

Lottery Revenue and Plainridge Park Casino: First Year of Casino Operation

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Overview and Context

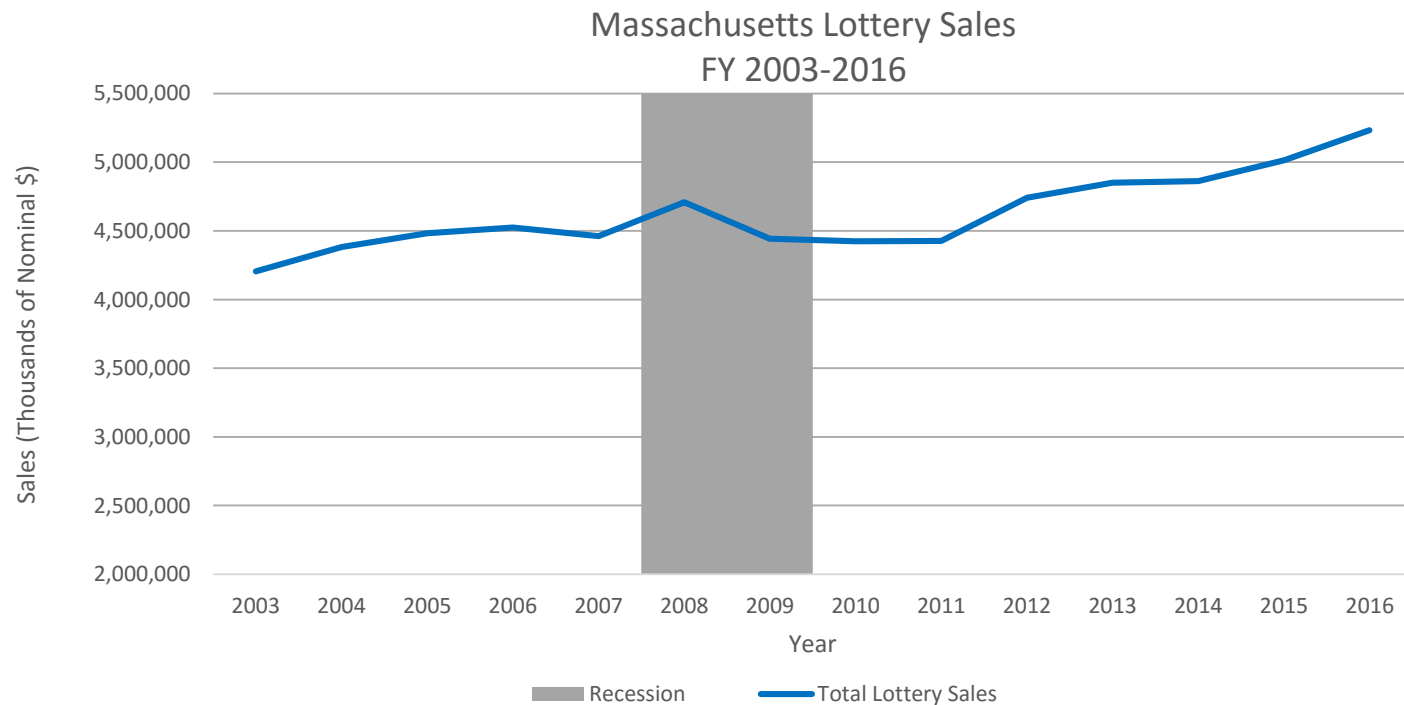
- Focus on impact of Plainridge Park Casino (PPC)
- Results presented by:
 - fiscal year data (2003-2016).
 - year-over-year agent level sales (6/15/2014-6/20/2015 *compared to* 6/21/2015-6/25/2016).
 - bi-weekly agent-level sales (6/15/2014-10/8/2016).
- Analyze sales statewide, in host and surrounding communities, and varying distances from casino

Overview of Key Findings

- No widespread decrease in lottery revenue following the opening of PPC.
- Lottery revenue in areas near PPC does not decline, on average.
- Lottery revenue in areas near PPC grows more slowly, on average, than rest of Massachusetts.
- Results are short term and not reflective of future results or other casino openings.

Massachusetts Lottery Trends

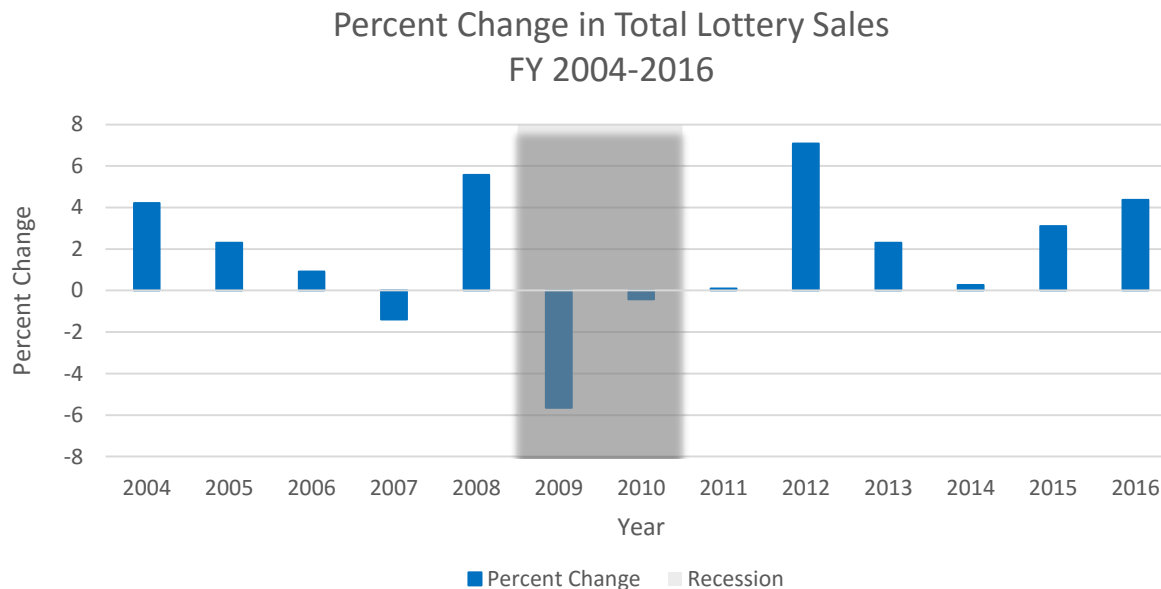
- MA lottery sales growth slowed during recession. Increased recently. Average annual growth rate 2003-2016: 1.70%



Nominal Dollars, FY 2003-2016. Source: MA Lottery

Percent Change: Statewide Sales

- Growth outside of recession years generally positive, but variable. FY 16 sales up 4.3%.



Percent Change in Nominal Dollars. Source: MA Lottery

Plainville and Surrounding Communities

- Plainville and surrounding communities. Average annual growth rate 2003-2016: 2.28%



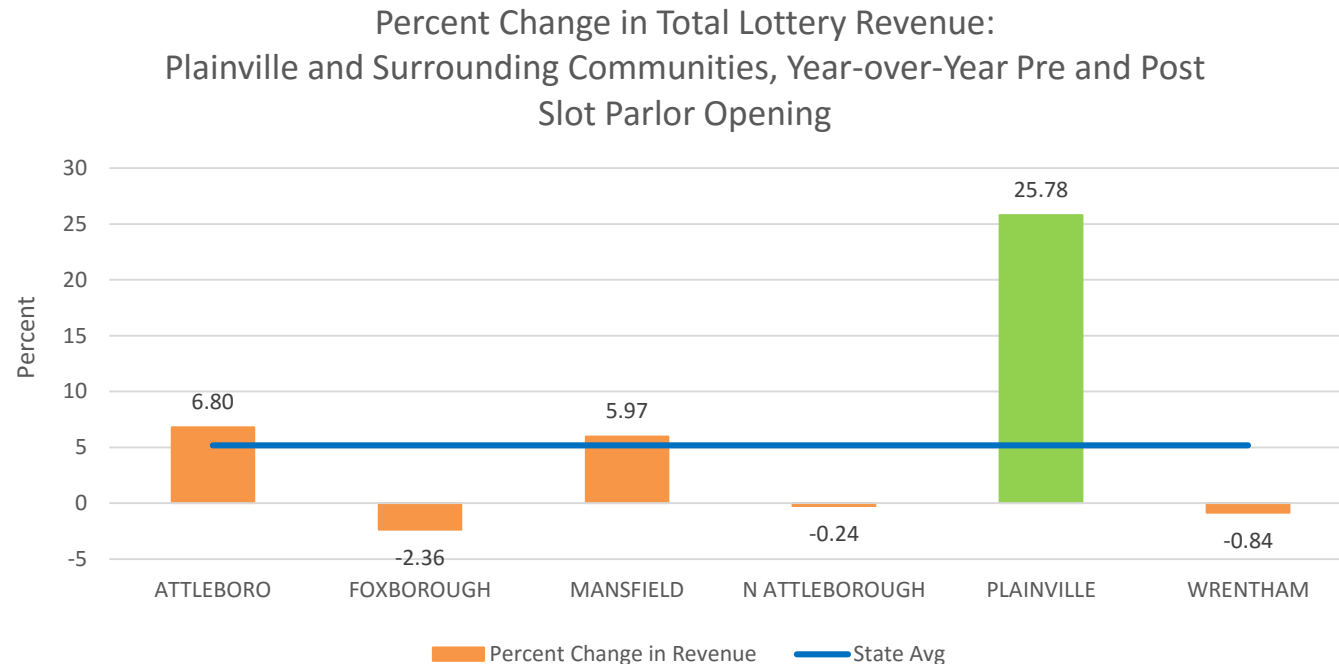
Nominal Dollars, FY 2003-2016. Source: MA Lottery

Weekly Lottery Outlet Data

- MA Lottery providing weekly sales data by agent. (Weekly sales for over 7,500 agents).
- Agent specific data unique opportunity and big advantage.
- Analyze lottery sales by community, driving time and/or mileage from casino, game, and multiple time periods (year over year; bi-weekly).

Year-over-Year Change in Plainville and Surrounding Communities

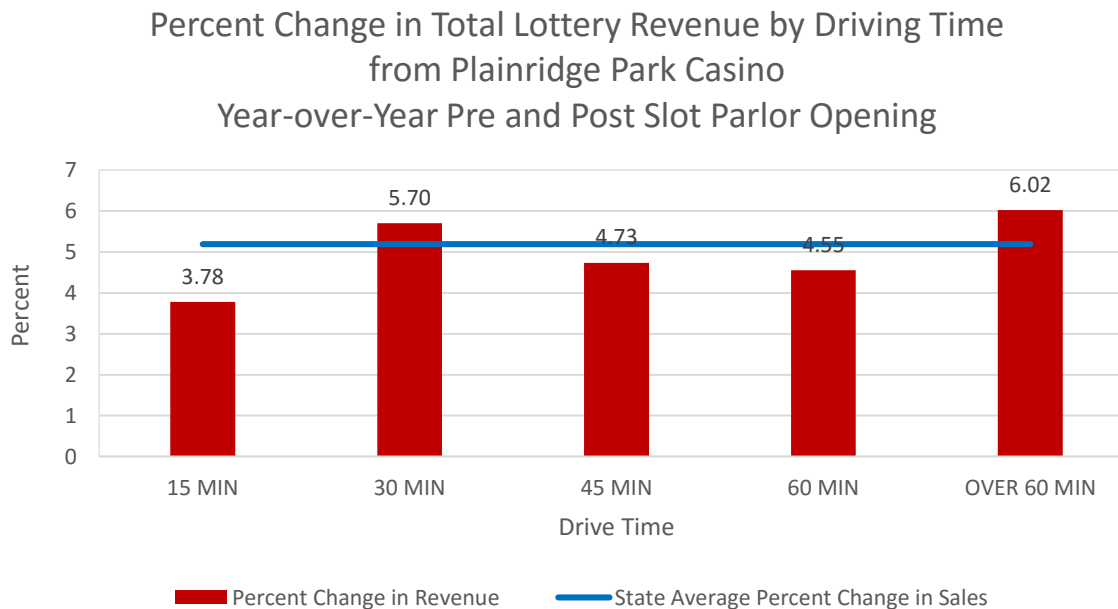
- Attleboro, Mansfield, Plainville exceed state average growth; Foxborough, N. Attleborough, Wrentham below.



Percent change in total lottery sales pre-casino, 6/15/2014-6/20/2015, vs. post casino, 6/21/2015-6/25/2016. Source: MA Lottery.

Year-over-Year Change by Drive Time from Plainridge Park Casino

- Lottery sales for agents 0-15 minutes drive away grow slightly less; 16-30 slightly more. No clear distance impact. Sales do not uniformly increase at greater distances.



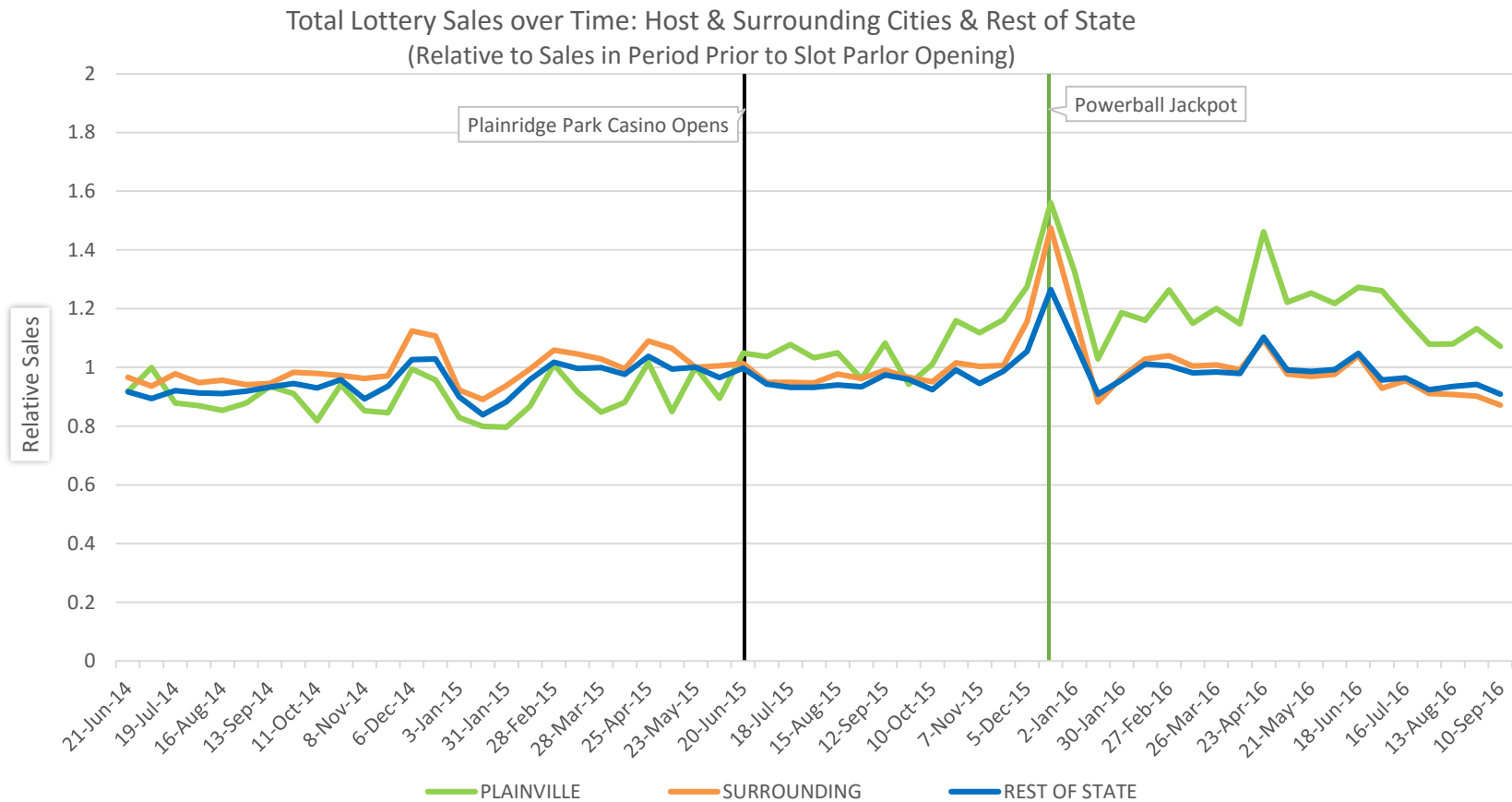
Percent change in total lottery sales pre-casino, 6/15/2014-6/20/2015, vs. post casino, 6/21/2015-6/25/2016. Source: MA Lottery.

Bi-Weekly Agent Level Trend Analysis

- Weekly sales data for June 2014-October 2016 allows more detailed analysis of trends/changes in sales before and after PPC opening.
- Analyzing bi-weekly sales (not all game sales recorded every week).
- Normalize sales data on period prior to PPC opening. This allows sales dynamics to be observed while insuring anonymity of individual vendors.

Community Relative Sales Analysis

(Sales relative to period prior to PPC opening)



Bi-weekly total lottery sales, relative to sales during 6/7/2015-6/20/2015. Host and surrounding communities and rest of state. Plainridge Park Casino Included in Plainville. Source: MA Lottery

Plainville Difference-in-Differences Analysis

- Agents in Plainville had a statistically significant increase in bi-weekly sales after PPC opens relative to rest of state.

Table 1: Difference-in-Difference Analysis^a

**Average Bi-Weekly Lottery Sales, by Agent(\$),
Plainville vs Rest of State**

	Before PPC	After PPC	Difference^a
Plainville ^b	24,503.58 (1,228.83)	31,546.29 (1,614.06)	7,042.71*** (1614.49)
Rest of State	26,898.27 (72.12)	27,875.50 (67.84)	977.23*** (99.40)
Difference in Differences			6,065.48*** (2,169.86)

^aA *, **, and *** represent statistical significance at the 10, 5, and 1 percent level, respectively. Only agents open over the whole sample period.

^bIncluding Plainridge Park

Surrounding Community Difference-in-Differences Analysis

- Average bi-weekly sales for agents in neighboring communities minimally impacted.

Table 2: Difference-in-Difference Analysis^a

**Average Bi-Weekly Lottery Sales, by Agent(\$),
Surrounding Communities vs Rest of State**

	Before PPC	After PPC	Difference^a
Surrounding Communities ^b	27,307.56 (663.90)	27,535.85 (618.44)	228.29 (910.01)
Rest of State	26,885.72 (72.33)	27,889.51 (68.09)	1,003.79*** (99.73)
Difference in Differences			-775.50 (750.20)

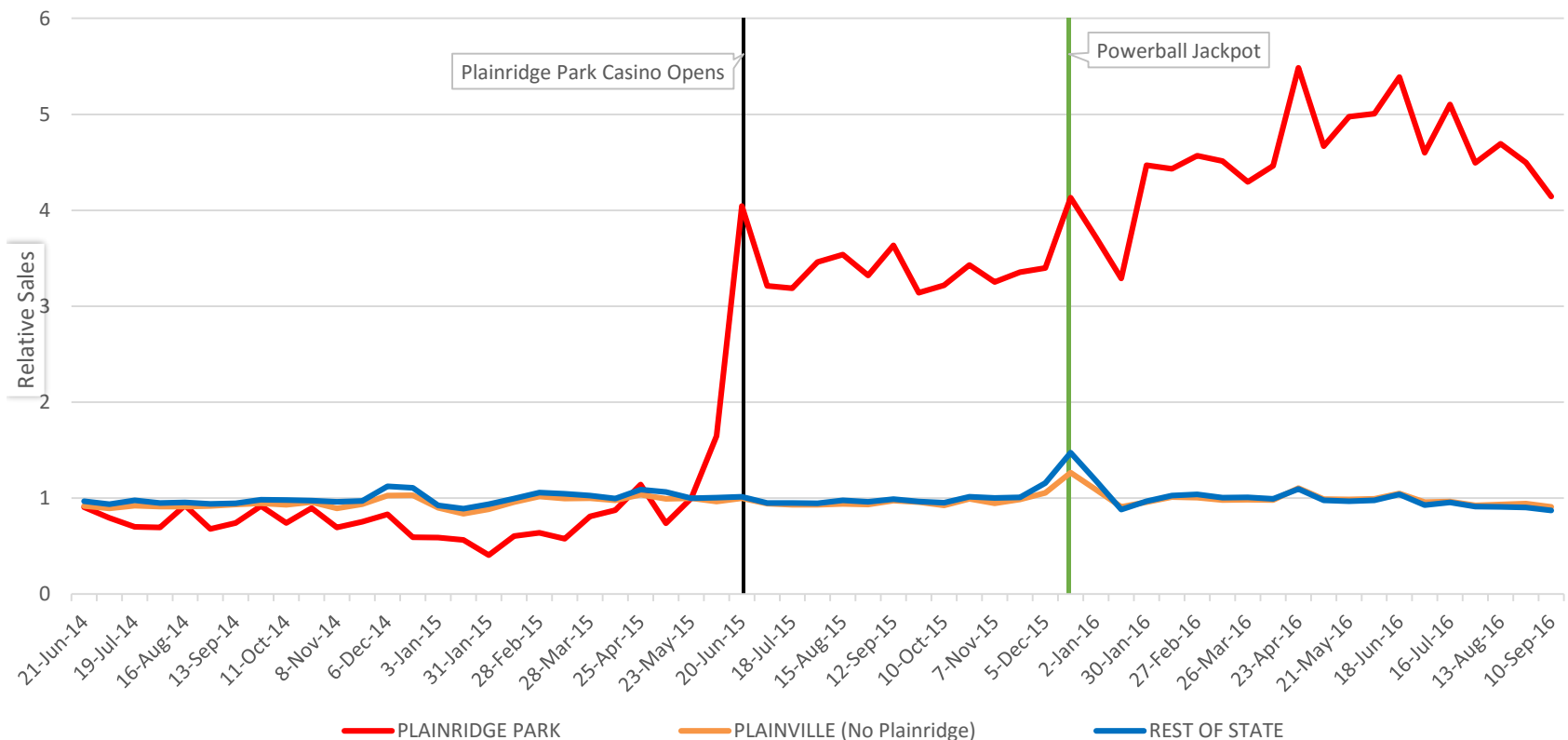
^aA *, **, and *** represent statistical significance at the 10, 5, and 1 percent level, respectively. Only agents open over the whole sample period.

^bAttleboro, Foxborough, Mansfield, N. Attleborough, Wrentham

Plainridge Park Casino Relative Sales Analysis

(Sales relative to period prior to casino opening)

Total Lottery Sales over Time: Plainridge Park, Rest of Plainville & Rest of State
(Relative to Sales in Period Prior to Slot Parlor Opening)

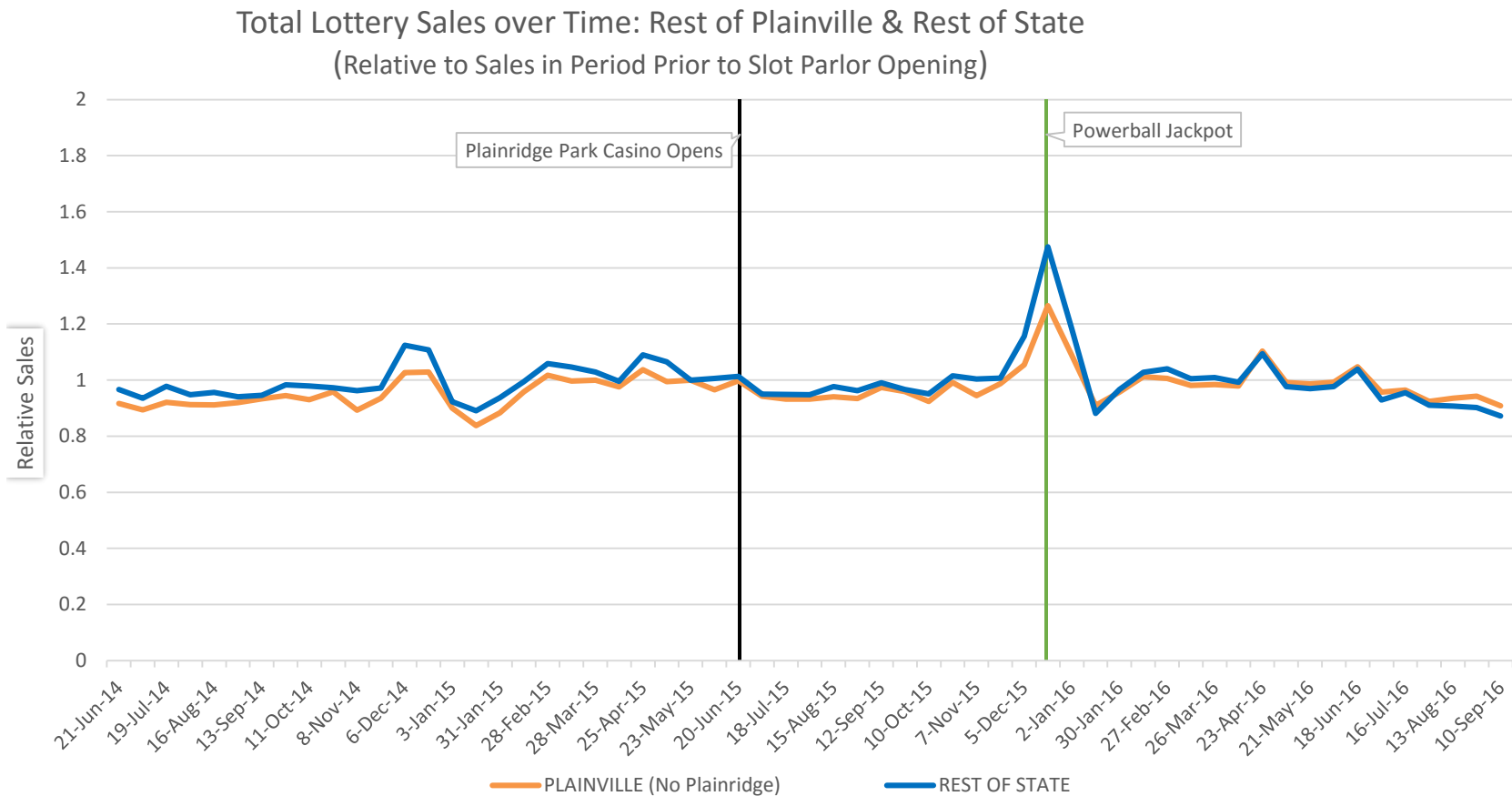


Bi-weekly total lottery sales, relative to sales during 6/7/2015-6/20/2015. Plainridge Park, other agents in Plainville, and rest of state.

Source: MA Lottery

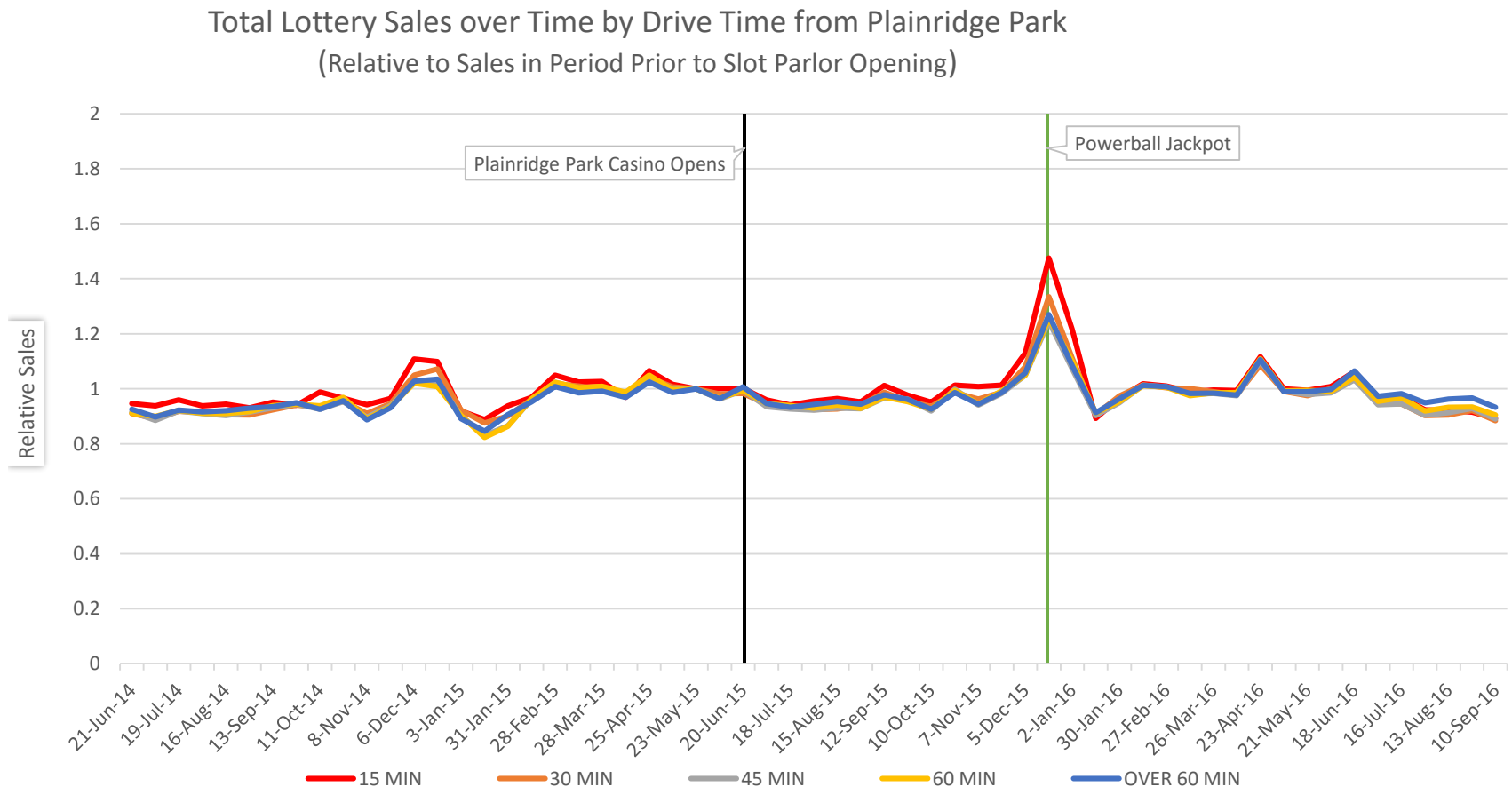
Other Plainville Agents Relative Sales Analysis

(Sales relative to period prior to casino opening)



Bi-weekly total lottery sales, relative to sales during 6/7/2015-6/20/2015. Other agents in Plainville and rest of state. Plainridge Park excluded. Source: MA Lottery

Relative Sales by Drive Distance from Plainridge Park Casino



Bi-weekly total lottery sales, relative to sales during 6/7/2015-6/20/2015. Average agent sales by driving distance from Plainridge Park. Plainridge Park included in 15 MIN. Source: MA Lottery

15 Minute Drive Time Difference-in-Differences Analysis (Ex. Plainridge Park)

- Average bi-weekly sales for agents within 15 minute drive increase less than rest of MA.

Table 3: Difference-in-Difference Analysis^a

**Average Bi-Weekly Lottery Sales, by Agent(\$),
Agents within 15 Minute Drive of Plainridge Park vs Rest of State**

	Before PPC	After PPC	Difference ^a
Agents within 15 Minute Drive of Plainridge Park ^b	23,104.17 (307.08)	23,239.08 (288.20)	134.91 (422.70)
Rest of State	27,003.71 (73.55)	28,004.07 (69.18)	1000.36*** (101.37)
Difference in Differences			-865.45 (601.78)

^aA *, **, and *** represent statistical significance at the 10, 5, and 1 percent level, respectively. Only agents open over the whole sample period.

^b*Excluding Plainridge Park*

16-30 Minute Drive Time Difference-in-Differences Analysis

- Average bi-weekly sales for agents within 16-30 minute drive of PP marginally impacted.

Table 4: Difference-in-Difference Analysis^a

**Average Bi-Weekly Lottery Sales, by Agent(\$),
Agents in 16-30 Minute Drive of Plainridge vs More Distant Agents**

	Before PPC	After PPC	Difference ^a
Agents within 30 Minute Drive of Plainridge Park	25,678.17 (236.00)	26,448.57 (222.36)	770.40** (325.58)
Rest of State ^b	27,141.69 (77.39)	28,165.98 (72.78)	1,024.29*** (106.66)
Difference in Differences			-253.89 (346.87)

^aA *, **, and *** represent statistical significance at the 10, 5, and 1 percent level, respectively. Only agents open over the whole sample period.

^bDoes not include agents within 15 minute drive. Results not sensitive to this restriction (D in D equals -241.70).

Conclusions

- No adverse impact on lottery revenues statewide from PPC.
- Plainridge Park lottery revenue grew significantly.
- Sales for surrounding communities, other agents in Plainville, & agents within 15 minute drive do not decrease.

Conclusions

- Sales for surrounding communities and nearby agents increase, but less than rest of state. Difference not statistically significant.
- Not clear if impact of casino or other source of volatility in sales.
- Short-term impact; results may change over time.
- May be different for casinos in Springfield and Everett.