

College Enrollment and Labor Market Outcomes For
Class of 2006 Boston Public High School Graduates:
Key Findings of the Winter/Spring 2007 Follow-up
Surveys of the Class of 2006

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Introduction

Over the past two decades, a diverse array of school-to-career, school-to-work, and college connection programs have been implemented to improve the transition of high school students to college and the labor market after graduation. Any effort to evaluate the success of high school programs in facilitating the transition of high school graduates to college and the world of work is dependent upon knowledge of the actual, post-high school college and labor market experiences of recent graduates. The ability to track the post-high school college and labor market experiences of recent high school graduates is dependent upon the existence of a comprehensive, uniform, and statistically representative set of follow-up data on these graduates. Since the mid-1980s, professional staff of the Boston Private Industry Council (PIC) have conducted an annual follow-up survey of each year's graduating class from the city of Boston's public high schools.

Boston is one of the few cities in the entire country to conduct such annual follow-up surveys of its public school graduates. The absence of accountability for the outcomes of recent high school graduates by most public school districts across the nation is rather astounding, particularly in light of the passage of the national No Child Left Behind legislation in 2001.¹ The primary objective of the annual PIC follow-up surveys is to obtain comprehensive information on Boston public high school graduates' early transitions from high school to college and the labor market during a nine to ten month period following graduation. The telephone survey captures information on the college and post-secondary training enrollment status of graduates at the time of the interview, the types of colleges and post-secondary training programs attended, their college majors, their financial aid status, their employment status, key characteristics of their jobs, such as hours of work, hourly wages, their occupations, and the industries of their employers, their senior year and summer job experiences during the high school years, and their job-related training activities. The information also can be used to identify those students who were disconnected from both college and the labor market, neither enrolled in college nor working.

¹ Many public schools across the country conduct exit surveys of the college and work plans of their graduates prior to graduation but do not validate these plans with independent follow-up surveys. The Massachusetts Department of Education compiles findings of the college enrollment and employment plans of graduates across public school districts and issues an annual statewide report on the findings of these exit surveys. A recent report has been issued on the post-high school plans for graduates from the Class of 2006.

During the late winter and early spring of 2007, Boston PIC staff made an effort to interview each of the 3,241 graduates of Boston public high schools from the Class of 2006. This research report presents and assesses key findings of the winter/spring 2007 follow-up survey. Among the topics covered in this monograph are the demographic characteristics of Class of 2006 graduates, their college and work activities at the time of the follow-up survey, the types of post-secondary schools attended, their college majors, their employment status, their hours of work, hourly and weekly wages, the industries of their employers, their occupations, their job-related training activities, and their participation in school-to-career programs during high school. A comprehensive graphics package providing more detailed findings from the follow-up surveys also has been prepared as a supplement to this study. A series of research papers on key topics presented in this report also are being prepared by CLMS staff.²

The Number and Demographic Characteristics of Boston Public School Graduates from the Class of 2006

The total number of Class of 2006 graduates from Boston public high schools was 3,241 (Table 1). Males accounted for 1,455, or 45 percent, of the members of the graduating class while women accounted for 1,786, or 55 percent of the graduates from the Class of 2006.³ The number of female graduates from Boston public high schools has been considerably higher than the number of male graduates for the last ten graduating classes, i.e., those from 1997 to 2006. Combined with data on the gender characteristics of high school freshmen three years earlier, these results indicate that men are considerably more prone than women to drop out of high school before graduation since the freshman class has typically contained more men. Recent findings of the Massachusetts Department of Education on on-time graduation rates for the Class of 2006 revealed that women graduated at a near 14 percentage point higher rate (66% vs. 52%). The ratio of female to male graduates for the Class of 2006 was 1.23, higher than the ratio for the previous year but equal to the average of the previous four years (Table 2). In each race-ethnic group, the number of female graduates exceeded the number of male graduates, with the largest relative difference prevailing among Black graduates (134 women for every 100 men) and

² The first of these research papers will analyze gender gaps in high school graduation, college/training program attendance, and enrollment rates in four year colleges/universities for all Class of 2006 graduates and those in four race-ethnic groups.

³ These data are based on the student records provided to the Boston Private Industry Council by the Boston Public Schools Department.

Hispanic graduates (128 women for every 100 men). Among White graduates there were 105 women for every 100 men while the ratio of women to men among Asian graduates was only 99 to 100.

Table 1:
The Distribution of Class of 2006 Graduates by Gender,
Race/Ethnic Group, and Type of High School Attended

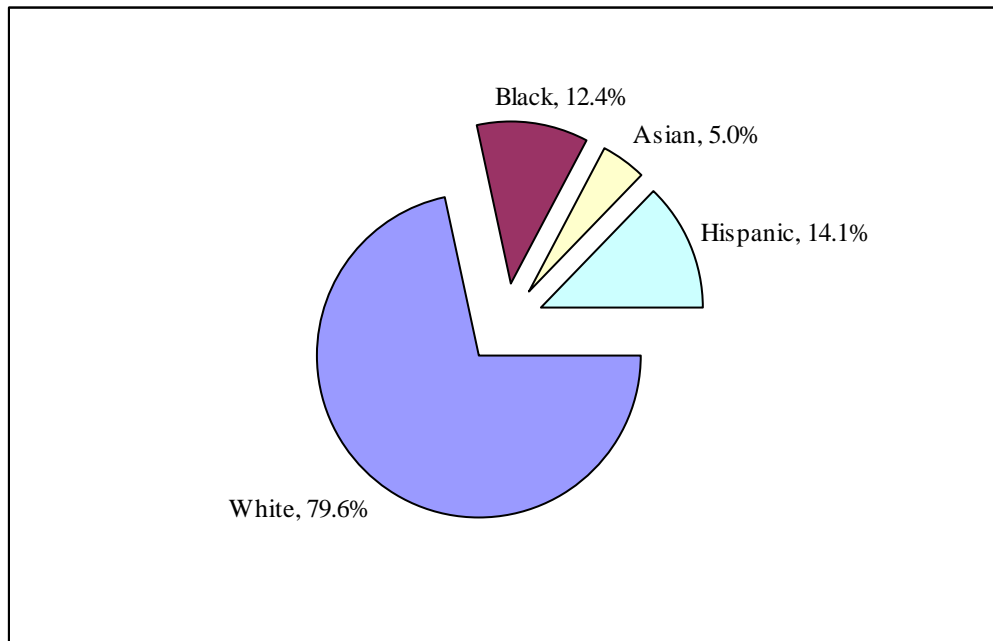
| Group | Number | Percent of Graduates |
|--|--------|----------------------|
| All | 3,241 | 100.0 |
| Gender | | |
| • Men | 1,455 | 44.9 |
| • Women | 1,786 | 55.1 |
| Race/Ethnic Group | | |
| • Asian | 384 | 11.8 |
| • Black | 1,557 | 48.0 |
| • White | 567 | 17.5 |
| • Hispanic | 733 | 22.6 |
| Type of School | | |
| • Exam School | 799 | 24.7 |
| • District, Magnet, Alternative School | 2,442 | 75.3 |

Table 2:
Number of Male and Female Graduates from Boston Public High Schools,
Classes of 1997 to 2006

| Graduating Class | Female | Male | Females per 100 males |
|------------------|--------|-------|-----------------------|
| 1997 | 1,453 | 1,217 | 119 |
| 1998 | 1,685 | 1,390 | 121 |
| 1999 | 1,670 | 1,321 | 126 |
| 2000 | 1,591 | 1,340 | 119 |
| 2001 | 1,708 | 1,513 | 113 |
| 2002 | 1,916 | 1,600 | 120 |
| 2003 | 1,656 | 1,282 | 129 |
| 2004 | 1,696 | 1,334 | 127 |
| 2005 | 1,687 | 1,443 | 117 |
| 2006 | 1,786 | 1,455 | 123 |

A breakout of the Class of 2006 Boston public school graduates by their race-ethnic backgrounds reveals that Black students accounted for nearly one half of the total number of graduates (48.1%) followed by Hispanics (22.6%), Whites (17.5%), and Asians (11.8%). The racial/ethnic mix of Boston public school graduates differs markedly from that of the nation as a whole. U.S. statistics on high school graduates from the Class of 2006 reveal that only one-quarter of all high school graduates were Black or Hispanic. (Chart 1). However, in Boston, 71 percent of the Class of 2006 high school graduates were Black or Hispanic and an additional 12 percent were Asian.⁴ (Table 1).

Chart 1:
Percentage Distribution of Class of 2006 U.S. High School Graduates by Race-Ethnic Group⁽¹⁾



⁽¹⁾Note: Hispanics can be members of any race. They will appear in the totals for Whites, Blacks, and Asians.

The graduates from the Class of 2006 attended 37 different high schools, including a number of small alternative schools. There were a total of 799 graduates from the city's three

⁴ Findings on the estimated numbers and demographic characteristics of Class of 2006 high school graduates throughout the U.S. are based on the following research report: U.S. Department of Labor, Bureau of Labor Statistics, "College Enrollment and Work Activity of 2006 High School Graduates", Washington, D.C., October, 2007. These data include graduates from both public and private high schools as well as home schooled children.

exam schools (Boston Latin, Latin Academy, and the O’Bryant Technical High School), accounting for 25 percent of the graduating class. The remaining 2,438 graduates (or 75% of the total) attended district, magnet, and small alternative high schools.

Follow-up Interview Completion Rates for Class of 2006 Boston Public School Graduates

Follow-up interviews were completed for 75 percent of the graduates from the Class of 2006, an improvement of four percentage points from the previous year. The completion rate was, however, 5.8 percentage points lower than that for the Class of 2003 and 7.2 percentage points lower than that for the Class of 2001, which had the highest interview completion rate (82%) achieved over the past ten years (Chart 2). The follow-up interview completion rate for women was about 4 percentage points higher than that for men (76.7% vs. 73.0%) (Chart 3). There were larger variations in interview completion rates among graduates in the four major race-ethnic groups. Interview completion rates were highest for Asian graduates (86%) followed by White graduates (83%), Black graduates (73%), and Hispanic graduates (68%). Follow-up interview completion rates were 75 percent or higher in 17 schools, and only six schools had interview completion rates below 50%. Follow-up interview completion rates by high school ranged from a low of 24 percent for Greater Eagleston High School and 30 percent for Boston Evening to a high of 93 to 95 percent for graduates from Boston Community Leadership Academy, Tech Boston Academy and the Health Careers Academy. (See Appendix A for a listing of follow-up interview completion rates by high school). The five Boston public high schools with the highest interview completion rates were the Health Career Academy (98%), Tech Boston Academy (94%), Boston Community Leadership Academy (93%), Quincy Upper School (89%), and Boston Arts Academy (88%). In contrast, the five schools with the lowest interview completion rates were Greater Eagleston High School (24%), Boston Evening Academy (30%), McKinley Tech (37%), Community Academy (40%), and Boston Adult Academy (41%).

Chart 2:
Follow-Up Interview Completion Rates for Graduates from
Boston Public High Schools, Classes of 1997 to 2006

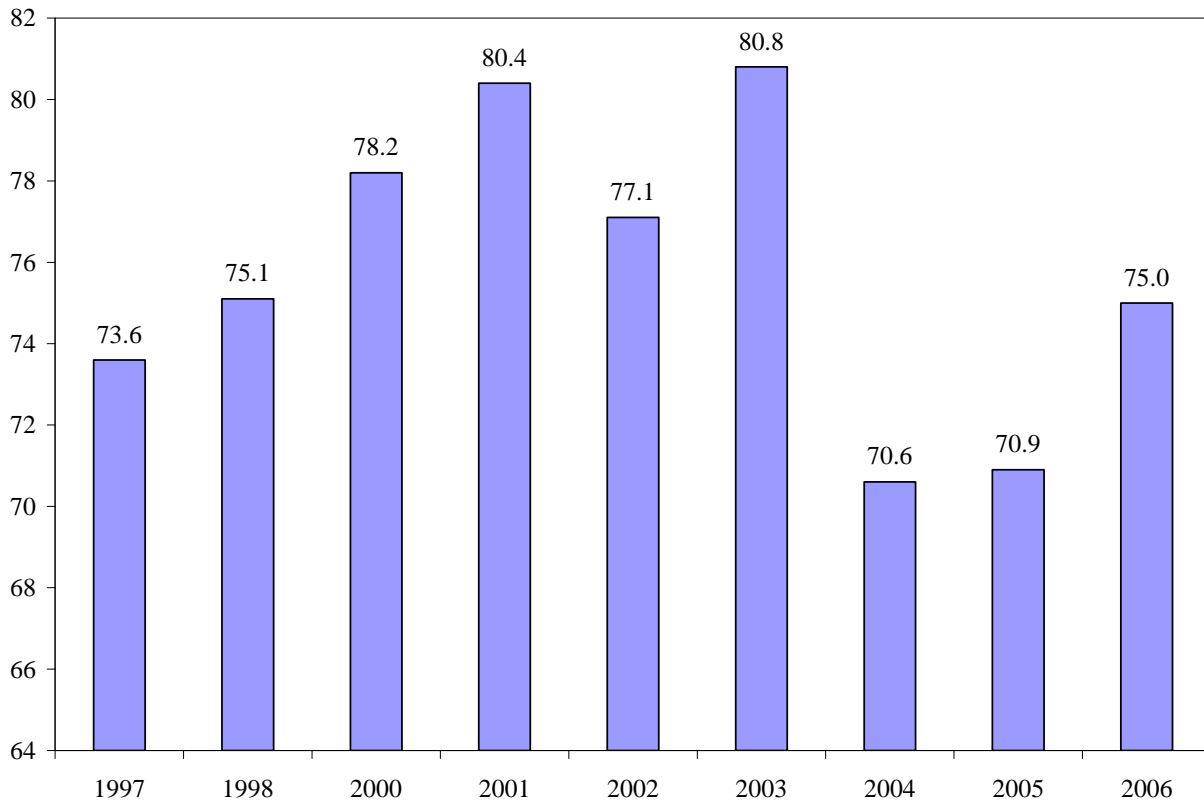
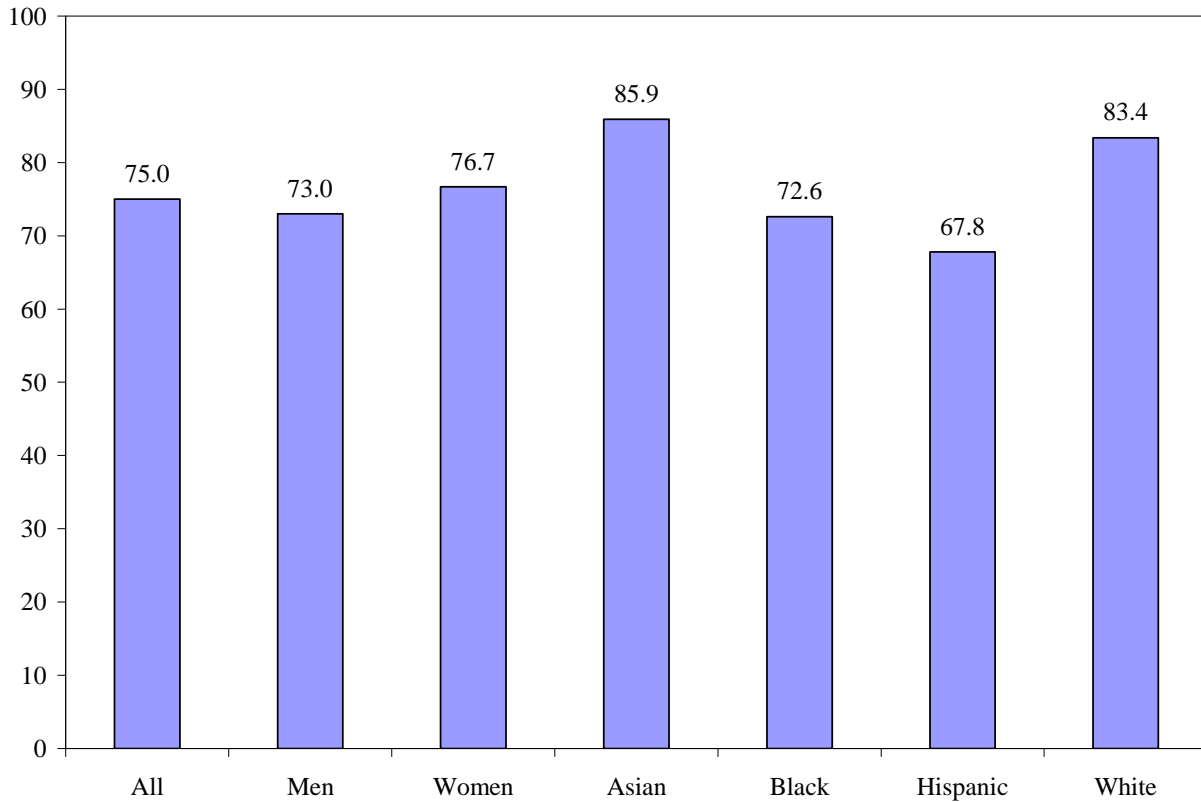


Chart 3:
Follow-up Interview Completion Rates for Class of 2006
Boston Public High School Graduates by Gender & Race-Ethnic Group



Employment and Schooling Activities of Class of 2006 Graduates of Boston Public High Schools at the Time of the Follow-up Interviews

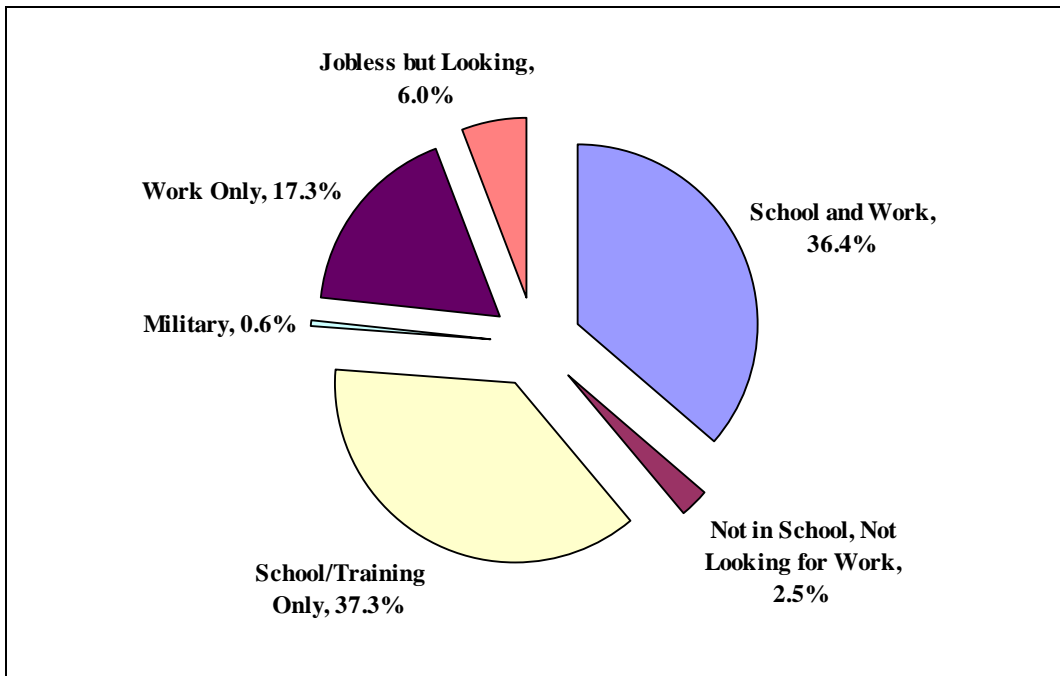
The follow-up questionnaire for the Class of 2006 was designed to identify all of the college, post-secondary training, employment, military service and job-seeking activities of each high school graduate at the time of the Winter/Spring 2007 survey. The interviews took place between February and May, anywhere from 9 to 11 following graduation from high school. Among all graduates from the Class of 2006, approximately 74 percent were estimated to be attending a post-secondary educational institution or a technical/vocational training program at the time of the winter/spring 2007 follow-up survey.⁵ (Chart 4). The post-secondary

⁵ All of these estimates are based on weighted sample results not on the completed interviews only. These weights are based on follow-up response rates by high school and race-ethnic group within each high school. The weights are constructed to generate the population of high school graduates by high school and race-ethnic group within each high school.

college/training enrollment rate for the Class of 2006 was about four percentage points lower than that for the Class of 2005, which was the highest enrollment rate recorded in 20 years of PIC follow-up surveys. Over the past four graduating classes, the average college/training enrollment rate was 75.4%.

Nearly half of those youth attending college or a post-secondary training program also were working at the time of the follow-up survey. Another 18 percent of the graduates were employed in a civilian job or serving in a branch of the nation’s armed forces, but were not attending college or a training program. The remaining 8.5 percent of the graduates were neither working nor enrolled in a post-secondary school or training program. Of this last group of “at-risk” or “disconnected” graduates, three out of four reported that they were looking for a job at the time of the interview. The remaining 2.5 percent of the graduates from the Class of 2006 were not working, not enrolled in a school or training program, and not looking for a job at the time of the follow-up interview.

Chart 4:
Percentage Distribution of Class of 2006 Boston Public High School Graduates by Their Activity Status at the Time of the Follow-up Survey



The combined college enrollment and employment outcomes for Boston public school graduates had been improving fairly steadily since 2002 when 11 percent of the graduates were disconnected from both work and school. However, the disconnection rate of 8.5 percent for Class of 2006 graduates was 2.7 percentage points above that for the Class of 2005 graduates. It was, however, equivalent to the average disconnection rate for the Classes of 2003 and 2004 (Table 3).

Part of the improvement in the college attendance rate since 2002 is believed to be due to the “MCAS” effect. The reading and math proficiencies of graduates were somewhat above those of the immediate pre-MCAS graduating classes. The number of high school graduates had declined immediately after 2002 due to the inability of a number of seniors to pass the state mandated MCAS exam. A below average fraction of those unable to pass the MCAS test would have been expected to attend college in the year following graduation.

The fraction of graduates reporting “working only” was only 17% for the Class of 2006. Non-enrolled high school graduates in recent years have found it more difficult to obtain employment. The fraction of graduates who were neither enrolled in school nor working had been characterized by a steadily decreasing trend since the recessionary and jobless recovery years of 2001-2002. The disconnection rates declined from 11 percent for the Class of 2002 to under 6 percent for the Class of 2005, but increased to 8.5% in 2006. The “disconnection rate” rate increases during economic recessions and jobless recoveries and declines during more favorable labor market conditions.⁶ Nationally and in Massachusetts, the teen labor market has been quite weak in recent years. In 2007, the employment rate for the nation’s teens was the lowest it has been in the past 60 years.

⁶ See: Andrew Sum and Nathan Pond, The Deteriorating Labor Market for the Nation’s Youth, Center for Labor Market Studies, Northeastern University, Prepared for the National League of Cities, Washington D.C., June, 2003.

Table 3:
Percentage Distribution of Boston Public High School Graduates by Their
Activity Status at the Time of the Follow-up Survey, Classes of 1998 to 2006
(Numbers in Percent)

| Activity | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 |
|---------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| School/Training | 65.0 | 67.4 | 69.0 | 69.8 | 68.3 | 74.4 | 76.3 | 77.3 | 73.6 |
| • School/Training Only | 32.0 | 30.1 | 31.6 | 35.9 | 37.1 | 38.8 | 39.9 | 41.6 | 37.2 |
| • School and Work | 33.0 | 24.5 | 37.4 | 33.9 | 31.2 | 35.5 | 36.4 | 35.7 | 36.4 |
| Work Only | 24.5 | 23.8 | 21.7 | 19.2 | 19.3 | 15.0 | 14.5 | 15.9 | 17.3 |
| Military | 1.8 | 2.3 | 1.6 | 1.8 | 1.6 | 1.3 | 1.2 | 1.0 | 0.6 |
| “At-Risk” | 7.7 | 9.3 | 7.6 | 9.2 | 10.9 | 9.3 | 8.1 | 5.8 | 8.5 |
| • Jobless, but Looking for Work | 5.7 | 6.0 | 4.2 | 5.8 | 8.3 | 6.3 | 5.1 | 3.9 | 6.0 |
| • Not Looking for Work | 2.0 | 3.3 | 3.4 | 3.4 | 2.6 | 3.0 | 3.0 | 1.9 | 2.5 |

The distribution of Class of 2006 graduates by activity status varied by gender and race-ethnic group. As has been the case over the past seven years, female graduates from the Class of 2006 were more likely than male graduates to be attending a post-secondary educational or training program (77% vs. 69%) (Table 4). Male graduates were more likely than their female counterparts to be only employed or serving in the military (22% versus 15%). The share of male graduates who were not engaged in any positive work or school activity was roughly the same as their female counterparts (8.6% versus 8.3%). A high fraction of male high school graduates not attending college were experiencing problems in finding employment. Their unemployment rate was 21.4 percent at the time of the follow-up survey.

College/training enrollment rates for Class of 2006 graduates varied across the four major race-ethnic groups, ranging from a high of nearly 93% for Asian graduates to 80% for White graduates, 70% for Black graduates, and to a low of 66% for Hispanic graduates. (Chart 5). Hispanic graduates were the most likely to go directly to work in the civilian sector after graduation. The share of Boston public high schools graduates who reported that they were working or serving in the military but not attending college at the time of the follow-up survey ranged from a high of nearly 24% for Hispanic graduates to a low of 5.5% for Asian graduates. The percent of Class of 2006 graduates who were classified as “at risk” i.e., neither attending

school nor working varied from a low of 1 percent for Asian graduates to highs of 10 to 11 percent for Black and Hispanic graduates.

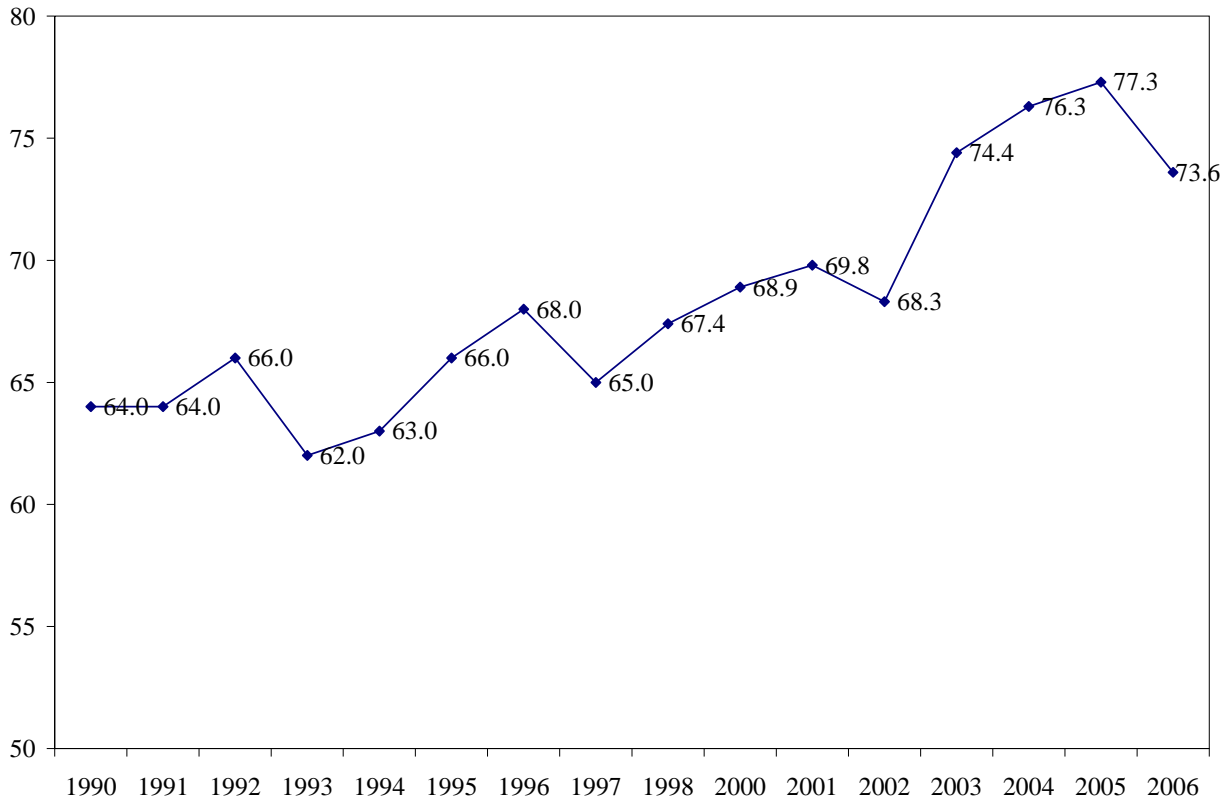
Table 4:
Major Activities of Class of 2006 Boston Public High School
Graduates by Gender and Race/Ethnic Origin
(Numbers in Percent)

| Activity | All | Female | Male | Black | White | Asian | Hispanic |
|-----------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| School/Training | 73.7 | 77.0 | 69.3 | 69.9 | 79.7 | 93.4 | 66.3 |
| • School and Work | 36.4 | 38.8 | 33.2 | 35.3 | 36.3 | 38.7 | 37.4 |
| • School/Training Only | 37.3 | 38.2 | 36.1 | 34.6 | 43.4 | 54.7 | 28.9 |
| Work Only | 17.3 | 14.6 | 20.8 | 18.6 | 15.2 | 5.5 | 22.7 |
| Military | 0.6 | 0.1 | 1.3 | 0.5 | 0.7 | 0.0 | 1.1 |
| “At-Risk” | 8.4 | 8.3 | 8.6 | 11.0 | 4.5 | 1.1 | 9.9 |
| • Not Employed, But Looking | 5.9 | 5.8 | 6.1 | 8.6 | 2.7 | 0.3 | 5.9 |
| • None of the Above | 2.5 | 2.5 | 2.5 | 2.4 | 1.8 | 0.8 | 4.0 |

College and Training Program Enrollment Rates for Class of 2006 Graduates

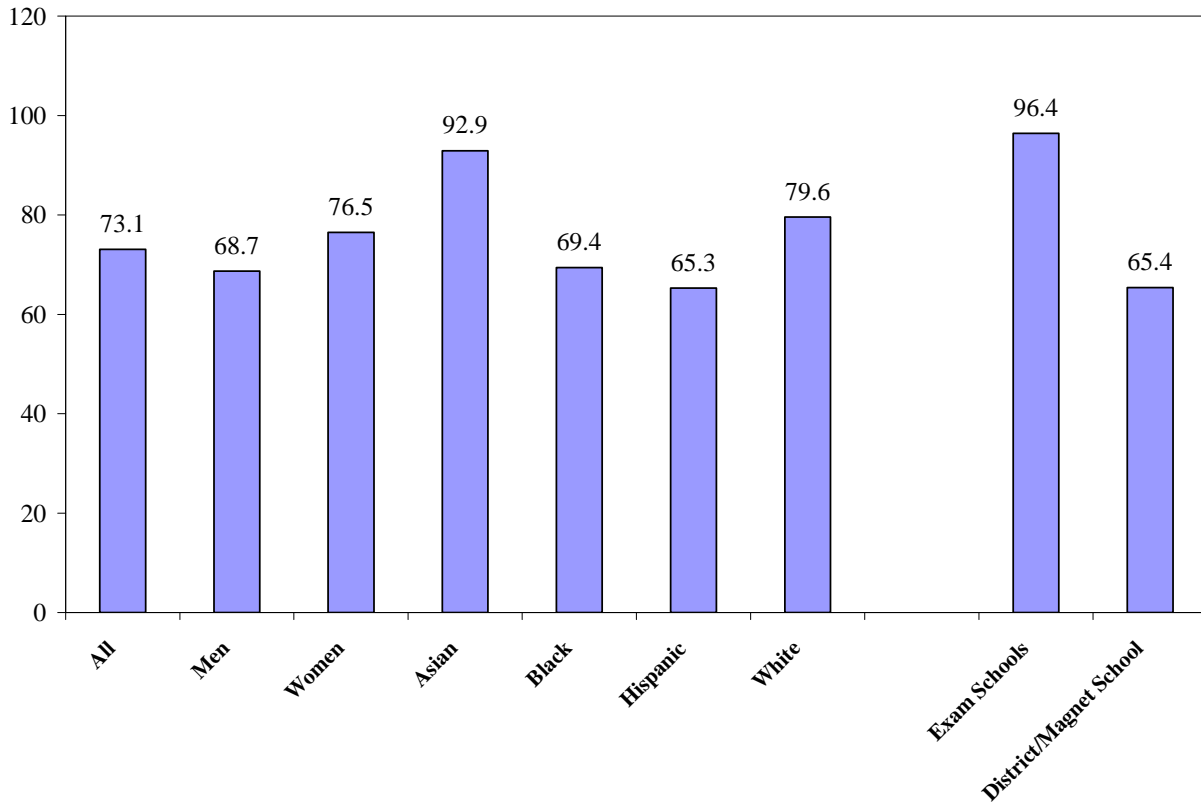
One of the major objectives of the Boston Public Schools and the school-to-career programs administered in cooperation with the Boston PIC is to achieve a high rate of transition of graduates into post-secondary educational and training institutions. As noted above, the overall college and post-secondary training program enrollment rate for Class of 2006 Boston public high school graduates stood at 73.7 percent in the Spring of 2007 (Chart 5). The college/training program enrollment rate for the city’s public school graduates was only 50 percent in 1986, but had increased to just under 70 percent for the Classes of 2000 and 2001 and reached a historical high of 77% for the Class of 2005. The size of this increase in the college enrollment rate between 1986 and 2005 should be considered a very substantial accomplishment, substantially exceeding that for the nation and for its central cities as a whole over the same period. Keeping these college attendees in school through graduation is our next goal. Current research on the college retention and graduation status of BPS graduates is being conducted by CLMS research staff in cooperation with the Boston PIC.

Chart 5:
Trends in Post-Secondary College/Training Enrollment Rates for Boston Public High School
Graduates, Classes of 1990 to 2006



Despite improvements over the years in the overall college enrollment rate, there are some disturbing gender and race-ethnic gaps in college enrollment rates for Boston public high school graduates, particularly given the higher dropout rates among males, Hispanics, and Blacks in the Boston public schools. Considerably more women than men are graduating from high school, and, when they graduate, women are more likely to attend college, especially four year colleges and universities. Seventy-seven percent of female Boston public high school graduates from the Class of 2006 were enrolled in college or a post secondary training institution at the time of the follow-up survey versus a college/training school enrollment rate of only 69 percent for males. The college/training enrollment rates also varied widely across race-ethnic groups, ranging from lows of 65 to 70% among Hispanics and Blacks to 80% among Whites and a high of 93% among Asian graduates (Chart 6).

Chart 6:
College/Training Program Enrollment Rates of Class of 2006 Boston Public High School
Graduates, Total and by Gender and Race-Ethnic Group



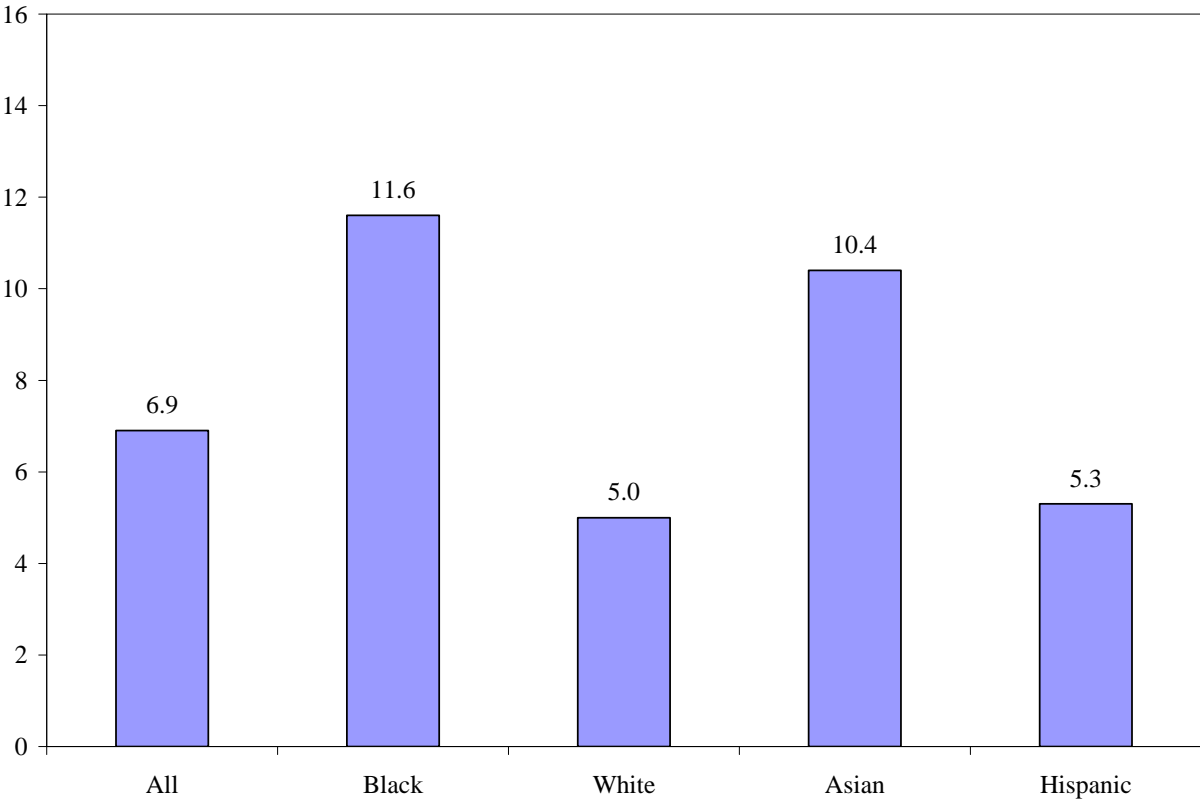
The college/training program enrollment rates of female Class of 2006 graduates in each race-ethnic group were higher than those of men (Table 6). The size of the overall gender gap in the college/training program enrollment rate for all Boston public high school graduates was nearly 8 percentage points. There was a much smaller gender gap of 1 percentage point in college enrollment rates among graduates from the city’s exam schools (96.7% for women versus 95.8% for men), but the gender gap in college enrollment rates was much higher for graduates from the district/magnet/alternative schools (69% female versus 61% male). The gender gaps in college attendance rates were largest for Black graduates (13.3 percentage points) followed by Whites (6.5 percentage points) and Hispanics (4.6 percentage points) and lowest for Asians (.6 percentage points).

Table 6:
Gender Gaps in College/Post-Secondary Training Enrollment Rates of Boston Public High School Graduates by Race/Ethnic Group and Type of High School Attended, Class of 2006
 (Numbers in Percent)

| Group | Women | Men | Percentage Point Gap (Men – Women) |
|------------------------------------|-------|------|---------------------------------------|
| All | 76.5 | 68.7 | -7.8 |
| Asian | 92.9 | 92.3 | -0.6 |
| White | 82.7 | 76.2 | -6.5 |
| Hispanic | 67.5 | 62.9 | -4.6 |
| Black | 74.8 | 61.5 | -13.3 |
| Exam School | 96.7 | 95.8 | -0.9 |
| Alternative/District/Magnet School | 69.3 | 60.7 | -8.6 |

Among those enrolled in a college or post-secondary training program at the time of the follow-up survey, women were more likely than men to be attending a four-year college or university (71% vs. 64%). Gender differences in four-year college attendance rates were observed for all four race-ethnic groups. The percentage point sizes of the differences between the percentage shares of enrolled women and men attending 4-year colleges were 5.3 percentage points for Hispanic and White graduates, 10 percentage points for Asian graduates, and nearly 12 percentage points for Black graduates (Chart 7). In earlier years, both Hispanic and Black graduates were characterized by the largest gender gaps in four-year college enrollment shares whereas Asian graduates typically had the lowest gender gap on this measure (Chart 7).

Chart 7:
Gender Gaps in Four-Year College Enrollment Rates Among Class of 2005 Graduates Attending
College or a Post-Secondary Training Institution by Race-Ethnic Group



Similar to findings for those of all earlier years, the college attendance rates of Class of 2006 BPS graduates also varied widely by the type of high school that they attended (Tables 6 and 7). Not surprisingly, given substantial differences in students’ academic backgrounds and achievements, large gaps existed between the college/training enrollment rates of graduates of the city’s exam schools and those from the district/alternative high schools. The absolute percentage point difference between the college/training enrollment rates of graduates from the exam schools and the alternative/district/magnet schools was nearly 30 percentage points (96.4% vs. 66.5%). The college/training program enrollment rates ranged across individual high schools from highs of 98 percent for Boston Latin High School, 97 percent for Boston Latin Academy, and 94 percent for O’Bryant High School to lows of 40 percent for the Social Justice Academy and 46.2 percent for the Economics and Business Academy (adult, evening, and vocational Academies excluded).

Table 7:
Percent of Class of 2006 Graduates of Boston Public High Schools
Who Were Enrolled in College or a Post-Secondary Training Program at the
Time of the Follow-up Survey by High School

| School | Enrollment Rate (%) |
|---|------------------------|
| Boston Latin High School (1010) | 97.5 |
| Boston Latin Academy (1020) | 96.5 |
| O'Bryant High School (1030) | 93.8 |
| Quincy Upper School (1450) | 93.5 |
| Boston Arts Academy (1420) | 87.2 |
| New Mission (1285) | 86.4 |
| Media and Technology High School (1252) | 85.5 |
| Tech Boston Academy (1460) | 82.0 |
| Health Career Academy (1440) | 81.6 |
| Academy of Public Service (1062) | 80.6 |
| Another Course to College (1230) | 80.0 |
| Excel High School (1162) | 76.9 |
| Parkway Academy of Technology and Health (1251) | 76.6 |
| Boston Community Leadership Academy (1195) | 75.8 |
| Community Academy of Science and Health (1103) | 74.6 |
| Fenway High School (1265) | 72.7 |
| Snowden International High School (1200) | 70.2 |
| Brighton High School (1040) | 68.1 |
| Boston International High School (1990) | 66.7 |
| Urban Science Academy (1253) | 64.0 |
| East Boston High School (1070) | 63.6 |
| English High School (1080) | 63.1 |
| Charlestown High School (1050) | 62.4 |
| Burke High School (1120) | 61.4 |
| Brook Farm Business and Service Career Academy (1254) | 61.1 |
| Greater Eagleston (1430) | 60.0 |
| McKinley Tech. (1294) | 57.1 |
| Odyssey High School (1163) | 52.4 |
| The Engineering School (1102) | 52.2 |
| Monument High School (1161) | 48.9 |
| Madison Park High School (1210) | 48.7 |
| Economics and Business Academy (1061) | 46.2 |
| Social Justice Academy (1101) | 40.0 |
| Boston Adult Academy (1215) | 38.9 |
| Community Academy (1340) | 37.5 |
| Boston Evening (1410) | 36.4 |
| McKinley Voc. (1293) | 14.3 |
| Exam Schools | 96.4 |
| District/Magnet Schools | 66.5 |
| All Schools | 73.7 |

The overwhelming majority of college/training students (92 percent) reported that they were attending their post-secondary schools on a full-time basis. Nearly 91 percent of those attending a college or post-secondary training program were enrolled in a post-secondary educational institution, primarily four-year colleges and universities and community colleges.

The ten educational institutions accounting for the largest number of college enrollees from the Classes of 2005 and 2006 are displayed in Table 8. These ten colleges and universities accounted for nearly 50 percent of the total number of enrolled graduates from the Class of 2006. Each of these ten colleges and universities was located in Massachusetts, and all but the University of Massachusetts at Amherst and Dartmouth and Salem State College were located in the Boston metropolitan area.

The top ten enrolling colleges and universities for the Class of 2006 were characterized by a substantial degree of overlap with the ten largest enrolling institutions for graduates from the Class of 2005. Nine of the top ten enrolling institutions for the Classes of 2005 and 2006 were the same although several of their rankings were changed. The University of Massachusetts (Dartmouth) replaced Roxbury Community College in the top 10 list for the Class of 2006. The number of Class of 2006 graduates attending the top ten colleges varied only modestly from the Class of 2005.

Table 8:
The Ten Colleges and Universities Attended by the Largest Number of
Boston Public High School Graduates, Classes of 2005 and 2006

| Class of 2005 | Number of Students | Class of 2006 | Number of Students |
|---------------------------|--------------------|---------------------------|--------------------|
| Bunker Hill Comm. College | 186 | Bunker Hill Comm. College | 177 |
| UMass-Amherst | 126 | UMass-Boston | 152 |
| UMass-Boston | 110 | UMass-Amherst | 103 |
| Boston University | 59 | Northeastern University | 77 |
| Northeastern University | 57 | Suffolk University | 70 |
| Salem State College | 55 | Boston University | 52 |
| Mass Bay Comm. College | 51 | Mass Bay Comm. College | 51 |
| Roxbury Community College | 47 | UMass-Dartmouth | 48 |
| Boston College | 31 | Boston College | 45 |
| Suffolk University | 31 | Salem State College | 40 |

College Majors of Class of 2006 Boston Public High School Graduates

Beginning with the Class of 2001, the PIC follow-up questionnaire has included an open-ended question asking graduates enrolled in college to identify their college majors. An analysis of the findings for the Class of 2006 revealed that 24 percent of all graduates enrolled in college had not yet declared a major. This ratio has risen fairly steadily over the past six years. Both male and female graduates were about as likely to have not declared a college major at the time of the Winter/Spring 2007 follow-up survey (Table 9). The most frequently cited majors for the combined pool of graduates from the Class of 2006 were business-related (business administration, management, and accounting). Slightly over 11 percent of the students chose a major in one of these three business majors. Approximately 14 percent of male graduates reported a business major as did about 10 percent of the women. The second most frequently chosen college major for Class of 2006 Boston public high school graduates was nursing. Seven percent of the college students chose nursing. Women were nearly 11 times more likely than men to do so. The very low interest in engineering, computer science, the physical sciences, and teaching should be viewed as deeply troubling. There appears to be a major need to provide more substantive career guidance and counseling to high school seniors. Some gender differences in college majors were present in other fields. Less than 1% of the graduates expressed an intention to major in teaching.

Table 9:
Top 10 College Majors of Enrolled Class of 2006
Boston Public High School Graduates, Total and by Gender

| College Major | All | College Major | Men | College Major | Women |
|-------------------------|------|-------------------------|------|-------------------------|-------|
| Undecided | 24.3 | Undecided | 25.5 | Undecided | 23.4 |
| Nursing | 7.0 | Business Administration | 5.9 | Nursing | 10.9 |
| Business Administration | 4.9 | Business Management | 5.6 | Criminal Justice | 4.9 |
| Criminal Justice | 4.6 | Criminal Justice | 4.2 | Psychology | 4.5 |
| Business Management | 4.2 | Automotive Technician | 2.9 | Business Administration | 4.2 |
| Psychology | 3.8 | Psychology | 2.8 | Biology | 3.9 |
| Biology | 3.3 | Biology | 2.4 | Business Management | 3.2 |
| Accountancy | 2.2 | Engineering | 2.4 | Accountancy | 2.1 |
| Communications | 2.0 | Accountancy | 2.3 | Communications | 2.0 |
| Political Science | 1.5 | Political Science | 2.1 | Medical Assistant | 1.7 |

Financial Aid Status of College Enrolled Members of the Class of 2006

A substantial majority of the college enrolled graduates from the Class of 2006 reported in the follow-up survey that they received some type of financial assistance to attend college (84%), and most graduates reported that they received several types of financial assistance (Table 10). Of those graduates who received some type of financial assistance, 56 percent received loans, another 49 percent received grants, including Pell Grants, 47 percent received academic or sports scholarships, and 14 percent were work-study students

Table 10:
Percent of Enrolled Class of 2006 Boston Public High School Graduates
Who Received Various Types of Financial Aid to Attend College
(Weighted Cases, Multiple Responses Allowed)

| Type of Financial Aid | Percent Receiving Financial Aid |
|------------------------|---------------------------------|
| Any Type of Assistance | 83.7 |
| Loans | 56.3 |
| Grants | 48.7 |
| Scholarships | 47.3 |
| Work-Study | 13.9 |

Comparisons of the College Enrollment Rates of Class of 2006 Boston Public School Graduates with Those of Their U.S. and Central City Counterparts Across the Nation

To place the findings on the college enrollment rates of Boston public school graduates in perspective, we have compared them to the college enrollment rates of all of the nation's high school graduates from the Class of 2006 and those residing in the nation's central cities. The October 2006 CPS survey, which contains a supplement on the college enrollment and employment status of high school graduates from the Class of 2006, is the source of data on the college enrollment status of U.S. high school graduates.⁷ Table 11 displays the college enrollment rates of Boston public high school graduates and compares them to those for the entire nation's Class of 2006 graduates and all central city graduates across the nation. Boston

⁷ The national sample of high school graduates includes youth who graduated from both public and private high school across the country. Only those graduates who were members of the civilian, non-institutional population in October 2006 were in the scope of the survey. Those graduates serving in a branch of the nation's armed forces or incarcerated in jails or prisons are excluded from the coverage of the CPS.

public high school graduates were modestly more likely to enroll in college than their U.S. peers. Slightly more than 66 percent of Class of 2006 BPS graduates were enrolled in two-year or four-year colleges and universities compared to 63 percent of all high school graduates across the country including graduates of private high schools. Male graduates from the Class of 2006 in both Boston and the U.S. were about equally likely to enroll in college; however, female high school graduates from Boston public schools were nearly 6 percentage points more likely to enroll in college than their peers nationwide. For graduates in each of the four major race-ethnic groups, the college enrollment rates of Boston public high school graduates exceeded those of their U.S. counterparts 3 to 9 percentage points, with Boston’s advantage being greatest for Black graduates.

College going rates of Boston public high school graduates also exceeded those of their central city counterparts across the nation. Boston public high school graduates from the Class of 2006 were 5.5 percentage points more likely to enroll in college than their central city counterparts across the nation. Male and female graduates in Boston were 1 and 9 percentage points, respectively, more likely to enroll in college than their central city counterparts. Enrollment rate advantages of Boston public high school graduates over their central city counterparts ranged from 3 to 10 percentage points among all races, with Asian, Black, and White graduates enjoying the largest advantages.

Table 11:
Comparisons of the College Enrollment Rates⁸ of Class of 2006 Boston Public School Graduates with Those of Their U.S. and U.S. Central City Counterparts from the Class of 2006

| Group | Boston Public Schools | All U.S. | U.S. Central Cities | BPS - All U.S. | BPS - U.S. Central Cities |
|----------|-----------------------|----------|---------------------|----------------|---------------------------|
| All | 66.2 | 63.6 | 60.7 | 2.6 | 5.5 |
| Men | 62.3 | 63.7 | 61.2 | -1.4 | 1.1 |
| Women | 69.2 | 63.6 | 60.3 | 5.6 | 8.9 |
| Asian | 88.2 | 82.3 | 79.5 | 5.9 | 8.7 |
| Black | 62.4 | 53.1 | 53.5 | 9.3 | 8.9 |
| Hispanic | 57.7 | 54.6 | 54.3 | 3.1 | 3.4 |
| White | 72.7 | 66.3 | 62.3 | 6.4 | 10.4 |

⁸ College enrollments only include graduates who were enrolled in 2-year and 4-year colleges. The numerator is graduates enrolled in 2-year and 4-year colleges and the denominator is all high school graduates from the Class of 2006.

The Labor Force Participation Behavior of Class of 2006 Boston Public School Graduates

As noted earlier, the follow-up survey of Class of 2006 graduates also collected information on the labor force activities of each graduate at the time of the survey. With this information, each graduate was assigned to one of the following three mutually exclusive labor force categories: employed, unemployed, or out of the labor force. Those graduates who were working (including those in active military service) or actively seeking and available for work at the time of the survey (unemployed) are categorized as members of the labor force. The labor force participation rate for Class of 2006 Boston public school graduates was 71.6 percent, implying that just under 72 of every 100 graduates were either working or actively looking for work at the time of the survey (Table 12). The labor force participation rate of graduates from the non-exam schools was 11.4 percentage points higher than that of graduates from the three exam schools (74.4% vs. 63%), reflecting the more limited labor force attachment of college students. Males were modestly more likely to be actively participating in the labor force than women (70% versus 67%). However, the gender differences in labor force participation rates varied by type of school attended. Among graduates of the exam schools, women were more likely to be active in the labor force than men (66% versus 59%). However, in the district, magnet, and alternative schools, there was a seven percentage point difference between the labor force participation rates of men and women in favor of men, primarily reflecting the lower college enrollment rate of males from these high schools.

There were more substantial differences in labor force participation rates among members of the four race-ethnic groups. These labor force participation rates ranged from a high of 81 percent for Black graduates and 79% among Hispanic graduates to a low of 51 percent for Asian graduates. The sharply lower participation rate of Asian graduates largely but not completely reflects their higher college enrollment rate.⁹ There were also differences in the labor force participation rates of men and women within each of the four race-ethnic groups. Black and Hispanic male graduates were more likely to participate in the labor force than each of their female counterparts while Asian female graduates more likely than their male counterparts to be participating in the labor force.

⁹ When enrolled in college, Asian students were less likely to be active participants in the labor force than their peers in the other race-ethnic groups.

Table 12:
Labor Force Participation Rates of Class of 2006 Boston Public High School Graduates,
Total and by Gender, Race-Ethnic Group, and Type of High School Attended
 (Weighted Cases, Military Included as Employed)

| Group | All | Male | Female |
|------------------|------|------|--------|
| All | 71.6 | 70.3 | 67.5 |
| Black | 75.9 | 81.4 | 72.2 |
| White | 64.5 | 65.4 | 63.7 |
| Asian | 55.4 | 50.8 | 59.6 |
| Hispanic | 76.2 | 78.9 | 74.0 |
| Enrolled | 66.1 | 67.1 | 65.4 |
| Not Enrolled | 86.5 | 88.5 | 84.3 |
| Exam Schools | 63.0 | 58.8 | 65.8 |
| Non-Exam Schools | 74.4 | 78.2 | 71.3 |

Employment Rates of Class of 2006 Boston Public High School Graduates

At the time of the follow-up interviews, slightly more than 53 percent of the graduates from the Class of 2006 were employed, excluding those serving in a branch of the nation's armed forces (Table 13). The employment rates of Boston public high school graduates from the Class of 2006 in all demographic groups were slightly higher than those for graduates from the Class of 2005; however, they continued to remain well below those of graduates from the Classes of 2000 and 2001, reflecting weaknesses in local, state, and national labor markets for teens regardless of their school enrollment status. The employment rate for all Class of 2006 graduates was nearly 7 percentage points lower than that for the Class of 2001. Payroll employment levels in the city of Boston still remain well below their peaks in the first quarter of 2001. The 53 percent employment rate for graduates from the Class of 2006, however, represents a substantial improvement over the employment rates of Boston graduates during the early years of the 1990s when the local and state economy were recovering from a severe state economic recession. For example, the employment rate for Class of 1991 graduates, who entered the labor market at a time when the state economy was close to its cyclical trough, was only 39 percent. As will be indicated below, however, unemployment rates among many subgroups of graduates from the Class of 2006 were quite high at the time of the 2007 follow-up survey.

Table 13:
Employment Rates of Class of 2006 Boston Public High School Graduates at the
Time of the Follow-up Survey, Total and by College Enrollment Status
(Military Excluded as Employed)

| Group | Employment Rates for All Graduates | Enrolled in College | Not Enrolled in College |
|-------------------------|---------------------------------------|------------------------|----------------------------|
| All | 53.3 | 49.4 | 63.9 |
| Men | 53.5 | 47.9 | 65.8 |
| Women | 53.1 | 50.4 | 61.7 |
| Asian | 44.0 | 41.4 | 77.8 |
| Black | 53.5 | 50.6 | 60.2 |
| Hispanic | 59.2 | 56.3 | 64.6 |
| White | 51.4 | 45.6 | 74.1 |
| Exam Schools | 51.6 | 50.8 | 72.4 |
| District/Magnet Schools | 53.9 | 48.7 | 63.6 |

Male and female graduates were nearly equally likely to be working at the time of the follow-up survey. Among those not enrolled in college, men were 4 percentage points more likely to be employed than women; however, among those enrolled, women were 2.5 percentage points more likely to be employed than men. Those high school graduates not enrolled in college at the time of the spring 2006 follow-up survey were considerably more likely to be employed than their peers who were attending college (64% versus 49%). Still, one-half of all the graduates enrolled in college at the time of the Spring 2007 follow-up were working.

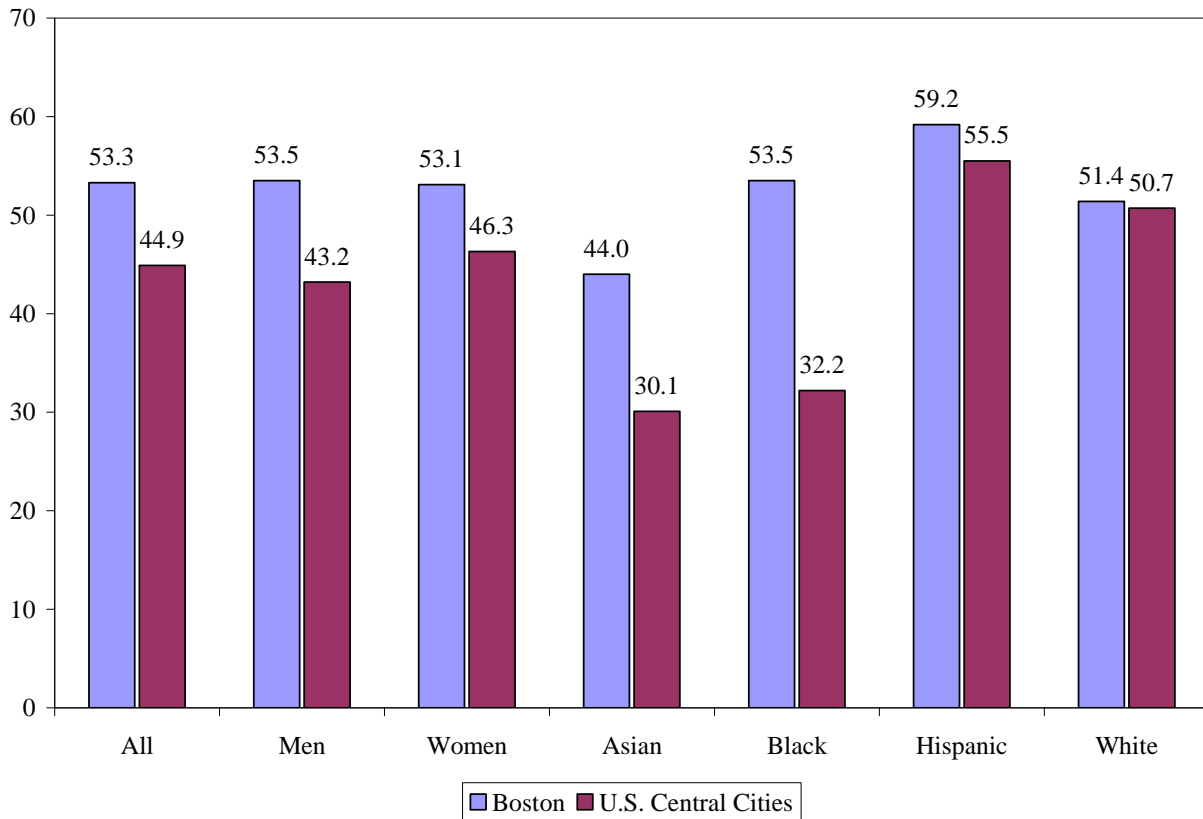
Employment rates of Class of 2006 graduates varied more widely by race-ethnic group. Hispanic graduates had the highest employment rate (59%) followed by Black (54%), White (51%), and Asian graduates (44%). The lower overall employment rate of Asian graduates is only partly attributable to their higher rate of college attendance. Even among college students, Asians were less likely to work than Blacks or Hispanics. In each race-ethnic group, the employment rates of non-enrolled graduates were considerably higher than those of their enrolled peers, with the size of these differences ranging from 10 to 36 percentage points.

Comparisons of the Employment Rates of Class of 2006 Boston Public School Graduates with Those of Their U.S. Central City Counterparts

The employment rate for all Boston public high school graduates from the Class of 2006 at the time of the winter/spring 2007 follow-up survey (53%) was slightly higher than the preceding year's graduating class (51%). To place the findings for Boston public school graduates into perspective, we have compared the employment rates of Boston public high school graduates with those of their U.S. central city counterparts from the Class of 2006.¹⁰ (Chart 8). The employment rate for Class of 2006 Boston public high school graduates was 8.4 percentage points higher than that of all U.S. central city graduates from the Class of 2006 (53.3 versus 44.9 percent). Both male and female graduates from the Boston public schools had higher employment rates than their central city peers across the country, with 7 to 10-percentage point employment rate advantages for women and men, respectively, over their national central city peers. Boston public high school graduates in each race-ethnic group were more likely to be employed than their national central city counterparts. The sizes of the employment rate advantages for Boston graduates ranged from lows of 1 percentage point for White, 4 percentage points for Hispanics to highs of 14 percentage points for Asian high school graduates, and 21 percentage points for Black graduates. Consistently, over the past seven years, Black graduates from the Boston public schools have substantially outperformed their national peers.

¹⁰ Findings for U.S. central city graduates from the Class of 2006 are based on the findings of the October 2006 CPS survey, which contains a special supplement that identifies new high school graduates across the country. The public use files from this household survey were analyzed by the authors to produce these estimates.

Chart 8:
Comparisons of the Civilian Employment Rates of All Class of 2006 Boston Public School Graduates with Those of Their U.S. Central City Counterparts from the Class of 2006¹¹



The Employment Status of College Enrolled BPS High School Graduates from the Class of 2006 and Their Central City Counterparts

Nearly one-half of the BPS high school graduates attending college and post-secondary training institutions also were employed in civilian jobs, the vast majority of which were part-time in nature. Forty-nine percent of the Class of 2006 graduates from Boston public schools who were attending colleges, universities, or post-secondary training programs at the time of the follow-up interview were simultaneously employed. The employment rate of college enrolled Boston public high school graduates was 4.5 percentage points higher than that of all college enrolled high school graduates from the Class of 2006 living in U.S. central cities (Table 14). In

¹¹ Military service personnel are excluded from the count of the employed in both the city of Boston and U.S central cities. The October CPS surveys are limited to the civilian, non-institutional population of the U.S. Members of the nation’s armed forces are excluded from the scope of the CPS survey.

each gender and race-ethnic group, Boston’s college enrolled graduates were more likely to be working than their national counterparts, with the exception of Whites who were 5 percentage points less likely to be working than their peers in all central cities across the nation. The size of these employment rate advantages varied by gender and race-ethnic group but were quite substantial for Blacks and Asians. College enrolled male graduates from Boston public high schools were five percentage points more likely to be employed than their college enrolled national counterparts (48% versus 43%) while Boston females graduates enjoyed a four percentage point employment advantage over their national peers. Employment rates of BPS college students by race-ethnic group were in the range of 41 to 56 percent. Fifty-six percent of Hispanic graduates and 51 percent of Black college students were employed versus only 41 percent of Asian and 46 percent of White students. Black college students from Boston high schools were 18 percentage points more likely to be employed than their national counterparts. Graduates from the city’s three exam schools (Boston Latin Academy, Boston Latin, and O’Bryant Technical) were less likely to be working than their college enrolled counterparts from the alternative, district, and magnet schools. In addition, those attending community colleges and post-secondary training programs were more likely to be working than those attending four-year colleges and universities.

Table 14:
Comparisons of the Employment Rates of Class of 2006 Boston Public School Graduates
Enrolled in College with Those of Their Counterparts in U.S. Central Cities

| | (A) | (B) | (C) |
|----------|--------|---------------------|---------------|
| Group | Boston | U.S. Central Cities | Boston - U.S. |
| All | 49.4 | 44.9 | 4.5 |
| Men | 47.9 | 43.2 | 4.7 |
| Women | 50.4 | 46.3 | 4.1 |
| Asian | 41.4 | 30.1 | 11.3 |
| Black | 50.6 | 32.2 | 18.4 |
| Hispanic | 56.3 | 55.5 | 0.8 |
| White | 45.6 | 50.7 | -5.1 |

The Employment Status of Non-College Enrolled High School Graduates From the Class of 2006, Comparisons of Findings for Boston and U.S. Central Cities

Employment rates for those Class of 2006 graduates not attending colleges or post-secondary training programs at the time of the follow-up interviews were estimated for graduates from Boston public high schools and all U.S. central cities (Table 15). The results indicate that 64 percent of non-enrolled, Boston public school graduates were employed at the time of the follow-up survey, an employment rate that was about 2 percentage points higher than that of all high school graduates in central cities across the U.S. (62%). The employment rate advantages of BPS graduates varied across gender and race-ethnic groups. The employment rate of non-enrolled male, Boston public school graduates from the Class of 2006 was 5 percentage points above that of their male counterparts across central cities of the U.S. Black, Asian, and Hispanic public school graduates from Boston high schools not attending college were found to enjoy substantial employment advantages over their respective national counterparts. The size of the employment rate advantage for Black graduates was nearly 10 percentage points and while the employment rate advantaged was 29 percentage points for Asians in Boston. Hispanic BPS graduates enjoyed a smaller employment rate advantage (5 percentage points) over their national counterparts.

Table 15:
Comparisons of the Employment Rates of Non-Enrolled Class of 2006 Boston Public School Graduates with Those of Their U.S. Central City Counterparts from the Class of 2006¹²

| | (A) | (B) | (C) |
|----------|--------|---------------------|---------------|
| Group | Boston | U.S. Central Cities | Boston - U.S. |
| All | 63.9 | 62.1 | +1.8 |
| Men | 65.8 | 60.8 | +5.0 |
| Women | 61.7 | 63.0 | -1.3 |
| Asian | 77.8 | 49.1 | +28.7 |
| Black | 60.2 | 50.4 | +9.8 |
| Hispanic | 64.6 | 59.7 | +4.9 |
| White | 74.1 | 74.1 | 0 |

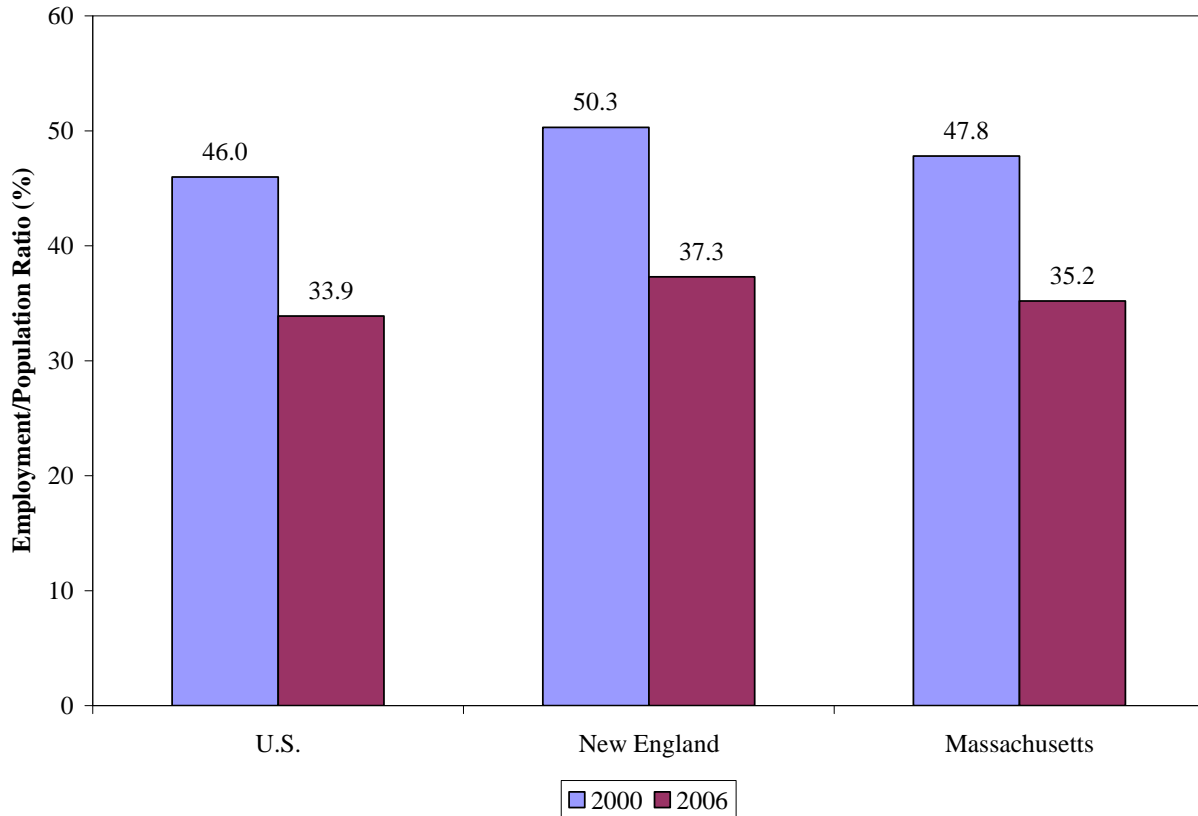
¹² Military service personnel are excluded from the count of the employed in both the city of Boston and the U.S.

As noted earlier, recent high school graduates in Boston, especially those not going on to college, have found it increasingly more difficult to find employment in recent years. The problem of rising joblessness among teens in recent years is not confined to youths in the city of Boston, but it is prevalent across Massachusetts, New England, and the nation as a whole.¹³ Teenagers in general have been facing more severe difficulties in finding jobs due to more limited payroll job growth since the recovery from the 2001 recession, the influx of new, younger immigrants competing for jobs at the entry level, and competition from older native born adults, including older workers 55 and older. At the peak of the economic boom in 2000, the employment to population ratio of 16-19 year old youth in the U.S. was 46.0 percent; however, it had declined to 33.9 percent by 2007, a substantial decline of 12 percentage points between 2000 and 2007 (Chart 9). The 33.9 percent E/P ratio for the nation's teens in 2007 was the lowest in the nation over the post-World War II era.¹⁴

¹³ See: Andrew Sum, Ishwar Khatiwada, Joseph McLaughlin, et. al., The Continued Collapse of the Teen Labor Market in the U.S.: Implications for Youth Workforce Development Policy, Center for Labor Market Studies, Northeastern University, Boston, April 2008.

¹⁴ The national CPS employment series for teens begins in 1948.

Chart 9:
Employment to Population Ratios of 16-19 Year Olds in the U.S.,
New England, and Massachusetts, 2000 and 2007
 (Annual Averages)



Source: Monthly Current Population Surveys (CPS), 2000 and 2006, U.S. Census Bureau public use files, tabulations by authors.

Unemployment Problems of Class of 2006 Graduates From Boston Public Schools and Comparisons With Those for Recent High School Graduates in U.S. Central Cities

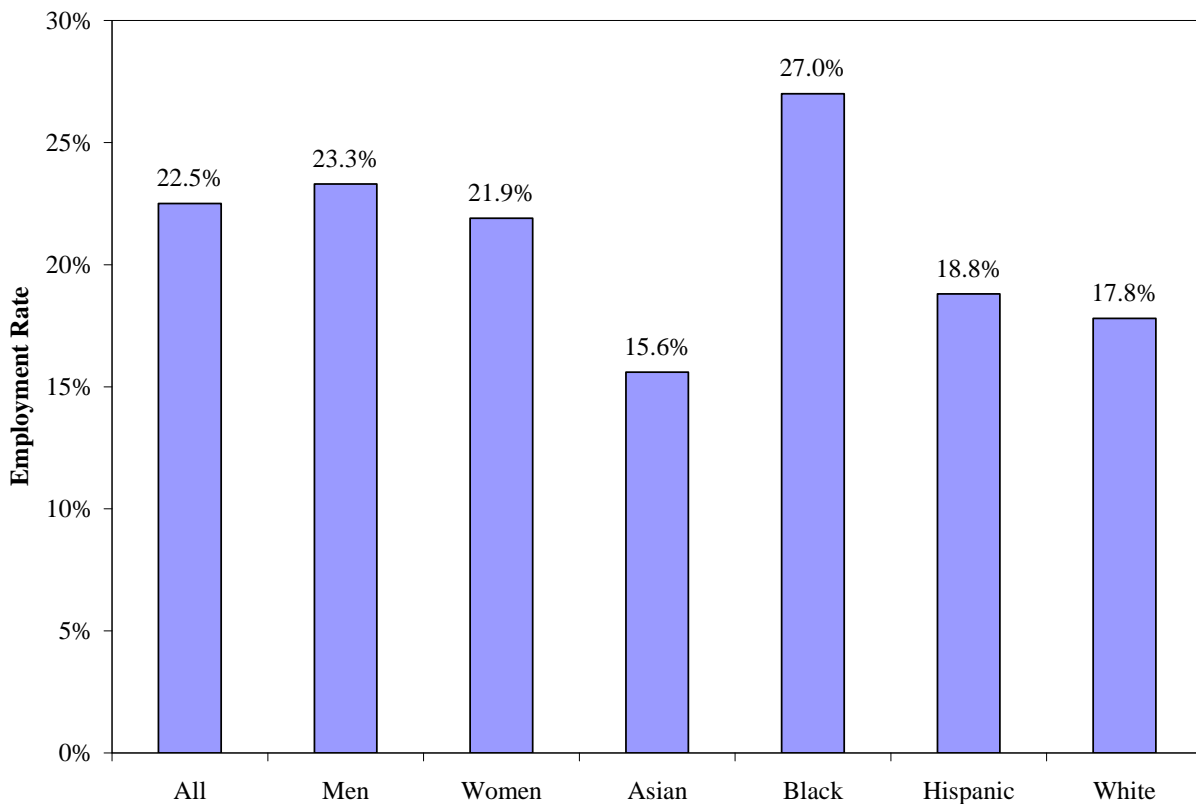
All Boston public high school graduates from the Class of 2006 who reported that they were not working at the time of the follow-up survey were asked if they were actively looking for work and, if so, whether they were available to take a job “last week”. All jobless respondents who replied that they had actively sought work in the past four weeks and were available for work at the time of the follow-up survey were classified as unemployed.¹⁵ The

¹⁵ This definition of unemployment is in close accord with that of the U.S. Bureau of Labor Statistics in its analysis of the CPS labor force data. The PIC follow-up survey did not, however, ask jobless respondents to cite the specific types of jobseeking activities in which they were engaged. In the CPS survey, reliance on “passive” job search activities, such as reviewing newspaper want ads or surfing Internet job sites, does not count as being unemployed.

unemployment rate for any subgroup of graduates represents the ratio of the number of unemployed to the civilian labor force (sum of the employed and unemployed). Unemployment rates were calculated for the entire graduating class and for each gender and race-ethnic group.

The estimated unemployment rate for the entire graduating Class of 2006 BPS graduates remained high at 22.5%, an identical rate to last year (Chart 10).¹⁶ The unemployment rates of female and male graduates were nearly identical (23.3% versus 21.9%). The unemployment rates of race-ethnic groups ranged from a low of 16 percent among Asians, to 18-19 percent for Whites and Hispanics, and to a high of 27 percent for Black graduates.

Chart 10:
Unemployment Rates of Class of 2006 Boston Public High School Graduates,
Total and by Gender and Race-Ethnic Group
(Military Service Personnel Excluded from the Estimates of the Labor Force)

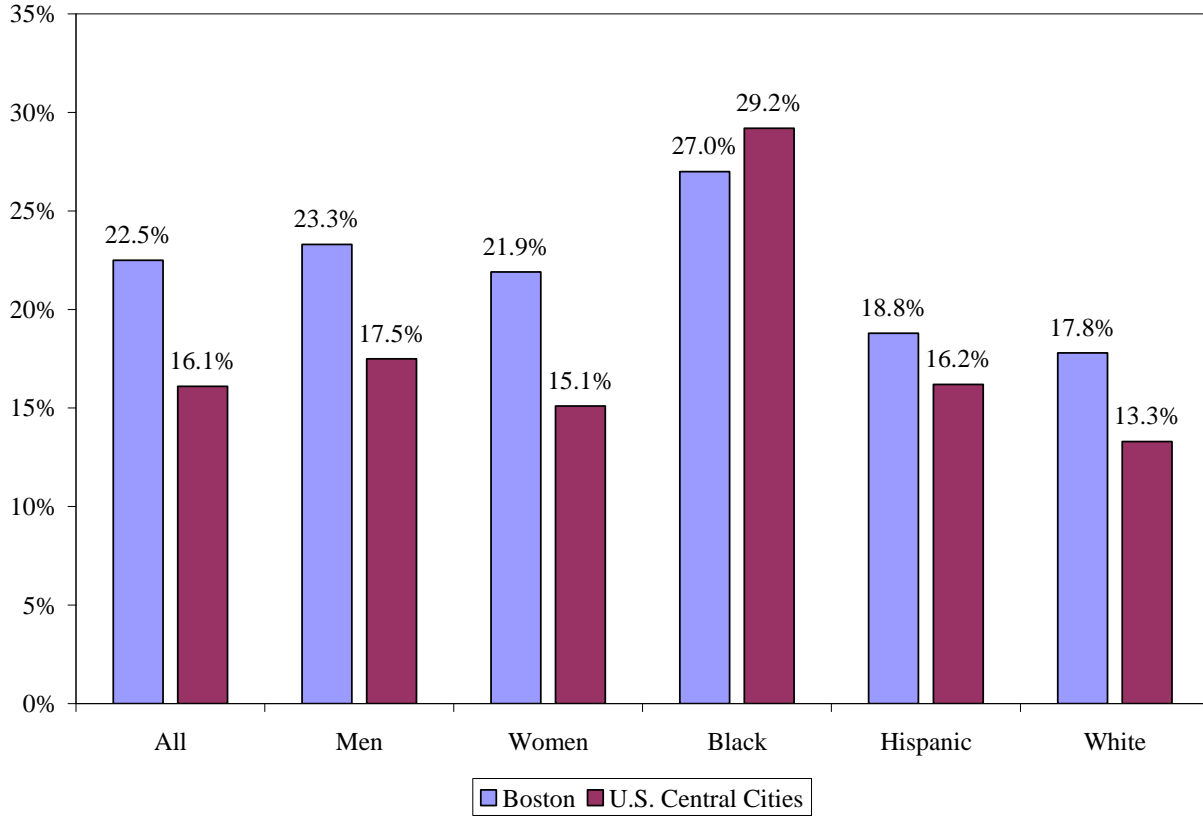


¹⁶ As noted above, the unemployment rate is measured by dividing the number of unemployed graduates by the number of graduates in the civilian labor force; i.e., the sum of the employed and unemployed. The military are excluded from the count of the employed.

Comparisons of the unemployment rates of the city of Boston's Class of 2006 high school graduates with those for a nationally representative sample of all high school graduates living in central cities of the U.S. in October 2006 are presented in Chart 11. The unemployment rate for Boston Class of 2006 graduates was higher than that of their central city counterparts in the U.S. (22.5% vs. 16.1%).¹⁷ For both male and female graduates and for those in two of the three major race-ethnic groups, the unemployment rates of Boston city graduates were higher than those of their U.S. central city counterparts. The unemployment rates of male and female Boston high school graduates were 5.8 and 6.8 percentage points, respectively, higher than those of their U.S. central city counterparts. Across race-ethnic groups, Boston graduates experienced modestly higher unemployment rate than their U.S. peers in the range of 2.6 percentage points for Hispanics and 4.5 percentage points for Whites. Among Black graduates the unemployment rate for BPS graduates was a little more than two percentage points below that of their U.S. central city peers.

¹⁷ Part of the difference in these two unemployment rates is likely attributable to differences in the respondents to the two surveys. In the Boston PIC survey, the respondent is more often the BPS graduate rather than the parent. In the CPS proxy respondents are allowed. Parents often respond for their teenaged children, especially those enrolled in college. They typically report lower unemployment teens than the teens themselves.

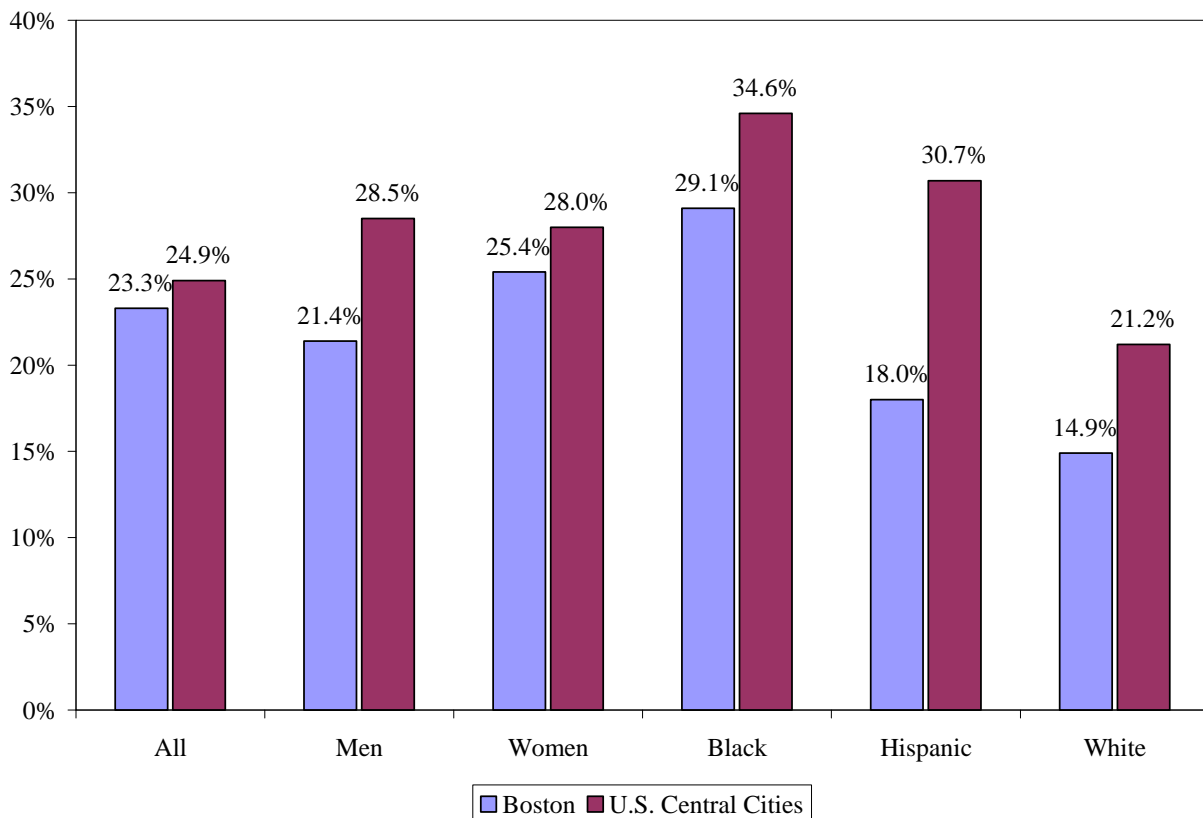
Chart 11:
Unemployment Rates of All High School Graduates from the Class of 2006:
City of Boston Versus All U.S. Central Cities
(Military Excluded)



Unemployment rates also were estimated for those graduates who were not enrolled in college or a post-secondary training institution at the time of the follow-up interviews. For all non-enrolled Boston public school graduates from the Class of 2006, the unemployment rate at the time of the follow-up surveys was 23.3 percent (Chart 12). Non-enrolled, male graduates in Boston were less likely to be unemployed than their female peers (21.4% versus 25.4%). Among the three major race-ethnic groups, unemployment rates of non-enrolled graduates in Boston ranged from a low of 15.0% among White graduates to a high of 29% among Black graduates. Comparisons of the unemployment rates of non-enrolled Boston public school graduates from the Class of 2006 with those of their U.S. central city counterparts are also displayed in Chart 13. For the entire group of non-enrolled graduates, the unemployment rate of Boston graduates was 1.5 percentage points lower than that of their U.S. central city counterparts (23.3% vs. 24.9%).

The unemployment rate of non-enrolled, male high school graduates in Boston was 7 percentage points lower than that of their U.S. central city counterparts (21.4% vs. 28.5%) while the unemployment rate for non-enrolled female graduates in Boston was nearly 3 percentage points lower than that of their U.S. central city peers (25.4% vs. 28%). In each race-ethnic group, the unemployment rate of non-enrolled Class of 2006 Boston public school graduates was lower than that of their U.S. central city counterparts, with particularly large differences for Hispanic and White graduates (Chart 13).

Chart 13:
Unemployment Rates of Non-Enrolled High School Graduates From the
Class of 2006, City of Boston and U.S Central Cities
 (in Percent)



Full-Time/Part-Time Employment Status, Weekly Hours of Work, Hourly Wages, and Weekly Wages of Employed Graduates From the Class of 2006

The PIC follow-up interviews also were used to collect information from employed respondents on key characteristics of their jobs, including data on their weekly hours of work and

their hourly wages. The hourly wage data represent wages before taxes and any other payroll deductions. Based on the employed graduates' reported weekly hours of work, we have classified all workers into either a full-time or part-time status. We have adopted the standard definition of full-time employment of the U.S. Bureau of Labor Statistics. A full-time worker is one who was employed for 35 or more hours per week. Given the high share of employed graduates who were also simultaneously enrolled in college, a substantial majority of Boston public school graduates with jobs were working part-time at the time of the Winter/Spring 2007 follow-up survey. Slightly under one quarter of the employed graduates reported that they were working full-time while 76 percent of the graduates reported that they were working part-time. As will be revealed below, the relatively low rate of full-time employment is due primarily to the high share of jobs held by graduates who were simultaneously enrolled in college. The share of graduates holding a full-time job at the time of the survey also varied between men and women. For example, 31 percent of the employed men held full-time jobs while only 20 percent of the employed women were working full-time. The higher share of employed women who were enrolled in college helps explain a large part, but not all of the gender difference in this employment outcome.

Mean weekly hours of work for all employed graduates were equal to 23.4 hours, nearly identical to the mean hours worked by employed members of the Class of 2005. (Table 16). Those employed graduates who were not enrolled in college worked on average for 33 hours per week while those mixing school and work were employed on average for only 19 hours per week. Keeping work hours of college students below 20 hours per week is desirable for improving college retention. While non-enrolled graduates worked more hours per week than their college enrolled peers, they were finding it somewhat more difficult to obtain full-time jobs. Only 56 percent of the employed, non-enrolled graduates from the Class of 2007 were working full-time, i.e., 35 or more hours per week versus 65 percent of the employed from the Class of 2000. Having the non-college enrolled graduates obtain access to full time jobs is desirable for many reasons. Full-time workers not only earn higher current hourly and weekly wages than part-time workers, but they are also much more likely to receive certain types of training from their employers, especially formal and apprenticeship training, which should boost their future

skills and wages as well.¹⁸ In addition, the impact of work experience on future wages is higher for full-time jobs than it is for part-time jobs.

Table 16:
Mean Weekly Hours of Work, Hourly Wages, and Weekly Wages for
Employed Class of 2006 Boston Public High School Graduates, Total and by
Gender, Race-Ethnic Group, and School Enrollment Status

| Group | Mean Weekly Hours | Mean Hourly Wage | Mean Weekly Wage |
|--------------|-------------------|------------------|------------------|
| All | 23.4 | \$9.21 | \$220 |
| Men | 25.7 | \$9.50 | \$249 |
| Women | 21.6 | \$8.97 | \$196 |
| Asian | 15.9 | \$9.17 | \$152 |
| Black | 24.0 | \$9.17 | \$223 |
| Hispanic | 26.5 | \$9.22 | \$250 |
| White | 21.6 | \$9.33 | \$206 |
| Enrolled | 18.8 | 49.12 | \$175 |
| Not Enrolled | 33.0 | \$9.39 | \$315 |

Among those who were employed at the time of the follow-up survey, men tended, on average, to work more hours per week than women (26 hours versus 22 hours). Mean hours of work were highest among Hispanic workers (26.5), followed by Black (24), and White graduates (21.6) (Table 16). Employed Asian graduates worked on average for only 16 hours per week. The sharply lower mean hours of work among employed Asians was primarily attributable to the higher frequency of part-time employment among Asian college students. Those Asian graduates who were not enrolled in college had higher mean weekly hours of work than their peers in the other race-ethnic groups (Table 17).

¹⁸ See: (i) Andrew Sum, Neeta Fogg, and Garth Mangum, Confronting the Youth Demographic Challenge, Sar Levitan Center for Social Policy Studies, Johns Hopkins University, Baltimore, 2000; (ii) Ishwar Khatiwada and Andrew Sum, The Full-Time/Part-Time Job Status of Employed Class of 1999 Graduates, Report prepared for the Boston Private Industry Council, Boston, 2001.

The mean hourly wage of all employed graduates was \$9.21. Men earned \$.53 or 6 percent more per hour than their female counterparts (\$9.50 versus \$8.97), reflecting a combination of more full-time employment with a different industrial and occupational mix of jobs. The mean hourly wages of employed graduates varied only modestly across the four major race/ethnic groups, ranging from highs of \$9.33 among White graduates and \$9.22 among Hispanic graduates to lows of \$9.17 among Asian and Black graduates. Those graduates who were enrolled in college or post-secondary training programs earned \$.27 less per hour than their non-enrolled counterparts (\$9.12 versus \$9.39). Full-time workers fared better than their part-time counterparts. The mean hourly wage of full-time employed graduates was \$.93 or slightly more than 10 percent higher than that of part-time workers (\$9.90 versus \$8.97).

The findings on the weekly hours of work of employed graduates were combined with those on hourly wages to estimate the weekly earnings of each respondent who was employed in a civilian job. The mean weekly earnings of all employed graduates were equal to \$220 (Table 16). Non-enrolled graduates tended to work more hours per week than enrolled graduates, and they earned more per hour when they did work; thus, their mean weekly earnings were \$134 or 80 percent higher than those of college enrolled workers (\$315 versus \$175). Employed male workers obtained mean weekly earnings that were \$53 higher than those of employed female graduates (\$249 vs. \$197), reflecting a combination of higher hourly earnings and more hours of work per week. Large differences also were observed among the mean weekly wages of employed graduates in the four major race-ethnic groups. Mean weekly wages ranged from a low of \$152 among Asians to a high of \$250 for Hispanic workers. Among those not enrolled in college, mean weekly wages ranged from a low of \$287 for Black graduates to a high of \$342 for White graduates (Table 17).

Table 17:
Mean Weekly Hours of Work, Mean Hourly Wages and Mean Weekly Wages of
Class of 2006 Boston Public High School Graduates Not Enrolled in College,
Total and by Gender and Race-Ethnic Group

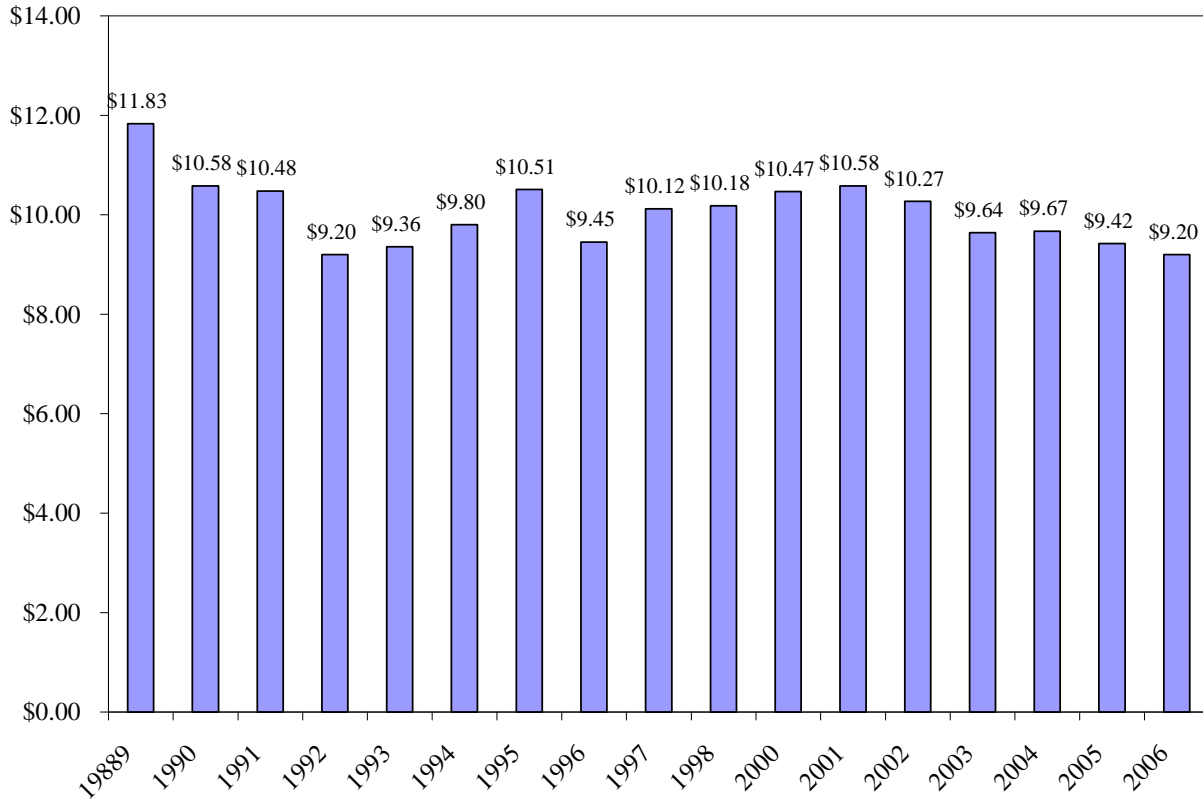
| Group | Mean Weekly Hours | Mean Hourly Wage | Mean Weekly Wage |
|-------|-------------------|------------------|------------------|
| All | 33.0 | \$9.39 | \$304 |
| Men | 33.0 | \$9.71 | \$325 |

| | | | |
|----------|------|--------|-------|
| Women | 32.9 | \$9.04 | \$281 |
| Asian | 31.8 | \$9.64 | \$310 |
| Black | 32.2 | \$9.28 | \$287 |
| Hispanic | 33.6 | \$9.33 | \$312 |
| White | 34.5 | \$9.84 | \$342 |

Historical Trends in the Real Hourly Wages of Employed Boston Public High School Graduates, Classes of 1989 to 2006

The availability of annual follow-up data for Boston high school graduates since the late 1980's allows us to identify trends in the real (inflation adjusted) hourly wages of employed graduates. We have compared the mean hourly wages of employed persons in each year's graduating class back to the Class of 1989. The mean hourly wages of employed members of the Classes of 1989 through 2006 were adjusted for inflation using estimated changes in the Consumer Price Index for All Urban Consumers (CPI-U) for the Greater Boston area between 1989 and 2007. Our findings yielded an inflation-adjusted mean hourly wage of \$11.83 in 1989, a sharp drop to \$9.20 in the trough year of 1992, \$10.58 in 2001, and only \$9.20 for graduates from the Class of 2006. (Chart 14). The historical high for mean real hourly wages was \$11.83, earned by BPS graduates from the Class of 1989 at the peak of the state labor market boom at the end of the 1980s (the Massachusetts Miracle). Following a steep deterioration in the mean hourly wages of employed graduates during the severe state and regional recession of the early 1990s, the mean real hourly wages of Boston public school graduates increased from \$9.20 in 1992 to a peak of \$10.58 in 2001, an increase of \$1.38 per hour or 15 percent. Hourly wages for BPS graduates have declined nearly steadily since then. For the graduating class of 2006, mean hourly earnings were \$9.20, or \$.22 per hour less than that the graduating Class of 2005. The mean real hourly wage of employed graduates of the Class of 2006 was 13 percent below that of the Class of 2001. The lower average wages for recent graduates appear to be primarily attributable to a combination of a reduction in full-time jobs that pay higher hourly wages and a reduction in jobs in several key industrial sectors (finance, durable goods manufacturing, and construction industries) that have traditionally paid above average wages. A larger fraction of employed graduates have depended on the lower paying retail trade sectors and leisure and hospitality industries for their jobs in recent years.

Chart 14:
Mean Real Hourly Wages of Employed Boston Public School Graduates,
Classes of 1989 to 2006
(In Constant March 2006 Dollars)



Industries and Occupations of the Jobs Held by Employed Class of 2006 Graduates

The follow-up survey questionnaire also was used to collect information from employed respondents on the names of the firms that employed them, the types of businesses operated by those firms, the geographic locations of these firms, and the major duties and occupational titles of their jobs. The above information was used by CLMS research staff to assign both an industry and occupational employment code to each of the jobs held by respondents at the time of the follow-up interviews. Class of 2006 graduates obtained jobs in every major industrial sector of the Boston metropolitan economy; however, nearly 45% of the employed graduates worked in a service-related industry (professional, business, or personal/entertainment services), and another 41 percent worked in retail trade industries, including eating and drinking establishments (Table 18). The remaining graduates were employed by the financial services industry (4.0%)

transportation/communication/utilities (3.7%), construction (2.2%), and Public Administration (1%). Fewer than three percent of the graduates worked in durable and non-durable manufacturing industries or in agriculture, forestry & fishing combined. Out of an estimated 1,652 employed graduates, only 36 or 2 percent were employed in manufacturing or construction industries, the source of many well-paying blue-collar jobs in previous years. The manufacturing sector in the U.S. and Massachusetts has been experiencing severe job losses since the late fall of 2000, reducing employment opportunities for both older and younger adults.¹⁹ Teens in particular have found it very difficult to find any employment in this set of goods producing industries. Substantial downsizing in key segments of the city's financial services industries in recent years also have made it more difficult for new high school graduates to find work in this sector.

There were a number of substantive differences between the industrial distributions of the jobs held by employed female and male graduates from the Class of 2006. Nearly 44 percent of employed women were working in retail industries while only 39 percent of the men held jobs in such industries. In contrast, men were more likely than women to obtain employment in business and repair services (7% vs. 2%), personal, entertainment, and recreation services (6% versus 4%), construction (4.8% versus 0.1%), and transportation, communications, and utilities (5.2% vs. 2.6%). These differences between the industrial distributions of employment of men and women are also closely related to differences in their occupational employment distributions, given large differences in the occupational staffing patterns of jobs in the industries that employed men and women.

¹⁹ See: Timothy Appel, Less Sweat, More Tech: A New Blue Collar World, The Wall Street Journal, B1, July 2, 2002.

Table 18:
Distribution of Employed Boston Public High School Graduates by
Major Industrial Sector of Their Jobs, Class of 2006

| Major Industry | Employed | Percent |
|--|----------|---------|
| Retail Trade | 691 | 41.8 |
| Professional & Related Services | 593 | 35.9 |
| Personal, Entertainment, & Recreation Services | 76 | 4.6 |
| Business & Repair Services | 70 | 4.2 |
| Finance, insurance, and real estate | 66 | 4.0 |
| Transportation, Communication, and Utilities | 61 | 3.7 |
| Construction | 36 | 2.2 |
| Public Administration | 17 | 1.0 |
| Durable Goods | 16 | 1.0 |
| Agriculture, Forestry, and Fishing | 11 | 0.7 |
| Wholesale Trade | 9 | 0.5 |
| Non-Durable Goods | 6 | 0.4 |
| Total | 1,652 | 100 |

Comparisons of the industrial distribution of all wage and salary jobs in the Boston metropolitan area with that of employed graduates from the Class of 2006 revealed that employed BPS graduates were substantially under-represented in construction, manufacturing, wholesale trade, and finance/insurance/real estate industries. Each of these industries tends to pay above average wages to their front line workers. To illustrate the variations in weekly earnings across industries, weekly wages were estimated for all employed graduates and for non-enrolled graduates in each major industrial group. Those graduates employed in durable goods and construction earned an average mean weekly wage of \$385 and \$368, respectively. The high weekly wage advantages of construction sector workers were due to a combination of higher hourly wages and more hours of work per week. Graduates employed in transportation, communication, and utilities enjoyed the third highest weekly wage (\$342 per week) followed by those working in non-durable goods (\$324), wholesale trade (\$311), business and repair services (\$310), and finance (\$284). By contrast, the mean weekly wages of workers in public administration, personal entertainment and recreation services, and retail trade were only \$256, \$229, and \$227, respectively. The lowest weekly wage earners were employed by firms in professional & related services and agriculture, forestry and fishing, with mean wages of \$154

and \$83 per week, respectively. Many of these workers were, however, employed on a part-time basis.

Since most employed college students tend to work in the retail trade and professional service industries on a part-time basis, their average weekly wages are held down by their fewer hours of work. To eliminate the effects of part-time work by college students on the estimated weekly earnings of employed graduates, we generated separate weekly earnings estimates for those graduates who were not enrolled in college. Findings in Table 19 reveal that the mean weekly earnings of non-enrolled graduates were nearly 80% higher than those of the enrolled. Non-enrolled graduates who were employed in the public administration industry obtained the highest mean weekly wages (\$517) followed by the wholesale trade sector (\$478), construction (\$396), finance, insurance, and real estate (\$393), durable goods manufacturing (\$388), transportation, communication and utilities (\$363), and business and repair services (\$338). Non-enrolled graduates employed in agriculture, forestry, and fishing industries (\$135) received the lowest mean weekly wage followed by retail trade (\$279), professional and related services (\$287), and personal, entertainment, and recreation services (\$317) (Table 19).

Table 19:
Mean Weekly Wages for Employed Class of 2006 Boston Public High School
Graduates by College Enrollment Status and by Major Industry

| Industry | All | Enrolled | Not Enrolled |
|--|-------|----------|--------------|
| Durable Goods | \$385 | \$360 | \$388 |
| Construction | \$364 | \$251 | \$396 |
| Transportation, Communication, and Utilities | \$329 | \$299 | \$363 |
| Non-Durable Goods | \$324 | \$321 | \$326 |
| Wholesale Trade | \$311 | \$225 | \$478 |
| Business & Repair Services | \$311 | \$293 | \$338 |
| Finance | \$287 | \$229 | \$393 |
| Public Administration | \$258 | \$206 | \$517 |
| Personal, Entertainment, & Recreation Services | \$225 | \$182 | \$317 |
| Retail Trade | \$226 | \$192 | \$279 |
| Professional & Related Services | \$152 | \$127 | \$287 |
| Agriculture, Forestry, and Fishing | \$83 | \$63 | \$135 |
| Total | \$213 | \$170 | \$305 |

Employed graduates from the Class of 2006 worked for a substantial number of different employers. At the time of the follow-up survey, 613 different local, Massachusetts, and out-of-state firms, including work-study students in colleges and universities, had hired one or more graduates from the Class of 2006. Only 95 firms, including colleges and universities, employed four or more graduates; however, these ninety-five firms employed 871 graduates or roughly half of all working graduates from the Class of 2006. Slightly more than 17 percent of the employed students, mostly occupying work-study positions, were working in colleges or universities at the time of the Winter/Spring 2007 follow up survey.

Employed graduates also were asked to describe the major duties that they performed at their jobs and to identify their job titles. Based on this information, the jobs held by all employed graduates at the time of the survey were classified by CLMS research staff into a detailed set of SOC-based occupations, which were then combined into eleven major occupational groups. A substantial majority of the jobs held by employed graduates were accounted for by the following three major occupational groups: office/ administrative support (31%), entry-level sales workers such as cashiers and sales clerks (27%), and service occupations (23%) Table 20). Together, these three occupational groups accounted for 81 of every 100 employed graduates. Due to their limited post-secondary educational attainment, only 8 percent of the employed graduates held a professional, technical, or managerial-related position. Almost 9 percent of the graduates held blue-collar production and craft positions. Women were more likely than men to work in sales and administrative support positions (66% vs. 47%) while men were more likely to hold jobs in blue collar occupations and service related positions (13% vs. 3%)

Table 20:
Distribution of Employed Boston Public High School Graduates by
Major Occupational Area of Their Jobs, Class of 2006

| Major Occupation | Frequency | Percent |
|---|-----------|---------|
| Administrative Support | 531 | 30.9% |
| Low Level Sales | 457 | 26.6% |
| Service | 401 | 23.3% |
| Professional Specialty | 100 | 5.8% |
| Handlers, Equipment Cleaners, Helpers, and Laborers | 76 | 4.4% |
| Machine Operators, Assemblers, and Inspectors | 47 | 2.7% |
| High Level Sales | 29 | 1.7% |
| Technicians and Related Support | 27 | 1.6% |
| Precision Production, Craft, and Repair | 23 | 1.4% |
| Executive, Administrative, and Managerial | 23 | 1.4% |
| Farming, Forestry, and Fishing | 4 | 0.3% |
| Total | 1,719 | 100.0% |

The mean weekly wages of employed graduates varied quite widely across these major occupational groups, ranging from highs of \$407 for precision, production, craft and repair and \$328 for high level sales positions to lows of \$156 for professional specialty and \$195 for administrative support occupations (Table 21). Many of the graduates holding jobs in these latter two occupational groups were working part-time at the time of the follow-up survey. This helps explain their comparatively low weekly earnings.

Table 21:
Mean Weekly Wages of Employed Class of 2006 Boston Public High School Graduates,
Total and by Major Occupational Group

| Occupation | All | Enrolled | Not Enrolled |
|---|-------|----------|--------------|
| Precision Production, Craft, and Repair | \$407 | \$359 | \$436 |
| High Level Sales | \$328 | \$309 | \$361 |
| Handlers, Equipment Cleaners, Helpers, and Laborers | \$279 | \$188 | \$342 |
| Executive, Administrative, and Managerial | \$233 | \$224 | \$350 |
| Machine Operators, Assemblers, and Inspectors | \$221 | \$156 | \$384 |
| Service | \$221 | \$189 | \$285 |
| Low Level Sales | \$218 | \$176 | \$286 |
| Farming, Forestry, and Fishing | \$210 | \$150 | \$241 |
| Technicians and Related Support | \$205 | \$163 | \$542 |
| Administrative Support | \$195 | \$154 | \$315 |
| Professional Specialty | \$156 | \$123 | \$300 |
| Total | \$215 | \$171 | \$306 |

The Receipt of Training From Employers by Employed Graduates

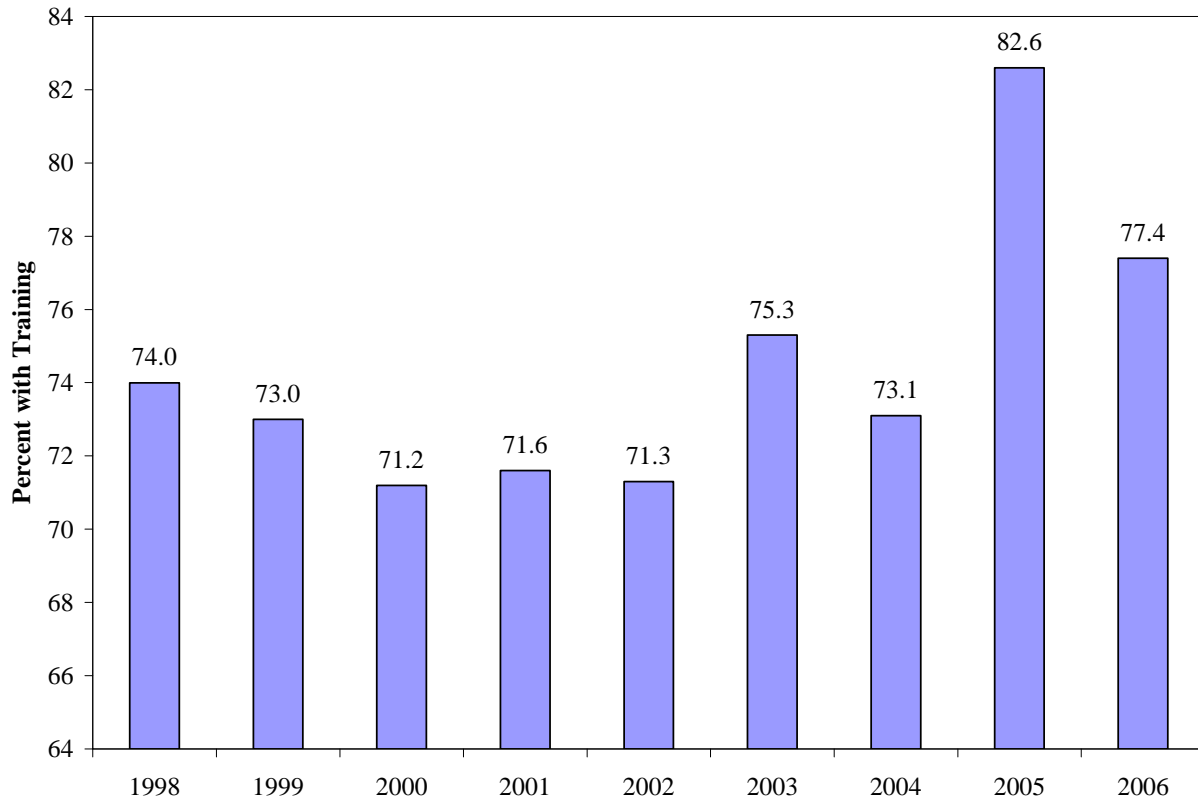
One of the objectives of the Boston PIC-sponsored, school-to-career programs is to obtain employment for participants that will lead to further training by the employer. Such training can improve the occupational skills and wages of employees. Each employed graduate from the Class of 2006 was asked whether he or she had received some type of training from their current employer. Seventy-seven percent of the employed graduates reported that they had received some type of training from their current employer (Chart 15). The share of Class of 2006 employed graduates receiving some type of training was the second-highest in the last seven years, down from an all time high of 83% in 2005.

Five categories of activities were used to identify the type of training received, and multiple responses were allowed to this question. These five categories of training were the following:

- Apprenticeship training involving a combination of on-the-job training under the supervision of others and training in a classroom setting to prepare for work in a specific occupation, such as auto mechanic, electrician, or plumber.
- Basic skills training, including reading, math, writing, and communication skills

- Computer training.
- Formal training involving a structured set of activities on and off the job.
- Informal on-the-job training from fellow workers or supervisors.

Chart 15:
Percent of Employed Class of 1998, 1999, 2000, 2001, 2002, 2003,
2004, 2005 and 2006 Boston Public High School Graduates
Who Received Some Type of Training from Their Current Employer



A high fraction of both male and female graduates from the Class of 2006 received some training from their current employer (79% vs. 76%). Employed, non-enrolled graduates were only modestly more likely to obtain training than those employed graduates who were enrolled in college (79% vs. 78%) but they were more likely to receive formal and apprenticeship training from their employers (Table 22).

The percentages of all employed youth who received some training by type of training obtained are displayed in Table 22. Respondents reported receiving informal on-the-job training most frequently, with just under 80 percent of all employed youth citing this type of training. The

second most frequently reported type of training was formal training with 25 percent of graduates reporting having received such training. Basic skills training (math, writing) was reported by 18 percent of employed graduates, down from 2005 (40%). Computer training was reported by slightly over 9 percent of the employed. National research has consistently revealed that formal training and apprenticeship training have among the most favorable effects on the future hourly wages of the employed.²⁰ Each year of completed apprenticeship training has nearly the same effect on hourly wages (8 to 10 percent) as a year of community college training. Only slightly more than 3 percent of the employed received apprenticeship training, only half the frequency reported for graduates from the Class of 2005.

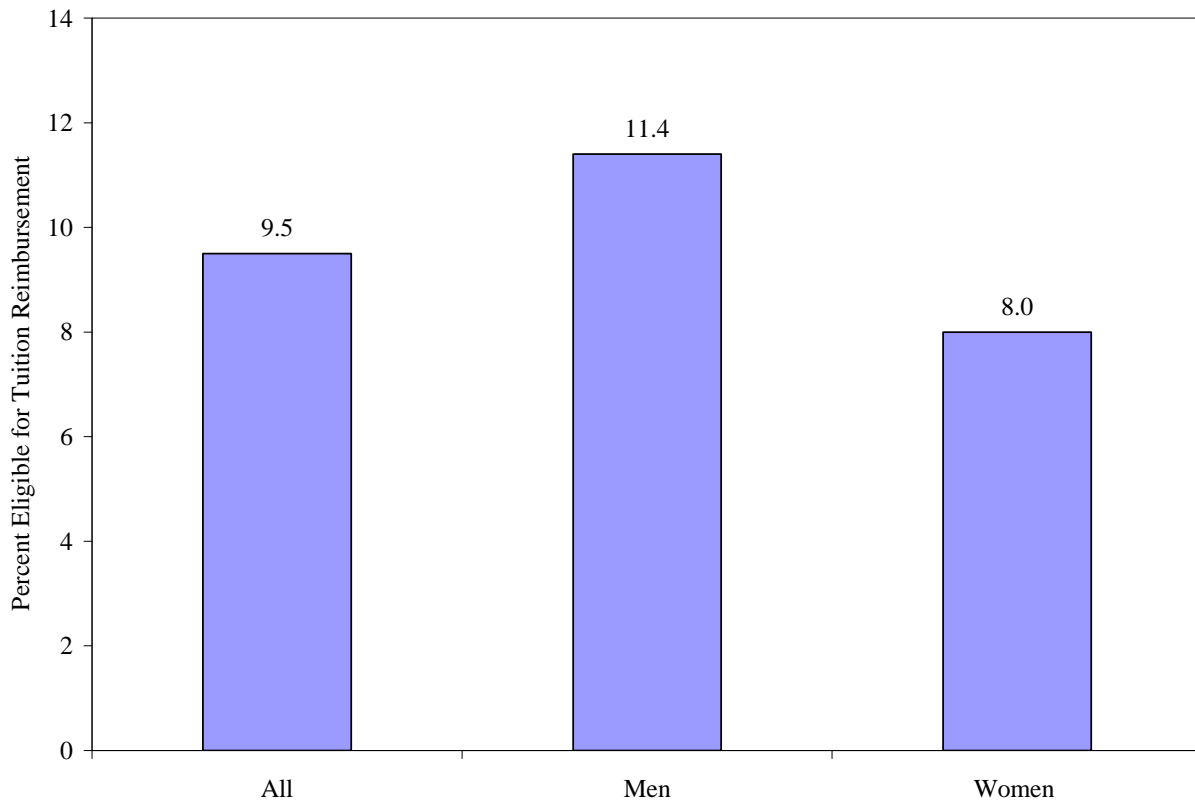
Table 22:
Percent of Employed Class of 2006 Boston Public High School Graduates
Receiving Some Type of Training by Type of Training Obtained from
Their Employers at the Time of the Follow-up Survey
(Multiple Responses Allowed)

| Type of Training | Percent of Total |
|------------------------------|------------------|
| Informal On-the-Job Training | 79.5 |
| Formal Training | 24.9 |
| Basic Skills Training | 17.6 |
| Computer Training | 9.2 |
| Apprenticeship Training | 3.4 |

A key employee benefit for young adults in today’s labor markets is tuition reimbursement from the employer for courses taken in post-secondary education and training institutions. Of all employed graduates, nearly 10 percent reported that they would be eligible to receive some tuition reimbursement from their current employers. Employed male graduates were somewhat more likely than their female peers to be eligible for tuition reimbursement from their employers (11.4% versus 8.0%) (Chart 16).

²⁰ See: (i) Lisa Lynch, “The Economic Payoff From Alternative Training Strategies,” in Working Under Different Rules, (Editor: Richard B. Freeman), Russell Sage Foundation, New York, 1996; (ii) David Blanchflower and Lisa Lynch (Editors), Training and the Private Sector: International Comparisons, University of Chicago Press, Chicago, 1994.

Chart 16:
Percent of Employed Class of 2006 Graduates Who Were Eligible for Tuition Reimbursement From Their Current Employer, Total and by Gender



Graduates Who were Neither Working Nor Enrolled in School or Training

One of the major objectives of Boston’s school-to-career and high school-to-college transition programs is to minimize the number of graduates who will end up being neither employed nor enrolled in an educational or job training program in the year following graduation. Such youth who lack ties to the post-secondary educational world and the labor market are often referred to as “at-risk” or “disconnected” youth in the youth development literature²¹. Such jobless youth with no post-secondary schooling attachment frequently find it difficult to succeed in the labor market in their later adult years and often end up being poor and

²¹ See: (i) Andrew M. Sum, Neal Fogg, and Neeta Fogg, Out-of-School, Out of Luck? The Labor Market Prospects of the Nation’s Out of School Youth, Sar Levitan Center for Social Policy Studies, Johns Hopkins University, Baltimore, 1997; (ii) Douglas J. Besharov (Editor), America’s Disconnected Youth: Towards a Preventive Strategy, American Enterprise Institute for Public Policy Research and CWAL Press, Washington D.C., 2000; (iii) Andrew Sum, Ishwar Khatiwada, Mykhaylo Trub’skyy, and Neeta Fogg, Left Behind in the Labor Market: The Labor Market Problems of Out-of-School Youth, Report Prepared for the Chicago Alternative Schools Network, Boston, 2003.

economically dependent. Young disconnected males also often end up becoming involved with the criminal justice system, thereby placing themselves at further risk in the labor market as criminal convictions reduce future employability and earnings.

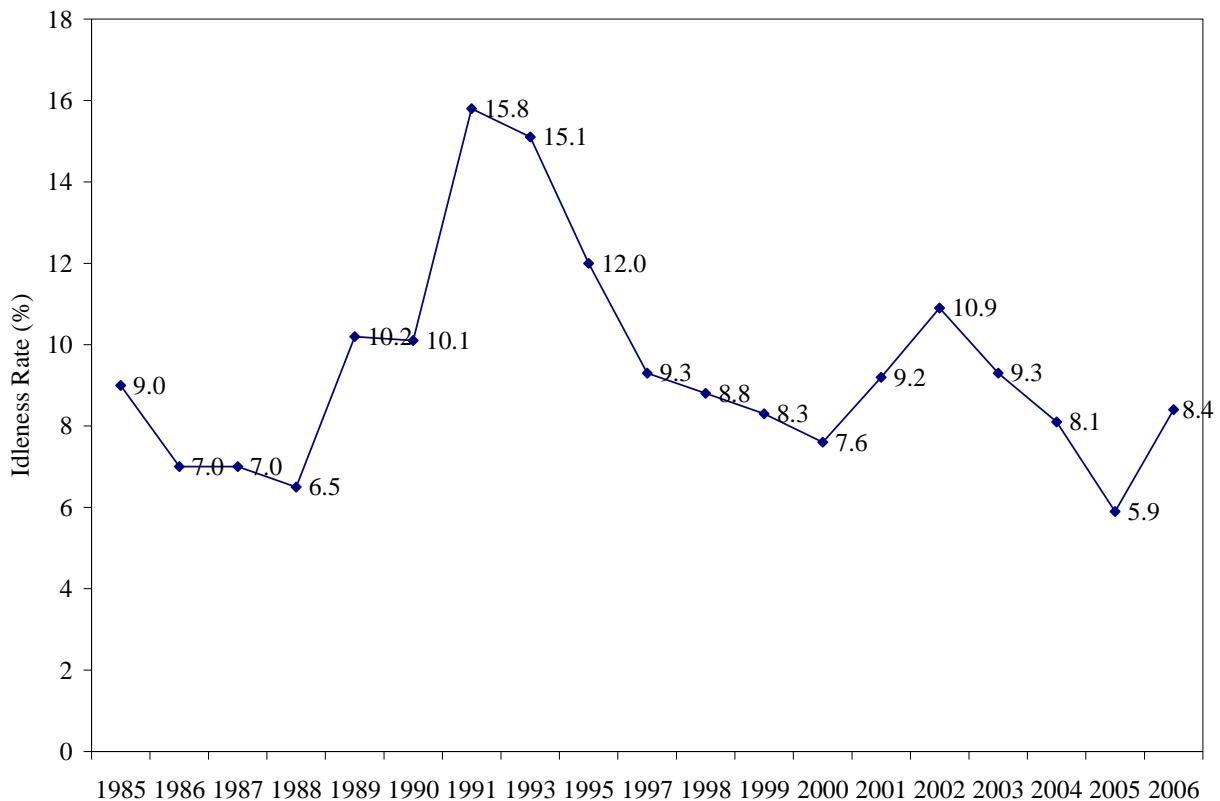
At the time of the Winter/Spring 2007 follow-up survey, 8.4 percent of Boston public school graduates from the Class of 2006 were estimated to be disconnected or “at-risk”; i.e., neither working nor enrolled in a post-secondary school or training program (Table 23). This “at-risk” rate for Boston public high school graduates was 2.6 percentage points higher than that for the preceding year’s graduating class. Male graduates were about as likely as their female peers to be “at-risk” (8.5% versus 8.3%). There were larger differences among race and ethnic groups in the proportion of graduates who were classified at risk. Almost 11 percent of Black graduates and nearly 10 percent of Hispanic graduates were estimated to be at-risk versus only 1.2 percent of Asian graduates and 4.3 percent of White graduates. The fraction of graduates assigned to the “at-risk” category also varied considerably by type of high school attended. Among graduates from the three exam schools, less than one percent were classified as “at-risk” versus 11 percent of non-exam school graduates. Among the non-exam schools, the incidence of “at-risk” problems was as high as 45 percent at McKinley Vocational, 32 percent at McKinley Tech and 30 percent at the Economics and Business Academy, respectively. There is a need for extending follow-up support and job placement assistance to these at-risk youth by Boston public high schools and the Private Industry Council’s career specialists.

Table 23:
Percent of Class of 2006 Boston Public High School Graduates
Who Were Neither Working Nor Enrolled in a College or Post-Secondary
Training Program at The Time of The Follow-up Survey

| Demographic Group | Percent at Risk |
|------------------------|-----------------|
| All | 8.4 |
| Men | 8.5 |
| Women | 8.3 |
| Asian | 1.2 |
| Black | 10.9 |
| Hispanic | 9.9 |
| White | 4.3 |
| Exam School | 0.7 |
| District/Magnet School | 10.9 |

Chart 17 displays time trends in the idleness rates of Boston public high school graduates for selected Classes from 1985 to 2006. As noted above, the idleness rate was 8.4 percent for Class of 2006 graduates, 2.5 percentage points above the idleness rate of the preceding year’s graduating class. During the severe recessionary years of the early 1990s, the idleness rate reached nearly 16% for the Class of 1991, the highest during the past 21 years. The strength of the city and state economies and expanded and enriched school-to-career programs in the 1990s had improved college enrollment rates and job prospects for those graduates not enrolled in college, thereby lowering the share of graduates occupying an “at-risk” status by more than 50 percent between 1991 and 2000. During 2001-2002, as a consequence of the economic deterioration in the state, especially the high rate of job loss in the city and the Boston metro area, the idleness rate rose higher, peaking at 11% for the graduates from the Class of 2002.

Chart 17:
Trends in the Share of Boston Public High School Graduates
Who Were Neither Working Nor Enrolled in College or a Post-Secondary
Training Program, Graduating Classes From 1985 to 2006
(in %)



Job Search Intentions Among Those Graduates Not in School, Not Working, and Not Seeking Work

Those graduates who were neither enrolled in school, nor employed, nor actively seeking employment at the time of the follow-up survey were asked why they were not actively seeking work and whether they intended to look for work in the next few months. Findings of their responses to the jobseeking intentions question are displayed in Table 24.

Slightly more than one half of these jobless, non-enrolled respondents indicated some intention to look for work over the next few months. Fifty-three percent of the jobless respondents responded that they either “definitely would” or “might” seek a job over the next few months. Non-enrolled jobless male graduates were slightly more likely to report some intention to seek employment than their female peers (55% versus 53%).

Table 24:
Future Job Seeking Plans of Class of 2006 Graduates Who were Not Enrolled in College, Not Employed, and Not Actively Seeking Work, Total and by Gender
(Numbers in Percent)

| Plans to Look for Work | All | Men | Women |
|------------------------|------|------|-------|
| Yes | 17.8 | 12.1 | 22.5 |
| Maybe | 35.6 | 42.4 | 30.0 |
| No | 46.6 | 45.5 | 47.5 |

Participants in School-to-Career Programs; Their College Enrollment and Labor Market Status at the Time of the Follow-up Survey

The city of Boston’s School-to-Career programs are designed to enhance the immediate post-high school employability and post-secondary school attendance of youth attending the alternative, district and magnet schools by providing a combination of educational services, career guidance, college applications assistance, access to training, and in-school employment in fields such as finance, public administration, health, technical, and travel and tourism, and guidance in applying for admissions to post-secondary school. Of the 1,762 graduates who completed follow-up interviews from the city’s non-exam high schools offering one or more school-to-career programs, 813 graduates reported that they had participated in a school-to-career program. Of those graduates who participated in such programs while in high school, 2.3

percent were enrolled in Pro Tech, 1 percent in the Academy of Travel and Tourism, 9.6 percent in Tech Boston, 3.1 percent in the Academy of Finance, and 84 percent in other Career Pathways (Table 25).

Table 25:
Numbers of Class of 2006 Boston Public High School Graduates Who Reported that They Had Participated in Some Type of School to Career Program by Type of Program

| Program | Number of Graduates | Percent of Graduates |
|-------------------------------|---------------------|----------------------|
| Academy of Finance | 25 | 3.1% |
| Academy of Travel and Tourism | 8 | 1.0% |
| Pro Tech | 19 | 2.3% |
| Tech Boston | 78 | 9.6% |
| Other Career Pathway | 683 | 84.0% |
| Total | 813 | 100.0% |

District/alternative/magnet school graduates who reported during the follow-up interview that they had participated in a School-to-Career program during high school were typically characterized by more favorable college, employment, and earnings outcomes than their peers who did not participate in such programs. These differences reported in Table 26 by themselves do not represent independent program impacts since youth were not randomly assigned to these programs. A future research paper will attempt to derive estimates of program impacts using a variety of multivariate statistical techniques to control for differences in the background characteristics of these groups and selection into these programs.

The college/post-secondary training enrollment rate among school-to-career program participants was about 6 percentage points higher (67% as opposed to 61%) than that of their peers in the non-exam schools who did not participate in school-to-career programs (Table 26).²² In addition, school to career program participants were significantly more likely to be employed at the time of the follow-up survey than their peers who did not participate in school-to-career programs (59% versus 52%). Among the non-enrolled, school-to-career participants also were substantially more likely to be employed (72% versus 57%), a 15 percentage point advantage.

²² These findings are based on the responses of graduates and their parents to the follow-up survey questions. Only those high schools with 15 or more school-to-career program participants were included in the analysis.

Among the employed, mean weekly earnings of former school-to-career program participants were \$12 higher than those of their counterparts who did not participate in such programs (\$254 vs. \$242). For the employed that were not enrolled in college, there was no significant difference in mean weekly earnings between the STC participants and their comparison group counterparts. If we adjust these mean weekly earnings results for differences in employment rates, we find that the expected mean weekly earnings for STC program participants was \$47 per week above those of the comparison group of non-participants (\$229 vs. \$182). All of this expected earnings difference was attributable to a higher rate of employment for STC program participants.

As mentioned above, these positive differences between the employment and weekly wage outcomes of school-to-career participants and their comparison group counterparts cannot be automatically attributed to the independent effects of these programs since youth were not randomly assigned to these programs. A future set of research papers will attempt to estimate the independent effects of participation in school-to-career programs on a set of college enrollment and labor market outcomes using data on the demographic, socioeconomic, academic performance, and school behavior characteristics of the participants in these school-to-career programs and their comparison group counterparts.

Table 26:
Selected College and Labor Market Outcomes for Class of 2006 Graduates from the District and Alternative High Schools by Their Participation in School-to-Career Programs²³

| Outcome | School-to-Career | | Difference (A - B) |
|---|------------------|-----------------|-----------------------|
| | Participant | Non-Participant | |
| College or Training Program Enrollment | 67.0 | 60.7 | +6.2 |
| Employment Rate, All | 58.8 | 52.0 | +6.8 |
| Employment Rate of Non-Enrolled | 72.1 | 56.8 | +15.3 |
| Weekly Earnings of the Employed | \$254 | \$242 | +\$12 |
| Weekly Earnings of the Employed Non-Enrolled | \$318 | \$320 | -\$2 |
| Weekly Earnings of Non-Enrolled Including the Jobless | \$229 | \$182 | +\$47 |

²³ These estimates are based on self-reported school-to-career program activities from the PIC follow-up survey. We do not have information on the intensity of participation in these school-to-career programs since we are not using the data set provided by the school-to-career office of the Boston Public Schools.

Table 27 displays the mean weekly wages of employed, non-enrolled Class of 2006 Boston public high school graduates who participated in various types of school-to-career programs. The mean weekly wages of non-enrolled, school-to-career program participants ranged from highs of \$325 for graduates who participated in the Academy of Finance program and \$295 for those who were enrolled in the TechBoston program to lows of \$238 for graduates who participated in the Academy of Travel and Tourism and to \$264 for those participating in ProTech.

Table 27:
Mean Weekly Wages of Employed, Non-Enrolled Class of 2006 Boston Public High School Graduates in School to Career Programs by Type of Program

| STC Program | Weekly Wage |
|-------------------------------|-------------|
| Other SLC/Career Pathway | \$291 |
| TechBoston | \$295 |
| Academy of Finance | \$325 |
| Academy of Travel and Tourism | \$238 |
| Pro Tech | \$264 |

Summer Job and Senior Year Employment Experiences of Class of 2006 Boston Public High School Graduates

The follow-up survey questionnaire also collected information from graduates on whether they worked during the summers of their high school years and during the senior year of high school²⁴. This information on in-school work experience also can be used to help predict the likelihood of post-high school employment and the future weekly earnings of employed graduates. Past local and national research has indicated that those graduates who worked more intensively in their senior year and the summers during their high school years had more favorable labor market outcomes in the first year upon graduation. National longitudinal research

²⁴ The questionnaire also collected data on the number of summers during which they were employed and the number of weeks during the senior year that they worked. For findings on the summer and senior year employment experiences of Class of 2005 graduates, see: Ishwar Khatiwada and Andrew Sum, The Senior Year In-School and Summer Work Experiences of Class of 2005 Boston Public School Graduates, a report prepared for the Boston Private Industry Council, June 2007.

shows that the impacts of senior year work experience for the non-college bound can be quite long lasting.²⁵

²⁵ See: Christopher J. Ruhm, "The Extent and Consequences of High School Employment", Journal of Labor Research, Summer 1999, pp. 293-303.

Table 28:
Senior Year and In-School Summer Job Experiences of Class of 2006 Boston Public High School Graduates, by Gender and Race/Ethnic Group

| Group | Percent with Summer Job Experience | Percent with Senior Year Job Experience |
|----------|------------------------------------|---|
| All | 65.2 | 56.9 |
| Men | 61.9 | 54.2 |
| Women | 67.8 | 59.1 |
| Asian | 48.3 | 39.5 |
| Black | 67.4 | 58.7 |
| Hispanic | 68.0 | 60.8 |
| White | 66.9 | 59.0 |

Sixty-five percent of the graduates from the Class of 2006 reported that they had worked in one or more of the summers during their high school year (Table 28). Female graduates were somewhat more likely than their male counterparts to have worked in the summers (68% vs. 62%). Among graduates from the four major race-ethnic groups, a substantial majority of each group worked at least one summer with Hispanic graduates (68%) reporting themselves as most likely to have worked in the summer closely followed by Black graduates (67.4%), Whites (67%), and much further behind Asian graduates (48%), respectively.

Fifty-seven percent of the graduates also reported that they worked at some point during their senior year of high school, an employment rate well above that of all central city youth across the country. The findings for senior year job experience revealed that female graduates were more likely to have worked in the senior year (59% vs. 54%). Among the race-ethnic groups, 58 percent to 61 percent of White, Black, and Hispanic graduates reported that they worked at some point during the senior year as compared to only 40 percent of Asian graduates. A future research report by the authors will examine the nature and intensity of these summer and senior year work experiences and their impacts on a variety of post-high school labor market outcomes. Findings for the Class of 2005 and earlier graduating classes revealed that graduates who worked three or more summers and were employed in the senior year were significantly more likely to be employed at the time of the follow-up survey. The size of these employment effects were fairly large. Working for 13 or more weeks in the senior year, holding all other independent predictors constant, increased the probability of employment by 23 percentage

points. The employment impacts of in-school work experience were quite favorable for both those graduates enrolled in college and the non-enrolled and for men and women. These forthcoming research papers will examine gender differences in educational outcomes, the factors influencing the hourly and weekly wages of graduates, the links between high school work experience and the post-high school employment experiences of Boston public high school graduates, and the factors influencing the receipt of formal and apprenticeship training for graduates on jobs held at the time of the Winter 2007 follow-up survey.

Appendix A:
Follow-up Interview Completion Rates for Class of 2006
Boston Public High School Graduates by High School

| School Name | Percent with Completed Interview | Number with Completed Interview | Total Graduates |
|---|----------------------------------|---------------------------------|-----------------|
| Boston Latin High School (1010) | 86.9 | 326 | 375 |
| Boston Latin Academy (1020) | 82.6 | 199 | 241 |
| O'Bryant High School (1030) | 78.7 | 144 | 183 |
| Brighton High School (1040) | 75.8 | 166 | 219 |
| Charlestown High School (1050) | 80.6 | 125 | 155 |
| Economics and Business Academy (1061) | 70.3 | 26 | 37 |
| Academy of Public Service (1062) | 68.9 | 31 | 45 |
| East Boston High School (1070) | 79.9 | 151 | 189 |
| English High School (1080) | 71.0 | 149 | 210 |
| Social Justice Academy (1101) | 75.0 | 15 | 20 |
| The Engineering School (1102) | 82.1 | 23 | 28 |
| Community Academy of Science and Health (1103) | 76.6 | 59 | 77 |
| Burke High School (1120) | 80.8 | 101 | 125 |
| Monument High School (1161) | 69.1 | 47 | 68 |
| Excel High School (1162) | 73.2 | 52 | 71 |
| Odyssey High School (1163) | 50.0 | 21 | 42 |
| Boston Community Leadership Academy (1195) | 93.0 | 66 | 71 |
| Snowden International High School (1200) | 76.0 | 57 | 75 |
| Madison Park High School (1210) | 70.2 | 158 | 225 |
| Boston Adult Academy (1215) | 40.9 | 18 | 44 |
| Another Course to College (1230) | 81.4 | 35 | 43 |
| Parkway Academy of Technology and Health (1251) | 66.2 | 47 | 71 |
| Media and Technology High School (1252) | 64.0 | 55 | 86 |
| Urban Science Academy (1253) | 61.0 | 25 | 41 |
| Brook Farm Business and Service Career Academy (1254) | 58.1 | 36 | 62 |
| Fenway High School (1265) | 63.5 | 33 | 52 |
| New Mission (1285) | 46.8 | 22 | 47 |
| McKinley Voc. (1293) | 63.6 | 7 | 11 |
| McKinley Tech. (1294) | 36.8 | 7 | 19 |
| Community Academy (1340) | 40.0 | 8 | 20 |
| Boston Evening (1410) | 29.7 | 11 | 37 |
| Boston Arts Academy (1420) | 87.6 | 78 | 89 |
| Greater Eagleston (1430) | 23.8 | 5 | 21 |
| Health Career Academy (1440) | 95.0 | 38 | 40 |
| Quincy Upper School (1450) | 88.6 | 31 | 35 |
| Tech Boston Academy (1460) | 94.3 | 50 | 53 |
| Boston International High School (1990) | 64.3 | 9 | 14 |
| Total | 75.0 | 2431 | 3241 |