



UNIVERSITY OF MASSACHUSETTS SCHOOL OF PUBLIC HEALTH AND HEALTH SCIENCES

Social and Economic Impacts of Plainridge Park Casino: 2018

**Report to the Massachusetts Gaming
Commission & the Massachusetts Department
of Public Health**

June 13, 2019

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EXECUTIVE SUMMARY

In September 2018, a comprehensive report on the [*Social and Economic Impacts of Expanded Gambling in Massachusetts: 2018*](#) (SEIGMA Research Team, 2018) was produced that described both the regional and statewide impacts of expanded gambling in Massachusetts as of mid-2018. The present report is an extraction of information from that report specific to the impacts of the construction and operation of Plainridge Park Casino (PPC).

In general, it can be said that the impacts of PPC to date have largely been positive, with clear positive economic impacts along with relatively minor negative social impacts. The profile of specific impacts is described below.

Social and Health Impacts

- There has been no significant change in the prevalence of problem gambling or related indices (treatment seeking, bankruptcy, divorce/separation, suicides) in the PPC Host and Surrounding Communities (H&SC). This is likely due to the fairly high population level of casino gambling that existed prior to the introduction of PPC that is related to the close proximity of Rhode Island and Connecticut casinos, which have been in operation since the early 1990s.
- There has been no significant change in the overall amount of crime in the PPC H&SC. However, there has been an increase in credit card fraud and reports of lost property, suspicious activity, and traffic complaints in the Town of Plainville that can likely be attributed to PPC. These increases, in turn, are largely attributable to an increased volume of visitors to the area.
- There has been a significant change in the PPC H&SC attitudes toward gambling. A greater portion of people in the region now report being satisfied with the availability of gambling. However, there has also been a decrease in the percentage of people who believe casinos will be beneficial to Massachusetts and an increase in the percentage of people with more neutral opinions about PPC (i.e., more people believing it will be neither beneficial nor harmful).
- There has been no significant change in population health (health, happiness, stress, substance use, addictions) in the PPC H&SC that can be attributed to casino introduction. There has also been no change in overall gambling involvement in the PPC H&SC or the percentage of people who consider gambling to be an important leisure activity.
- There has been no change in the broader population demographics in the PPC H&SC that can be attributed to casino introduction.
- There has been an increase in traffic volume, traffic complaints, and noise complaints (during construction) in the Town of Plainville that is attributable to PPC.

Economic and Fiscal Impacts

- The building of PPC has had significant economic benefits. Penn National spent \$150.2 million building PPC and employing a large local workforce in the construction. A total of 87% of this direct spending was within Massachusetts as was 81% of the construction workforce, with the majority of spending and employment occurring in Bristol and Norfolk Counties (where PPC is located). Economic modelling suggests that PPC construction created 1,286 net new jobs, \$104.4 million in net new personal income, and \$121.8 million in net new economic activity in the state, with most of this occurring within Bristol and Norfolk Counties.

- The operation of PPC is also creating significant economic benefits as most of the \$176 - \$186 million annual revenue appears to represent new money from 'recaptured' Massachusetts casino patrons (i.e., Massachusetts residents who reported they would have gambled out-of-state if not for PPC) and out-of-state patrons. Furthermore, the large majority of this revenue stays in the state. Of the \$129.5 million in operational expenses (taxes, wages, supplies) in PPC's first year of operation, 87% were spent within Massachusetts. Also, slightly more than 500 people have ongoing employment at the casino, with approximately 71% being in-state employees. A significant portion of these are 'new' jobs as people taking the positions were either unemployed or working part-time prior to beginning work at the casino. After accounting for losses to other sectors of the economy due to reallocated consumer spending to PPC, economic modelling projects 2,417 net new jobs were created in the first year of operation, as well as \$143.7 million in net new personal income and \$362.4 million in net new economic activity, with most of this occurring within the Metro Boston region.
- There is no strong direct evidence that the overall number of businesses has significantly changed as a direct result of PPC or that the construction and/or operation of PPC has differentially impacted certain types of businesses. That said, economic modelling does project \$72.4 million in additional economic activity in Bristol and Norfolk Counties due to PPC construction and \$326.3 million in additional economic activity in the Metro Boston and Southeastern regions associated with PPC operation prior to considering reallocation. In addition, there is an unambiguous rejuvenation of racing at Plainridge Racecourse, which is primarily due to the funds provided from the Race Horse Development Fund (which is funded by PPC slot revenue).
- There has been a slight increase in wages and a slight decrease in the poverty rate in Plainville, but it is uncertain whether this is attributable to the casino. However, economic modelling does show significant increases in personal income in Bristol and Norfolk Counties due to PPC construction and to the Metro Boston and Southeast regions due to PPC operation.
- It is unlikely that PPC has impacted local property values or rental costs.
- Government impacts from casino gambling have not been extensively analyzed. There are some financial costs in Plainville due to the strain on infrastructure and local government services as well as the fact that the local populace disproportionately contributes to PPC revenue. However, this is offset by revenue from Host and Surrounding Community agreements with PPC, PPC property taxes, and Local Aid from the state government from taxes on casino gross gaming revenue.

Summary of Impacts

SOCIAL and HEALTH IMPACTS		Change from baseline to follow up
Problem Gambling and Related Indices	Prevalence and Incidence of Problem Gambling; Treatment Seeking for Problem Gambling	↔
	Financial Problems, Bankruptcy, Employment Problems	↔
	Divorce, Separation, Domestic Violence, Child Abuse and Neglect; Suicide	↔
Crime	Overall Crime Rates; Illegal Gambling	↔
Attitudes	Attitudes Towards Gambling	↓ ↑
Population Health & Leisure	Physical and Psychological Health; Substance Use and Addictions; Leisure Activity	↔
Demographics	Population; Educational System	↔
Environment	Traffic (accidents, volume); Noise	↑
ECONOMIC AND FISCAL IMPACTS		Change from baseline to follow up
Direct Casino Expenditure and Revenue	Plainridge Park Casino	↑
Business Establishments	Number of Business Establishments; Impacts on Other Types of Gambling	↑
Employment	Employment Levels, Labor Force Participation	↑
Personal Income	Wages	↑
	Poverty Rate	↓
	Gambling Participation in Relation to Income	TBD
Real Estate and Housing	Property Values; Residential Building Permits; Rental Costs	↔
Government and Fiscal	Expenditure	↑
	Revenue	↑

INTRODUCTION

Casinos were not permitted in Massachusetts until 2011 when the [Act Establishing Expanded Gaming in the Commonwealth](#) permitted casinos and slot parlors to be introduced under the regulatory auspices of the Massachusetts Gaming Commission (MGC). Three casino licenses were available, with one allocated for the Greater Boston region (Region A), one for Western Massachusetts (Region B), and one for Southeastern Massachusetts (Region C). A single license for a slot parlor was also available, with no geographic restriction on its location. The three regions defined in the legislation (and the counties they include) are shown in Figure 1.

As of December 2018, two casino applications and one slot parlor application have been approved and two facilities have opened: Plainridge Park Casino (slot parlor) in Plainville on June 24, 2015 and MGM Springfield (Region B casino) on August 24, 2018. To date, no casino application has been approved for Region C. The details of the three approved venues are contained in Table 2, Table 3, and Table 4 and their geographic location is shown in Figure 2 and Figure 3. These figures also illustrate the ‘host’ community where the casino is/will be located and the ‘surrounding communities’, which are defined as municipalities proximate to a host community which the Massachusetts Gaming Commission deems likely to experience impacts from the new venue.

In September 2018, a comprehensive report of the *Social and Economic Impacts of Expanded Gambling in Massachusetts: 2018* (SEIGMA Research Team, 2018) was produced that described both the regional and statewide impacts of expanded gambling in Massachusetts as of mid-2018. The present report is an extraction of information from that report specific to the impacts of the construction and operation of Plainridge Park Casino (PPC). Impacts are divided into two sections, one on SOCIAL AND HEALTH IMPACTS and the other on ECONOMIC AND FISCAL IMPACTS. Within each of these sections there are categories and subcategories of impacts. Due to the large amount of data as well as the many different impact areas, each impact section presents a condensed and largely descriptive reporting of the evidence. Table 1 lists the organization of the impact areas employed in the present analysis.

Table 1. Impact Areas

SOCIAL and HEALTH IMPACTS (i.e., impacts that are primarily non-monetary)	
Problem Gambling and Related Indices	Prevalence and Incidence of Problem Gambling
	Treatment Seeking for Problem Gambling
	Financial Problems, Bankruptcy, Employment Problems
	Divorce, Separation, Domestic Violence, Child Abuse and Neglect
	Suicide
Crime	Overall Crime Rates
	Illegal Gambling
Attitudes	Attitudes toward gambling
Population Health and Leisure	Physical and Psychological Health
	Substance Use and Addictions
	Leisure Activity (% of people who gamble; rated importance as leisure activity)
Demographics	Population
	Educational System
Environment	Traffic (accidents, volume)
	Noise
ECONOMIC and FISCAL IMPACTS (i.e., impacts that are primarily monetary)	
Direct Casino Expenditure and Revenue	Plainridge Park Casino
	MGM Springfield
	Encore Boston Harbor
Business Establishments	Number of Business Establishments
	Impacts on Other Industry Sectors
	Impacts on Other Types of Gambling
Employment	Employment Levels, Labor Force Participation, Unemployment
Personal Income	Wages
	Poverty Rate
	Gambling Participation in Relation to Income
Real Estate and Housing	Property Values
	Residential Building Permits
	Rental Costs
Government and Fiscal	Expenditure
	Revenue

The information contained in the present report is a compilation of primary data extracted from existing SEIGMA reports, publicly available secondary data, information extracted from other agency reports, and a small amount of newly collected SEIGMA primary data. The data source is reported in all instances. Data is presented

at the city/town level or host and surrounding community level when available. However, for many impacts county-level or larger regional-level data is all that could be obtained. When available, data prior to 2015 is presented as well as data for post-2015 years. However, there are some impact areas where data is not available prior to 2015 and some impact areas where data is not available after 2015.

For some impact areas (particularly the social impacts) the data is limited and/or the ability to attribute changes to casino introduction is tenuous, whereas for other impact areas the data is rich and the ability to attribute observed changes to casino introduction is strong. Despite these limitations, it is incumbent upon a comprehensive socioeconomic impact analysis to always include and examine variables with an established relationship to gambling, even though the causal attribution will never be strong. To do otherwise would result in report that would be seen as unbalanced and incomplete.

In general, it is often difficult to unambiguously attribute observed socioeconomic changes to the introduction of gambling as there are many other socioeconomic forces at work in society and in the economy that may be partially or fully responsible. The absence of change in a certain social or economic variable provides reasonable evidence there has been no impact on that variable at the specific geographic level measured. However, when there is a change in a variable in the expected direction that is temporally associated with the introduction of a new type of gambling, often all that can be said is that the change is *consistent* with a potential impact.¹

Socioeconomic impact studies such as the present one employ methodologies that help strengthen this causal attribution. The likelihood that an observed change is actually attributable to gambling becomes stronger when: a) many variables are assessed such that there is an ability to point to analogous changes in several variables theoretically related to gambling and the absence of change in variables not theoretically related to gambling; b) other sources of information pertaining to the same variable are collected and make more direct attributions (e.g., gamblers in population surveys directly attributing their separation or bankruptcy to the new type of gambling; key informants in the local community also making these direct attributions); and c) other socioeconomic influences are controlled for, as in a 'matched community comparison' analysis.²

The conventions utilized in reporting results in the present report are as follows:

- The term 'significant difference' is used primarily to signify statistically significant differences, usually at the $\alpha = .05$ level. It should be noted that although the present report utilizes statistical significance to highlight ostensibly important results, the large sample sizes in several of the analyses resulted in statistically significant differences that were small in magnitude. This is pointed out when appropriate.
- When cell sizes are between 1 and 4, the actual value is suppressed and replaced with the range '1-4'.

¹ In a similar way, many of the adverse effects of problem gambling cannot be uniquely attributed to the introduction of a new gambling venue or type of gambling, as most problem gamblers engage in a wide variety of gambling activities and also have comorbid conditions that contribute to their problems (e.g., substance abuse, mental health problems) (Australia Productivity Commission, 1999; Lorains, Cowlishaw & Thomas, 2011; Walker, 2008d). The conditions having the highest comorbidity to problem and pathological gambling are: nicotine dependence (60.1%), substance use disorder (57.5%), mood disorders (37.9%), and anxiety disorders (37.4%) (Lorains et al., 2011).

² A matched community comparison involves examining changes in the region or municipality receiving the new form of gambling compared to changes in an economically, socially, and demographically similar region or municipality that did not receive the new form of gambling. The Appendix of our main report (Volberg et al., 2018) explains how the matched community comparison approach is being utilized in the present study (with results being presented in future impact reports).

- To avoid the use of extensive appendices, some results presented in the text of the report are not displayed in a table or graph. For a similar reason, most figures also contain the raw data.
- The term 'weighted' in a table or figure indicates the use of weights to align the sample to the known population. More specifically, in the case of the population surveys, this involved creating weights so that the geographic origin, household size, age, gender, race/ethnicity, and educational levels of the sample matched the profile of the known population as established by the U.S. census. In the case of the casino patron survey, this involved creating weights so that the a) proportion of patrons sampled for each time period matched the proportions established by the automatic counting system used by the casino (Traf-Sys), and b) that the gender, age, and race/ethnicity of the sample matched the gender, age, and race/ethnic profile of the population of casino patrons at those sampling times (see Salame et al. (2017) for details).
- The Host and Surrounding Communities associated with a casino are referred to with the acronym H&SC. When the terms 'area' and 'region' are used, it is to denote a different geographic level.

Figure 1. Three Regions as Defined in the Massachusetts Expanded Gaming Act



Table 2. Plainridge Park Casino

Venue	Host Community	Surrounding Communities	Opening Date	Current Gambling Availability	Current Amenities	Owners	Notes
Slot Parlor	Town of Plainville	Attleboro Foxborough Mansfield North Attleborough Wrentham	June 24, 2015 (has been open for racing since 1999)	1,249 slot machines and electronic table games; several instant ticket and lottery ticket terminals; 5/8-mile live harness racing track + simulcast betting	Several restaurants, bars, and food court eateries, with nightly entertainment available at one of its lounges. 1,620 parking spaces. 55,000 sq. ft. clubhouse for simulcast operations and live race viewing.	Owned and operated by Penn National Gaming . Corporate headquarters in Pennsylvania. Owns 28 other gambling venues in 16 states and 1 Canadian province.	Opened initially in 1999 as a seasonal harness racing track with additional simulcast betting. Casino expansion cost \$150.2M. 196,000 sq. ft. area for casino operations.



Table 3. MGM Springfield

Venue	Host Community	Surrounding Communities	Opening Date	Gambling Availability	Amenities	Owners	Notes
Region B Casino	City of Springfield	Agawam Chicopee East Longmeadow Holyoke Longmeadow Ludlow Wilbraham West Springfield	August 24, 2018	3,000 slot machines, 100 table games, poker room.	Hotel with 250 rooms, meeting and convention space, spa, movie theatre, retail and restaurant space. ~3,600 parking spaces.	Owned and operated by MGM Resorts International with corporate headquarters in Las Vegas. Owns several destination casino resorts in Las Vegas, as well as venues in 4 other states and China.	Estimated to cost \$960M. 850,000 sq. ft. in total.



Table 4. Encore Boston Harbor

Venue	Host Community	Surrounding Communities	Projected Opening Date	Projected Gambling Availability	Projected Amenities	Owners	Notes
Region A Casino	City of Everett	Boston Cambridge Lynn Malden Medford Melrose Somerville	Summer 2019	3,242 slot machines, 168 table games, poker room.	Hotel with 671 rooms, meeting and convention space, spa, retail and restaurant space. 3,731 parking spaces (2,931 on-site).	Owned and operated by Wynn Resorts with corporate headquarters in Las Vegas. Owns 2 destination resorts in Las Vegas and 3 in Macau.	Estimated to cost \$2.4B. 3,100,391 sq. ft. in total. Name change from 'Wynn Boston Harbor'.



Figure 2. Location of the Three Existing and/or Future Casinos in Massachusetts as of September 2018

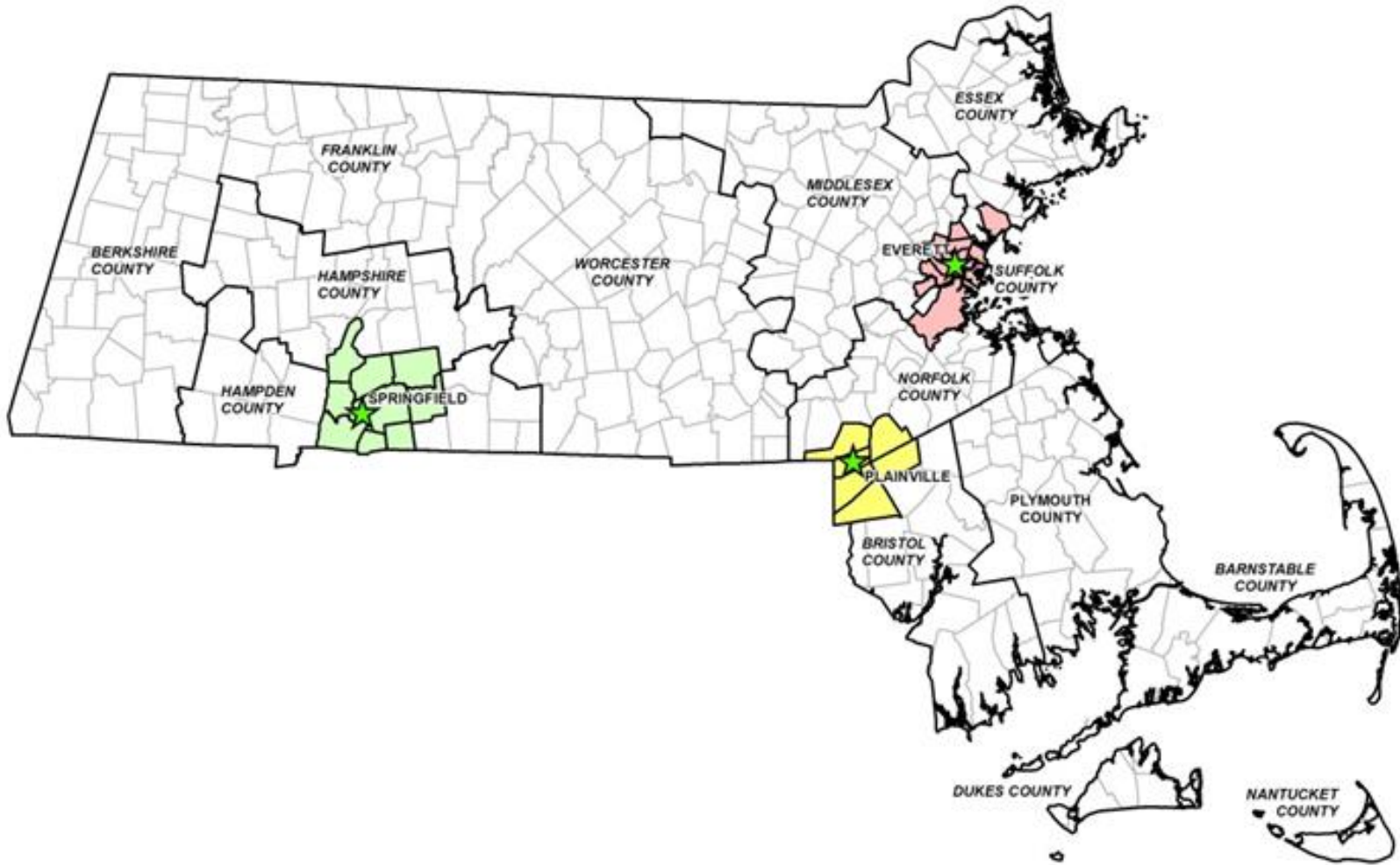


Figure 3. Three Host and Surrounding Communities for the Three Casinos



DATA SOURCES

The following is a brief description of some of the main data sources utilized in the present report. In most cases, the results presented in the present report have been extracted from these original reports, but there are some cases where additional analyses of the data have been undertaken. In addition to these primary reports, data in the present report has also been taken from many secondary sources (all of which are reported).

Targeted Population Surveys

In addition to a statewide general population survey, cross-sectional ‘Targeted Population Surveys’ have been conducted in the geographic areas where new casinos and the slot parlor have been built or are currently being built. These targeted areas involve the ‘host’ community where the casino will be located and the ‘surrounding communities’ which are defined as municipalities proximate to a host community and which the Massachusetts Gaming Commission deems likely to experience impacts from the new venue (see Figure 3). There are both ‘Baseline Targeted Population Surveys’ (before the casino has opened) and ‘Follow-Up Targeted Population Surveys’ (after the casino has been open for one year). The details of the Plainville Targeted surveys are contained in Table 5.

Table 5. Plainville Targeted Population Surveys

Geographic Area	Baseline Targeted Survey	Follow-Up Targeted Survey
Plainridge Park Casino H&SC <ul style="list-style-type: none"> • Plainville (host), Attleboro, Foxborough, Mansfield, North Attleborough, Wrentham 	<ul style="list-style-type: none"> • Baseline Targeted Population Survey – Plainville (BTPS-Plainville) • May – Jul 2014 • Random ‘address-based sampling’ of 1,093 adults; 28.2% response rate 	<ul style="list-style-type: none"> • Follow-Up Targeted Population Survey – Plainville (FTPS-Plainville) • Oct 2016 – Feb 2017 • Random ‘address-based sampling’ of 1,012 adults; 27.7% response rate

Assessing the Impact of Gambling on Public Safety in Massachusetts Cities and Towns

The primary purpose of these annual reports produced by Christopher Bruce—consultant to the MGC—is to analyze the changes in crime in the communities surrounding Plainridge Park Casino since its opening and to identify which changes might be attributable to the casino. The data contained in these reports are derived from: a) Gaming Enforcement Unit records (a division of the Massachusetts State Police); b) local police records (crimes and non-crime calls for service were included) for the communities of Plainville, Attleboro, Foxborough, Mansfield, North Attleborough, and Wrentham since 2010; and c) reviews of police narratives and discussions with officers and analysts at the different police departments.

Bruce, C.W. (2016). *Assessing the Impact of Gambling on Public Safety in Massachusetts Cities and Towns: Analysis of Changes in Police Data after the First Year of Operation at Plainridge Park Casino*. December 12. <http://massgaming.com/wp-content/uploads/Assessing-the-Impact-of-Gambling-on-Public-Safety-in-Massachusetts-Cities-and-Towns-12-15-16.pdf>

Bruce, C.W. (2018). *Assessing the Impact of Gambling on Public Safety in Massachusetts Cities and Towns: Analysis of Changes in Police Data after Two Years of Operation at Plainridge Park Casino*. January 14. <https://massgaming.com/wp-content/uploads/Assessing-the-Impact-of-Gambling-on-Public-Safety-in-Massachusetts-Cities-and-Towns-3-1-18.pdf>

Key Informant Interviews

The SEIGMA team conducted interviews from January 2018-March 2018 with key informants residing in Plainville, the location of PPC. The goal was to gain an on-the-ground understanding from local experts about the social and economic conditions in Plainville prior to hosting a casino, during the construction of the casino, and while hosting the casino. The SEIGMA team identified a select group of 'key' contacts from Plainville, who, through their professional expertise and experience working in the locale, could further inform understandings of the social and economic conditions within the community. We requested a single interview from potential key informants by contacting their professional offices by email and/or telephone. If a key informant agreed to an interview, the 60-90 minute interview was conducted by telephone. Prior to the interview commencing, formal consent was obtained. Questionnaires were tailored to the position of the key informant, as they were expected to speak in their professional capacity when commenting on the impacts of the casino. Interviews were audio recorded and transcribed. The interviews were not confidential as officials/representatives spoke in their professional capacity and in their area of expertise. Interviews were conducted with Jennifer Thompson, Plainville's Town Administrator; Kathleen Parker, Plainville's Treasurer; and Lou LeBlanc, Chairman of Plainville's Board of Health. We also contacted Plainville's Housing Authority, but board members were unwilling to participate in interviews concerning Plainville's housing market.

The Construction of Plainridge Park Casino: Spending, Employment, and Economic Impacts

This report describes the activities undertaken to construct PPC and measures the economic impacts generated through this process. The construction of PPC occurred over two phases: the architecture, engineering, and design phase (2010-2014) and the actual construction phase (2014-2015). In 2014-2015, secondary data from the construction management vendors on the spending, employment, and wages related to the construction of PPC was provided to the SEIGMA team. This report provides estimates of the total economic impacts to the Commonwealth of Massachusetts resulting from construction of the slot parlor.

Motamedi, R., & Peake, T. (2017). *The Construction of Plainridge Park Casino: Spending, Employment, and Economic Impacts*. Amherst, MA: University of Massachusetts Donahue Institute, Economic and Public Policy Research Group. March 7. <https://www.umass.edu/seigma/sites/default/files/The%20Construction%20of%20Plainridge%20Park%20Casino%20-%20REVISED.pdf>

Plainridge Park Casino First Year of Operations: Economic Impacts Report

This report estimates the full economic impact of the first year of operations of PPC on the Massachusetts economy utilizing primary data from the Patron Survey (described below) and secondary data from July 2015-June 2016. This report details two key aspects of operational effects. First, data were provided by PPC to determine the economic footprint of PPC's operations, including employment, wages, vendor spending, and fiscal impacts from taxes and other assessments paid to the state. Second, the report analyzes how shifts in patron spending as a result of the expansion of gambling would affect the state. A PI⁺ model—Regional Economic Models Inc. (REMI)—was used to estimate the direct and spin-off effects in the Massachusetts economy associated with casino operations and patron spending.

Peake, T. & Motamedi, R. (2017). *Plainridge Park Casino First Year of Operation: Economic Impacts Report*. Amherst, MA: University of Massachusetts Donahue Institute, Economic and Public Policy Research Group. October 6.

<http://www.umass.edu/seigma/sites/default/files/PPC%20First%20Year%20Operating%20Report%202017-10-06.pdf>

New Employee Survey at Plainridge Park Casino: Analysis of the First Two Years of Data Collection

This report presents findings from the first two years of new employee survey data collection at PPC. The report details the employment opportunities offered by the casino operator and characteristics of the workforce at the point of hire by analyzing secondary data collected by the MGC from March 2015-March 2017. Key information collected from each applicant included: employment status prior to hire; whether the applicant currently works for the operator or is a new hire; reasons for seeking the job; whether the applicant moved to take the position; and training received in preparation for work at the casino. This is the first of three new employee surveys. Over time, survey data from all three casinos will help workforce development boards and policymakers understand the types of employees who want to work at the casinos, the extent to which employees are being trained, the number of employees drawn from the local labor supply, and net new job creation.

University of Massachusetts Donahue Institute (UMDI) (2017). *New Employee Survey at Plainridge Park Casino: Analysis of First Two Years of Data Collection*. May 10.

https://www.umass.edu/seigma/sites/default/files/PPC%20Employee%20Survey%20Report%202017-05-9_For%20Releasev2.pdf

Patron and License Plate Survey Report: Plainridge Park Casino 2016

This report presents the results of the first patron survey at PPC, whereby the SEIGMA team administered a survey to 479 PPC patrons in both the summer and winter of 2016. 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 state, to measure any monies diverted from other sectors of the economy, and to document the demographics of casino patronage. The concurrent license plate survey assesses the accuracy of prior estimates of out-of-state casino expenditure and provides corroborating information about patron origins. These data provided the basis for the *Plainridge Park Casino First Year of Operations: Economic Impacts Report*, which estimates the direct and spin-off effects in the Massachusetts economy associated with casino patron spending from Massachusetts and non-Massachusetts residents.

Salame, L., Williams, R.J., Zorn, M., Peake, T., Volberg, R.A., Stanek, E.J., & Mazar, A. (2017). *Patron and License Plate Survey Report: Plainridge Park Casino 2016*. Amherst, MA: School of Public Health and Health Sciences, University of Massachusetts Amherst.

<https://www.umass.edu/seigma/sites/default/files/PPC%20Patron%20Survey%20Report%202017-10-17.pdf>

Host Community Economic Profiles: Plainville

This report utilizes secondary data from 2003-2013 and presents the economic profile of Plainville to provide information on baseline economic conditions within the host community before the introduction of the slot parlor. A specific set of variables was selected to create a portrait of Plainville as well as select economic and fiscal data indicators for the MGC identified surrounding communities. The information illustrates recent trends and conditions within Plainville's industrial structure, business community, fiscal indicators, labor force, and residential population. These data will be updated after all of the casinos are introduced in order to track economic changes over time.

University of Massachusetts Donahue Institute (UMDI) (2015). *Host Community Profile: Plainville*. October 20.

https://www.umass.edu/seigma/sites/default/files/Plainville%20Host%20Community%20Profile_Final.pdf

Real Estate Impacts of the Plainridge Park Casino on Plainville and Surrounding Communities

This report focuses on the initial impacts of PPC on the residential, commercial, and industrial real estate markets for Plainville and its MGC designated surrounding communities utilizing secondary data from 2003-2017. It follows an earlier report that documented residential and commercial real estate trends prior to the opening of PPC. This analysis uses several sources of secondary data, including property sales records from the Massachusetts Department of Revenue Division of Local Services, data on rental market conditions from the American Community Survey (ACS), the U.S. Census Bureau's Manufacturing and Construction Division, and proprietary data obtained from CoStar, the nation's largest provider of data on commercial properties, and Valassis Lists, a direct mail marketing firm.

Renski, H. & Peake, T. (2018). *Real Estate Impacts of the Plainridge Park Casino on Plainville and Surrounding Communities*. October 11.

<https://www.umass.edu/seigma/sites/default/files/Real%20Estate%20Impacts%20Plainville%20%28final%29.pdf>

SOCIAL AND HEALTH IMPACTS

PROBLEM GAMBLING AND RELATED INDICES

Prevalence and Incidence of Problem Gambling

The prevalence of problem gambling in the PPC H&SC a year before the casino opened (BTPS-Plainville) compared to roughly over a year after it opened (FTPS-Plainville) is reported in Table 6. This survey employed the Problem and Pathological Gambling Measure (Williams & Volberg, 2014), which classifies people into one of four categories:

- **Non-Gamblers**, who have not engaged in any gambling in the past year;
- **Recreational Gamblers**, who show no signs of excessive gambling or problem gambling symptomatology;
- **At-Risk Gamblers**, who report some signs of problem gambling symptomatology and/or are gambling at very high levels; and
- **Problem Gamblers**, who have impaired control over their gambling that is also associated with significant negative consequences for themselves or others. The category of Problem Gambling includes a subcategory of 'Pathological Gambling' that denotes more severe and chronic forms of problem gambling.

Using a chi-square test, results show that there has been no significant change in the rate of problem gambling (or any of the gambling categories) between the two periods. This lack of change may be due to the fairly high level of casino patronage that existed in the PPC H&SC at baseline (23.2% as described later in this report) combined with the very close proximity of the two Rhode Island casinos (Twin River, Newport Grand) and two Connecticut casinos (Foxwoods, Mohegan Sun). The majority of these four casinos are within one hour driving distance of most residents of the PPC H&SC and they have all been in operation since the early 1990s. In other words, 'adaptation' may have already occurred.³

Table 6. 2014 Baseline versus 2016/2017 Follow-Up Prevalence of Problem Gambling in PPC H&SC, Weighted

Gambling Category	BTPS-Plainville			FTPS-Plainville			p
	N*	%	95% CI	N*	%	95% CI	
Non-Gambler	58,236	19.8	(16.7 - 23.4)	57,015	19.3	(16.0 - 23.1)	.838
Recreational Gambler	208,689	70.9	(66.8 - 74.7)	209,077	70.8	(66.4 - 74.7)	.948
At-Risk Gambler	19,631	6.7	(4.6 - 9.7)	24,116	8.2	(5.8 - 11.4)	.432
Problem Gambler	7,586	2.6	(1.4 - 4.6)	5,276	1.8	(0.8 - 3.8)	.439

*N is the total number of respondents ($n = 1,093$ for BTPS and $n = 1,012$ for FTPS) weighted to the PPC H&SC population. Italics indicate a relative standard error of greater than 30%

³ Most harms associated with gambling occur after it is first introduced because the population has little experience/knowledge about the product, and its novelty encourages high rates of participation. However, with time, participation rates go down because the novelty decreases, and the population's familiarity with the product (and potentially adverse experiences) helps inoculate them from further harm (LaPlante & Shaffer, 2007; Shaffer et al., 2004).

The three key informants from Plainville also indicated no obvious impact of the casino on problem gambling:

“Whether or not problem gambling exists in the town, no reports have come to us. Residents have not come to us with concerns that there has been an increase in problem gambling.” Jennifer Thompson, Town Administrator, Plainville, MA, January 25, 2018, 10am-11am, phone interview.

“What people were concerned about during those times, the negative vote, we heard all of the typical things, problem gambling, increased crime. [...] If we were to run that vote right now, my gut just tells me just by the interactions that I have with people, that they would not be unfavorable today. Because they have seen that all the doom and gloom simply did not happen. At least in Plainville.” Kathleen Parker, Treasurer of Plainville, MA, February 1, 2018, 11-12pm, 2018, phone interview.

“I don’t really see any impact on the health and well-being of the people of Plainville. Conditions now seem to be as they were prior to the opening of the casino. [...] There was already gambling here. [...] This isn’t something new, it is just vastly improved. So there was a potential to have an issue, but as of this date, we have not seen any indicators of that.” Lou LeBlanc, Chairman of the Board of Health, Plainville, MA, March 1, 2018, 5-6pm, phone interview.

Treatment Seeking for Problem Gambling

In the 2014 Plainville Baseline Targeted Population Survey (BTPS-Plainville), there were no problem gamblers who reported that gambling had caused them to want help or to seek help in the past year. In the 2016/2017 Plainville Follow-Up Targeted Population Survey (FTPS-Plainville), there were again no problem gamblers who reported wanting or seeking help.

Of the 40 [Gamblers Anonymous](#) (GA) meetings in Massachusetts, one meeting is held in Plainville, four in the Springfield area (Holyoke, Indian Orchard, two in Longmeadow), and two in the Everett area (Malden, Chelsea). The three [Bettors Anonymous](#) (BA) meetings in Massachusetts are held in Methuen (26 miles from Everett) and Wilmington (15 miles from Everett).

The Plainville GA meeting is not new. The secretary for the [New England Intergroup of Gamblers Anonymous](#) sent an email to the SEIGMA team on March 7, 2018, stating:

“...the Plainville meeting was established 30 years ago. It first started at Wrentham Hospital and then moved to the current location [Plainville United Methodist Church] about 15 years ago. There is also a West Bridgewater meeting that was established 14 years ago and a Taunton meeting that was established 19 years ago.”

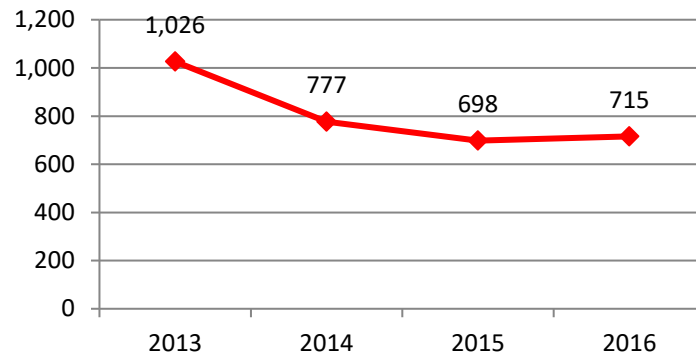
In response to an inquiry from the SEIGMA team, one of the laity from Plainville United Methodist Church sent an email on March 8, 2018, stating:

“We have had GA meetings here for approximately 20 years. At present about 15 people attend these meetings each week. We have not seen any increase in attendance since Plainridge [Park Casino] opened.”

Financial Problems, Bankruptcy, Employment Problems

Figure 4 displays the number of personal bankruptcy filings per year as recorded by [U.S. Courts](#) (2018) from 2013 to 2016 in Norfolk County (where PPC is located). A decline in the number of personal bankruptcies is evident in this time period.

Figure 4. Personal Bankruptcy Filings per Year in Norfolk County, 2013-2016



Source: U.S. Courts

In the 2014 BTPS-Plainville, 4.5% (2.0-9.9; 95% CI; $n = 8/471$) of regular gamblers⁴ reported that gambling had caused them to have financial problems in the past year and no regular gamblers reported filing for bankruptcy. A chi-square test found no significant change relative to the 2016/2017 FTPS-Plainville, with 2.8% (1.0-7.3; 95% CI; $n = 6/416$) of regular gamblers reporting that gambling had caused them to have financial problems in the past year ($p = .45$) and no regular gamblers reporting filing for bankruptcy.

Similarly, in the 2014 BTPS-Plainville, there were no regular gamblers (0%; $n = 0/464$) who reported that gambling had caused them significant work or school problems in the past year and no regular gamblers (0%; $n = 0/464$) who had lost their job or quit school because of gambling. In the 2016/2017 FTPS-Plainville, there were just 2.4% (0.7-7.4; 95% CI; $n = 1-4/411$)⁵ of regular gamblers who reported work or school problems because of gambling and none (0%; $n = 0/411$) who reported losing their job or quitting school because of gambling. The change in work and school problems was nonsignificant ($p = .10$).

In summary, there is no evidence that the presence of PPC has had any significant impact on financial problems in the H&SC.

Divorce, Separation, Domestic Violence, Child Abuse and Neglect

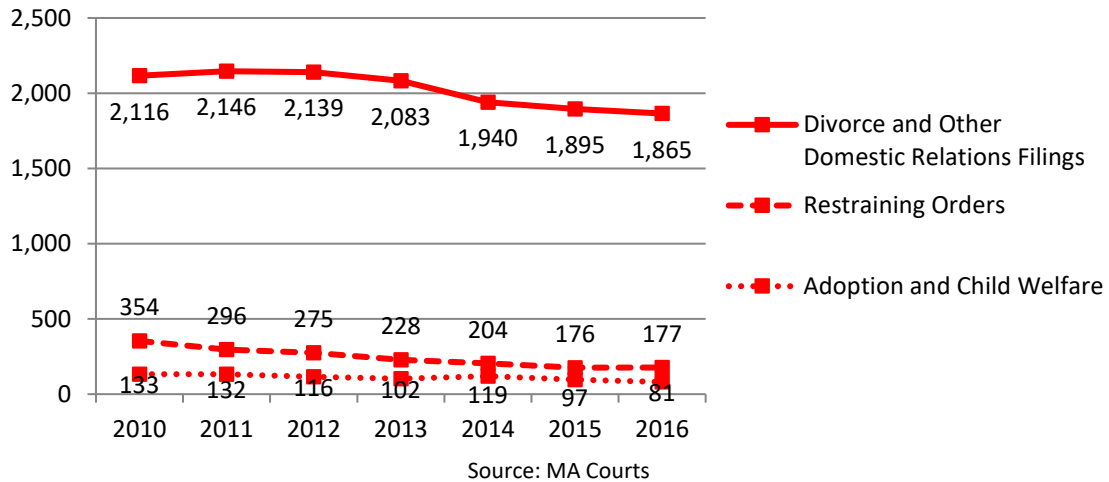
This section pertains to the potential negative family impacts of gambling in terms of divorce, separation, restraining orders, domestic violence, and child welfare involvement (abuse/neglect).

⁴ A 'regular gambler' in this report is defined as someone who gambled at least once a month or more and/or who reports that gambling is a very important recreational activity and/or who reports that gambling has replaced other recreational activities in the past five years.

⁵ The raw numbers do not directly correspond to the percentages due to weighting.

Figure 5 displays the annual number of ‘divorce and other domestic relations filings’, restraining orders, and adoption and child welfare cases in Norfolk County where PPC is located. No marked changes subsequent to 2015 are evident.

Figure 5. Norfolk County Family Impacts, 2010-2016



The following table identifies the number of regular gamblers in the 2014 BTSP-Plainville that reported a family-related impact in the past 12 months that they attributed to gambling compared to the number of regular gamblers who reported that impact in the 2016/2017 FTSP-Plainville. These reported impacts are uncommon in both assessment periods with no evident change from 2014 to 2016/2017.

Table 7. Family Impacts Attributable to Gambling in the Plainville Targeted Population Surveys

Impact	BTSP-Plainville 2014	FTSP-Plainville 2016/2017
Significant relationship problems	1.5%; 1-4/463	1.0%; 1-4/413
Divorced or separated	0%; 0/463	0/413
Domestic violence	0%; 0/463	0/412
Neglect of children	0%; 0/466	0/413
Child Welfare Involvement	0%; 0/466	0/413

In summary, there is no evidence that the presence of PPC has had any significant negative family impacts in the H&SC.

Suicidal Ideation and Suicide

Suicide rates are only available for the state as a whole. In terms of suicidal ideation, in the 2014 BTSP-Plainville, there were 0.5% (0.2-1.9; 95% CI; $n = 1-4/465$) regular gamblers who reported that gambling had caused them to have suicidal ideation in the past year in 2014 compared to 0.9% (0.2-4.0; 95% CI; $n = 1-4/418$) regular gamblers who reported this in 2016/2017. No significant change between the two periods was found ($p = .65$)

CRIME

Overall Crime Rates

As reported by Bruce (2018), there were 2,906 incidents recorded by the Gaming Enforcement Unit at PPC in the two years subsequent to opening. The large majority of these were calls for service rather than actual crimes, with the top five categories being: assistance to PPC security ($n = 977$); assistance to 'other' agencies ($n = 564$); suspicious persons ($n = 411$); theft, fraud, and embezzlement (with theft of people's gambling credit tickets and personal property being particularly common) ($n = 295$); and intoxicated persons ($n = 252$).

Plainville police records provide better information concerning whether the opening of the slot parlor in June 2015 resulted in more crime at the Plainridge venue, as these records also document incidents prior to 2015 when the facility was solely a racetrack. Table 8 shows that the opening of the slot parlor was associated with a significant increase in both property crime and total crimes. Indeed, PPC became the Plainville Police Department's top crime and call-for-service location in 2016 and 2017 (Bruce, 2018).

Table 8. Crimes and Calls for Service at Plainridge pre and post Casino Opening Recorded by Plainville Police

	2-Years Prior to June 2015 at Plainridge Racecourse	June 2015 – July 2017 at Plainridge Park Casino
Total Crime Offenses	10	90
Property Crime Offenses	6	47
Violent Crime Offenses	0	0
Calls for Service	1,130	1,566

Source: Bruce (2018)

However, the number of crimes associated with a facility is strongly related to the number of visitors that it attracts (as well as whether the new facility serves alcohol). With Plainridge Park Casino attracting significantly more visitors than Plainridge Racecourse, this increase in crime and calls for service is not unexpected and not necessarily different from what would occur with a non-gambling facility (e.g., stadium, shopping mall). The more important question is whether there is a net increase in total crime in the Town of Plainville and the surrounding communities (inclusive of the PPC incidents).

The total number of crimes recorded by Plainville police in the Town of Plainville pre and post PPC opening is reported in Table 9 (adapted from Bruce, 2018). This table shows that there was no significant change in the overall annual number of crimes or the main categories of property and violent crimes in Plainville from 2010-2015 compared to 2016-2017. This is the case even though Plainville has experienced a significant increase in population (Figure 8 later in this report); and there was a 36% increase in the number of police officers hired (14 to 19) to mitigate potential crime impacts.

It is possible that these broad crime categories hide changes in individual crimes/incidents. Examination of the 46 individual categories of crime and calls for service detailed in Bruce (2018) shows that there are 7 categories with an average z-score increase of 2.58 or greater (equivalent to a p value of .01, two-tail test) in the 2 years

post-opening.⁶ Listed in order from largest to smallest z-score increase, these are: suspicious activity, kidnapping, family offenses (domestic assault, child neglect, violation of restraining order), aggravated assault, credit card fraud, lost property, and traffic complaints. By comparison, there was only 1 category with a z-score decrease of 2.58 or greater: public drunkenness. Attributing the increase in these individual crimes to PPC is tenuous due to the fact that a) there was no mention of ‘gambling’, ‘casino’, or ‘Plainridge’ in a scan of the original written police reports (Bruce, 2018); b) there were no reports of any violent crime at PPC (see Table 8); and c) some increase is anticipated due to increased population. In consideration of all the data, as well as limitations of this data, Bruce (2018) concludes that the only individual categories that are likely attributable to the casino are the increases in credit card fraud, lost property reports, reports of suspicious activity, and traffic complaints.⁷

Table 9. Average Annual Number of Crimes in Town of Plainville pre and post Casino Opening

	2010 – 2015 Annual Average	2016 – 2017 Annual Average	% Change	Average z-score Change
Total Crime Offenses	301.8	285.5	5.4% decrease	-0.49
Property Crime Offenses	208.6	187.5	10.1% decrease	-0.82
Violent Crime Offenses	29.6	37.5	26.7% increase	+1.25

Source: Bruce (2018)

The total number of crimes recorded by police in the Town of Plainville *plus* the surrounding communities of Attleboro, Foxborough, Mansfield, North Attleborough, and Wrentham pre and post PPC opening is reported in Table 10 (adapted from Bruce, 2018). This table shows that there has been a significant *decrease* in the overall annual number of crimes and the number of property crimes in the PPC H&SC in 2016-2017 compared to 2010-2015 (using a z-score of 1.96⁸).

Of the 46 individual categories, there were 6 with a significant increase ($z > 2.58$) in the 2 years post-opening. Listed in order from largest to smallest, these were: lost property, fraud/con games, psychological, family offenses, theft from persons, and credit card fraud. By comparison, there were 2 categories with an average z-score decrease of 2.58 or greater. Listed in order from largest to smallest, these were: ‘other’ theft and auto theft. In consideration of all the data as well as comparisons with control communities, Bruce (2018) concludes that the only individual category that is likely attributable to the casino is the increase in credit card fraud.

Table 10. Average Annual Number of Crimes in PPC H&SC pre and post Casino Opening

	2010 – 2015 Annual Average	2016 – 2017 Annual Average	% Change	Average z-score Change
Total Crime Offenses	8,305.4	7,103.5	14.5% decrease	-2.34
Property Crime Offenses	3,904.6	3,466.0	11.2% decrease	-2.08
Violent Crime Offenses	870.4	943.0	8.3% increase	+1.58

Source: Bruce (2018)

⁶ Due to the multiple comparisons, a more conservative z-score of 2.58 was employed in the present analysis compared to the 1.5 z-score utilized by Bruce (2018). (Note that 1.96 is still utilized whenever there is a singular comparison).

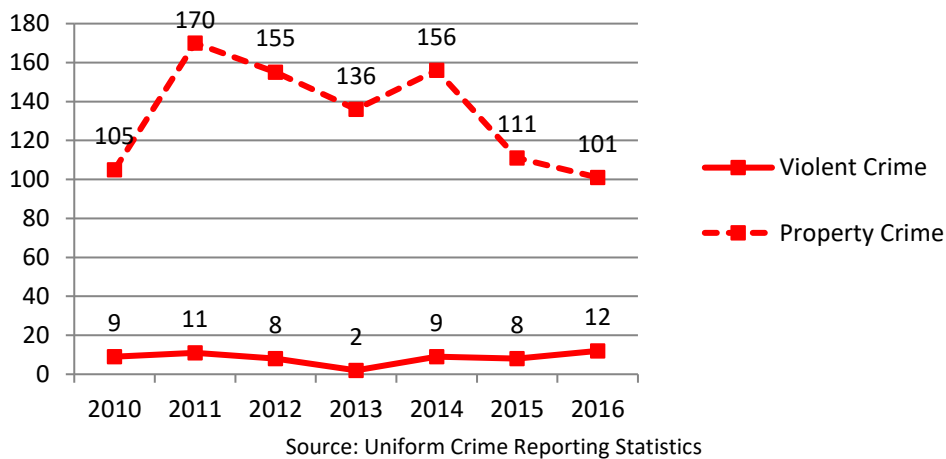
⁷ The increase in reports of lost property is due to an increase in visitors to the area misplacing their wallets, cell phones, and ATM cards, while the increase in reports of suspicious activity is due to an increased number of visitors combined with a more vigilant local populace (Bruce, 2018).

⁸ A z-score is the number of standard deviations a data point is from the mean. A z-score of 1.96 is equivalent to a p value of .05 (two-tail test).

Another source of data pertaining to crime is the Targeted Population Surveys. In the 2014 BTPS-Plainville, there were no regular gamblers who reported that gambling had caused them to commit an illegal act and no one who reported that they had been arrested for committing a crime due to their gambling. In the 2016/2017 FTPS-Plainville, there were 2 regular gamblers who reported that gambling had caused them to commit an illegal act and no one reported being arrested for committing a gambling-related crime. (It should be noted that PPC H&SC residents only constitute an estimated 11.4% of the patronage of PPC (Salame et al., 2017).)

Another source of data is the Uniform Crime Reporting statistics (FBI, 2018). Figure 6 documents the number of criminal offenses recorded by law enforcement in Plainville from 2010 to 2016. There appears to be a decrease in violent crime in 2015 and 2016 relative to previous years and no marked change in property crime.

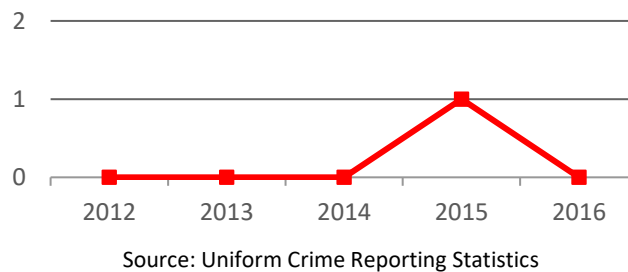
Figure 6. Criminal Offenses Known to Law Enforcement in Plainville, 2010-2016



Illegal Gambling

Decreases in illegal gambling often occur with the introduction of legal forms. The four illegal gambling offenses in Massachusetts are ‘betting/wagering’, ‘operating/promoting/assisting gambling’, ‘gambling equipment violations’, and ‘sports tampering’. Figure 7 illustrates the number of illegal gambling offenses in Plainville from 2012-2016. Illegal gambling offenses are extremely uncommon with only 1 recorded offense in this entire time period.

Figure 7. Illegal Gambling Offenses in Plainville, 2012-2016



ATTITUDES

Attitudes toward gambling in Plainville and surrounding communities roughly one year before the casino opened (BTPS-Plainville) compared to roughly over a year after it opened (FTPS-Plainville) are shown in Table 11. Statistical tests were employed to determine whether there were any significant changes in attitudes between the two time points (a Mann-Whitney U test⁹ for questions with more than two response categories and a chi-square test for questions with just two response categories). As can be seen, some attitudes have changed. More specifically, a) there is a significant decrease in the percentage of people who indicate that gambling is not available enough and a corresponding increase in the percentage of people who believe that the current availability of gambling is fine; b) there is a significant decrease in the percentage of people who believe that casinos will be beneficial to Massachusetts and a corresponding increase in the percentage of people who believe they will be neither beneficial nor harmful; and c) there is an increase in the percentage of people who believe that the new casino in their community will be neither beneficial nor harmful to their community.

Table 11. 2014 Baseline versus 2016/2017 Follow-Up Attitudes toward Gambling in the PPC H&SC, Weighted

		BTPS-Plainville			FTPS-Plainville			p
		N*	%	95% CI	N*	%	95% CI	
Opinion about legalized gambling	All types should be illegal	32,439	11.2	(8.7 - 14.4)	23,745	8.1	(6.2 - 10.6)	.415
	Some should be legal and some illegal	165,219	57.2	(53.0 - 61.4)	167,629	57.5	(53.0 - 61.8)	
	All types should be legal	91,060	31.5	(27.8 - 35.5)	100,281	34.4	(30.2 - 38.8)	
Belief about gambling opportunities in MA	Gambling is too widely available	43,213	14.9	(12.2 - 18.0)	43,563	14.8	(12.2 - 18.0)	<.0001
	Current availability of gambling is fine	175,868	60.5	(56.2 - 64.6)	216,166	73.7	(69.6 - 77.4)	
	Gambling is not available enough	71,552	24.6	(21.0 - 28.7)	33,625	11.5	(8.7 - 14.9)	
Perceived impact of new casinos to MA	Very harmful	24,256	8.3	(6.7 - 10.3)	26,169	8.8	(7.0 - 11.1)	.0001
	Somewhat harmful	74,086	25.4	(22.0 - 29.2)	76,248	25.8	(22.3 - 29.5)	
	Neither beneficial nor harmful	64,523	22.2	(18.7 - 26.1)	94,648	32.0	(27.9 - 36.4)	
	Somewhat beneficial	104,532	35.9	(31.9 - 40.1)	88,417	29.9	(25.9 - 34.2)	
	Very beneficial	23,851	8.2	(6.2 - 10.7)	10,382	3.5	(2.3 - 5.3)	
Perceived impact of new casino to your own community	Somewhat harmful or very harmful	110,446	37.7	(33.8 - 41.8)	109,278	36.8	(32.9 - 40.9)	.025
	Neither beneficial nor harmful	73,539	25.1	(21.6 - 29.0)	105,243	35.4	(31.1 - 40.0)	
	Somewhat beneficial or very beneficial	108,849	37.2	(33.2 - 41.3)	82,615	27.8	(24.0 - 31.9)	
Perceived benefit or harm of gambling to society	Harm far outweighs the benefits	75,744	26.2	(22.8 - 29.9)	71,849	24.6	(21.3 - 28.3)	.220
	Harm somewhat outweighs benefits	87,135	30.1	(26.2 - 34.3)	87,302	29.9	(26.2 - 33.9)	
	Benefits are about equal to the harm	92,197	31.9	(28.0 - 36.1)	106,677	36.5	(32.2 - 41.1)	
	Benefits somewhat outweigh harm	22,417	7.8	(5.9 - 10.1)	19,099	6.5	(4.7 - 9.0)	
	Benefits far outweigh the harm	11,757	4.1	(2.8 - 5.8)	7,004	2.4	(1.3 - 4.4)	
Is gambling morally wrong	No	255,146	87.4	(84.0 - 90.2)	266,579	89.3	(86.2 - 91.8)	.457
	Yes	34,596	11.9	(9.3, 15.0)	31,881	10.7	(8.2 - 13.8)	

*N is the total number of respondents who answered the question weighted to the PPC H&SC population. Note: Italics indicates relative standard error >30%

⁹ Also known as the Wilcoxon Rank Sum Test.

The three key informants from Plainville all expressed positive attitudes toward the new casino:

“Overwhelmingly, the people in Plainville are happy the casino is here.” Jennifer Thompson, Town Administrator, Plainville, MA, January 25, 2018, 10am-11am, phone interview.

“I would say that they [attitudes] have actually improved. In 2013, we were debating whether we were going to allow ourselves to become a host community and there was an awful lot of work involved in education, what it would mean. [...] This has been a good thing for the Town of Plainville, there will always be naysayers but we can refute them with stats and hard numbers.” Kathleen Parker, Treasurer of Plainville, MA, February 1, 2018, 11am-12pm, 2018, phone interview.

“I would have to say that everyone I have come across is pleased with the casino to this point. It has come through with all of the promises that were made.” Lou LeBlanc, Chairman of the Board of Health, Plainville, MA, March 1, 2018, 5pm-6pm, phone interview.

POPULATION HEALTH AND LEISURE

Physical and Psychological Health

Table 12 shows the self-reported level of health, happiness, and stress in the Plainville Targeted Surveys from 2014 (Baseline) to 2016/2017 (Follow-Up). A Mann-Whitney U test found no significant changes. In addition, a supplementary question established that 4.7% (2.1-10.2; 95% CI; $n = 11/468$) of regular gamblers reported that gambling had caused health problems for them in the past year in 2014 compared to 2.6% (1.1-5.8; 95% CI; $n = 11/412$) in 2016/2017, which again, represents a nonsignificant change ($p = .34$).

Table 12. 2014 Baseline versus 2016/2017 Follow-Up Health, Happiness, and Stress in PPC H&SC, Weighted

		BTSP-Plainville			FTPS-Plainville			<i>p</i>
		N*	%	95% CI	N*	%	95% CI	
General Health	Excellent	67,405	23.0	(19.9 - 26.5)	62,472	20.8	(17.2 - 24.8)	.850
	Very Good	110,186	37.6	(33.6 - 41.8)	119,291	39.7	(35.6 - 43.9)	
	Good	82,222	28.1	(24.4 - 32.1)	97,913	32.6	(28.4 - 37.0)	
	Fair	27,146	9.3	(7.1 - 12.1)	16,757	5.6	(4.0 - 7.7)	
	Poor	6,092	2.1	(1.2 - 3.4)	4,249	1.4	(0.7 - 2.7)	
Happiness	Very Low	1,901	0.7	(0.3 - 1.5)	1,849	0.6	(0.3 - 1.5)	.876
	Low	12,660	4.3	(3.0 - 6.3)	21,515	7.2	(5.1 - 10.1)	
	Moderate	124,832	42.7	(38.6 - 46.9)	122,503	41.1	(36.9 - 45.4)	
	High	123,768	42.3	(38.2 - 46.6)	125,828	42.2	(37.9 - 46.6)	
	Very High	29,100	10.0	(7.8 - 12.6)	26,626	8.9	(6.7 - 11.8)	
Stress	Very Low	10,295	3.5	(2.1 - 5.8)	4,710	1.6	(1.0 - 2.5)	.624
	Low	48,128	16.4	(13.5 - 19.7)	42,903	14.3	(11.7 - 17.3)	
	Moderate	141,405	48.1	(44.0 - 52.3)	150,027	49.9	(45.5 - 54.3)	
	High	72,467	24.7	(21.2 - 28.6)	79,573	26.5	(22.7 - 30.6)	
	Very High	21,493	7.3	(5.6 - 9.5)	23,586	7.8	(5.8 - 10.5)	

*N is the total number of respondents ($n = 1,093$ for BTSP and $n = 1,012$ for FTSP) weighted to the PPC H&SC population

Substance Use and Addictions

There is very little data on substance use and addictions at the county level. The exception to this are opioid-related deaths, where Norfolk and Bristol Counties saw a combined increase in deaths from 471 in 2013 and 2014 to 868 in 2016 and 2017 (Massachusetts Department of Public Health, 2019). This is reflective of a nationwide trend that is unrelated to gambling.

In the Plainville Targeted Surveys, a total of 0.2% of people in 2014 (0.0-0.7; 95% CI; $n = 1-4/1085$) reported seeking help for their use of alcohol or drugs in the past 12 months compared to 0.7% in 2016/2017 (0.2-2.1; 95% CI; $n = 6/1005$), which is a nonsignificant change ($p = .23$); and 7.1% of people (5.3-9.4; 95% CI; $n = 85/1081$) reported having a behavioral addiction (overeating, sex, shopping, exercise, etc.) in 2014 compared to a very similar percentage of 10.1% (7.5-13.4; 95% CI; $n = 83/1006$) in 2016/2017. Here again, the change is nonsignificant ($p = .10$).

Leisure Activity

The Baseline to Follow-Up Targeted Population Survey of the PPC H&SC speaks to the potential regional impacts of the new PPC on gambling as a leisure activity. Table 13 illustrates no significant change in past year gambling participation, number of formats engaged in, overall gambling expenditure, or overall gambling frequency as assessed by chi-square and Mann-Whitney U tests.

Table 13. 2014 Baseline versus 2016/2017 Follow-Up Level of Gambling Involvement in the PPC H&SC, Weighted

	BTPS-Plainville			FTPS-Plainville			<i>p</i>
	N*		95% CI	N*		95% CI	
Any Past Year (PY) Gambling	234,793	79.8%	(76.2 - 83.0)	238,470	79.6%	(75.8 - 83.0)	.944
Mean PY number of gambling formats	294,722	2.1	(2.0, 2.3)	301,615	2.1	(2.0, 2.3)	.851
Median PY number of gambling formats	294,722	1.4	(1.2, 1.6)	301,615	1.4	(1.2, 1.6)	
Mean PY gambling expenditure	294,722	-\$821.1	(-2,616, 974)	301,615	-\$444.7	(-1,117, 228)	.767
Median PY gambling expenditure	294,722	-\$49.9	(-68.4, -31.4)	301,615	-\$41.6	(-60.7, -22.4)	
Mean PY maximum frequency of gambling	294,722	27.1 days	(21.5, 32.7)	301,615	27.6 days	(22.8, 32.4)	.923
Median PY maximum frequency of gambling	294,722	4.5 days	(4.3, 4.8)	301,615	4.3 days	(4.1, 4.6)	

*N is the total number of respondents ($n = 1,093$ for BTPS and $n = 1,012$ for FTPS) weighted to the PPC H&SC population.

Note: negative signs for expenditure denote a gambling loss.

In addition, no significant changes were observed when asked directly about the importance of gambling as a leisure activity seen in the table below using a Mann-Whitney U test.

Table 14. 2014 Baseline versus 2016/2017 Follow-Up Importance of Gambling as a Recreational Activity in PPC H&SC, Weighted

	BTPS-Plainville			FTPS-Plainville			<i>p</i>
	N*	%	95% CI	N*	%	95% CI	
Not at all important	162,623	68.3	(63.7 - 72.6)	158,858	66.8	(61.9 - 71.4)	.778
Not very important	53,836	22.6	(19.0 - 26.6)	61,350	25.8	(21.7 - 30.4)	
Somewhat important	17,375	7.3	(4.8 - 10.9)	15,574	6.6	(4.2 - 10.0)	
Very important	4,307	1.8	(0.9 - 3.6)	Cell size ≤ 5			

*N is the total number of respondents (*n* = 1,093 for BTPS and *n* = 1,012 for FTPS) weighted to the PPC H&SC population. Note: Italics indicates relative standard error >30%.

Two key informants from Plainville noted that the casino has expanded the leisure options in the area:

“I think in terms of the casino itself and the entertainment, they have had some nice bands and boxing events, so in terms of the residents, it is just another option for entertainment and dining.” Jennifer Thompson, Town Administrator, Plainville, MA, January 25, 2018, 10am-11am, phone interview.

“It is a new venue close to home. [...] The casino isn’t just for gambling anymore. It has musical events, it has comedy events, it has boxing events. They also provide private parties. [...] This is a smaller more intimate venue so you are going to have, you know something different.” Kathleen Parker, Treasurer of Plainville, MA, February 1, 2018, 11-12pm, 2018, phone interview.

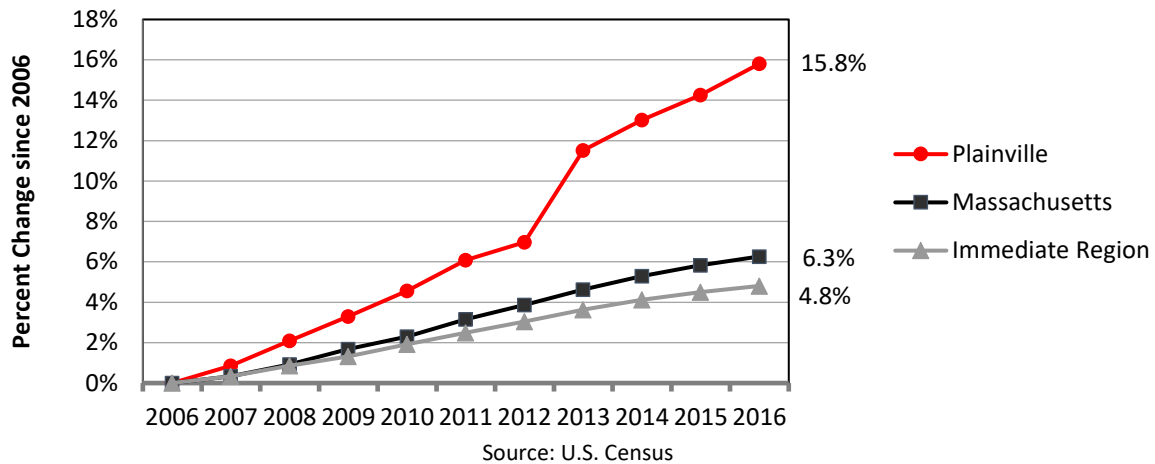
DEMOGRAPHICS

Large casinos can employ many workers. If these workers are brought in from other areas, there is the potential to change the population and/or demographic make-up of the region.

Population

With a current population of 9,173, Plainville is a small town by the standards of Eastern Massachusetts, but it has experienced considerable growth in recent years. Data taken from the U.S. Census (2017) and displayed in Figure 8 shows how the population has changed since 2006 relative to the state and the surrounding region (Norfolk and Bristol Counties combined). The population of Plainville has grown by 15.8% from 2006 to 2016 (an increase of 1,252 residents). This is more than double the state’s growth rate of 6.3% over the same period and is also a much faster rate than the immediate region (Norfolk and Bristol Counties) with 4.8% growth. However, as will be discussed in greater detail later in this report, it seems unlikely that PPC is a major factor in this population growth. Although there are approximately 500+ full-time employees of this new facility, only 75 people reported moving to take their job, with only 13 of these individuals moving to Plainville (UMDI, 2017).

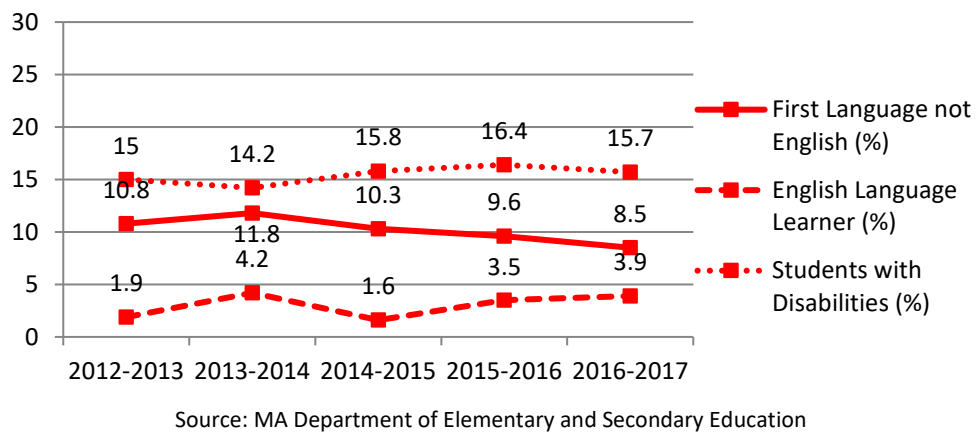
Figure 8. Population Increase in Plainville, Immediate Region, and Massachusetts, 2006-2016



Educational System

Educational impacts include changes in school enrollment, special needs/disability provision, and English language speakers/learners. Figure 9 illustrates changes from 2012/2013 to 2016/2017 in the percentage of students in Plainville public schools who a) do not have English as a first language, b) are an English language learner, and c) students with disabilities. This data is taken from the Massachusetts Department of Elementary and Secondary Education (2018). There is no evidence of any increases in these attributes of school attenders in Plainville, which is to be expected considering the small number of new employees of PPC who moved to Plainville.

Figure 9. Percent of Elementary and Secondary Students in Plainville with Certain Characteristics, 2012-2017



Consistent with a lack of impact, one of the key informants from Plainville indicated the following:

“We haven’t seen an influx in the school system. So they have not received any direct impact from the casino.” Lou LeBlanc, Chairman of the Board of Health, Plainville, MA, March 1, 2018, 5-6pm, phone interview.

ENVIRONMENT

Traffic

The Massachusetts Department of Transportation (MassDOT) (2018a) has documented the number of vehicle crashes and injuries in Plainville. Data is presented from 2013 to 2016 in the table below. Grey shading indicates the construction and operation period of the casino (PPC construction began April 2014). The table shows that there is no obvious association between vehicle crashes/injuries and casino construction and operation for the time periods available.

Table 15. Vehicle Crashes and Injuries in Plainville, 2013-2015

Community	Year	Crashes	Nonfatal Injuries	Fatal Injuries
Plainville	2013	251	88	2
	2014	246	73	0
	2015	233	67	0
	2016	233	82	1

Source: MA Department of Transportation

County level data from the Fatality Analysis Reporting System (FARS) and the National Highway Traffic Safety Administration (NHTSA) (2018) are available up to 2016 and presented in the table below. While traffic fatalities have increased slightly in association with casino construction and operation, attribution to the slot parlor is weak because of the 2016 increase in the state as a whole, the lack of fatalities in the Town of Plainville (Table 15), and the fact that these fatalities are for the entire County.

Table 16. Traffic Fatalities in Norfolk County and Massachusetts, 2013-2016

County	Year	Traffic Fatalities	% of Fatalities involving Blood Alcohol Content $\geq .08+$
Norfolk County (Plainville)	2013	28	42.9%
	2014	41	48.8%
	2015	38	31.6%
	2016	33	39.4%
Massachusetts	2013	351	35.6%
	2014	354	40.4%
	2015	345	31.4%
	2016	389	30.6%

Source: Fatality Analysis Reporting System & National Highway Traffic Safety Administration

Bruce's (2018) report of crime impacts in the PPC H&SC also includes police statistics on reported traffic collisions and complaints. The following table documents the average number of recorded incidents in the five years prior to PPC opening compared to the two years after. There does appear to be a significant increase in annual traffic complaints that is likely attributable to the casino, which in turn, is likely attributable to an increased number of visitors to the area. This increase is more pronounced in the Town of Plainville compared to the PPC H&SC.

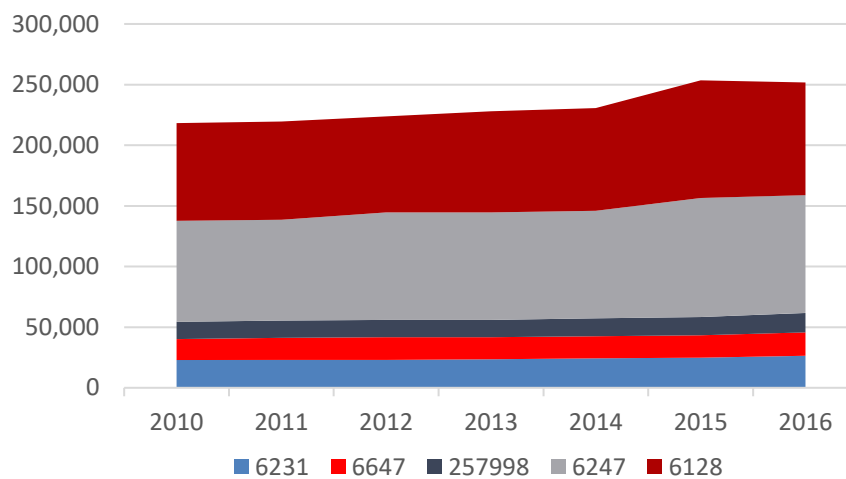
Table 17. Traffic Collisions and Complaints in PPC H&SC and Town of Plainville Recorded by Plainville Police

	2010 – 2015 Average	2016 – 2017 Average	% Change
Plainville			
Traffic Collisions	312.0	329.0	5.4% increase
Traffic Complaints	234.8	329.5	40.3% increase
PPC H&SC			
Traffic Collisions	4,583.2	4,975.0	8.5% increase
Traffic Complaints	1,692.4	1,946.5	15.0% increase

Source: Bruce (2018)

The final issue concerns traffic volume. The following figure illustrates the annual two-way traffic volume for the traffic stations closest to PPC in Plainville. Traffic stations were chosen based on complete data being available from 2010 to 2016. Each color (and corresponding number) refers to a specific traffic counting station. As can be seen, Plainville experienced a 9.0% increase in traffic between 2014 and 2016 (MassDOT, 2018b).

Figure 10. Traffic Volume in Plainville at the 5 Closest Traffic Stations, 2010-2016



Source: MassDOT

The three key informants from Plainville had the following comments about traffic:

“We have had virtually no issues in terms of traffic or congestion because of the casino. It actually runs better than it did before [laughs]. This was part of their application to the planning board. [...] It is called their ‘site permit.’ So it is separate from the host community agreement. It was part of their actual permit issued by the planning board to develop the property. Which is pretty standard for any large commercial business. [...] If anything, traffic has improved as a result of improvements to the intersection.” Jennifer Thompson, Town Administrator, Plainville, MA, January 25, 2018, 10am-11am, phone interview.

“Where the track and casino is located, it is the most dangerous intersection in town. But it was dangerous long before the casino got there. [...] We actually lost a police officer in a road accident. He was killed by a driver while that intersection was being built. They have done a lot to make it safer.” Kathleen Parker, Treasurer of Plainville, MA, February 1, 2018, 11-12pm, 2018, phone interview.

“Plainville is situated right at the corner of Route One and 495 which are two major highways. So as far as traffic going through town, it is undetectable. Everyone is using the main thoroughfares to get in and out of there.” Lou LeBlanc, Chairman of the Board of Health, Plainville, MA, March 1, 2018, 5-6pm, phone interview.

Noise

The only information pertaining to noise is the comment of a single key informant from the Plainville area:

“During construction, the Board of Health received some complaints about the construction activity. There were dust complaints and there were noise complaints. We went out there with noise meters and took ambient noise levels and everything was found to be within tolerance and specs for a construction site. There were no violations issued. [...] We have received no noise complaints since construction has been completed.” Lou LeBlanc, Chairman of the Board of Health, Plainville, MA, March 1, 2018, 5-6pm, phone interview.

ECONOMIC AND FISCAL IMPACTS

PPC CASINO EXPENDITURE AND REVENUE

At a very basic level, casino gambling is an economic activity involving a transfer of wealth from certain groups and economic sectors to other groups and economic sectors, with most of the impacts being experienced in these specific groups and sectors. Thus, the present section is intended to facilitate understanding of the likely range and level of impacts by documenting the known expenditures and revenues of the new PPC. More specifically, we assess:

- **Construction Expenditure:** The amount of money spent designing and building PPC and identification of the groups and sectors that were the primary recipients of this spending.
- **Operating Revenue:** The amount of gambling and non-gambling revenue taken in by PPC as well as identification of the groups and sectors that are the main contributors to this revenue.
- **Operating Expenditure:** The amount of money that is being expended to operate PPC as well as identification of the groups and sectors that are the primary recipients of this spending.
- **Distribution of Net Profit:** The estimated portion of net PPC profit that remains within Massachusetts.

Construction Expenditure

As detailed below, in total, \$150.2 million was spent building PPC, with 86.7% of this money being spent within Massachusetts.

All construction projects are preceded by site surveys, environmental assessments, and the creation of building plans. In the case of PPC, these activities amounted to \$13.3 million shared between Ourway Realty, the prior owners of the site, and Penn National Gaming, the current owners. As seen in Table 18, virtually all of this money went to firms within Massachusetts, with the main beneficiaries being Metro Boston and Bristol and Norfolk Counties (Motamedi & Peake, 2017). The geographic regions referred to in this table (and used elsewhere in the Economic and Fiscal Impacts section) are displayed in Figure 11.¹⁰

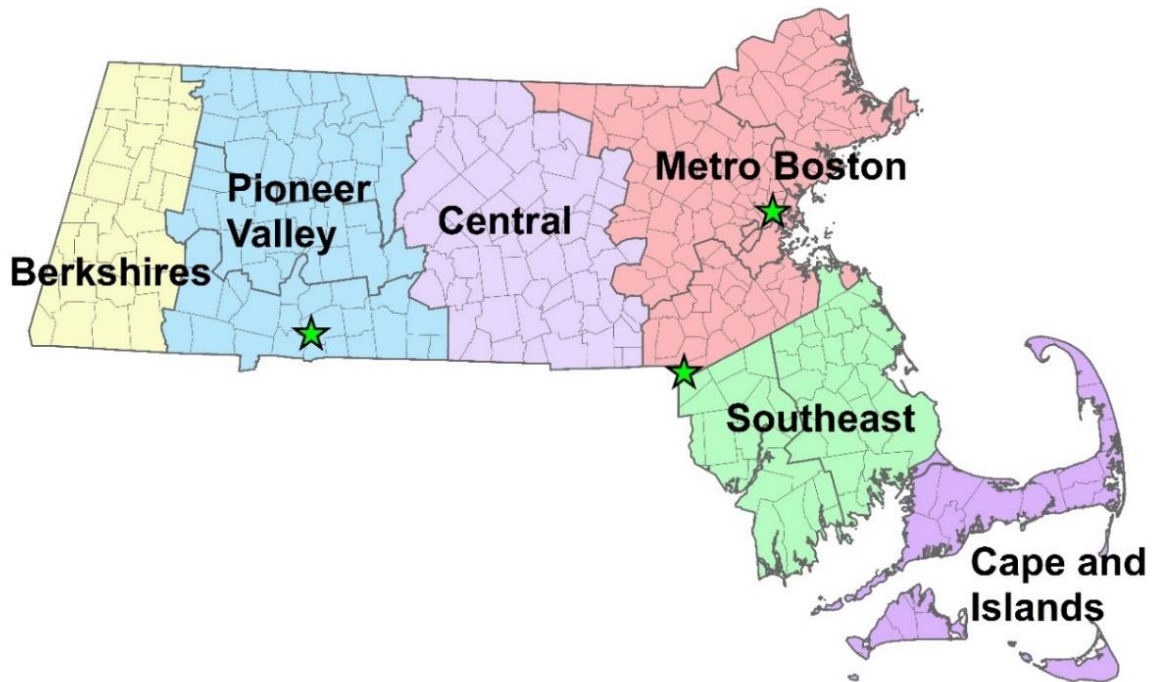
Table 18. Plainridge Park Casino Architecture, Engineering, and Design Spending by Region, 2010-2014

Region	2010	2011	2012	2013	2014	Total
Metro Boston	\$1,587,109	\$0	\$829,751	\$413,303	\$3,898,523	\$6,728,686
Bristol and Norfolk Counties	\$803,095	\$0	\$1,948,792	\$1,517,836	\$1,724,919	\$5,994,642
Rest of Southeastern MA	\$7,000	\$0	\$0	\$0	\$277,846	\$284,846
Pioneer Valley	\$0	\$0	\$0	\$0	\$92,405	\$92,405
Rest of Western MA	\$74,940	\$0	\$0	\$0	\$0	\$74,940
Out-of-State	\$9,781	\$0	\$22,726	\$25,410	\$88,520	\$146,437
Total	\$2,481,925	\$0	\$2,801,269	\$1,956,549	\$6,082,213	\$13,321,956

Source: Pinck & Co. Note: nothing was spent in 2011.

¹⁰ These regions map onto the regions established by the Expanded Gaming Act, with the Berkshires and Pioneer Valley comprising Region A; Central and Metro Boston comprising Region B; and Southeast and Cape & Islands comprising Region C.

Figure 11. Regions of Massachusetts used for Economic Modelling



An estimated \$115.4 million was then spent on building and renovating the physical structure of PPC (Motamedi & Peake, 2017). Construction activities comprised 79.6% of the total building budget, which includes things such as concrete, earthwork and site preparation, hanging drywall, and installing electrical, HVAC, and plumbing systems. Table 19 itemizes construction expenses by industry category as well as geographic origin of the spending. As seen, a total of 85.6% of all spending went to in-state suppliers.

Within Massachusetts, almost two-thirds of the overall economic activity generated by the construction occurred in Bristol and Norfolk Counties, while a further one quarter occurred in Metro Boston (Motamedi & Peake, 2017). Neighboring states received less than 5% of the spending and most of the remaining 11% was spent on kitchen equipment from Florida and structural steel from Quebec, Canada. It should be noted that some of this spending likely went to second level suppliers outside of Massachusetts. For example, although \$4.3 million of drywall was purchased from Massachusetts suppliers it is unknown where the drywall itself was manufactured.

Table 19. Total Plainridge Park Casino Construction Spending by Industry Group and State

Industry	Total	% Spent in MA
Construction	\$91,875,994	87%
Insurance and Bonds	\$15,098,255	100%
Manufacturing Goods	\$4,041,560	4%
Rental and Leasing	\$1,428,153	100%
Other	\$1,343,505	100%
Administration and Waste	\$879,412	100%
Wholesale	\$718,271	0%
Total	\$115,385,150	85.6%

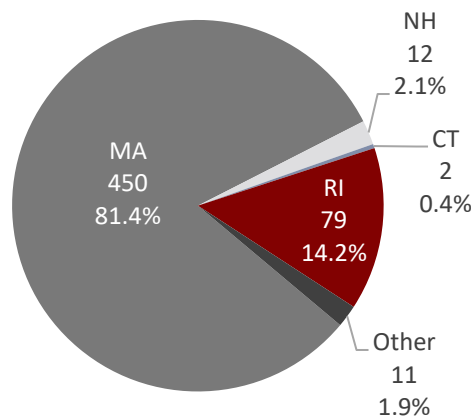
Source: Pinck & Co.

Construction Employment, Residency, and Wages

Plainridge Park Casino employed many tradesmen throughout its 14-month construction period (April 2014 - June 2015) (Motamedi & Peake, 2017). Total employment is estimated using counts of workers paid each quarter. These numbers are not full-time equivalent annual jobs but rather the number of workers who were paid during a particular 3-month period, many of whom may have only been on-site for a few weeks or even days. Employment numbers started at 390 in the second and third quarters of 2014, increasing to 562, 627, and 634 in each of the following quarters. The cumulative total of employment across all quarters was 2,213, however, this involves some multiple counting of the same individuals. The average employment count across all quarters (554) may be a better reflection of the total full-time employment during the building’s construction.

Figure 12 shows the number of construction workers by state of residence. This figure shows that 81.4% of workers were from Massachusetts, with Rhode Island being the next largest group at 14.2%. The large majority of construction jobs went to employees in Bristol and Norfolk Counties.

Figure 12. Number of Plainridge Park Casino Construction Workers by State of Residence and Share of Total

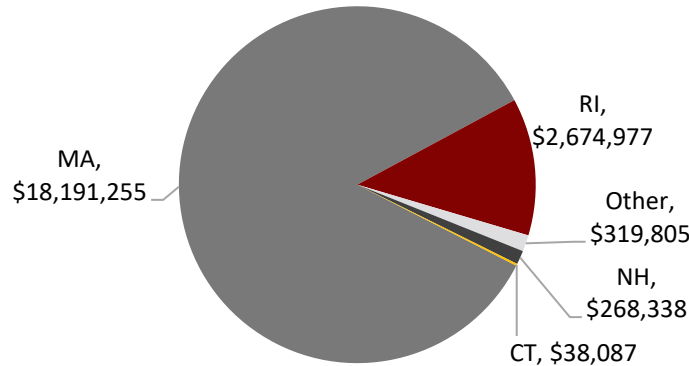


Source: Pinck & Co.

Unlike employment numbers, wages can be more appropriately summed over time to show cumulative dollars, which totaled \$21,492,462. The geographic distribution of wages is very similar to the geographic distribution of

workers. As seen in Figure 13, the bulk of the wages paid (84.6%) went to MA residents, with 33% of this being paid to workers living in Bristol and Norfolk Counties (only 3% of all wages went to workers from the H&SC).

Figure 13. Total Plainridge Park Casino Construction Wages by State of Residence



Source: Pinck & Co.

Indirect Impacts of Construction Expenditure

The direct expenditure impacts of PPC that have just been described generated additional economic spin-off effects within the Massachusetts economy. These additional indirect impacts are estimated utilizing the PI* model from Massachusetts-based Regional Economic Models, Inc. (REMI) (see Motamedi & Peake, 2017 for details). Impacts are estimated for the six regions in Figure 11 and for 70 industry sectors (roughly corresponding to the 3-digit codes of the North American Industry Classification System (NAICS)).

Table 20 is the REMI estimate of the total economic impacts of PPC architectural, engineering, and construction spending for Massachusetts from 2010 to 2015. As was the case with direct economic gains, the bulk of the overall economic gains (direct plus indirect) occurred in Norfolk and Bristol Counties, with the Metro Boston region having the next largest share. ‘Output’ refers to the total monetary value of production, sales, and business revenue at both the intermediate level (i.e., when used by another business to produce its own output) and final level (i.e., purchased by the end user). ‘Value added’ is the value of all final goods and services created and reflects net new economic activity.

Table 20. Total REMI-Estimated Economic Impacts of PPC Construction Spending

Region	Employment	Output	Value Added	Personal Income
Bristol and Norfolk Counties	831	\$103,400,000	\$72,400,000	\$52,500,000
Metro Boston	278	\$56,400,000	\$36,100,000	\$27,900,000
Rest of Southeastern MA	126	\$14,800,000	\$9,400,000	\$16,700,000
Central MA	42	\$5,200,000	\$3,100,000	\$6,400,000
Lower Pioneer Valley	6	\$600,000	\$500,000	\$300,000
Rest of Western MA	2	\$200,000	\$200,000	\$100,000
Total	1,286	\$189,900,000	\$121,800,000	\$104,000,000

Source: Pinck & Co.; Regional Economic Models, Inc. as calculated by the University of Massachusetts Donahue Institute

Operating Revenue

On-Site Revenue

The following table documents revenue per calendar year within PPC as reported to the Massachusetts Gaming Commission and/or contained in Penn National’s Annual Reports. Horse racing revenue is estimated by applying a 22% takeout rate on total handle. Revenue in calendar year 2015 was low due to a mid-year opening in June. Revenue in 2016 increased to nearly \$176 million. Total revenue for 2017 is estimated at approximately \$185.7 million, assuming horse racing, lottery, and non-gambling revenue are equivalent to 2016. Gambling accounted for approximately 95% of all revenue, and slot machines and electronic table games accounted for about 90% of all gambling revenue.

Table 21. Plainridge Park Casino Revenue, June 2015 to 2017

Calendar Year	Slot + Table Game Net Revenue	Horse Racing Net Revenue	Lottery Gross Sales ¹¹	TOTAL Gambling Revenue	TOTAL Non-Gambling Revenue	TOTAL Revenue
2015	\$88,230,548	~\$9,500,000	\$1,058,325	~\$98,788,873	\$5,400,000 ¹²	~\$104,118,873
2016	\$155,041,918	~\$11,500,000	\$2,951,191	~\$169,493,109	\$6,500,000 ¹³	~\$175,993,109
2017	\$164,786,230	Not available	Not available	~\$179,000,000	Not available	~\$185,700,000

Source: MA Gaming Commission and Penn National Gaming Annual Reports

Estimated Off-Site Revenue

In addition to spending at the casino, PPC patrons spent money in the immediate area during their visit to the casino. The 2016 PPC Patron Survey (Salame et al., 2017) established that 67.2% of patrons did not spend money or engage in any other off-site activities during their trip to PPC. Among those patrons who did report off-site activities, purchasing food and/or beverages in a restaurant or fast food outlet was the most common activity, followed by retail shopping (see Table 22). The total amount of off-site spending was estimated to be approximately \$4,046,878 in calendar year 2016.¹⁴

Table 22. Non-Gambling Activities Off-Site by Plainridge Park Casino Patrons in 2016, Weighted

Off-Site Activities	% of Patrons
Nothing	67.2%
Bought food or beverage in a restaurant or fast food outlet	21.4%
Retail shopping at store or mall	11.2%
Spent money on other entertainment (e.g. amusement park, bowling, museum)	3.2%
Went to a live entertainment show, concert, or performance	2.1%
Stayed at a hotel outside of the casino	1.6%

Source: Salame et al. (2017)

¹¹ <http://massgaming.com/wp-content/uploads/Plainridge-Park-Casino-Quarterly-Report-2016-Q4.pdf>.

¹² [2015 Penn National Annual Report p.61.](#)

¹³ [2016 Penn National Annual Report. p.54.](#)

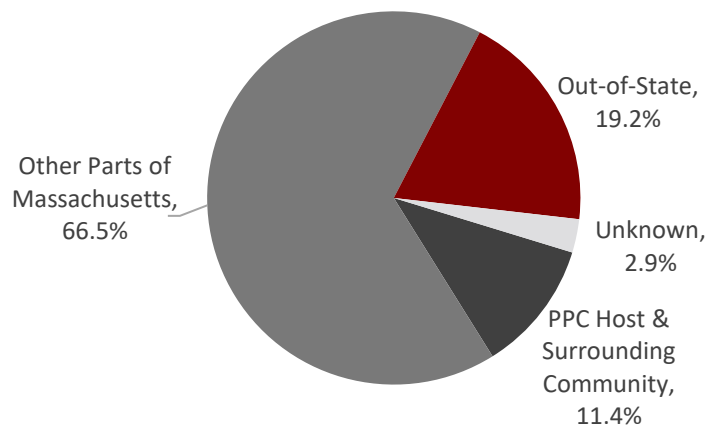
¹⁴ Some caution is warranted due to a survey response rate of only 22.4%.

Revenue Origin

The geographic origin of patrons is a central determinant of the economic value of casino revenue. Revenue from local residents is often a reallocation of money from other local economic sectors. Revenue from more distant within-state residents may represent an influx of money to the local area, but potentially at the expense of other areas within the state. On the other hand, revenue from out-of-state patrons represents new money to the Massachusetts economy as does the situation where a Massachusetts patron has spent money at a Massachusetts casino that they would have otherwise spent at an out-of-state casino ('recaptured revenue').

Figure 14 illustrates the geographic origin of PPC patrons as established by the 2016 Patron Survey (Salame et al., 2017). What this figure shows is that the large majority of patrons (66.5%) are Massachusetts residents from outside the PPC H&SC. The second largest group (19.2%) are out-of-state patrons. Patrons from the PPC H&SC comprise the smallest group at 11.4%.

Figure 14. Geographic Origin of Plainridge Park Casino Patrons in 2016, Weighted



Source: Salame et al. (2017)

The relative proportion of patrons from different geographic areas is not necessarily equivalent to their relative financial contribution. Expenditure questions in the PPC Patron Survey allowed us to estimate that Massachusetts residents accounted for approximately 78.6% of all gambling revenue at PPC, 92.1% of non-gambling revenue at PPC, and 78.9% of non-gambling revenue outside of PPC (i.e., in the geographic area of the casino). This is estimated to represent \$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 and non-Massachusetts residents account for 20.9% of all gambling and non-gambling revenue (Salame et al., 2017).

The PPC Patron Survey asked Massachusetts patrons whether they would have gambled at an out-of-state casino that day if PPC had not existed.¹⁵ A total of 69.8% of all patrons (and 58.7% of patrons from PPC H&SC) reported they would have spent their money gambling in another state if there was not a casino in Massachusetts, with Connecticut (74.3%) and Rhode Island (68.1%) being the primary locations where they would have gone. Assuming the answers to this hypothetical question are reasonably accurate and that this redirection of casino patronage would continue throughout the year, then this 'recaptured spending' is

¹⁵ Out-of-state casino patronage is common among Plainridge Park Casino patrons, with nearly 90% of patrons indicating they had visited casinos in other jurisdictions in the previous year with Connecticut (72.3%) and Rhode Island (55.9%) being the most common locations.

estimated to represent the largest single source of revenue at PPC (\$100 million in Fiscal Year 2016 as shown in Table 23).

People who indicated that they would *not* have spent their money gambling at an out-of-state casino were asked what they would have spent their money on instead. A total of 79.7% indicated they would have spent their money on other things, with the most commonly reported items being restaurants and bars, followed by lottery tickets, retail items, and various housing and household items. This is known as ‘reallocated revenue’ and is estimated to represent the second largest share of overall revenue at PPC (\$36.6 million in Fiscal Year 2016 as shown in Table 23).

Table 23. Estimated Sources of Revenue at Plainridge Park Casino from Patron Survey, Fiscal 2016

Source of Revenue	Estimated Revenue (Millions of Dollars)	Share of Revenue
Recaptured Spending by In-State Patrons	\$100.0	58.0%
Reallocated Spending by In-State Patrons	\$36.6	21.2%
Spending by Out-of-State Patrons	\$36.0	20.8%
Total	\$172.6	100.0%

Source: Peake & Motamedi (2017)

Consistent with there being substantial monetary recapture, a significant decrease in out-of-state casino patronage was reported in the Massachusetts Gambling Impact Cohort ([MAGIC](#)) study (Volberg, Williams, et al., 2017) from Wave 2 in 2015 (31.8%) to Wave 3 in 2016 (21.9%), recognizing that this cohort is a very rough approximation of population-level changes in the state.¹⁶

However, there are two other sources of evidence that are somewhat inconsistent with substantial monetary recapture. For one, as seen in Table 24, the Baseline to Follow-Up Targeted Population Survey of the PPC H&SC found no significant change in the 23.2% past-year prevalence of out-of-state casino visitation in 2014 compared to the 28.3% reported in 2016/2017 (there was actually a nonsignificant increase). There was also no significant change in overall past-year self-reported frequency of out-of-state casino visitation or past-year out-of-state casino expenditure, although there was a significant decrease in out-of-state non-gambling expenditure (i.e., food, lodging, entertainment). Note that outliers have a major impact on the means, which is why the medians are also presented and why non-parametric statistical tests were utilized (i.e., chi-square and Mann-Whitney U).

¹⁶ MAGIC consists of a stratified sample of 3,139 Massachusetts adults whose gambling behavior has been assessed on an annual basis since Wave 1 in 2013/2014 (Volberg, Williams, et al., 2017).

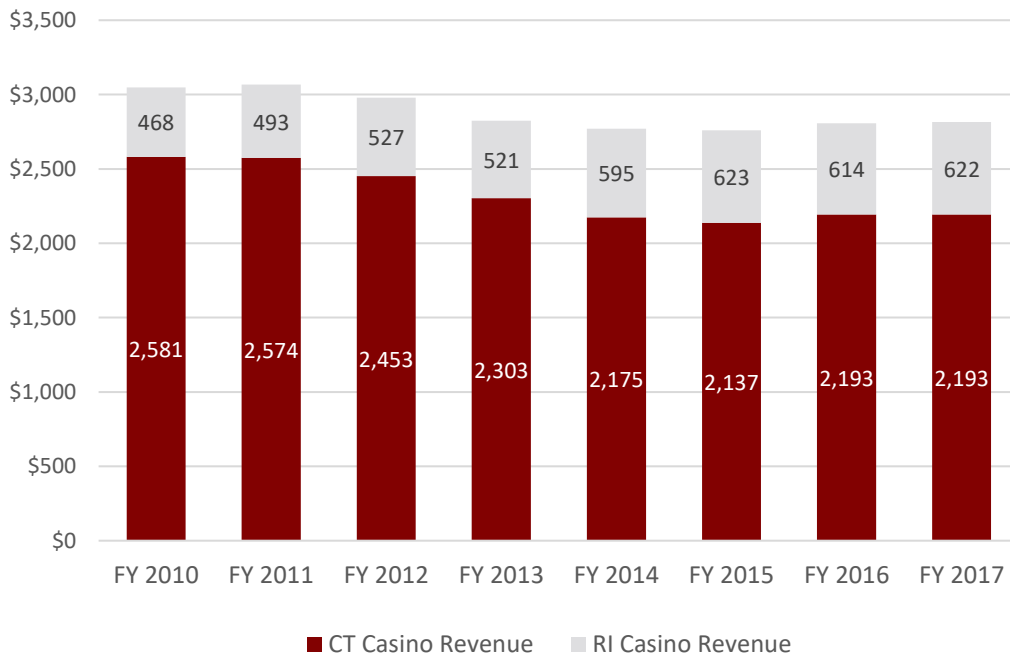
Table 24. Out-of-State Casino Patronage in 2014 BTPS-Plainville versus 2016/2017 FTFS-Plainville, Weighted

	BTPS-Plainville	FTFS-Plainville	p
Past Year (PY) Patronage of Out-of-State Casino + 95% CI	23.2% (20.0 – 26.9)	28.3% (24.3 – 32.6)	.070
Mean PY Number of Visits + 95% CI	1.3 (0.9 - 1.7)	1.3 (0.8 - 1.9)	.655
Mean PY Gambling Expenditure + 95% CI	+\$149.1 (-474.3 - 772.4)	-\$395.9 (-793.2 - 1.5)	.379
Median PY Gambling Expenditure + 95% CI	-\$3.1 (-20.0 - 13.8)	-\$0.6 (-28.3 - 27.0)	
Mean PY Non-Gambling Expenditure + 95% CI	\$234.9 (110.7 - 359.1)	\$80.6 (51.1 - 110.1)	<.0001
Median PY Non-Gambling Expenditure + 95% CI	\$39.8 (28.5 - 51.2)	\$0.0 (-11.8 - 11.8)	

Note: positive value for gambling expenditure denotes a net win, whereas negative values denote a net loss. Italics indicate relative standard error >30%. Mean and median gambling expenditure at out-of-state casinos are reported for the entire sample (including people who did not patronize out-of-state casinos), whereas out-of-state non-gambling expenditure is only reported for people who indicated they patronized out-of-state casinos as there may have been people who did not gamble at an out-of-state casino but did attend out-of-state casinos for other types of entertainment. Weighted to the PPC H&SC population.

Also somewhat problematic is that the combined net casino revenue in Connecticut and Rhode Island *increased* slightly in fiscal years 2016 and 2017 relative to 2015 as seen in Figure 15 (although there was a slight decrease in Rhode Island casino revenue in 2016). These same trends were identified in an independent analysis of this issue conducted by Christiansen Capital Advisors (2017). Historically, a significant portion of casino revenue in Rhode Island and Connecticut has derived from Massachusetts. For the two casinos in Rhode Island in 2015, it is estimated that Massachusetts residents contributed 51.9% of Twin River Casino revenue and 44.1% of the Newport Grand Casino revenue. For the two casinos in Connecticut in 2015, it is estimated that Massachusetts residents contributed 32.2% of Foxwoods Casino revenue and 18.3% of the Mohegan Sun revenue (Pyramid Associates, 2015).

Figure 15. Net Casino Revenue in Connecticut and Rhode Island, FY2010-FY2017, millions



Sources: Rhode Island Lottery (2018), Security Exchange Commission filings of the Mohegan Sun Gaming Authority (Mohegan Sun, 2018), Mashantucket Pequot Gaming Enterprise Annual Report (2016), and the Connecticut Department of Consumer Protection (CT Dept. CP, 2018).

It quite possible that all of this data is correct and no inconsistencies actually exist. It must be remembered that the large majority of PPC patronage is from Massachusetts residents who live outside the PPC H&SC. Furthermore, it is not unreasonable that the PPC H&SC region would have no change in out-of-state patronage considering they have the closest proximity in Massachusetts to the major Rhode Island and Connecticut casinos. Also, stronger national economic conditions, including an improving economy in Connecticut and Rhode Island, may have increased patronage from residents of these states, making up the shortfall from decreased Massachusetts visitation.¹⁷

Operating Expenditures

As detailed below, in total, \$129.5 million in operational expenses was incurred in PPC’s first year of operation from gross gaming tax, operational payments to private sector vendors, governments, etc., and employee wages, with 87.0%¹⁸ of this \$129.5 million being spent within Massachusetts (Peake & Motamedi, 2017). The largest operating expenditure is the 49% state tax on gross gaming revenue (GGR) from the slot machines and electronic table games.¹⁹ The following table outlines these amounts for each fiscal year (MGC, 2018). Note that FY2016 includes the period June 24-30, 2015.

Table 25. State Taxes on Plainridge Park Casino’s Gross Gaming Revenue by Fiscal Year

Fiscal Year	GGR Taxes
FY2016	\$81,362,999
FY2017	\$77,551,325
FY2018	\$83,307,913

Source: Massachusetts Gaming Commission

In addition to the GGR tax, PPC has payments to various vendors, employee wages, and regular business taxes. In its first year of operation, PPC paid \$30.3 million to a large array of third parties. As seen in Table 26, payments to private sector vendors accounted for 61.3% of this spending and payments to government entities accounted for nearly all of the rest (Peake & Motamedi, 2017). Of the payments made to government entities, the Commonwealth of Massachusetts is the largest beneficiary, with various local governments within Massachusetts accounting for the second largest share of spending.

¹⁷ To shed further light on this issue, the SEIGMA team is planning to replicate the license plate survey methodology historically used by Pyramid Associates for the CT and RI casinos to ascertain whether there has been a genuine decrease in the percentage of Massachusetts plates at these venues.

¹⁸ (\$81,362,999 in GGR taxes + \$19,174,414 operational payments + \$12,168,153 wages) divided by total operational expenditures of \$129,515,988 = 87.0%

¹⁹ This 49% is mandated only for the slot parlor, whereas a 25% GGR tax is imposed on the casinos.

Table 26. Operational Payments Made by Plainridge Park Casino, FY2016

Type of Payment	Amount	Share
Payments to Private Sector Vendors	\$18,606,043	61.3%
Payments to Government Entities	\$11,203,767	36.9%
Massachusetts State Government Entities	\$5,888,037	19.4%
Local Government Entities	\$4,371,035	14.4%
Federal Government Entities	\$921,451	3.0%
Other State Government Entities	\$23,245	0.1%
Payments to Unions and Other Membership Organizations	\$400,644	1.3%
Payments to Charitable Organizations	\$74,910	0.2%
Payments to Individuals	\$58,927	0.2%
Total	\$30,344,292	100.0%

Source: Plainridge Park Casino

Table 27 shows the top 10 private non-farm industry sectors receiving payments from PPC. The largest single industry was wholesale trade. This is somewhat intuitive since a firm as large as PPC would purchase almost all of its food, alcohol, cleaning supplies, uniforms, printed materials, etc. from wholesalers. The second largest industry, denoted as miscellaneous manufacturing, is primarily payments to the manufacturers of slot machines and other gambling equipment.

Table 27. Top 10 Industries by Vendor Spending

Industry	Amount	Share
Wholesale trade	\$5,622,313	18.5%
Miscellaneous manufacturing	\$2,950,975	9.7%
Utilities	\$2,125,119	7.0%
Professional, scientific, and technical services	\$1,795,481	5.9%
Retail trade	\$765,392	2.5%
Performing arts and spectator sports	\$634,976	2.1%
Administrative and support services	\$616,625	2.0%
Membership associations and organizations	\$480,069	1.6%
Broadcasting, except Internet	\$473,781	1.6%
Motion picture and sound recording industries	\$406,972	1.3%
All other Industries	\$14,472,590	47.7%
Total	\$30,344,292	100.0%

Source: Plainridge Park Casino

As shown in Table 28, the Metro Boston region of Massachusetts (which includes Norfolk County) was the largest beneficiary of PPC's spending in its first fiscal year of operation. This is in part a result of large payments made to state government entities located in Boston, as well as payments to the Town of Plainville, which is located on the periphery of the region. Excluding payments to government entities, PPC spent more on goods and services from outside of Massachusetts than inside Massachusetts.

Table 28. Plainridge Park Casino Operation Spending by Region

Region	Amount	Share
Metro Boston	\$14,187,421	46.8%
Southeast Massachusetts	\$4,482,510	14.8%
Central Massachusetts	\$298,855	1.0%
Pioneer Valley	\$124,808	0.4%
Cape and Islands	\$80,822	0.3%
Rest of Nation / World	\$11,169,878	36.8%
Total	\$30,344,292	100.0%

Source: Plainridge Park Casino

Operations Employment and Wages

Aggregated data from Plainridge Park Casino provides information on employees hired by the casino and wages paid. The details are reported in UMDI (2017). Plainridge Park Casino hired 893 people in its first year of operation, with 573 (64.2%) of these being full-time employees. Many of these hires were to replace employees who left during the year. From July 2015 to June 2016, the total number of people employed at PPC each month varied from 570 to 512, with 512 people employed as of June 2016. Slightly fewer than half of these employees are gaming employees, and slightly more than half are service employees.

Table 29 shows the geographic origin of PPC's hires, as well as the hours worked and wages paid. While Plainville and PPC are in the far southwestern corner of the Metro Boston region, the majority of hires were from the Southeast region and from out-of-state. This is not surprising as the adjacent parts of both the Southeast Region and next-door Rhode Island are more densely populated than the suburban communities of western Norfolk County, where Plainville is located.

Table 29. Plainridge Park Casino Hires, Hours Worked, and Wages Paid by Region, First Year of Operation

Region	Hires	% of Hires	Hours Worked	Wages Paid	% of Total Wages
Southeast Massachusetts	364	40.8%	401,127	\$6,229,344	35.0%
Out-of-State	256	28.7%	292,428	\$5,640,544	31.7%
Metro Boston	229	25.6%	254,019	\$5,089,465	28.6%
Central Massachusetts	40	4.5%	42,003	\$740,097	4.2%
Rest of Massachusetts	4	0.4%	5,372	\$109,246	0.6%
Total	893	100%	994,949	\$17,808,697	100%

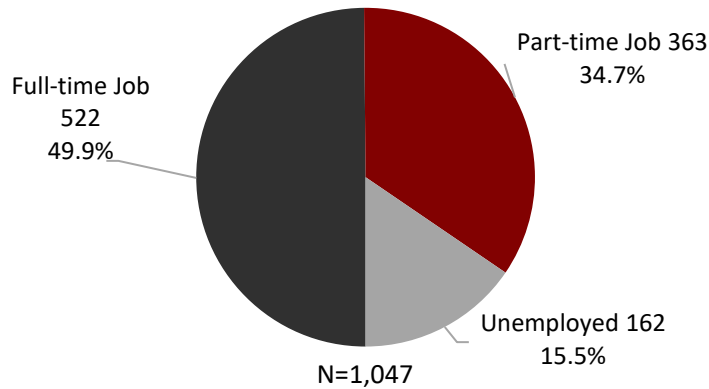
Source: Plainridge Park Casino

A survey of new casino employees was administered by the MGC to gather a range of information on their work-related characteristics and aspirations (UMDI, 2017). Survey results showed that 92.8% ($n = 972$) of new employees did not move or plan to move to take their new job. Of the 75 'movers', 26.7% ($n = 20$) relocated from other regions in Massachusetts, while 72.0% ($n = 54$) came from out-of-state. A total of 17.3% ($n = 13$) of the movers relocated to Plainville, with the rest moving to other surrounding communities (46.6%) or Rhode Island (30.7%).

Importantly, many of these jobs are 'new' jobs. As seen in Figure 16, 50.2% of respondents indicated they were either unemployed or employed part-time prior to taking their positions at PPC. The remaining 49.9% of new

employees were previously employed full-time. Only 9.3% of people who were previously unemployed had previous experience working at a gambling establishment ($n = 15$). Less than 6% of previously unemployed respondents moved in order to take their positions at PPC ($n = 9$).

Figure 16. Work Status Prior to Being Hired at Plainridge Park Casino



Source: PPC New Employee Survey (UMDI, 2017)

Indirect Impacts of Operational Expenditure

The direct expenditure impacts generate additional economic spin-off effects within the Massachusetts economy. These additional indirect impacts are estimated utilizing the PI+ model from Massachusetts-based Regional Economic Models, Inc. ([REMI](#)) (see Peake & Motamedi, 2017 for details). Impacts are estimated for the six regions in Figure 11.

As seen in Table 30, in its first year of operation, the total economic activity associated with Plainridge Park Casino (including direct as well as spinoff effects due to business, government, and consumer spending) is estimated to have produced a total of 2,758 jobs. Over two-thirds of this employment was projected to have occurred in the Metro Boston region, which includes the Town of Plainville. However, assuming the previously mentioned reallocation of consumer spending from the PPC Patron Survey is correct (Salame et al., 2017), there was also a loss of approximately 340 jobs in other sectors, primarily restaurants and bars. Therefore, on net, PPC is estimated to have created or supported 2,417 total jobs in Massachusetts, of which 1,633 were private-sector, with the remainder being government positions supported by increases to Local Aid funded by taxes on PPC's gross gaming revenue (GGR) and other payments to local, state, and federal government entities. In its first year of operation, the casino also supported an estimated \$143.7 million in new personal income and \$505.5 million in new output within the Massachusetts economy, of which \$352.4 million was value added (i.e., net new economic activity or gross state product). It is anticipated that roughly similar personal income and economic activity amounts will also be produced for each subsequent year of operation.

Table 30. Total REMI-Estimated Economic Impacts of PPC Operational Spending in First Year

Region	Total Employment	Private Non-Farm Employment	Output	Value Added	Personal Income
Regional Operating Impacts					
Metro Boston	1,896	1,466	\$447,000,000	\$326,300,000	\$98,700,000
Southeastern MA	376	247	\$48,300,000	\$29,900,000	\$31,700,000
Lower Pioneer Valley	189	80	\$23,100,000	\$14,500,000	\$10,300,000
Central MA	231	131	\$30,200,000	\$18,700,000	\$17,400,000
Berkshires	27	11	\$3,200,000	\$2,000,000	\$1,400,000
Cape and Islands	38	29	\$4,600,000	\$2,900,000	\$2,800,000
Total	2,758	1,964	\$556,400,000	\$394,400,000	\$162,200,000
Statewide Impacts from Reallocation of Consumer Spending from other Sectors of the Economy to PPC					
Total	-340	-331	-\$50,900,000	-\$31,900,000	-\$18,500,000
Statewide Net Impacts					
Total	2,417	1,633	\$505,500,000	\$362,400,000	\$143,700,000

Source: Pinck & Co.; Regional Economic Models, Inc. as calculated by the University of Massachusetts Donahue Institute

Distribution of Net Profit

PPC is owned and operated by Penn National Gaming that has corporate headquarters in Pennsylvania. As of May 2018, this company operates 28 other gambling facilities in 16 U.S. states and 1 Canadian province: California, Florida, Illinois, Indiana, Kansas, Maine, Massachusetts, Mississippi, Missouri, Nevada, New Jersey, New Mexico, Ohio, Pennsylvania, Texas, West Virginia, and Ontario.

The amount of net profit for Penn National Gaming and the percentage of this net profit that stays in Massachusetts has not been determined. However, even if none of this money stays within the state, it constitutes the minority of the overall revenue and it is clear from the above data that PPC has resulted in a significant economic gain for the State of Massachusetts.

BUSINESS ESTABLISHMENTS

This section and those that follow focus on more indirect global changes in the number and type of business establishments, employment, income, real estate, and government revenue and expenditure at a regional level that could potentially be related to the introduction of PPC. Whereas the REMI model seeks to project some of these impacts, the following sections identify any changes observed through the analysis of secondary data.

Number of Business Establishments

Table 31 shows the number of business establishments in Plainville, Norfolk County, and Massachusetts from 2010 to 2016 as taken from the Massachusetts Office of Labor and Workforce Development (OLWD) (2018), Labor Market Information, ES-202. Shaded cells denote the years that construction and/or operation have been taking place for PPC (i.e., construction began April 2014). The last column illustrates the percent change in the

number of businesses during the construction/operation phase relative to the two prior years. For comparison purposes, a percentage change for Massachusetts for the same time periods for each region is also provided. The data shows that neither Plainville nor Norfolk County had increases greater than the state as a whole.

Table 31. Number of Businesses, 2010-2016

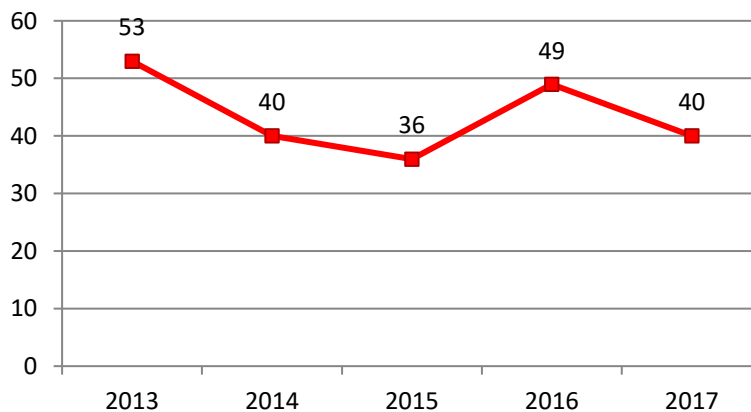
	2010	2011	2012	2013	2014	2015	2016	% increase
Plainville	341	344	351	356	364	371	372	4.4%
Norfolk County	24,321	23,961	23,310	23,410	24,134	24,700	25,237	5.7%
Massachusetts	220,134	227,844	223,467	226,350	231,749	237,928	246,651	6.6%

Source: OLWD, ES-202

A new casino not only has the potential for spawning new complementary businesses, but also for redirecting revenue from existing businesses and contributing to their demise. As reported earlier, an estimated 21.2% of PPC’s annual revenue may be ‘reallocated’ from other economic sectors within the state. A potential marker of this is the number of business bankruptcy filings per year.

Figure 17 shows these numbers for calendar years 2013 to 2017 for Norfolk County (where Plainridge Casino is located) as recorded by [U.S. Courts \(2018\)](#). Considering the very tiny fraction of all businesses in Norfolk County that these numbers represent and the natural year-to-year variation in business bankruptcies, there are no obvious trends in this data that can be attributed to the new casino.

Figure 17. Business Bankruptcy Filings per Year in Norfolk County, 2013-2017



Source: U.S. Courts

Impacts on Other Industry Sectors

The year by year changes in the number of businesses as a function of industry sector provides information on whether PPC has potentially augmented or negatively impacted certain types of businesses.²⁰ This is shown for

²⁰ Revenue changes in each of these sectors is potentially even more relevant, but county-level data (from the [Economic Census](#)) only comes out every 5 years, with the last available data being from 2012, and the 2017 data not being available until late in 2018.

the Town of Plainville in Table 32 and the County of Norfolk in Table 33. In all cases, what is displayed is the number of businesses in each of the main North American Industry Classification Sectors (NAICS) from 2010 to 2016, along with a special focus on subsectors in the entertainment, accommodations, and food services that are often impacted by the introduction of destination casinos (Williams, Rehm, & Stevens, 2011). Shaded columns denote the years that construction and/or operation have been taking place for PPC.

The only notable changes in Plainville are the increases in the sectors of real estate and health care and social assistance. The increase in the health care and social assistance sector is likely reflective of statewide increases in this sector. The real estate increase may be influenced by the new casino, but probably has more to do with the significant population increase in this community during the period in question (Figure 8).

Norfolk County had notable increases in health care and social assistance; museums, historical sites & related; mining, quarrying, oil and gas extraction; agriculture, forestry, fishing, hunting; education services; performing arts, spectator sports & related; transportation and warehousing; utilities; public administration; and information. Some of these changes are logically unrelated to the introduction of PPC (e.g., mining, agriculture), while other changes are partly reflective of statewide increases (e.g., health care) and perhaps the slight increase in population (Figure 8). That being said, Norfolk County was one of the prime economic beneficiaries of PPC, so increases in some of these sectors are likely related. Further support for some of these increases being 'real' is the fact that the REMI model projected significant employment increases in Bristol and Norfolk Counties in the construction sector, and to a lesser extent in retail trade, health care and social assistance, and finance and insurance (Motamedi & Peake, 2017).

Table 32. Number of Businesses by Industry Sector in Plainville, 2010-2016

Industry Group	2010	2011	2012	2013	2014	2015	2016	% change
Agriculture, Forestry, Fishing, Hunting (11)	NA	NA	NA	NA	NA	NA	NA	NA
Mining, Quarrying, Oil and Gas Extraction (21)	NA	NA	NA	NA	NA	NA	NA	NA
Utilities (22)	NA	NA	NA	NA	NA	NA	NA	NA
Construction (23)	54	51	47	47	47	48	55	6.4%
Manufacturing (31-33)	21	24	24	19	19	21	19	-8.5%
Wholesale Trade (42)	14	16	18	18	18	18	18	0.0%
Retail Trade (44-45)	33	32	31	32	33	33	32	3.7%
Transportation and Warehousing (48-49)	8	8	6	5	NA	5	6	0.0%
Information (51)	4	4	3	3	3	3	3	0.0%
Finance and Insurance (52)	19	20	25	26	27	25	23	-2.0%
Real Estate and Rental and Leasing (53)	7	7	7	11	12	16	19	74.1%
Professional and Technical Services (54)	33	40	42	41	42	42	39	-1.2%
Administrative and Waste Services (56)	31	31	31	31	30	30	28	-5.4%
Education Services (61)	NA	7	7	8	9	8	7	6.7%
Health Care and Social Assistance (62)	30	30	29	42	43	44	44	23.0%
Arts, Entertainment, and Recreation (71)	7	NA	NA	NA	NA	NA	NA	NA
Performing Arts, Spectator Sports & Related (711)	NA	NA	NA	NA	NA	NA	NA	NA
Museums, Historical Sites & Related (712)	NA	NA	NA	NA	NA	NA	NA	NA
Amusement, Gambling & Recreation (713)	5	5	6	NA	8	NA	NA	NA
Accommodations and Food Services (72)	33	33	33	32	33	34	33	2.6%
Accommodation (721)	NA	NA	NA	NA	NA	NA	NA	NA
Food Services & Drinking Places (722)	31	31	32	32	33	33	32	2.1%
Other Services, excluding Public Admin (81)	34	28	33	25	25	24	26	-13.8%
Public Administration (92)	NA	NA	NA	NA	NA	NA	NA	NA

Source: OLWD, ES-202. Note: NA indicates the data has been suppressed (often because the numbers are too low, which might identify a particular employer).

Table 33. Number of Businesses by Industry Sector in Norfolk County, 2010-2016

Industry Group	2010	2011	2012	2013	2014	2015	2016	% change
Agriculture, Forestry, Fishing, Hunting (11)	32	31	33	35	39	38	43	17.6%
Mining, Quarrying, Oil and Gas Extraction (21)	8	8	7	8	9	9	10	24.4%
Utilities (22)	24	24	24	23	28	24	27	12.1%
Construction (23)	2,267	2,280	2,072	2,035	2,125	2,188	2,259	6.7%
Manufacturing (31-33)	697	696	685	667	657	645	636	-4.4%
Wholesale Trade (42)	1,435	1,449	1,341	1,301	1,341	1,365	1,362	2.6%
Retail Trade (44-45)	2,493	2,499	2,435	2,446	2,506	2,504	2,511	2.7%
Transportation and Warehousing (48-49)	404	402	389	384	406	450	462	13.7%
Information (51)	437	444	431	428	466	473	478	10.0%
Finance and Insurance (52)	1,159	1,155	1,145	1,158	1,175	1,201	1,223	4.2%
Real Estate and Rental and Leasing (53)	754	773	741	754	773	819	850	8.9%
Professional and Technical Services (54)	3,003	3,166	3,009	3,031	3,170	3,265	3,344	7.9%
Administrative and Waste Services (56)	1,177	1,199	1,215	1,242	1,286	1,290	1,310	5.4%
Education Services (61)	399	413	406	431	469	493	497	16.2%
Health Care and Social Assistance (62)	2,060	2,081	2,085	4,585	4,651	4,784	5,025	44.5%
Arts, Entertainment, and Recreation (71)	343	354	351	357	376	386	383	7.8%
Performing Arts, Spectator Sports & Related (711)	68	71	76	77	89	91	84	15.0%
Museums, Historical Sites & Related (712)	12	11	11	12	14	15	15	27.5%
Amusement, Gambling & Recreation (713)	263	272	264	268	273	280	284	4.9%
Accommodations and Food Services (72)	1,469	1,513	1,481	1,511	1,535	1,568	1,580	4.3%
Accommodation (721)	72	72	69	70	70	77	77	7.4%
Food Services & Drinking Places (722)	1,397	1,441	1,412	1,441	1,465	1,491	1,503	4.2%
Other Services, excluding Public Admin (81)	5,778	5,084	5,067	2,568	2,660	2,737	2,759	-28.8%
Public Administration (92)	253	252	248	289	293	286	307	10.0%

Source: OLWD, ES-202. Note: NA indicates the data has been suppressed (often because the numbers are too low, which might identify a particular employer).

The three key informants from Plainville had the following comments about economic development:

“We have had a lot of interest in the surrounding area along Route One. [...] the sections of Route One, where you see the really large developments coming in, they were undeveloped so there was nothing there. So it’s not like they are driving out the small businesses. [...] This area is really becoming a destination. [...] I think you will continue to see development along Route One from the casino all the way to the [Gillette] Stadium.” Jennifer Thompson, Town Administrator, Plainville, MA, January 25, 2018, 10am-11am, phone interview.

“Wow, we have had an awful lot of influx of new businesses. [...] Because we were ripe for new businesses and growth in town because we were one of the least expensive communities in the area and we had land to develop. So it was natural that they were looking. [...] We have had no problem keeping restaurants in town very very healthy. That was one of the problems, people were saying, ‘Oh it will knock the small restaurants out.’ No that is not true. They are thriving.” Kathleen Parker, Treasurer of Plainville, MA, February 1, 2018, 11-12pm, 2018, phone interview.

“On the corner at the diagonal opposite of the casino, I have had plans come through my board for two hotels, a restaurant, a small waste water treatment plant, and some housing, all in that opposite corner. [...] The dual hotel restaurant, shopping center residence that is going directly across from the casino [...] I believe there was a need for a hotel because of the casino. That helped influence the building of the hotel. It would not be exclusive, but it would be a contributing factor.” Lou LeBlanc, Chairman of the Board of Health, Plainville, MA, March 1, 2018, 5-6pm, phone interview.

Impacts on Other Types of Gambling

Negative impacts on other types of gambling are often a consequence of introducing a new form of gambling (Williams, Rehm, & Stevens, 2011). This section focuses on whether there is any evidence of change in the patronage and revenue of other forms of gambling.

Table 34 shows changes in participation in specific types of gambling in both the Plainville Baseline Targeted Population Survey in 2014 and the Plainville Follow-Up Targeted Population Survey in 2016/2017. A chi-square test is employed to establish whether significant differences exist.

Table 34. 2014 Baseline versus 2016/2017 Follow-Up Participation in Gambling in the PPC H&SC, Weighted

	BTPS-Plainville			FTPS-Plainville			p
	N*	%	95% CI	N*	%	95% CI	
All lottery	195,115	66.4	(62.3 - 70.2)	200,728	67.2	(62.8 - 71.3)	.782
Traditional Lottery	185,874	63.2	(59.1 - 67.2)	182,647	60.7	(56.3 - 65.0)	.407
Instant Games	119,922	40.8	(36.6 - 45.0)	127,236	42.5	(38.1 - 46.9)	.584
Daily Games	35,514	12.1	(9.5 - 15.3)	40,231	13.5	(10.7 - 17.0)	.520
Raffles	106,932	36.6	(32.7 - 40.8)	110,113	36.9	(32.8 - 41.3)	.916
Casino Out-of-State	66,291	23.2	(20.0 - 26.9)	82,685	28.3	(24.3 - 32.6)	.070
Sports Betting	43,412	14.8	(12.0 - 18.1)	37,913	12.7	(10.1 - 15.8)	.313
Private Betting	40,018	13.7	(10.7 - 17.4)	26,288	8.8	(6.6 - 11.8)	.024
Horse Racing	15,614	5.3	(3.9 - 7.2)	16,845	5.6	(3.9 - 8.0)	.809
Bingo	9,310	3.2	(2.1 - 4.9)	12,845	4.3	(2.8 - 6.4)	.335
Online Gambling	5,736	2.0	(1.0 - 3.7)	8,464	2.8	(1.7 - 4.7)	.366

*N is the total number of respondents who answered the question weighted to the PPC H&SC population

Horse Racing

Table 34 shows no significant change in horse race betting participation in the PPC H&SC from 2014 (5.3%) to 2016/2017 (5.6%). This is even though a greater number of people were exposed to horse racing in 2016/2017 with an increase in visitors to PPC. In this regard, only 7.7% of PPC patrons reported engaging in horse race betting at the facility in 2016 (Salame et al., 2017). However, as seen in Table 35, Plainridge Racecourse has had a significant increase in the number of races since 2014 in addition to the overall amount wagered stabilizing. This is likely attributable to the funds received from the [Horse Race Development Fund](#), which was created as part of the Expanded Gaming Act to support the horse racing industry in the state. The Horse Race Development Fund is funded by 18% of the GGR tax on profits on slots and electronic table games at PPC (as well as 2.5% of the GGR tax on gambling revenues at MGM Springfield and Encore Boston Harbor).

Table 35. Number of Races and Amount Wagered at Plainridge Racecourse, 2013-2016

Year	Number of Races	Amount Wagered
2013	780	\$38.2 million
2014	736	\$33.4 million
2015	949	\$30.3 million
2016	1092	\$35.8 million

Source: [MA Gaming Commission Division of Racing Annual Reports](#)

Charitable Gambling

Table 34 also shows no significant change in PPC H&SC participation rates in either raffles or bingo from 2014 to 2016/2017. Table 36 documents gross bingo revenue and per capita bingo spending in Norfolk County (where Plainville is located) from calendar year 2014 to 2017 from annual reports on these activities (MA State Lottery Commission, 2016a, 2017b). A minor decline is evident. Attleboro is the only individual community within the PPC H&SC to have bingo. It experienced a 10.4% decline in gross bingo revenue from 2014 (\$294,903) to 2016 (\$264,347). No comparable geographic data is publicly available for raffles, instant lotteries, and casino events.

Table 36. Gross Bingo Revenue in Norfolk County, Calendar Year 2014 to 2017

County	2014	2015	2016	2017
Norfolk County	\$3,914,000 (\$37.35 per capita)	\$3,551,269 (\$37.94 per capita)	\$3,868,994 (\$38.66 per capita)	\$3,503,683 (\$39.98 per capita)

Source: MA State Lottery Commission Charitable Games Annual Reports

Other Types of Gambling

There was a significant decrease in the percentage of people engaging in private betting in 2016/2017 relative to 2014, although the magnitude of this difference is small and significance is obtained primarily due to the large sample sizes involved. The increased availability of casino gambling is plausibly related to this decline.

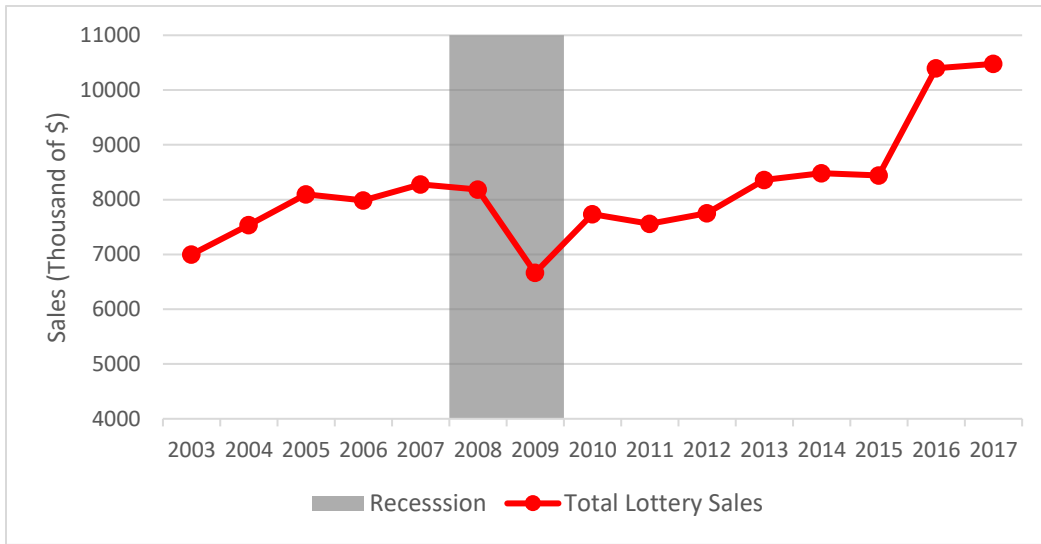
Lottery

Table 34 shows there to be no significant change in lottery participation from 2014 to 2016/2017.

However, there has been an increase in lottery revenue in the Town of Plainville. Figure 18 illustrates total lottery sales in the Town of Plainville for fiscal years 2003-2017. Sales followed the general state pattern prior to Plainridge Park Casino opening. However, lottery sales increased 25% in the year after the casino opened (fiscal year 2016) relative to the prior year and remained at that level in fiscal 2017. An analysis of Plainville vendors shows that this increase is primarily due to increased lottery sales specifically at Plainridge Park Casino. It is important to note that lottery sales for other vendors in Plainville have not notably declined since the opening of Plainridge Park Casino.

In fiscal year 2017, Plainville received \$729,447 from the lottery and other direct Local Aid sources, which represents 16.6% of the Town's total state aid and 2.0% of total receipts.

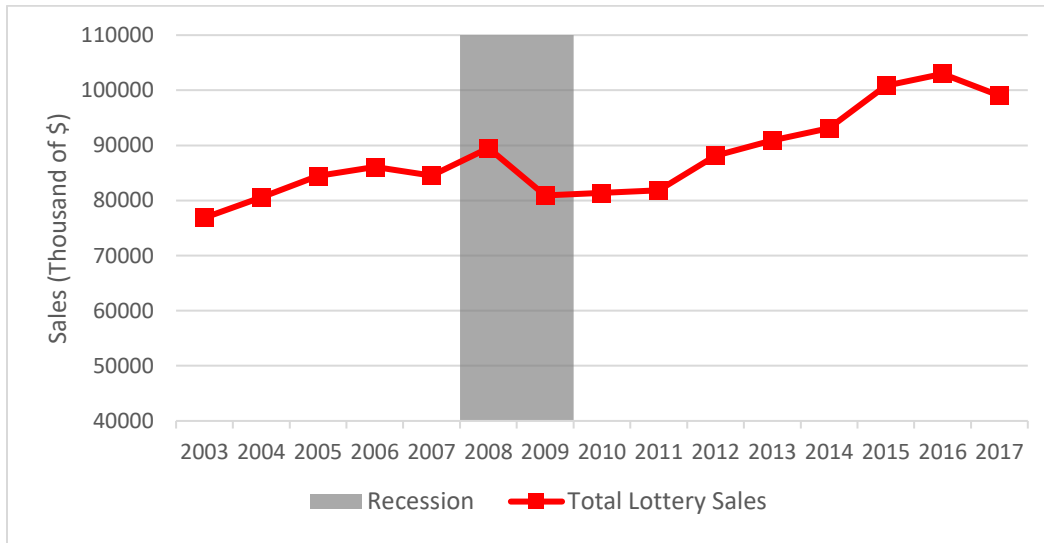
Figure 18. Plainville Lottery Sales, FY2003-2017



Source: MA Lottery, FY2003-2017, nominal dollars.

Lottery sales in the PPC H&SC have not followed the same pattern (Figure 19). In fact, lottery revenue grew more slowly in fiscal year 2016 than the state wide average (2.1% vs. 4.3%) and decreased more in fiscal year 2017 relative to the state (-3.8% vs. -2.6%).

Figure 19. Lottery Sales for PPC H&SC, FY2003-2017



Source: MA Lottery, FY2003-2017, nominal dollars.

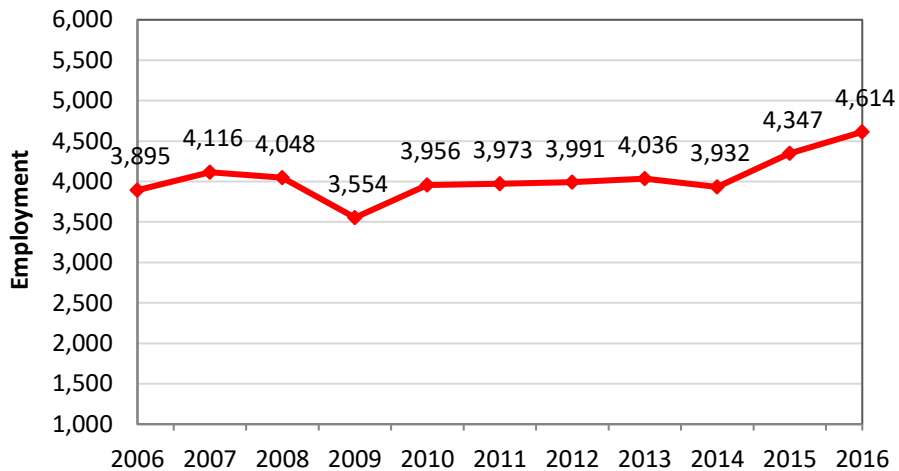
When removing Plainville from the H&SC group, over the two-year period since the opening of the casino, average sales for vendors in the communities of Attleboro, Foxborough, Mansfield, North Attleborough, and Wrentham declined compared to the year prior to the casino opening. In terms of driving distance, lottery sales for vendors within a 15-minute drive of PPC grew more slowly (fiscal year 2016) or decreased (fiscal year 2017) compared to the year prior to the casino opening (relative to the rest of the state) whereas lottery sales for agents within a 16-30 minute drive of PPC grew more rapidly compared to the year prior to the casino opening.

Overall, the gain in lottery revenue in Plainville has been sufficient to offset declines in the surrounding communities, but not enough to match gains in the rest of the state over the two-year period since the opening of PPC. However, the difference is not statistically significant, and it is not possible to conclude any directional change in lottery revenues. In other words, statistically, lottery sales in the PPC H&SC remain unchanged.

EMPLOYMENT

As seen in Figure 20, the Town of Plainville is experiencing the highest level of employment in a decade, with 2015 and 2016 showing notable increases. Plainville’s 372 businesses employed 4,614 people in 2016, an increase of 17.3% since 2014. This compares to employment growth of 4.0% in the state and 3.2% in Norfolk and Bristol Counties from 2014 to 2016. The increase in Plainville parallels to some extent the population increase in this community (Figure 8). It is also consistent with the creation of more than 500 jobs at PPC, with 25.6% of these being in the Metro Boston economic region (where Plainville is located). The Town of Plainville’s Host Community Agreement with PPC required that PPC preferentially hire Plainville residents during both the construction and operation phase.

Figure 20. Plainville Employment, 2006-2016



Source: Massachusetts Office of Labor and Workforce Development (OLWD), Labor Market Information, ES-202

As further reference, Table 37 shows the increase in employment in all of the PPC H&SC from 2009 to 2016. Foxborough is the only community with equivalent growth to Plainville.

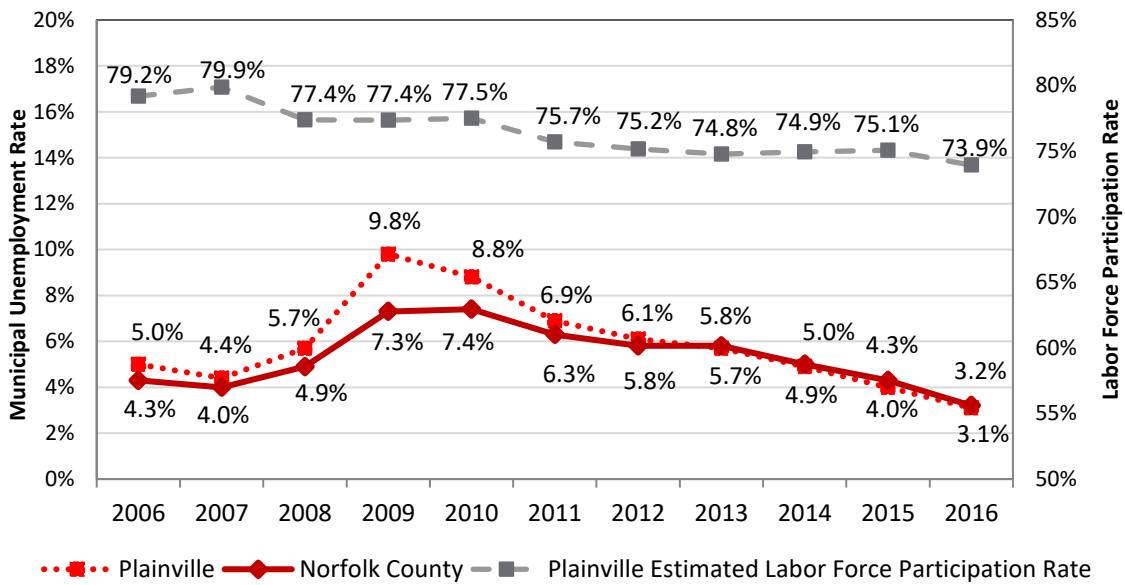
Table 37. Employment in PPC H&SC

Community	2016 Employment	% Change 2009-2016
Plainville	4,614	29.8%
Attleboro	17,790	7.8%
Foxborough	14,572	29.1%
Mansfield	12,253	12.1%
North Attleborough	12,122	9.1%
Wrentham	7,038	17.4%

Source: Massachusetts Office of Labor and Workforce Development (OLWD), Labor Market Information, ES-202

In contrast to overall employment numbers, unemployment and labor force participation rates in Plainville have largely paralleled the state and Norfolk County as seen in Figure 21.²¹ From 2014 to 2016, Plainville’s labor force participation rate decreased by 1.3% and its unemployment rate decreased by 36.7% (compared to a 1.2% decrease in the labor force participation rate and a 36.2% decrease in the unemployment rate in the state as reported earlier).

Figure 21. Plainville and Norfolk County Unemployment and Plainville Labor Force Participation, 2006-2016



Sources: BLS, LAUS; US Census, Decennial Census and Population Estimates

Two key informants from Plainville had the following comments about employment:

“One of the things that [the casino] promised to do was to reach out to Plainville folks first in terms of employment which they did. They kept their word. [...] They are our largest employer in Plainville. It has certainly had an impact. [...] I remember when the casino first opened, that was a challenge for them [backfill issues]. And part of it was they had a lot of applicants but some of them couldn’t pass the scrutiny of the background checks and the things that the Gaming Commission requires. [...] I know it was difficult for the restaurants in particular. When they opened they didn’t have as much of the staff as they wanted in the beginning. [...] They were having difficulty of getting people who were qualified but who could also pass the more rigorous background check, because even if you work in the restaurant you still have to pass the same background check as if you were working in the casino itself. [...] I think we would hear about it [job quality] if people felt grossly mistreated or had horrible working conditions and we haven’t heard anything like that.” Jennifer Thompson, Town Administrator, Plainville, MA, January 25, 2018, 10am-11am, phone interview.

As far as employment goes, it has definitely been a positive impact. [...] I actually had one of the [horse] trainers live right down the road from me. He was the one who told me how much more exciting the horse racing is now and how well he is doing as a result of this influx of money and direct attention to the

²¹ Plainville’s labor force participation rate is estimated using Census population estimates and LAUS data at the local level and utilizes less reliable data due to the much smaller sample size of the municipality.

horse racing." Lou LeBlanc, Chairman of the Board of Health, Plainville, MA, March 1, 2018, 5-6pm, phone interview.

Table 38 documents employment changes within Plainville in different industry sectors from 2010 to 2016. The shaded columns denote the period of PPC construction and operation. The last column shows the net change in jobs in the construction/operation years (2014-2016) relative to the two prior years (2012-2013). For known industries, the largest net gain was in construction (78.8 jobs), followed by professional and technical services and management of companies/enterprises, whereas there was a notable loss of jobs in administrative and waste services. The gain in the construction sector is plausibly related to the construction of PPC.

Table 38. Plainville Employment Numbers by Industry Sector, 2010-2016

Industry Group	2010	2011	2012	2013	2014	2015	2016	Change
Industry not known	290	258	270	263	276	568	732	258.8
Construction	341	325	310	341	370	399	444	78.8
Professional and Technical Services	97	102	112	138	159	157	143	28.0
Management of Companies/Enterprises	0	0	0	9	27	28	30	23.8
Real Estate and Rental and Leasing	24	24	27	47	52	50	50	13.7
Retail Trade	742	817	830	838	828	847	842	5.0
Finance and Insurance	78	74	82	79	86	83	85	4.2
Accommodations & Food Services	578	591	595	584	575	586	616	2.8
Educational Services	0	183	180	196	194	186	189	1.7
Information	12	11	10	10	10	11	11	0.7
Arts, Entertainment, and Recreation	176	0	0	0	0	0	0	0.0
Wholesale Trade	67	68	77	71	70	73	72	-2.3
Other Services, e.g., Public Admin	120	122	142	118	124	125	132	-3.0
Manufacturing	421	452	479	434	431	456	466	-5.5
Health Care and Social Assistance	317	301	300	463	372	350	370	-17.5
Transportation and Warehousing	40	42	50	60	0	40	50	-25.0
Administrative and Waste Services	653	603	527	385	358	388	382	-80.0
Total	3,956	3,973	3,991	4,036	3,932	4,347	4,614	284.2

Source: OLWD, ES-202. Note: ES-202 data at the detailed industry (or sector) level are subject to suppression and are therefore sometimes lower than the total. These data at this level of industry detail may underestimate the employment and number of firms in the individual industries presented. "Industry not known" is the remainder created by subtracting the aggregation of the counts from the known industry detail from the total across all industries. The industries are unknown due to suppression.

PERSONAL INCOME

Wages

Although employment levels are high in Plainville, average wages provided by businesses in town are not. In fact, Plainville's average wages are significantly lower than the state and in the immediate region (Norfolk and Bristol Counties) as seen in Table 39. The average annual wage for jobs based in Plainville was \$41,740 in 2016 in inflation-adjusted dollars compared to the Massachusetts average of \$68,869, and \$57,883 in the immediate region. That being said, Plainville experienced a larger increase in the average wage from 2013/2014 to 2016 than either the immediate region or the state.

Table 39. Plainville Annual Average Wages, All Industries, 2010-2016 (in 2017 Dollars)

Region	2010	2011	2012	2013	2014	2015	2016	% increase 2013/2014 to 2016
Plainville	\$38,721	\$38,263	\$38,047	\$37,507	\$39,658	\$41,663	\$41,740	8.2%
Norfolk & Bristol Counties	\$55,831	\$55,572	\$55,825	\$55,600	\$55,986	\$58,461	\$57,883	3.7%
Massachusetts	\$64,940	\$65,025	\$65,016	\$65,016	\$66,373	\$68,972	\$68,869	4.8%

Sources: Massachusetts Office of Labor and Workforce Development (OLWD), Labor Market Information, ES-202; US Bureau of Labor Statistics (BLS), Quarterly Census of Employment and Wages (QCEW)

Table 40 shows this same pattern for all of the individual Host and Surrounding Communities.

Table 40. Wages in the PPC H&SC (2017 dollars)

Community	Average Wage in 2016	% Change 2009-2016
Plainville	\$41,740	37.9%
Attleboro	\$49,776	13.0%
Foxborough	\$69,815	34.5%
Mansfield	\$79,787	28.6%
North Attleborough	\$37,033	17.1%
Wrentham	\$37,169	19.0%

Source: OLWD, ES-202

Although individual wages paid by businesses in the PPC H&SC are low, household income is not. Table 41 shows that Plainville’s median household income, estimated at \$93,974 in the 2012-2016 [American Community Survey](#) (the most recent data available), is higher than the median Massachusetts household income (estimated at \$72,466 in the same period), but similar to Norfolk County, where the median household income is \$92,148. Comparing the two most recent 5-year periods in the ACS show that household income increased in both Plainville and Norfolk County. The higher levels of household income in Plainville in contrast to low individual wages in the town suggest that many residents commute outside of Plainville for work.

Table 41. Plainville and Norfolk County Median Household Income (2017 dollars), 2008/2012 - 2012/2016

	2008-2012	2012-2016
Plainville	\$89,413 ± \$12,565	\$93,974 ± \$6,458
Norfolk County	\$89,773 ± \$1,398	\$92,148 ± \$1,213

Source: U.S. Census, American Community Survey

Poverty Rate

Table 42 illustrates that Plainville’s poverty rate of 3.6% (with a 2.0% margin of error) in the 5-year period from 2012 to 2016 is a third of the poverty rate of Massachusetts and roughly half the rate of Norfolk County. Furthermore, whereas poverty rates have increased slightly in Norfolk County and the state from the 2008 to 2012 time period, they have dropped in Plainville.

Table 42. Plainville, Norfolk County, and Massachusetts Poverty Rate, 2008/2012 - 2012/2016

	2008/2012	2012/2016
Plainville	4.7% ± 1.9%	3.6% ± 2.0%
Norfolk County	6.5% ± 0.3%	6.7% ± 0.3%
Massachusetts	11.0% ± 0.1%	11.4% ± 0.2%

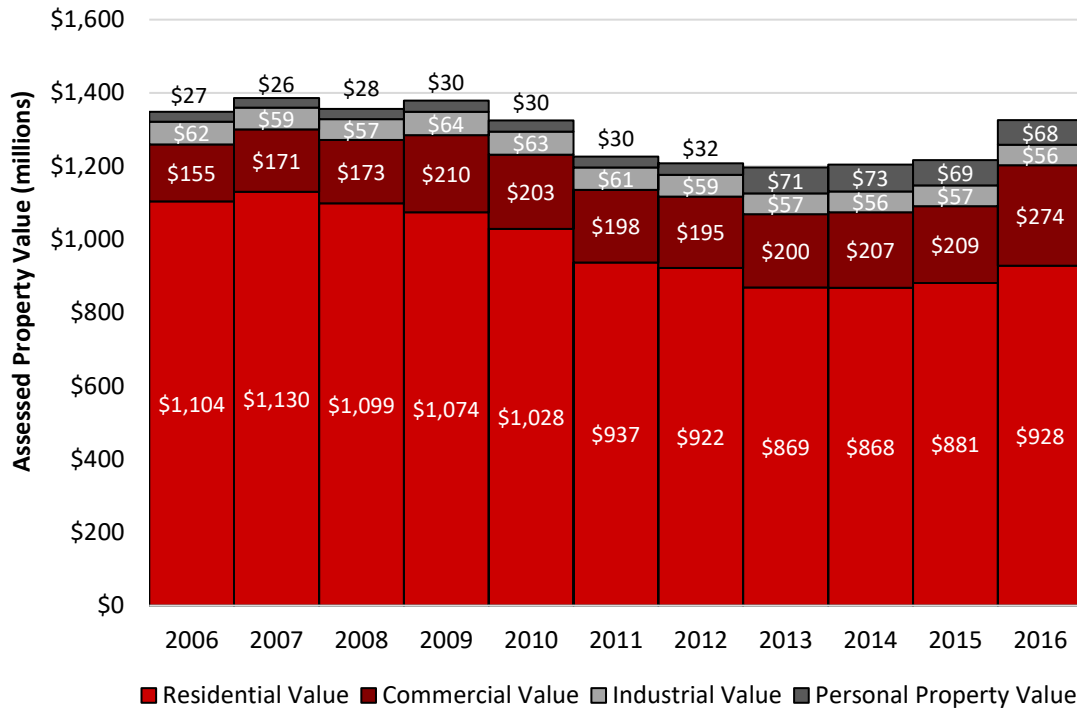
Source: U.S. Census, American Community Survey

REAL ESTATE AND HOUSING

Property Values

In Figure 22, we see that the total assessed value of Plainville property in FY2016 was 2% lower than in FY2006 in real 2017 dollars, a decrease of \$23 million (Renski & Peake, 2017). As in Massachusetts as a whole, the 2008-2009 recession hit hard and property values have not recovered from their FY2007 peak. This change has been driven mostly by the decline in residential and industrial values. From FY2006 to FY2016, Plainville’s residential and industrial values have decreased by 16% and 10%, respectively, whereas commercial values increased by 77%. As seen, however, there was a sharp increase from FY2015 to FY2016, driven by a significant increase in both residential and commercial values. While this rise could be driven by the Plainridge Park Casino, the residential and commercial markets experienced considerable statewide growth as well during this period.

Figure 22. Plainville Property Assessments by Class, FY2006-FY2016 (2017 dollars, millions)



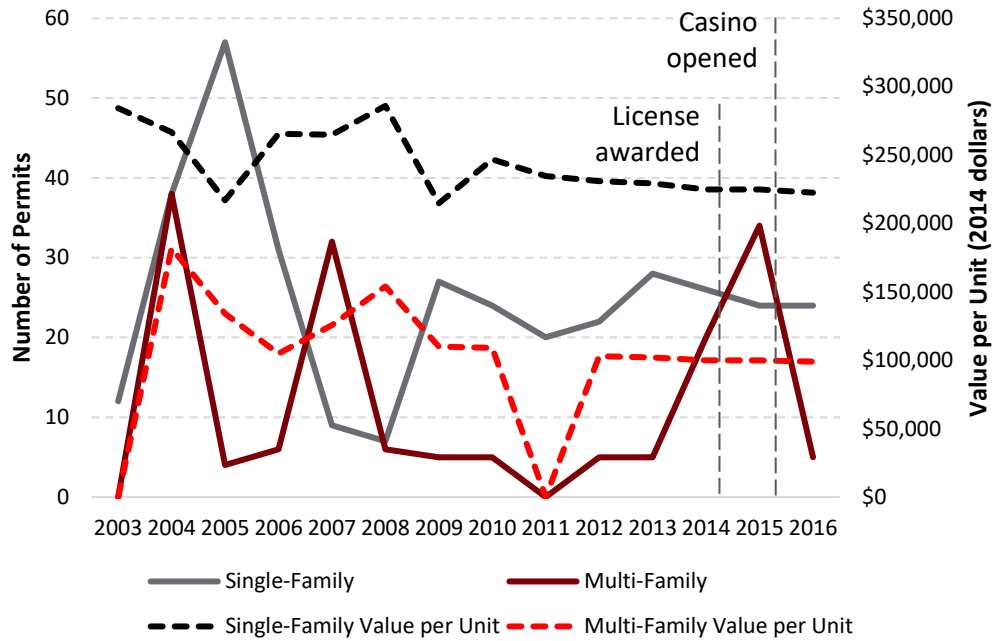
Source: MA Department of Revenue, Division of Local Services

Residential Building Permits

The number of new residential building permits and their value is another index of real estate change. The data on building permits comes from the U.S. Census Bureau’s Manufacturing and Construction Division. The number of residential permits in a small community can differ greatly from year to year. We see this in the following figure, where the number of both single-family and multi-family permits oscillates widely (Renski & Peake, 2018). The monetary value of issued permits tends to be more stable, although the small number of permits make this data highly sensitive to outliers. Whether considering the number of residential permits issued or their average value, there is little evidence to suggest that PPC has led to either a rise or decline in residential permits.²² Neither the timing of when the license was awarded nor the opening of the casino is associated with a spike or dip in permits. The one possible exception is for the number of multi-family permits, which experienced a sharp rise in 2014 commensurate with the awarding of the expanded gaming license. It is difficult to attribute this to the opening of PPC, however, as the number of multi-family permits is highly volatile. Furthermore, the rise in multi-family permits was only temporary, dipping back down to just a mere handful in 2016.

²² The value of residential permits is measured as the total value of permits divided by the number of units (not permits). This makes it easier to compare values when grossly different numbers of units are covered under a single permit.

Figure 23. Number and Per Unit Value of Residential Building Permits in Plainville, 2014 dollars



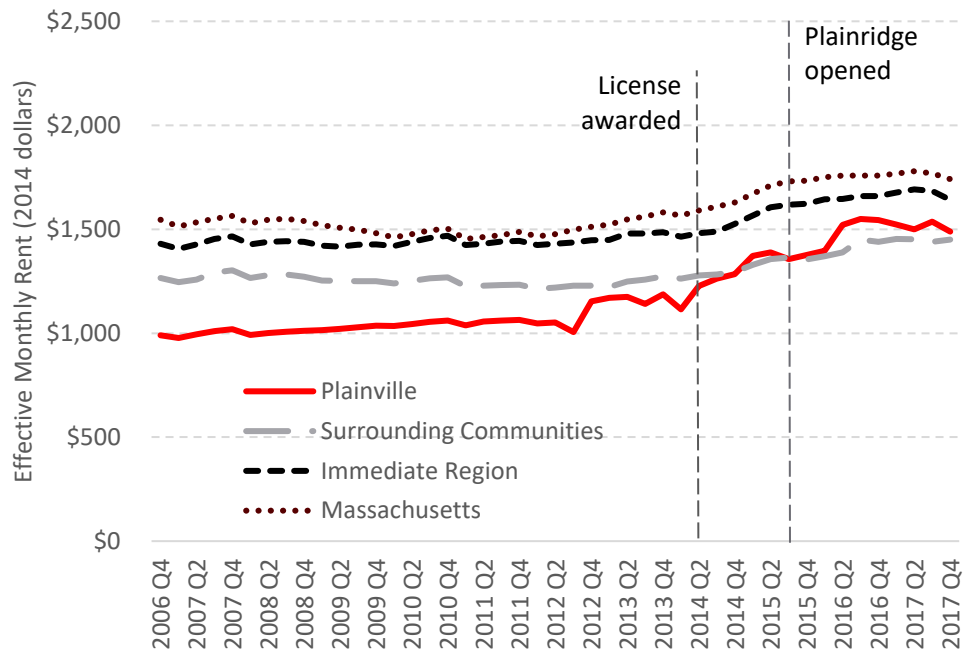
Source: U.S. Census Bureau, Residential Construction Branch

Rental Costs

Rentals are a relatively small component of the Plainville housing market with rentals making up only 23% of occupied housing units in Plainville. This is compared to the statewide average of 37% (Renski & Peake, 2018, 2017). While below the state average, Plainville’s rental market is comparable to other communities in the area. Among the five surrounding communities, rental shares range from a low of 16% (Wrentham) to a high of 35% (Attleboro). The majority of Plainville renters (81%) live in multi-unit structures—such as apartment buildings with more than two units.

A proprietary database by CoStar is used to track changes in the price of rental housing. Effective monthly rents in Plainville are lower than both state and regional (Bristol and Norfolk Counties) averages and have been on a general upward trend since 2011 (Figure 24). Rents have also been slightly higher in the months following the opening of PPC, otherwise they have plateaued since 2016. Rising rents coincide with declining rental vacancy rates in Plainville and surrounding communities.

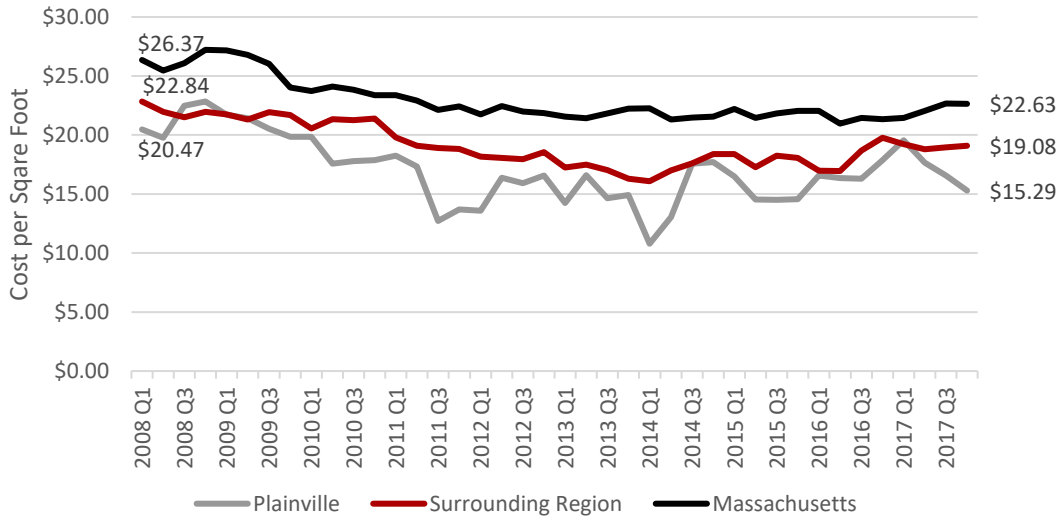
Figure 24. Effective Monthly Rents, Plainville, Surrounding Communities, Immediate Region, and State, 2006-2017



Source: The CoStar Group Inc.

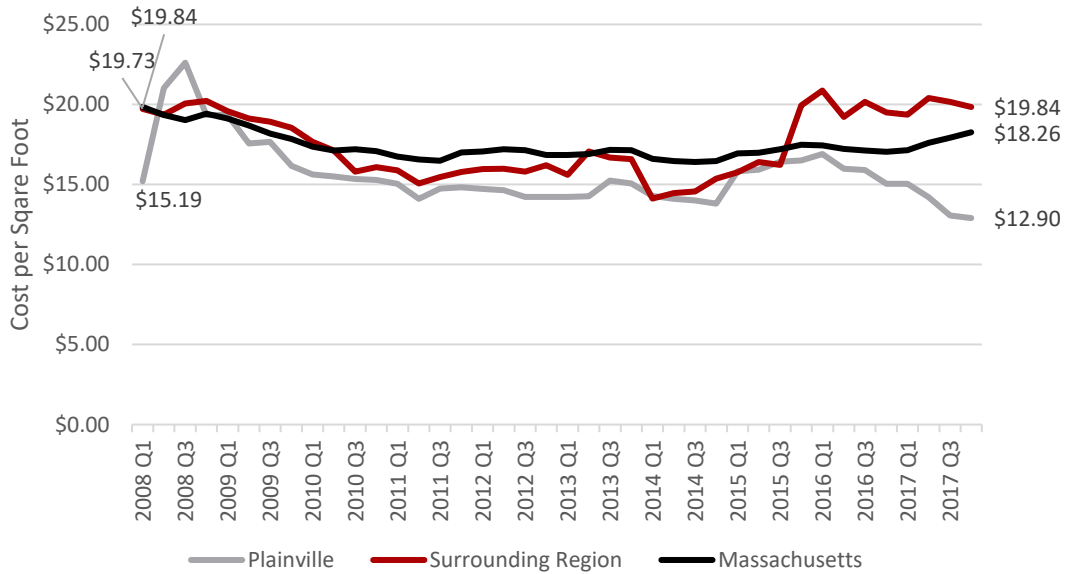
The following figures show commercial rent over time, with lease rates provided separately for industrial and commercial space, and with commercial leases subdivided into office and non-office real estate. Office real estate in Plainville leases at a lower rate than the state and the immediate region. However, lease rates for non-office commercial properties in Plainville have been roughly similar to those of Massachusetts and the surrounding region, although by the fourth quarter of 2017, the lease rate in Plainville had fallen to just over two-thirds that of Massachusetts as a whole (Figure 26). Industrial lease rates have been more similar between Plainville, the surrounding region, and the Commonwealth. Since the third quarter of 2014, industrial lease rates have actually been higher in Plainville than in the surrounding region and for the state as a whole.

Figure 25. Office Commercial Lease Rates (2017 dollars)



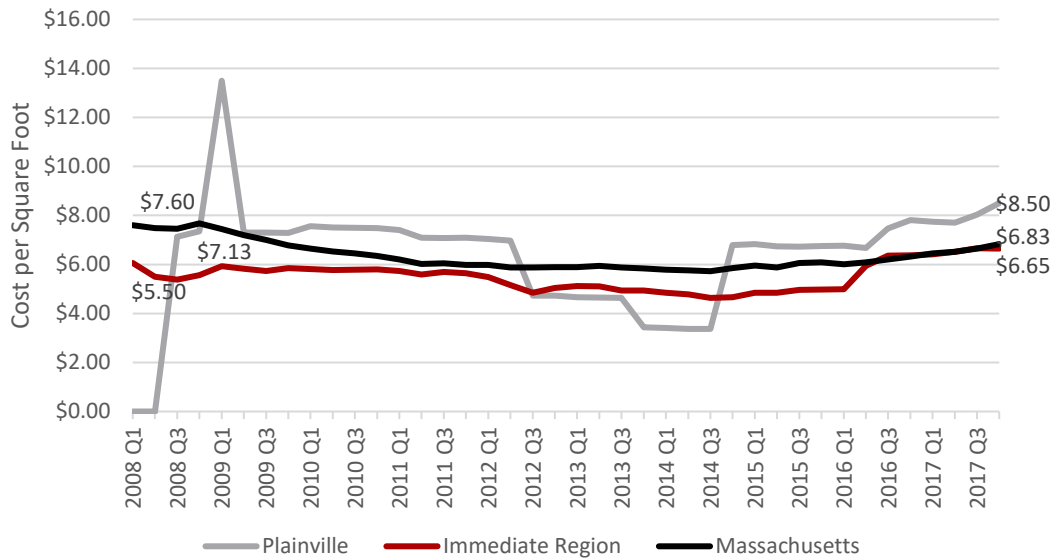
Source: The CoStar Group Inc.

Figure 26. Non-Office Commercial Lease Rates (2017 dollars)



Source: The CoStar Group Inc.

Figure 27. Industrial Lease Rates (2017 dollars)



Source: The CoStar Group Inc.

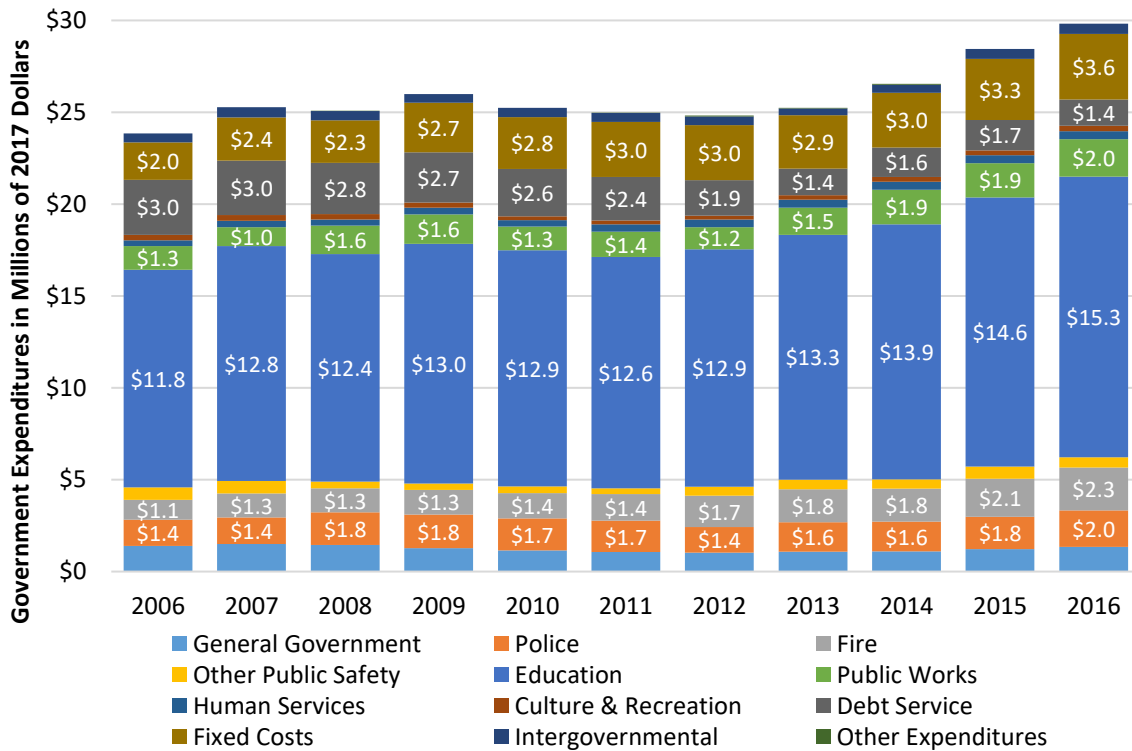
GOVERNMENT AND FISCAL

Expenditure

Physical infrastructure upgrades for new gambling venues are occasionally financed in part or wholly by government rather than by a private developer. In these cases, investment is construed as more of a ‘cost’, although this cost will be offset by the increased value/assets of these infrastructure upgrades to the community. However, *service* upgrades that are needed (police, fire services, public transportation) do not increase the physical assets of the community and the costs of these enhanced services are commonly borne by government. Furthermore, the *maintenance* of physical infrastructure (e.g., roads, utilities, sewage) is also usually a government responsibility, and a new gambling venue puts added stress on this physical infrastructure because of the increased patronage of the area.

Figure 28 shows Plainville’s operating budget from FY2006 to FY2016. Plainville’s expenditures grew 25% from \$23.9M in FY2006 to \$29.8M in FY2016 (in real 2017 dollars). The largest category of public spending in FY2016 was Education, followed distantly by Fixed Costs (e.g., workers’ compensation, unemployment, health insurance, retirement, etc.) and Fire. These same three spending categories were the major sources of increased public spending in the 10-year period, as well as from FY2015 to FY2016. Increased population is the likely driver of increased educational spending. The basis for the other changes are unclear at this point. Plainville did receive funding for five additional police officers to mitigate the impact of PPC (Bruce, 2018).

Figure 28. Plainville Government Expenditures by Class, FY2006-FY2016 (2017 dollars, millions)



Source: MA Department of Revenue (DOR), Division of Local Services (DLS)
 Note: CIP Tax Levy denotes Commercial, Industrial, and Personal Property.

A key informant from Plainville had the following comments about operational expenses attributable to the casino:

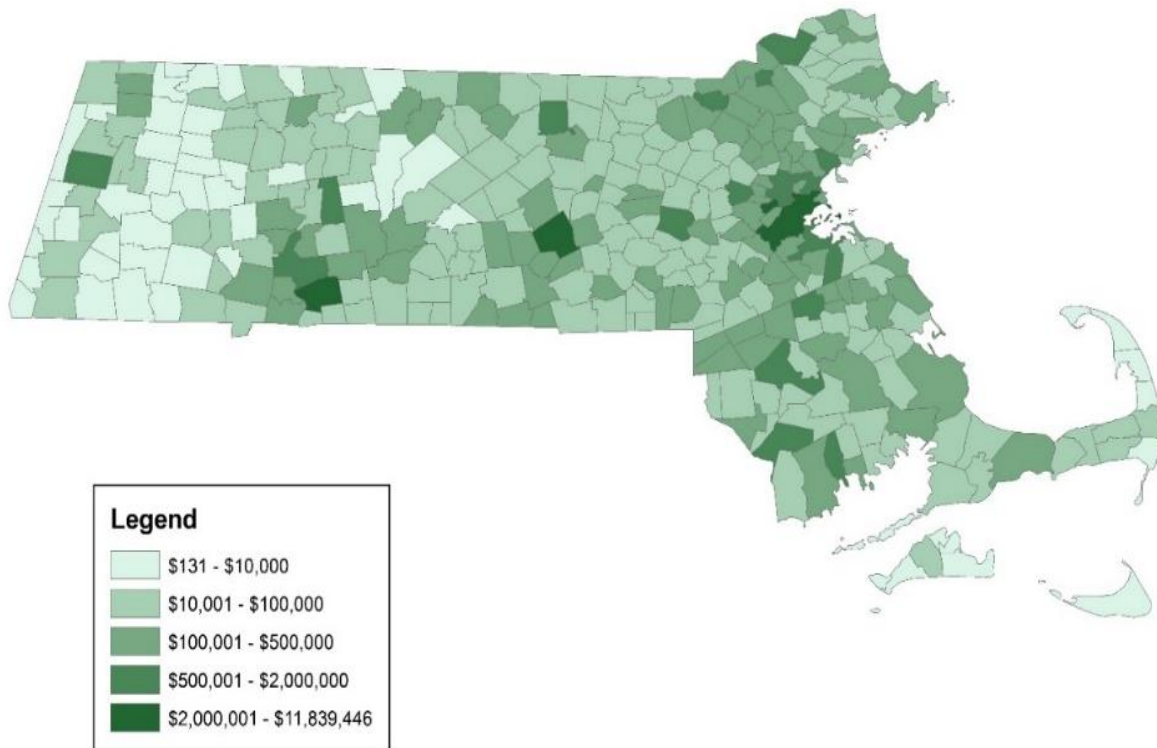
“Extra staff for police and fire were part of our host community agreement. So I would say it is right in line with what we expected and what we planned for. [...] Our biggest increase in call volume has been EMS medical calls at the casino. And that is exactly what we expected. [...] Other than [police and fire], we haven’t made any major increases in the operational budget.” Jennifer Thompson, Town Administrator, Plainville, MA, January 25, 2018, 10am-11am, phone interview.

Revenue

Local Aid from GGR

As reported earlier in Table 25, GGR taxes for PPC amounted to \$81.4 million in FY2016, \$77.6 million in FY2017, and \$83.3 million in FY2018, with 82% of this going to Local Aid. The formula for distribution of Local Aid is the same one used to distribute lottery revenues. It is based on a city or town’s population, income, and property values. Large and economically distressed communities receive a proportionally higher share. Figure 29 shows the calculated municipal distribution of Local Aid from GGR for each municipality in Massachusetts (Peake & Motamedi, 2017).

Figure 29. Distribution of Local Aid Money from PPC Gross Gaming Revenue by City/Town in FY2016



Source: MA State Legislature, Peake & Motamedi (2017)

When aggregated into the regions used for economic modelling, it becomes clear that the majority of Local Aid funds are distributed to the Metro Boston region. This is unsurprising given the sheer size and population density of the region, along with the fact that many of Massachusetts’ more economically distressed cities and towns are within this region.

Table 43. Distribution of Local Aid from Gross Gaming Revenue by Economic Region

Region	New Local Aid (Millions of Dollars)
Metro Boston	\$39.7
Southeast MA	\$9.3
Central MA	\$7.7
Pioneer Valley	\$7.7
Cape and Islands	\$0.6
Berkshires	\$1.4
Total	\$66.4

Source: MA State Legislature, Peake & Motamedi (2017)

Plainville’s Local Aid from GGR taxes on PPC (as seen in Figure 29) represents a very small amount relative to Plainville’s overall revenue, which is presented in Table 44. (Note: Local Aid from GGR taxes is part of overall State Aid.) Plainville revenue has been fairly flat from FY2010 to FY2016.

Table 44. Plainville Revenue by Source, 2010-2016 (2017 dollars, in millions)

Plainville	2010	2011	2012	2013	2014	2015	2016
Property Tax	\$17.8	\$17.2	\$17.1	\$17.6	\$16.5	\$17.3	\$18.1
State Aid	\$5.6	\$5.1	\$4.9	\$4.5	\$4.7	\$4.5	\$4.4
Local Receipts	\$5.4	\$5.1	\$5.2	\$5.1	\$5.0	\$5.0	\$4.8
All Other	\$1.2	\$0.8	\$1.8	\$1.6	\$1.7	\$1.6	\$1.6
Total	\$30.0	\$28.2	\$29.1	\$28.9	\$27.8	\$28.4	\$28.9

Source: MA Department of Revenue, Division of Local Services. Note: Local Receipts represent revenue from things such as motor vehicle excise fees and taxes collected from hotels and motels.

Host and Surrounding Community Agreements

A much larger source of revenue for the Town of Plainville is from the [Host Community Agreement](#) they have with PPC. This consists of \$1.5 million in annual property taxes that increases by 2.5% per year; \$100,000 annually as a Community Impact Fee; \$2.7 million annually for the first five years of operation (changing to 1.5% of PPC GGR in the 6th to 10th year of operation and 2.0% of PPC GGR in the 11th and following years), and all building permit fees which are estimated to be \$816,000.

The three key informants from Plainville all had positive things to say about the revenue that the town received from PPC:

“They are our largest taxpayer by a lot. They pay 7.9% of our taxes in the Town of Plainville. The next largest taxpayer pays 2.9% of our taxes. [...] We have a great bond rating, we had an upgrade in April. [...] [Moody’s] had an awful lot of interest in our host community fee. [...] They know that it is a big deal. To have a dedicated revenue stream that is identifiable and quantifiable. [...] We got a great rate, we paid cash, \$2.5 million cash from that fund and issued a bond of \$30 million. [...] I think the way this host community agreement was developed, the two pronged approach to it, was genius. [...] \$225,000 a month is sent to the town treasurer. [...] This money is dedicated to capital projects or land acquisitions. Period and amen. It cannot be used for the operating budget. [...] We are not going to have to borrow for dump trucks and police radios and a radio tower and those types of things. We are going to be able to pay cash for them. If you couldn’t pay cash for them that obviously takes away from operating budgets.” Kathleen Parker, Treasurer of Plainville, MA, February 1, 2018, 11-12pm, 2018, phone interview.

“It is the only town hall and public safety building in Massachusetts where not a penny of tax dollars had to be used, which is amazing. The residents were thrilled. [...] The host community agreement, we have only used for capital projects. We used it twice. Once to buy an open space parcel. So it has preserved 103 acres of open space in Plainville and the second one is the town hall and the public safety building.” Jennifer Thompson, Town Administrator, Plainville, MA, January 25, 2018, 10am-11am, 2018, phone interview.

“We have not been able to invest heavily into the infrastructure of this town for quite some time and this tool has allowed us to do that without burdening the people of the town with additional taxes.” Lou LeBlanc, Chairman of the Board of Health, Plainville, MA, March 1, 2018, 5-6pm, 2018, phone interview.

It is uncertain at this point whether the municipal revenue from host and surrounding community agreements, local taxes on the casino, and Local Aid fully offset the increased municipal infrastructure costs caused by the casino as well as the casino expenditure of local residents (which is generally proportionately higher than for people at a greater distance from the casino).

SUMMARY OF SOCIOECONOMIC IMPACTS IN 2018

In general, it can be said that the impacts of PPC to date (as of 2018) have largely been positive, with clear positive economic impacts along with relatively minor negative social impacts. It is important to recognize that the present results do not necessarily portend similar results for the Region A—Encore Boston Harbor—or Region B—MGM Springfield—casinos. There is also no guarantee that the present PPC results will continue to occur unabated in future years. Subsequent impact reports will address these issues.

The profile of specific impacts for PPC as of 2018 is described below.

SOCIAL AND HEALTH IMPACTS

Problem Gambling and Related Indices

The evidence leads us to conclude that no significant changes in problem gambling or related indices have likely occurred in the PPC H&SC. This is likely due to the fairly high level of casino gambling (23.2%) that existed in the region prior to the introduction of PPC, combined with the close proximity of Rhode Island and Connecticut casinos that have been in operation since the early 1990s. The evidence for an absence of change in problem gambling and related indices consists of the following:

- No significant change was found in the prevalence of problem gambling or at-risk gambling in the Targeted Population Surveys of the PPC H&SC from Baseline (2014) to Follow-Up (2016/2017). Furthermore, these population surveys detected no increase in the number of problem gamblers wanting or seeking help for problem gambling; or the number of regular gamblers reporting financial problems, filing for bankruptcy, or work/school problems because of gambling; or reporting an increase in relationship or family-related problems (divorce, separation, domestic violence, child neglect, child welfare involvement) due to gambling; or reporting suicidal ideation because of gambling.
- There has been no reported change in the number of Gamblers Anonymous meetings in the Plainville area or the number of people attending these meetings.
- Key informants in the Town of Plainville report no obvious impact of PPC on problem gambling.
- There has been no change in the number of personal bankruptcy filings in Norfolk County, where the Town of Plainville is situated.
- There have been no changes in the number of divorce filings, restraining orders, and cases of child welfare involvement in Norfolk County.

Crime

There has been no significant increase in overall crime in the PPC H&SC. However, there has been an increase in credit card fraud as well as an increase in reports of lost property, reports of suspicious activity, and traffic complaints in the Town of Plainville that can likely be attributed to PPC. These increases, in turn, are likely

largely attributable to an increased volume of visitors to the area. The basis for these conclusions consists of the following:

- Plainville police statistics show an increase in property crimes and total crimes at PPC in the two years after it became a casino compared to the prior two years when it was solely a racetrack.
- Despite an increase in crime at PPC, there has been no significant change in the annual number of property, violent, or total crimes recorded by police in the Town of Plainville from 2010-2015 compared to 2016-2017 (these numbers being inclusive of PPC crimes). However, 7 out of 46 individual types of crime and calls for service did significantly increase, whereas one significantly decreased. An examination of the original written police reports suggests that credit card fraud, lost property reports, reports of suspicious activity, and traffic complaints are the only incidents that can likely be attributed to the presence of the casino.
- In the PPC H&SC, the collective local police force statistics show a significant decrease in the overall annual number of property and total crimes from 2010-2015 compared to 2016-2017, but no change in violent crimes. However, 6 out of 46 individual types of crime and calls for service did significantly increase and 2 out of 46 significantly decreased. Examination of the original written police reports as well as comparisons with control communities suggest that credit card fraud is the only activity that has likely increased as a result of the casino.
- There has been no significant change in the number of people in the Targeted Population Surveys of the PPC H&SC who report their gambling has caused them to commit an illegal act or be arrested in the 2014 Baseline Survey compared to the 2016/2017 Follow-Up Survey.
- Uniform Crime Reporting statistics for the Town of Plainville show there to be a decrease in violent crime in 2015 and 2016 relative to previous years and no marked change in property crime.
- There has been no change in the recorded number of illegal gambling offenses in the Town of Plainville, which were negligible even prior to PPC opening.

Attitudes

There is evidence of a significant change of attitudes toward gambling in the PPC H&SC. The basis for this conclusion is the following:

- In the 2014 versus 2016/2017 Targeted Population Surveys of the PPC H&SC, there was a significant a) decrease in the percentage of people who indicated that gambling is not available enough and a corresponding increase in the percentage of people who believed the current availability of gambling is fine; b) decrease in the percentage of people who believe that casinos will be beneficial to Massachusetts and a corresponding increase in the percentage of people who believe they will be neither beneficial nor harmful; and c) increase in the percentage of people who believe the new casino in their community will be neither beneficial nor harmful to their community. There was no significant change found in people's opinion concerning whether all, some, or no types of gambling should be legal; whether gambling was morally wrong; and the perceived benefit or harm of gambling to society.
- Key informants in the Town of Plainville indicated that Plainville residents had very positive attitudes toward the introduction and impact of PPC.

Population Health and Leisure

There is no evidence of any significant change in population health due to gambling or change in gambling as a leisure activity. This conclusion is based on the following:

- There was no significant change in the 2014 versus 2016/2017 Targeted Population Surveys of the PPC H&SC in self-rated general health, health-related gambling problems, happiness, stress, number of people who reported seeking help for their use of alcohol or drugs, or the number of people reporting having a behavioral addiction (overeating, sex, shopping, exercise, etc.).
- There was also no change in the 2014 versus 2016/2017 Targeted Population Surveys of the PPC H&SC in overall participation rates in gambling, the number of gambling formats engaged in, gambling expenditure, frequency of gambling, or the rated importance of gambling as a leisure activity.
- Key informants from Plainville noted that PPC provided additional music and entertainment options to the local community.
- While there has been a significant increase in opioid-related deaths in Norfolk and Bristol Counties from 2013/2014 to 2016/2017, this is a nation-wide trend unrelated to gambling.

Demographics

There is no evidence of any change in demographics in the PPC H&SC. This conclusion is based on the following:

- While the Town of Plainville's population has increased faster than in other areas of the state, this trend was evident for several years prior to PPC. Also, the PPC Employee Survey found that only 75 employees of PPC reported moving to take their job, with only 13 of these individuals moving to Plainville.
- There were no obvious changes in the percentage of elementary and secondary students in Plainville with English as a second language, being an English language learner, or having a disability.
- Plainville key informants reported no influx of new students to the school system.

Environment

At a regional level, there is evidence of some increase in traffic and noise, but no compelling evidence of an increase in traffic accidents or traffic fatalities. The basis for this conclusion consists of the following:

- While traffic fatalities have increased slightly in association with casino construction and operation, attribution to the casino is weak because of the 2016 increase in the state as a whole, the fact that the increase in fatalities is for the entire County of Norfolk, and because of the absence of any traffic fatalities in the Town of Plainville.
- Between 2014 and 2016, there has been a 9% increase in traffic volume in Plainville.
- Between 2010-2015 compared to 2016-2017, there was a 5.4% increase in traffic collisions in Plainville and a 40.3% increase in traffic complaints. For the PPC H&SC, there was an 8.5% increase in traffic collisions and a 15.0% increase in traffic complaints.
- Key informants from Plainville reported no increase in traffic problems related to the new casino.
- The Plainville Board of Health received noise complaints during construction of PPC, but not during its operation.

ECONOMIC AND FISCAL IMPACTS

Casino Expenditure and Revenue

The building and operation of PPC has had several clear positive economic impacts:

- \$150.2 million was spent building PPC, with the large majority of this money coming from Penn National Gaming and 86.7% of this money being spent within Massachusetts.
 - \$13.3 million was directly spent on architectural and engineering services from 2010 to 2014. Roughly 99% was spent within Massachusetts, with \$6.7 million going to the Metro Boston region and \$6.0 million going to Bristol and Norfolk Counties.
 - \$115.4 million was directly spent on building and renovating the actual building structure, with the largest categories being construction (\$91.9 million) and insurance and bonds (\$15.1 million). A total of 85.6% of this money was spent in Massachusetts, with two-thirds of the overall economic activity generated by this construction occurring in Bristol and Norfolk Counties.
 - \$21.5 million was directly spent on wages for people involved in the construction, with 84.6% being paid to residents of Massachusetts. The number of people on the construction payroll averaged 554 across all quarters of the construction period, with 81.4% of these individuals being from Massachusetts and the large majority of construction jobs being occupied by residents of Bristol and Norfolk Counties.
 - Economic modelling suggests that this direct spending spawned significant additional economic activity within Massachusetts, creating a total of 1,286 net new jobs, \$104.4 million in net new personal income, and \$121.8 million in net new economic activity in the state, with most of this occurring within Bristol and Norfolk Counties.
- Total operating revenue from PPC (inclusive of horse racing, lottery sales, and non-gambling revenue) was approximately \$104.1 million in calendar 2015, \$176.0 million in calendar 2016, and is estimated to be approximately \$185.7 million in 2017. Gambling constitutes 95% of all operating revenue and slot machines and electronic table games account for 90% of all gambling revenue. An additional \$4.0 million is estimated to have been spent by patrons in 2016 on food, retail shopping, and other amenities in the local area as part of their visit to the casino.
 - The Plainridge Park Casino Patron Survey established that 11.4% of PPC patrons are from the Host and Surrounding Communities, 66.5% are from other parts of Massachusetts, 19.2% are from out-of-state, and 2.9% have an unknown geographic origin. The largest source of PPC revenue is thought to be 'recaptured revenue' from Massachusetts residents who would have gambled out-of-state if not for the presence of PPC. However, the exact amount and proportion is uncertain due to conflicting data. What is clear is that approximately 20.8% of total revenue at PPC is potentially 'new' money to the state from out-of-state patrons. Another 21.2% is estimated to be money from Massachusetts residents that has been 'reallocated' from other economic sectors within Massachusetts.
- \$129.5 million was incurred in operational expenses in PPC's first year of operation, with 87.0% of this money being spent within Massachusetts.
 - \$81.4 million was paid in gross gaming tax to the state of Massachusetts.
 - \$30.3 million was paid to a range of private sector vendors as well as local, state, and federal governments. A total of 63.2% of this money was paid to vendors and governments within Massachusetts.

- \$17.8 million was spent on employee wages in the first year of operation, with 35.0% going to employees from Southeastern Massachusetts, 28.6% going to Metro Boston region employees, and 31.7% going to out-of-state employees.
- Data provided by Plainridge Park Casino established that 893 people were hired in the first year (64.2% full-time employees), with 40.8% being from Southeastern Massachusetts, 25.6% from Metro Boston, and 28.7% being from out-of-state. Only 75 people moved to take their employment, with 13 of these individuals moving to Plainville. There has been significant employee turnover, as only 512-570 people have been employed at any given time, with 512 being employed as of June 2016. Importantly, a significant portion of these casino jobs are 'new' jobs, as 15.5% of people were unemployed and 34.7% were employed part-time prior to being hired.
- Economic modelling suggests that this direct spending spawned significant additional economic activity within Massachusetts. After accounting for losses to other sectors of the economy due to reallocated consumer spending to PPC, it is projected that a total of 2,417 net new jobs were created in the first year of operation. This resulted in the creation of \$143.7 million in net new personal income and \$362.4 million in net new economic activity in the state, with most of this occurring within the Metro Boston region. It is anticipated that roughly similar personal income and economic activity amounts will also be produced for each subsequent year of operation.
- The amount of annual net profit for Penn National Gaming (i.e., after operating expenses) and percentage of this net profit that stays in Massachusetts has not been determined. Nonetheless, it constitutes the minority of the overall revenue and, even if none of this money stays in Massachusetts, it is clear that PPC has resulted in a significant economic gain for the State of Massachusetts.

Business Establishments

There is no strong direct evidence that the overall number of businesses has significantly changed as a direct result of the new PPC or that the construction and/or operation of PPC has differentially impacted certain types of businesses. However, there has been some rejuvenation of horse racing at Plainridge Racecourse, and there is indirect evidence of an impact on business establishments and revenue. This conclusion is based on the following observations:

- The increase in the number of businesses in Plainville and Norfolk County in the three years of construction and operation (2014-2016) relative to the two prior years (2012-2013) is at a lower rate than the state as a whole during this same time period.
- The number of business bankruptcies in Norfolk County is very small relative to the total number of businesses. There is no strong trend in these bankruptcies over time that allow them to be attributed to PPC, especially when considering the natural year-to-year variation in the data.
- There are several notable increases in the percentage of businesses in each industry sector in Norfolk County. While some of these changes are likely related to PPC (e.g., increase in number of construction businesses), it is clear that some of these increases reflect statewide changes, some of these increases reflect population increases, and some of these increases are unrelated to casino introduction. That said, economic modelling projects \$72.4 million in additional economic activity in Bristol and Norfolk Counties due to PPC construction and \$356.2 million in additional economic activity in the Metro Boston and Southeastern regions associated with PPC operation prior to considering reallocation.
- Key informants from Plainville report an increase in the number of businesses and a positive impact on restaurants.
- There was no significant change in population participation estimates in any type of gambling in the Plainville Baseline Targeted Population Survey in 2014 compared to the Follow-Up Survey of 2016/2017, with the exception of private betting, which significantly declined.

- Plainville Racecourse has seen a significant increase in the number of races since 2014 and some stabilization of overall amount wagered. This is likely attributable to the funds received from the [Race Horse Development Fund](#) (18% of gross profits on slots and electronic table games from PPC goes to this fund).
- There has been a minor revenue decline in charitable gambling from 2014 to 2016, but this follows a trend that has been occurring for several years prior to PPC.
- There has been an increase in lottery revenue in the Town of Plainville that has been offset by a decline in lottery revenue in the adjacent H&SC.

Employment

At a regional level, there is evidence of an increase in employment numbers in the Bristol and Norfolk Counties and the Town of Plainville that is attributable to the new casino. The evidence for this consists of the following:

- Plainville's 372 businesses employed 4,614 people in 2016, an increase of 17.3% since 2014. This compares to employment growth of 4.0% in the state and 3.2% in Norfolk and Bristol Counties from 2014 to 2016.
- PPC created 500+ jobs, with 25.6% of these being filled by people residing in the region of the state in which Plainville is located.
- When comparing employment numbers in Plainville from 2012-2013 to 2014-2016, one of the largest increases was in the construction sector, which is plausibly related to the building of the casino and is consistent with the increased employment reported by PPC related to construction.
- Key informants from Plainville report increased local employment due to PPC.
- The REMI model projected 831 jobs in Bristol and Norfolk Counties due to PPC construction spending as well as 2,272 jobs in the Metro Boston and Southeast regions due to PPC operational expenses prior to considering reallocation.

Personal Income

At a regional level, it is possible that the slight increase in wages and slight decrease in poverty rate in Plainville are attributable to the new casino, but this is uncertain:

- Plainville experienced a larger increase in the average wage from 2013/2014 to 2016 (8.2%) than either the immediate region (3.4%) or the state (4.8%), and a larger increase (37.9%) from 2009 to 2016 than any of the surrounding communities.
- While the poverty rate increased slightly in both Norfolk County and Massachusetts in the five years from 2008-2012 relative to 2012-2016, it decreased in Plainville. The 2016 poverty rate in Plainville (3.6%) is significantly lower than both Norfolk County and the state.
- The REMI model projected \$52.5 million in additional personal income in Bristol and Norfolk Counties due to PPC construction spending as well as \$130.4 million in additional personal income (on an annual basis) in the Metro Boston and Southeast regions due to PPC operational expenses prior to considering reallocation.

Real Estate and Housing

At a regional level, it is possible that property values have increased in Plainville, which can be partly attributable to the casino. It is unlikely, however, that the casino has had an impact on commercial or industrial lease rates. The evidence for this consists of the following:

- After years of decline and/or stable values, there was an increase in property assessment values in FY2016, driven primarily by an increase in residential and commercial values.
- Office and non-office commercial lease rates have continued to be below the rates in the surrounding region and the state. While industrial lease rates are higher in Plainville than in the surrounding communities, these rates were historically higher prior to 2012 as well.

Government and Fiscal

While the Town of Plainville has experienced increased government expenditures coincident with the introduction of PPC, the main driver of these increased costs has been the increase in population. In terms of revenue, each of the 351 towns and cities in Massachusetts receives money (Local Aid) from a tax on casino slot machine and table game revenue, with these amounts being proportional to population size and economic disadvantage. Much more important to the Host and Surrounding Communities are the individual agreements each have with the local casino that confers significant financial transfers to the community. It is uncertain at this point whether municipal revenue from host and surrounding community agreements, local taxes on the casino, and Local Aid fully offsets the increased municipal infrastructure costs caused by the casino as well as the casino spending of local residents.

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