



UNIVERSITY OF MASSACHUSETTS SCHOOL OF PUBLIC HEALTH AND HEALTH SCIENCES

# Baseline Real Estate Conditions

## Host Community Profile: Springfield

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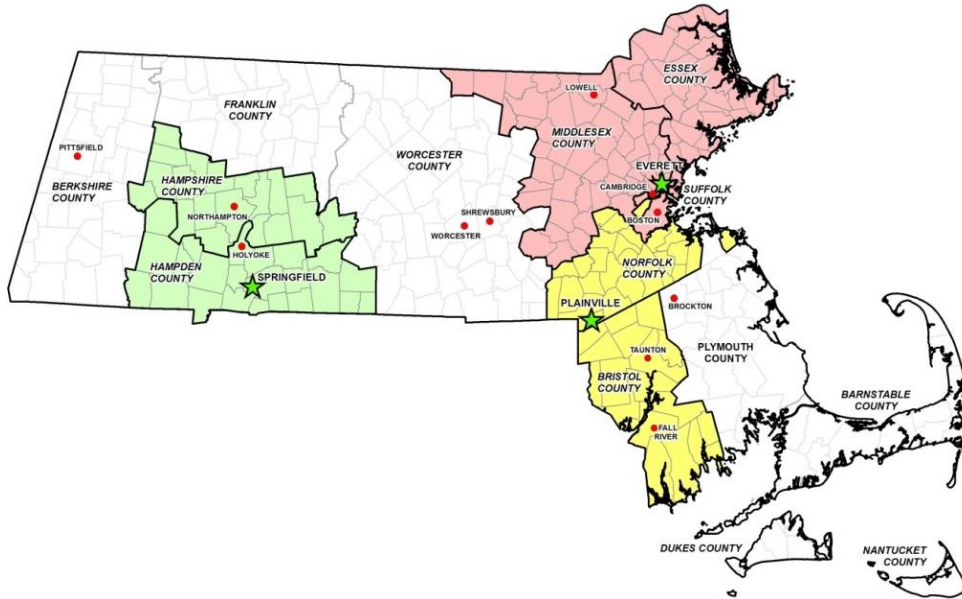
This report, produced by Dr. Henry Renski of the UMASS Amherst Center for Economic Development in conjunction with the Economic and Public Policy research group at the UMass Donahue Institute, provides a summary of recent trends in the residential, commercial and industrial real estate markets for the City of Springfield and its surrounding communities. It serves as a companion to the Springfield Host Community Economic Profile report by the Donahue Institute that documents baseline conditions on a variety of economic, demographic and fiscal indicators. As with the Economic Profile report,<sup>i</sup> our analysis of Real Estate conditions covers several distinct areas to paint a comprehensive picture of the local and regional real estate market prior to the introduction of a major resort casino. The report is divided into two major sections. The first covers the residential real estate market. The second covers the commercial and industrial real estate markets.

The purpose of this study is to document recent market conditions in the area prior to the likely introduction of a major resort casino. Our goal is to establish a baseline for measuring potential developmental impacts.<sup>ii</sup> In the process, we will also evaluate different data sources as well as techniques for identifying possible impacts. When measuring the impacts of a major development, it is important to not only track trends in the host community but also to benchmark these changes against other areas that face similar market conditions, but are unlikely to be impacted by the development itself. Other events that have little or nothing to do with the specific development, such as changes in national and state economic cycles, can have a considerable impact on local market conditions. Without accounting for these external forces, one can easily mistakenly attribute an apparent increase or decrease in property sales or values to the development. However, finding a suitable comparison group can be tricky. Communities with similar market conditions are often neighbors, and thus might be subject to spillover impacts. Conversely, distant communities might provide a false baseline of comparison because they are not subject to the similar external market forces or regulatory conditions.

For this report, we compare historic trends in Springfield to the Immediate Region (Hampden and Hampshire Counties) and the State (Figure 1). While inclusive of Springfield, both the Immediate Region and the State stretch beyond the likely sphere of influence of the Casino. However, they are still subject to the similar influences of national business cycles and regional economic and demographic trends. Thus, the bulk of the impacts of the development are likely to be averaged-out. Still, we recognize that these are not ideal comparison groups, not that such a thing actually exists. One of the primary purposes of this baseline study is to ascertain just how well recent market trends in the State and Region match the host community, and whether these can serve as a sufficient basis for comparison.

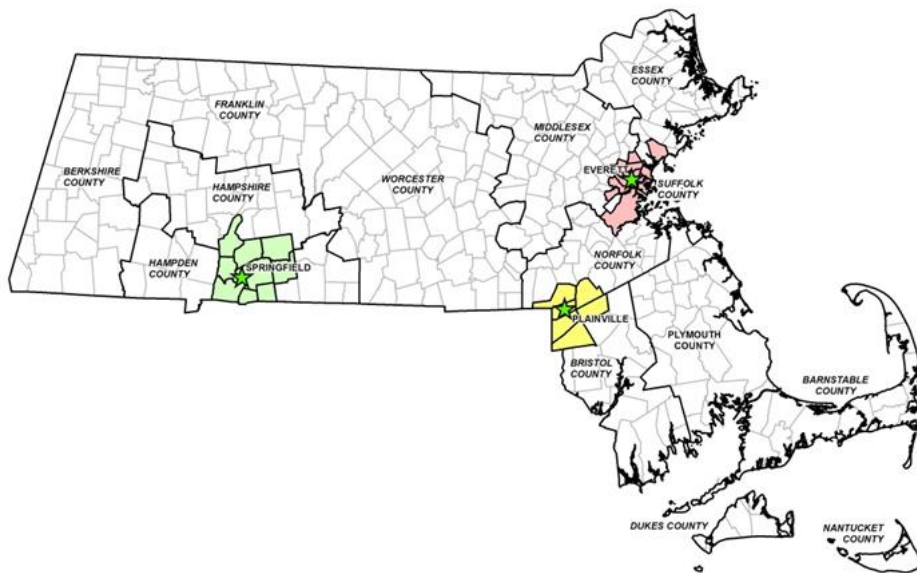
We would like to thank Philip Dromey, Deputy Director of Planning, and Brian Connors, Deputy Director of Economic Development for the City of Springfield, for their valuable review of our report.

**Figure 1. Massachusetts Host Communities and Their Immediate Regions**



The impact of a major resort Casino may very well spill beyond the borders of its host community. Thus, in addition to Springfield, we also track baseline market conditions among nearby areas designated as “official surrounding communities” by the Massachusetts Gaming Commission. There are eight such communities in the Springfield region (Figure 2), making it impractical to report specific trends for each within the limited confines of this report.<sup>iii</sup> Here we provide just a brief summary of changes over the entire period.

**Figure 2. Massachusetts Host and Surrounding Communities**



## Summary of Baseline Findings

### Residential Real Estate Indicators

- Springfield has a diverse housing market, comprised mainly of single-family homes. However, sales of multi-family homes and condominiums are also fairly common.
- Real estate in Springfield is relatively affordable, with median sale prices for single-family, multi-family and condominiums far below state and regional averages.
- The volume of single-family home sales in Springfield has slowly begun to recover after a dramatic drop in 2009. However, the median sale price of single-family homes has continued to decline.
- Sales of multi-family homes are highly concentrated in the area immediately adjacent to the proposed site of the Casino in the downtown areas of Springfield. Single-family homes are less common in the immediate vicinity of the site.
- We expect that if the Casino does have an impact on sales, it will be most apparent among properties that are closest to the site. Overall, we find little relationship between proximity to the casino site and changes in home prices over the baseline period.
- According to the Census Bureau, gross monthly rents in Springfield are somewhat lower than the state median, although generally consistent with other area communities. The Census also reports that rents in Springfield have risen at a rate consistent with the State over the past decade.
- Data from Costar reports a much larger divide between Springfield and the state average effective rent, as well as a much slower rate of growth.
- Building permits are an important indicator of future development, but can be highly variable. This will make it difficult to distinguish possible impacts from serendipitous events, such as the permitting of a single large development.
- In Springfield, the number of single- and multi-family permits dropped steadily over the past decade, while the real value of permits has generally increased.

### Commercial and Industrial Real Estate Indicators

- Building inventory and commercial rentable building area have increased since 2008 for commercial buildings, but have fallen for industrial buildings.
- The commercial vacancy rate in Springfield is similar to the state rate but much higher than most of its neighbors. Springfield's industrial vacancy rate is much higher than the state level, as are the rates of many of its neighbors.
- With a few exceptions among its more affluent neighbors, lease rates of all types in Springfield and Springfield's surrounding communities are lower than the state average.

## **Residential Real Estate**

### **Residential Property Sales**

Property sales are among the most direct indicators of changing real estate markets conditions. They are often used to measure the impact of new development on surrounding areas. A sustained rise in the number and market values of properties following the construction of a new casino may signify successful neighborhood revitalization, as investors are willing to buy properties at higher prices. Conversely, a decline in property values may indicate the negative impacts resulting from possible fears of increased, traffic, crime, noise, or other negative externalities.

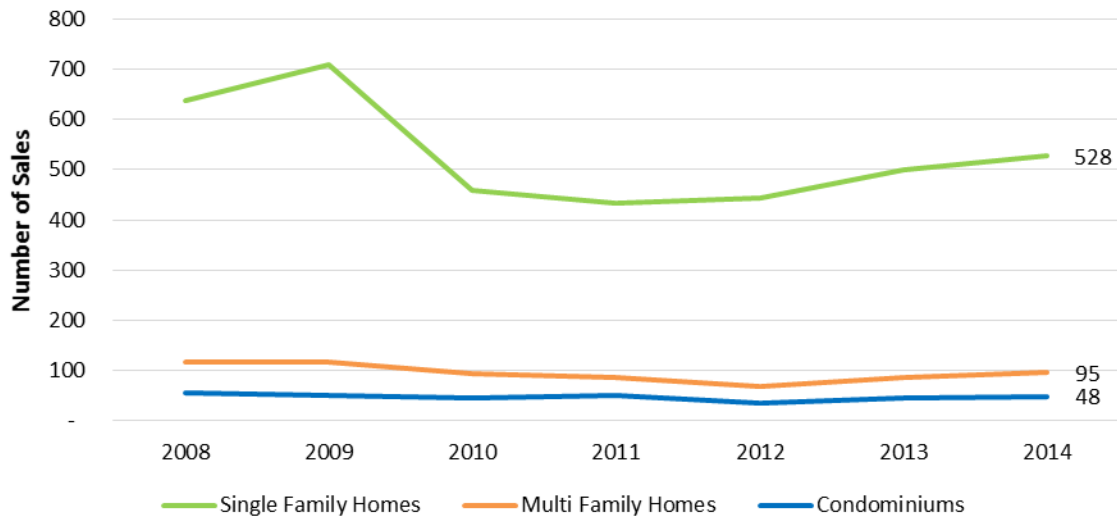
Our analysis uses property sales reported by the Massachusetts Department of Revenue (DOR) Division of Local Services. The DOR reports all verified property sales in the Commonwealth. Although the DOR database includes property sales of all types, we only include those classified as “arms-length” transactions. This eliminates sales between family members and other situations where the sales price is not a pure reflection of market value. The DOR database further identifies sales by the predominant land use classification of the property. We focus on several general types, namely: single-family residential, multi-family residential, and condominiums. We ignore other types of residential land uses, such as mobile homes and vacant lots, as they are relatively rare.

We use the DOR database to track the number and market value of property sales in Springfield compared to the Immediate Region and State, starting in 2008. Individual communities report this data to the DOR on a fiscal year basis, and for some there is up to a two-year lag. At the time of writing, most communities had reported for FY 2016, covering sales up to the fourth quarter of 2014. A few holdouts remain, but we will provide an update to this report as soon the new data comes in. We also take advantage of the detailed address data in the DOR database to examine sales trends at varying distances from the site of the casino: one mile, two miles, five miles, seven miles, and ten miles.

### ***Residential Property Sales in Springfield***

Springfield is sometimes referred to as “the City of Homes.” As we would expect given such a title, the Springfield housing market is dominated by the sale of single-family homes. Just over 500 single-family homes were sold during 2014, comprising roughly 77 percent of all home sales in the City (Figure 3). Most of these single-family homes are in neighborhoods that are relatively distant from the site of the MGM casino. Multi-family homes are more common closer to downtown and to the Casino. Multi-family homes typically make up between 13 and 15 percent of all home residential sales in the city each year. Condominiums make up roughly six to seven percent of annual residential sales. This is one of the reasons why it is important to distinguish different types of housing, rather than focusing on community-wide averages.

**Figure 3:** City of Springfield, Number of Residential Property Sales by Type

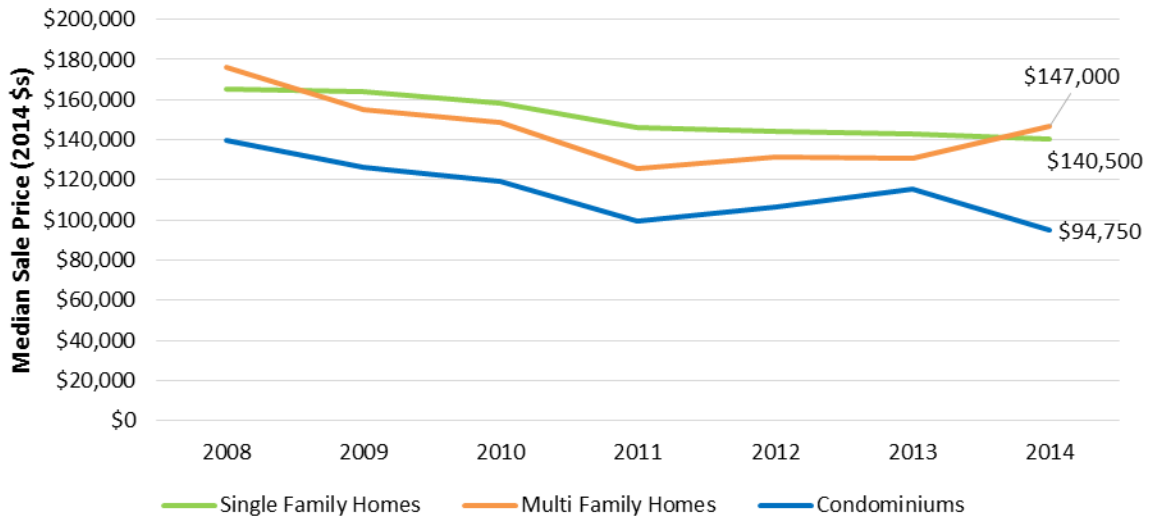


Source: MA Department of Revenue, Division of Local Services, LA-3 Real Estate Sales

The Springfield housing market is only just beginning to recover from the lingering impacts of the Great Recession. Single-family homes sales witnessed a profound decline from 708 sales in 2009 to 459 in 2010. Sales picked up starting in 2012, with a 13 percent annual rate of growth in 2013 and a six percent increase in 2014. The market for multi-family homes has taken a bit longer to recover, with a steady rate of decline from 2009 to 2012, but has since returned to near pre-recessionary levels. Like multi-family housing, condominium sales have also picked up since a low point in 2012. However, the market for condominiums in Springfield is much smaller, making it more difficult to distinguish general trends from annual fluctuations.

Despite the broader economic recovery, the median sale price for single-family homes in Springfield has continued to decline in recent years and remains notably below pre-recessionary levels. In 2008, a typical Springfield single-family home sold for \$165,000 in 2014 dollars (Figure 4). In 2014, the median sale price was \$140,500 – a 13 percent drop in value since 2008. On the positive side, the pace of decline in home values has slowed in recent years, and a continued rebound in sales may begin to push up prices in the near future. The sale price of multi-family homes witnessed an even more dramatic decline since 2008, with the median price bottoming out at \$126,000 in 2011—a real dollar loss of over \$30,000 per home. But unlike single-family units, the sales price of multi-family homes has risen over the past three years, with the typical unit now selling for \$178,000. The price of condominiums also saw a decline in real value from 2008 through 2011. Unlike multi-family homes, the market value for condominiums fell again after 2013 to a new low median sale price of \$94,750 in 2014.

**Figure 4: City of Springfield, Real Median Sales Price of Residential Properties by Type (2014 dollars)**

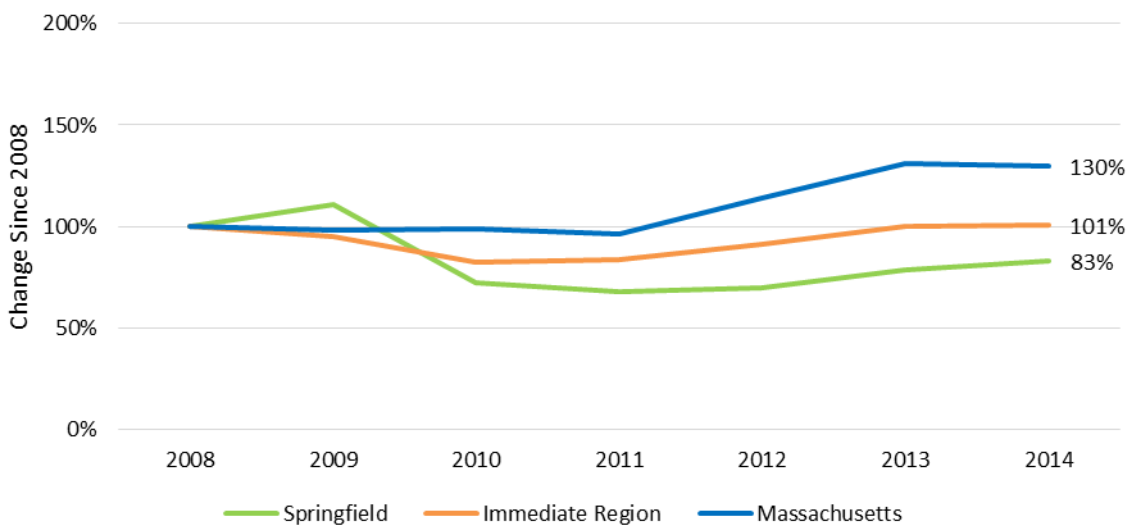


Source: MA Department of Revenue, Division of Local Services, LA-3 Real Estate Sales

**Comparisons to the Region and State**

Springfield’s housing market was more profoundly affected by the recession than either the State or Immediate Region.<sup>iv</sup> However, in more recent years the shock has begun to wear off and the pace of sales has resumed to a level generally consistent with the region – although still lagging the State. Single home sales in Springfield peaked in 2009, but this was immediately followed by a sharp drop in 2010 (Figure 5). Sales in the State were essentially flat during this time, and the region saw only a small dip. More telling is the slight, but steady, increase in the single-family home sales since 2012, with the city essentially matching regional trends.

**Figure 5: Single-family Home Sales, Change from 2008**

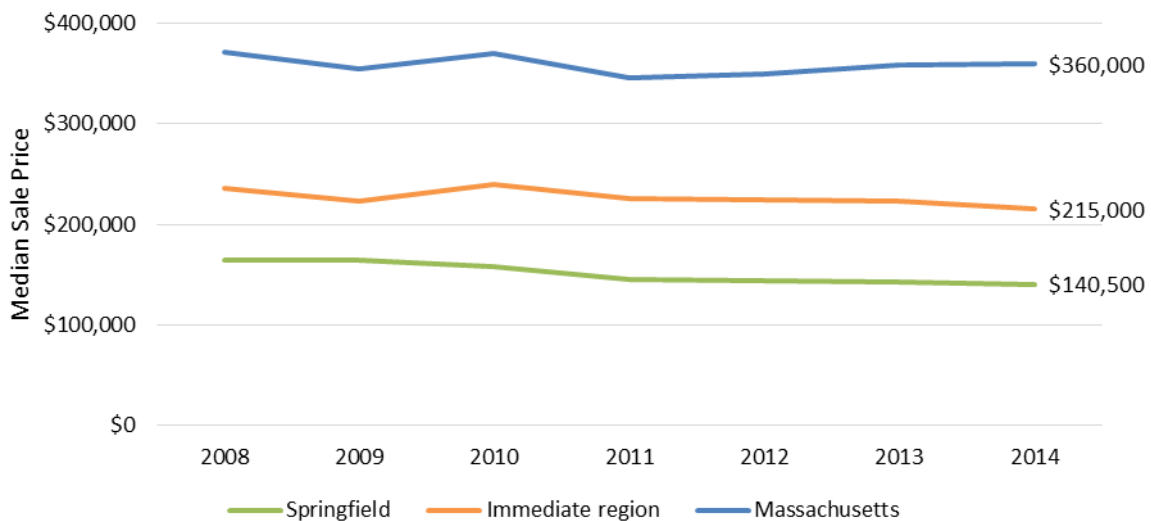


Source: MA Department of Revenue, Division of Local Services, LA-3 Real Estate Sales

Single-family homes are considerably more affordable in Springfield compared to the region as well as to the Commonwealth as a whole (Figure 6). In 2014, the typical single-family home in Springfield sold for just over \$140,000. That is roughly 40 percent of the state median of \$360,000 and 65 percent of the regional median of \$215,000.

Absolute differences in the value of homes matters less in the accurate measurement of development impacts than differences in the underlying trend—i.e., have sales prices have been increasing or decreasing at a similar pace as the State and Region. From this perspective, the single-family market in Springfield seems much more comparable to the region. Between 2011 and 2014, the median sale price in Springfield has declined by four percent, very close to the five percent decline for the region as a whole. During this same period, the statewide median sale price grew by four percent, eclipsing both region and city.

**Figure 6: Single-family Homes, Median Sale Price (2014 Dollars)**



Source: MA Department of Revenue, Division of Local Services, LA-3 Real Estate Sales

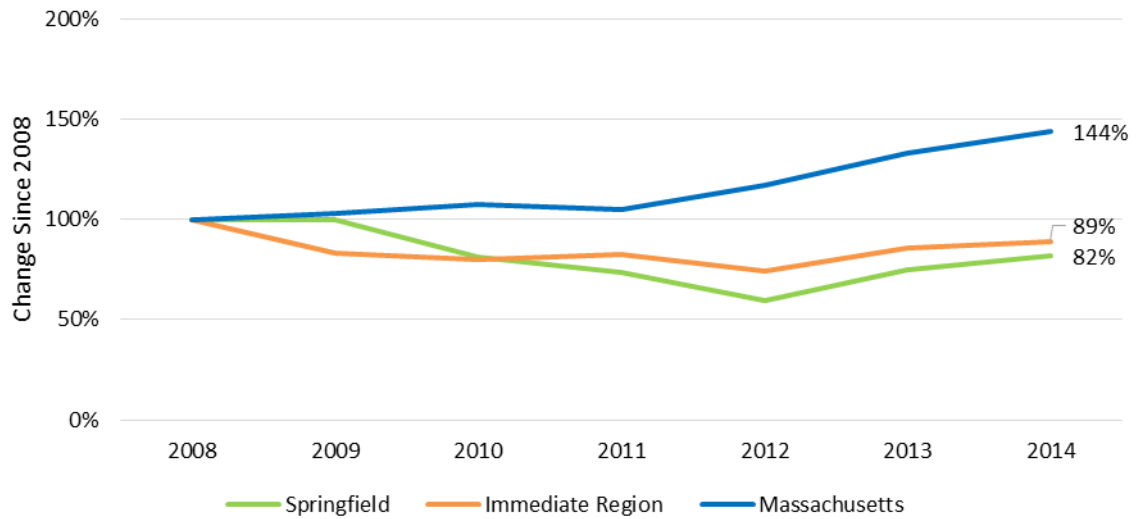
**Springfield's multi-family market is a closer match to regional trends in terms of sales volume (Figure 7) and price** (As with single-family homes, the price of multi-family homes in Springfield falls far below statewide averages. Springfield's median sale price of \$140,500 in 2014 was only 40 percent of the state median – although this does not account for differences in the number of units or other factors aside from local market conditions that might influence the price (Figure 8). Yet, the median sale price in Springfield is much closer to the regional median for multi-family homes and the trend in multi-family home prices is consistent with the State. The exception is the period between 2011 and 2013, when the statewide median sale price increased at a notably faster pace than the City or Immediate Region.

Figure 8). Springfield makes up roughly a third of the regional market for multi-family homes, so it is not surprising that Springfield trends have a large influence on regional totals (Immediate Region numbers are made up of Hampden and Hampshire county totals). The number of multi-family sales in Springfield declined steadily between 2009 and 2011—a time when statewide sales were basically flat. Statewide sales volume began to rise after 2011, and continued to rise through 2014. The multi-family market did



not pick up in Springfield until after 2012. Between 2012 and 2014 the growth rate for sales of multi-family homes in Springfield has increased by 38 percent, faster than the statewide growth rate of 23 percent.

**Figure 7:** Change in Multi-family Home Sales, 2008 to 2013

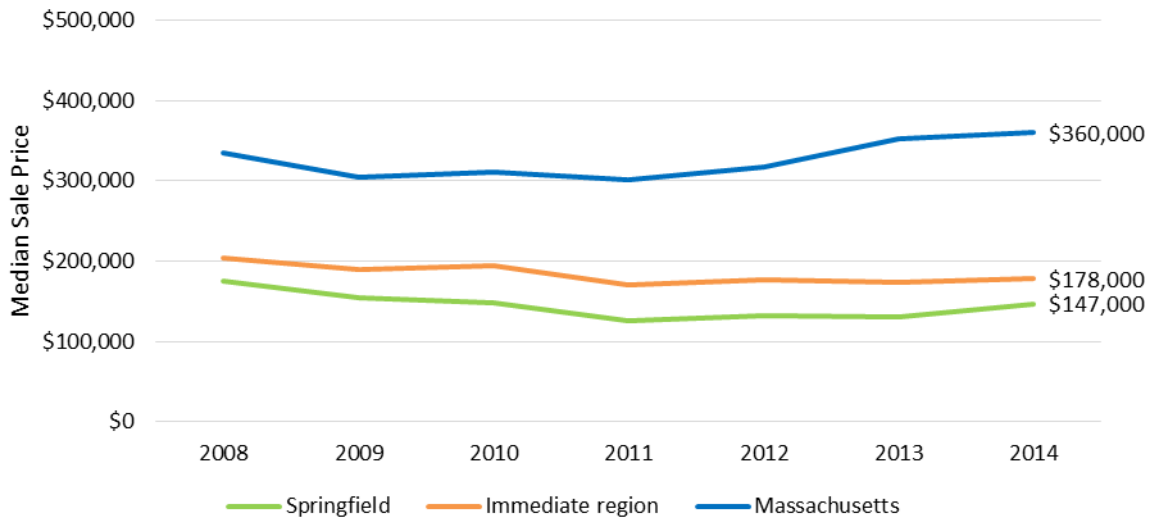


Source: MA Department of Revenue, Division of Local Services, LA-3 Real Estate Sales

As with single-family homes, the price of multi-family homes in Springfield falls far below statewide averages. Springfield’s median sale price of \$140,500 in 2014 was only 40 percent of the state median – although this does not account for differences in the number of units or other factors aside from local market conditions that might influence the price ( Figure 8). Yet, the median sale price in Springfield is much closer to the regional median for multi-family homes and the trend in multi-family home prices is consistent with the State. The exception is the

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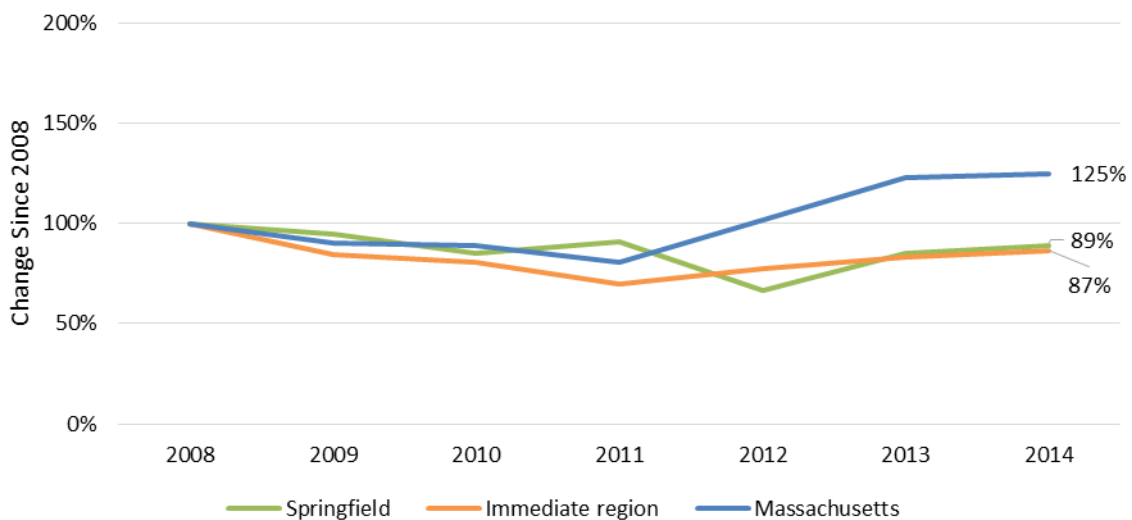
**Figure 8:** Multi-family Homes, Median Sale Price (2014 Dollars)



Source: MA Department of Revenue, Division of Local Services, LA-3 Real Estate Sales

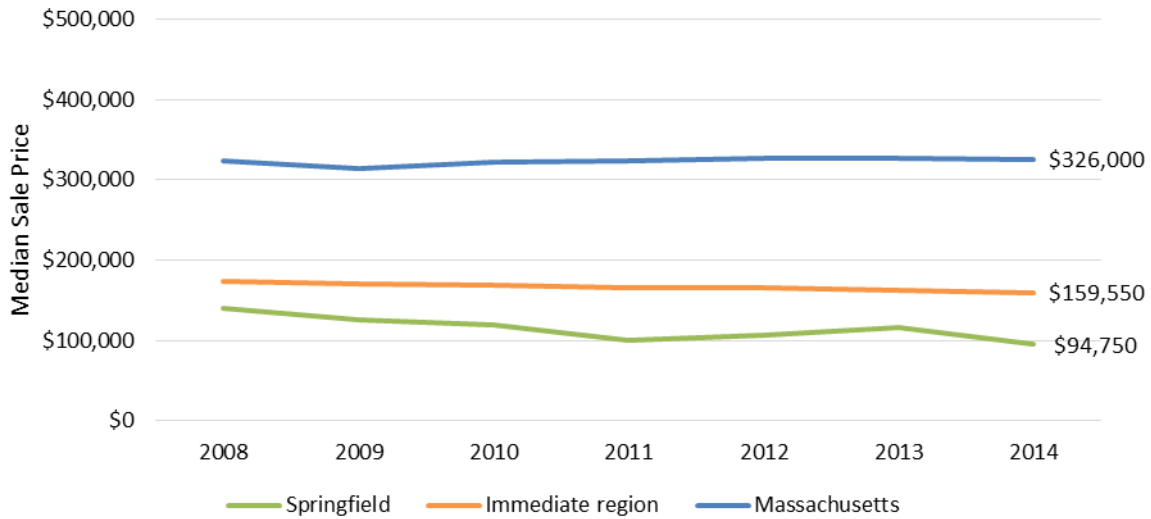
Condominium sales in Springfield have generally been consistent with the State and Immediate Region although the Springfield market for condominiums is rather small (around fifty sales per year) and thus bound to be rather erratic. All three areas (City, Immediate Region, and State) had a declining rate of condominium sales from 2008 to 2011, (Figure 9). After 2011, the number of condominium sales in the State and Region began to grow; in Springfield, sales did not pick up until after 2012.

**Figure 9:** Change in Condominium Sales, 2008 to 2013



Source: MA Department of Revenue, Division of Local Services, LA-3 Real Estate Sales

**Figure 10: Condominiums, Median Sale Price (2014 Dollars)**



Source: MA Department of Revenue, Division of Local Services, LA-3 Real Estate Sales

As we found with other types of residential units, the sale price of Springfield condominiums remains well below both the State and the Immediate Region. Unlike these other housing types, Springfield has yet to see a rebound in the sale price for its condominiums. In 2013, the typical condominium sold for just under \$100,000 in Springfield, nearly \$65,000 less than the region and \$230,000 less than the State as a whole. While condominium prices held steady for the State as a whole since 2008, in Springfield they declined by almost \$45,000 real dollars between 2008 and 2014.

### Residential Property Sales in Surrounding Communities

The communities surrounding Springfield represent very different market conditions, although all fall well short of statewide average sale prices (Table 1). There is a divide within the region. The urban core communities of Springfield, Chicopee and Holyoke fetch the lowest prices, regardless of the type of housing. Prices are highest in outlying bedroom communities, namely Longmeadow, Wilbraham, and East Longmeadow. The 15 percent decline in the real median sale price of single-family homes in Springfield is generally consistent with many area communities, including some of the urban core (e.g., Chicopee) as well as some of the wealthier bedroom communities, such as Wilbraham and East Longmeadow.

**Table 1: Residential Sales Summary, Springfield and Surrounding Communities**

Residential Sales Indicators	Single-family Homes			Multi-Family Homes			Condominiums		
	Sales (2014)	Median Sale Price (2014)	% Change in Real Median Sale Price 2008-2014	Sales (2014)	Median Sale Price (2014)	% Change in Real Median Sale Price 2008-2014	Sales (2014)	Median Sale Price (2014)	% Change in Real Median Sale Price 2008-2014
Massachusetts	41,325	\$360,000	-3%	4,702	\$360,000	7%	20,102	\$326,000	0%
Springfield	528	\$140,500	-15%	95	\$147,000	-16%	48	\$94,750	-32%
Surrounding Communities									

Agawam	196	\$221,000	-11%	16	\$212,500	-5%	66	\$137,500	-23%
Chicopee	242	\$170,000	-16%	45	\$178,000	-13%	73	\$119,000	-30%
East Longmeadow	144	\$235,000	-14%	3	\$190,000	n/a	5	\$344,500	-17%
Holyoke	134	\$177,500	-10%	15	\$165,000	-19%	10	\$115,000	10%
Longmeadow	213	\$330,000	-2%	2	\$230,000	n/a	5	\$221,500	-41%
Ludlow	120	\$214,250	-5%	6	\$185,000	-5%	27	\$181,500	-6%
West Springfield	166	\$199,950	-13%	20	\$182,500	-11%	42	\$187,500	36%
Wilbraham	116	\$262,500	-17%	1	\$404,000	n/a	41	\$292,000	2%

Source: MA Department of Revenue, Division of Local Services, LA-3 Real Estate Sales

## Spatial Analysis of Residential Property Sales

The impacts of new developments, even large ones such as casinos, are often highly localized. Even dramatic changes in the immediate neighborhood may not necessarily register at the regional or community scale. This is especially true for larger communities where such impacts are often diluted by other activities. An analysis restricted to municipal boundaries also does not account for proximity. A development on the border of a host community may only register a muted “impact” at the municipal scale, because its effects may be essentially shared among several communities. Proximity can also be used to help distinguish development impacts from the background “noise” of other activities.

Whether positive or negative, it is safe to assume that the influence of the new development generally diminishes with distance—the further away, the less the effect. Thus, comparing before and after changes at different distances can help us identify whether changing market conditions seem to be associated with the location of the new casino.<sup>v</sup>

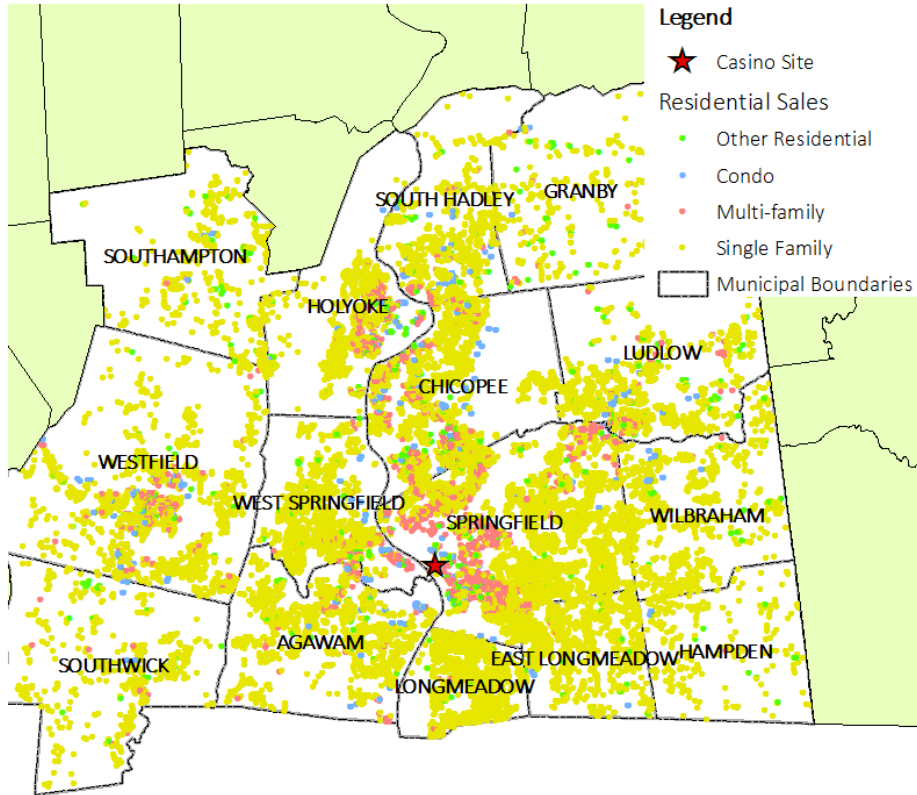
To get a better sense of the possible local impacts, we conducted an analysis of development impacts that directly accounts for proximity and distance. Of course, this type of spatial analysis requires considerably more data on the location of potentially impacted parties. Most of the data sources used in the community profiles are only available at the community or county level—thus precluding a more fine-grained spatial analysis. However, the DOR database that we use to track real estate trends includes information about specific property sales, including street addresses and parcel ID numbers for each sale.

With the aid of Geographic Information System (GIS) software and considerable effort, we identified the recent property sales in all Massachusetts communities within ten miles (straight-line) distance of the proposed casino site. Using a multi-stage matching process, we were able to locate over 99 percent of the listed sales down to the latitude and longitude coordinates of individual parcels.<sup>vi</sup> Then we measured the distance of each sold parcel to the proposed casino site, and calculated the number of sales and median sales price of properties at varied distances from the site.

Figure 11 shows the location of parcel sales in the Springfield region from 2008 to 2014, distinguished by major residential land use types (single-family, multi-family and condominium). There were over 20,000 residential sales in the Springfield region during this period, making it difficult to surmise much about the spatial distribution of property sales solely from this figure. It is clear that condo/multi-family sales are more prominent in the urban areas of Springfield, Chicopee, Holyoke and Westfield while single-family sales are the norm for the remainder of the region. Condominium sales are less common, and are

a bit more scattered throughout the region. Sales of other forms of residential properties are exceedingly rare, and will not be further considered in our analysis.

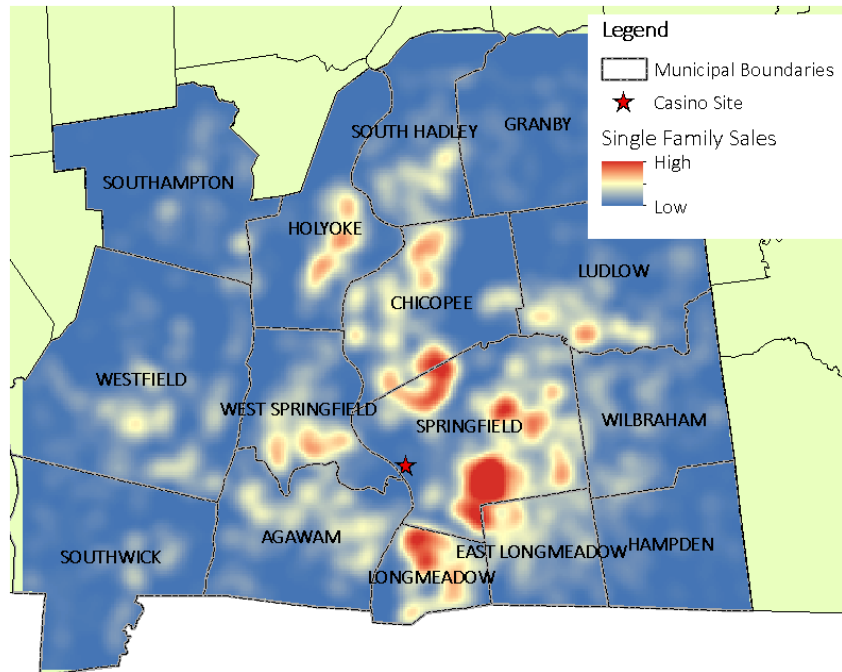
**Figure 11:** The Location of Real Property Sales by Land Use Type, 2008 to 2014



Source: MA Department of Revenue, Division of Local Services, LA-3 Real Estate Sales

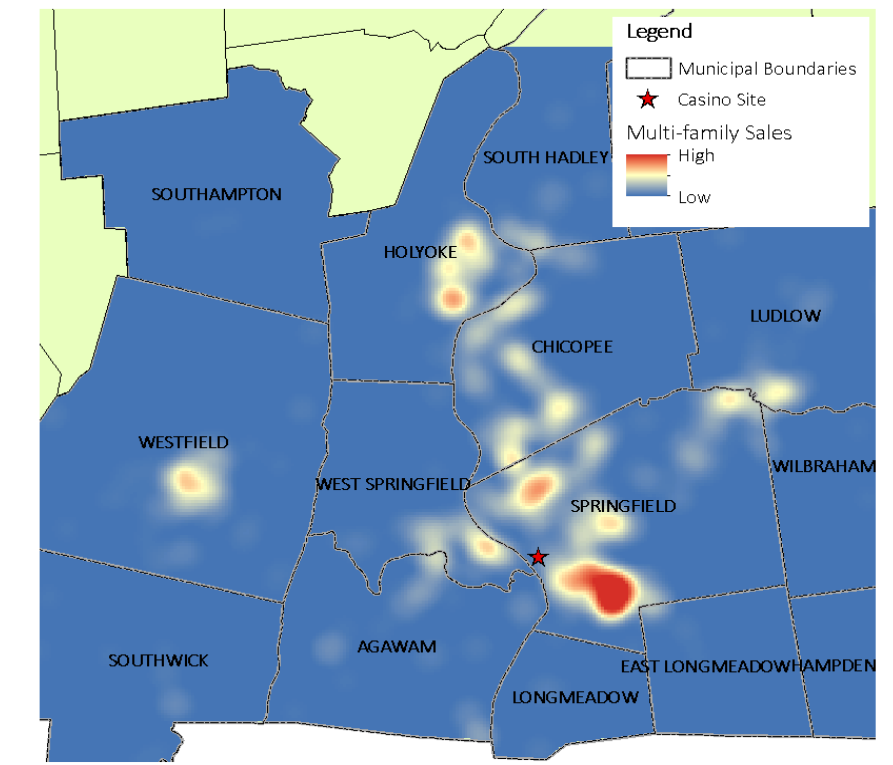
To get a better sense of the location of recent sales we conduct a hot-spot analysis to highlight areas where residential sales are particularly dense.<sup>vii</sup> The density of single-family home sales is provided in Figure 12.<sup>viii</sup> A similar analysis was conducted for multi-family homes and condominium sales (Figure 13 and Figure 14). Recent single-family home sales are heavily concentrated in the outlying neighborhoods of Springfield and several other pockets in neighboring communities, where residential development tends to be particularly dense. Springfield also has several high concentrations of multi-family homes, particularly to the southeast and north of the Casino site. Outside of Springfield, there is only a scattering of areas with concentrated multi-family home sales in the region. There is a hot spot for condominium sales adjacent and to the north of the Casino site. Otherwise, condominium sales are fairly scattered throughout the region.

**Figure 12:** Areas of Concentrated Single-family Home Sales, 2008 to 2014



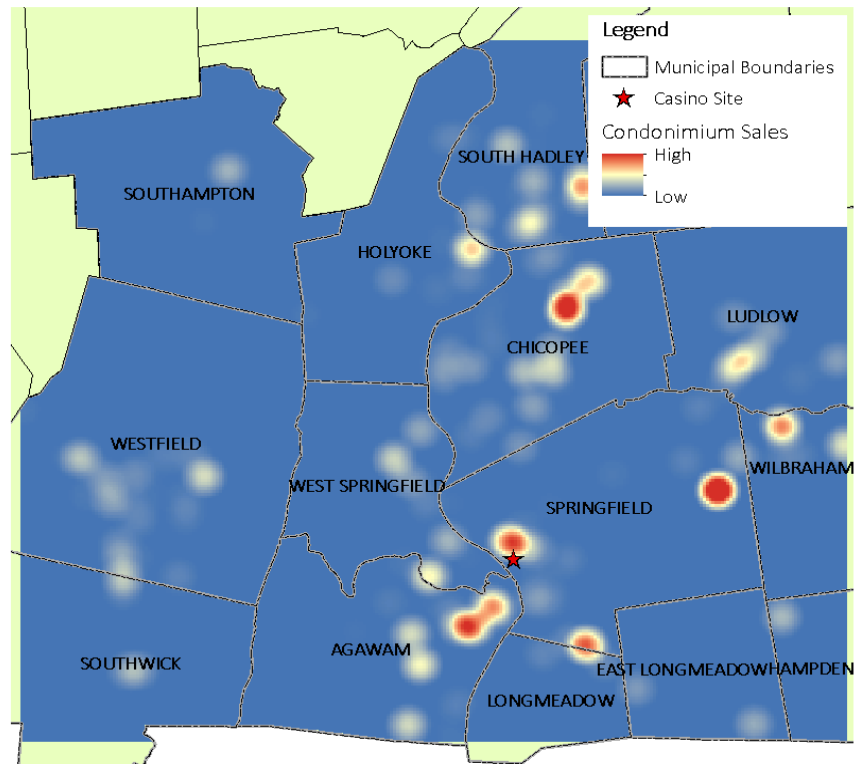
Source: MA Department of Revenue, Division of Local Services, LA-3 Real Estate Sales

**Figure 13:** Areas of Concentrated Multi-Family Home Sales, 2008 to 2014



Source: MA Department of Revenue, Division of Local Services, LA-3 Real Estate Sales

**Figure 14:** Areas of Concentrated Condominium Sales, 2008 to 2014

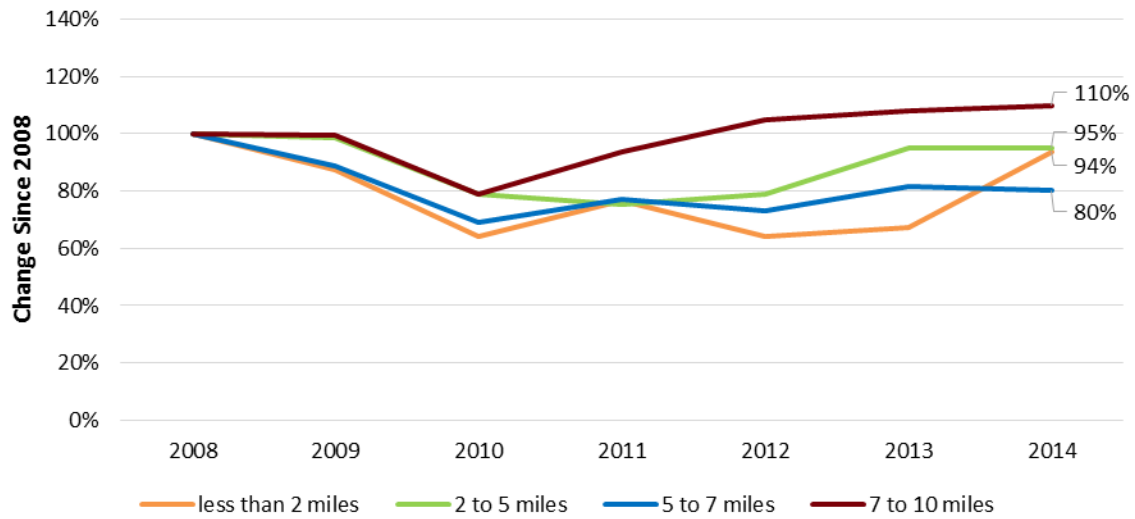


Source: MA Department of Revenue, Division of Local Services, LA-3 Real Estate Sales

These types of “heat maps” are useful for visualizing differences in property markets and identifying where recent sales activity is particularly high. They cannot directly answer questions of whether the casino had an impact on local markets and how far these impacts extend from the development site. For that, we monitor sales trends at different distances from the casino site: under two miles, two to five miles, five to seven miles and seven to ten miles. The apparent impacts of the casino can be identified by measuring changes in the historic trends before and after the construction of the casino. We expect the biggest impacts will be felt closer to the site.

Past trends in single-family sales volume seems to have little relation to distance from the casino site. At distances under seven miles, sales follows a roughly consistent pattern of an initial drop followed by an eventual increase in the number of sales over time (Figure 15 and **Error! Reference source not found.**). Sales further from the site recovered a bit earlier and more steadily after a low point in 2010. This consistency bodes well for identifying impacts as possible breaks in what otherwise appears to be a predictable trend in the absence of a casino or other major area development.

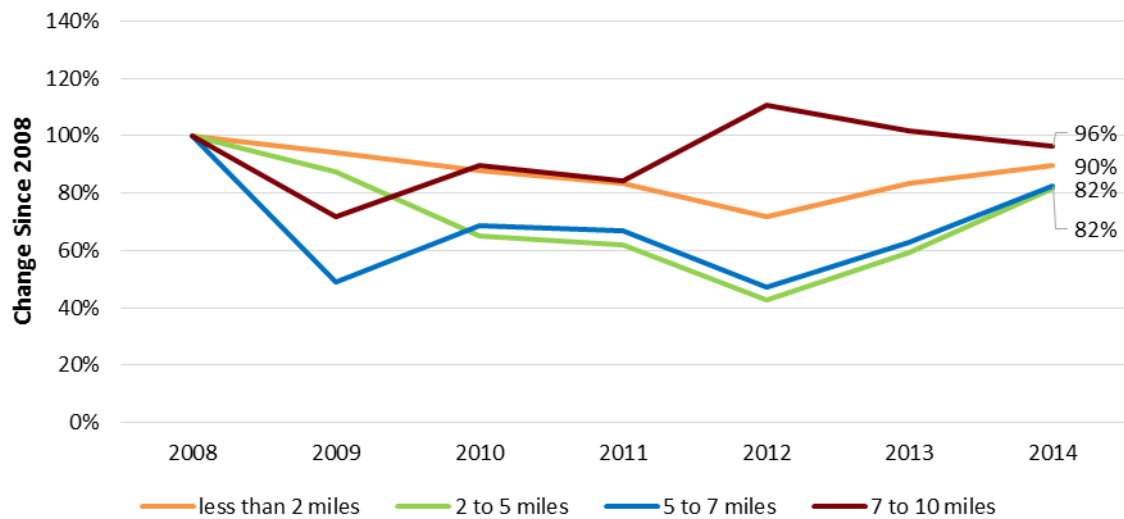
**Figure 15: Single-family Home Sales by Distance to Casino, Change from 2008**



Source: MA Department of Revenue, Division of Local Services, LA-3 Real Estate Sales

Trends in multi-family homes are a bit more erratic. This is because sales of these types of properties are both less common and relatively concentrated in fewer areas scattered about the study region. Regardless, all seem to be converging toward a pre-recessionary level of annual sales (Figure 16). Annual condominium sales are more erratic still (Figure 17), but the patterns appear generally unrelated to distance from the Casino site.

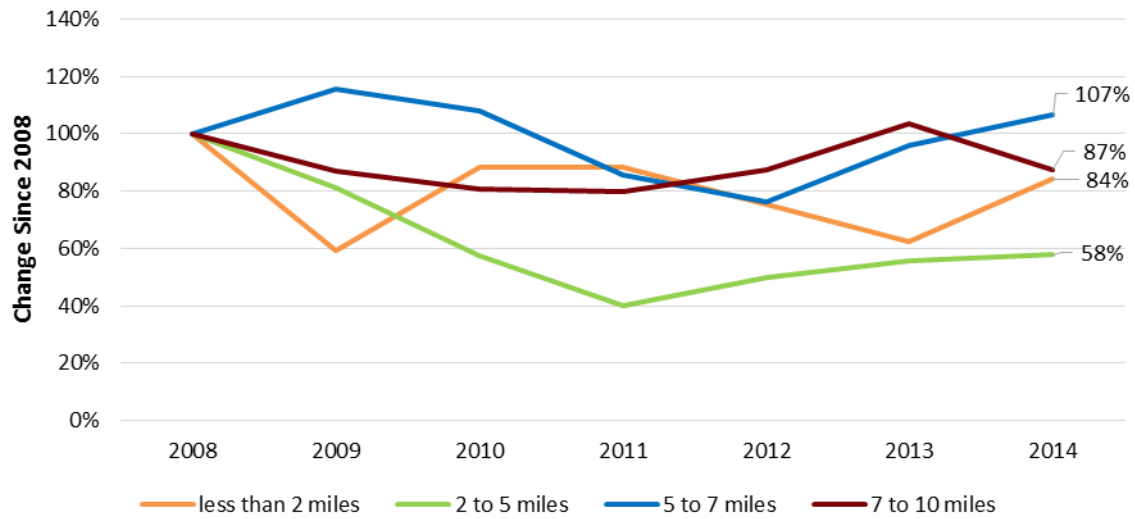
**Figure 16: Multi-family Home Sales by Distance to Casino, Change from 2008**



Source: MA Department of Revenue, Division of Local Services, LA-3 Real Estate Sales



**Figure 17: Condominium Sales by Distance to Casino, Change from 2008**



Source: MA Department of Revenue, Division of Local Services, LA-3 Real Estate Sales

**Table 2: Summary, Distance-Based Analysis of Sales Volume**

Distance from Casino	2008	2009	2010	2011	2012	2013	2014	Percent Change 2008-2014	Total Change 2008-2014
<b>Single Family Homes</b>									
less than 2 miles	95	83	61	73	61	64	89	-6%	(6)
2 to 5 miles	1,132	1,115	894	853	895	1,076	1,076	-5%	(56)
5 to 7 miles	533	472	369	410	390	435	427	-20%	(106)
7 to 10 miles	545	541	429	510	572	588	599	10%	54
<b>Multi-Family Homes</b>									
less than 2 miles	67	63	59	56	48	56	60	-10%	(7)
2 to 5 miles	103	90	67	64	44	61	84	-18%	(19)
5 to 7 miles	51	25	35	34	24	32	42	-18%	(9)
7 to 10 miles	57	41	51	48	63	58	55	-4%	(2)
<b>Condominiums</b>									
less than 2 miles	69	41	61	61	52	43	58	-16%	(11)
2 to 5 miles	192	156	110	77	96	107	111	-42%	(81)
5 to 7 miles	76	88	82	65	58	73	81	7%	5
7 to 10 miles	183	159	148	146	160	189	160	-13%	(23)

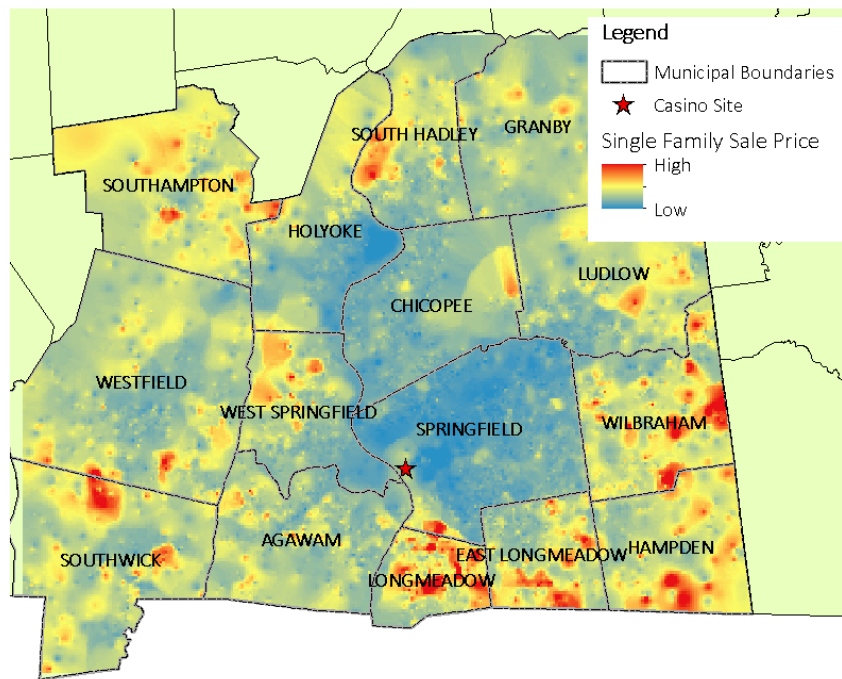
Source: MA Department of Revenue, Division of Local Services, LA-3 Real Estate Sales

In addition to measuring localized changes in the volume of sales, our spatial analysis allows us to document changes in the price of recent home sales at a variety of spatial scales. We start by identifying hot spots where the median sale price of homes is exceptionally high (Figure 18).<sup>ix</sup> This type of information is not only useful for documenting possible impacts of the casino, but also in identifying areas potentially at risk of gentrification.

Consistent with the findings at the municipal scale, the largest concentrations of high priced single-family homes are in Longmeadow, East Longmeadow, Hampden, Wilbraham and a scattering of other locations in the region (Figure 18). Some of these areas also tend to have more expensive multi-family units and condominiums (Figure 19 and

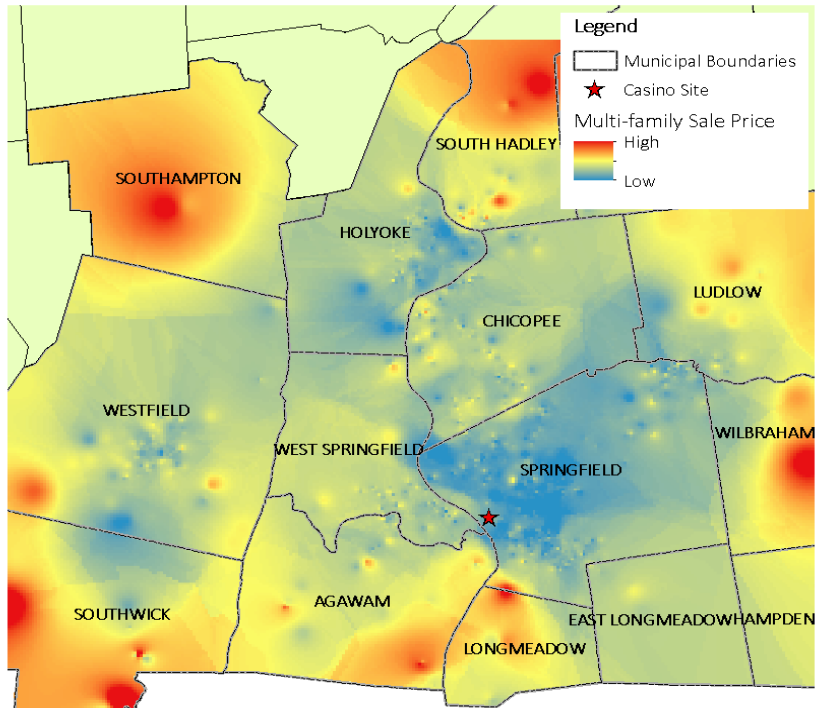
**Figure 20**). However, because multi-family and condominium sales are concentrated in particular areas, there is less potential spatial variation in sale price. Still we see a general pattern with Springfield and much of the area immediately surrounding the proposed site as “cold spots” for sale price—consistent with earlier findings that these communities tend to be more affordable areas for buying a home or condominium.

**Figure 18:** Spatial Variations in the Sale Price of Single-family Homes, 2008 to 2014



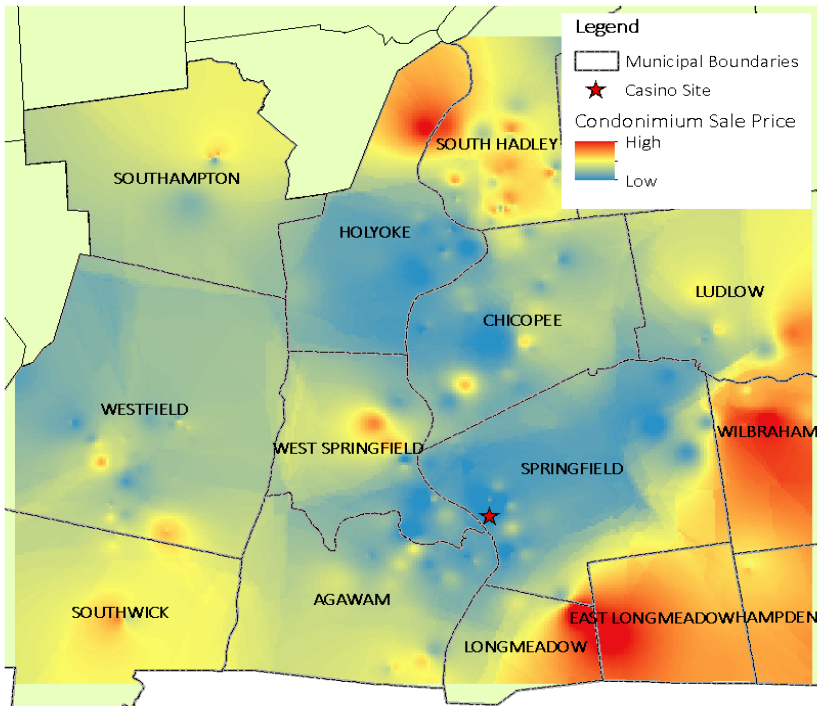
Source: MA Department of Revenue, Division of Local Services, LA-3 Real Estate Sales

**Figure 19:** Spatial Variations in the Sale Price of Multi-family Homes, 2008 to 2014



Source: MA Department of Revenue, Division of Local Services, LA-3 Real Estate Sales

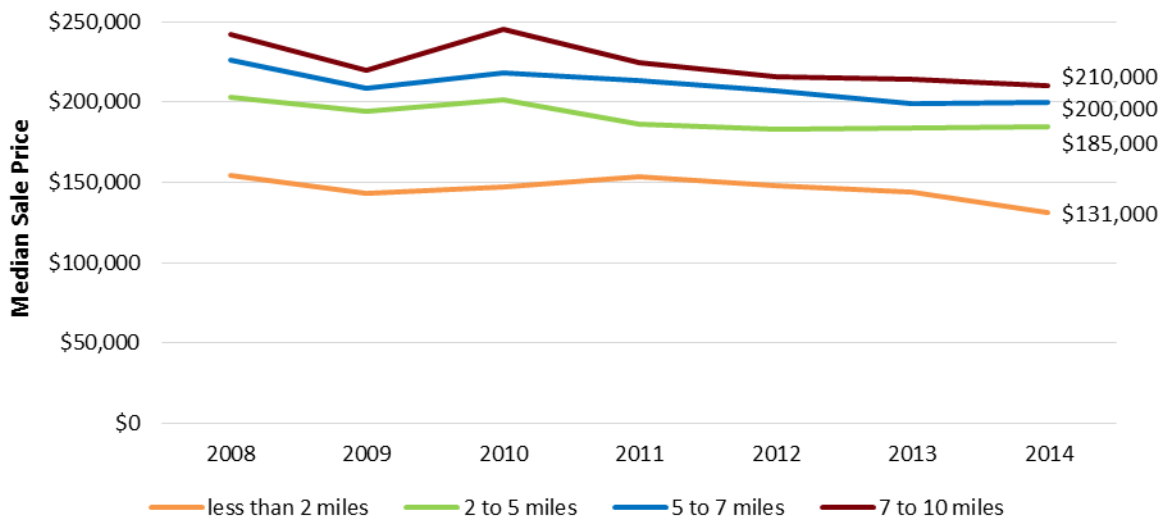
**Figure 20:** Spatial Variations in the Sale Price of Condominiums, 2008 to 2014



Source: MA Department of Revenue, Division of Local Services, LA-3 Real Estate Sales

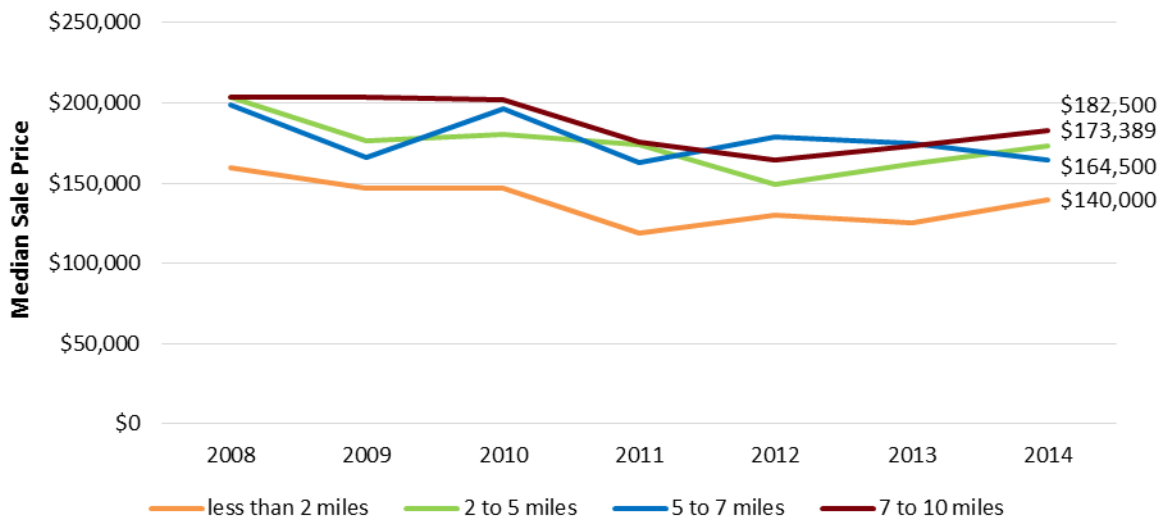
When classified by distance from the proposed sight, we find very little change in median prices over time. This is true for both single-family homes (Figure 21) as well as for multi-family homes (Figure 22). For single-family homes, distance from the proposed site matters to the overall sale price (properties closer to the site sell for less), but not to the rate of growth. The median sale price has been slowly declining at about the same rate, regardless of how far from the casino. The condominium market is somewhat more distinct, with a divergent trend between properties that are the closest and the furthest from the site. In short, condominiums within two miles of the casino sold for less and have continued to decline since 2008. By contrast, those beyond seven miles have been gradually increasing in price.

**Figure 21:** Single-family Homes, Median Sale Price (2014 dollars) by Distance to Casino, 2008 to 2013



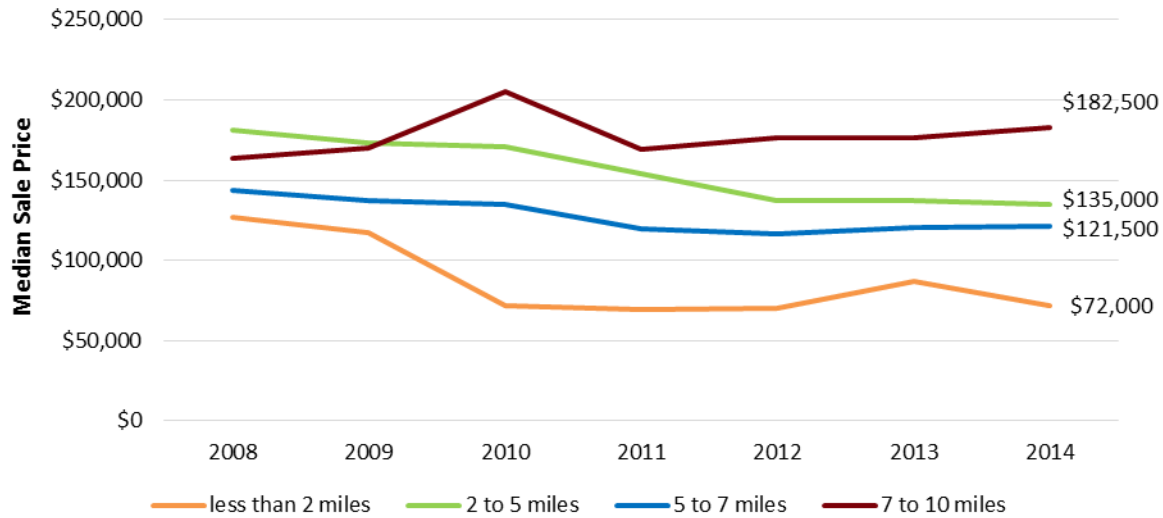
Source: MA Department of Revenue, Division of Local Services, LA-3 Real Estate Sales

**Figure 22:** Multi-family Homes, Median Sale Price (2014 dollars) by Distance to Casino, 2008 to 2013



Source: MA Department of Revenue, Division of Local Services, LA-3 Real Estate Sales

**Figure 23:** Condominiums, Median Sale Price (2014 dollars) by Distance to Casino, 2008 to 2013



Source: MA Department of Revenue, Division of Local Services, LA-3 Real Estate Sales

**Table 3:** Summary, Distance-Based Analysis of Median Sales Prices (2014 dollars)

Distance from Casino	2008	2009	2010	2011	2012	2013	2014	Percent Change 2008-2014	Total Change 2008-2014
<b>Single Family Homes</b>									
less than 2 miles	154,000	143,000	147,150	153,300	147,805	143,820	131,000	-15%	(23,000)
2 to 5 miles	203,332	194,150	201,650	186,375	183,340	183,600	185,000	-9%	(18,332)
5 to 7 miles	225,995	209,000	218,000	213,675	207,030	198,900	200,000	-12%	(25,995)
7 to 10 miles	242,000	220,000	245,250	224,254	216,197	214,200	210,000	-13%	(32,000)
<b>Multi Family Homes</b>									
less than 2 miles	159,500	146,740	147,150	118,650	130,210	125,460	140,000	-12%	(19,500)
2 to 5 miles	203,500	176,000	180,395	173,723	149,350	162,180	173,389	-15%	(30,112)
5 to 7 miles	199,100	166,100	196,200	162,750	178,963	174,675	164,500	-17%	(34,600)
7 to 10 miles	203,500	203,500	201,650	175,206	164,800	173,400	182,500	-10%	(21,000)
<b>Condominiums</b>									
less than 2 miles	126,500	117,590	71,940	69,300	70,040	86,700	72,000	-43%	(54,500)
2 to 5 miles	181,500	173,250	171,130	154,350	137,505	137,190	135,000	-26%	(46,500)
5 to 7 miles	143,550	137,500	135,160	119,700	116,339	120,360	121,500	-15%	(22,050)
7 to 10 miles	163,900	169,950	205,465	169,050	176,645	176,358	182,500	11%	18,600

Source: MA Department of Revenue, Division of Local Services, LA-3 Real Estate Sales

Overall, our examination of past trends in residential sales bodes well for our ability to detect possible changes in real estate values. The recession has clearly had an impact on residential sale markets—temporarily depressing sales volume more than prices. Even so, past trends in sales volumes and values have remained relatively consistent, making it likely that they can be used to identify casino-related

impacts as this analysis proceeds. This appears to be particularly true for the distance-based trends. There are, however, major differences by communities, and it is still unclear whether the State and Immediate Region provide a sufficient baseline of comparison and whether there are enough single-family home sales within a mile of the site to permit reliable analysis at this fine level of detail.

## **The Residential Rental Market**

In this section, we consider the rental market of Springfield and the broader region. In many of the potentially impacted communities rental housing is just as common, if not more so, as owner-occupied dwellings. This is especially true in predominantly urban communities such as Springfield, where more than half of the occupied housing stock are rental properties according to estimates from the American Community Survey. Neighboring communities of Holyoke, Chicopee, and West Springfield also exceed the statewide average of 37 percent rental units. The remaining surrounding communities have far less, especially Wilbraham, East Longmeadow and Longmeadow where rental housing is closer to 11 percent of the total housing stock.

Unfortunately, the data on rental market conditions is not as robust as property sales. The most comprehensive source is the American Community Survey (ACS) produced by the U.S. Census Bureau. While collected on annual basis, the ACS pools data across multiple years to ensure a sufficient sample size for smaller geographies. The relevant data for most municipalities is only available in five-year chunks, with the most recent release being data pooled from 2009 to 2013. Thus, this data cannot be used to track changes in market conditions on a year-to-year basis. It is, however, useful for providing a static picture of the rental market that can be used to validate or otherwise qualify rental data collected from other sources. Table 4 reports both contract rents, the amount the tenant pays each month to their landlord, as well as gross rents, which attempts to account for the fact that some contract rents include utilities while others do not.

We focus on gross rents, which are likely more indicative of the true costs of rental housing. Gross monthly rents in Springfield are notably lower than the state median, but are generally consistent with neighboring communities. Averaged across the years of 2009-2013, the median monthly gross rent in the City of Springfield was \$820, within \$100 plus or minus of five of the eight official surrounding communities. The only communities where gross rents are notably higher are East Longmeadow and Longmeadow—communities with relatively few rentals. Since 2000, the typical rents in Springfield have risen by roughly \$112 real (2014) dollars a month. This is below both the State and Hampden County average, but slightly higher than many neighboring communities—such as Agawam, Chicopee, Holyoke, Ludlow, and West Springfield.

**Table 4:** Real Median Rents (monthly) in Springfield, Counties in the Immediate Region, Surrounding Communities, and the Commonwealth, 2000 and 2009/13 (2014 dollars)

Area	Contract Rent (\$)				Gross Rent (\$)			
	2000	2009-13 (ACS)	Change	Percent Change	2000	2009-13 (ACS)	Change	Percent Change
<b>Springfield</b>	\$614	\$679	\$66	11%	\$708	\$820	\$112	16%
<b>Immediate Region</b>								
Hampden County	\$468	\$678	\$210	45%	\$535	\$791	\$256	48%
Hampshire County	\$762	\$837	\$76	10%	\$864	\$953	\$88	10%
<b>Massachusetts</b>	\$829	\$955	\$126	15%	\$937	\$1,090	\$153	16%
<b>Surrounding Communities</b>								
Agawam	\$810	\$789	-\$20	-2%	\$892	\$869	-\$23	-3%
Chicopee	\$637	\$714	\$77	12%	\$726	\$810	\$84	12%
East Longmeadow*	\$533	\$843	\$310	58%	\$588	\$1,037	\$450	76%
Holyoke	\$597	\$555	-\$42	-7%	\$689	\$671	-\$18	-3%
Longmeadow*	\$406	\$1,343	\$938	231%	\$407	\$1,369	\$962	236%
Ludlow	\$727	\$726	-\$1	0%	\$855	\$857	\$2	0%
West Springfield	\$675	\$738	\$63	9%	\$748	\$817	\$69	9%
Wilbraham	\$623	\$660	\$37	6%	\$647	\$762	\$115	18%

\*Note: The dramatic change in monthly rental fees in East Longmeadow and Longmeadow seem rather suspicious and indicative of possible data errors. These numbers were checked against official census records and appear to be accurate. However, both do have rather high margins of error in the 2009/13 ACS.

Source: U.S. Census Bureau, 2000 Decennial Census and 2009-13 American Community Survey (Five Year Estimates)

To track changes in the price of rental housing, we turn to a proprietary database provided by CoStar. CoStar describes itself as the nation’s largest provider of data on commercial properties. It is also the force behind the online rental listing service Apartments.com, arguably the largest and most comprehensive real-time source of data on national and local rentals. It reports average rents on a quarterly basis with almost no lag, making it ideal for closely monitoring changing market conditions. CoStar also reports both average “reported” rents and average “effective” rents. Reported rents are comparable to what the ACS calls contract rents. Effective rents are more akin to ACS-defined gross rents, because they attempt to account for the fact that some contract rents include utilities while others do not. Unless otherwise stated we focus our review on effective rents.

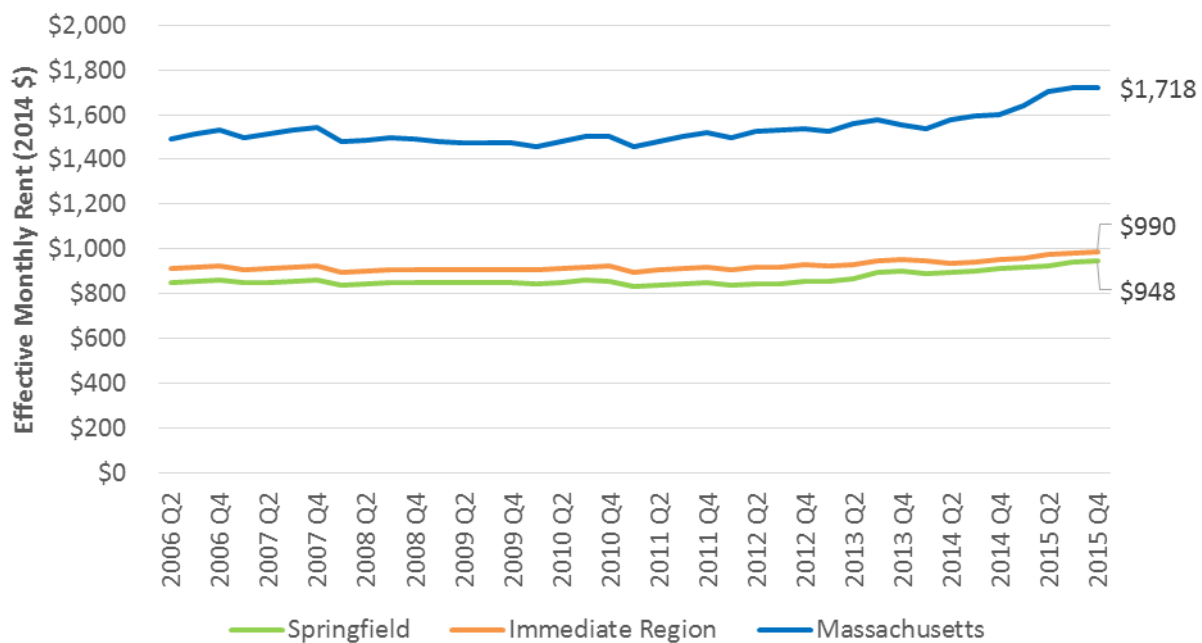
While expansive, detailed and timely, CoStar is not as representative sample as the ACS. Furthermore, CoStar is somewhat opaque in describing its data collection and estimation methods, so it is difficult to identify possible biases in the data or how sensitive the reported data is to changing market conditions at the ground level. We do know that CoStar primarily lists rentals in multi-unit structures managed by property management services (i.e., apartment buildings) and likely misses rentals of single-family homes and single rooms. This is not likely to be a major bias in communities such as Springfield, where multi-unit apartment buildings dominate the rental landscape, although it is a concern for some of the outlying communities in the region. With these caveats in mind, we proceed with our baseline tracking of rents in Springfield and surrounding communities.

Monthly effective rents as reported by CoStar are consistent with data on gross monthly rents from the ACS. The CoStar monthly average from 2009 to 2013 was \$855 per unit, while the ACS reports a monthly median of \$820. Costar averages for the Immediate Region are also generally consistent with ACS medians for Hampden and Hampshire Counties. There is, however, a substantial divergence between the statewide ACS median gross rent of \$1,090 and the CoStar mean of \$1,505.

It is not entirely clear why there is such a substantial difference at the state level, but not for the City or Region. One reason may be because CoStar is more reflective of rentals in multi-unit buildings and these may just be more expensive. This would be particularly true for the eastern-most portions of the State, but less so for the Pioneer Valley. Another possibility is that ACS reports rental costs paid by households while CoStar reports rents from listings. Presumably, it is more difficult to raise rents on existing tenants than on available units, so tenants pay less than the going market rate. Although we lack the data to test this, if it is true then the CoStar data may actually be a more sensitive leading indicator of changes in rental markets than data gathered from household surveys.

Assuming that CoStar provides a valid, although perhaps incomplete, indicator of changing rental market condition, we proceed with our analysis of recent trends in effective real monthly rental prices relative to the Immediate Region and State. The City and region are well below the State average, although we suspect that the CoStar average for the State is highly skewed by rental markets in the Boston region (Figure 24). Since 2006, real monthly rents in Springfield and the Immediate Region have largely been flat or have risen very slowly. Statewide rents have been rising at a faster pace, leading to an increasing divergence between the State and Region.

**Figure 24:** Effective Monthly Rents, Springfield vs. the Immediate Region and State, 2006 to 2015 (Q3)

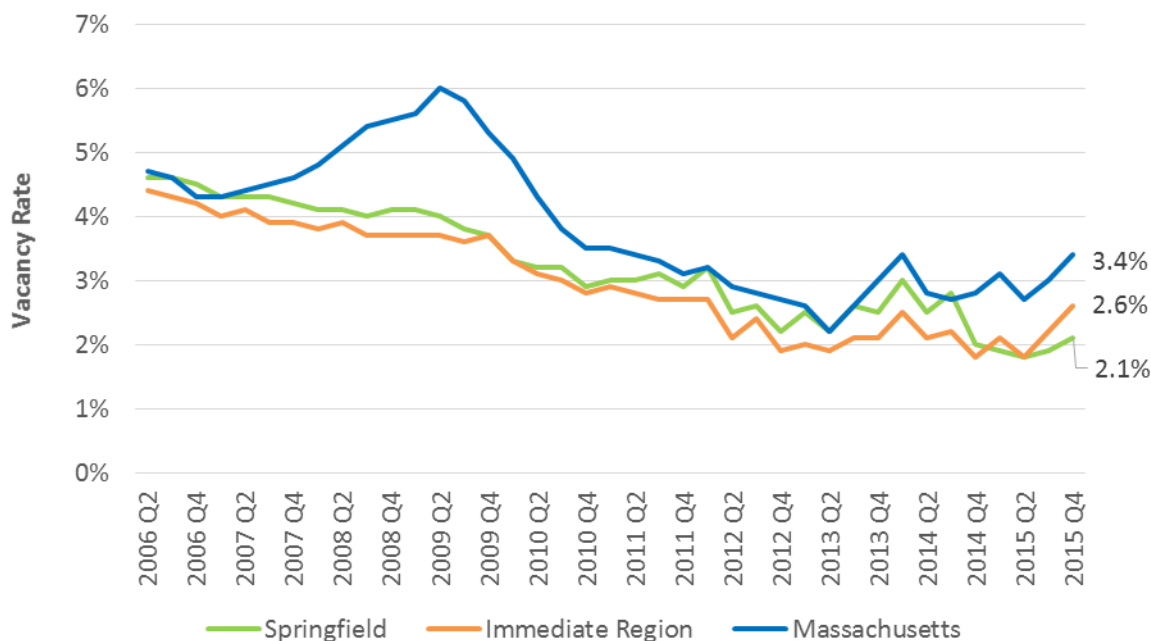


Source: The CoStar Group Inc.



CoStar also reports data on the inventory of rental units, and the slow rise in rental prices in the Springfield market coincides with a slow decline in vacancy rates. At 2.1 percent in the fourth quarter of 2015, vacancy rates in the City of Springfield are extremely low. This is noticeably lower than the statewide vacancy rate of 3.4 percent—despite the fact that average rental rates in Springfield are far below state averages. Thus, the relatively low rental rates in Springfield and its neighbors are unlikely to be the consequence of an overabundance of rentals on the market.

**Figure 25:** Vacancy Rates, Springfield vs. the Immediate Region and State, 2006 to 2015 (Q3)



Source: The CoStar Group Inc.

## Building Permits

Building permits are an important prerequisite for new development. Municipal officials, demographic forecasters and real estate analysts alike monitor building permit applications in order to get a sense of changing population trends two or three years in advance.

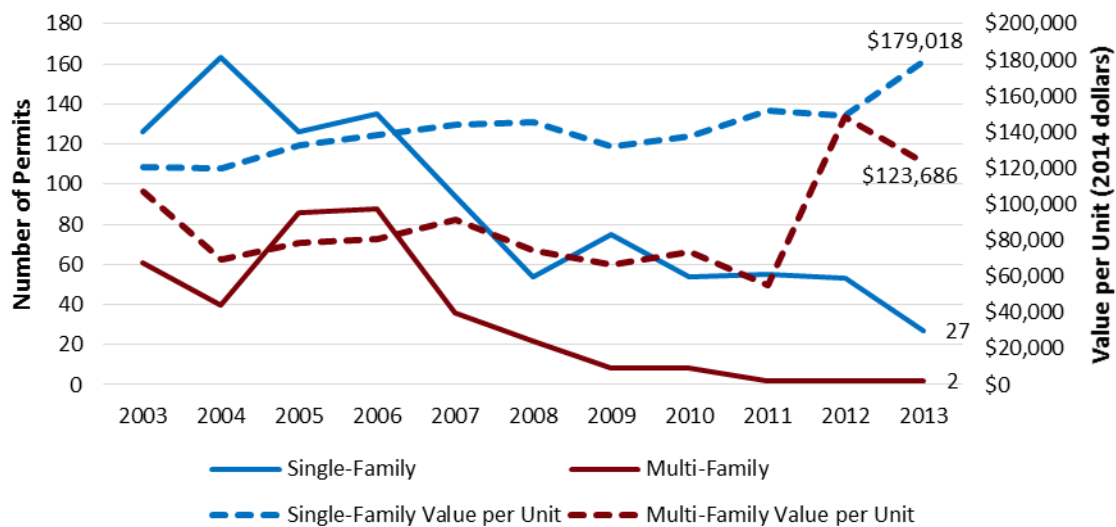
Data on building permits comes from the U.S. Census Bureau’s Manufacturing and Construction Division. For every individual community in Massachusetts, the Census Bureau reports the number of permits and their approximate value. However, the survey only covers residential permits, although it does distinguish single- from multiple-family permits by the number of individual housing units covered under the permit. These figures should be considered estimates, and not a complete count. Communities often do not report their permits, in which case the Census Bureau imputes (i.e., makes a statistical estimate of) the missing values using past values and other related variables.

One must exercise particular caution when considering building permit trends, especially at the town level. Even with imputation, the number of building permits issued can vary greatly from year to year. A single large-scale development can create abrupt bumps and dips in annual permitting trends. Permits, like the real estate market more generally, are also sensitive to broader economic conditions and

business cycles—making it difficult to establish a regular “baseline” trend that can be used later to measure impacts. With these important caveats in mind, we proceed with our examination of recent permitting trends.

The number of residential building permits issued in Springfield has dropped sharply in recent years (Figure 26). In 2013, the city issued only 27 new single-family permits and two multi-family permits, compared to a respective 126 and 61 permits issued just ten years prior. Such averages can be misleading, because the number of permits issued is rather volatile. Regardless, in Springfield we see a clear downward trend.

**Figure 26:** City of Springfield, Number and Per Unit Value of Residential Building Permits

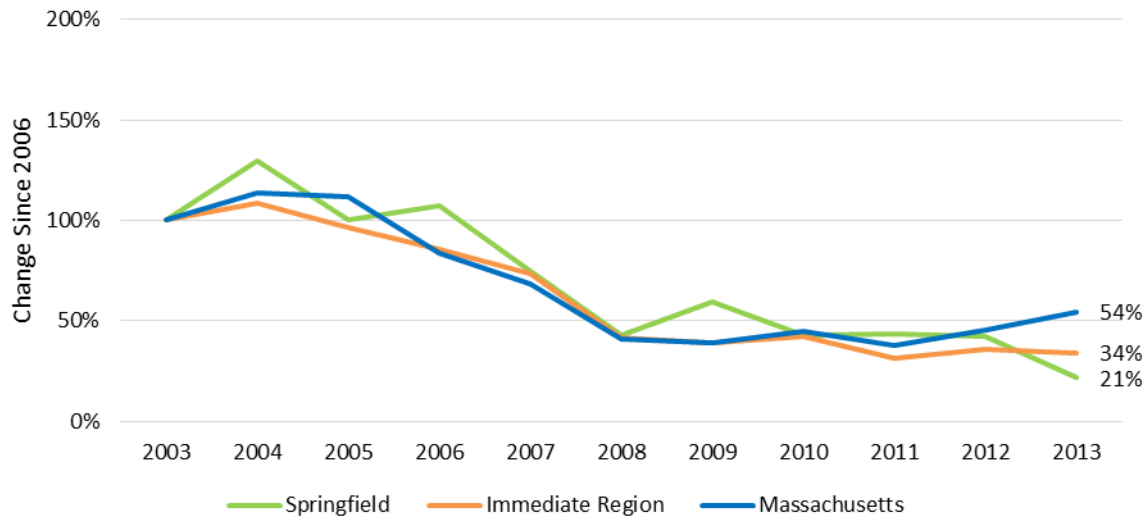


Source: U.S. Census Bureau, Residential Construction Branch

The monetary value of issued permits tends to be more stable than the number of permits, although they can be skewed by a small number of rather expensive or inexpensive projects.<sup>x</sup> In 2013, the average value of single-family permits in the city was \$179,018, up by just over \$30,000 from 2003 (Figure 26). Almost all of this growth was due to a sharp increase in value between 2012 and 2013. Multi-family permits are now valued at more than they were at the beginning of the study period. Multi-family permits steadily declined in value from 2003 until 2011, when the average price shot up by over \$100,000 in a single year.<sup>xi</sup> However, there were only two permits issued in both 2011 and 2012, thus it is very likely that either permit values in 2011 were abnormally small or the values in 2012 were abnormally large.

To help put these trends into context, we compare the annual change in the number and value of residential building permits against regional (i.e., Hampden and Hampshire Counties) and statewide trends (Figure 27). We see that the precipitous decline in single-family home permits is not just an issue in Springfield, but rather is emblematic of a widespread statewide slowdown in residential construction, although the State has witnessed a bit more of a post-recession bump in permitting activity compared to Springfield.

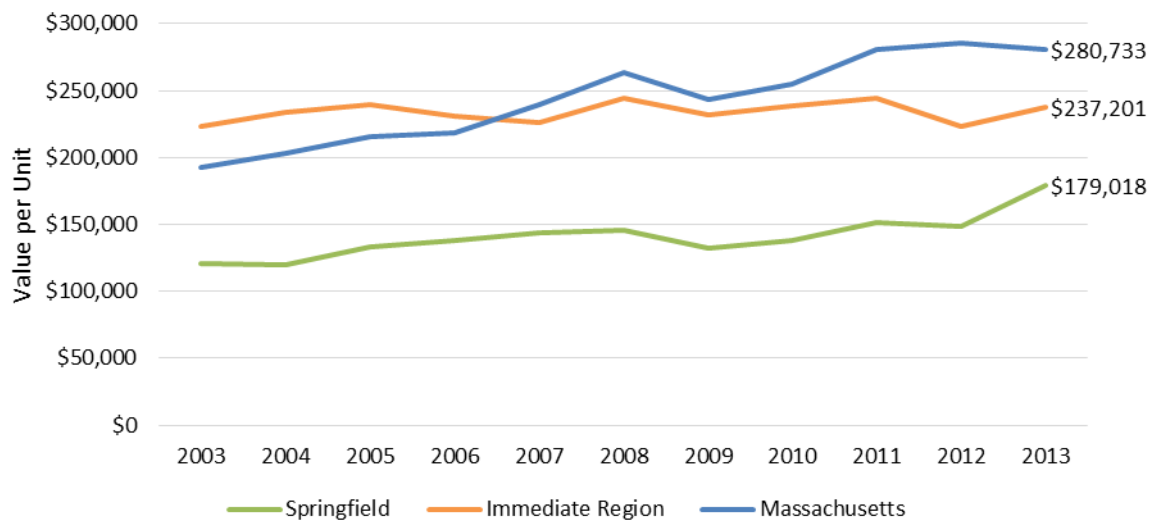
**Figure 27: Change in Single-family Building Permits from 2003**



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

Springfield consistently falls far short of the State and Immediate Region in terms of single-family permit value. In 2013, the average permit in Springfield was valued at just under \$180,000—nearly \$100,000 less than the statewide average (Figure 28). Of course, Springfield is a different type of housing market – it is more built out and has less acreage available for large-lot housing developments that have been favored by developers elsewhere in the State. The real dollar value of permits in Springfield has actually been increasing at a pace just below that of the State, but faster than the Immediate Region.

**Figure 28: Average Value of Single-family Building Permits from 2003**

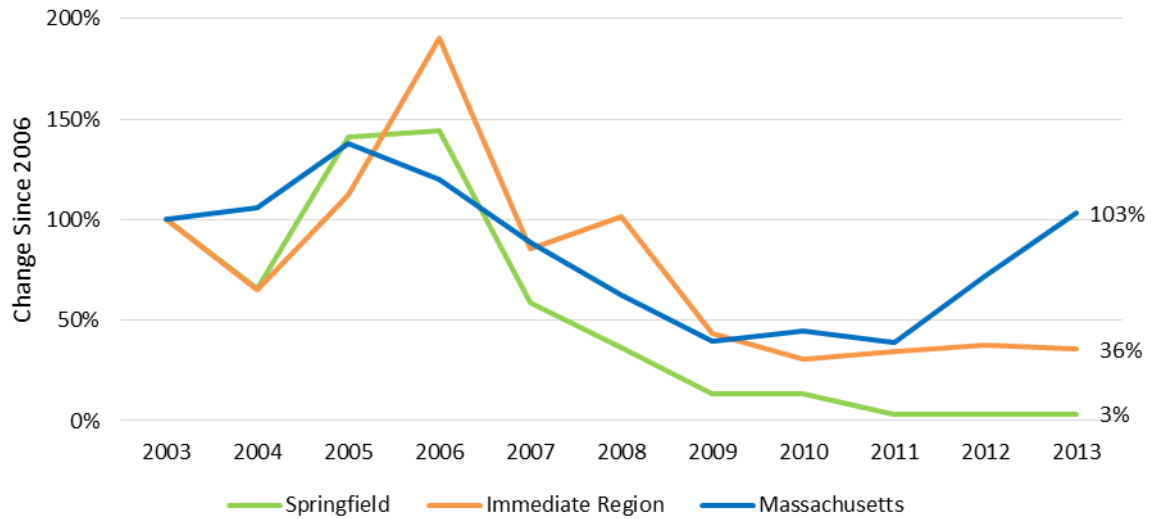


Source: U.S. Census Bureau, Residential Construction Branch

There has also been a steady drop in permitting for multi-family housing (Figure 29). The pace of decline in the number of multi-family permits issued by Springfield is generally consistent with the Immediate

Region and State. Each experienced a fairly rapid decline 2007 to 2009. However, while the State has seen an increase starting in 2011, Springfield and the Immediate Region have remained flat.

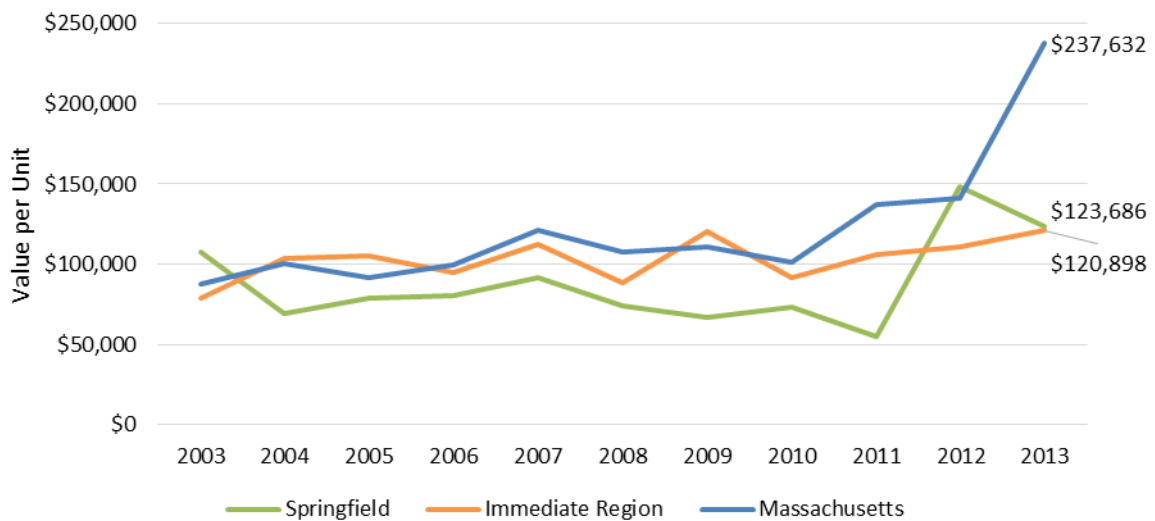
**Figure 29:** Change in Multi-family Building Permits, 2007 to 2013



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

The value of multi-family permits in Springfield trends consistently lower than both the State and Immediate Region (Figure 30). However, both State and City have experienced a sharp rise in the value of multi-family permits since 2011, whereas gains have been far more modest for the region.

**Figure 30:** Average Value of Multi-family Building Permits, 2007 to 2013



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

Table 5 provides a summary of building permit activity in Springfield and its surrounding communities. The average value of a single-family permit in Springfield is lower than its neighbors, especially more affluent communities such as Longmeadow, West Springfield and Wilbraham. It is just slightly below its

more urbanized neighbors such as Chicopee and Holyoke. The data on multi-family permits is too sparse to draw comparisons at the municipal scale.

**Table 5:** Building Permit Summary, Springfield and Surrounding Communities

Area	Single Family Building Permits				Multi Family Building Permits			
	Number	% Change	Value	Change in	Number	% Change	Value	Change in
	(2013)	in Number	(2013)	Value	(2013)	in Number	(2013)	Value
<b>Massachusetts</b>	7,100	-46%	\$280,733	\$88,529	7,469	3%	\$237,632	\$149,597
<b>Springfield</b>	27	-79%	\$179,018	\$58,533	2	-97%	\$123,686	\$16,352
<b>Surrounding Communities</b>								
Agawam	18	-74%	\$235,252	-\$60,822	0	-100%	\$0	n/a
Chicopee	32	-3%	\$209,556	\$66,637	6	-40%	\$89,080	\$23,290
East Longmeadow	18	-67%	\$237,471	-\$4,051	25	400%	\$73,178	-\$102,262
Holyoke	7	-85%	\$193,800	-\$4,187	0	-100%	\$0	n/a
Longmeadow	5	150%	\$316,812	-\$135,333	0	n/a	\$0	n/a
Ludlow	30	-56%	\$219,018	-\$65,199	0	n/a	\$0	n/a
West Springfield	14	-48%	\$304,106	\$1,823	0	-100%	\$0	n/a
Wilbraham	18	-59%	\$268,869	-\$89	0	n/a	\$0	n/a

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

In conclusion, we find that the data on building permits, while having some value in helping us understand the changing conditions in residential construction, may be too erratic and fraught with estimation ambiguities to identify possible development impacts of Casinos. We will continue to monitor and track building permits moving forward, but will couple our analysis with sufficient warnings and caveats.

## Commercial and Industrial Real Estate

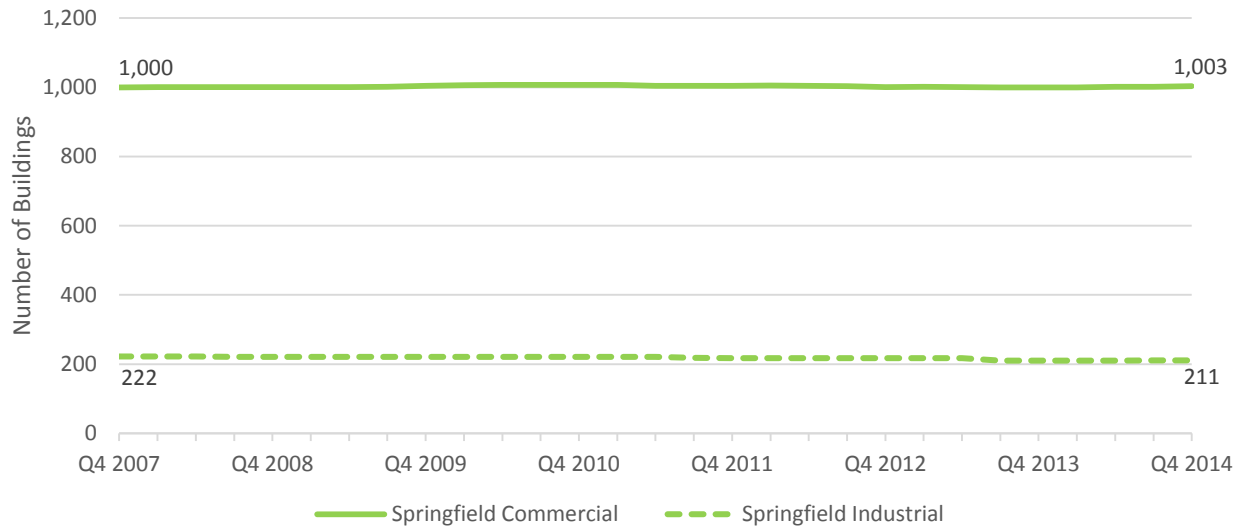
The market for commercial and industrial real estate is another important indicator of the nature and health of an area's economy. This section of the report analyzes Springfield's commercial and industrial real estate inventory, how that space is utilized, and the average cost. We use data from CoStar, a commercial real estate analytics firm, to provide information on certain indicators not generally tracked in publicly available data sources, such as net absorption and lease rates per square foot. CoStar data are available for all of Massachusetts on a quarterly basis from 2007 to present.<sup>xii</sup> This analysis covers the seven year period between the end of last quarter of 2007 and the last quarter of 2014.

This section of the report has three sub-sections, each of which addresses a key concept for evaluating a community's real estate market and touches on several metrics related to that concept. The first section addresses inventory, meaning the number of buildings in the community, and seeks to demonstrate the size of a community's real estate market dedicated to business activities. The second section addresses vacancy and absorption, two important ways of analyzing the utilization of space within a community. The final section addresses lease rates and sheds light on the market prices paid for commercial and industrial space within a community. When taken as a whole, these measures describe the nature of Springfield's commercial and industrial real estate market in the period immediately preceding the development of the MGM Springfield.

### Inventory

The city of Springfield covers 33.2 square miles, 1.1 miles of which are water. Springfield's Metro Center area, which lies close to Interstate 91 and across the Connecticut River from West Springfield, is a dense city center with major office buildings and entertainment locations and is surrounded by dense urban neighborhoods that also feature many small commercial establishments. Many of the Southern and Eastern parts of the city have a suburban feel and feature more single-family homes, big-box retail and grocery stores, and educational and manufacturing establishments. The commercial building inventory in Springfield has grown while industrial inventory has fallen since the end of 2007, although the changes are small (Figure 31). By the fourth quarter of 2014, there were three more commercial buildings and 11 fewer industrial buildings than seven years earlier.

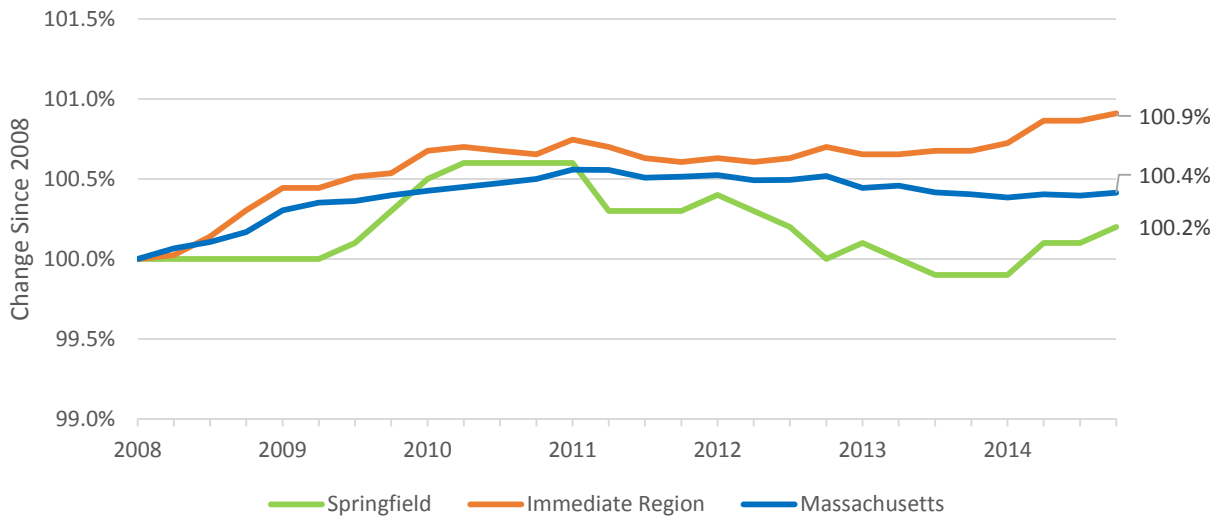
**Figure 31:** Springfield, Number of Buildings Q4 2007 to Q4 2014



Source: The CoStar Group Inc.<sup>xiii</sup> Data used in this section are quarterly data.

Growth in Springfield’s inventory of commercial buildings typically lags both the State and Immediate Region. However, the City has seen notable gains in recent years. Springfield’s commercial inventory peaked between 2010 and 2011, followed by a sharp decline through 2013 and then steady growth from 2014 to the present (Figure 32). Commercial inventories in the larger region also saw gains during the last year, but never experienced the significant decline that occurred in Springfield after 2011.

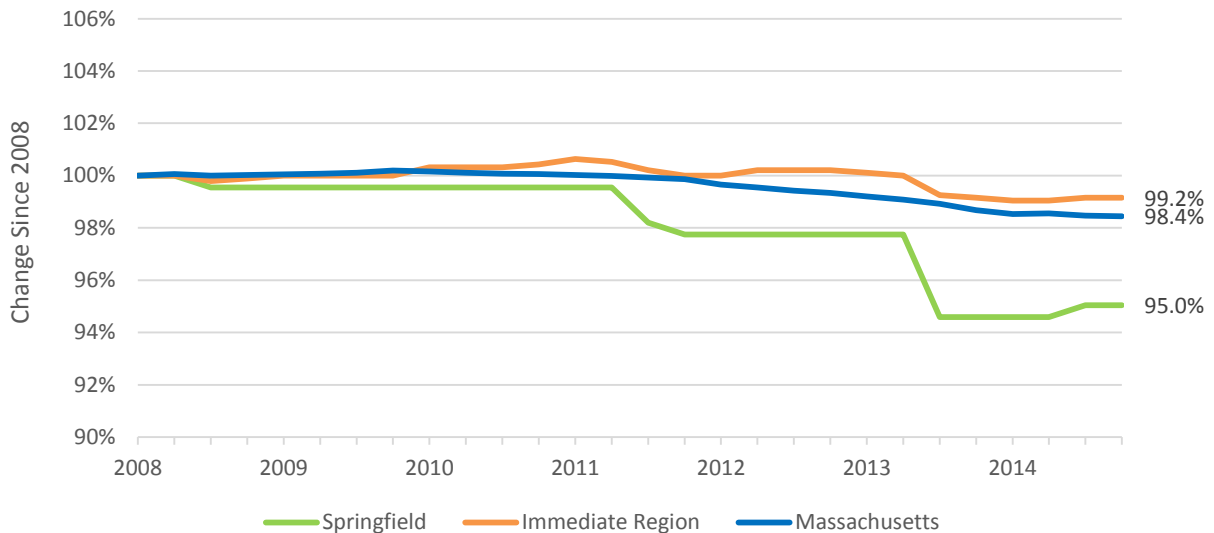
**Figure 32:** Number of Commercial Buildings, Change from 2008



Source: The CoStar Group Inc.

All three areas (State, Immediate Region, and the City of Springfield) have lost industrial buildings since 2008 (Figure 33). The decline has been most dramatic in Springfield, where the stock of industrial buildings is only 95 percent of what it was just eight years prior. Much of this decline happened after 2011, and may be at least partly due to the aftermath of the 2011 tornado which damaged many buildings in the heart of the City.

**Figure 33:** Number of Industrial Buildings, Change from 2008



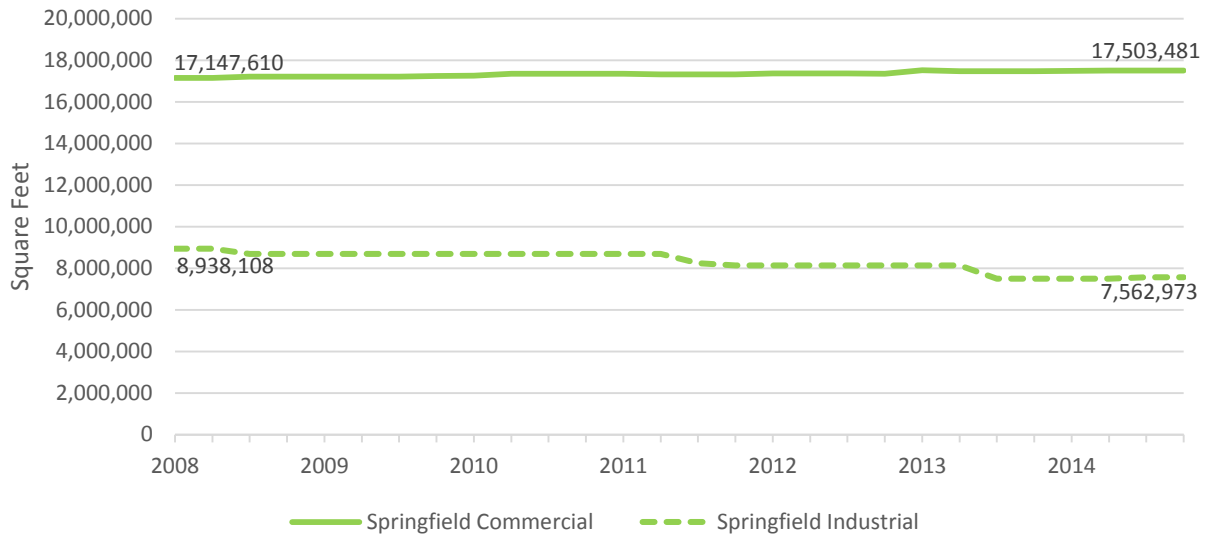
Source: The CoStar Group Inc.

Buildings can vary dramatically in their size and significance to an area, so another way to examine how an area’s building inventory has changed is rentable building area (RBA). Rentable building area is the usable area in a community’s building stock, including their share of associated common areas, expressed in square feet. While Springfield’s commercial building stock is nearly four times the size of its industrial building stock, it has only just over twice as much commercial RBA as industrial RBA because industrial buildings tend to be larger than commercial buildings.

Since 2008, Springfield’s commercial RBA grew at a slightly faster pace than its stock of commercial buildings (Figure 34) -- 102.1 percent of its 2008 RBA compared to 100.2 percent of its 2008 number of buildings. This suggests that the new commercial buildings in Springfield are larger than the average commercial building stock. Springfield’s commercial RBA has steadily growing at a pace just below both the State and Immediate Region (Figure 35). Like Springfield, new commercial buildings in both Massachusetts and the Immediate Region tend to be somewhat larger than existing structures.

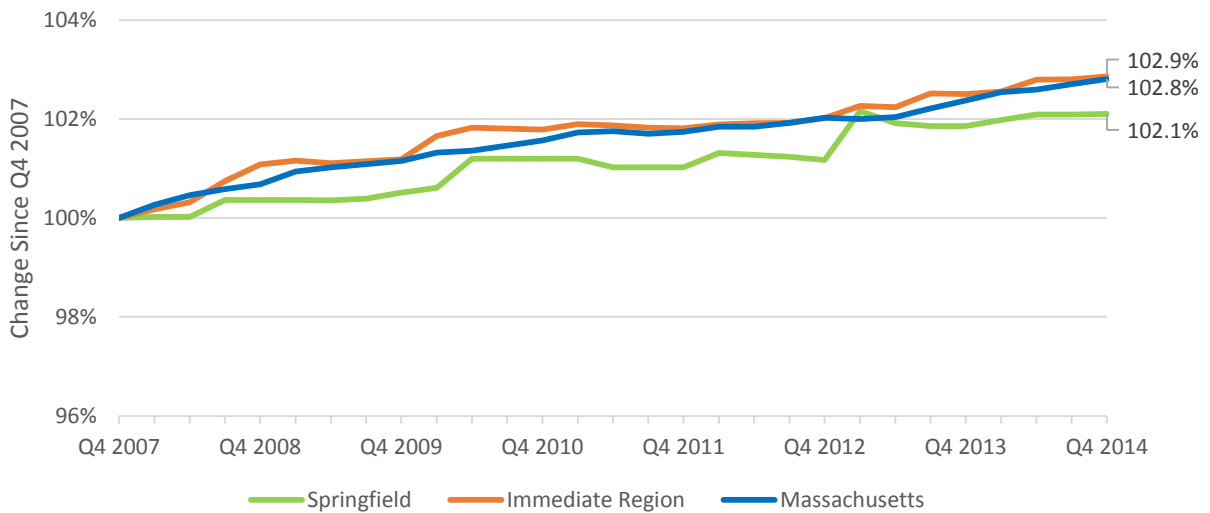


**Figure 34:** Springfield, Rentable Building Area, since 2008



Source: The CoStar Group Inc.

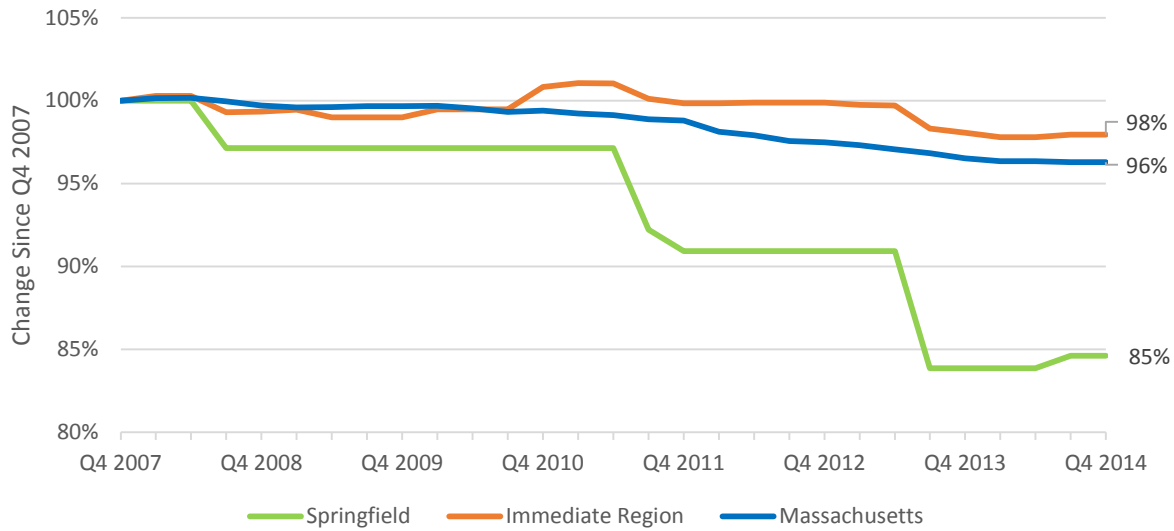
**Figure 35:** Commercial Rentable Building Area (RBA), Change from Q4 2007



Source: The CoStar Group Inc.

As we saw for the number of industrial buildings, the amount of industrial RBA in Springfield has witnessed a rather dramatic decline since the fourth quarter of 2007 (Figure 36). The State and Immediate Region have likewise lost industrial RBA over this period, but at a much slower pace. All three geographies experienced a greater percent decline in industrial RBA than industrial buildings, suggesting that the industrial buildings that have been lost are larger than the remaining stock.

**Figure 36:** Industrial Rentable Building Area (RBA), Change from Q4 2007



Source: The CoStar Group Inc.

### ***Surrounding Community Building Counts and Rentable Building Area***

Table 6 details changes in the number of buildings and RBA for Massachusetts, Springfield, and those communities that have been designated as official surrounding or neighboring communities by the Massachusetts Gaming Commission. As the largest city in the region, Springfield had by far the most industrial properties in 2014. Springfield joins most of its neighboring communities in having experienced growth in commercial building stock over this time period. Holyoke and West Springfield were the only communities to experience a decline, while Longmeadow experienced no growth. However, of the communities that increased their commercial building stock, Springfield is the only one to fall below the Commonwealth’s level of growth at 0.6 percent. Springfield and all of its neighbors except for Chicopee and Longmeadow experienced more growth in RBA than in number of commercial buildings, while both of the communities that experienced a decrease in the number of buildings (Holyoke and West Springfield) saw no net change in RBA. Only the relatively more affluent communities of Agawam, East Longmeadow, Ludlow, and Wilbraham exceeded the Commonwealth’s growth rate for commercial RBA.

Springfield experienced a much greater decrease in industrial buildings relative to its surrounding communities. With the exception of Holyoke and West Springfield, the remaining surrounding communities saw no change in the number of industrial buildings. Springfield also experienced the greatest decrease in industrial RBA at 15.4 percent. The majority of Springfield’s neighbors experienced no change industrial RBA, with the exception of Chicopee and Holyoke, which experienced a decrease of 0.7 percent and 5.0 percent, respectively.

**Table 6:** Commercial and Industrial Building Inventory Summary, Q4 2007 to Q4 2014

Inventory, Springfield and Surrounding Communities, Q4 2007-Q4 2014	Commercial				Industrial			
	Number of Buildings (Q4 2014)	Percent Change, Q4 2007-Q4 2014	Rentable Building Area (Square Feet, Q4 2014)	Percent Change, Q4 2007-Q4 2014	Number of Buildings (Q4 2014)	Percent Change, Q4 2007-Q4 2014	Rentable Building Area (Square Feet, Q4 2014)	Percent Change, Q4 2007-Q4 2014
<b>Massachusetts</b>	<b>46,620</b>	<b>0.6%</b>	<b>942,748,021</b>	<b>2.8%</b>	<b>10,450</b>	<b>-1.4%</b>	<b>404,629,714</b>	<b>-3.7%</b>
Springfield	1,003	0.3%	17,503,481	2.1%	211	-5.0%	7,562,973	-15.4%
<b>Surrounding Communities</b>								
Agawam	148	2.1%	1,762,023	2.8%	47	0.0%	1,796,579	0.0%
Chicopee	480	0.6%	4,105,033	0.2%	118	0.0%	7,040,351	-0.7%
East Longmeadow	89	3.5%	1,324,130	13.7%	29	0.0%	3,260,896	0.0%
Holyoke	544	-0.5%	9,440,512	0.0%	182	-1.6%	8,606,251	-5.0%
Longmeadow	27	0.0%	702,129	0.0%	N/A	N/A	N/A	N/A
Ludlow	82	2.5%	1,058,948	8.4%	21	0.0%	497,737	0.0%
West Springfield	318	-0.3%	5,626,319	0.0%	62	-1.6%	1,835,733	11.8%
Wilbraham	70	6.1%	961,832	11.0%	8	0.0%	719,167	0.0%

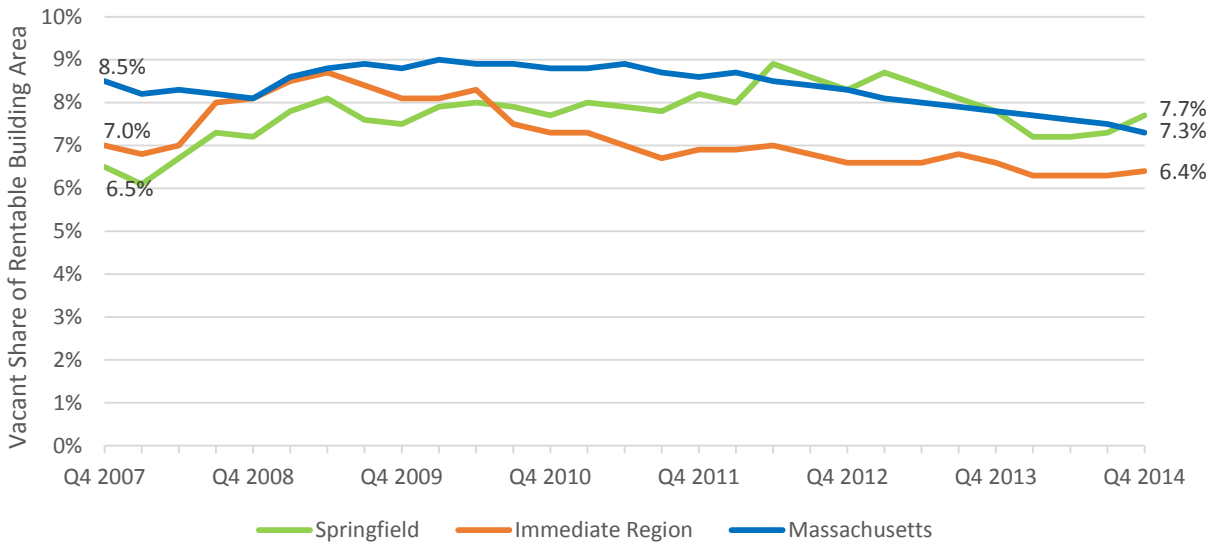
Source: The CoStar Group Inc.

## Vacancy and Absorption

We consider several additional metrics to show how available commercial and industrial space is being utilized. First, we examine vacancy rates, defined as the percentage of rentable building area that is not currently in use. Vacancy rates as calculated by CoStar include abandoned buildings that have been removed from the real estate market, so actual vacancy rates may be higher than in these figures and tables, particularly in the most distressed communities that tend to have a larger inventory of abandoned buildings.

Springfield's commercial and industrial vacancy rates are notably higher than both Massachusetts and the surrounding area (Figure 37). Since the end of 2007 to 2014, Springfield went from having a lower commercial vacancy rate than the State and Immediate Region to having a slightly higher one. Springfield's commercial vacancy rose from 6.5 percent at the end of 2007 to 7.7 percent at the end of 2014. During this time, the commercial vacancy rates of Massachusetts and the Immediate Region both fell from 8.5 and 7 percent to 7.3 and 6.4 percent, respectively.

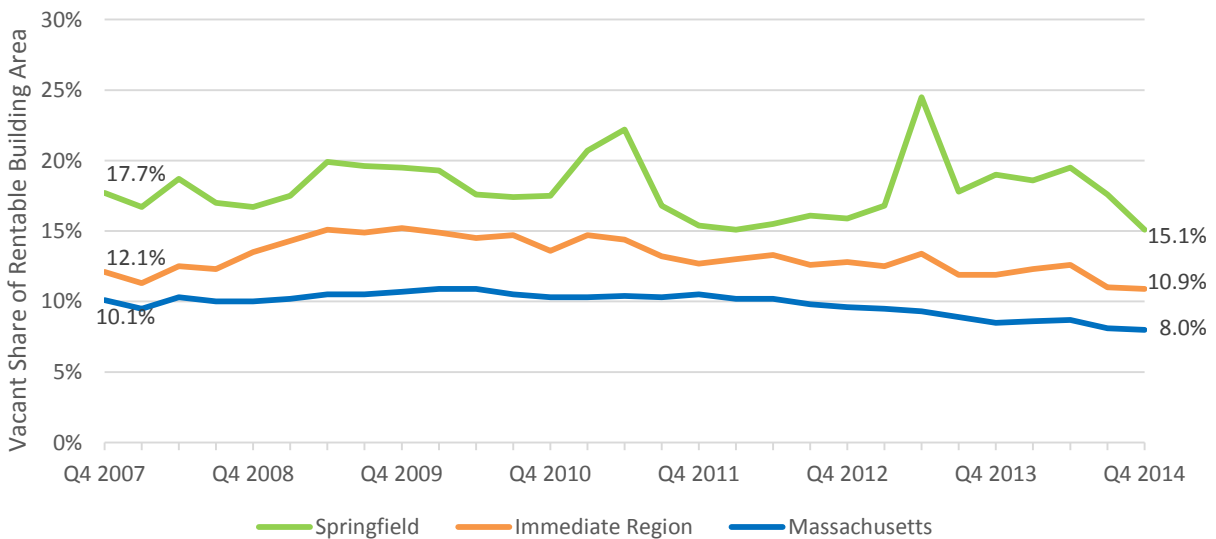
**Figure 37: Commercial Vacancy Rates**



Note: Vacancy rate is calculated as the share of unused rentable building area.  
 Source: *The CoStar Group Inc.*

Springfield’s industrial vacancy rate has been more volatile than the commercial vacancy rate, but has remained consistently higher than either the Immediate Region or the Commonwealth as a whole (Figure 38). Springfield’s industrial vacancy rate has experienced several dramatic spikes in recent years, which is somewhat expected given the rather small inventory of industrial buildings. At the end of 2014, it stood at 15.1 percent, higher than the Immediate Region’s industrial vacancy rate of 10.9 percent or the state rate of 8.0 percent.

**Figure 38: Industrial Vacancy Rates**

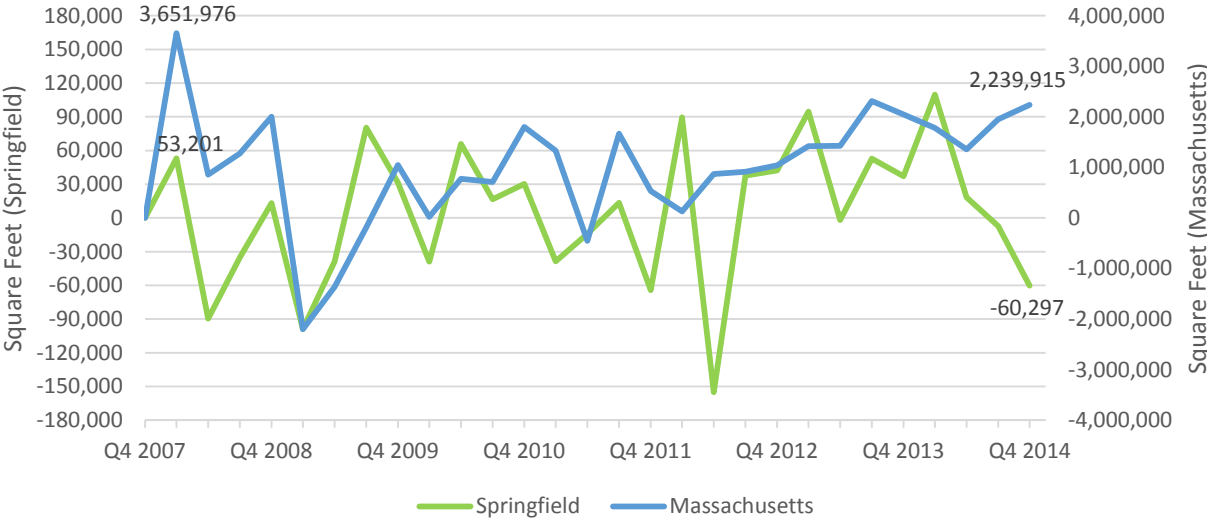


Source: *The CoStar Group Inc.*

Next, we consider net absorption. Net absorption is defined as the net change in occupied space in an area’s rentable building area from one quarter to the next. It measures the difference between rentable building area that is newly occupied and rentable building area that is no longer occupied since the last period. Since net absorption is presented in terms of square feet, not as a share of rentable building area, it can capture changes in the market that may not be detected by the vacancy rate alone. For example, a vacant building that is taken off of the market entirely would cause a fall in the vacancy rate, but no corresponding change in net absorption. Analysts typically consider several consecutive quarters of high positive net absorption as indicative of shrinking supply of available space that sends a signal to developers that the market is ripe for construction.

In Springfield, commercial net absorption tends to hovers near zero – meaning there is little or no change in net occupancy from one quarter to the next (Figure 39). There were several quarters of consistently positive net absorption in the commercial market from mid-2011 through 2013, but the most recent quarter has again dipped below zero. Overall, the story of the Springfield’s commercial market has been one of stability, showing signs of neither expansion nor contraction. Springfield’s commercial net absorption was positive in 16 of the 28 quarters studied (~57 percent). In the same seven year period, Massachusetts had positive net absorption for 24 quarters. Furthermore, Springfield’s majority of growth quarters were offset by a few large negative quarters. As a result Springfield had only 143,800 more square feet of occupied commercial space at the end of 2014 than it had at the end of 2007.

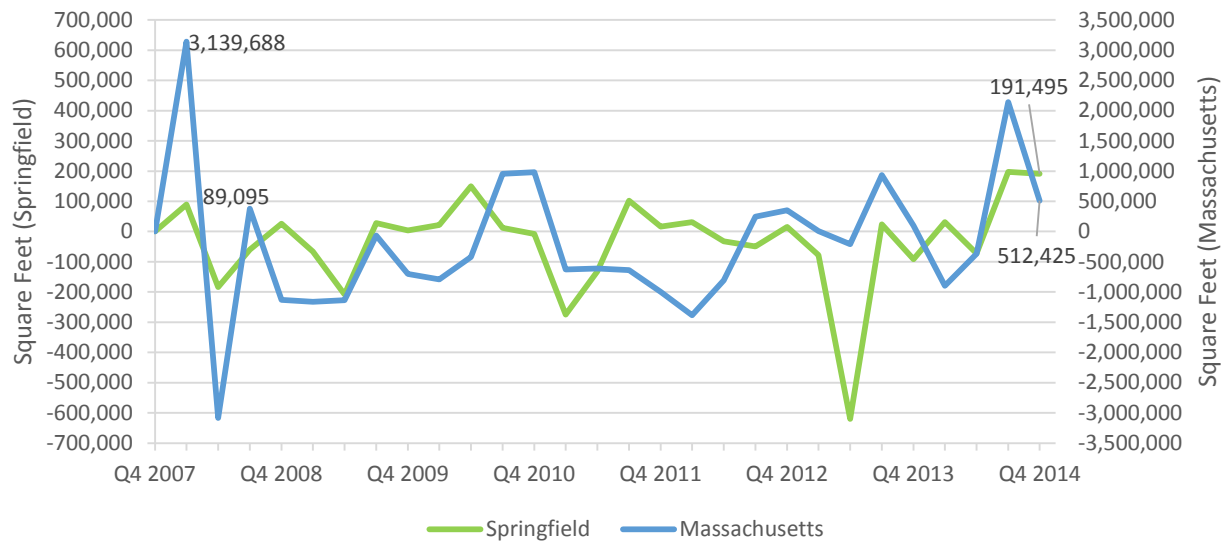
**Figure 39: Commercial Net Absorption**



Source: The CoStar Group Inc.

Industrial net absorption tends to be more volatile (Figure 40). Springfield had 15 quarters of positive net absorption out of the last 28 quarters (53 percent). This compares favorably against the State, which only had 11 positive quarters of net absorption of the past 28. Yet the overall picture of the market is less favorable. Springfield experienced several quarters of dramatic negative net absorption, leading to a net loss of 939,236 square feet of occupied RBA since the end of 2007. The last few quarters, however, have seen positive net absorption of industrial space, as reflecting by declining vacancy rates.

**Figure 40: Industrial Net Absorption**



Source: The CoStar Group Inc.

### ***Surrounding Community Vacancy and Absorption Rates***

**Error! Not a valid bookmark self-reference.** also presents an alternative concept of vacancy rates, taken from Valassis Lists, a direct mail marketing firm, which supplies United States Postal Service vacancy data to the web-based mapping company PolicyMap. As mentioned above, CoStar’s vacancy rates captures properties which are currently on the market but not occupied. Commercial or industrial buildings which have been abandoned altogether, or whose owners have chosen not to put them on the market, are not included. Valassis’ vacancy rate measures the share of vacant addresses. It considers all buildings, but is based on a share of buildings and not square footage. Nor does it distinguish commercial from industrial properties. While they may not be directly comparable, when viewed together both CoStar and Valassis help to provide a more complete view of vacancy in the host and surrounding communities.

Springfield’s Valassis vacancy rate of 21.5 percent is the third highest among area communities, although it is only slightly higher than several other neighboring communities such as Agawam, Chicopee, and West Springfield. Among those communities where data was available, only Longmeadow and Wilbraham had lower vacancy rates than State in 2014. While these figures reflect a different concept of vacancy than the concept presented by CoStar, they do suggest that many communities in the region have a relatively high business vacancy rate, and that Springfield is no exception.

Table 7 compares the commercial and industrial vacancy rates and net absorption in Springfield to nearby communities that were designated as official surrounding or neighbor communities by the Massachusetts Gaming Commission. Springfield’s commercial vacancy rate is higher than that of most of its neighbors, with the exception of Agawam and West Springfield. Springfield had one of the highest vacancy growth rates in the region, while the commercial vacancy rates for Massachusetts and most of Springfield’s neighbors fell in the same period. Springfield did, however, add the most occupied RBA (positive net absorption) of any community in the area, except for Holyoke. Springfield’s industrial

vacancy rate is also higher than most of the communities in the region. It joins Agawam, East Longmeadow, Agawam and Wilbraham in having an industrial vacancy rate higher than that of the State at the end of 2014. While Springfield’s vacancy rate has fallen since the end of 2007, its net absorption has also fallen more than that of any surrounding community, a function of the decline in industrial RBA shown in Table 6.

**Error! Not a valid bookmark self-reference.** also presents an alternative concept of vacancy rates, taken from Valassis Lists, a direct mail marketing firm, which supplies United States Postal Service vacancy data to the web-based mapping company PolicyMap. As mentioned above, CoStar’s vacancy rates captures properties which are currently on the market but not occupied. Commercial or industrial buildings which have been abandoned altogether, or whose owners have chosen not to put them on the market, are not included. Valassis’ vacancy rate measures the share of vacant addresses. It considers all buildings, but is based on a share of buildings and not square footage. Nor does it distinguish commercial from industrial properties. While they may not be directly comparable, when viewed together both CoStar and Valassis help to provide a more complete view of vacancy in the host and surrounding communities.

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**Table 7:** Vacancy and Absorption, Springfield and Surrounding Communities

Area	Commercial			Industrial			Valassis Vacancy Rate, All Businesses, Q4 2014
	Vacancy Rate (Q4 2014)	Percent Change, Q4 2007-Q4 2014	Net Absorption (Q1 2008-Q4 2014)	Vacancy Rate (Q4 2014)	Percent Change, Q4 2007-Q4 2014	Net Absorption (Q1 2008-Q4 2014)	
<b>Massachusetts</b>	7.3%	-14.1%	28,970,307	8.0%	-20.8%	-5,300,347	16.1%
Springfield	7.7%	18.5%	143,800	15.1%	-14.7%	-939,236	21.5%
<b>Surrounding Communities</b>							
Agawam	7.8%	-39.5%	118,933	10.9%	-35.1%	105,082	18.1%
Chicopee	4.9%	8.9%	-3,579	7.9%	-40.6%	337,119	19.4%
East Longmeadow	3.5%	-53.3%	51,882	19.5%	364.3%	-499,346	N/A
Holyoke	5.5%	-30.4%	192,272	5.7%	-42.4%	-46,261	27.9%
Longmeadow	2.8%	-64.6%	23,373	N/A	N/A	N/A	12.8%
Ludlow	2.8%	-57.6%	31,142	12.1%	-24.4%	19,356	N/A
West Springfield	11.2%	36.6%	-152,944	3.6%	-50.7%	246,209	24.4%
Wilbraham	3.2%	-54.3%	121,978	30.5%	205.0%	-147,586	16.1%

Notes: Vacancy rate is defined as the share of unused rentable building area. Net absorption is the net change in occupied space in a geography’s rentable building area. Data in this table are annual averages of quarterly data.

Source: *The CoStar Group Inc.*

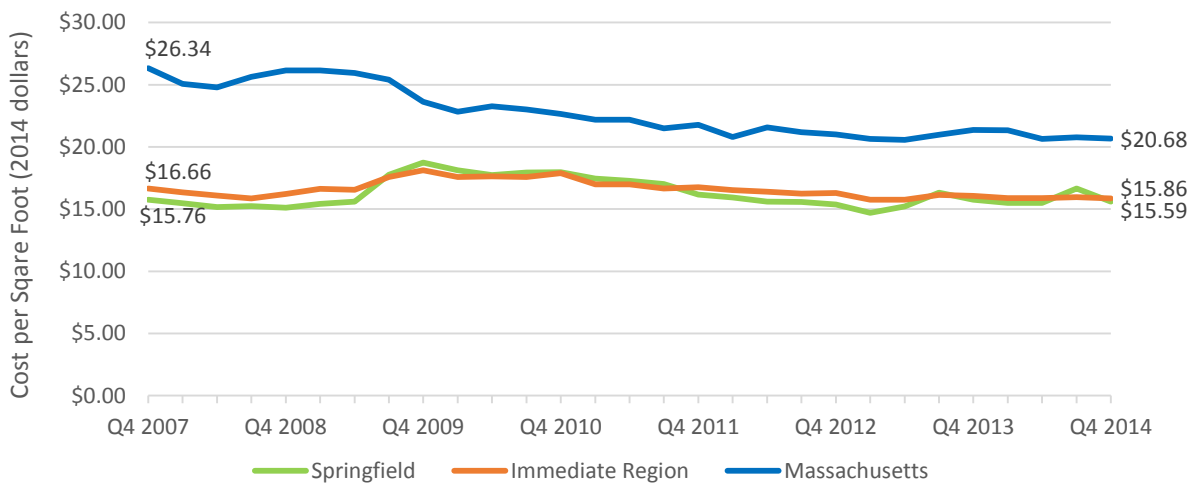
## Lease Rates

Price is another important factor in an area’s real estate market. While there are a number of factors that determine what price property owners can charge in rent, it stands to reason that those areas with higher lease rates are seen as more desirable by businesses and organizations seeking rental space. However, there are a few caveats. First, some organizations own the real estate that they occupy, and those properties are not included in the CoStar lease rate data. Second, individual buildings may possess characteristics that make them particularly valuable to certain types of businesses and organizations. This can make a direct comparison difficult. In this respect, the difference in lease rates between municipalities may say as much about the industry mix and business activities of those municipalities as it does about their relative economic health.

We analyze lease rates separately for industrial and commercial space, dividing commercial leases into two groups: office and non-office real estate. This is because there are often significant differences in the lease rates between office and non-office real estate.<sup>xiv</sup> Office commercial real estate often includes the offices of professional service firms, lawyers, doctors, and government buildings, etc., while non-office commercial real estate includes restaurants, retail stores, sports and entertainment facilities, transportation facilities, and many other types of real estate. Lease rates for industrial real estate are also presented.

Office real estate in Springfield has leased at a lower rate than the average for Massachusetts for the entirety of the seven-year study period (Figure 41: Office Commercial Lease Rates (2014 Dollars)). However, Springfield’s lease rate is consistent with the Immediate Region. Springfield’s lease rates have also been more stable than the State. For example, while Massachusetts’ commercial office lease rate declined by 21.5 percent since the end of 2007, Springfield’s rate has fallen by only 1.1 percent.

**Figure 41:** Office Commercial Lease Rates (2014 Dollars)



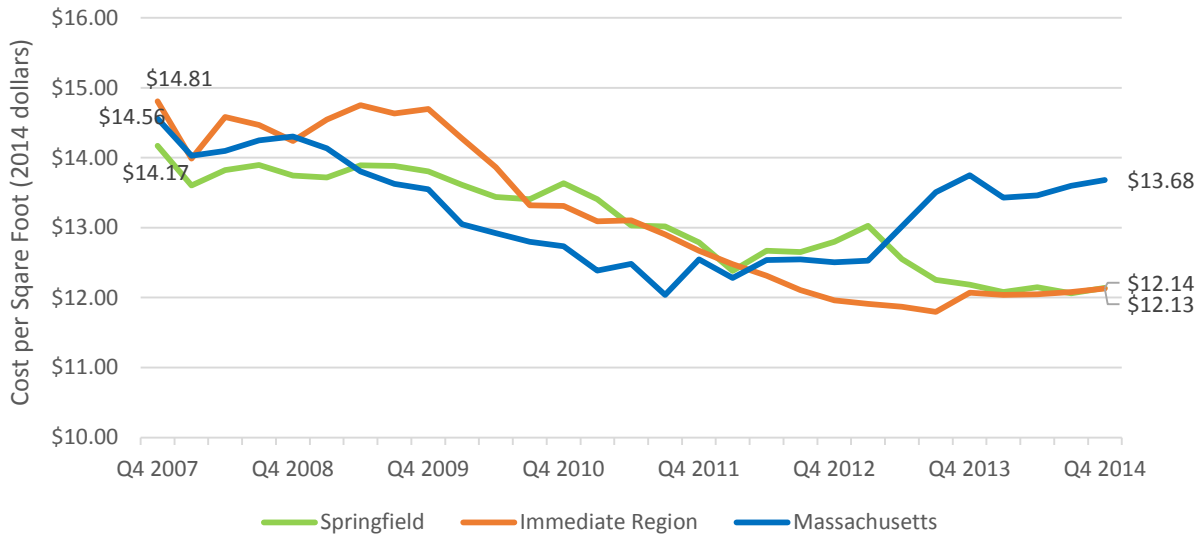
Source: The CoStar Group Inc.

Springfield’s non-office commercial lease rates also track closely to the larger Immediate Region, although not as closely as for office space (Figure 42). Since the end of 2013, non-office lease rates in the City and region have been nearly identical--both currently leasing at just over \$12.13 per square



foot. Non-office lease rates in Springfield are also notably lower than the statewide average of \$13.68 per square foot. Lease rates for the City and Immediate Region have been declining steadily since 2008, although the rate of decline has slowed in recent years. The State also witnessed a real-dollar decline in lease rates for much of this period, although it has seen a surge in prices in recent years that has not been matched by the region.

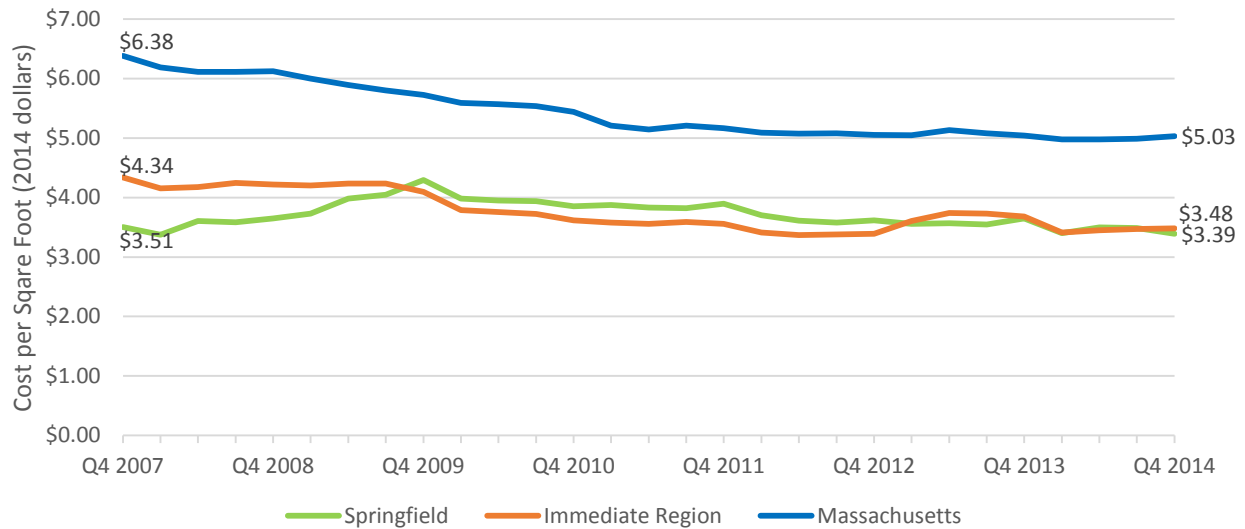
**Figure 42: Non-Office Commercial Lease Rates (2014 Dollars)**



Source: The CoStar Group Inc.

Springfield’s industrial lease rates have also remained roughly consistent with the Immediate Region over much the study period (Figure 43). Lease rates in both the City and the Immediate Region lag the State average by nearly \$1.50 per square foot. However, industrial lease rates in Springfield have been more consistent. As of the end of 2014, industrial properties were leasing at only 12 cents less per square foot than they were at the end of 2007. This compares with a real dollar decline of \$1.35 per square foot for the State and an 86 cent drop for the region.

**Figure 43:** Industrial Lease Rates (2014 dollars)



Source: The CoStar Group Inc.

### Surrounding Community Lease Rates

Although Springfield’s lease rates tend to match the larger Immediate Region as a whole, we do observe differences when comparing Springfield to neighboring communities (Table 8). Springfield’s office, non-office, and industrial lease rates all fall roughly in the middle of surrounding communities, albeit lower than state averages. Longmeadow’s commercial office and commercial non-office rates exceed those of the State on average, as does East Longmeadow’s commercial non-office rate and Ludlow’s industrial rate. No other community exceeds the State in any of the three types of lease rates. Springfield is notable for experiencing the smallest percent change of any community in its commercial office and industrial lease rates. While Springfield’s commercial non-office lease rate fell by 14.3 percent, far more than the state change of six percent, the change was still more modest than all of its neighboring communities which, with the exception of Agawam and Ludlow, have experienced very dramatic changes since 2007.

**Table 8:** Lease Rates, Springfield and Surrounding Communities

Lease Rates, Springfield and Surrounding Communities, Q4 2007-Q4 2014	Commercial Office		Commercial Non-Office		Industrial	
	Lease Rate Per Square Foot (Q4 2014)	Percent Change, Q4 2007-Q4 2014	Lease Rate Per Square Foot (Q4 2014)	Percent Change, Q4 2007-Q4 2014	Lease Rate Per Square Foot (Q4 2014)	Percent Change, Q4 2007-Q4 2014
<b>Massachusetts</b>	\$20.68	-21.5%	\$13.68	-6.0%	\$5.03	-21.2%
Springfield	\$15.59	-1.1%	\$12.14	-14.3%	\$3.39	-3%

<b>Surrounding Communities</b>						
Agawam	\$16.04	-21.3%	\$11.00	-9.6%	\$4.12	-55.5%
Chicopee	\$13.63	-20.8%	\$11.96	-44.0%	\$4.06	-5.4%
East Longmeadow	\$17.59	-12.2%	\$35.00	104.9%	\$2.28	-57.9%
Holyoke	\$12.86	-6.8%	\$8.45	-35.5%	\$2.06	-30.1%
Longmeadow	\$24.44	18.9%	\$22.86	-30.7	N/A	N/A
Ludlow	\$16.41	47.0%	\$12.17	12.2%	\$5.95	15.8%
West Springfield	\$15.79	-13.9%	\$11.29	-27.2%	\$3.14	-60.5%
Wilbraham	\$13.40	-48.7%*	\$13.36	-18.9%	N/A	N/A

Notes: Lease rates are presented in real 2014 dollars. Data in this table is annual averages of quarterly data.

Commercial non-office lease rate data for Longmeadow is not available before Q1 2008. This is the calculation from the earliest available point.

Commercial office lease rates for Wilbraham are not available before Q3 2009. This is the calculation from the earliest available point.

Source: *The CoStar Group Inc.*

## Endnotes

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<sup>i</sup> Host community economic profiles can be found on the SEIGMA website at: <https://www.umass.edu/seigma/node/172>

<sup>ii</sup> This baseline focuses on official host communities as of winter 2015, pending host community agreement ratifications in Region C.

<sup>iii</sup> In addition to the eight “official” surrounding communities, two others (Northampton and Hampden) applied to MGC for “surrounding community” status but were denied. Although not included in this report, we will be including these two communities in future studies of prospective casino impacts.

<sup>iv</sup> Full 2014 data is not yet available for the all communities in Massachusetts. We have included our preliminary 2014 data in the statewide analysis with the intention of updating this information as soon as the new data is available.

<sup>v</sup> The data required for a detailed spatial analysis of development impacts also readily lends itself to more sophisticated forms of statistical modeling, such as hedonic regressions and interrupted time series analysis with spatial decay effects. We intend to pursue some of these more advanced methods once a sufficient time has elapsed after the opening of the casino.

<sup>vi</sup> The location matching process involves joining the DOR L-3A database to GIS databases of individual parcels produced by MassGIS and the Boston Redevelopment Authority. These GIS databases are based on digitized parcel maps, which are linked to assessor’s data, and can be used to identify the latitude and longitude coordinates of every matched parcel. The vast majority (roughly 98 percent) of all sales were located to parcels in this first round. The remaining sales were located through street address matching. Our final match rates were well in excess of 99%, an amazingly high match rate for this type of work.

<sup>vii</sup> The hot spot analysis is based on the kernel density estimation technique, which calculates the density of activity falling within one km of a fine grid of points across the entire study area.

<sup>viii</sup> Although we only examine sales for the 2008 to 2014 period as whole in this report, similar forms of hot-spot analysis could be used to examine changes in the density of home sales over time. This might be useful to help document possible changes in the geography of home sales before and after the casino construction.

<sup>ix</sup> More specifically, we use a technique called Interpolated Distance Weighting (IDW) to estimate a smooth, continuous surface of property sales appreciation across the study region.

<sup>x</sup> We measure the value of residential permits 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.

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<sup>xi</sup> This abnormal rise in the value of permits coincides with the passage of the Expanded Gaming Act in November 2011. It is possible that these changes are the consequence of speculative permit-seeking by Ameristar and other casino companies that contemplated submitting applications for casino licenses in Springfield? Although, because Census bureau permit data only includes city-wide counts we cannot know for certain.

<sup>xii</sup> For more information about CoStar Group Inc. and the CoStar database, please visit <http://www.costar.com/>. The data used for this analysis is not available for download without a CoStar subscription.

<sup>xiii</sup> CoStar Group Inc. updates their commercial real estate database on a daily basis. For this analysis conducted in 2015, UMDI is analyzing up to the last quarter of calendar year 2014. For the purposes of this analysis, commercial real estate is any real estate that CoStar defined as Office, Retail, Flex, Hospitality, Health Care, or Sports & Recreation. Industrial real estate is any real estate that CoStar defines as Industrial. These definitions best approximate MA DOR classifications using CoStar real estate categories.

<sup>xiv</sup> CoStar's full definition of an office building reads as follows: "The primary intended use of an office building is to house employees of companies that produce a product or service primarily for support services such as administration, accounting, marketing, information processing and dissemination, consulting, human resources management, financial and insurance services, educational and medical services, and other professional services. Office buildings are characterized by work efficient floor plans, work areas, comfortable heating and cooling, cabling for phones and computers, and other conveniences that allow people conduct business. The interior finish and the structural design of the building supports the activities of the employees. Office buildings are typically configured for high-density use, with a ratio of people to square footage in the 150 to 300 or more range and less than 25% of the demised floor space allocated to industrial or retail use. Some physical characteristics of a building may assist in classifying the property as "office" if the property's use is not apparent."