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Jobs in Springfield, Massachusetts: Understanding and Remediating the Causes of Low Resident Employment Rates

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Abstract:

As part of the Federal Reserve Bank of Boston's commitment to supporting efforts to revitalize the economy of Springfield, Massachusetts, this paper explores the causes of and potential remedies for the city's low resident employment rates. When compared to the state as a whole and to other midsize New England cities, the share of employed city residents is low, particularly for residents of downtown Springfield and its nearby neighborhoods. By analyzing the availability of jobs across Springfield's various neighborhoods and in nearby towns and cities, this paper's goal is to learn why so few Springfield residents are employed, and thus to identify policy priorities to increase employment. This study finds that solving Springfield's low resident employment rates will require a combination of new job creation, improved informational and physical access to jobs, and strengthening the citizenry's job skills.

JEL Classifications: J21, R11

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Strategies to improve the well-being of Springfield residents must include a major focus on increasing employment. The share of city residents in the work force is low compared to Massachusetts as a whole and compared to other mid-sized New England cities. The lack of employment is particularly problematic for the residents of downtown Springfield and the nearby neighborhoods of the South End, Six Corners, Memorial Square, and Brightwood. At any given time in recent years, the majority of adults living in these areas of Springfield were neither employed nor actively looking for work. ¹

This discussion paper analyzes the availability of jobs across Springfield's neighborhoods and in nearby cities and towns. This examination seeks to unravel the mystery of why so few Springfield residents are employed, particularly those living in neighborhoods close to downtown. Are there few jobs in Springfield in relation to the number of its working-age residents? Are the available jobs located in areas that are difficult or impossible for inner-city residents to access? Are the answers to these questions different from what they were in the past? Do the answers vary by industry? And, in general, do the available data shed light on the extent to which Springfield's employment problems stem from issues related to job availability or accessibility—as opposed to the qualifications of jobseekers in the local labor pool?

The goal of this research is to help identify policy priorities. Increasing employment among Springfield residents will require some mix of job creation, improving physical and informational access to jobs, and strengthening its citizenry's job skills. The data from this study provide a basis for choosing specific initiatives.

This study's most important findings are:

- The jobs challenge is massive. Increasing the employment rate in Springfield to match the average in other comparable New England cities would require

¹ See Browne, Green, et al. (2009).

placing 6,000 more Springfield residents in jobs. Current total employment of Springfield residents is about 58,000; thus, the needed increase is over 10 percent.

- The number of available jobs in the Springfield area (about 76,000 within the city itself plus another 90,000 or so within a 10-mile radius of the city) is not abnormally low for a city with a working-age population of 113,000. The problem is that Springfield residents face significant barriers to being hired into and/or remaining employed in area jobs.
- Springfield residents who have not completed high school— as well as those who have not gone beyond high school—are less likely to be employed than similarly educated residents of other mid-sized New England cities. While policies to reduce dropout rates and expand access to postsecondary education are essential for Springfield’s future, local leaders need to focus on additional strategies to increase employment of city residents.
- The distance between residential neighborhoods and where jobs are located is one barrier to employment that deserves further attention. Springfield’s poor are concentrated near its downtown. Jobs within the city limits are scattered across various neighborhoods. Most of the retail jobs, for example, are located on the eastern edge of Springfield, requiring a lengthy bus ride from the city center for those without a car. Jobs in the suburbs are moving even farther away from the city. To have full access to employment opportunities in manufacturing and construction, in particular, workers must be able to commute outside of Springfield.
- Health care and social assistance is Springfield’s largest industry, and has been a source of growing employment opportunities for the city’s residents. Service-sector industries, particularly leisure and hospitality, also are significant employers in and near downtown Springfield. Hiring more people from inner-city neighborhoods in these industries should be a component of any jobs strategy.

- Expanded training, internship, mentorship, outreach, and other human capital-related programs are necessary in order to prepare more Springfield residents for employment. In addition, transportation enhancements or downtown job creation may be needed to improve their access to jobs in certain sectors.
- Given the demographic composition of Springfield’s poor neighborhoods, progress toward raising employment is likely to be limited unless minorities become better connected to local job networks.
- In order for Springfield’s resident employment to increase without decreasing the employment of current jobholders who live outside the city, Springfield and its surrounding region must engage in aggressive job creation efforts.

Overall Employment Patterns

As this section of the study will show, the evidence on overall job availability is clear: Low employment among Springfield residents is *not* due primarily to a lack of jobs in and near the city. Nonetheless, jobs have been moving farther away from the downtown neighborhoods in recent years, exacerbating any problems the residents of these areas face in finding work and remaining employed.

Springfield’s Low Employment Rate

Springfield’s residents have an exceptionally low rate of employment. Table 1 shows the total population, the working-age population, and the employed population in 2005–2007 for Springfield and six comparable New England cities. The selection of these other New England cities—Bridgeport, Hartford, New Haven, Providence, Waterbury, and Worcester—is based on size, manufacturing orientation, and regional significance, as described in an earlier Federal Reserve Bank of Boston discussion paper.² In 2005–2007, Springfield had a population of approximately 148,000, of whom 113,000 were 16 years of age and older. By these measures, Springfield was the third largest city in the comparison group, behind Providence and Worcester. Judged by the number of employed residents, however, Springfield was only the

² Kodrzycki, Muñoz, et al. (2009).

fourth largest city. It had an employed population of 58,000, smaller than in Worcester, Providence, and Bridgeport, and only slightly higher than New Haven.

Comparing the number actually employed with the size of the potential work force, only 51.4 percent of Springfield's working-age population was employed in 2005–2007. This is the lowest resident employment rate of all six cities. Except for Hartford, all of the other four New England cities had employment rates of between 57 and 60 percent. To raise Springfield's employment rate to match the average of the other four New England cities would require some 6,300 more of its adult residents to find jobs. This amounts to more than a 10 percent increase in the number of Springfield jobholders.

Job Availability in Springfield and Surrounding Areas

In contrast to the overall patterns in resident employment rates, the number of jobs located within the city limits varies widely across the six cities used in our comparison, and Springfield is neither extremely low nor extremely high in terms of jobs concentrated within the city. In 2005–2007, there were almost 76,000 jobs located in Springfield (table 1). The numbers in the other cities ranged from roughly 43,000 to 45,000 in Waterbury and Bridgeport, to between 113,000 and 115,000 in Providence and Hartford. As state capitals, Providence and Hartford have large numbers of government jobs. Counting only private industries, Providence, Worcester, and Hartford were the largest jobs centers—each with between 95,000 and 97,000 jobs in 2005–2007.

One useful measure of the availability of employment is job density: the number of jobs relative to the size of the working-age population. Springfield had 67.0 jobs per 100 residents 16 years of age and older, somewhat lower than the 76.9 average for the other six cities but higher than the average excluding the two state capitals, Providence and Hartford.³ In terms of the number of private-industry jobs per 100 residents 16 years of age and older, Springfield's job density rate was 64.4, very similar to the average of the other cities.

³ See the box at the end of this section that compares the various sources of employment and demographic data, including an explanation for the use of different dates for different sources.

In this particular sample of cities, job density appears to have little or no bearing on resident employment. Hartford had by far the highest job density, but its employment rate among residents was almost as low as Springfield's. Bridgeport had the lowest job density, but the highest resident employment rate.

City resident employment rates correlate poorly with city job density rates because labor markets extend beyond municipal boundaries. In the case of Springfield, 27,000 residents, or 46 percent of the employed population, worked outside of the city in 2000. Meanwhile, about 45,000 other Massachusetts residents commuted to Springfield for work, as shown in table 2. In other words, city residents "compete with" residents of the greater Springfield area for jobs located in Springfield.

Another way to measure job availability for city residents is by more direct measures of accessibility, such as commuting time or distance. A recent study on "job sprawl"⁴ in 98 metropolitan areas across the United States provided mixed results for Springfield. The positive finding is that compared to other similar cities in New England, a relatively high share of the jobs in the Springfield metropolitan area are located within a 10-mile distance from the downtown (table 3).⁵ The study estimated that in 2006 there were a total of about 245,000 jobs within 35 miles of downtown Springfield, of which about 166,000 or 68 percent were within 10 miles and the remaining 79,000 or 32 percent were beyond 10 miles. For the other New England cities, the average shares were 57 percent within a 10-mile radius and 43 percent between 10 and 35 miles.⁶

⁴ Kneebone (2009).

⁵ Locations 10 miles from downtown Springfield lie outside the boundaries of the city. The area of Springfield is 33.2 miles; it measures roughly 7 miles from east to west and roughly 5 miles from north to south. Downtown Springfield is located along the western border of the city.

⁶ The comparable statistics for Bridgeport were not available, and Waterbury was not included in the study. The numbers refer only to jobs within the same metropolitan area. Therefore, for example, the totals for the Springfield metropolitan area do not take into account the availability of jobs in the Hartford metropolitan area.

On the other hand, the study found that the past decade has witnessed a pronounced decentralization of jobs in the Springfield metropolitan area. Between 1998 and 2006, the area on the whole gained 4,200 jobs. However, this figure reflects a 12,100 job loss within 10 miles of downtown Springfield that was more than offset by a 16,300 job gain outside this 10-mile radius. From 1998 to 2006 the share of Springfield-area jobs within 10 miles of downtown Springfield fell by 6.2 percentage points, compared to an average of 2.6 percentage points across all 98 metro areas nationwide and only 0.4 to 1.6 percentage points in the other five New England metro areas covered in the study. The implication is that since the late 1990s physical access to jobs has worsened for residents of Springfield's downtown neighborhoods.⁷

Box: Overview of Data Sources and Time Periods

The availability of data on employment and demographic characteristics varies depending on the geographic unit (city versus zip code) and on the concept (jobs versus employed residents). The study presents the most recent data available. Where feasible, older data are extrapolated to the mid-2000s in order to facilitate comparisons.

The most recent data for employment at the city level refer to 2005-2007. Information on employed residents comes from the 2005-2007 American Community Survey (ACS) three-year estimates. Information on the number of jobs is derived from the Quarterly Census of Employment and Wages (commonly called the ES-202 program). We took the average of the ES-202 figures from 2005, 2006, and 2007 in order to compare the jobs data with the data on employed residents.

Data on the number of jobs at the zip code level are available from the ZIP Business Patterns (ZBP), which provides annual detailed geographic, industry, and other information for U.S. business establishments. The most recent figures at the time of this analysis were from the 2006 ZBP. To compare employed residents to employment in establishments located in Springfield, we estimated the number of employed residents by industry and area in 2005-2007. This was done by applying the growth rate of employed residents by industry in Springfield from 2000 (from the Decennial Census) to 2005-2007 (from the ACS) to the employed residents by area and industry.

For the demographic characteristics by area, we used the 2000 Decennial Census Information because the 2005-2007 ACS does not have data at the zip code level. For instance, when we calculated the employment rate by area we used employed residents and total population 16 years and over in 2000.

⁷ Since 1998 Springfield's share of Hampden County residents has remained approximately constant at around 32 percent. Thus, while the jobs have decentralized, the population has not.

Demographics and City Employment

Previous papers in this series have noted that Springfield has experienced profound demographic changes over the past several decades.⁸ The percentages of city residents who are non-white and non-Anglo have increased dramatically. In addition, the percentages of Springfield's population who have completed high school and college have not kept pace with the numbers in other cities. This section shows that other mid-sized southern New England cities have higher jobholding rates than Springfield across all the population segments examined, but especially for minorities and the less educated. Thus, Springfield's employment deficit is due mostly to the fact that its disadvantaged groups are less likely to be employed than in other cities—and hardly at all to their high shares in Springfield's population.

Table 4 shows employment rates in 2005-2007 for three major categories of race and ethnicity: white (non-Hispanic), black, and Hispanic. These three groups accounted for almost 97 percent of the age-16-and-over population in Springfield, and also for most of the population in each of the other mid-sized New England cities. A lower share of Springfield Hispanics (47 percent) was employed in 2005-2007 than was the case for the city's blacks and whites (each about 53 percent). More noteworthy, however, was the fact that each racial/ethnic group in Springfield had a lower jobholding rate than in the comparison cities. For white non-Hispanics, the gap between Springfield and the average of other New England locations was only 2 percentage points. For blacks and Hispanics, the gaps were substantially larger: 7 and 9 percentage points, respectively

Table 5 shows similar information by level of educational attainment, for the share of the population between the ages of 25 and 64. In 2005-2007, 63 percent of Springfield's population in this age range had a job. As was the case in other locations, employment rates in Springfield increased with the level of education completed. A smaller share of Springfield's adult population had a bachelor's or advanced degree than the average in the other cities (19 percent

⁸ Browne, Green, et al. (2009) and Kodrzycki and Muñoz, et al. (2009).

versus 23 percent), while larger shares in Springfield than elsewhere had not completed high school, had completed only high school, or had some college education.

The table indicates that educational attainment played a relatively minor role in explaining the 5-point difference in the employment rate between Springfield and the average of the other cities. Most of the gap arose because Springfield residents at *each* level of educational attainment had lower rates of employment than comparably educated residents in most cities. The difference was especially noteworthy for less educated segments of the population. In Springfield, only 39 percent of high school dropouts and only 64 percent of high-school-only completers were employed in 2005-07, compared to ranges of 45 percent to 53 percent and 65 to 75 percent, respectively, in the other cities. More detailed data (not presented in the tables) indicate that, for these education levels, the residents of Springfield were much less likely to be in the labor force (working or actively looking for work) than in the other New England urban locations.

On the whole, the analysis indicates that while lack of employment poses a problem across the full range of Springfield residents, minorities and high school dropouts are particularly disadvantaged relative to their situations in other southern New England cities. These findings serve to highlight the need for policies to put special focus on improving economic opportunities for the inhabitants of Springfield's downtown and nearby neighborhoods.

Jobs by Industry

Health care is by far Springfield's largest industry, providing more jobs in the city and employing more city residents than any other sector. However, as this section of the study shows, from 1990 to 2005–2007, the number of Springfield residents working in the health care industry increased by less than the number of health care jobs available in Springfield. These findings suggest that Springfield's non-employed population needs better skills, information, and job networks to take advantages of the growing opportunities in the health care industry. Manufacturing accounts for fewer jobs than in the past, but it remains the second largest source

of employment for Springfield's population. Many Springfield residents commute to manufacturing and construction jobs outside the city. In addition, a high share of wholesale trade employees work outside Springfield. Hence, even if Springfield residents have the qualifications to work in these industries, enhanced transportation options might be needed to enable more city dwellers to commute to the jobs located outside the city boundaries.

Current Employment Patterns

The left panel of figure 1 shows the private-industry breakdown for Springfield's employed population in 2005–2007. Of the 58,000 resident job holders in this period, close to 56,000 worked outside of public administration. By far the largest concentration of employment was in health care and social assistance, comprising 20 percent of the total. The next largest employment sectors for Springfield residents were manufacturing (13 percent), retail trade (11 percent), leisure and hospitality (9 percent), and educational services (9 percent).⁹

The right panel of figure 1 shows the comparable breakdown for the 73,000 employees of private-industry establishments located in Springfield in 2005–2007. As in the case of resident employment, the largest industry located in the city was health care and social assistance (26 percent of all private-industry jobs).¹⁰ The next largest concentrations were educational services (11 percent), financial activities (10 percent), professional and business services (9 percent), and retail trade (9 percent). Manufacturing (6 percent) accounted for a much smaller share of city jobs than of city resident employment.

Table 6 shows these same concepts—the jobs held by city residents and the jobs located in Springfield—as numbers rather than percentage shares. The difference between each pair of numbers is an indicator of commuting patterns. If the number of jobs exceeds (falls short of) the number of employed residents, there is net in-commuting (out-commuting). The industries

⁹ Table 3 of Kodrzycki, Muñoz, et al. (2009) showed similar data for Springfield and the comparison group cities. In that paper, the calculations included public-sector employment. Figure 1 excludes the public sector in order to facilitate comparison with a data source based on the location of private-sector jobs by zip code.

¹⁰ From 2005 to 2007, healthcare accounted, on average, for 89 percent of the jobs in this sector, with social assistance accounting for the remaining 11 percent.

with the largest numbers of net in-commuters were health care and social assistance (8,000), financial activities (3,500), educational services (2,800), miscellaneous services (2,600), and professional and business services (2,300). The only sectors with large numbers of net out-commuters were manufacturing (2,600) and construction (1,000). Wholesale trade had an estimated 440 net out-commuters, as the number of Springfield residents working in this industry exceeded the number of Springfield jobs in this industry by nearly 30 percent.

Retail trade and leisure and hospitality had roughly the same number of Springfield jobs and Springfield employees. This means that—for these industries—although some of the jobs in Springfield might have been filled by nonresidents, the number of commuters into the city was approximately the same as the number of workers commuting in the other direction.

Changes over Time

Examining trends over time is complicated by the fact that industry classification codes changed substantially around 2000. Figure 2 shows industries for which the definitional changes were relatively minor; the underlying data are presented in Appendix A table 1.

Springfield's current pattern of net out-commuting to jobs in manufactured goods industries contrasts with the situation present at the beginning of the 1980s.¹¹ At that time, there were more manufacturing and construction jobs located in Springfield than there were Springfield residents working in these industries. During the 1980s and in subsequent decades, manufacturers made dramatic cuts in jobs located within the city. The number of Springfield residents working in manufacturing has also fallen, but not as sharply. The number of city

¹¹ It is difficult to compare data from the Covered Employment and Wages program (commonly called the ES-202 program) with Decennial Census data prior to 1980 because ES-202 coverage changed substantially in the 1970s. ("ES-202" refers to the form once used by employers to report employment data to state agencies.) Before 1972, ES-202 records did not include employment at facilities owned by the federal government or nonprofit organizations. In 1972, coverage was extended to non-profit organizations, state institutions of higher education, and state hospitals. In 1978, coverage was extended to all state and local government entities, nonprofit pre-elementary, elementary and secondary schools, and certain types of domestic workers. In 2003, the Covered Employment and Wages program was renamed the Quarterly Census of Employment and Wages, but many researchers continue to refer to the new data by the moniker "ES-202."

residents working in the construction sector is greater now than in 1980, although employment at construction contractors located within the city has not increased.¹²

Services-sector firms have accounted for net commuting into the city of Springfield for many years. The pattern in the health care industry has been the exact opposite of that in manufacturing: the number of health care jobs in Springfield increased to a larger degree than did the employment of city residents in health care. The number of Springfield jobs in finance and related industries during the 2000s is not very different from what it was in 1980, but the number of financial sector employees who live in Springfield has fallen.

Jobs by Neighborhood

This section of the study compares the locations of jobs and workers across different parts of Springfield. In general, jobs are scattered throughout the city, and people appear to commute in response to job opportunities rather than concentrating on finding work in their own section of the city. Many residents of the poor neighborhoods located in and near downtown Springfield are constrained in their job possibilities by single-parenting responsibilities and reliance on shared transportation (carpooling and public transit). Therefore, strategies to increase their employment might need to focus on connecting job seekers with nearby job opportunities. As it turns out, job density rates are quite high in and near the neighborhoods of Springfield where residents have low incomes and low employment rates. The study finds that health care and social assistance and leisure and hospitality are two possible industries to target for expanded training, internship, mentorship, or job creation programs because of their already strong presence in the vicinity of downtown Springfield.

Springfield's Various Areas

The initial Federal Reserve Bank of Boston discussion paper on Springfield¹³ presented

¹² The statistics on construction industry jobs refer to the location of the firm, not the construction work they perform. However, the two measures are probably positively correlated.

¹³ Browne, Green, et al. (2009).

demographic and economic characteristics of the population in the 17 neighborhoods that comprise the city; see figure 3, top panel. Comprehensive information on the location of jobs within Springfield is not available at the neighborhood level. To map job locations, the most detailed source is the Census Bureau's ZIP Business Patterns (ZBP). As described in Appendix B, we divided Springfield into seven areas that conform closely to these neighborhood groupings; see figure 3, bottom panel. The poorest sections of the city are mostly in Area 2 (which includes Metro Center, Six Corners and South End) and area 3 (which includes Brightwood and most of Memorial Square). Areas 1 and 4 include both poor and more affluent neighborhoods.¹⁴

The ZBP files contain total employment in private establishments by zip code, as well as additional information on the size distribution of establishments for individual industries. These data, along with some additional assumptions described in Appendix C, formed the basis of our estimates of employment by industry and by area for 2006. We were able to classify approximately 61,000 Springfield jobs by industry and area. This is less than the 64,000 citywide jobs in privately-owned establishments for 2005–2007 because the ZBP files omit certain categories of jobs.¹⁵

Location of Jobs by Industry

Rather than being concentrated in the central business district, jobs are spread out across the city of Springfield; see figure 4, top panel. Of the 61,000 jobs in privately-owned establishments, 13,700 were located in Area 4 (mostly East Springfield and Liberty Heights). Area 2 (Metro Center, Six Corners, and South End) was the second largest employment center, with over 11,000 jobs. Area 1 (Bay, McKnight, Old Hill, Pine Point, and Upper Hill), Area 3 (Brightwood and Memorial Square), and Area 6 (Boston Road, East Forest Park, and Sixteen Acres) each had between 8,000 and 9,000 jobs. The remaining parts of the city contained relatively few jobs.¹⁶

¹⁴ Bay, McKnight, and Old Hill form part of Area 1, and parts of Metro Center and Memorial Square are in Area 4.

¹⁵ The ZBP excludes most government establishments. See Appendix C for details on the ZBP data.

¹⁶ For details on the distribution of jobs by area and industry, see Appendix A table 2.

Different sections of Springfield vary considerably in their industry mix. Health care and social assistance accounts for over 80 percent of the jobs in Area 3 and almost 40 percent in Area 4; the largest employer in these two areas is Baystate Medical Center, a major regional medical facility. Financial services (mostly MassMutual) comprise the dominant source of employment in Area 1, and manufacturing is the largest industry in Area 5. Close to 40 percent of the jobs in Area 6 are retail; this section of the city includes several shopping plazas on the eastern and southern borders.

Despite the variation of jobs across the city, Springfield workers' employment patterns by industry do not vary much by area of residence. For example, the workers residing in Areas 3 and 4 are only slightly more likely to work in health care and social assistance than workers residing in other parts of the city (figure 4, bottom panel). Similarly, residents living near financial services or retail jobs are not substantially more likely to work in these sectors than are residents living in other parts of Springfield. In general, therefore, it appears that commuting from one part of Springfield to another part of the city is common.¹⁷

Jobs Near the Areas of Concentrated Poverty

Bay, Brightwood, McKnight, Memorial Square, Metro Center, Old Hill, Six Corners, and South End are the Springfield neighborhoods where poverty is concentrated.¹⁸ As noted already, these neighborhoods are found mostly in Areas 2 and 3, as well as parts of Areas 1 and 4. Their residents' educational levels tend to be low, and sizable fractions of their residents do not speak English well.¹⁹ Not surprisingly, Areas 2 and 3 have the lowest labor force employment rates in Springfield: respectively, only 40 and 41 percent of the working age population of these two areas held jobs in 2000 (figure 5, top panel). Yet these same parts of Springfield have the highest job densities: the numbers of jobs located in Areas 2 and 3 exceed the numbers of working-age residents (figure 5, bottom panel and Appendix A table 5).

¹⁷ For details on employed residents as a percent of total employment by area and industry see Appendix A table 3.

¹⁸ Browne, Green, et al. (2009) provide relevant indicators by neighborhood.

¹⁹ See Appendix A table 4

The racial and ethnic compositions of the poor parts of Springfield are quite different from the rest of the city. About three-quarters of the population of Area 3 and one-half of the population of Area 2 are Hispanic (figure 6).²⁰ Roughly one-half of the residents of Area 1 classify themselves as black or African-American. In all of the remaining areas, non-Hispanic whites account for the majority of the population.

Other distinguishing characteristics of Springfield's poor neighborhoods are that relatively high fractions of families are headed by single females, and relatively few households own their own car. Of the residents who are employed, a relatively high fraction uses some form of shared transportation. The shares of workers who commute to work by carpool or public transportation are higher in Areas 1, 2, 3, and 7 than in other parts of the city; see figure 7. Reliance on shared transportation complicates commuting because of the extra time involved and because of limited availability, especially outside of "normal" workweek hours.

Given the multiple barriers to job-holding among Springfield's poorer residents, including parenting responsibilities and transportation constraints, it is useful to identify the types of employment opportunities that are located near the neighborhoods with concentrated poverty. There may be particular merit in expanding job training, internship, mentorship, and other human capital-related programs centered on these industries. In addition, it may be worth considering policies aimed at expanding the number of jobs located downtown, either in these industries or related industry clusters.

Table 7 shows the number of jobs by industry and by area of residence (top panel) and area of employment (bottom panel) for the entire city. One strategy to consider is preparing more residents from poor neighborhoods for jobs in health care, a stable and growing industry. As shown in figure 8, health care jobs are available in most areas of Springfield. Although most health care and social assistance jobs are in Areas 2, 3 and 4, very few residents of those areas are employed in this industry. Only about 1,500 residents of Areas 2 and 3 worked in health care and social assistance in 2005–07. There were close to 10,300 health care and social

²⁰ See Appendix A table 6 for additional social, economic and demographic information by area.

assistance jobs in these two sections of the city in 2006, including approximately 6,500 jobs at Baystate Medical Center. Another strategy might revolve around the leisure and hospitality industry, which had close to 1,500 jobs in Area 2, but employed only about 500 workers living in these neighborhoods.

Conclusions and Further Observations

Springfield has a massive jobs challenge. For the city to match the average employment rate in other southern New England cities, thousands more residents need to find work. The source of the problem is not so much that the Springfield area lacks job opportunities—on the contrary, Springfield’s job availability is comparable to many of its peer cities cited in this study—but that many city residents are unable to compete successfully for the jobs that are available.

Employment rates in Springfield are lower than in the other comparable New England cities across a range of population subgroups. However, the disparities are much greater for blacks and Hispanics, and for high school dropouts, than they are for (non-Hispanic) whites and for residents who have more than a high-school education.

Some of the existing jobs are located far from the neighborhoods in and near downtown Springfield where poverty is concentrated. Without more effective means of transporting inner-city residents to suburban job locations or to “off-hours” jobs in the more affluent east-lying city neighborhoods, the poorest neighborhoods and residents are likely to remain poor. However, many of Springfield’s inner-city residents also have problems accessing jobs in their own neighborhoods. Health care is the largest potential source of employment in and near the city areas of concentrated poverty. Other services sectors, including leisure and hospitality, also provide substantial job opportunities in the downtown area.

Other discussion papers in this series provide further perspectives from employers and from poor residents as to why such a large share of Springfield’s population is unable to find work.²¹ Both groups cite issues related to education and training. Employers say that many job

²¹ Plasse et al. (2009) and Green et al. (2010).

seekers lack the skills and other qualities to make good workers, while job-seekers cite the many neighborhood and institutional barriers to getting an adequate education that would lead to better employment opportunities.

In addition, Springfield's employers and job seekers mention aspects of the job-matching process that pose obstacles to increasing employment opportunities for the city's residents. For example, given the large numbers of applicants for entry-level positions, employers indicate that they rely heavily on referrals from existing employees in the screening process. Unfortunately, many residents of the poor neighborhoods of Springfield lack connections to current jobholders, putting them at a disadvantage relative to other job seekers who are able to secure references from employees. In a related vein, applicants from poor neighborhoods say that many employers are not open to hiring them, even if they have the necessary credentials. These observations from interviews and surveys in Springfield are consistent with national statistical studies that probe the causes of low employment rates among Hispanics and African-Americans.²² According to these studies, policies to bring jobs to low-income neighborhoods or low-income workers to job locations do little to increase Hispanic or African-American employment unless these jobs are made more available to Hispanics and African-Americans than is typically the case. This conclusion holds even when the jobs in question appear to require the skill and education levels that minority job-seekers have, often a high-school diploma or equivalent certification.

The implications of the interviews, surveys, and national research—together with the data on minority-group jobholders presented in this study—are that increasing the employment rate in Springfield will take even greater effort than the aggregate 6,000+ employment gap figure implies. Meeting the challenge will likely require not only an upgrade in residents' education and work preparedness, but also considerable attention to opening up job networks to more members of minority communities. Current hiring and job-search

²² See Hellerstein, McInerney, and Neumark (2008a, 2008b, 2009). These three studies deal exclusively with male employment.

practices may be rational given the realities of the Springfield labor market, but they add to the many factors that exacerbate the concentration of poverty in the city.

Of course, the focus of any workforce development strategies for Springfield should be to increase employment among the city's residents *without* decreasing the employment of the residents of nearby cities and towns who work in Springfield or the Springfield area. The city and region will have to develop a complementary, aggressive job creation program to accomplish this dual goal.

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Table 1 Population and Employment in Springfield and Other Locations in Southern New England, 2005–2007

	Population ^a		Employed residents ^a		Employment ^b		Job Density ^c	
	Total	Age 16 and over	Total	Percent of Population age 16 and over	Total	Private Industries	Total	Private industries
Springfield	148,136	113,333	58,210	51.4	75,897	73,009	67.0	64.4
Comparison cities in New England								
Bridgeport	130,748	100,197	60,621	60.5	44,798	36,181	44.7	36.1
Hartford	118,655	89,456	46,334	51.8	115,279	94,812	128.9	106.0
New Haven	123,507	98,028	56,012	57.1	75,427	63,686	76.9	65.0
Providence	170,220	132,709	75,717	57.1	112,982	97,353	85.1	73.4
Waterbury	108,554	81,429	46,506	57.1	42,751	36,142	52.5	44.4
Worcester	165,965	134,879	78,709	58.4	98,437	95,286	73.0	70.6
Average				57.0			76.9	65.9

^a Population and employed residents entries come directly from the 2005–2007 ACS 3-year estimates.

^b Employment entries are calculated as the average of the ES-202 employment figures for 2005, 2006 and 2007.

^c Jobs per 100 residents 16 years of age and older.

Source: U.S. Bureau of the Census. American Community Survey (2005–2007); Massachusetts Executive Office of Labor and Workforce Development Employment and Wage (ES-202) data (2005, 2006, 2007).

Table 2 Massachusetts Residents Commuting to Springfield for Work, 2000

City or Town	Number of workers
Chicopee	5,945
Agawam	3,500
West Springfield	3,115
Westfield	2,715
Longmeadow*	2,700
Holyoke	2,135
Other cities and towns	25,159
Total	45,269

Source: Bureau of Transportation Statistics. Census Transportation Planning Package (2000)

* Refers to Longmeadow Census Designated Place (CDP)

Table 3 Geographic Distribution of Jobs, 98 Metro Areas, 1998 and 2006

Number of jobs

	1998			2006			Change, 1998 to 2006		
	Within 35 Miles of Downtown	Within 10 Miles	Beyond 10 Miles	Within 35 Miles of Downtown	Within 10 Miles	Total Jobs Beyond 10 Miles	Within 35 Miles of Downtown	Within 10 Miles	Beyond 10 Miles
Springfield, MA	241,098	177,930	63,168	245,318	165,835	79,483	4,220	-12,095	16,315
Comparison cities in New England									
Hartford-West Hartford-East Hartford, CT	538,211	349,299	188,912	554,537	352,686	201,851	16,326	3,387	12,939
New Haven-Milford, CT	331,644	196,665	134,979	337,753	194,883	142,870	6,109	-1,781	7,890
Providence-New Bedford-Fall River, RI-MA	584,309	310,852	273,457	635,912	330,674	305,238	51,603	19,822	31,781
Worcester, MA	289,499	160,961	128,538	288,378	159,185	129,193	-1,121	-1,777	656
Average	435,916	254,444	181,471	454,145	259,357	194,788	18,229	4,913	13,317
98 Metro Area Total	70,159,860	40,341,920	29,817,941	77,411,492	42,498,909	34,912,583	7,251,632	2,156,990	5,094,642

Percentages of jobs within 35 miles of downtown

	1998		2006		Change, 1998 to 2006	
	Within 10 Miles	Beyond 10 Miles	Within 10 Miles	Beyond 10 Miles	Within 10 Miles	Beyond 10 Miles
Springfield, MA	73.8	26.2	67.6	32.4	-6.2	6.2
Comparison cities in New England						
Hartford-West Hartford-East Hartford, CT	64.9	35.1	63.6	36.4	-1.3	1.3
New Haven-Milford, CT	59.3	40.7	57.7	42.3	-1.6	1.6
Providence-New Bedford-Fall River, RI-MA	53.2	46.8	52.0	48.0	-1.2	1.2
Worcester, MA	55.6	44.4	55.2	44.8	-0.4	0.4
Average	58.3	41.8	57.1	42.9	-1.1	1.1
98 Metro Area Total	57.5	42.5	54.9	45.1	-2.6	2.6

Source: Kneebone (2009).

Table 4 Employment Rates by Race and Ethnicity in Springfield and Other Locations in Southern New England, 2005–2007

	White Non-Hispanic		Black Alone		Hispanic		Total percent employed		
	Percent of population age 16 and over	Percent employed	Percent of population age 16 and over	Percent employed	Percent of population age 16 and over	Percent employed	Actual*	Using average race/ethnicity shares	Using average employment rates
Springfield	47.0	53.5	20.3	52.9	29.3	46.7	51.3	51.4	56.4
Comparison cities in New England									
Bridgeport	29.9	57.1	32.0	63.6	31.1	57.9	59.6		
Hartford	20.6	47.0	37.5	55.0	37.8	49.7	51.2		
New Haven	38.2	58.2	33.2	55.8	21.2	59.8	57.7		
Providence	47.1	55.5	13.8	57.1	31.4	59.4	57.1		
Waterbury	56.3	56.8	16.5	58.8	22.9	55.4	56.8		
Worcester	70.6	58.9	7.7	68.0	15.3	50.7	58.3		
Average	43.8	55.6	23.5	59.7	26.6	55.5	56.6		

*Based on weighted average employment of white non-Hispanic, black and Hispanic.

Source: American Community Survey (2005–2007)

Table 5 Employment Rates by Educational Attainment Level in Springfield and Other Locations in Southern New England, 2005–2007

	Less than high school ^a		High school only ^a		Some college or associate's degree ^b		Bachelor's degree or higher ^c		Total percent employed		
	Percent of population ages 25-64	Percent employed	Percent of population ages 25-64	Percent employed	Percent of population ages 25-64	Percent employed	Percent of population ages 25-64	Percent employed	Actual	Using average education shares	Using average employment rates
Springfield	23.3	39.3	33.4	64.4	24.6	72.5	18.7	79.7	63.4	64.5	68.3
Comparison cities in New England											
Bridgeport	23.7	53.4	38.0	74.8	24.0	81.1	14.3	82.2	72.3		
Hartford	30.1	46.2	35.1	67.6	21.3	65.5	13.4	82.2	62.7		
New Haven	16.7	53.0	30.5	66.2	19.8	73.8	33.0	77.3	69.1		
Providence	24.8	56.3	25.1	64.5	19.0	74.1	31.2	80.9	69.4		
Waterbury	16.5	44.5	40.1	74.2	27.4	77.8	16.0	78.3	70.9		
Worcester	13.7	46.0	30.4	70.3	25.0	74.6	30.9	84.8	72.5		
Average	20.9	49.9	33.2	69.6	22.7	74.5	23.1	81.0	69.5		

Source: American Community Survey (2005–2007)

Table 6 Employed Residents of Springfield and Employment in Establishments Located in Springfield by Industry, 2005–2007

	Employed residents of Springfield ^a	Employment in establishments located in Springfield ^b	Difference
Total	58,210	75,896	17,686
All private industries	55,815	73,009	17,194
Agriculture, mining	480	na	na
Construction	2,867	1,871	-996
Manufacturing	7,297	4,697	-2,600
Wholesale trade	1,975	1,535	-440
Retail trade	5,956	6,339	383
Transportation and warehousing, and utilities	2,943	4,826	1,883
Information	1,572	1,873	301
Finance and related activities	4,041	7,537	3,496
Professional and business services	4,281	6,543	2,262
Educational services	5,137	7,889	2,752
Health care and social assistance	11,139	19,170	8,031
Leisure and Hospitality	5,215	5,214	-1
Other services (except public administration)	2,912	5,512	2,600
Public administration	2,395	2,889	494

^aEmployed residents entries come directly from the 2005–2007 ACS 3-year estimates.

^bEmployment entries are calculated as the average of the ES-202 employment figures for 2005, 2006 and 2007. Source: U.S. Bureau of the Census. American Community Survey (2005–2007); Massachusetts Executive Office of Labor and Workforce Development Employment and Wage (ES-202) data (2005, 2006, 2007).

Table 7 Employed Residents of Springfield and Employment in Establishments Located in Springfield by Industry and Area Employed residents of Springfield, 2005–07

Area	1	2	3	4	5	6	7	total
Total industries	10,894	4,569	2,995	8,472	3,335	17,910	10,671	58,845
All private industries	10,367	4,361	2,873	7,934	3,209	16,474	10,138	55,355
Utilities	40	25	3	26	0	129	62	285
Construction	324	284	121	454	257	866	561	2,867
Manufacturing	1,445	484	429	1,159	516	1,936	1,321	7,290
Wholesale trade	285	133	83	508	115	539	311	1,975
Retail trade	948	396	244	887	347	1,952	1,175	5,949
Transportation, warehousing	570	176	122	412	145	792	440	2,658
Information	560	217	138	309	72	737	254	2,286
Financial activities	513	156	77	284	104	1,077	497	2,709
Real estate services	184	87	63	94	33	234	173	869
Professional services	220	126	67	124	38	607	334	1,514
Management	13	5	0	0	0	4	0	23
Business services	484	314	136	259	182	635	572	2,581
Educational services	859	286	223	767	162	1,797	1,030	5,124
Health care and social assistance	2,475	835	671	1,762	638	3,054	1,673	11,109
Arts, entertainment, recreation	136	58	58	87	103	254	192	890
Leisure, hospitality	760	501	243	465	303	1,021	1,021	4,314
Other services	549	278	193	338	195	839	522	2,912
Public administration	527	208	122	538	126	1,436	533	3,490

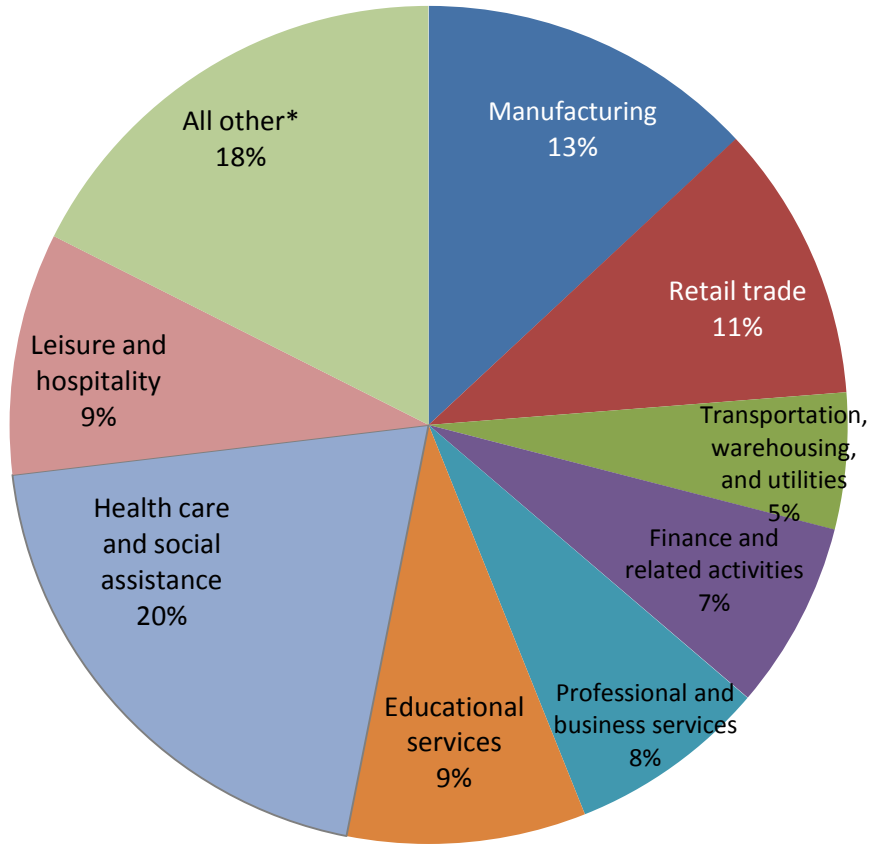
Source: Authors' estimates based on Decennial Census (2000) and American Community Survey (2005–2007).

Employment in Establishments Located in Springfield, 2006

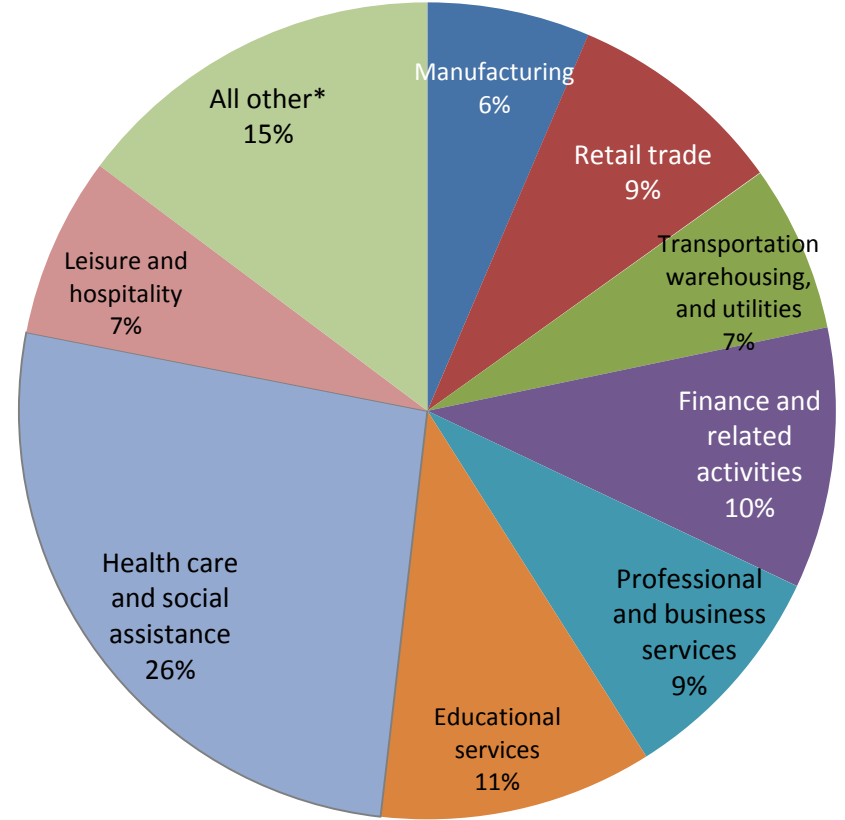
Area	1	2	3	4	5	6	7	PO Box	Total
Total industries	9,350	11,645	9,313	13,682	1,355	8,274	2,958	4,579	61,155
Utilities	151	9	0	151	0	0	0	2	313
Construction	88	336	83	792	60	154	63	18	1,592
Manufacturing	127	348	170	1,918	694	34	296	989	4,575
Wholesale trade	144	594	33	624	22	17	53	85	1,572
Retail trade	501	887	120	1,262	118	3,226	624	189	6,927
Transportation, warehousing	360	40	35	846	6	23	49	356	1,715
Information	10	585	50	254	0	68	53	502	1,522
Financial activities	4,636	822	14	198	36	160	0	728	6,594
Real estate services	21	245	34	221	11	92	49	71	744
Professional services	77	1,223	507	147	83	138	80	163	2,418
Management	20	85	452	49	14	35	2	357	1,013
Business services	43	1,085	38	791	32	81	98	180	2,348
Educational services	568	181	10	121	2	1,255	68	0	2,205
Health care and social assistance	1,705	2,678	7,618	5,186	22	1,142	682	493	19,526
Arts, entertainment, recreation	37	152	0	20	5	592	12	6	824
Leisure, hospitality	543	1,456	80	714	47	1,128	242	163	4,372
Other services	319	917	69	386	203	129	585	276	2,883
Unclassified establishments	1	4	0	1	1	0	3	1	10

Source: Author's estimates based on Zip Code Business Patterns data (2006).

Figure 1
Employed Springfield Residents in Private Industries, 2005–07^a
 Number of Employed Residents: 55,815



Employment in Private Industry in Establishments Located in Springfield, 2005–07^b
 Number of Jobs: 73,009



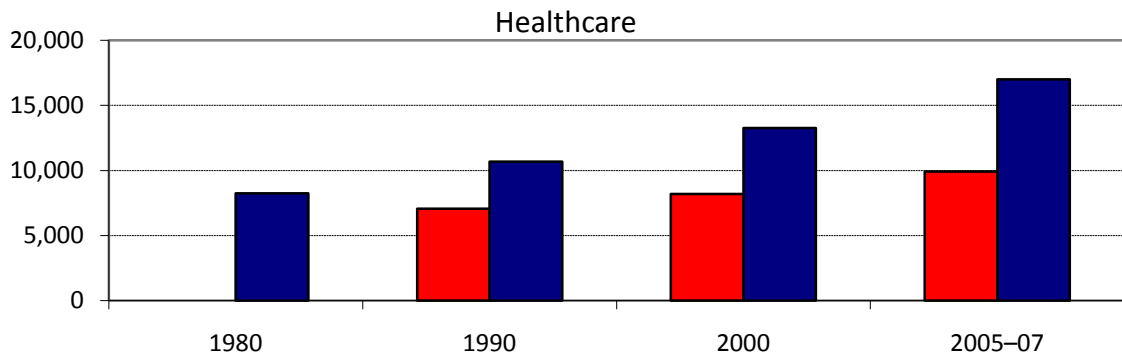
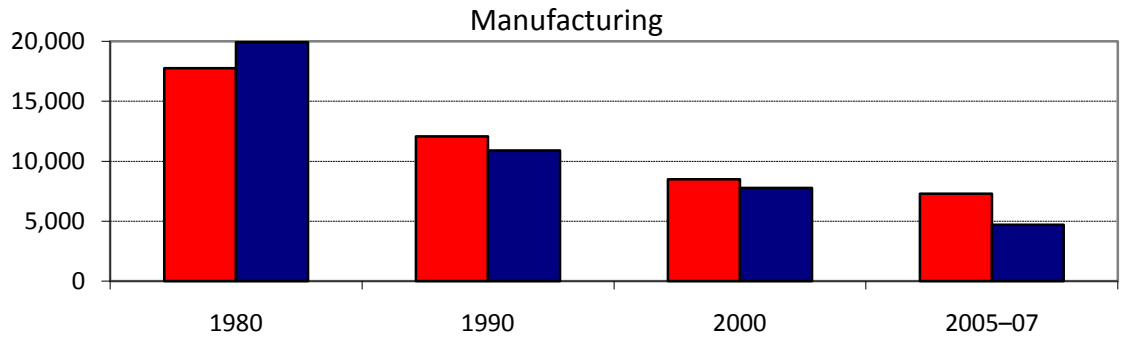
*All other: Other services; construction; wholesale trade; information; real estate services; management of companies; arts, entertainment and recreation.

^a Employed residents entries come directly from the 2005–2007 ACS 3-year estimates.

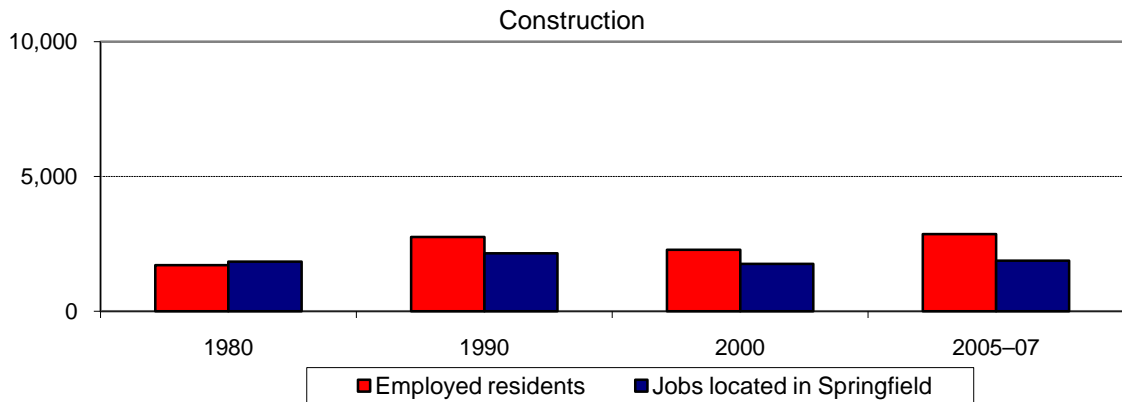
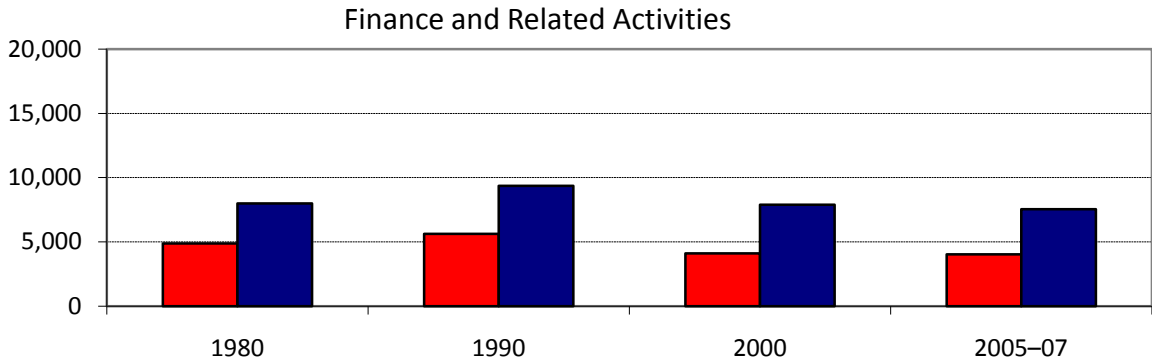
^b Employment entries are calculated as the average of the ES-202 employment figures for 2005, 2006 and 2007.

Source: U.S. Bureau of the Census. American Community Survey (2005–2007); Massachusetts Executive Office of Labor and Workforce Development Employment and Wage (ES-202) data (2005, 2006, 2007).

Figure 2 Employment in Springfield

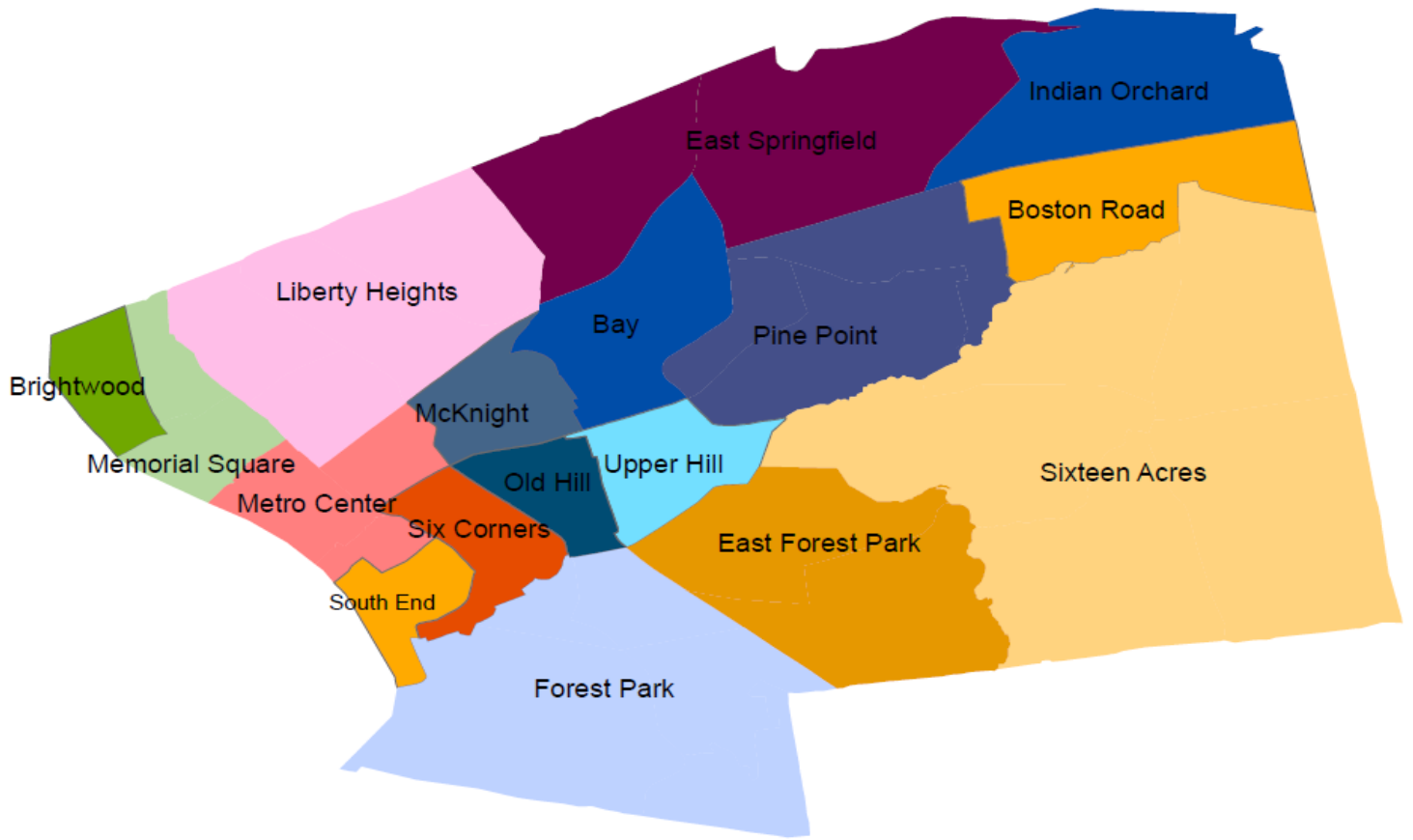


Note: Healthcare and social assistance are reported as one category in 2000 and 2005-07 census data. We exclude social assistance services using the share of such services in "healthcare and social assistance" sector, around 11 percent, from the ES-202 data from 2005 to 2007.

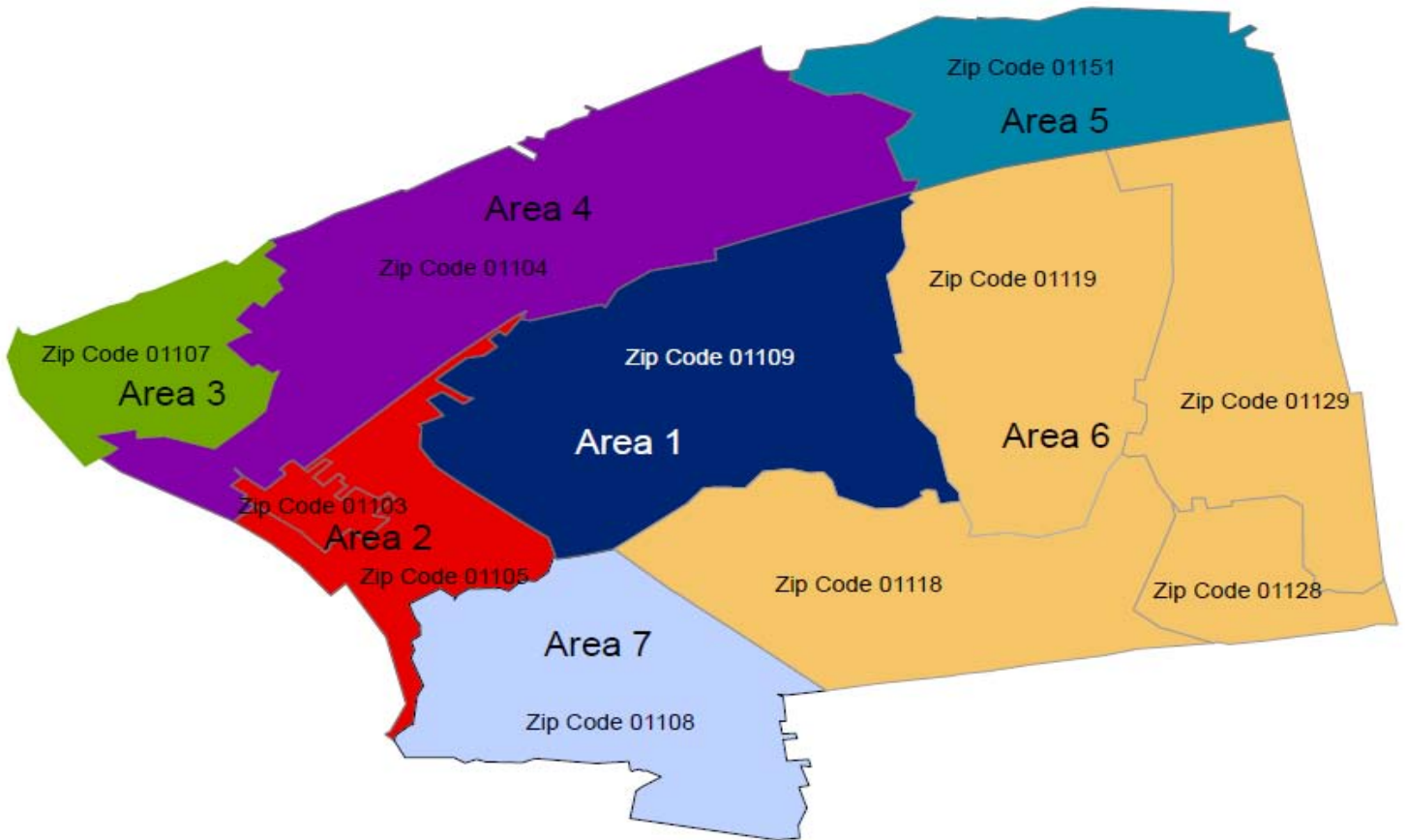


Source: U.S. Bureau of the Census. Decennial Census (1980, 1990, 2000), American Community Survey (2005-2007); Massachusetts Executive Office of Labor and Workforce Development Employment and Wage (ES-202) data (2005, 2006, 2007).

Figure 3 Springfield Neighborhoods and Areas
Neighborhoods

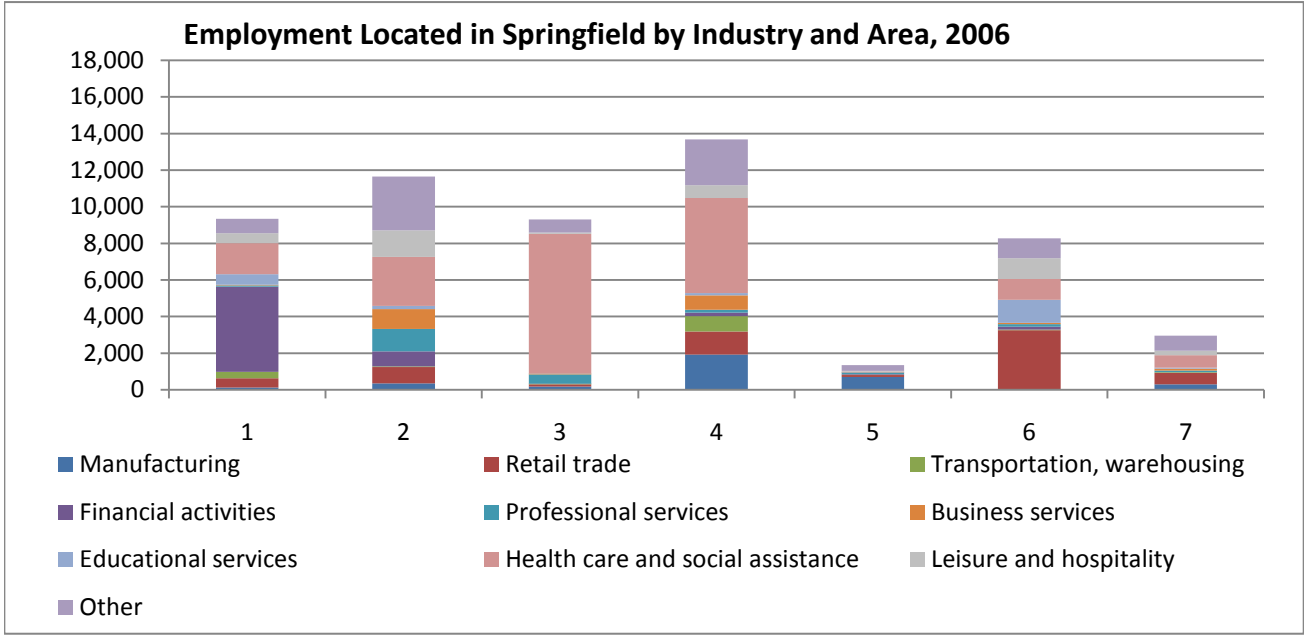


Areas



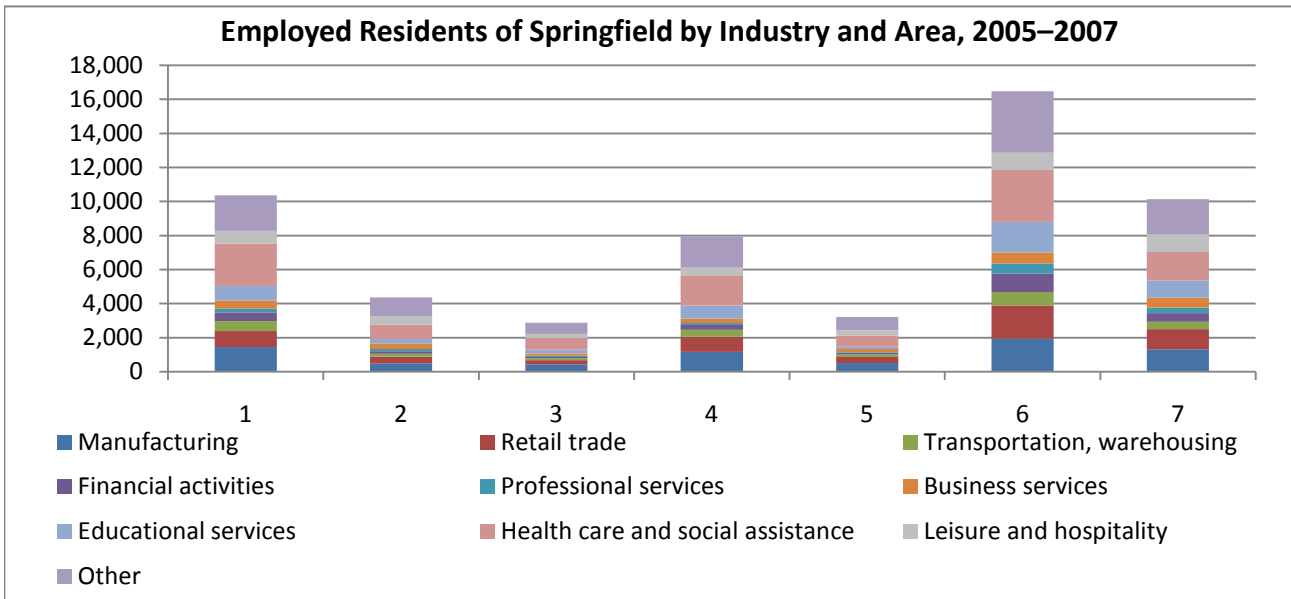
Source: U.S Bureau of the Census, Geography Division, Cartographic Boundary Files (2000 Census Tracts and ZCTA Boundary Files).
 29

Figure 4



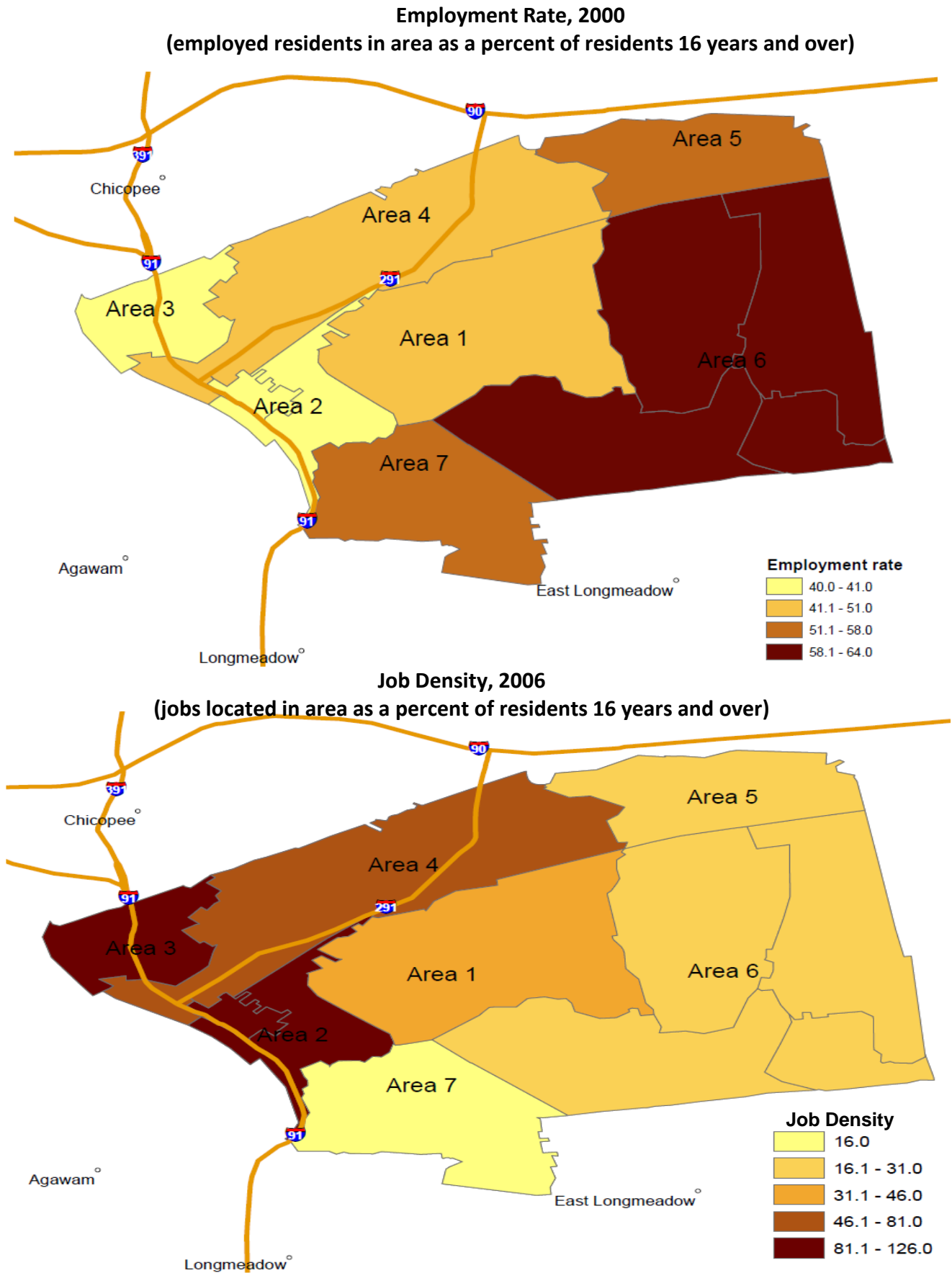
Note: ZBP excludes most government employees except for those working in wholesale liquor establishments, retail liquor stores, federally-chartered savings institutions, federally-chartered credit unions, and hospitals

Source: Authors' estimates based on Zip Code Business Patterns data (2006).



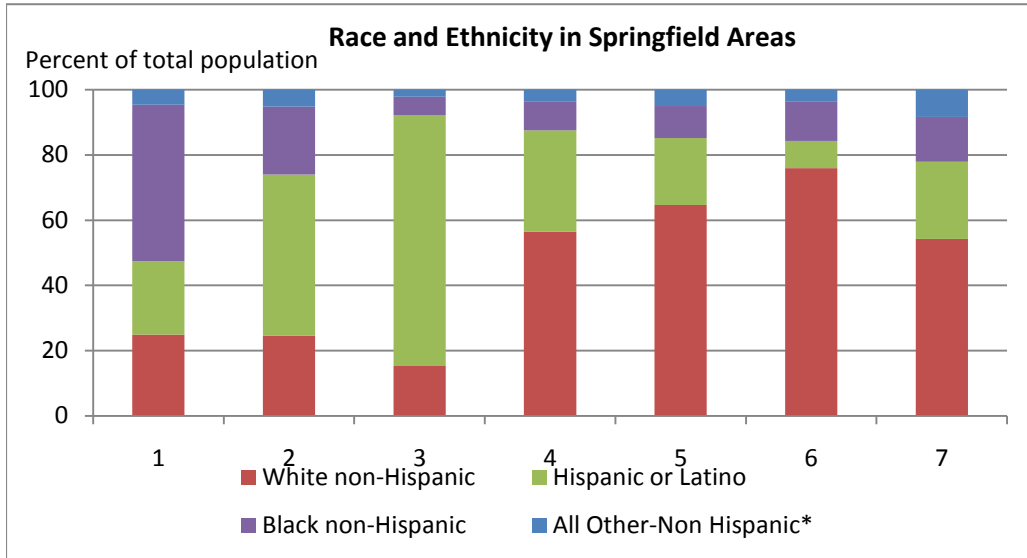
Source: Authors' estimates based on 2000 Decennial Census and American Community Survey (2005-2007).

Figure 5 Employment Rate and Job Density



Source: U.S. Bureau of the Census. 2006 Zip Code Business Patterns (ZBP), Decennial Census (2000); Author's estimates.

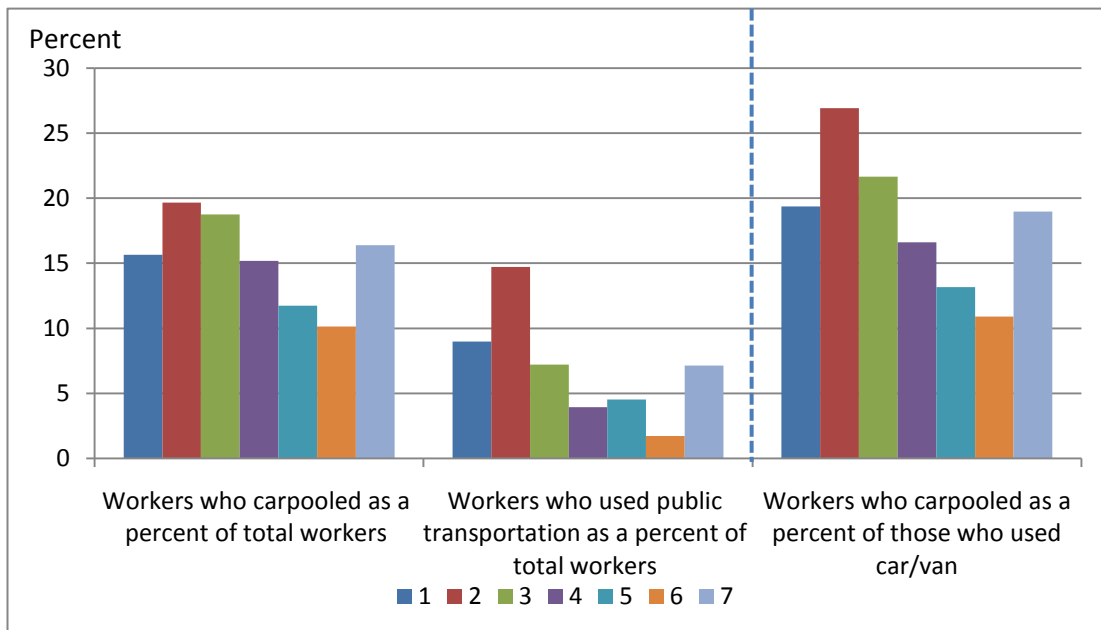
Figure 6



* Includes: Asian alone and respondents with two or more races.

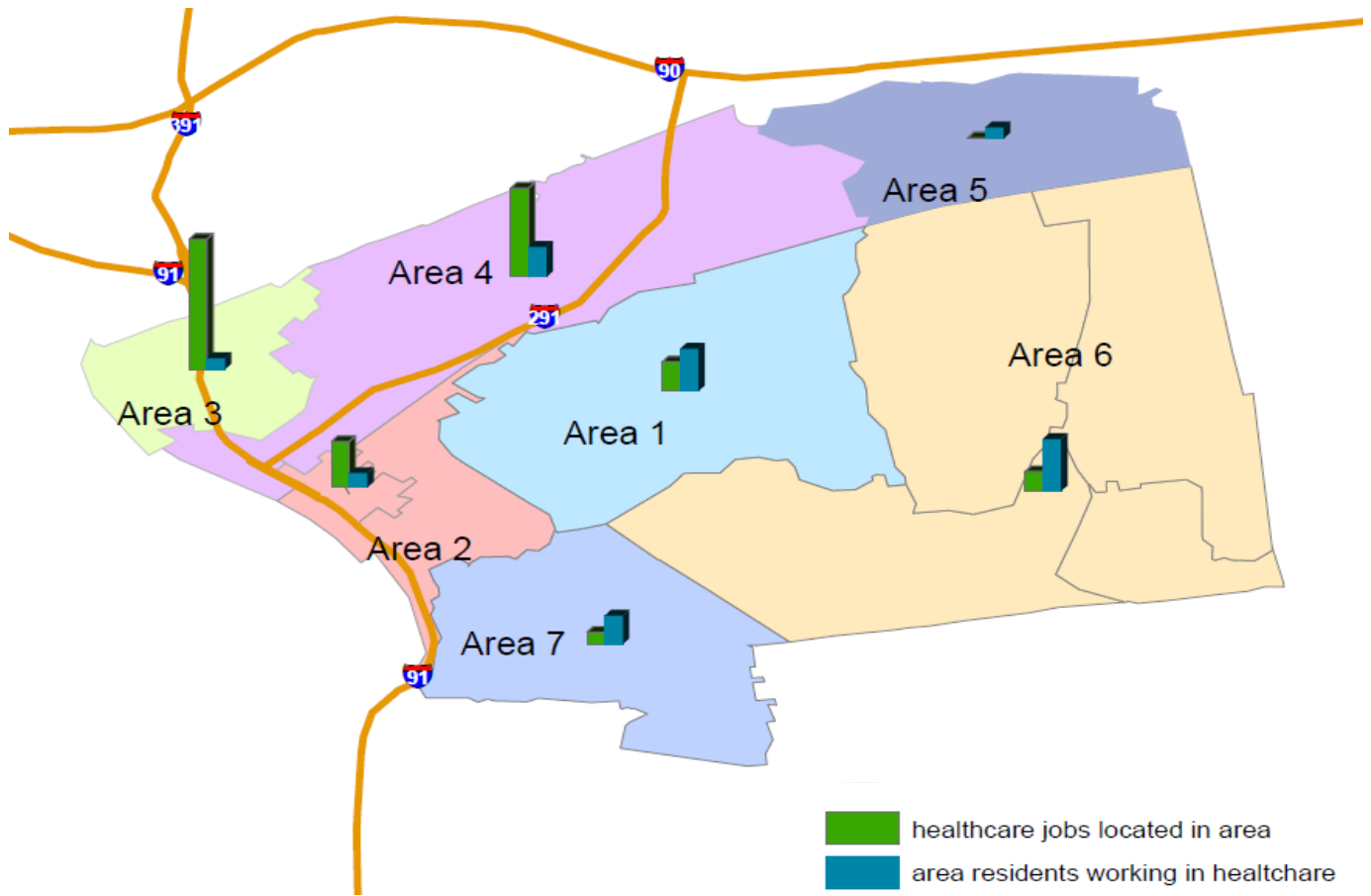
Source: U.S. Bureau of the Census, Decennial Census (2000).

Figure 7 Means of Transportation to Work



Source: U.S. Bureau of the Census, Decennial Census (2000).

Figure 8 Employment in Healthcare and Social Assistance Services
 (number of jobs and number of residents by area)



Source: Authors' estimates based on Zip Code Business Patterns data (2006) and Decennial Census (2000) and American Community Survey (2005–2007).

Employment in Healthcare and Social Assistance Services

Area	1	2	3	4	5	6	7
Jobs	1,705	2,678	7,618	5,186	22	1,142	682
Employed residents	2,475	835	671	1,762	638	3,054	1,673

Appendix A Table 1 Employment in Springfield, Selected Industries

Manufacturing			Percent of total employment in private industries	
	Employed residents	Jobs located in Springfield	Employed residents	Jobs located in Springfield
1980	17,750	19,915	29.6	28.2
1990	12,072	10,888	19.5	15.7
2000	8,493	7,768	14.9	11.8
2005–07 ^a	7,297	4,697	13.1	6.4

Healthcare			Percent of total employment in private industries	
	Employed residents	Jobs located in Springfield	Employed residents	Jobs located in Springfield
1980	n.a.	8,253	n.a.	11.7
1990	7,063	10,687	11.4	15.4
2000	8,183	13,251	14.3	20.1
2005–07 ^a	9,914	16,988	17.8	23.3

Note: Healthcare and social assistance appear as one category in 2000 and 2005–07 Census Data. We exclude social assistance services using their share in "healthcare and social assistance" sector (about 11 percent) calculated from the ES-202 data from 2005 to 2007.

Finance and Related Activities			Percent of total employment in private industries	
	Employed residents	Jobs located in Springfield	Employed residents	Jobs located in Springfield
1980	4,872	7,983	8.1	11.3
1990	5,620	9,355	9.1	13.5
2000	4,112	7,900	7.2	12.0
2005–07 ^a	4,041	7,537	7.2	10.3

Construction			Percent of total employment in private industries	
	Employed residents	Jobs located in Springfield	Employed residents	Jobs located in Springfield
1980	1,713	1,844	2.9	3.1
1990	2,753	2,145	4.4	3.5
2000	2,284	1,752	4.0	3.1
2005–07 ^a	2,867	1,871	5.1	3.4

^a Employed residents entries come directly from the 2005–2007 ACS 3-year estimates, and jobs located in Springfield entries are calculated as the average of the ES-202 employment figures for 2005, 2006, and 2007.

Source: U.S. Bureau of the Census. Decennial Census (1980, 1990, 2000), American Community Survey (2005–2007); Massachusetts Executive Office of Labor and Workforce Development Employment and Wage (ES-202) data (1980, 1990, 2000, 2005, 2006, and 2007).

Appendix A Table 2 Employment in Establishments Located in Springfield by Area and Industry, 2006

Industry employment as a percent of total employment by area

Area	1	2	3	4	5	6	7	P.O. Boxes	Total
Total, all industries*	100	100	100	100	100	100	100	100	100
Utilities	2	0	0	1	0	0	0	0	1
Construction	1	3	1	6	4	2	2	0	3
Manufacturing	1	3	2	14	51	0	10	22	7
Wholesale trade	2	5	0	5	2	0	2	2	3
Retail trade	5	8	1	9	9	39	21	4	11
Transportation, warehousing	4	0	0	6	0	0	2	8	3
Information	0	5	1	2	0	1	2	11	2
Financial activities	50	7	0	1	3	2	0	16	11
Real estate services	0	2	0	2	1	1	2	2	1
Professional services	1	11	5	1	6	2	3	4	4
Management	0	1	5	0	1	0	0	8	2
Business services	0	9	0	6	2	1	3	4	4
Educational services	6	2	0	1	0	15	2	0	4
Health care and social assistance	18	23	82	38	2	14	23	11	32
Arts, entertainment, recreation	0	1	0	0	0	7	0	0	1
Leisure and hospitality	6	13	1	5	3	14	8	4	7
Other services	3	8	1	3	15	2	20	6	5

Area employment as a percent of total employment by industry

Area	1	2	3	4	5	6	7	P.O. Boxes	Total
Total, all industries*	15	19	15	22	2	14	5	7	100
Utilities	48	3	0	48	0	0	0	1	100
Construction	5	21	5	50	4	10	4	1	100
Manufacturing	3	8	4	42	15	1	6	22	100
Wholesale trade	9	38	2	40	1	1	3	5	100
Retail trade	7	13	2	18	2	47	9	3	100
Transportation, warehousing	21	2	2	49	0	1	3	21	100
Information	1	38	3	17	0	4	3	33	100
Financial activities	70	12	0	3	1	2	0	11	100
Real estate services	3	33	5	30	1	12	7	10	100
Professional services	3	51	21	6	3	6	3	7	100
Management	2	8	45	5	1	3	0	35	100
Business services	2	46	2	34	1	3	4	8	100
Educational services	26	8	0	5	0	57	3	0	100
Health care and social assistance	9	14	39	27	0	6	3	3	100
Arts, entertainment, recreation	4	18	0	2	1	72	1	1	100
Leisure and hospitality	12	33	2	16	1	26	6	4	100
Other services	11	32	2	13	7	4	20	10	100

*Excluding agriculture and public administration.

Note: Area 1 includes MassMutual and Area 3 includes Bay State.

Source: Authors' estimates based on 2006 Zip Code Business Patterns data.

Appendix A Table 3 Employed Residents, 2005–2007

Industry employment as a percent of total employment by area

Area	1	2	3	4	5	6	7	Total
Total, all industries*	100	100	100	100	100	100	100	100
Utilities	0	1	0	0	0	1	1	1
Construction	3	7	4	6	8	5	6	5
Manufacturing	14	11	15	15	16	12	13	13
Wholesale trade	3	3	3	6	4	3	3	4
Retail trade	9	9	9	11	11	12	12	11
Transportation, warehousing	5	4	4	5	5	5	4	5
Information	5	5	5	4	2	4	3	4
Financial activities	5	4	3	4	3	7	5	5
Real estate services	2	2	2	1	1	1	2	2
Professional services	2	3	2	2	1	4	3	3
Management	0	0	0	0	0	0	0	0
Business services	5	7	5	3	6	4	6	5
Educational services	8	7	8	10	5	11	10	9
Health care and social assistance	24	19	23	22	20	19	17	20
Arts, entertainment, recreation	1	1	2	1	3	2	2	2
Leisure and hospitality	7	11	8	6	9	6	10	8
Other services	5	6	7	4	6	5	5	5

Area employment as a percent of total employment by industry

Area	1	2	3	4	5	6	7	Total
Total, all industries*	19	8	5	14	6	30	18	100
Utilities	14	9	1	9	0	45	22	100
Construction	11	10	4	16	9	30	20	100
Manufacturing	20	7	6	16	7	27	18	100
Wholesale trade	14	7	4	26	6	27	16	100
Retail trade	16	7	4	15	6	33	20	100
Transportation, warehousing	21	7	5	16	5	30	17	100
Information	24	10	6	14	3	32	11	100
Financial activities	19	6	3	10	4	40	18	100
Real estate services	21	10	7	11	4	27	20	100
Professional services	15	8	4	8	3	40	22	100
Management	58	23	0	0	0	19	0	100
Business services	19	12	5	10	7	25	22	100
Educational services	17	6	4	15	3	35	20	100
Health care and social assistance	22	8	6	16	6	27	15	100
Arts, entertainment, recreation	15	7	7	10	12	29	22	100
Leisure and hospitality	18	12	6	11	7	24	24	100
Other services	19	10	7	12	7	29	18	100

*Excluding agriculture and public administration.

Source: Authors' estimates based on Decennial Census (2000) and American Community Survey (2005–2007).

Appendix A Table 4 Springfield Neighborhoods: Social, Economic and Demographic Characteristics, 2000

Area	Poverty rate (percent)	Percent Hispanic ^a	Percent non-Hispanic Black ^a	Percent non-Hispanic White ^a	Percent less than high school ^b	Percent don't speak english well ^c	Percent households headed by single females
1	26.9	22.5	47.9	24.9	30.2	4.5	47.3
2	44.9	49.3	20.8	24.7	40.8	30.5	58.7
3	40.5	76.9	5.5	15.4	49.1	19.5	41.5
4	20.4	31.1	8.9	56.5	29.6	5.4	30.5
5	19.3	20.5	9.8	64.6	29.0	7.8	35.9
6	8.0	8.3	12.2	76.0	14.2	7.7	22.3
7	23.2	23.7	13.7	54.3	22.3	6.5	36.1

aPercent of total population. The residual category (not shown) includes Asian, some other race, and with two or more races.

bPercent of population 25 years and over.

cPercent of residents 5 years and over who speak english "not well" or "not at all."

Source: U.S. Bureau of the Census. Decennial Census (2000).

Appendix A Table 5 Employment and Labor Force Participation by Area

Area	Total population ^a	Population 16 years and over ^a	Employment located in Springfield ^b	Labor force ^a	Employed residents ^a	Employment located in Springfield/total population (percent)	Employment located in Springfield as a percent of population 16 years and over	Labor force participation rate (labor force as a percent of population 16 years and over)	Employment rate (employed residents as a percent of population 16 years and over)
1	30,851	22,023	10,117	12,290	11,106	32.8	45.9	55.8	50.4
2	15,882	11,763	13,653	5,497	4,659	86.0	116.1	46.7	39.6
3	11,336	7,447	9,358	3,489	3,057	82.6	125.7	46.9	41.1
4	22,401	16,970	13,803	9,304	8,718	61.6	81.3	54.8	51.4
5	8,290	6,046	1,617	3,640	3,366	19.5	26.7	60.2	55.7
6	37,297	29,251	8,984	19,821	18,582	24.1	30.7	67.8	63.5
7	25,755	19,006	2,999	12,178	11,082	11.6	15.8	64.1	58.3
P.O. Boxes	n.a.	n.a.	5,421						
Total	151,812	112,506	65,952	66,219	60,570	43.4	58.6	58.9	53.8

aFrom 2000 Decennial Census.

bFrom 2006 Zip Code Business Patterns data

Note: Area 1 includes MassMutual and Area 3 includes Bay State.

Source: U.S. Bureau of the Census. 2006 Zip Code Business Patterns (ZBP), Decennial Census (2000); Author's estimates.

Appendix A Table 6 Springfield Neighborhoods: Social, Economic and Demographic Characteristics, 2000

Area Neighborhood		Census tracts	Zip codes	Total population	Poverty rate	Percent Hispanic ^a	Percent non-Hispanic Black ^a	Percent non-Hispanic White ^a	Percent less than high school ^b
Massachusetts				6,349,097	9.3	6.8	5.0	81.9	15.2
Springfield MSA				591,932	13.8	12.5	6.2	77.6	18.5
City of Springfield				152,082	23.1	27.0	19.5	48.6	26.6
1	Bay	8014.01	01109	4,245	37.6	27.1	59.6	9.9	36.5
1	McKnight	8013		4,881	35.0	26.9	52.7	17.3	35.8
1	Old Hill	8018		4,557	39.3	37.7	52.3	6.5	38.2
1	Pine Point	8014.02, 8015.01/.02		10,287	17.6	19.7	32.2	43.2	26.6
1	Upper Hill	8017		7,179	18.8	13.2	54.2	26.8	25.8
2	Metro Center	8011.01/0.2, 8012	01103+ 01105+ 01144	6,038	39.4	45.0	20.4	29.7	35.2
2	Six Corners	8019		7,688	45.6	47.8	25.9	21.9	42.9
2	South End	8020		3,223	49.7	61.8	12.1	23.3	43.8
3	Brightwood	8007	01107	3,934	37.9	87.2	5.9	5.7	55.8
3	Memorial Square	8006, 8008		4,891	57.9	83.1	6.1	9.3	60.6
4	East Springfield	8002.01/.02	01104	7,624	13.5	19.8	8.4	68.5	27.0
4	Liberty Heights	8009		17,819	21.4	37.5	8.9	50.6	29.9
5	Indian Orchard	8001	01151	7,758	20.5	21.6	10.8	64.3	28.8
6	Boston Road	8015.03	01119+	3,670	13.7	15.7	17.5	63.1	27.5
6	East Forest Park	8024, 8025	01118+ 01128+	10,618	4.9	4.7	5.6	85.6	9.8
6	Sixteen Acres	8016.01/.05	01129	22,937	8.6	8.4	15.5	72.7	13.5
7	Forest Park	8026.01/0.2	01108	24,733	22.5	22.1	12.7	57.1	21.8

aPercent of total population. The residual category (not shown) includes Asian, some other race, and with two or more races.

bPercent of population 25 years and over.

Source: U.S. Bureau of the Census. Decennial Census (2000).

Appendix B

Springfield Areas

Employment in establishments located in the city of Springfield was estimated using the ZIP Business Patterns (ZBP) data. The ZBP provides information on the number of establishments by industry and size class by zip code.¹ Comparing data by zip code to data by neighborhood raises the following challenges:

- 1) Zip codes change from time to time and do not have specific boundaries. However, a good approximation of zip code area boundaries is provided by the Census ZIP Code Tabulation Areas (ZCTA)² that the U.S. Census Bureau uses for tabulating summary statistics from Census 2000.
- 2) ZBP data includes establishments with P.O. Box addresses and unique zip codes that, in most cases, cannot be assigned to a geographic location.
- 3) Zip code boundaries can be very different from census tract and neighborhood boundaries.

Since, in most cases, zip code areas in the city of Springfield are bigger than individual neighborhoods, we divided Springfield into seven areas to match as best as possible neighborhood group boundaries. Appendix Table 6 shows the seven areas and their corresponding zip codes.

Most areas are composed of neighborhoods that have similar economic and demographic characteristics. The exceptions are area 1 (Old Hill, McKnight, Bay, Pine Point and Upper Hill) where Pine Point and Upper Hill have better social and economic indicators and a different

¹ Most ZIP codes are derived from the physical location address reported in Census Bureau programs. The Internal Revenue Service provides supplemental address information. Those employers without a fixed location or with an unknown ZIP Code are included under an "Unclassified" category indicated by ZIP Code 99999. For more information go to <http://www.census.gov/econ/cbp/index.html>.

² Each ZCTA is built by aggregating the Census 2000 blocks, whose addresses use a given ZIP Code, into a ZCTA which gets that ZIP Code assigned as its ZCTA code. They represent the majority of USPS five-digit ZIP Codes found in a given area. For those areas where it is difficult to determine the prevailing five-digit ZIP Code, the higher-level three-digit ZIP Code is used for the ZCTA code. For more information on the ZCTAS go to <http://www.census.gov/geo/ZCTA/zctafaq.html>.

demographic composition than the other three neighborhoods, and area 4 (Liberty Heights and East Springfield) where East Springfield has better social and economic indicators than Liberty Heights.

Appendix C

Estimation of Employment in Springfield by Industry and Area

The estimation of employment for the areas of Springfield is based on the 2006 Zip Code Business Patterns (ZBP).³ The ZBP provides data on total employment for most zip codes; however, employment figures are not available at the industry level because of confidentiality issues. Using information on the number of establishments by size class and industry from the ZBP and data on total employment in Springfield from the ES-202 data,⁴ we estimated the number of jobs by industry and area as follows:

- 1) Calculate number of establishments by area.⁵
- 2) Estimate employment by industry by multiplying the number of establishment in each size class by the U.S. average number of employees per class⁶ (see estimates 1 in Appendix Table 7).⁷
- 3) Adjust number of employees in Baystate and MassMutual (see estimates 2 in Appendix C Table 1) using published estimates of these firms' workforces⁸. Using Baystate and MassMutual's unique zip codes (01199 and 01111, respectively) we adjusted employment in the largest size class so that total employment in the healthcare and finance industries

³ Data are excluded for self-employed persons, employees of private households, railroad employees, agricultural production workers, and for most government employees (except for those working in wholesale liquor establishments, retail liquor stores, federally-chartered savings institutions, federally-chartered credit unions, and hospitals). For more information on ZBP go to <http://www.census.gov/econ/cbp/faq.htm>.

⁴ The ES-202 data come from quarterly tax reports submitted by over eight million employers subject to State unemployment insurance (UI) laws and from federal agencies subject to the Unemployment Compensation for Federal Employees (UCFE) program. Nationwide, the ES-202 data encompass 99.7 percent of all wage and salary civilian employment.

⁵ ZBP classifies the number of establishments in the following employment-size classes: 1-4, 5-9, 10-19, 20-49, 50-99, 100-249, 250-499, 500-999, 1000 or more.

⁶ Available at http://factfinder.census.gov/servlet/IBQTable?_bm=y&-ds_name=CB0600A2.

⁷ Similar methodology has been applied by Kneebone (2009) to calculate total employment for zip codes with suppressed employment data. That study does not use data by industry. Massachusetts average of employees per establishments by size class and industry are almost identical to U.S. figures. We used the national average for our estimation since some figures by industry and size class are not reported at the state level.

⁸ Pioneer Valley Planning Commission (2009).

matched the number of workers in Baystate (6,565) and MassMutual (4,366), respectively. Although MassMutual and Baystate have unique zip codes, in our analysis we included them in the areas where they are located, MassMutual in area 1 and Baystate in area 3.

- 4) Adjust the estimates to better match total employment by industry in Springfield from the 2006 ES-202 data (see estimation 3 in Appendix C Table 1). We re-estimated employment figures when the difference between ZBP and ES-202 was larger than 15 percent and the industry employment share was higher than 1.5 percent. In seven industries (wholesale trade; information; finance and insurance; professional services; business services; educational services; arts, entertainment and recreation) our employment estimates were at least 15 percent larger than ES-202 data. For these industries, we used the minimum of the establishment size range instead of U.S. average to calculate the number of workers per industry and area.

Technical notes:

- a. ZBP employment in healthcare and social assistance includes government employees working in **hospitals**. Therefore for this industry, we used ES-202 data for all **establishments** for our comparison.
- b. Since the ZBP excludes most government employees⁹ we used ES-202 data for **private establishments** for our comparisons.
- c. ZBP data also excludes employment in private households. For our comparisons we excluded private households from the “other services” industry in the ES-202 employment data.

Final estimates by **industries** are very close to ES-202 data both in nominal terms and in industry shares (See Appendix Table 8). Final estimates of jobs by area are also very similar to total employment counts from ZBP¹⁰ (See Appendix C Table 2).

⁹ Except for those working in wholesale liquor establishments, retail liquor stores, federally-chartered savings institutions, federally-chartered credit unions, and hospitals.

¹⁰ ZBP provides data on total employment for most zip codes.

Appendix C Table 1 Comparison of ES-202 Employment to ZBP Estimates

	2006 ES-202 Employment			Estimation 1 ^a	Estimation 2 ^b		Estimation 3 ^c			
	All establishments	Private establishments	Percent private establishments in total private establishments except private households	Employment	Employment	Percent difference relative to ES-202	Employment	Percent of total employment estimates	Percent difference relative to ES-202	Difference relative to ES-202
Total, All Industries	75,822	63,795	104	61,705	68,195	7	61,155	100	-4	-2,642
All private industries ex. private households	70,284	61,104	100	58,822	68,195	12.0	61,155		0.1	51
Utilities	327	327	1	313	313	-4	313	1	-4	-14
Construction	1,947	1,751	3	1,592	1,592	-9	1,592	3	-9	-159
Manufacturing	4,622	4,622	8	4,575	4,575	-1	4,575	7	-1	-47
Wholesale trade	1,516	1,516	2	2,206	2,206	46	1,572	3	4	56
Retail trade	6,275	6,275	10	6,927	6,927	10	6,927	11	10	652
Transportation, warehousing	4,506	2,018	3	1,715	1,715	-15	1,715	3	-15	-303
Information	1,859	1,763	3	2,185	2,185	24	1,522	2	-14	-241
Financial activities	6,373	6,373	10	5,241	7,499	18	6,594	11	3	221
Real estate activities	1,111	1,081	2	744	744	-31	744	1	-31	-337
Professional services	2,315	2,315	4	3,373	3,373	46	2,418	4	4	103
Management	1,502	1,502	2	1,013	1,013	-33	1,013	2	-33	-489
Business services	2,750	2,750	5	3,376	3,376	23	2,348	4	-15	-402
Educational services	7,933	2,695	4	4,596	4,596	71	2,205	4	-18	-490
Health care and social assistance	19,275	18,463	30	15,569	19,590	6	19,526*	32	6	1,063
Arts, entertainment , recreation	616	302	0	1,207	1,207	300	824	1	173	522
Leisure and hospitality	4,545	4,545	7	4,390	4,390	-3	4,372	7	-4	-173
Other Services	5,501	5,497	9	2,883	2,883	-48	2883*	5	-48	-2,614
Unclassified	n.a.	n.a.		10	10		10			10
Public Administration	2,847									
Private households	2,691	2,691								

Difference > 15% and share of industry in total > 1.5 %

^aMultiplying number of establishments in each size class by U.S. average of employment by size class.

^bSubstitute Mass Mutual and Baystate number of employees for the largest size class.

^cReduce size of industries that were too large by multiplying number of establishments by minimum of each size class (except for those listed on footnote b).

*If one compares estimates in the healthcare industry with ES-202 healthcare employment in all establishments (19,275) the difference is only 1.6 percent or 315 workers. ES-202 data for other services excluding private households is 2180, very close to our estimate.

Note: ZBP excludes data for self-employed persons, employees of private households, railroad employees, agricultural production workers, and most government employees (except for those working in wholesale liquor establishments, retail liquor stores, federally-chartered savings institutions, federally-chartered credit unions, and hospitals). For more information on ZBP go to <http://www.census.gov/econ/cbp/faq.htm>.

Source: Author's estimates based on 2006 Zip Code Business Patterns (ZBP) data; and Massachusetts Executive Office of Labor and Workforce Development Employment and Wage (ES-202) Data (2006).

Appendix C Table 2 Comparison of ZBP Employment to Final Estimates by Area

Area	ZBP employment	Final Estimate	Percent difference
1	5,686	4,919	-13
2	13,653	11,645	-15
3	2,004	1,959	-2
4	13,803	13,682	-1
5	1,617	1,355	-16
6	8,984	8,274	-8
7	2,999	2,958	-1
P.O. Boxes	5,421	4,579	-16
MassMutual	n.a.	4,431	n.a.
Bay State	n.a.	7,354	n.a.

Source: U.S. Bureau of the Census. 2006 Zip Code Business Patterns (ZBP); Author's estimates based on 2006 Zip Code Business Patterns