always been higher than those in other regions. It is notable that mean wages in Metro Boston spiked in 2018 to a high of \$40.86. This could be the result of some large bonuses or paid time off buybacks in that year among higher-paid employees, as evidenced by the return to a lower wage in FY 2019, as well as a lack of a comparable spike in the median wage. While there has been some volatility, both mean and median wages have risen overall and in each region since the first year of operation.

Table 4: Average Hourly Wage for PPC Employees by Region of Residence

Region	FY 2016	FY 2017	FY 2018	FY 2019
	Mean			
Metro Boston	\$20.81	\$26.74	\$40.86	\$25.69
Southeast	\$15.70	\$17.03	\$16.89	\$17.65
Rest of MA	\$17.51	\$21.12	\$18.48	\$24.91
Rest of Nation / World	\$18.21	\$18.99	\$18.86	\$18.85
Total	\$17.82	\$20.15	\$22.98	\$20.00
	Median			
Metro Boston	\$14.00	\$15.35	\$15.06	\$15.50
Southeast	\$13.58	\$14.42	\$14.33	\$14.68
Rest of MA	\$13.68	\$15.01	\$14.00	\$14.51
Rest of Nation / World	\$14.29	\$14.75	\$14.95	\$15.50
Total	\$13.95	\$14.76	\$14.67	\$14.50

Source: Plainridge Park Casino, UMDI Calculation

In analyzing occupation, hourly wages have been aggregated by organizational group. Since opening, the vast majority of PPC employees have worked in either the Casino Operation or Finance and Administration organizational groups (Table 5). Average monthly employment has fallen and median hourly wages have risen from Fiscal Year 2016 to Fiscal Year 2018 across nearly every organizational group, although the degree of these changes varies from one organizational group to another. Between fiscal years 2018 and 2019, it appears that wages increased to some extent for every organizational group.³ That being said, the Human Resources and Sales and Marketing groups still stand out in having a significantly higher increase and median hourly wage overall than other groups.

¹ Hourly wages are calculated for this study by dividing the total compensation over the course of a fiscal year by the number of hours worked. This method is followed both in the case of hourly and salaried workers. Since some salaried workers are likely to have worked longer hours without logging them (as they are not eligible for overtime), this method may overstate the compensation which these salaried workers received for each actual hour that they worked. Some workers may also have received compensation like bonuses and paid time off buybacks, which may inflate their calculated hourly wages.

² One aspect of compensation which complicated the analysis was the existence of tips. At this time, PPC does not have data available on the tips that their employees receive. As such, this analysis focuses solely on the compensation that PPC employees receive from the casino itself. In some cases, the actual incomes of some PPC employees may be substantially higher than their wages would suggest.

³ In the data provided by PPC, there was an additional "General and Administrative" organizational group which included some of the top executives (and highest paid individuals) working at PPC. Due to the extremely small size of that organizational group, UMDI included these individuals in the Finance and Administration organizational group in order to avoid compromising the confidentiality of the employees.

Table 5: Employment and Wages for PPC Employees by Organizational Group

Organizational Group	FY 2016	FY 2017	FY 2018	FY 2019
	Average Monthly Employment			
Casino Operation	173	161	158	153
Finance and Administration	196	171	166	181
Food and Beverage	75	65	59	56
Human Resources	5	5	4	4
Racing	29	26	26	25
Sales and Marketing	13	16	14	12
Support Operations	22	20	19	19
Median Hourly Wage				
Casino Operation	\$14.42	\$14.42	\$14.49	\$15.06
Finance and Administration	\$14.11	\$14.87	\$15.56	\$16.75
Food and Beverage	\$13.00	\$14.38	\$13.20	\$13.58
Human Resources	\$26.44	\$26.90	\$22.83	\$29.10
Racing	\$13.78	\$14.35	\$14.64	\$14.69
Sales and Marketing	\$22.31	\$22.63	\$23.51	\$26.13
Support Operations	\$14.33	\$15.33	\$15.23	\$15.38

Source: Plainridge Park Casino, UMDI Calculation

Employment has also been analyzed by full- or part-time status. Most of PPC’s employees have been full-time during the past four fiscal years of operation (Table 6). When employment at PPC declined over the first four fiscal years, most of the positions eliminated were full-time positions. Over fiscal years 2018 and 2019, average monthly employment for full-time workers increased by just 5 workers, but average monthly part-time workers declined by 2. Median hourly wages for full-time workers have steadily increased by a total of just about \$2 since Fiscal Year 2016. Part-time wages peaked in Fiscal Year 2017 and have experienced a \$0.26 increase since opening amidst some volatility.

Table 6: Employment and Wages for PPC Employees by Full-Time/Part-Time Status

Organizational Group	FY 2016	FY 2017	FY 2018	FY 2019
	Average Monthly Employment			
Full Time	355	311	298	303
Part Time	158	153	148	146
Median Hourly Wage				
Full Time	\$14.42	\$15.50	\$16.05	\$16.43
Part Time	\$12.64	\$13.67	\$12.65	\$12.90

Source: Plainridge Park Casino, UMDI Calculation

Vendor Spending

Plainridge Park Casino spends money on a number of different entities, which interact with the casino in different ways. Generally, PPC spends in five broad categories: 1) payments to private sector vendors, 2) payments to government entities, 3) payments to unions and other membership organizations, 4) payments to charitable organizations, and 5) payments to individuals. Payments to private sector vendors (other businesses) have consistently made up the majority of PPC's spending. Wholesale Trade has consistently been the industry to which PPC spends the most, averaging about \$5.2 million each fiscal year, making up about 16.3 percent of the casino's spending by industry on average each year. Since opening, PPC has spent most on private vendors in the Metro Boston Region and outside of Massachusetts, with an average of about 78 percent of spending to private vendors taking place in these regions each year (25.6 percent in Metro Boston and 52.9 percent outside of Massachusetts). PPC has typically chosen in-state vendors when spending in the Wholesale Trade industry, while choosing out-of-state vendors for almost all of its needs in the Miscellaneous Manufacturing industry.

Spending by Organizational Category

Although the share of spending going to private sector vendors has fallen from its peak of just over 60 percent in Fiscal Year 2016, it appears to have steadied around 52 to 54 percent of total spending (Table 7). This reduction could be due, in part, to large purchases of durable goods in Fiscal Year 2016. For instance, many slot machines purchased initially for opening may still be operational. While it remains a small share of PPC's overall spending, a significant change can be seen in the payments to charitable organizations category, as the amount spent nearly doubled from about \$128,000 to \$223,000 between fiscal years 2018 and 2019. PPC has added a number of new vendors or organizations in FY 2019, donating to both national and global funds as well as local schools, non-profits, and clubs.

Table 7: PPC Payments by Payment Type

Payments Made by Plainridge Park	Amount				Share			
	FY 2016	FY 2017	FY 2018	FY 2019	FY 2016	FY 2017	FY 2018	FY 2019
Payments to Private Sector Vendors	\$18,474,706	\$16,652,705	\$17,700,655	\$16,679,595	60.9%	53.1%	53.8%	52.1%
Payments to Government Entities	\$11,321,332	\$13,671,671	\$14,331,566	\$14,331,260	37.3%	43.6%	43.6%	44.8%
<i>Federal Government Entities</i>	\$921,451	\$1,669,506	\$1,764,171	\$2,101,931	3.0%	5.3%	5.4%	6.6%
<i>Massachusetts State Government Entities</i>	\$5,888,087	\$6,731,247	\$7,392,219	\$7,511,470	19.4%	21.5%	22.5%	23.5%
<i>Other State Government Entities</i>	\$23,245	\$9,244	\$6,329	\$18,728	0.1%	0.0%	0.0%	0.1%
<i>Local Government Entities</i>	\$4,488,549	\$5,271,674	\$5,178,347	\$4,699,131	14.8%	16.8%	15.7%	14.7%
Payments to Unions and Other Membership Organizations	\$444,734	\$808,916	\$635,454	\$652,180	1.5%	2.6%	1.9%	2.0%
Payments to Charitable Organizations	\$44,593	\$129,118	\$128,715	\$223,973	0.1%	0.4%	0.4%	0.7%
Payments to Individuals	\$58,927	\$103,012	\$106,235	\$121,957	0.2%	0.3%	0.3%	0.4%
Total	\$30,344,292	\$31,365,422	\$32,902,626	\$32,008,966	100.0%	100.0%	100.0%	100.0%

Source: Plainridge Park Casino, UMDI Calculation

Spending by Industry

Looking at the drop in private sector spending on an industrial level, Professional, Scientific and Technical Services, Wholesale Trade, Retail Trade, Miscellaneous Manufacturing, and Construction are among the industries in the private sector with the biggest drop in spending in Fiscal Year 2019 (Table 8). These industries are also historically top recipients of PPC's spending by industry, with the Wholesale

Trade industry consistently being the largest recipient of vendor spending from PPC. This industry includes, but is not limited to, the wholesalers supplying PPC with food, beverages, and office supplies.

In the first year of operation, Miscellaneous Manufacturing, including the manufacturing of slot machines, was the second largest recipient, followed by Utilities, Professional, Scientific, and Technical Services, and Retail Trade. In the years since FY 2016, Retail Trade has fallen from the top five, replaced by Performing Arts and Spectator Sports. For a full chart of the top 10 industries for each fiscal year, see Appendix B.

Table 8: PPC Spending by Industry, FY 2019

Industry	Amount	Share
Wholesale trade	\$4,859,762	15.2%
Professional, scientific, and technical services	\$1,981,506	6.2%
Utilities	\$1,710,431	5.3%
Miscellaneous manufacturing	\$1,629,251	5.1%
Performing arts and spectator sports	\$1,172,851	3.7%
Membership associations and organizations	\$793,715	2.5%
Retail trade	\$665,960	2.1%
Administrative and support services	\$516,604	1.6%
Construction	\$480,229	1.5%
Broadcasting, except internet	\$441,609	1.4%
All Other Industries	\$17,757,047	55.5%
Total	\$32,008,966	100.0%

Source: Plainridge Park Casino, UMDI Calculation

Spending by Region

At the regional level, and across all organizational types, most of PPC’s spending stayed within Massachusetts (Table 9). In Fiscal Year 2019, PPC increased spending in the Metro Boston Region by 1.5 percent and spending in the Rest of the Nation/World by 7.7 percent. These two regions alone make up just under 90 percent of PPC’s total spending, with the remaining 11 percent of total spending done in the other regions of Massachusetts. Of these other Massachusetts regions, the Southeast share of spending dropped from 19 percent in Fiscal Year 2018 to only 8.3 percent in Fiscal Year 2019, dipping lower than it has ever been. This is due, in part, to variations in taxes and fees paid to state and local government entities. Since this type of spending makes up such a large proportion of PPC’s total spending, the distribution of spending across regions changes quite a bit when looking only at spending in the private sector.

Table 9: PPC Spending by Region

Region	Amount				Share			
	FY 2016	FY 2017	FY 2018	FY 2019	FY 2016	FY 2017	FY 2018	FY 2019
Metro Boston	\$14,187,421	\$17,245,159	\$16,967,825	\$16,989,560	46.8%	55.0%	51.6%	53.1%
Southeast	\$4,482,510	\$3,242,258	\$6,235,558	\$2,644,511	14.8%	10.3%	19.0%	8.3%
Central	\$298,855	\$611,677	\$249,952	\$660,406	1.0%	2.0%	0.8%	2.1%
Rest of MA	\$205,630	\$247,410	\$260,962	\$323,891	0.7%	0.8%	0.8%	1.0%
Rest of Nation / World	\$11,169,878	\$10,018,919	\$9,188,329	\$11,390,597	36.8%	31.9%	27.9%	35.6%
Total	\$30,344,292	\$31,365,422	\$32,902,626	\$32,008,966	100.0%	100.0%	100.0%	100.0%

Source: Plainridge Park Casino, UMDI Calculation

Private Sector Spending

When looking at spending in the private sector only, PPC spends mostly out-of-state and Metro Boston continues to be PPC's top in-state region for spending (Table 10). In Fiscal Year 2019, the share of private sector spending in the Metro Boston Region decreased by 1.3 percent, and the share for the rest of the Nation/World increased by 3.6 percent. These two regions still make up just over 80 percent of PPC's spending in the private sector, the most that PPC has spent in these two region's private sectors since opening. It is important to note that the sheer size of the Metro Boston Region probably increases the likelihood that spending takes place there, especially since Plainville itself is included in the area. See Appendix A for a geographic visualization of spending across Massachusetts municipalities.

Table 10: PPC Spending by Region: Private Sector Only

Region	Amount				Share			
	FY 2016	FY 2017	FY 2018	FY 2019	FY 2016	FY 2017	FY 2018	FY 2019
Metro Boston	\$3,497,570	\$4,921,105	\$4,883,927	\$4,388,084	18.9%	29.6%	27.6%	26.3%
Southeast	\$3,722,057	\$3,153,420	\$3,356,085	\$2,506,975	20.1%	18.9%	19.0%	15.0%
Central	\$287,831	\$240,195	\$249,952	\$424,922	1.6%	1.4%	1.4%	2.5%
Rest of MA	\$201,067	\$241,506	\$255,521	\$323,615	1.1%	1.5%	1.4%	1.9%
Rest of Nation / World	\$10,766,181	\$8,096,479	\$8,955,171	\$9,036,000	58.3%	48.6%	50.6%	54.2%
Total	\$18,474,706	\$16,652,705	\$17,700,655	\$16,679,595	100.0%	100.0%	100.0%	100.0%

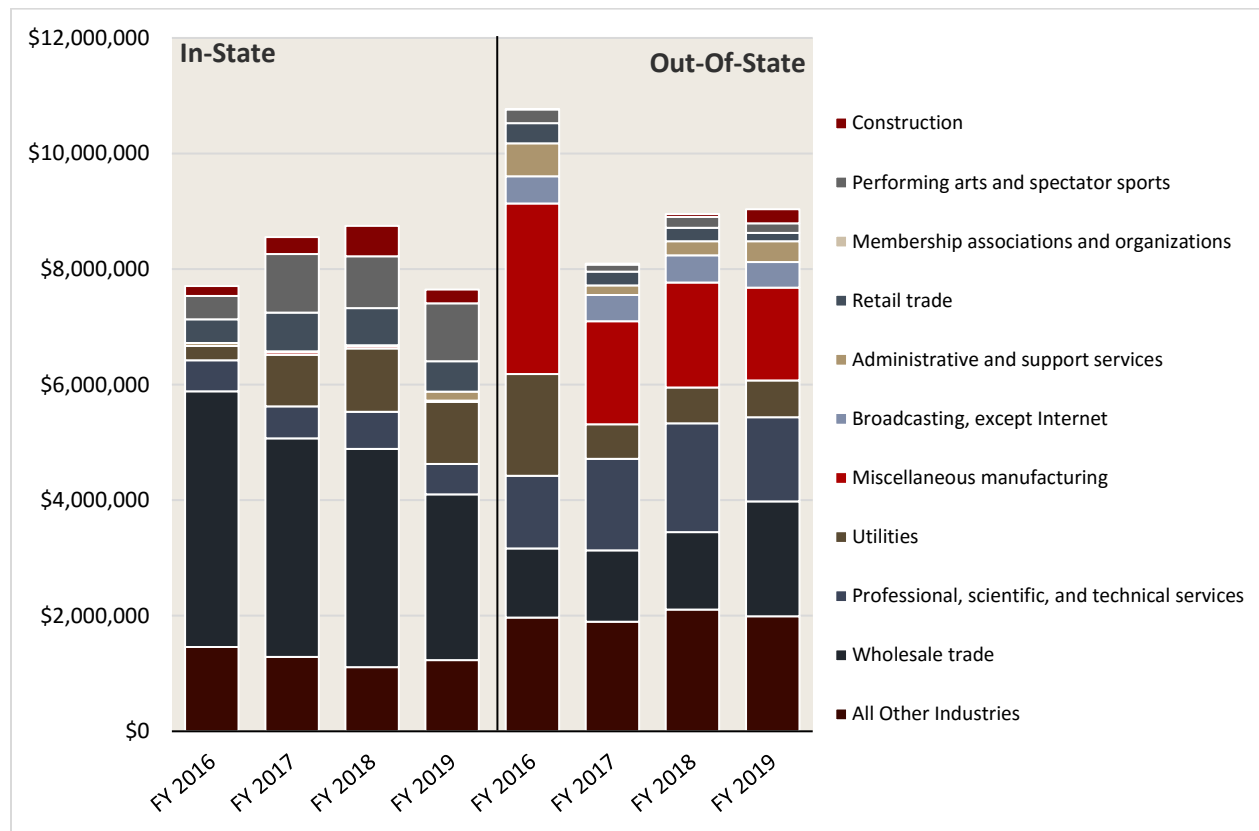
Source: Plainridge Park Casino, UMDI Calculation

In-State and Out-Of-State Spending

In PPC's first year of operation, spending on out-of-state private sector vendors outpaced spending on in-state private sector vendors, driven in large part by purchases of gambling equipment from manufacturers in Nevada (Figure 6). Spending on in-state vendors in Fiscal Year 2019 has reached the lowest point since PPC's opening; meanwhile, spending on out-of-state vendors is creeping up towards its all-time high. A trade-off is seen between a few industries in terms of in-state versus out-of-state spending that illustrates this trend. The share of spending on in-state wholesale trade dropped from 43.2 percent to 37.6 percent, while increasing from 15.0 percent to 22.0 percent out-of-state. Simultaneously, the share of spending on vendors in the construction industry decreased from 6.0 percent to 3.1 percent in-state while increasing from 0.6 percent to 2.7 percent out-of-state. PPC has

historically chosen in-state vendors for Wholesale Trade, Utilities, Performing Arts and Spectator Sports, and Retail Trade, while preferring out-of-state vendors for every other industry.

Figure 6: PPC Spending on Private Sector Vendors



Source: Plainridge Park Casino, UMDI Calculation

Revenues, Taxes, and Visitation

As primary sources of state gaming revenue, slots-parlor revenues are important to track and assess over the years. Our analysis of revenue at PPC includes a discussion of visitation, which is the source of the revenue, and taxes that are paid from gross gaming revenue. Gross gaming revenue (GGR) at PPC is sourced from the bets that patrons place while gambling, referred to as “coin-in”. The casino sets a hold percentage on these bets, which indicates the amount of coin-in to be retained as revenue. The remainder of coin-in is then returned to bettors in the form of a “payout.” The percentage of coin-in that PPC keeps is considered its gross gaming revenue. From this GGR, a slots-parlor casino like PPC is subject to a 49 percent state tax. Of the total collected, 82 percent of the funds are allocated for Local Aid, and 18 percent are allocated for the [Massachusetts’ Race Horse Development Fund](#) (Figure 9).

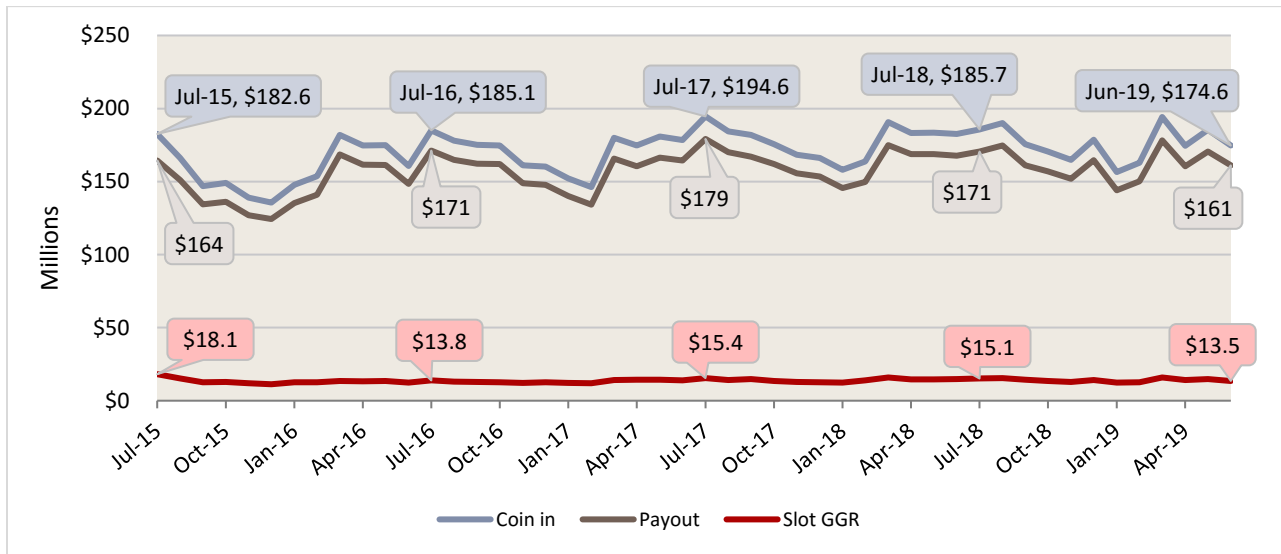
PPC has hosted an average of 217,000 visitors each month since opening. These patrons placed an average of \$171 million in bets each month in the casino’s first four fiscal years of operation, totaling about \$8.2 billion over that time period. Of those bets, a total of \$7.6 billion, averaging \$157.3 million per month, went back to patrons as payouts. As a result, PPC took in a total of \$656.9 million in revenue since opening, averaging \$13.7 million each month. Between state and horse race assessment taxes, an

average of about \$6.7 million in taxes were collected from PPC’s GGR each month, totaling about \$321.9 million in payments over the four years.

Gross Gaming Revenue

Gross Gaming Revenue has gradually climbed at a relatively steady pace since PPC’s opening, averaging about \$13.7 million per month (Figure 7). GGR at PPC experienced volatility in Fiscal Year 2016, as it hit its all-time peak of just over \$18 million during opening month in July 2015 and its all-time low of about \$11.3 million just months later in December 2015. Since then, GGR has steadied, differing not more than about \$3.9 million for the next three fiscal years.

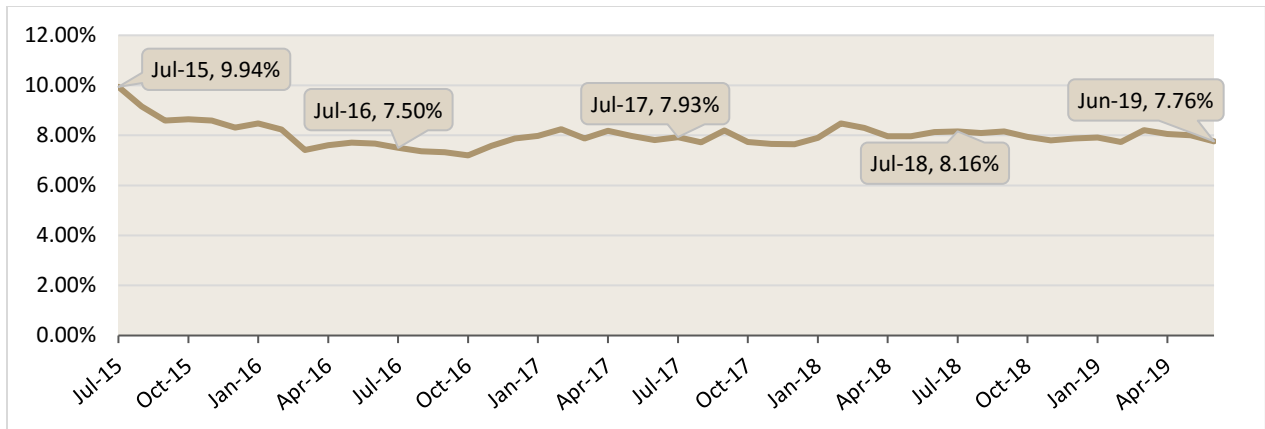
Figure 7: Coin in, Payout, and Gross Gaming Revenue at PPC



Source: Massachusetts Gaming Commission

As seen in Figure 7, GGR did not rise and fall in perfect relationship with coin-in, as the hold percentage on slot machines is adjustable, independent of total bets. GGR is determined by the percentage of the total amount of ‘coin-in’ bets that a casino will “hold” or retain as revenue. This is called the hold percentage. The remainder of coin-in bets are returned as a payout to the bettors. In analyzing the hold percentage, we are able to track the relationship between the amount of money that patrons bet and GGR. Since this percentage is determined by the casino, it can be used as a tool to moderate casino earnings regardless of fluctuating betting. PPC set its highest hold percentage, 9.9 percent, in its first month of operation. The hold percentage was set at its lowest, 7.2 percent, in October of 2016, and has averaged 8 percent over the course of operation (Figure 8).

Figure 8: Hold Percentage at PPC

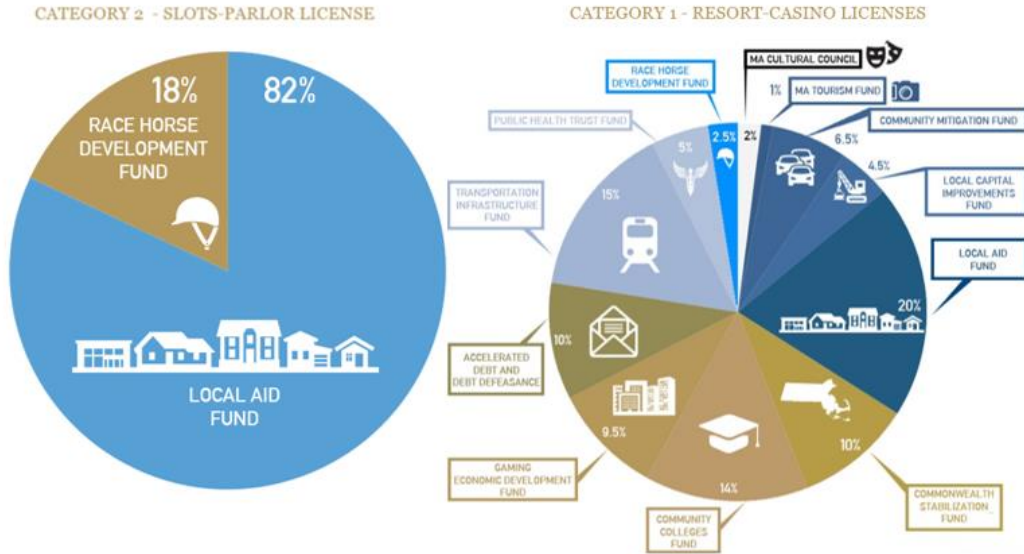


Source: Massachusetts Gaming Commission

Taxes

The Expanded Gaming Act sets the percent at which a casino’s gross gaming revenue will be taxed and specifically identifies a variety of uses for the revenue for the Commonwealth. From Category 1 casinos (i.e., resort-casinos), the state collects 25% of GGR. From Category 2 casinos (i.e., slots-parlor casinos), the state collects 49% of GGR. The allocation of this tax revenue includes payments for Local Aid, health care payment reform initiatives, education and community colleges, transportation infrastructure, manufacturing initiatives, debt reduction, and tourism. The legislation also provides for a variety of mitigation efforts, including public health and addiction services and community and cultural mitigation. Gaming revenues support a Race Horse Development Fund as well. The funds collected are to be paid to horsemen, trainers, riders and other stable workers, and to breeding programs that support farms and other agri-business in the Commonwealth. Of the funds collected through PPC’s 49 percent tax as a Category 2 casino, about 18 percent is allocated to the Racehorse Development Fund and the remaining 82 percent is dispersed to Massachusetts’ 351 cities and towns by way of Local Aid. Each municipality receives Local Aid based on a formula that accounts for its population and level of economic need (Figure 9).

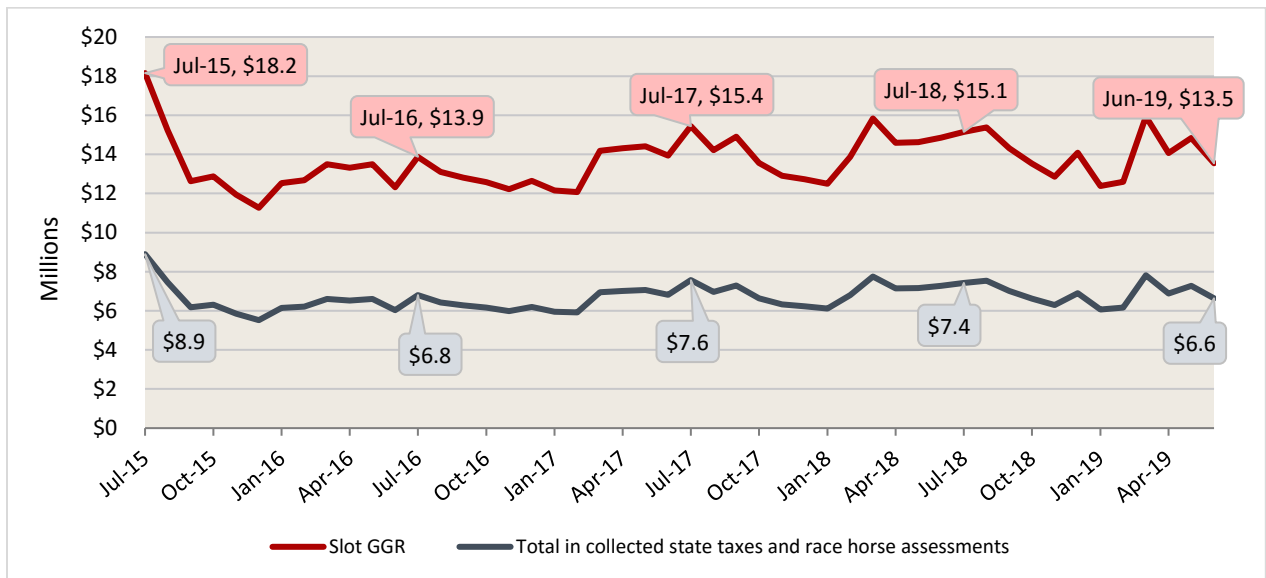
Figure 9: Allocation of Tax Revenue for Category 1 and Category 2 Casinos



Source: Massachusetts Gaming Commission

From opening to the end of Fiscal Year 2019, the Commonwealth collected \$321.9 million—or an average of \$6.7 million per month—between taxes on GGR and racehorse development fund taxes (Figure 10). Taxes collected from PPC peaked in its first full month of operation at almost \$8.9 million, but have since remained fairly stable, with most months yielding between \$6 million and \$8 million in revenue for the Commonwealth.

Figure 10: Gross Gaming Revenue and Collected Taxes and Assessments at PPC, by Month

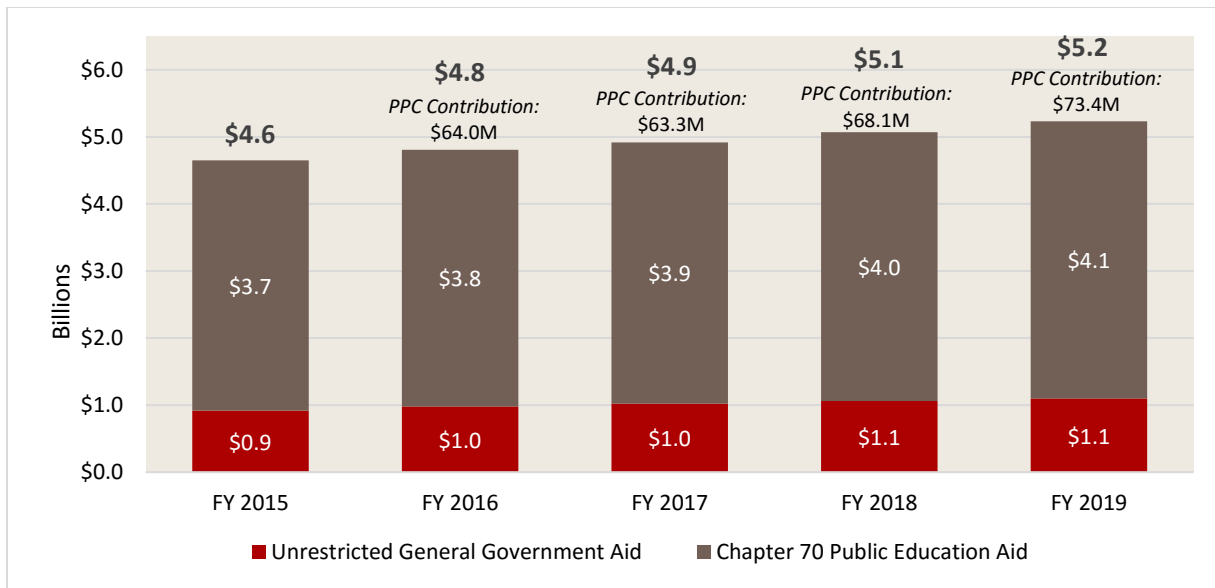


Source: Massachusetts Gaming Commission

The vast majority of funds for Local Aid come from the Massachusetts State Lottery. Due to the Massachusetts gaming legislation, casinos like PPC also contribute to the fund. The amount of state gaming taxes paid by PPC has increased steadily since opening and coincides with GGR, with a 7 percent

increase between fiscal years 2018 and 2019 (Figure 11). Since these state gaming taxes, among other sources, contribute to Local Aid by way of Unrestricted General Government Aid and Chapter 70 Public Education Aid, a similar trend appears in these two categories. Local Aid in Fiscal Year 2019 totaled to \$5.24 billion, with a 3 percent increase in Chapter 70 aid and a 4 percent increase in Unrestricted General Government Aid. While the amount of Local Aid paid out to cities and towns has risen every fiscal year since PPC opened, the primary source of that fund is the Massachusetts State Lottery, and PPC contributes a much smaller part of the overall total. It is difficult to determine the role that revenue from PPC plays in this trend, since Local Aid increased even in FY 2017 when PPC's revenue had dipped slightly from FY 2016.

Figure 11: PPC Contributions to Local Aid Funds

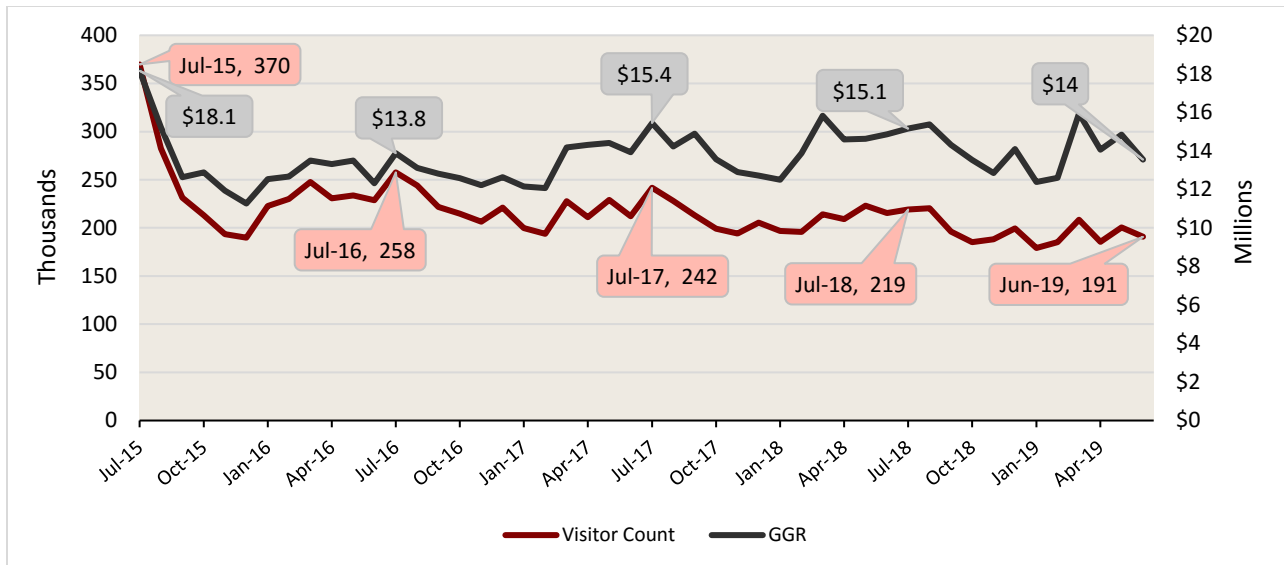


Source: Massachusetts Gaming Commission, Massachusetts State Legislature

Visitation, Employment, and Gross Gaming Revenues

While GGR has remained relatively stable at PPC, there have been some notable shifts in its patronage. PPC utilizes a bi-directional visitor-counting system from Traf-Sys which provides insight into the visitorship patterns at PPC, even in the absence of an on-site patron survey. After an initial surge of interest common for a new casino, visitorship at PPC fell in the Fall of 2015 (Figure 12). While there is some variability in month-to-month visitorship at PPC, each successive fiscal year from Fiscal Year 2016 to Fiscal Year 2018 returned a lower visitorship than the previous year. Fiscal Year 2019 is no different, dipping lower than ever in January of 2019 to about 179,000 visitors. The annual average visitor count illustrates this gradual decline as numbers dropped from about 211,000 visitors in Fiscal Year 2018 to about 196,500 in Fiscal Year 2019. Revenues, however, seem to be unaffected by the drop in visitorship, as seen in June of 2019, where visitor numbers dropped to about 190,800, while GGR reached about \$13.5 million. One reason that this decline in visitorship has not had a bigger effect on revenues is that PPC visitors began spending more on average over the same time. This could be a result of a change in the type of patron who visits PPC, if casual gamblers are becoming smaller portion of the patron population. The follow-up patron survey at PPC will allow the SEIGMA research team to gain more insight into the nature of this trend.

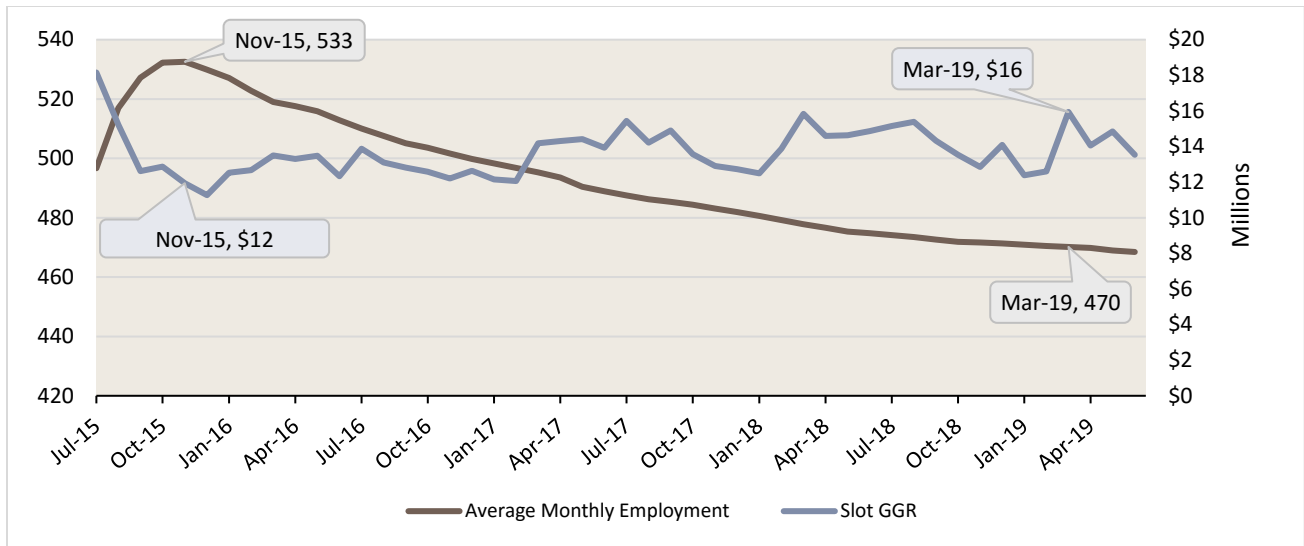
Figure 12: Visitors and GGR per Visitor at PPC



Source: Plainridge Park Casino, Massachusetts Gaming Commission

As discussed in previous sections, employment at PPC has gradually declined since peaking in September of 2015. Since for-profit organizations like PPC are generally thought to hire only as many workers as are necessary to meet the current level of demand, a somewhat intuitive explanation for this decline would be that revenues had fallen and PPC had scaled back its hiring in light of this. However, a look at revenue data suggests that the decline in employment had little to do with revenues at PPC, which have not followed the same trend (Figure 13). Amidst a variation of about \$7 million over the lifetime of the casino, revenue has trended upward nonetheless. A notable observation is that during peak employment with 533 workers in November of 2015, GGR was at its lowest (i.e., \$11.9 million) while March of 2019 yielded revenues among the highest earned within a month (i.e., \$15.9 million) and employment numbers on average were at a low of 470. It appears that GGR has less to do with number of employees, and possibly more to do with capabilities of individual staff or whether the patronage of PPC has shifted, which is something that will be better understood with the next survey of PPC’s patrons.

Figure 13: Gross Gaming Revenue per Employee at PPC



Source: Massachusetts Gaming Commission, Plainridge Park Casino, UMDI Calculation

Conclusion

Time-series data has allowed the SEIGMA research team to assess the direct economic impacts of PPC over its first four years of operation. At the end of Fiscal Year 2019, four years into operation, visitation and employment are lower when compared, unadjusted, to numbers in Fiscal Year 2016. However, looking at the data on a more granular level across the time series reveals that declines in employment and visitation at PPC have not been accompanied by a decline in revenue. In fact, revenues have increased from the first year of operation and have stayed fairly steady across the last two fiscal years.

PPC has not experienced any catastrophic business setbacks, but business, at least as measured by visitation, has leveled off since its initial peak. This may be evidence of a pattern called the “novelty effect.” This term describes the initial peak of measures like employment and visitation as the result of sparking the public’s interest—visitors and workers were drawn to the casino when it first opened. Plainridge Park Casino was a new form of entertainment, a new industry in the Commonwealth, and the first of its kind in the state. Eventually, this draw to the new and different may wear off. Therefore, it is not surprising to see employment and visitation decline.

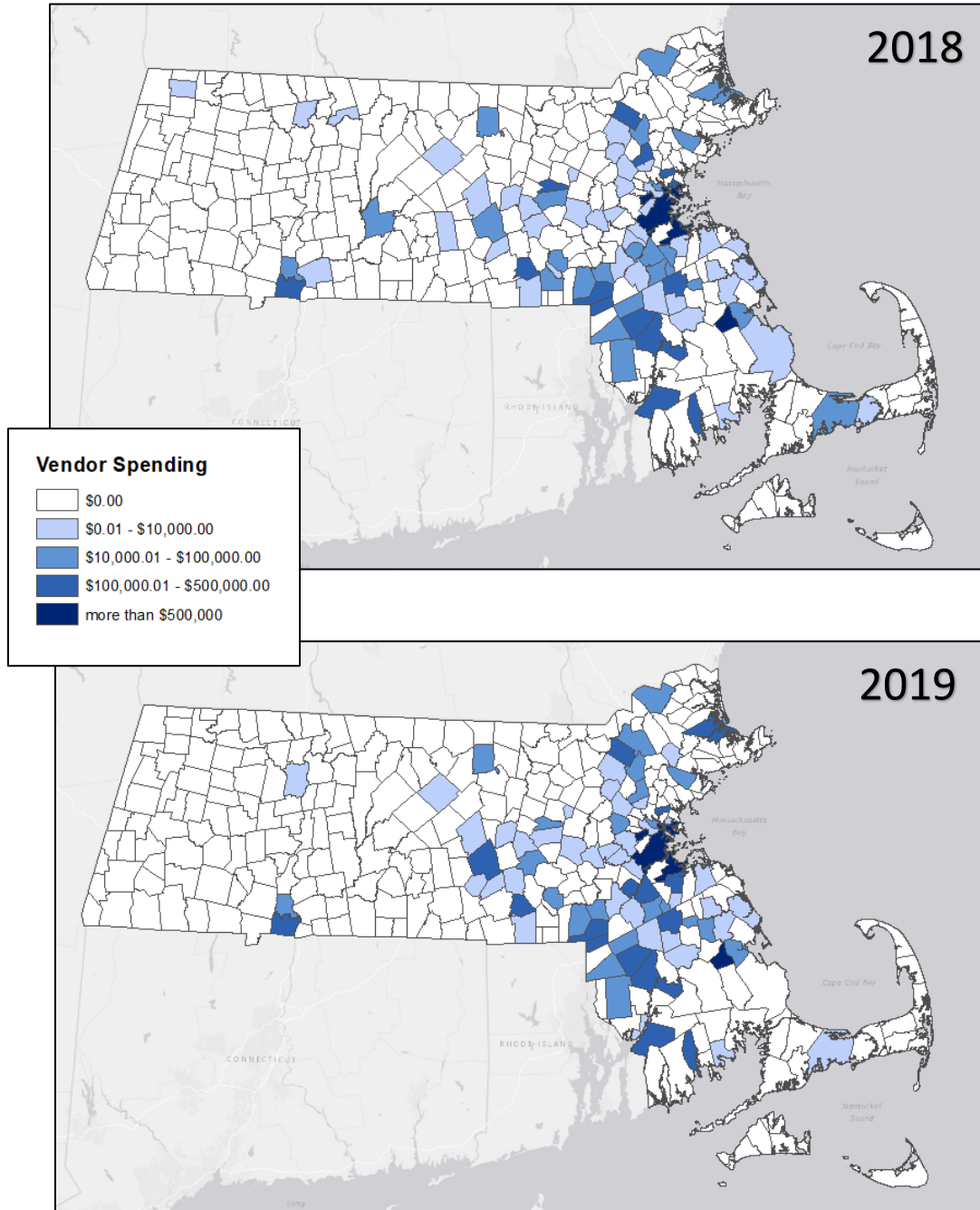
In the same time period, most measures at PPC have remained relatively stable, and some, like gross gaming revenue and hours worked by employees, have actually increased. In terms of visitation, we see fewer visitors who are spending more, suggesting a change in patron behavior. Additionally, the total number of hours worked by PPC employees has risen despite steady levels of employment, which could suggest that PPC’s workforce has become more productive since the casino opened. Once the SEIGMA research team is able to collect another round of patron data, we will be able to analyze more recent behavioral patterns of patrons and assess the share of casual versus potentially more problematic, gambling behavior at PPC.

In the future, UMDI as part of the SEIGMA research team looks forward to gaining insight into patron behaviors and conducting analyses of all three casinos in Massachusetts in context with one another. As PPC enters its fifth year of operation, we are able to analyze almost a full year of operations while it

shared the Massachusetts market with MGM Springfield. Encore Boston Harbor in Everett, Massachusetts opened at the end of the study period for this report in June of 2019. Since it is geographically closer to PPC, it may prove to be a greater competitor to PPC than MGM Springfield. How these factors will affect PPC's operations will be analyzed with future data. Given that these new casinos were awarded resort-style licenses, it will be interesting to gain a ground level understanding of patron behavior at casinos of this style compared to PPC's slots-parlor establishment. Going forward, the continuation of this time series analysis of direct impacts will be helpful to analyze the evolution of PPC within its new competitive landscape.

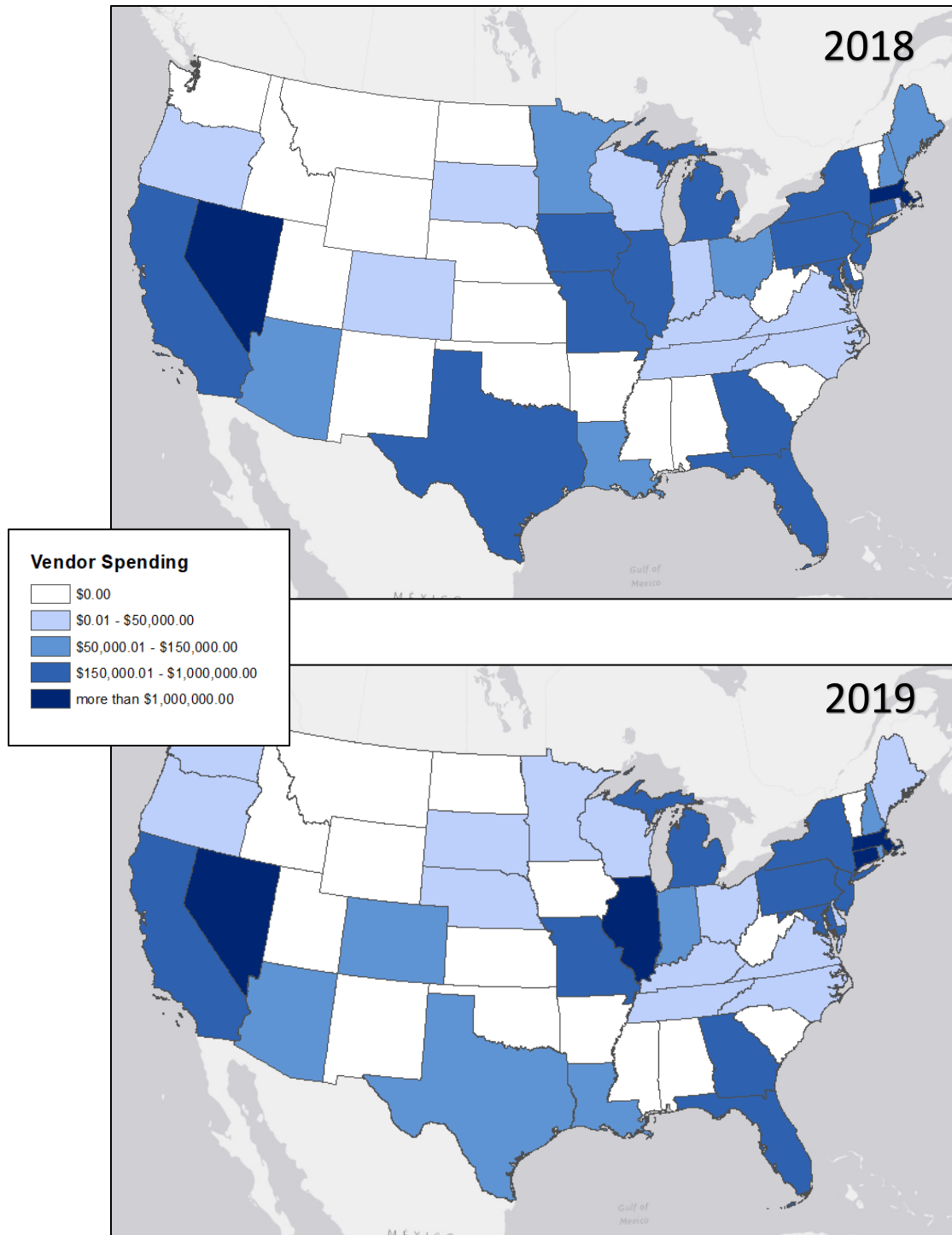
Appendix A

Figure 14: PPC Private Sector Spending in Massachusetts by Municipality



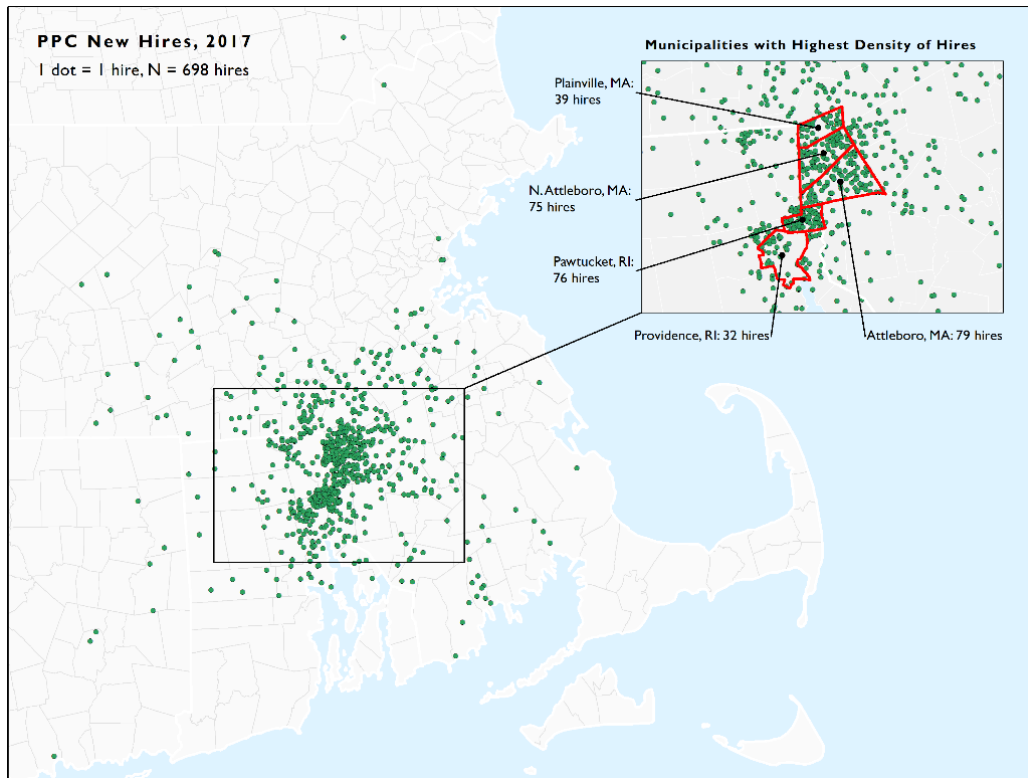
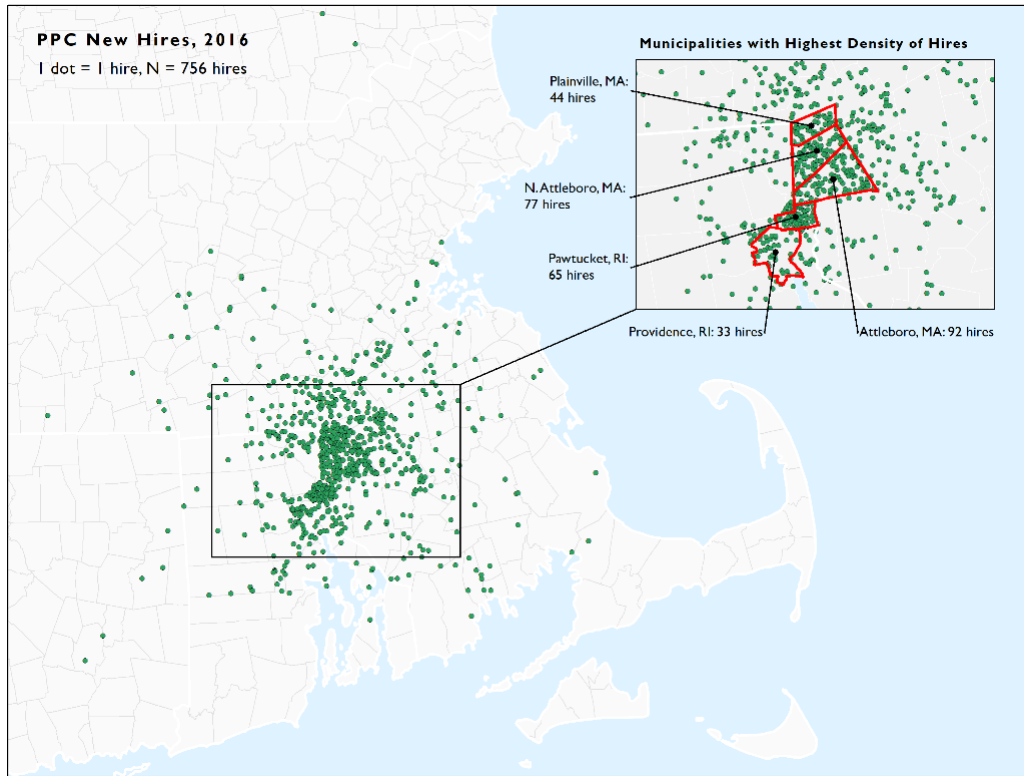
Source: Plainridge Park Casino, UMDI Calculation

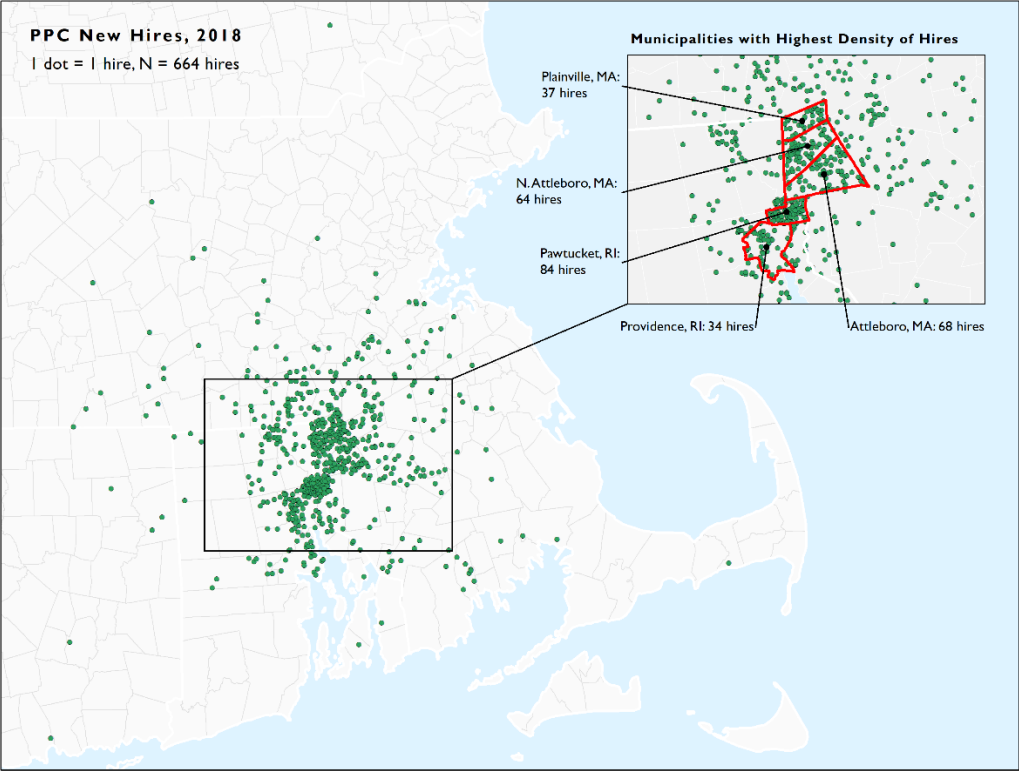
Figure 15: PPC Spending in the United States by State



Source: Plainridge Park Casino, UMDI Calculation

Figure 16: PPC Hires by Place of Residence: Fiscal Years 2016 through 2018





Source: Plainridge Park Casino, UMDI Calculation

Appendix B

Table 11: PPC Spending by Industry

FY 2016			FY 2017		
Industry	Amount	Share	Industry	Amount	Share
Wholesale trade	\$5,622,313	18.5%	Wholesale trade	\$5,017,076	16.0%
Miscellaneous manufacturing	\$2,950,975	9.7%	Professional, scientific, and technical services	\$2,133,480	6.8%
Utilities	\$2,125,119	7.0%	Miscellaneous manufacturing	\$1,828,878	5.8%
Professional, scientific, and technical services	\$1,795,481	5.9%	Utilities	\$1,498,065	4.8%
Retail trade	\$765,392	2.5%	Performing arts and spectator sports	\$1,134,268	3.6%
Performing arts and spectator sports	\$634,976	2.1%	Membership associations and organizations	\$920,056	2.9%
Administrative and support services	\$617,075	2.0%	Retail trade	\$910,220	2.9%
Membership associations and organizations	\$479,619	1.6%	Broadcasting, except internet	\$457,064	1.5%
Broadcasting, except internet	\$473,781	1.6%	Financial Services	\$362,749	1.2%
Motion picture and sound recording industries	\$406,972	1.3%	Motion picture and sound recording industries	\$355,359	1.1%
All Other Industries	\$14,472,590	47.7%	All Other Industries	\$16,748,208	53.4%
Total	\$30,344,292	100.0%	Total	\$31,365,422	100.0%

FY 2018			FY 2019		
Industry	Amount	Share	Industry	Amount	Share
Wholesale trade	\$5,114,405	15.5%	Wholesale trade	\$4,859,762	15.2%
Professional, scientific, and technical services	\$2,529,721	7.7%	Professional, scientific, and technical services	\$1,981,506	6.2%
Miscellaneous manufacturing	\$1,854,463	5.6%	Utilities	\$1,710,431	5.3%
Utilities	\$1,711,575	5.2%	Miscellaneous manufacturing	\$1,629,251	5.1%
Performing arts and spectator sports	\$1,083,717	3.3%	Performing arts and spectator sports	\$1,172,851	3.7%
Retail trade	\$878,278	2.7%	Membership associations and organizations	\$793,715	2.5%
Membership associations and organizations	\$737,455	2.2%	Retail trade	\$665,960	2.1%
Construction	\$576,839	1.8%	Administrative and support services	\$516,604	1.6%
Broadcasting, except internet	\$470,694	1.4%	Construction	\$480,229	1.5%
Financial Services	\$389,795	1.2%	Broadcasting, except internet	\$441,609	1.4%
All Other Industries	\$17,555,685	53.4%	All Other Industries	\$17,757,047	55.5%
Total	\$32,902,626	100.0%	Total	\$32,008,966	100.0%

Source: Plainridge Park Casino, UMDI Calculation